ICSID Case No. ARB/19/1

Administered by the

INTERNATIONAL CENTRE FOR SETTLEMENT OF INVESTMENT DISPUTES

LEGACY VULCAN, LLC

Claimant

v.

UNITED MEXICAN STATES

Respondent

CLAIMANT'S REPLY

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I. INTRODUCTION AND SUMMARY

1. Claimant Legacy Vulcan, LLC ("Legacy Vulcan") was forced to bring this arbitration on its own behalf, and on behalf of its Mexican subsidiary, Calizas Industriales del Carmen, S.A. de C.V. ("CALICA"), in light of facts that largely stand unrebutted by Mexico in its Counter-Memorial.

2. Legacy Vulcan has a one-of-a-kind investment in Mexico for the long-term production of high-quality aggregates for export to the United States. This vertically-integrated operation is anchored on lots in Quintana Roo containing high-grade limestone deposits in close proximity to the sea. Legacy Vulcan began acquiring those lots in the late 1980s and has invested hundreds of millions of dollars over the years, including building a deep-water port, to establish the CALICA Network, a business designed to produce and export aggregates from the lots in Mexico to the U.S. Gulf Coast, where native stone deposits are scarce and high-quality aggregates command high prices. Mexican authorities repeatedly assured Legacy Vulcan and CALICA that it would be able to quarry those lots. Until recently.

3. In the past few years, Mexico has thwarted Legacy Vulcan's ability to produce and export aggregates from over two thirds of its deposits. It has done so by precluding operations in the lots known as La Adelita and El Corchalito; the first through the blatant disregard of written commitments to disentangle a bureaucratic impediment to quarry La Adelita ("Breach 1"), and the second through an unlawful administrative proceeding designed to shut down El Corchalito come what may ("Breach 2").

4. Mexico does not dispute the core facts underpinning Legacy Vulcan's claim regarding La Adelita. CALICA had secured multiple permits to quarry that lot, including environmental authorizations allowing extractive activities there spanning decades. When state and local authorities changed La Adelita's zoning to one for conservation in 2009, they acknowledged that it would not affect CALICA's vested rights to quarry that lot. Yet a federal permit to remove vegetation there was held up because the zoning regime did not say explicitly what everyone acknowledged it said implicitly. So Mexican instrumentalities agreed to change the zoning applicable to La Adelita by December 2015 to explicitly allow quarrying there. They failed to do so. The Governor of Quintana Roo later revealed why: politics. His answer to CALICA's repeated pleas for compliance was: "You are not entering La Adelita — period."

5. Mexico's Counter-Memorial largely sidesteps these facts. Mexico waves off as not binding its instrumentalities' express, written agreement to amend La Adelita's zoning regime.

But the agreement *was* binding as reflected in the clear obligations in its text and the parties' initial steps to comply with them. Even if it was not, the agreement contained Mexico's solemn commitment and representations to do something Mexico later simply refused to do. Mexico also tries to excuse its non-compliance by blaming CALICA for not having sought the permit to remove vegetation in La Adelita sooner. This is no excuse, as CALICA was under no obligation to seek that permit sooner than it did: when it planned to start quarrying operations in La Adelita. It is undisputed that, relying on Mexico's written obligations to amend La Adelita's zoning regime, Legacy Vulcan poured [redacted] in additional investments with the expectation that it would be allowed to quarry in that lot by early 2016.

6. Mexico's Counter-Memorial similarly glosses over the facts underpinning Legacy Vulcan's claim regarding El Corchalito. In January 2018, days after CALICA was threatened by a Mexican government official with a shutdown of its operations, Mexico indefinitely shut down quarrying operations there. The claimed basis of the shutdown was that CALICA exceeded the quarrying area under the water table by 2.15 hectares out of the 140 hectares implied by its federal environmental authorization. When CALICA tried to show that this measurement was wrong through independent expert evidence, Mexico refused to admit it, apparently because CALICA had previously shown — through similar evidence — that Mexico's first area measurements had been wrong. Mexico unlawfully took new faulty measurements to try to fix its previous faulty ones and then precluded CALICA from rebutting them.

7. Following the unlawful inspection, Mexico imposed the shutdown without showing the type of serious or imminent environmental harm required by law, because there was none. Mexico conditioned lifting the shutdown on CALICA's admission that the extraction area was in fact exceeded, when it was not. Days before its Counter-Memorial was due, Mexico preserved the shutdown based on purported violations that had not been identified as such earlier, thus depriving CALICA of an effective opportunity to rebut them. And the shutdown will be lifted only when CALICA secures an amendment to its federal environmental authorization, which in turn depends on confirmation of compliance by Mexico's environmental enforcement agency, which will not confirm compliance unless the authorization is amended. Through this dizzying, impossible-to-comply scheme, Mexico has secured the indefinite suspension of operations in El Corchalito.

8. Mexico also fails to refute that, even after its own courts had declared the port fees collected for the use of CALICA's private port as illegal, the State of Quintana Roo's port authority continued to collect those fees for nearly a year and refused to give back what it had unlawfully collected. Mexico instead asserts that there is no evidence that Legacy Vulcan's subsidiaries paid

those fees, but there is, as was shown in Claimant's Memorial and is further demonstrated below. Mexico also faults Legacy Vulcan for not seeking reimbursement of the unlawfully collected port fees in domestic courts, ignoring that, when CALICA took steps to do so, Quintana Roo's port authority threatened CALICA to shut down its operations if it persisted.

9. Mexico's jurisdictional objection to Legacy Vulcan's port-fees claim lacks merit. Mexico's own evidence shows that the type of fees at issue here ("*tarifas de puerto*") are not tax measures exempt from fair-and-equitable treatment claims under NAFTA Article 2103. The other jurisdictional objections lodged by Mexico similarly fail. Contrary to what Respondent suggests, Legacy Vulcan is not asserting claims for alleged breaches occurring or known before 3 December 2015, three years before it commenced this arbitration, and those claims are not time barred. Nor are the claims here asserted on behalf of the "CALICA Network." The claims here are made on behalf of Legacy Vulcan and its enterprise, CALICA, for losses incurred as a result of Mexico's breaches. As to Legacy Vulcan, those losses include the impact of Mexico's breaches on the value of the CALICA Network, its integrated quarrying, shipping, and distribution business revolving around CALICA, designed for the sole purpose of giving CALICA aggregates access to highly profitable U.S. Gulf Coast markets.

10. As was demonstrated in Claimant's Memorial and is further shown herein, Mexico has failed (i) to accord Legacy Vulcan and its investments fair and equitable treatment under NAFTA Article 1105, and (ii) to observe the obligations it assumed in the 2014 Agreements, which Mexico is required to do under the most-favored-nation clause of NAFTA Article 1103. The standard of fair and equitable treatment is not materially disputed: it bars conduct that is arbitrary and against due process, as well as conduct that frustrates investors' legitimate expectations. Mexico acted arbitrarily and frustrated Legacy Vulcan's legitimate expectations when it repudiated its express agreement to amend the zoning regime applicable to La Adelita based on the political caprice of its officials. Mexico's indefinite shutdown of El Corchalito was also arbitrary and contrary to due process, as it was based on an unlawful, seemingly predetermined administrative proceeding in which CALICA was deprived of an effective opportunity to defend itself. And by disregarding the final ruling of its judiciary confirming the illegality of the port fees collected from CALICA, Mexico also acted against the rule of law in breach of the fair-and-equitable-treatment standard.

11. In regard to *quantum*, Mexico claims that Legacy Vulcan would be entitled to [redacted] in compensation for Breach 1 and [redacted] for Breach 2, for a total of [redacted] Mexico arrives at this negligible value by artificially limiting Legacy Vulcan's damages to those based on CALICA's lost profits *within* Mexico — rather than across the entire

CALICA Network — even though the shipping and distribution segments of the Network are dependent on, and fully integrated with, the Mexican investment. As [redacted] explains, "there is no CALICA Network without CALICA." Even if it were appropriate to artificially exclude lost profits for the shipping and distribution segments of the CALICA Network outside Mexico, Mexico's damages calculations are conceptually flawed and severely understate damages, as Mr. Darrell Chodorow demonstrates in his second report.

12. As shown in Part IV, Mexico's damages case is founded upon a false legal premise that leads to significant distortions in its damages model. There is no basis under NAFTA to limit Legacy Vulcan's damages to those suffered within Mexico. Rather, under NAFTA Article 1116 and the applicable legal standard of full reparation, Legacy Vulcan is entitled to compensation for losses suffered across the CALICA Network as a result of the inability to tap reserves in La Adelita and El Corchalito, *i.e.*, [redacted] (before adjustments for tax and interest), regardless of where those damages were incurred.

13. Even if Mexico's argument were to have any basis under the plain text of NAFTA Article 1116, its artificial limitation would not change the result. Because of the strategic location and high-quality of its reserves, CALICA commands a fair market value that reflects the profits that it enables across the entire Network. No seller — and certainly not Legacy Vulcan — would voluntarily dispose of CALICA for a price that does not compensate it for CALICA's strategic advantage to generate profits from transportation and distribution across the entire CALICA Network.

14. For all these reasons and those expressed in its Memorial and below, Legacy Vulcan respectfully requests that the Tribunal find Mexico in breach of its NAFTA obligations in this case and to order that it compensate the losses caused by its breaches.

II. STATEMENT OF FACTS

15. Mexico's Counter-Memorial submission fails to rebut the facts Legacy Vulcan established in its Memorial and instead tries to muddle the record with immaterial or inaccurate factual assertions. This part sets the record straight with respect to (A) aspects of the factual context regarding Legacy Vulcan's investments and the 2014 Agreements; (B) Mexico's repudiation of those Agreements and decision to disallow operations in La Adelita despite commitments and representations to the contrary; (C) Mexico's unlawful shutdown of El Corchalito; and (D) Mexico's disregard for its own judiciary's determination that port fees

collected by Quintana Roo's port authority for vessels docking at CALICA's private terminal were unlawful. To address assertions by Mexico's parade of legal experts and governmental witnesses, Legacy Vulcan's Reply is supported by the witnesses and experts identified in Appendix A.

A. BACKGROUND TO THE 2014 AGREEMENTS

16. Mexico does not dispute most of the background facts relating to CALICA's one-of-a-kind project to quarry limestone and to produce high-quality aggregates in Quintana Roo, including the fact that the Project has brought sustained economic development and has created tens of thousands of jobs in the region since its inception.[1] Instead, Mexico alleges that CALICA was not allowed to quarry El Corchalito and La Adelita when it purchased those lots, that CALICA was required to obtain the permit to remove vegetation to quarry La Adelita soon after Mexico's Ministry of the Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales* ("SEMARNAT") issued the Corchalito/Adelita Federal Environmental Authorization (as defined below), and that the 2014 Agreements (as defined below) were negotiated and signed due to CALICA's purported failure to pay certain port concession fees and local taxes.[2] These allegations are incorrect or irrelevant, or paint an inaccurate factual picture.

1. Legacy Vulcan Acquired El Corchalito and La Adelita After Receiving Written Confirmation That Quarrying Those Lots Was Feasible Under Applicable Environmental Regulations

17. Mexico alleges that CALICA was not allowed to quarry El Corchalito and La Adelita when it purchased those lots in 1996 under local environmental regulations applicable at the time.[3] This allegation ignores the undisputed fact that, before Legacy Vulcan acquired El Corchalito and La Adelita, it received written confirmation from Mexican authorities that quarrying those lots would be feasible under applicable local environmental regulations.[4] Consistent with this confirmation, Mexican federal, state, and municipal authorities soon thereafter authorized quarrying activities there.

18. It is undisputed that, on 6 August 1986, CALICA, Mexico's Federal Government, and the State of Quintana Roo entered into an agreement whereby Mexico authorized the Project from an environmental standpoint and acknowledged CALICA's right to quarry the Project site

[1] *See* Memorial, Part II(D).

[2] Counter-Memorial, ¶¶ 86, 179, 204.

[3] Counter-Memorial, ¶ 179.

[4] Memorial, ¶ 73.

for as long as economically feasible (the "Investment Agreement").[5] Although the Investment Agreement established that CALICA would initially develop La Rosita and Punta Venado, in anticipation of a potential expansion of the Project, the Parties expressly provided for the "modification of the characteristics" of the Project.[6] Mexico does not dispute this fact either.

19. As contemplated in the Investment Agreement, Legacy Vulcan decided to expand the Project's quarrying operations by acquiring El Corchalito and La Adelita. In March 1996, before purchasing those lots, CALICA asked the environmental agency of the State of Quintana Roo ("SIMAP") to confirm that quarrying operations were feasible in those lots under applicable local environmental regulations.[7] The SIMAP did so on 19 April 1996.[8] It was not until CALICA received this written confirmation that CALICA's subsidiary, Rancho Piedra Caliza, S.A. de C.V. ("RAPICA"), purchased El Corchalito and La Adelita in June and August 1996, respectively, and leased them to CALICA.[9] Shortly thereafter, on 2 September 1996, the Municipality of Solidaridad confirmed that "it had no objection" to the quarrying activities that CALICA planned to undertake in El Corchalito and La Adelita.[10]

20. Consistent with these assurances, Respondent's instrumentalities confirmed in subsequent years through numerous acts that CALICA was allowed to extract petrous materials above and below the water table in both El Corchalito and La Adelita:

- On 11 November 1996, the State of Quintana Roo issued the State Environmental Impact Authorization, which allows CALICA to extract petrous materials above the water table in El Corchalito and La Adelita (the "Corchalito/Adelita State Environmental Authorization").[11] This authorization was last renewed in 2016 and is valid until 2036.[12]

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[5] Memorial, ¶ 25 (citing Investment Agreement, p. 2 (6 August 1986) (C-0010-SPA)).

[6] *Id.*, ¶ 27 (citing Investment Agreement, p. 6 (6 August 1986) (C-0010-SPA)).

[7] *Id.*, ¶ 73 (citing Letter No. SIMAP/792/996 from Sergio Pérez Perales (Ministry of Infrastructure, Environment and Fishery (Secretaría de Infraestructura, Medio Ambiente y Pesca) ("SIMAP")) to [redacted] (CALICA), p. 1 (19 April 1996) (C-0071-SPA); Letter No. SIMAP/791/1996 from Sergio Pérez Perales (SIMAP) to Jorge E. Ortega Joaquín (CALICA), p. 1 (19 April 1996) (C-0072-SPA)).

[8] *Id.*

[9] *Id.*; La Adelita Title Deed, p. 14 (21 June 1996) (C-0035-SPA); El Corchalito Title Deed, p. 15 (28 August 1996) (C-0034-SPA).

[10] Memorial, ¶ 74 (citing Letter from Rafael Ernesto Medina Rivero (Municipality of Solidaridad) to CALICA (2 September 1996) (C-0073-SPA) ("[E]ste H. Ayuntamiento no tiene ningún inconveniente en que se realice dicha actividad, siempre y cuando se cumpla con la normatividad ecológica reglamentaria.")).

[11] *Id.*, ¶ 75 (citing Corchalito/Adelita State Environmental Authorization, pp. 2, 4 (11 December 1996) (C-0018-SPA)).

[12] *Id.*, ¶ 75 (citing Third Amendment to the Corchalito/Adelita State Environmental Authorization (8 March

- On 30 November 2000, SEMARNAT issued a Federal Environmental Impact Authorization, allowing CALICA to quarry El Corchalito and La Adelita below the water table (the "Corchalito/Adelita Federal Environmental Authorization").[13] This authorization had a 20-year term, which could be renewed for an additional 22 years, until 2042, through a simple renewal application.[14]
- In 2001, the State of Quintana Roo issued the Program for Territorial Environmental Regulation (*Programa de Ordenamiento Ecológico Territorial* or "POET"), which zoned El Corchalito and La Adelita as Environmental Management Unit (*Unidad de Gestión Ambiental* or "UGA") No. 30, allowing quarrying in those lots under certain conditions.[15]
- On 3 March 2006, the State of Quintana Roo extended the Corchalito/Adelita State Environmental Authorization for another five years, noting that quarrying those lots was "feasible under the State of Quintana Roo's policy of [. . .] mining, on a conditional basis, of (UGA 30)."[16]
- On 2 October 2007, the Municipality of Solidaridad issued a Land Use License, reaffirming that CALICA was allowed to "extract[] [. . .] petrous material" in El Corchalito and La Adelita.[17]
- On 25 May 2009, the State of Quintana Roo replaced the POET with the Program for Local Environmental Regulation (*Programa de Ordenamiento Ecológico Local* or "POEL"), which expressly "recognize[d] and respect[ed] [. . .] vested rights" and disclaimed applying retroactively to authorizations obtained before its enactment, even though it assigned an UGA for conservation to an area that encompassed most of La Adelita.[18]

2016) (C-0076-SPA)).

[13] *Id.*, ¶ 76 (citing Corchalito/Adelita Federal Environmental Authorization, p. 9 (30 November 2000) (C-0017-SPA)).

[14] *Id.*, ¶ 75 (citing Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶ 83); *see also* CALICA's Environmental Impact Statement, Chapter II, p. 15 (23 October 2000) (C-0077-SPA); Corchalito/Adelita Federal Environmental Authorization, p. 13 (30 November 2000) (C-0017-SPA); Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶¶ 248-249 (explaining that, under the Federal EIA, renewal would be granted upon the simple filing of a written request 30 days before the end of the term, and a review of CALICA's latest quadrimester report, without the need for a new environmental assessment). On 27 August 2020, CALICA filed an application to renew the Corchalito/Adelita Federal Environmental Authorization, which, as explained in Part II.C.5 *infra*, remains pending.

[15] Memorial, ¶ 78 (citing POET, pp. 15-16 (16 November 2001) (C-0078-SPA)); *see also* Expert Report-[redacted] Environmental Law-Claimant's Memorial-SPA, ¶¶ 35, 43.

[16] First Amendment to the Corchalito/Adelita State Environmental Authorization, p. 2 (3 March 2006) (C-0074-SPA) (free translation, the original text reads: "el aprovechamiento de los materiales pétreos en dichos predios es factible de acuerdo a la política de Aprovechamiento y uso predominante para la minería de la (UGA 19), así como al uso condicionado para la minería de la (UGA 30) [.]").

[17] Land Use License (2 October 2007) (C-0079-SPA) ("Authorized land use: extraction of petrous material[.]") (free translation, the original text reads: "Uso de suelo autorizado: aprovechamiento[] de material pétreo[.]").

[18] POEL, Section 2.6 (25 May 2009) (C-0080-SPA) (free translation, the original text reads: "no se aplicará retroactivamente a los casos en concreto, que cuenten con documentos oficiales y vigentes hasta antes de su entrada en vigor [...] ni en lo que toca a la futura renovación de los mismos [...] [y] [s]e reconocen y respetan [...] los derechos adquiridos [...]").

- The fact that the POEL did not apply retroactively to undermine CALICA's vested rights over La Adelita was confirmed thereafter. For example, after "both municipal and state authorities recognized that clearly the POEL pointed out [. . .] the retroactive inapplicability regarding CALICA's vested rights,"[19] on 25 March 2010, the High Court of the State of Quintana Roo confirmed that "*the [POEL] does not apply to [CALICA].*"[20]
- On 19 May 2011, the State of Quintana Roo renewed the Corchalito/Adelita State Environmental Authorization, recognizing that "the lots *El Corchalito, La Adelita*, and La Rosita *are regulated by Environmental Units nineteen and thirty (UGA 19 and 30) of the [POET] [. . .] and, therefore [. . .] the exploitation of petrous materials in these lots is feasible* according to the policy of exploitation and predominant use for mining [established by] (UGA 19), as well as to the determination to allow mining on a conditional basis by (UGA 30)."[21]

21. These acts and representations — spanning many years — served as the backdrop for Legacy Vulcan's continued investments, including investments for the expansion of quarrying activities in El Corchalito and La Adelita.

2. CALICA Was Not Required to Obtain the Permit to Remove Vegetation in La Adelita While It Did Not Conduct Quarrying Operations There

22. Contrary to Mexico's contention,[22] Legacy Vulcan never alleged that it was not aware that it needed to obtain the permit to remove vegetation to quarry La Adelita — the Soil-Use Change in Forested Terrains Permit ("CUSTF"). Rather, Legacy Vulcan showed that SEMARNAT took the position that it would not issue the CUSTF unless the POEL expressly allowed extraction activities in La Adelita.[23] SEMARNAT expressed this position at a meeting in

[19] Counter-Memorial, ¶ 198 (free translation, the original text reads: "[t]anto las autoridades municipales como las estatales reconocieron lo que claramente el propio [POEL] 2009 señalaba [. . .] la inaplicabilidad respecto de los derechos previamente adquiridos por CALICA."); *see also* Memorial, ¶¶ 81-83.

[20] Decision of the High Court of Justice of the State of Quintana Roo, pp. 3-4 (25 March 2010) (C-0087-SPA) ("It should be noted that the grounds for the dismissal amount to the point that the interests of the plaintiff are not affected, since the Local Ecological Management Program does not apply to it") (free translation, the original text reads: "Es de apreciarse que la causal de improcedencia hecha valer converge en la cuestión relativa a que no se afectan los intereses de la parte actora, al no serle aplicable el Programa de Ordenamiento Ecológico Local") (emphasis added); *see also* Memorial, ¶ 83; Counter-Memorial, ¶ 198.

[21] Second Amendment to the Corchalito/Adelita State Environmental Authorization, p. 3-4 (19 May 2011) (C-0075-SPA) (free translation, the original text reads: "los predios denominados El Corchalito, La Adelita y La Rosita, se encuentran regulados por las Unidades de Gestión Ambiental diecinueve y treinta (UGA 19 y 30) del [POET] [...] por lo que se determina que el aprovechamiento de los materiales pétreos en dichos predios es factible de acuerdo a la política de Aprovechamiento y uso predominante para la minería de la (UGA 19), así como al uso condicionado para la Minería de la (UGA 30).") (emphasis added); *see also* Memorial, ¶ 84.

[22] Counter-Memorial, ¶ 202.

[23] Memorial, ¶ 85; Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 24 ("To remove vegetation in La Adelita, however, CALICA needed a new authorization denominated the Authorization for Soil-Use Change in Forested Terrains ('CUSTF'). Even though CALICA had vested rights to conduct

2013.[24] CALICA has sought to modify the POEL ever since.[25] Mexico does not deny or refute these facts in its Counter-Memorial.

23. Mexico also claims that CALICA should have sought the CUSTF soon after securing the Corchalito/Adelita Federal Environmental Authorization in 2000.[26] This is incorrect. CALICA was required to obtain the CUSTF to quarry La Adelita before it commenced operations in that lot, not within a specified timeframe.[27]

24. Contrary to Mexico's suggestion,[28] CALICA has not alleged that it has a vested right to obtain a CUSTF. Rather, as explained in Part II.A.1 above, CALICA has shown that, for well over a decade, Mexico's instrumentalities repeatedly assured CALICA that it would be allowed to quarry La Adelita; an activity that necessarily requires the removal of vegetation there.[29] The POEL recognized CALICA's vested rights to extract petrous materials in that lot, which is why the 2011 renewal of the Corchalito/Adelita State Environmental Authorization states that quarrying La Adelita is regulated by the zoning regime of the POET, which allows quarrying.[30] Mexico does not dispute this. Since, despite these representations and assurances, SEMARNAT would not issue CALICA the CUSTF if the zoning regime did not explicitly zone La Adelita for quarrying, the 2014 Agreements reflected Mexico's commitment to expressly "recognize" in the POEL CALICA's vested rights to quarry that lot.

25. Mexico cites no law or instrument imposing the obligation to apply for the CUSTF within a particular timeframe, because none exists.[31] Mexican law sets no timing requirement to seek that permit and instead indicates that it must be secured only when the use of the forested

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quarrying activities in La Adelita, bureaucrats at [SEMARNAT] would not issue this authorization unless the POEL 2009 expressly stated that extraction activities in that lot are permitted.").

[24] Memorial, ¶ 85.

[25] Memorial, ¶¶ 85-86, 236; Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶¶ 24-25.

[26] Counter-Memorial, ¶ 202.

[27] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 156.

[28] Counter-Memorial, n.233, ¶¶ 344-346.

[29] *See* Corchalito/Adelita Federal Environmental Authorization, p. 11 (C-0017-SPA) (contemplating, in an authorization issued by the same federal agency responsible for issuing the CUSTF, that vegetation would be removed before quarrying in La Adelita and El Corchalito).

[30] Second Amendment to the Corchalito/Adelita State Environmental Authorization, p. 4 (19 May 2011) (C-0075-SPA).

[31] Expert Report-[redacted]Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 156 (pursuant to the Forestry Law, CALICA had to obtain the CUSTF immediately before commencing operations in La Adelita, not before that time).

area is to be changed.[32] The Corchalito/Adelita Federal Environmental Authorization likewise imposes no timing requirement for obtaining the CUSTF.[33] CALICA was well within its rights to seek this permit when it planned to commence quarrying operations in La Adelita, which Mexico had already authorized in the Corchalito/Adelita Federal Environmental Authorization.[34] CALICA's permitting plan was also consistent with the representations of state and municipal authorities that its lots continued to be subject to the POET zoning regime — not to the 2009 POEL.[35]

26. In accordance with its authorizations, CALICA began quarrying El Corchalito first because it [redacted] and postponed operations in La Adelita because [redacted] Since the removal of vegetation was not needed or planned in La Adelita while CALICA focused its quarrying activities in El Corchalito, it was perfectly legal, logical, and appropriate (not "negligent," as Mexico now tries to spin it) for CALICA to wait on applying for the CUSTF to remove vegetation in La Adelita. CALICA envisioned seeking that permit within a reasonable time before CALICA's planned removal of that vegetation, as shown by CALICA's discussion of the CUSTF with SEMARNAT on 14 April 2013.[37]

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[32] *See* Forestry Law, Art. 46 (C-0140-SPA) (providing that SEMARNAT shall impose a fine to those who engage in "the unauthorized change in the use of land in forested areas" (the original reads: "[*a*]*l que sin autorización realice cambios de uso de suelo en terrenos forestales*")); Forestry Law Regulations, Art. 55 (C-0141-SPA) ("The authorization for the change in use of forested areas shall encompass the exploitation and the legal provenance of the resulting products" (the original reads: "*La autorización de cambio de utilización de terrenos forestales amparará el aprovechamiento y la legal procedencia de los productos forestales resultantes*")); Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 156.

[33] *See* Memorial, ¶ 76; Corchalito/Adelita Federal Environmental Authorization (30 November 2000) (C-0017-SPA).

[34] Corchalito/Adelita Federal Environmental Authorization, p. 9 (30 November 2000) (C-0017-SPA).

[35] *See, e.g.*, Second Amendment to the Corchalito/Adelita State Environmental Authorization, p. 3-4 (19 May 2011) (C-0075-SPA) (recognizing in May 2011 that "the lots *El Corchalito, La Adelita*, and La Rosita *are regulated by Environmental Units nineteen and thirty (UGA 19 and 30) of the [POET] [. . .] and, therefore [. . .] the exploitation of petrous materials in these lots is feasible* according to the policy of exploitation and predominant use for mining [established by] (UGA 19), as well as to the determination to allow mining on a conditional basis by (UGA 30).").

[36] Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 24 [redacted]

[37] Witness Statement-[redacted]-Claimant's Reply-ENG, ¶ 25; *see also* Memorial, ¶ 85.

3. The Parties Entered Into the 2014 Agreements at Mexico's Urging In Light of an Adverse Court Ruling Against API Quintana Roo Regarding Port Fees

27. Mexico alleges that the Total Regularization Scheme and the Memorandum of Understand ("MOU"), as amended (collectively, the "2014 Agreements"), were negotiated as a result of CALICA's purported failure to comply with certain obligations related to concession fees and various local taxes.[38] This is irrelevant and incorrect.

28. As explained in Claimant's Memorial, in February 2003, Mexico's Ministry of Communications and Transportation (*Secretaría de Comunicaciones y Transporte* or "SCT") amended the concession granted to the Integral Port Administration (*Administración Portuaria Integral* or "API") of Quintana Roo ("API Quintana Roo") (the "API Quintana Roo Concession") to include the terminals that CALICA had built and had been operating uninterruptedly since 1994 pursuant to the port concession granted by the SCT to CALICA in 1987 (the "CALICA Port Concession").[39] The SCT also ordered CALICA to assign its rights over both terminals to API Quintana Roo, effectively terminating the CALICA Port Concession.[40]

29. In July 2007, after CALICA successfully challenged the SCT's measures in court, the SCT issued official letters stating that, pursuant to the API Quintana Roo Concession, API Quintana Roo had the right to collect "port fees to those vessels docking at the Punta Venado port terminal" ("*tarifas de puerto a las embarcaciones que arriben a la Terminal Marítima de Punta Venado*").[41] As a consequence, CALICA was forced to pay port fees for CALICA Network vessels docking at its private port terminal. CALICA did so *ad cautelam* while it challenged these measures in court.[42] On 7 March 2012, the Mexican Federal Court for Fiscal and Administrative Justice determined that API Quintana Roo had no concessioned rights over Punta Venado,

[38] Counter-Memorial, ¶ 204.

[39] Memorial, ¶ 65 (citing API Quintana Roo First Concession Amendment, p. 2, ¶ V (27 February 2003) (C-0051-SPA)).

[40] *Id.*

[41] *Id.*, ¶ 66 (citing Letter No. API.DG.GJ.0405.07 from Javier F. Zetina González (State of Quintana Roo) to Oscar Amable Tenório (Agencia Consignataria del Sureste, S.A. de C.V.), p. 2 (4 July 2007) (C-0055-SPA); Letter No. API.DG.GJ.0405.07 from Javier F. Zetina González (State of Quintana Roo) to [redacted] (CALICA), p. 2 (9 July 2007) (C-0056-SPA); Letter No. 7.3.3033.07 from Ángel González Rul A. (SCT) to [redacted] (CALICA), p. 2 (24 July 2007) (C-0057-SPA); Letter No. 7.3.-1679.09.4257 from Alejandro Hernández Cervantes (SCT) to [redacted], p. 1 (2 July 2009) (C-0058-SPA)).

[42] Memorial, ¶ 67.

including the right to collect port fees for docking of vessels on CALICA's private terminal and declared the SCT's 2007 statements to the contrary illegal and null.[43]

30. As explained by the [redacted] faced with this court ruling, then-Governor of the State of Quintana Roo Roberto Borge contacted CALICA to negotiate an agreement to resolve this issue, among others.[44] CALICA agreed to negotiate, with the exchanges being brokered by the SCT, and it took this opportunity to address SEMARNAT's decision not to issue the CUSTF unless the POEL expressly allowed extraction activities in La Adelita.[45] The ensuing discussions ultimately resulted in the 2014 Agreements.[46] Mexico offers no evidence from the time of these events to refute these facts.

B. MEXICO'S REPUDIATION OF THE 2014 AGREEMENTS

31. Mexico concedes that multiple agencies from all three levels of the Mexican government entered into the 2014 Agreements, that the parties to those Agreements took initial steps to comply with them, that Legacy Vulcan made additional investments as a result, and that Mexico ultimately failed to amend the POEL as required in those Agreements. In an effort to justify its failure to comply with the 2014 Agreements, Mexico tries to cast doubt on their legitimacy; argues that they are not legally binding; and contends that (i) the responsibility to amend the POEL falls only on the Committee to Amend the POEL, (ii) internal administrative issues forced this Committee to stop meeting, and (iii) the deadlines established in the 2014 Agreements to amend the POEL were not realistic. These assertions are incorrect or immaterial.

1. The 2014 Agreements Were the Result of a Year-Long Period of Negotiations With Numerous Government Agencies in the Normal Course of Business

32. Although Mexico acknowledges that the 2014 Agreements "were agreed by various authorities at the federal, state, and municipal levels,"[47] it attempts to cast doubt on their legitimacy by asserting that government authorities currently lack information or files about those

[43] *Id.* The SCT appealed this decision, and Mexico's Supreme Court ultimately affirmed lower court rulings in CALICA's favor on 22 January 2017. *Id.* ¶ 67, 132.

[44] Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 15; Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 2.

[45] Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶¶ 15-27.

[46] *Id.*, ¶¶ 3-4.

[47] *See* Counter-Memorial, ¶ 204; *see also id.*, ¶¶ 207, 218, 223.

Agreements and that officials who signed them have been accused, investigated, or imprisoned for corruption, albeit on matters unrelated to CALICA.[48] But Mexico offers no evidence showing that the 2014 Agreements were secured improperly or for an improper purpose.[49] To the contrary, the record amply demonstrates that, as Mexico concedes, those Agreements were struck "with the principal objective of solving issues related to the use and exploitation of the concessioned port infrastructure [. . .] and other pending matters."[50]

33. The 2014 Agreements followed a year-long period of negotiations with numerous government agencies.[51] As explained by [redacted] between May 2013 and June 2014, CALICA met to discuss the 2014 Agreements with numerous Mexican government officials — from a member of then-President Enrique Peña Nieto's cabinet to state and municipal advisors.[52] At no point during these negotiations did any official raise doubts about the validity of the agreements under negotiation or suggest anything improper to CALICA in connection with them.[53]

34. Once the 2014 Agreements were signed, Mexican federal, state, and municipal government entities and officials took initial steps to comply with their obligations under the Agreements by, *inter alia*:

- Extending the CALICA Port Concession for another 13 years, until 2037;
- Renewing the Corchalito/Adelita State Environmental Authorization for another 20 years, until 2036; and
- Establishing a committee to amend the POEL (the "Committee to Amend the POEL"), which held multiple sessions and took several important steps in the amendment process.[54]

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[48] *Id.*, ¶ 205.

[49] To the extent Mexico suggests that the 2014 Agreements were secured corruptly, *see id.* ¶ 205, such a suggestion is entirely meritless and wholly unsupported. *See* Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 3 [redacted]

[50] Counter-Memorial, ¶ 204 (free translation, the original text reads: "[Los Acuerdos de 2014] fueron acordados [. . .] con el principal objetivo de solucionar los conflictos relacionados con el uso y explotación de la infraestructura portuaria concesionada [. . .] y otros temas pendientes").

[51] *See* Witness Statement-[redacted]-Claimant's Memorial-ENG, Section IV; Witness Statement-[redacted] Claimant's Reply-Second Statement-ENG, ¶¶ 2- 3.

[52] Witness Statement-[redacted]-Claimant's Memorial-ENG, Section IV; *see also* Witness Statement-[redacted] Claimant's Reply-Second Statement-ENG, ¶ 3.

[53] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 3.

[54] *Id.*, ¶ 6; Memorial, ¶¶ 116-120.

35. Relying on the obligations Mexico assumed in the 2014 Agreements and these initial steps that Mexico took to comply with those obligations, between June 2014 and December 2017, Legacy Vulcan authorized additional investments in the project, including the commission of two custom-built Panamax vessels, the construction of a supplemental processing plant, and the purchase of a new shiploader and heavy equipment and machinery, worth approximately [redacted] By 2019, Legacy Vulcan had made corresponding capital expenditures of more than [redacted]

36. Legacy Vulcan would not have made many of these long-term investments had Mexico and its instrumentalities not assumed the obligations they undertook in the 2014 Agreements, including, in particular, the amendment of the POEL.[57] None of these facts are disputed.

2. The 2014 Agreements Are Binding

37. Against these undisputed facts, Mexico has little to say other than the 2014 Agreements purportedly lack legal recognition in Mexico and are not legally binding.[58] This is again both incorrect and immaterial.

38. As explained by Mexican law expert Professor [redacted] the 2014 Agreements are binding.[59] The parties that signed the 2014 Agreements had the legal capacity to enter into and be bound by those agreements, which generated valid and binding obligations for them.[60] Under Mexican law, the denomination assigned to a document (*e.g.*, agreement, memorandum of understanding, settlement, etcetera) is irrelevant to determine whether it is binding; what is relevant is the will of the parties and the actual obligations they agree to undertake.[61] Here, CALICA, the SCT, the State of Quintana Roo, and the Municipality of

[55] Memorial, ¶ 105.

[56] *Id.*

[57] *Id.*, ¶ 109 (citing Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 57; Witness Statement-[redacted] Claimant's Memorial-ENG, ¶ 32).

[58] Counter-Memorial, ¶ 205.

[59] Expert Report-[redacted] -Constitutional Law-Claimant's Reply, ¶¶ 44, 48-54, 56-61, 63-64, 70-71.

[60] *Id.*, ¶¶ 12, 41-44.

[61] *Id.*, ¶¶ 22, 25, 28, 33.

Solidaridad were interested in resolving various issues, including pending litigation, and, for that reason, assumed various clear obligations with which they were expected to comply.[62]

39. Mexico alleges that the MOU and its amendment are not binding because SEMARNAT was not a party to the agreements.[63] This is incorrect. As [redacted] explains, SEMARNAT's participation in the MOU was not necessary.[64] The MOU was entered into by the State of Quintana Roo and the Municipality of Solidaridad, which have the power and responsibility to amend the POEL under Mexican law.[65]

40. Furthermore, as noted in paragraph 34 above, consistent with the binding nature of the 2014 Agreements, Mexico and its instrumentalities complied with several of the obligations undertaken under these Agreements.[66] In fact, Mexico's own exhibits show that the State of Quintana Roo and the Municipality of Solidaridad agreed between themselves "to amend the Program for Local Environmental Regulation [(*i.e.*, the POEL)] with respect to the land use of CALICA's lots to allow [CALICA] to quarry those lots consistent with the quarrying previously authorized by the 2001 Program for Territorial Environmental Regulation [(*i.e.*, the POET)]."[67] As the Tribunal is aware, Mexico now claims that this document "does not exist" and that the legal counsel of the Municipality of Solidaridad who sent a copy of that agreement to Mexico's counsel was "confus[ed]" when it reported having a copy.[68]

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[62] *Id.*, ¶ 45.

[63] Counter-Memorial, ¶ 382.

[64] Expert Report-[redacted] -Constitutional Law-Claimant's Reply, ¶ 51.

[65] *Id.* (citing to the General Law of Ecological Equilibrium and Environmental Protection).

[66] Mexico is wrong when it suggests that CALICA's failure to pay real estate taxes for FY 2014 or to invoke the 2014 Agreements in domestic proceedings shows that these Agreements are not binding. Counter-Memorial, ¶¶ 206, 227. CALICA's payment of real estate taxes for FY 2014 was conditioned on the POEL being published by 5 December 2015, which never happened. Amended MOU, p. 3 (13 May 2015) (C-0022-SPA). And CALICA had no obligation to enforce its rights under the 2014 Agreements before Mexican courts; it chose to do so in this arbitration.

[67] Municipio de Solidaridad, Oficio No. SJYC/1166-10/2020, p. 25 (19 October 2020) (R-0027-SPA).

[68] Letter from Miguel López Forastier (Counsel for Claimant) to the Tribunal, pp. 2-3 (4 February 2021) (requesting that the Tribunal draw adverse inferences from Respondent's failure to produce document ordered by Tribunal). Procedural Order No. 4, pp. 20-24 (granting Claimant's request for a copy of the "Agreement between the Government of Quintana Roo and the Municipality of Solidaridad to amend the 2009 POEL in respect of its soil use of the lots of CALICA to allow the production previously authorized by the 2001 POET (*Acuerdo con el Gobierno de Quintana Roo, y el Municipio de Solidaridad para reformar el Programa de Ordenamiento Ecológico Local del Municipio de Solidaridad de 2009 con respecto al uso de suelo de los predios de la empresa Calica, y con ello permitirle la explotación previamente autorizada por el Programa de Ordenamiento Ecológico Territorial de 2001*."). Email from Sara Marzal Yetano

41. Even assuming, *arguendo*, that the 2014 Agreements were not to be technically binding under Mexican law, in their most basic form, these agreements constitute written representations by Mexico and its instrumentalities that, *inter alia*, the POEL would be amended to expressly recognize CALICA's vested right to quarry La Adelita. As explained in Part II.B.1 above, the 2014 Agreements were negotiated and signed by multiple government agencies to resolve different issues; the parties to those agreements — out of a sense of obligation — took initial steps to comply with them; and Legacy Vulcan made investments in reliance on them. Mexico disputes none of these facts. Legacy Vulcan expected Mexico and its instrumentalities to fulfill the commitments they undertook under the 2014 Agreements, regardless of their technical legal status under Mexican law.[69]

3. Mexico Failed to Amend the POEL in Violation of the 2014 Agreements Due to Domestic Politics

42. In its Counter-Memorial, Mexico concedes that it did not amend the POEL within the timeframe set forth in the 2014 Agreements (*i.e.*, by 5 December 2015).[70] Mexico tries to excuse this failure by alleging (i) that the State of Quintana Roo and the Municipality of Solidaridad are not responsible for the termination of the amendment process, (ii) that internal administrative issues forced the Committee to Amend the POEL to stop meeting, and (iii) that the deadlines established in the 2014 Agreements to amend the POEL were unrealistic. None of these purported excuses hold water.

a) The State of Quintana Roo and the Municipality of Solidaridad Are Responsible for the Committee to Amend the POEL

43. Contrary to what Mexico's legal experts suggest,[71] the State of Quintana Roo and the Municipality of Solidaridad *are* responsible for the Committee to Amend the POEL's failure to continue the amendment process.

44. The Committee to Amend the POEL is governed by an executive body composed of representatives from the same Mexican government entities — the State of Quintana Roo and

(ICSID) on behalf of the Tribunal, dated 13 February 2021 (noting that the Tribunal will weigh the evidence before it and draw inferences as it deems fit).

[69] Memorial, ¶¶ 105-106; Memorandum for Meeting of the Board of Directors, pp. 1-2 (11 July 2014) (C-0088-ENG); Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 5.

[70] Counter-Memorial, ¶ 237.

[71] *See* SOLCARGO, ¶¶ 47, 77 (RE-001) (alleging that the Committee to Amend the POEL is independent of state and municipal authorities).

the Municipality of Solidaridad — that established the Committee after agreeing in the 2014 Agreements to form it and to:

> "[c]arry out the necessary actions before the municipal or state authorities, according to the legislation in force, to promote the execution of CALICA's social and business purpose (*objeto social*) and/or affiliates [. . .] consisting of the following: [. . .] accomplish the incorporation of the 'Use of Quarrying and exploitation of stone material' before the technical and executive bodies with respect to the properties owned and/or possessed by CALICA and/or affiliates, known as 'LA ROSITA', 'EL CORCHALITO' and 'LA ADELITA'."[72]

45. The Committee to Amend the POEL was therefore an instrument of the relevant authorities — most notably the State of Quintana Roo and the Municipality of Solidaridad, the latter of which is empowered by law to regulate zoning in its own municipality — to achieve the amendment of the POEL.[73] As such, the executive body of the Committee to Amend the POEL would coordinate meetings, appoint technical experts, and summon participants and the public.[74] The State of Quintana Roo and the Municipality of Solidaridad both formed the Committee and determined the progress of its work.[75] Those Mexican instrumentalities are responsible for the Committee's failure to complete the POEL amendment process as agreed in the MOU, as amended.[76]

b) The Committee to Amend the POEL Stopped Meeting Shortly After Its Own Appointed Expert Concluded that the Areas of El Corchalito and La Adelita Are the Most Suitable For Quarrying

46. Mexico alleges that the Committee to Amend the POEL "had to stop meeting [. . .] due to issues related to the change of government of the Municipality of Solidaridad, as well as the lack of resources to finance the rest of the stages to complete the technical study and carry out

[72] MOU, p. 3 (12 June 2014) (C-0021-SPA).

[73] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 138-142, 144; Expert Report-[redacted] -Constitutional Law-Claimant's Reply, ¶ 64.

[74] *See* Memorial, ¶¶ 115-120; Expert Report-[redacted] -Constitutional Law-Claimant's Reply, ¶ 64.

[75] *See* Minutes of the Meeting to Establish the Committee to Amend the POEL, pp. 1, 10 (30 October 2014) (C-0090-SPA); Expert Report-[redacted] -Constitutional Law-Claimant's Reply, ¶ 64.

[76] *See* Expert Report-[redacted] -Constitutional Law-Claimant's Reply, ¶ 66.

the public consultation."[77] This bald allegation fails to square with the chronology of events or the weight of the evidence.

47. The change of government touted by Mexico actually took place many months *after* the Committee to Amend the POEL was supposed to have completed its work.[78] The parties to the 2014 Agreements agreed that Mexico and its instrumentalities would amend the POEL by 5 December 2015, almost ten months *before* the change of administration in the Municipality of Solidaridad on 30 September 2016.[79] On 30 October 2015, the Committee to Amend the POEL approved the expert report concluding that the areas of El Corchalito and La Adelita are the most suitable for conducting quarrying operations in the entire municipality.[80] That was eleven months before the change of municipal administrations.

48. Mexico and its instrumentalities failed to provide *any* technical or legal justifications for abandoning the process to amend the POEL after the Committee to Amend the POEL completed the diagnostic phase, which was the second and most taxing of the four phases to complete the amendment process.[81] Mexico does not refute any of the following facts:

- On 17 August 2016, Mayor-elect Cristina Torres told [redacted] that it would be difficult for the Municipality of Solidaridad and the State of Quintana Roo to voluntarily comply with the 2014 Agreements and "would rather act on court orders than confront the hotel industry and environmental groups" opposed to CALICA's operations in Quintana Roo.[82]
- On 30 March 2017, Governor Joaquín said that "it would be unpalatable to the public to allow CALICA to quarry such large area [(*i.e.*, La Adelita)] notwithstanding the environmental authorizations that Mexico's Federal Government and the State of Quintana Roo may have granted CALICA to do so," after which he added that tourism interests had been lobbying his administration to develop the lots that CALICA had quarried and, as such, that it would be

[77] Counter-Memorial, ¶ 238 (free translation, the original text reads: "el Comité tuvo que dejar de sesionar. Lo anterior, se debió a cuestiones relacionadas con el cambio de gobierno del Municipio de Solidaridad, así como a la falta de recursos para el financiamiento del resto de las etapas para finalizar el estudio técnico y realizar la consulta pública.").

[78] Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 41; Modesto Pineda, *Asume Cristina Torres presidencia municipal de Solidaridad*, LAS NOTICIAS DE TULUM (1 October 2016), https://www.lasnoticiasdetulum.com/2016/10/asume-cristina-torres-presidencia.html (C-0142-SPA).

[79] Amended MOU, p. 2 (13 May 2015) (C-0022-SPA).

[80] Memorial, ¶ 118.

[81] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 149.

[82] Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 45; *see also* Memorial, ¶ 123.

politically beneficial to him for CALICA to show the tourism industry that it had a plan to develop or intended to sell the lakes that had formed in its lots.[83]

- On 3 April 2017, the Legislature of the State of Quintana Roo approved a non-binding Point of Agreement introduced by then state legislator and current Solidaridad mayor, Laura Beristain, urging that the POEL not be amended to allow CALICA to quarry La Adelita.[84]
- On 5 April 2017, after [redacted] had met with Mayor Torres to discuss the 2014 Agreements a few months before, Mayor Torres said during a press conference that, "to her administration, CALICA had not asked anything [. . .] and so [she did not] know where [the media was] getting the information that [the Municipality of Solidaridad] intend[ed] to make a modification [to the POEL], which also [did not] concern [the Municipality of Solidaridad]."[85]
- On August 2017, after [redacted] told Governor Joaquín that the Secretary of Ecology and Environment of the State of Quintana Roo, Alfredo Arellano, had acknowledged that CALICA had complied with all Mexican environmental laws and regulations and that he did not foresee any technical, objective issues with CALICA quarrying La Adelita, Governor Joaquín said that amending the POEL would nevertheless be difficult.[86]
- On 17 July 2018, Governor Joaquín told [redacted] that, while he understood the obligations that the State of Quintana Roo had assumed under the 2014 Agreements, amending the POEL was not politically viable and therefore "highly unlikely within any foreseeable future" and that interested parties might resort to activism and social opposition.[87] When [redacted] suggested a "land-use swap" between El Corchalito and La Adelita by creating some kind of protected area in El Corchalito, Governor Joaquín emphatically said: "You are not entering La Adelita — period."[88]

49. As these facts demonstrate, multiple statements since 2016 by high-level state and municipal officials, including the governor of Quintana Roo and the mayor of Solidaridad, confirm that the POEL amendment process initiated in 2014 was discontinued for political, not financial, reasons, as Mexico now claims.[89] In CALICA's interactions with state and municipal officials about the POEL since 2016, none of them has indicated that the process was abandoned or suspended due to financial or budgetary reasons.[90] Moreover, after the Committee to Amend the

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[83] Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶¶ 48-49; *see also* Memorial, ¶ 125.

[84] Memorial, ¶ 126.

[85] Noticias Canal 10, *No existe ninguna petición de Calica, Q. Roo para el cambio de uso de suelo: Cristina Torres*, YouTube (uploaded 5 April 2017), https://www.youtube.com/watch?v=vL1ifRAPajA&list=PLVo9hFLz5RAKeuksCArHrXZsSMva9Bo60&index=18 (C-0104-SPA); *see also* Memorial, ¶ 127.

[86] Memorial, ¶ 129.

[87] *Id.*, ¶ 131 (citing Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 59).

[88] *Id.*

[89] *Id.*, ¶¶ 125-131; Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶¶ 40, 44-52, 57-59.

[90] Memorial, ¶¶ 125-131.

POEL concluded the diagnostic phase, all that was left in the amendment process was essentially for the Committee to assess how quarrying activities would evolve in the Municipality of Solidaridad and to propose a draft of the amendment to the POEL.[91] The more burdensome and costly diagnostics phase had been completed.[92] Mexico's revisionist history is belied by the record.

c) The Timeline Agreed By the Parties in the 2014 Agreements for Mexico and Its Instrumentalities to Amend the POEL Was Reasonable

50. Mexico argues that "there is no specific deadline to conclude a POE[L]."[93] This is both incorrect and immaterial.

51. It is not uncommon for Mexico to set itself deadlines to complete environmental regulations. Coordination agreements (*convenios de coordinación*) between relevant government entities regarding the issuance or amendment of POELs must include a schedule of activities. Articles 8 and 38(VI)(c) of the regulations to the General Law of Ecological Equilibrium and Environmental Protection (*Ley General del Equilibrio Ecológico y la Protección al Ambiente* or "LGEEPA") establish that those coordination agreements are "intended to determine [. . .] *the deadlines* [. . .] that make up the agenda of the local environmental process"[94] and must include, *inter alia*, "a work plan [. . .] [with] a *schedule* of activities to carry out."[95] Under Article 10 of these regulations, coordination agreements determine the "consequences arising from non-compliance [with these schedules], in order to ensure [. . .] [their] execution in a *timely manner*."[96]

52. Regardless, Mexico agreed *twice* that it would amend the POEL within a specific timeframe. In the MOU Mexico undertook to amend the POEL within two to four months once

[91] Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶ 102.

[92] *Id.*

[93] Counter-Memorial, ¶ 165 (free translation, the original reads: "no existe un plazo específico para concluir un POE[L]").

[94] LGEEPA Regulations on Ecological Planning, Article 8 (C-0127-SPA) (free translation, the original text reads: "[l]os convenios de coordinación tienen por objeto determinar [. . .] *plazos* [. . .] que integran la agenda del proceso de ordenamiento ecológico[.]") (emphasis added). (emphasis added).

[95] *Id.*, Article 38(VI)(C) (free translation, the original text reads: "[u]n *plan de trabajo* que incluya: [. . .] [e]l *cronograma* de actividades a realizar.") (emphasis added).

[96] *Id.*, Article 10 (free translation, the original text reads: "en los convenios de coordinación [. . .] que se suscriban se establecerán las consecuencias y sanciones que se deriven de su cumplimiento, a fin de asegurar el interés general y garantizar su ejecución *en tiempo y forma*.") (emphasis added).

this process began (*i.e.*, by the end of February 2015), and in the Amended MOU Mexico agreed to do so by 5 December 2015.[97] Mexico indisputably failed to abide by, or even request to further amend the MOU to modify, the timeframes it voluntarily agreed to.

53. These agreed timeframes were based in part on representations by Mexican government officials about how long it would take to complete the targeted amendment to the POEL that CALICA sought. During the negotiations of the 2014 Agreements, government officials represented to CALICA that the process to amend the POEL would take months, not years.[98] For example, on 5 September 2013, Jaime Aguilar Cheluja, then Assistant Director of the API Quintana Roo, informed [redacted] that, according to the State of Quintana Roo's Environment Ministry, it could take between "eight months and a year to amend" the POEL.[99] By May 2014, State and municipal representatives had agreed to a timeframe of no more than four months, which was reflected in the MOU signed in July of that year.[100] That timeframe was later extended by several months in the Amended MOU, signed in May 2015, for a total of over 13 months for the whole process to take place between the setting up of the Committee to Amend the POEL, in October 2014, through publication of the amended POEL, in December 2015.[101]

54. As [redacted] explains in [redacted] second witness statement:

> "We believed and relied on the governments' representations about the timeframe for amending the POEL 2009, particularly because the amendment we sought was limited to making explicit what the POEL 2009 already made implicit: that CALICA's right to quarry La Adelita was grandfathered and subject to the POET 2001 zoning regime, a fact that the State of Quintana Roo and the Municipality of Solidaridad had accepted."[102]

55. Mexico nevertheless suggests that "the deadlines established in the MOU were unrealistic" and cites two examples purportedly indicating that the process to amend a POEL could last up to 17 years.[103] Specifically, Mexico points to the POELs of the Municipality of Tijuana, Baja California, and of the Municipality of Colón, Querétaro, which, from the date of the

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[97] Memorial, ¶¶ 94, 99.

[98] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 4.

[99] *Id.* (citing email of Jaime Aguilar Cheluja (API Quintana Roo) to [redacted] (5 September 2013) ([redacted]-0011)).

[100] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 4.

[101] *Id.*

[102] *Id.*, ¶ 5.

[103] Counter-Memorial, ¶ 240.

signing of the coordination agreements to establish these POELs to the publication thereof, took 17 and 8 years to complete, respectively.[104]

56. But these examples are not analogous to the facts here because they concern the issuance of previously non-existent POELs, not the targeted amendment of a pre-existing POEL.[105] In addition, once the process to establish these POELs began, it took eight and 14 months in Tijuana and Colón, respectively, from the first meeting of the respective committee until the publication of these POELs in the relevant official gazettes.[106] This timeframe is consistent with the estimated timeframe suggested by Mexican officials during the negotiations of the 2014 Agreements and the approximate 13-month timeframe for amending the POEL reflected in the MOU, as amended. That 13-month timeframe is also consistent with what it has taken to amend other POELs.[107]

57. Finally, Mexico suggests that suspensions of POEL amendment processes are common,[108] but — even if that were true — the fact remains that relevant government authorities *expressly agreed* to take all the necessary steps to move the POEL amendment process at issue here forward to conclusion within 13 months. Instead of doing so, those entities discontinued the amendment process for political reasons. Nearly five years later, that process is no closer to completion.[109]

C. MEXICO'S UNLAWFUL SHUTDOWN OF OPERATIONS IN EL CORCHALITO

58. In defense of its shutdown of CALICA's operations in El Corchalito, Mexico glosses over the irregularities leading up to that shutdown and fails to rebut the following core facts:

- On 22 January 2018, a few days after a Mexican government official threatened CALICA with a shutdown of its operations, PROFEPA issued an "*Acuerdo de Emplazamiento*" ordering the shutdown of CALICA's quarrying operations in El Corchalito and further precluded quarrying in La Adelita (the "Shutdown Order").[110]

[104] *Id.*, ¶¶ 169-175.

[105] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 152. Notably, out of 2,457 municipalities that exist in Mexico, Respondent could only come up with two inapplicable examples to support its argument.

[106] *Id.*, ¶ 102; *see* Counter-Memorial, ¶¶ 169-171, 172-174.

[107] *Id.*, ¶ 147.

[108] Counter-Memorial, ¶ 239.

[109] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 7.

[110] Memorial, ¶¶ 135, 149.

- PROFEPA premised this shutdown on an alleged 1% excess in the extraction area under the water table in El Corchalito, derived from a faulty measurement that CALICA was effectively precluded from controverting.[111]
- PROFEPA decreed that the shutdown could be lifted only if CALICA conceded that it had exceeded the limit in the extraction area, even though CALICA contested the faulty measurements upon which the alleged excess was based, with evidence that PROFEPA dismissed for no valid reason.[112]
- PROFEPA failed to justify the Shutdown Order on a finding that CALICA's operations posed an imminent risk of ecological imbalance or severe damage to natural resources, as required by Mexican law.[113]

59. Additionally, after years of inaction, PROFEPA issued a final resolution days before Mexico's Counter-Memorial was due (the "Resolution").[114] In the Resolution, PROFEPA maintained the shutdown of quarrying in El Corchalito and fined CALICA based on new alleged violations that PROFEPA had not identified as such before and that CALICA had no effective opportunity to counter within the administrative proceeding.[115]

60. As these facts show, Mexico has gone out of its way to ban CALICA's quarrying operations in El Corchalito through flawed measurements of the area quarried under the water table there, the unjustifiable refusal to accept evidence contesting those measurements, no requisite finding of environmental harm, and shifting rationales.

1. PROFEPA Shut Down CALICA's Quarrying Operations in El Corchalito Based on Unreliable Measurements of the Area Quarried There, While Ultimately Disallowing CALICA to Controvert Them

61. PROFEPA's Shutdown Order of 22 January 2018 followed two inspections of the Project conducted in 2017.[116] In its Counter-Memorial, Mexico tries to defend the Shutdown Order by suggesting that CALICA was afforded an opportunity to submit evidence in connection with those inspections and arguing that PROFEPA "has full authority and administrative freedom to carry out one, two, or more consecutive inspections in the same proceeding [. . .]."[117] This is incorrect. After CALICA submitted expert evidence showing that PROFEPA's first inspection was

[111] *Id.*, ¶¶ 149, 153, 155.

[112] *Id.*, ¶¶ 153, 155-156.

[113] *Id.*, ¶¶ 150-151.

[114] *See* Resolution (30 October 2020) (R-0005-SPA).

[115] *See infra*, Part II.C.5.

[116] Memorial, ¶¶ 139, 145, 149; Counter-Memorial, ¶¶ 36, 66, 69; Shutdown Order, pp. 1, 17 (C-0117-SPA) (discussing inspections in whereas clauses II and XVI).

[117] Counter-Memorial, ¶ 63 (free translation, the original text reads: "tiene plena atribución y libertad administrativa para realizar una, dos o más inspecciones consecutivas en el mismo expediente").

flawed, PROFEPA — in violation of Mexican law — conducted a second "supplemental" inspection to fix those flaws and twice disallowed expert evidence proffered by CALICA to show that the second "supplemental" inspection was likewise flawed.

a) PROFEPA's First Inspection Was Concededly Imprecise and Flawed in Its Assessment of the Area Quarried by CALICA Under the Water Table in El Corchalito

62. Material facts about PROFEPA's first inspection on 15-19 May 2017 are undisputed. PROFEPA ordered that inspection on 12 May 2017 to check CALICA's compliance with the Corchalito/Adelita Federal Environmental Authorization.[118] Under that Authorization, SEMARNAT approved CALICA's proposed environmental impact statement, specifying three interdependent parameters to measure the impact of its quarrying activities below the water table: area, volume, and depth of extraction.[119] During its first inspection, PROFEPA determined that CALICA had purportedly exceeded by 0.25 hectares the under-water quarrying area of 140 hectares implied in the Corchalito/Adelita Federal Environmental Authorization.[120]

63. Mexico concedes that PROFEPA's measurements of that area were imprecise.[121] This fact was established as a result of independent expert evidence that CALICA offered on 26 May 2017 and that PROFEPA admitted in September 2017.[122] As explained by that expert, Tomás de la Cruz, a civil engineer, the GPS equipment and methodology used by PROFEPA's inspectors were unreliable, and the resulting measurements reflected in the inspection report were incorrect and inconsistent.[123] Even though only CALICA had the right under Mexican law to submit

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[118] First PROFEPA Inspection Order (12 May 2017) (C-0114-SPA); *see* Memorial, ¶ 139; Counter-Memorial, ¶ 35 ("En el caso de CALICA, la visita de inspección ordinaria tuvo por objeto verificar el cumplimiento de las obligaciones relativas a la AIA Federal, a fin de constatar que el proyecto cumplía con los Términos y Condicionantes contenidos en dicha autorización federal.").

[119] *See* Corchalito/Adelita Federal Environmental Authorization, pp. 7, 11 (C-0017-SPA) (Whereas XXVII and First Term); *see also* Memorial, ¶ 76; Counter-Memorial, ¶ 27; Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report, ¶¶ 43-44.

[120] Memorial, ¶ 139; Counter-Memorial, ¶ 44.

[121] Counter-Memorial, ¶ 58.

[122] Memorial, ¶¶ 140-141; CALICA's Observations to the First PROFEPA Inspection Report, pp. 24-25, 31 (26 May 2017) (C-0116-SPA) (explaining flaws in PROFEPA's area assessment and offering expert evidence); Shutdown Order, p. 15 (22 January 2018) (C-0117-SPA) ("mediante Acuerdo de fecha trece de septiembre de dos mil diecisiete y notificado a los interesados los días catorce y dieciocho del mismo mes y año, respectivamente; se tuvo por acreditado al C. Tomás de la Cruz Hernández, como perito de la parte oferente de la prueba pericial en materia de Ingeniería Civil").

[123] Expert Report of Tomás de la Cruz Hernández, pp. 2, 19 (26 October 2017) (C-0120-SPA); *see also* Memorial, ¶¶ 140, 142; GPSMAP 76CSx Mapping GPS - Owner's Manual, p. 54 (C-0143-ENG) (confirming that the device PROFEPA used in its first inspection "is intended to be used as travel aid and *must not be used for any purpose requiring precise measurement of direction, distance, location or topography*"

observations and evidence about the inspection,[124] PROFEPA designated its own expert, David May, a PROFEPA employee (not an independent expert, as Mexico claims), to scrutinize its own inspectors' work.[125] May's report, like de la Cruz's, showed a different representation of the relevant area to that derived from PROFEPA's inspection.[126]

b) PROFEPA Unlawfully Pursued a Second Inspection to Correct Its Flawed First Inspection

64. Since PROFEPA acknowledged the inconsistencies and errors in its inspectors' report, there was no basis to determine from this inspection that CALICA had in fact exceeded the area contemplated in the Corchalito/Adelita Federal Environmental Authorization. Under Mexican law, that would be the end of the matter, with PROFEPA concluding the proceeding accordingly while keeping the possibility of conducting a future inspection as part of a separate proceeding.[127] That is not what happened here.

65. On 17 November 2017, PROFEPA ordered an inspection it described as "supplemental," to be carried out as part of the same administrative proceeding.[128] The asserted purpose of this second inspection was to verify CALICA's compliance with the First Term of the

(emphasis added)).

[124] Expert Report-[redacted]-Constitutional Law-Claimant's Reply, ¶¶ 101, 108; *see also* Mexican Federal Law of Administrative Procedure [Ley Federal de Procedimiento Administrativo], Article 68 (C-0110-SPA) ("Those who are visited to whom a verification report has been issued may make observations [. . .] and offer evidence in relation to the facts contained in it [. . .]" (free translation, the original text reads: "Los visitados a quienes se haya levantado acta de verificación podrán formular observaciones [. . .] y ofrecer pruebas en relación a los hechos contenidos en ella [. . .]").

[125] Appointment by PROFEPA of David Antelmo May Gutiérrez, pp. 29-30 (13 September 2017) (C-0144-SPA); Counter-Memorial, ¶ 57 ("PROFEPA nombró a un perito independiente [. . .]"); *but see* Shutdown Order, p. 15 (22 January 2018) (C-0117-SPA) ("[PROFEPA] nombró como perito al Ingeniero Agrónomo en Sistemas de Producción Pecuaria, David Antelmo May Gutiérrez, *personal adscrito a la [PROFEPA]* [. . .]" (emphasis added)).

[126] Expert Report of David Antelmo May Gutiérrez, pp. 6-17 (25 October 2017) (C-0145-SPA); Counter-Memorial, ¶ 58; Memorial, ¶ 142; *see also* PROFEPA Note (*Acuerdo de Trámite*) Regarding Expert Reports, p. 4 (*Acuerdo Primero*) (17 November 2017) (C-0119-SPA).

[127] *See* Memorial, ¶ 143 ("Under Mexican law, PROFEPA was required to close the administrative proceeding and order a new independent inspection."); Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶¶ 149-153; Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report, ¶ 9; Expert Report-[redacted]-Constitutional Law-Claimant's Reply, ¶¶ 129, 131.

[128] Memorial, ¶ 143; PROFEPA Note Regarding Expert Reports, p. 4 (17 November 2017) (C-0119) ("En razón de las diferencias detectadas entre las representaciones espaciales resultantes de los dictámenes periciales y el acta de inspección, se considera necesario [. . .] ordena [sic] realizar una visita de inspección complementaria [. . .]"); Supplemental PROFEPA Inspection Order, p. 2 (24 November 2017) (C-0121) ("se le hace saber a la empresa denominada CALIZAS INDUSTRIALES DEL CARMEN, S.A. DE C.V., que se le practicará una VISITA DE INSPECCIÓN EXTRAORDINARIA").

Corchalito/Adelita Federal Environmental Authorization (indicating the three interdependent parameters to measure environmental impact: extraction area, volume, and depth), and "specifically in relation to the areas and georeferenced location of the works and activities" therein.[129] Relying on its experts on Mexican law and a PROFEPA witness, Mexico alleges that PROFEPA had legal authority under Article 50 of the Federal Law of Administrative Procedure ("LFPA") to conduct this "supplemental" inspection and that this type of inspection is "common practice."[130]

66. As Claimant's legal experts explain, however, PROFEPA's "supplemental" inspection was not within the scope of Article 50 of the LFPA and was invalid *ab initio*.[131] Inspections are the means by which administrative authorities, such as PROFEPA, fulfill their duties, limited by Mexico's Constitution and laws; they are not a formal source of evidence under Article 50 of the LFPA.[132] By treating its "supplemental" inspection as an evidence-gathering exercise to cure the deficient measurements obtained in the first inspection, PROFEPA exceeded its authority and infringed on CALICA's rights.[133]

c) After the Second Inspection, PROFEPA Illegally Disallowed CALICA's Proffered Independent Expert Evidence to Show That This Inspection Was Likewise Flawed

67. PROFEPA conducted its "supplemental" inspection on 27-29 November 2017, and — based on its inspectors' measurements — concluded that CALICA had quarried 142.15 hectares under the water table in El Corchalito, a purported excess of 2.15 hectares to the 140-hectare area implied for under-water extraction in the Corchalito/Adelita Federal Environmental

[129] PROFEPA Note (*Acuerdo de Trámite*) Regarding Expert Reports, p. 4 (17 November 2017) (C-0119-SPA) ("cuyo objeto será verificar el cumplimiento del Término Primero de la Autorización de Impacto Ambiental, número D.O.O.DGOEIA.-0007237 de fecha treinta de noviembre del dos mil, específicamente con relación a las superficies y ubicación georreferenciada de las obras y actividades [. . .]"); Supplemental PROFEPA Inspection Order, p. 2 (24 November 2017) (C-0121) (same); *see also* Memorial, ¶ 145.

[130] Counter-Memorial, ¶¶ 63-68.

[131] Expert Report-[redacted]-Constitutional Law-Claimant's Reply, ¶¶ 157-170; Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report, ¶ 20; *see also* Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶ 150.

[132] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report, ¶¶ 13-16; Expert Report-[redacted]-Constitutional Law-Claimant's Reply, ¶¶ 154-157, 160-166, 168-170.

[133] Expert Report-[redacted]-Constitutional Law-Claimant's Reply, ¶¶ 154-157, 160-166, 168-170; Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report, ¶¶ 15-17; *see also* Memorial, ¶ 143.

Authorization.[134] As explained in Claimant's Memorial, this second inspection — like the one before it — was flawed and its measurements were unreliable.[135]

68. For that reason, as it had done after PROFEPA's first inspection, on 28 November 2017, CALICA offered to submit independent expert analysis to address basic methodological issues that made PROFEPA's second measurements of the quarried area unreliable.[136] CALICA offered the *same* expert, Tomás de la Cruz, to provide the *same* type of expertise ("civil engineering") and to address the *same* questions regarding the reliability of PROFEPA's area measurements.[137] As demonstrated in Claimant's Memorial and confirmed in the expert report of civil engineer [redacted] in this arbitration, PROFEPA's measurements were unreliable because, *inter alia*, they measured not the extraction area below the water table, but an area some length away from the edge of the water table, as shown in Picture 1 below.[138] In addition, part of the purported contours of the body of water PROFEPA allegedly measured *in situ* coincided to the dot with the contours of an internal road adjacent to that lake.[139]

[134] Second PROFEPA Inspection Report, p. 9 (27 November 2017) (C-0118-SPA) ("La ubicación georreferenciada del polígono que forma el espejo de agua, está contenida en los cuadros de coordenadas que forman parte de la presente acta de inspección, con base en ello se tiene que la superficie que ocupa el espejo de agua es de 1,421.520.02209 metros cuadrados [*i.e.*, 142.152 hectares]."); Counter-Memorial, ¶ 78; Memorial, ¶ 147.

[135] Memorial, ¶¶ 146-148.

[136] CALICA's Observations and Proffer of Evidence Regarding PROFEPA's Second Inspection, pp. 12-17 (28 November 2017) (C-0146-SPA) (outlining inadequacies in the inspectors' measurement of the relevant area and offering expert evidence by Tomás de la Cruz).

[137] *Id.*, pp. 16-17; *see also* CALICA's Observations to the First PROFEPA Inspection Report, pp. 31-32 (26 May 2017) (C-0116-SPA).

[138] Expert Report-[redacted]-Civil Engineering-Claimant's Reply-SPA, p. 11; *see also* Memorial, ¶ 147; Second PROFEPA Inspection Report, p. 11 (27 November 2017) (C-0118-SPA) (containing images shown in Picture 1).

[139] Expert Report-[redacted]-Civil Engineering-Claimant's Reply-SPA, ¶ 30.

Picture 1

Espejo de agua y camino interno secundario 01

69. In contrast to what PROFEPA did with respect to the first inspection, on 22 January 2018 (in its Shutdown Order), PROFEPA refused to admit CALICA's independent expert evidence with respect to the second inspection. PROFEPA reasoned that CALICA's proffered expert evidence "was not directly related to the actions undertaken by [PROFEPA], since at no moment was a 'topographic survey' [*levantamiento topográfico*] conducted in [El Corchalito]."[140] PROFEPA added that, rather than a topographic survey, during their second visit, its inspectors had developed a "georeferenced survey" [*plano georreferenciado*] "for the *approximate* obtainment of areas, distances, and longitudes."[141] Mexico and its legal experts echo these points.[142]

70. The expert evidence offered by CALICA, however, was directly related to the actions undertaken by PROFEPA during the second inspection. CALICA offered the same expert

[140] Shutdown Order, p. 171 (22 January 2018) (C-0117-SPA) (free translation, the original text reads: "considera procedente desechar la prueba pericial ofrecida por [CALICA], al no estar directamente relacionada con las actuaciones realizadas por [PROFEPA], al no haberse realizado en ningún momento un 'levantamiento topográfico' en el predio materia de la visita de inspección").

[141] Shutdown Order, p. 170 (22 January 2018) (C-0117-SPA) (emphasis added) (free translation, the original text reads: "habiéndose realizado únicamente la metodología necesaria para la elaboración de un Plano Georreferenciado que, el objetivo del levantamiento de las coordenadas es la generación de un documento cartográfico para la georreferenciación de puntos de interés para la obtención aproximada de superficies, distancias y longitudes").

[142] SOLCARGO, p. 46 n.67 (RE-001) ("Si bien, CALICA ofreció una pericial topográfica, la misma fue desechada, en virtud de que lo que se ordenó tratándose de la visita de noviembre de 2017, fue hacer una georreferenciación de la superficie que se ha señalado, lo que no es materia de una determinación topográfica. En este tenor, la PROFEPA respetó el derecho de CALICA de ofrecer sus pruebas."); *see also* Counter-Memorial, ¶ 56 ("Es necesario precisar que el acta de inspección [. . .] contiene un levantamiento georreferenciado y no topográfico.").

evidence that was admitted with respect to PROFEPA's first inspection and for the same purpose: to address methodological issues with PROFEPA's flawed measurements of the relevant area.[143] PROFEPA admitted that evidence after the first inspection, even though its inspectors technically had not conducted a topographic survey then.[144] The allegation that CALICA offered expert evidence on a "topographic survey" is also incorrect.[145] CALICA may have referred to a "topographic survey" but it unequivocally offered expert evidence on the measurement conducted by PROFEPA as reflected in specific pages of PROFEPA's inspection report.[146]

71. PROFEPA's rationale for rejecting the same evidence after the second inspection on nothing more than a game of words is inconsistent with PROFEPA's own previous conduct and seems contrived to avoid what happened the first time: CALICA's demonstration that PROFEPA's measurements were flawed and unreliable.

72. After the Shutdown Order, on 14 February 2018, CALICA again tried to show that PROFEPA's measurements of the relevant area were wrong but PROFEPA again refused to admit contrary evidence. CALICA proffered an independent expert report on civil engineering, just as it had done before, further clarifying that it would scrutinize the "measurements" reflected in the second inspection report.[147] On 30 October 2018, over eight months after the shutdown and CALICA's offer to submit this expert report, PROFEPA dismissed CALICA's proffered evidence, again implausibly claiming that it had no "direct relation" with the substance of the inspection.[148]

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[143] *Compare* CALICA's Observations to the First PROFEPA Inspection Report, p. 31 (26 May 2017) (C-0116-SPA) (offering "[e]xpert evidence in [c]ivil [e]gineering, with sole reference to the topographic survey reflected in pages 73 to 81 of the Inspection Report, and the spatial representations in pages 82 and 83 of said report [. . .]."), *with* CALICA's Observations and Proffer of Evidence Regarding PROFEPA's Second Inspection, p. 16 (28 November 2017) (C-0146-SPA) (offering "[e]xpert evidence in [c]ivil [e]gineering, with sole reference to the topographic survey and spatial representations reflected in pages [. . .] 20 to 47 of the Inspection Report [. . .].").

[144] *See, e.g.*, Shutdown Order, p. 15 (22 January 2018) (C-0117-SPA) (discussing admission of CALICA's proffered expert evidence in whereas clause VII).

[145] *See* PROFEPA Docket PFPA/4.1/2C.27.5/00028-17, pp. 16-18 (30 October 2018) (C-0125-SPA); Counter-Memorial, ¶ 56; SOLCARGO, p. 46, n. 67 (RE-001) (alleging that CALICA offered a topographic survey expert report ("pericial topográfica")).

[146] Expert Report-[redacted]-Civil Engineering-Claimant's Reply, ¶ 61.

[147] CALICA's Observations to the Shutdown Order, p. 22 (14 February 2018) (C-0124-SPA) (offering an "EXPERT OPINION IN CIVIL ENGINEERING, with reference only to the topographic survey and/or *the measurements and spatial representations* that are in pages [sic] 20 to 47 of the Inspection Report [. . .]") (free translation, the original text reads: "La PERICIAL EN MATERIA DE INGENIERÍA CIVIL, con referencia únicamente al levantamiento topográfico plasmado y/o *mediciones y las representaciones espaciales* que obran en las hojas en las hojas [sic] 20 a 47 del Acta de Inspección [. . .]") (emphasis added); *see also* Memorial, ¶ 153.

[148] Memorial, ¶ 153; PROFEPA Docket PFPA/4.1/2C.27.5/00028-17, p. 18 (30 October 2018) (C-0125-SPA) ("esta Dirección General considera procedente desechar la prueba pericial en materia de Ingeniería Civil

The evidence CALICA offered would have squarely addressed the methodology PROFEPA employed to derive the area of underwater extraction that it concluded CALICA "probably" exceeded.[149]

73. As explained by Claimant's legal experts, [redacted] under Mexican law, PROFEPA had no legal basis to refuse to admit CALICA's proffered expert evidence into the record.[150] It could refuse to do so only if that evidence was "not offered in accordance with the law, ha[d] no relation with the substance of the matter, [was] irrelevant [*improcedente*] and unnecessary or contrary to morals and to the law."[151] CALICA's proffered evidence did not fall within any of these categories, which in any event do not include the "direct relation" standard that PROFEPA applied to effectively block CALICA's proffered evidence.

74. Had PROFEPA not blocked CALICA's evidence, CALICA would have been able to show once again that PROFEPA's measurements were flawed. As explained by civil engineer [redacted] PROFEPA's inspectors attempted to measure the area of underwater extraction while standing some length away from the body of water formed from such extraction.[152] They also failed to use a rover rod with bubble level to ensure that the GPS device they were using was accurately located.[153] Picture 2 below shows the proper methodology, which requires placing the GPS antenna on the exact location of the vertices of the polygon to be measured.[154] Instead, they used an antenna on a backpack, which registered the point where the person carrying the backpack stood, not the precise location of the vertices of the polygon they intended to measure.[155]

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ofrecida por el promovente, al no estar directamente relacionada con las actuaciones realizadas por esta autoridad, al no haberse realizado en ningún momento un 'levantamiento topográfico' en el predio materia de la visita de inspección en cita.").

[149] Memorial, ¶ 153.

[150] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report, ¶¶ 27-31; Expert Report-[redacted]-Constitutional Law-Claimant's Reply, ¶¶ 172, 176-178.

[151] Mexican Federal Law of Administrative Procedure [Ley Federal de Procedimiento Administrativo], Article 50 (C-0110-SPA) (free translation, the original text reads: "El órgano o autoridad de la Administración Pública Federal ante quien se tramite un procedimiento administrativo [. . .] [s]ólo podrá rechazar las pruebas propuestas por los interesados cuando no fuesen ofrecidas conforme a derecho, no tengan relación con el fondo del asunto, sean improcedentes e innecesarias o contrarias a la moral y al derecho.").

[152] Expert Report-[redacted]-Civil Engineering-Claimant's Reply, p. 11.

[153] *Id.*, ¶ 33.

[154] Expert Report of de la Cruz Hernández, dated 23 January 2020 (superimposition of pictures corrected), pp. 20-21, 25 (C-0152-SPA).

[155] *Id.*, ¶ 35.

As a result of these methodological errors, among others, PROFEPA's measurements were unreliable,[156] particularly when considering the *de minimis* magnitude (just over 1%) of the alleged excess in the total quarrying area measured by PROFEPA. PROFEPA turned a blind eye to this fact and unlawfully precluded CALICA from having an opportunity to prove it.

Picture 2

2. PROFEPA Conditioned Lifting Its Shutdown on CALICA's Accepting PROFEPA's Flawed Measurements of the Quarried Area and on the Submission of Additional Evidence It Later Dismissed

75. It is undisputed that PROFEPA conditioned the lifting of the Shutdown Order on CALICA's securing an amendment to the Corchalito/Adelita Federal Environmental Authorization allowing underwater extraction in the purported excess area.[157]

76. PROFEPA's requirement of an amendment to the Corchalito/Adelita Federal Environmental Authorization operated as a *de facto* sanction.[158] If CALICA complied with that requirement, it would effectively admit that it exceeded the 140-hectare quarrying area limit implied in the Corchalito/Adelita Federal Environmental Authorization — an issue that at that time had not been finally settled in the administrative proceeding.[159]

77. Mexico's legal experts contend that CALICA did not have to concede having breached the Corchalito/Adelita Federal Environmental Authorization if it conducted a "Damages

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[156] *Id.*

[157] Memorial, ¶ 156; SOLCARGO, ¶ 202 (RE-001); Shutdown Order, p. 281 (22 January 2018) (C-0117-SPA) (ordering CALICA to present an amended Corchalito/Adelita Federal Environmental Authorization issued by SEMARNAT to lift the shutdown); *see also id.*, p. 284 (ordering the same as a "corrective measure").

[158] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 50-51.

[159] Memorial, ¶ 157; *see* Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 50, 57.

Study" and paid compensation for the alleged excess extraction.[160] But CALICA was never given the option to conduct this so-called "Damages Study" in the Shutdown Order.[161] Besides, as explained by Claimant's environmental law expert, [redacted] by conducting such a "Study," CALICA would in effect be admitting having caused damage from the alleged excess extraction.[162] PROFEPA's Deputy Attorney General Silvia Rodríguez Rosas (whom Mexico presented as a witness) confirms this fact, noting that PROFEPA would have considered CALICA's damages study if CALICA admitted to the environmental damages it *unlawfully* caused.[163] CALICA, of course, disputes that it has unlawfully caused any environmental damages.

78. Mexico's legal experts also fail to rebut that CALICA faced a Catch-22 situation: having to secure from SEMARNAT an amendment to the Corchalito/Adelita Federal Environmental Authorization to lift the shutdown but being unable to secure that amendment while PROFEPA's administrative proceeding was still open.[164] In their report, Mexico's legal experts merely say that "SEMARNAT was not impeded from granting the renewal of the [Corchalito/Adelita Federal Environmental Authorization] due to an open [administrative] proceeding."[165] But, as noted below, Mexico's allegation is belied by its own conduct: SEMARNAT has recently suspended its consideration of whether to renew or amend that Authorization in light of PROFEPA's proceeding.[166]

79. What is more, even though PROFEPA required CALICA — as "corrective measures" — to submit georeferenced surveys and a bathymetrical study of the quarried areas in El Corchalito, PROFEPA again turned a blind eye to exculpatory evidence.[167] That evidence showed that CALICA had not quarried [redacted] and was well below the depths and

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[160] SOLCARGO, ¶ 234 (RE-0001).

[161] *See* Shutdown Order, pp. 281, 284-288 (22 January 2018) (C-0117-SPA) (listing actions CALICA had to take in response to PROFEPA's measure and nowhere listing a "Damages Study"); Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 80.

[162] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 94-96.

[163] Declaration of Silvia Rodríguez Rosas, ¶ 27 (RW-002) (indicating that damages for environmental harm require the person responsible to take certain steps regarding their "illicit" acts) (free translation, the original text reads: "*Que el responsable haya solicitado expresamente a la SEMARNAT se evalúen en su conjunto los daños producidos ilícitamente, y las obras y actividades asociadas a esos daños que se encuentren aún pendientes de realizar en el futuro.*").

[164] Memorial, ¶ 157.

[165] SOLCARGO, ¶ 230-231.

[166] *Infra*, ¶¶ 104-105; *see also* Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 15.

[167] Memorial, ¶¶ 154-155; Shutdown Order, pp. 285-286 (22 January 2018) (C-0117-SPA) (requiring these reports); Resolution, pp. 84-87, 108, 111-112 (R-0005-SPA) (refusing to give them evidentiary value).

volume parameters for extraction under the water table indicated in the Corchalito/Adelita Federal Impact Authorization.[168] PROFEPA followed a pattern of systematically dismissing or refusing to consider evidence that tended to contradict what its inspectors did.

80. In its Counter-Memorial, Mexico tries to justify PROFEPA's disregard of CALICA's bathymetric study by claiming that this study "was not conclusive" and required a separate analysis by Mexico's Navy (*Secretaría de Marina* ("SEMAR")), whose different "estimations" "ma[de] it impossible to be *conclusive* as to the volume of limestone extracted in El Corchalito."[169] Yet, *both* CALICA's and SEMAR's studies derived similar extraction volumes showing that CALICA had extracted materials *far below* the volume limits that PROFEPA said CALICA had to meet.[170] PROFEPA similarly disregarded as "inconclusive" and "uncertain" measurements showing that CALICA had quarried an area of [redacted] under the water table.[171] PROFEPA set a demanding standard for CALICA's evidence (it had to be "conclusive" and "certain") while fully validating its own inspectors' unreliable "probable" estimates and approximations.

3. The Shutdown Order Was Not Based on the Requisite Finding of Environmental Harm

81. In its Counter-Memorial, Mexico claims that "[t]he main reason why PROFEPA issued the [Shutdown Order] [. . .] was to prevent additional environmental damage[.]"[172] Yet PROFEPA failed to meet its burden to prove this, as the Shutdown Order contains no finding of impending and severe environmental harm, as required by Mexican law.

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[168] Memorial, ¶ 155; *see also* Bathymetric study of the extraction area of CALICA in Quintana Roo, Mexico, p. 14 (February 2018) (C-0126-SPA)); Resolution, p. 108, 111-112 (R-0005-SPA) (refusing to consider topographic charts indicating an area of underwater quarrying [redacted] in El Corchalito).

[169] Counter-Memorial, ¶ 101 (emphasis added).

[170] *See* Bathymetric study of the extraction area of CALICA in Quintana Roo, Mexico, p. 14 (February 2018) (C-0126-SPA) [redacted] SEMAR Notice to PROFEPA, p. 1 (17 April 2020) (C-0147-SPA) [redacted] Resolution, p. 82 (R-0005-SPA) [redacted]

[171] Resolution, pp. 108, 111-112 (R-0005-SPA). Notably, the area measurements PROFEPA disregarded as unreliable because they showed a quarrying area under the water table [redacted] are consistent with measurements ordered by Mexico's Attorney General's Office as part of the criminal investigation initiated at PROFEPA's behest. *See* Witness Statement-[redacted]-Claimant's Reply-SPA, ¶¶ 4, 6-7.

[172] Counter-Memorial, ¶ 74 (free translation, the original text reads: "El principal motivo por el cual la PROFEPA emitió la clausura temporal y parcial [. . .], fue para impedir daños ambientales adicionales [. . .]").

82. The shutdown was premised on Article 170 of the Mexican General Law of Ecological Balance and Environmental Protection (*Ley General del Equilibrio Ecológico y Protección al Ambiente*).[173] That article allows the shutdown of facilities "[w]hen there is an *imminent* risk of ecological imbalance, or of *severe* damage or deterioration to natural resources."[174]

83. The Shutdown Order contains no such finding. Instead, relying on the "*probable* non-compliance [with the Corchalito/Adelita Federal Environmental Authorization]" and the "*allegedly* exceeded" underwater quarrying area,[175] the Shutdown Order asserts that, because SEMARNAT had not evaluated the environmental impact of that alleged excess extraction, there is automatically an undefined "risk of damage to natural resources."[176] But, as explained in Claimant's Memorial, when SEMARNAT issued the Corchalito/Adelita Federal Environmental Authorization, it assessed the environmental impact of the Project over 42 years, with the assumption that CALICA would quarry a total of 294 hectares under the water table during that time (*i.e.*, 140 hectares during the first 20 years and another 154 hectares until 2042).[177]

84. Furthermore, PROFEPA shut down CALICA's quarrying operations in El Corchalito using as the only parameter to assess the purported environmental damage the estimated total area of underwater extraction, ignoring the parameters of volume and depth.[178] An evaluation of all three of these parameters was necessary to identify whether the

[173] Shutdown Order, p. 280 (22 January 2018) (C-0117-SPA); *see also* Mexico's General Law of Ecological Balance, Article 170 (C-127-SPA); Memorial, ¶ 150.

[174] Mexico's General Law of Ecological Balance, Article 170 (C-127-SPA) (emphasis added); Memorial, ¶ 150; Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 163.

[175] Shutdown Order, p. 280 (22 January 2018) (C-0117-SPA); *see also* Memorial, ¶ 150.

[176] Shutdown Order, p. 278 (22 January 2018) (C-0117-SPA) (free translation, the original text reads: "al haberse realizado los trabajos de extracción de roca caliza por debajo del manto freático dentro de una superficie adicional de 2.15 hectáreas, sin contar previamente con la autorización para la modificación, o en su caso, exención en materia de impacto ambiental que para tal efecto emite la [SEMARNAT], se ocasionó un riesgo de daño a los recursos naturales, ya que al no haber tramitado y, por ende, obtenido la misma, no se permitió a dicha autoridad que previera o determinara que los impactos ambientales sinérgicos o acumulativos que se generarían por las actividades de extracción [. . .] en una superficie adicional de 2.15 hectáreas [. . ."); *see also* Memorial, ¶ 150.

[177] Memorial, ¶ 219.

[178] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 43-46; *see* also Shutdown Order, p. 280 (22 January 2018) (C-0117-SPA) (centering shutdown measure on alleged excess of 2.15 hectares in the quarrying area under the water table).

environmental impact of the alleged additional underwater quarrying activities departed from those contemplated in the Corchalito/Adelita Federal Environmental Authorization.[179]

85. To be sure, the Shutdown Order speculates on a number of possible environmental damages that may accrue from CALICA's "alleged" breach of the underwater extraction area.[180] For example, the Shutdown Order asserts — without any evidence — that this alleged breach "could cause" salt water to seep into the water table affected by the underwater extraction, changes in the chemical composition of the water, and other contamination of it.[181] The Shutdown Order also highlights other potential damages to the biodiversity of plants and animals that have nothing to do with underwater extraction and which Mexico already took into account when it authorized quarrying above the water table in an area seven times larger than the area authorized for underwater quarrying.[182]

86. These are mere assertions of "possible" environmental damage, not findings of imminent risk of ecological imbalance or severe environmental harm. PROFEPA failed to test the water impacted by the allegedly excessive extraction under the water table or to conduct any study to support its speculation of "probable" damage. Had it done so, no environmental or ecological impacts beyond those assessed and deemed manageable by SEMARNAT and state authorities would have been found.[183]

87. As explained in the expert report of [redacted] two oceanographers with ample experience on hydrological processes and environmental issues, their sampling of several physiochemical parameters in the lake formed from underwater

[179] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 43-46; *cf.* Expert Report-[redacted]-Environmental Sustainability-Claimant's Reply-SPA, ¶¶ 8-14 (finding no departure from the impacts contemplated in that Authorization based on a technical-scientific study of the body of water formed from quarrying under the water table in El Corchalito).

[180] Shutdown Order, pp. 278-280 (22 January 2018) (C-0117-SPA); *see also* Declaration of Silvia Rodríguez Rosas, ¶¶ 90-96, 101 (RW-002) (echoing these possible impacts).

[181] Shutdown Order, p. 279 (22 January 2018) (C-0117-SPA); *see also* Declaration of Silvia Rodríguez Rosas, ¶ 94 (RW-002).

[182] Shutdown Order, p. 279 (22 January 2018) (C-0117-SPA); *see also* Corchalito/Adelita Federal Environmental Authorization, p. 10 -12 (C-0017-SPA) (specifying total quarrying area and authorized activities, such as removal of vegetation and use of explosives, among others); Amendment to Corchalito/Adelita State Environmental Authorization, p. 4 (C-0019-SPA) (authorizing quarrying of 50 hectares per year over the water table).

[183] Expert Report-[redacted]-Environmental Sustainability-Claimant's Reply-SPA, ¶¶ 8-14; *see generally* First PROFEPA Inspection Report (19 May 2017) (C-0115-SPA) (documenting that no technical study of the water in the lake formed by underwater extraction was conducted); Second PROFEPA Inspection Report (27 November 2017) (C-0118-SPA) (same).

quarrying in El Corchalito revealed *no* intrusion of salt water or the presence of contaminants, such as hydrocarbons.[184] To the contrary, [redacted] found a clear body of water composed entirely of fresh water replenished by a previously unknown aquifer and that is home to regional fauna.[185] They also found the lake formed in El Corchalito to be similar to natural freshwater bodies in the region.[186] Based on their studies, they conclude that PROFEPA's allegations of environmental damage "are incorrect, lack scientific rigor, and are not supported by any scientific evidence."[187]

88. An expert report ordered by Mexico's Attorney General's Office drew a similar conclusion. The report was commissioned as part of the investigation initiated after PROFEPA filed a criminal complaint in April 2018 based on its flawed conclusion that CALICA had exceeded the 140-hectare area limit for underwater quarrying in El Corchalito.[188] An official biologist ascribed to Mexico's Public Ministry visited that lot on 9 December 2020, and found no damages to vegetation, flora, or fauna, or to the environment.[189]

89. Since PROFEPA did not even attempt to establish the requisite imminent risk of severe environmental harm required by law, its order effectively reversed the burden of proof contemplated under Mexican law and forced CALICA to prove a nebulous accusation of "probable" environmental harm that PROFEPA never bothered to substantiate and that does not exist.[190] PROFEPA's draconian order to shut down CALICA's quarrying operations in El Corchalito lacked a proper basis under Mexican law and was disproportionate.

4. PROFEPA Preserved the Shutdown Based on Shifting Rationales That CALICA Had No Effective Opportunity to Answer

90. On 30 October 2020, PROFEPA issued an administrative resolution (the "Resolution") concluding its purported review of CALICA's compliance with the corrective and

[184] Expert Report-[redacted]-Environmental Sustainability-Claimant's Reply-SPA, ¶ 10.

[185] *Id.*, ¶ 12.

[186] *Id.*

[187] *Id.*, ¶ 8.

[188] Witness Statement-[redacted]-Claimant's Reply-SPA, ¶¶ 4, 6-7; *see* Memorial, ¶ 158 (mentioning PROFEPA's criminal complaint and status of investigation).

[189] Witness Statement-[redacted]-Claimant's Reply-SPA, ¶ 7.

[190] *See* Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 87; Expert Report-[redacted]-Constitutional Law-Claimant's Reply-SPA, ¶ 193; Expert Report-[redacted]-Environmental Sustainability-Claimant's Reply-SPA, ¶¶ 8-14.

other measures imposed and required by the Shutdown Order issued nearly three years earlier.[191] In the Resolution, issued soon after Mexico secured an extension of its Counter-Memorial deadline from 26 October 2020 to 23 November 2020,[192] PROFEPA preserved the shutdown of El Corchalito based — not just on the alleged excess of 2.15 hectares of extraction under the water table that animated the 2018 shutdown[193] — but on additional purported violations of the Corchalito/Adelita Federal Environmental Authorization that had not been raised as such in the Shutdown Order and that CALICA had no effective opportunity to rebut.[194]

91. The Resolution notes that CALICA purportedly violated the Corchalito/Adelita Federal Environmental Authorization by quarrying only in El Corchalito, not in both El Corchalito and La Adelita.[195] Mexico and its witnesses echo this allegation in the Counter-Memorial.[196] But PROFEPA had never previously alleged that CALICA was required to simultaneously quarry both lots.[197] Neither had SEMARNAT. As explained by [redacted] the Corchalito/Adelita Federal Environmental Authorization did not require CALICA to do so.[198]

92. Before the 2017 inspections that led to the Shutdown Order, PROFEPA and other Mexican authorities were fully aware that CALICA was quarrying only in El Corchalito. For more than a decade, CALICA submitted periodic reports to PROFEPA that showed quarrying

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[191] *See generally* Resolution (R-0005-ESP); *see also* Counter-Memorial, ¶ 113.

[192] *See* Email from Sara Marzal Yetano (Secretary of the Tribunal) to the Parties (20 October 2020).

[193] Shutdown Order, p. 280 (22 January 2018) (C-0117-SPA) (premising the shutdown on "presumably having exceeded by 2.15 hectares the authorized area of extraction [. . .] under the water table").

[194] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 167; Expert Report-[redacted]-Constitutional Law-Claimant's Reply-SPA, ¶¶ 189-192.

[195] Resolution, p. 162 (R-0005-ESP) ("En contravención al Término PRIMERO en relación con el Término CUARTO del Oficio Resolutivo D.O.O.DGOEIA.-0007237 del treinta de noviembre de dos mil, toda vez que [CALICA], sin que de manera previa hubiera obtenido modificación a dicho oficio resolutivo, porque: a) Llevó a cabo la extracción de roca caliza en una superficie mayor en 2.15 hectáreas a la determinada por la autoridad normativa, *y no la realizó en los dos predios autorizados* [. . .]" (emphasis added)); *see also id.*, pp. 53, 114 (similarly flagging the failure to quarry both lots as a violation of the Authorization.

[196] Counter-Memorial, ¶ 118 (asserting that CALICA "fail[ed] to comply with the obligation to exploit the two lots and only exploited El Corchalito") (free translation, the original text reads: "incumpli[ó] la obligación de explotar los dos predios y solo explotar El Corchalito")); *id.*, ¶ 28 (alleging that quarrying only one of the two authorized lots would require a modification of the Corchalito/Adelita Environmental Authorization).

[197] *See* Shutdown Order, pp. 271-277, 280 (C-0117-SPA) (identifying the possible or alleged violations giving rise to the administrative proceeding and nowhere identifying the failure to quarry both lots at the same time); Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 97-105.

[198] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 156.

operations only in El Corchalito.[199] In 2012, PROFEPA audited CALICA's environmental authorizations and found that CALICA complied with all environmental laws and regulations.[200] PROFEPA also awarded Clean Industry Certificates to CALICA from 2003 to 2016.[201] PROFEPA claimed that quarrying only one lot was contrary to the Corchalito/Adelita Federal Environmental Authorization for the first time in its Resolution, not in the Shutdown Order as required by law.[202] By doing so, PROFEPA took the position that CALICA harmed the environment by leaving La Adelita in its natural state instead of clearing the vegetation there, drilling and blasting its soil, and extracting rock from the site.[203]

93. If CALICA was obligated to quarry El Corchalito and La Adelita at the same time (it was not), its failure to do so would have been partly Mexico's fault. CALICA would have begun quarrying above the water table in La Adelita years earlier had SEMARNAT [redacted] Such above-water quarrying in La Adelita would have made further underwater quarrying in El Corchalito unnecessary for several years, reducing the need to engage in more costly extraction under the water table.[205]

94. The Resolution also claims that CALICA violated the Corchalito/Adelita Federal Environmental Authorization because it quarried El Corchalito below the water table at a faster pace than seven hectares per year.[206] But the purported violation animating the shutdown

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[199] *See, e.g.*, CALICA's Eleventh Quadrimester Report and Corresponding Acknowledgements of Receipt, p. 9 (23 May 2005) (C-0113-SPA) ("It is important to highlight that the lot known as 'La Adelita,' at the date of preparation of this report, has not been subject to limestone quarrying above or below the water table.") (free translation, the original text reads: "Es importante destacar que el predio conocido como 'La Adelita', a la fecha de elaboración del presente informe, aún no se encuentra sometido al proceso de aprovechamiento de roca caliza por encima ni por debajo del manto freático".).

[200] Letter No. PFPA03.2/2C27.5/0006/12/0037 from Arturo Estrada Ángel (PROFEPA) to CALICA, p. 56 (10 December 2012) (C-0043-SPA).

[201] *See* Clean Industry Certificates (C-0037-SPA through C-0042-SPA).

[202] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 102-105; Expert Report-[redacted]-Constitutional Law-Claimant's Reply-SPA, ¶¶ 189-192.

[203] *See* Memorial, ¶¶ 40-42 (explaining the extractive process in the CALICA project).

[204] *See* Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 25 (noting that, in early 2013, "CALICA put its plans to begin quarrying in [La Adelita] on hold" because of SEMARNAT's [redacted]

[205] *See* Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 29 [redacted] *id.*, ¶ 60 ("The inability to conduct extraction operations in La Adelita has required CALICA to shift most of its operations to below-water extraction").

[206] Resolution, pp. 162, 224 (R-0005-SPA). CALICA's Environmental Impact Statement states that CALICA expected to quarry an average of 7 hectares per year under the water table. CALICA's Environmental Impact Statement, Chapter II, p. 67 (23 October 2000) (C-0077-SPA) ("La secuencia de Aprovechamiento se

centered on the alleged 2.15-hectare excess in the total area of underwater quarrying, not on the annual rate of area extracted.[207] Nor did the Shutdown Order specifically identify the area quarried per year as a potential violation; instead; it identified the *total* area quarried under the water table as a potential violation.[208] The only potential violation identified in the Shutdown Order relating to the rate of extraction referred to the *volume* of materials extracted per year — not the yearly *area* of extraction.[209] In the Resolution, PROFEPA improperly morphed that potential violation into one premised on the yearly area of extraction.[210]

95. Mexico now highlights the alleged yearly excess in the area for underwater quarrying to suggest that CALICA not only violated the federal Authorization but also harmed the environment.[211] But, as noted above, no such finding is reflected in the Shutdown Order, and — had CALICA known that PROFEPA would rely on this purported violation to maintain the shutdown — it would have demonstrated that it caused no environmental harm or impacts beyond those assessed in the Corchalito/Adelita Federal Environmental Authorization.[212]

96. PROFEPA seized upon the yearly area of extraction without taking into account all the parameters set forth in the Corchalito/Adelita Federal Environmental Authorization, including volume and depth. But, as noted above, that Authorization regulates the impacts from CALICA's activities in its lots, not the yearly area of extraction per se.[213] If that area is exceeded in one or a few years while keeping volumes and depth of extraction well within the bounds

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representa gráficamente en el plano II.1, donde se pretende explotar un promedio de 28 hectáreas anuales, de las cuales corresponden 7 hectáreas debajo del nivel freático"). SEMARNAT reflected this expected yearly average for the initial 20-year term of its authorization in the First Term of the Corchalito/Adelita Federal Environmental Authorization. Corchalito/Adelita Federal Environmental Authorization, p. 10 (C-0017-SPA) ("Se aprovecharán 28 ha anuales de las cuales 7 ha estarán debajo del nivel freático.").

[207] Shutdown Order, p. 280 (22 January 2018) (C-0117-SPA).

[208] *Id.*, p. 272 (referring to the "total area quarried") (free translation, the original text reads: "superficie total explotada").

[209] *Id.* (referring in point (c) to the "annual total of materials to be exploited") (free translation, the original text reads: "total anual de materiales para aprovechar"); *see also* Corchalito/Adelita Federal Environmental Authorization, p. 11 (C-0017-SPA) (stating that CALICA expected an "annual total of materials to be exploited" of certain [redacted] tons of gravel and of base).

[210] Resolution, pp. 114-24, 161 (R-0005-SPA) (considering paragraph I(c) of the Shutdown Order's Fourth ("*Cuarto*") point (dealing with annual total materials) in terms of the yearly area or surface of extraction and finding a violation with respect to the purported excess of that yearly area); Expert Report-[redacted] Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 100-103.

[211] Counter-Memorial, ¶ 116.

[212] Expert Report-[redacted]-Environmental Sustainability-Claimant's Reply ¶¶ 8-14.

[213] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 117-120.

indicated in the Authorization, the environmental impacts on, for instance, the body of water formed by that extraction may still be within those envisioned and authorized by SEMARNAT.[214] PROFEPA's myopic focus on one parameter ignores this fact.

97. PROFEPA notes in its Resolution that, "if CALICA disagreed with the establishment of the 7 hectares per year under the water table, which it stated would be the pace of exploitation in its *Work Schedule*," and was the "area referred in" the Corchalito/Adelita Federal Environmental Authorization, CALICA should have said so to SEMARNAT.[215] This statement overlooks that, in its environmental impact statement, CALICA informed SEMARNAT that, pursuant to its "general work plan," it "intend[ed] to quarry [*aprovechar*] an *average of* 28 hectares annually, of which 7 hectares are under the water table."[216] If, as PROFEPA suggests, this was the work plan approved in the Corchalito/Adelita Federal Environmental Authorization,[217] then CALICA was *not* quarrying a yearly area under the water table at a different pace from that authorized.[218]

98. By relying on new purported violations in its Resolution that were not identified as such in its Shutdown Order, PROFEPA effectively denied CALICA the opportunity to defend itself against those purported additional violations.[219]

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[214] *See id.*

[215] Resolution, p. 117 (R-0005-SPA) (free translation, the original reads: "si CALICA no estaba de acuerdo con el establecimiento de las 7 hectáreas anuales por debajo del manto freático, que manifestó que sería el ritmo de explotación a ejecutar dentro de su *Programa de Trabajo*, superficie que se refiere en el Término Primero del oficio resolutivo [. . .] de fecha treinta de noviembre de dos mil, lo debió haber hecho del conocimiento de la autoridad normativa [. . .]").

[216] CALICA's Environmental Impact Statement, Chapter II, p. 43 (23 October 2000) (C-0077-SPA).

[217] *See* Corchalito/Adelita Federal Environmental Authorization, p. 10 (30 November 2000) (C-0017-SPA) ("Se aprovechará 28 ha anuales de las cuales 7 ha estarán debajo del nivel freático.").

[218] *See* Resolution, pp. 110-111, 121 (R-0005-SPA) (reproducing charts indicating the yearly area extracted under the water table in El Corchalito during only 17 years of the renewable 20-year term of the Corchalito/Adelita Federal Environmental Authorization, which — if kept at zero through the 20th year of extraction by, for example, quarrying at greater depths and more underwater volume within the same area — would have resulted in an average yearly area of *less* than 7 hectares).

[219] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 103; Expert Report-[redacted]-Constitutional Law-Claimant's Reply-SPA, ¶¶ 189-192.

5. Mexico Has Kept CALICA's Authorization to Quarry Under the Water Table in El Corchalito and La Adelita in Limbo Based on PROFEPA's Unlawful Proceeding

99. As discussed in Claimant's Memorial, CALICA secured environmental impact authorizations to quarry El Corchalito and La Adelita for decades.[220] The State of Quintana Roo has authorized quarrying in those lots above the water table (where it has jurisdiction) through 2036 in an area seven times larger than that authorized for under water quarrying.[221] In 2000, SEMARNAT assessed environmental impacts related to quarrying in those lots under the water table for 42 years and authorized such quarrying for a renewable term of 20 years.[222] Extending the term for the remaining 22 years required a simple application,[223] without the need for a new environmental impact statement.

100. Pursuant to the renewal provision of the Corchalito/Adelita Federal Environmental Authorization, [224] on 27 August 2020, CALICA filed an application with SEMARNAT for the renewal of that Authorization along with its latest quarterly compliance reports to PROFEPA.[225] In the days following CALICA's submission, SEMARNAT appeared to be close to granting CALICA's application, as contemplated in the federal environmental authorization.[226] By early September 2020, that application had been evaluated by SEMARNAT and a final response was awaiting signature for its issuance.[227]

101. SEMARNAT changed course, however. Rather than grant the renewal, SEMARNAT requested additional information from CALICA on 27 October 2020, two months

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[220] Memorial, ¶¶ 75-76.

[221] *Id.*, ¶ 75.

[222] *Id.*, ¶ 76.

[223] *Id.*

[224] Corchalito/Adelita Federal Environmental Authorization, p. 11 (30 November 2000) (C-0017-SPA) ("This authorization shall be in effect for twenty years for work focused on preparing the site, construction, operation and maintenance of the project, as of the day after this authorization is received, period which can be extendable as determined by this Ministry, as long as requested in writing by [CALICA] before this General Department for Ecological Order and Environmental Impact (*Dirección General de Ordenamiento Ecológico e Impacto Ambiental*) thirty calendar days before the expiration date. Such request must be presented together with the validation issued by [PROFEPA] of the last report on fulfillment of the conditioning factors.").

[225] CALICA's Corchalito/Adelita Federal Environmental Authorization Renewal Application (27 August 2020) (C-0149-SPA); Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 10.

[226] *Id.*, ¶ 11.

[227] *Id.*

after CALICA submitted its application.[228] SEMARNAT asked CALICA to provide PROFEPA's "validation" of CALICA's latest quarterly compliance report, and to inform whether there were PROFEPA administrative proceedings open against CALICA and whether PROFEPA had "validated" CALICA's previous quarterly compliance reports.[229] This was a puzzling request because PROFEPA is an entity within SEMARNAT, which could have readily obtained the information directly from PROFEPA.[230] The request was also made after the deadline imposed by Mexican law for administrative requests for additional information.[231] Under that law, SEMARNAT could not lawfully suspend CALICA's renewal application based on the missing information.[232]

102. Three days later, on 30 October 2020, PROFEPA issued its "Resolution" concluding the administrative proceeding against CALICA discussed above. As had been done in the Shutdown Order, PROFEPA's Resolution required CALICA to, *inter alia*, seek an amendment of the Corchalito/Adelita Federal Environmental Authorization from SEMARNAT permitting quarrying of an additional 2.15 hectares under the water table.[233]

103. On 19 November 2020, CALICA complied with the requirements set in the Resolution, including seeking the required amendment from SEMARNAT, while reserving its rights.[234] CALICA's amendment application was joined to its renewal application.[235] CALICA also responded to SEMARNAT's requests for information, noting that, while PROFEPA had confirmed receipt of CALICA's quarterly compliance reports for almost 20 years, it had never

[228] *Id.*, ¶ 12; SEMARNAT Letter (Oficio) SGPA/DGIRA/DG/04044, p. 1 (23 October 2020) (C-0150-SPA).

[229] SEMARNAT Letter (Oficio) SGPA/DGIRA/DG/04044, p. 1 (23 October 2020) (C-0150-SPA).

[230] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 12.

[231] Federal Law of Administrative Procedure, Art. 17-A (C-0151-SPA) ("Salvo que en una disposición de carácter general se disponga otro plazo, la prevención de información faltante deberá hacerse dentro del primer tercio del plazo de respuesta o, de no requerirse resolución alguna, *dentro de los diez días hábiles siguientes a la presentación del escrito correspondiente*. […] De no realizarse la prevención mencionada en el párrafo anterior dentro del plazo aplicable, no se podrá desechar el trámite argumentando que está incompleto.").

[232] *Id.* ("De no realizarse la prevención mencionada en el párrafo anterior dentro del plazo aplicable, no se podrá desechar el trámite argumentando que está incompleto.").

[233] Resolution, pp. 230-231 (R-0005-SPA) (Thirty First point (*Trigésimo Primero*"), paragraph 2).

[234] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 13.

[235] *Id.*

informed CALICA of its "validation" of such reports.[236] CALICA also noted that it had complied with the measures PROFEPA imposed in its Resolution.[237]

104. On 4 December 2020, SEMARNAT notified CALICA that it needed PROFEPA's "validation" of CALICA's latest quarterly compliance report to process CALICA's applications.[238] SEMARNAT's consideration of CALICA's applications remains suspended as a result.[239]

105. CALICA has seemingly fallen into an inescapable vortex of bureaucratic ping-pong between SEMARNAT and its own sub-agency, PROFEPA, impeding the continuation of operations in El Corchalito. SEMARNAT is refusing to renew or amend the Corchalito/Adelita Federal Environmental Authorization until PROFEPA "validates" CALICA's compliance with that Authorization, but PROFEPA has concluded — based on flawed inspections and an unlawful proceeding — that CALICA was not in compliance and has directed CALICA to apply to SEMARNAT for a way out of the shutdown.

D. MEXICO'S FAILURE TO COMPLY WITH THE RULINGS OF ITS OWN JUDICIARY

106. Mexico does not dispute that, for nearly a decade, API Quintana Roo charged port fees (*tarifas de puerto*) for the use of CALICA's own private port terminal and that those fees have not been reimbursed to CALICA, the rightful holder of the right to charge those fees, even after Mexico's judiciary conclusively determined that API Quintana Roo had no right to charge them. Instead, Mexico alleges that the CALICA Port Concession does not entitle CALICA to charge port fees (*tarifas de puerto*), that there is no evidence that CALICA paid those fees, and that "no national court has [. . .] ordered a refund in [CALICA's] favor regarding the collection of [those] port fees."[240] These allegations are either mistaken or beside the point.

[236] CALICA Letter to SEMARNAT, p. 8 (19 November 2020) (C-0153-SPA); Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 14.

[237] CALICA Letter to SEMARNAT, pp. 6-8 (19 November 2020) (C-0153-SPA); Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 14.

[238] SEMARNAT Letter to CALICA, Oficio No. SGPA/DGIRA/DG/06183, p. 8 (4 December 2020) (C-0154-SPA).

[239] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 15 (citing to Estado Actual de Trámite, Núm. 09/DG-0398/08/20 (as of 15 February 2021) ([redacted]-0013) (indicating that the processing of CALICA's application is "suspended due to PROFEPA proceeding").

[240] Counter-Memorial, ¶ 244.

1. API Quintana Roo Illegally Charged Port Fees to CALICA for Docking Legacy Vulcan's Vessels in CALICA's Own Private Port Terminal

107. Mexico argues that the CALICA Port Concession does not entitle CALICA to charge port fees (*tarifas de puerto*) to vessels that dock in Punta Venado.[241] But the issue here is not whether CALICA had a right to charge port fees under the CALICA Port Concession (it does). The issue is whether API Quintana Roo was entitled to charge port fees to CALICA Network vessels used to export CALICA's production from CALICA's own private port terminal. Mexican courts considered this issue and provided a definitive answer: API Quintana may not lawfully charge those port fees (*tarifas de puerto*).

108. As explained in Claimant's Memorial, API Quintana Roo began charging these port fees (*tarifas de puerto*) in 2007, after the SCT declared in official letters that API Quintana Roo had the right to do so.[242] In an official letter dated 24 July 2007, the SCT stated that API Quintana Roo "is the only one authorized to charge port fees to vessels that arrive at" Punta Venado.[243] CALICA challenged this in Mexican courts. After nearly a decade of litigation, on 25 January 2017, Mexico's Supreme Court affirmed lower court rulings holding that it was contrary to the CALICA Port Concession, and thus unlawful, for API Quintana Roo to charge port fees for the use of CALICA's concessioned private terminal.[244]

109. In any case, as explained by one of Mexico's witnesses, José Alberto Atempa Lobato, the CALICA Port Concession *did* entitle CALICA to charge port fees to the vessels that

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[241] *Id*., ¶ 248.

[242] Memorial, ¶ 66 (citing Letter No. API.DG.GJ.0405.07 from Javier F. Zetina González (State of Quintana Roo) to Oscar Amable Tenório (Agencia Consignataria del Sureste, S.A. de C.V.), p. 2 (4 July 2007) (C-0055-SPA); Letter No. API.DG.GJ.0405.07 from Javier F. Zetina González (State of Quintana Roo) to [redacted] (CALICA), p. 2 (9 July 2007) (C-0056-SPA); Letter No. 7.3.3033.07 from Ángel González Rul A. (SCT) to [redacted] (CALICA), p. 2 (24 July 2007) (C-0057-SPA); Letter No. 7.3.-1679.09.4257 from Alejandro Hernández Cervantes (SCT) to [redacted] (CALICA), p. 1 (2 July 2009) (C-0058-SPA)).

[243] Letter No. 7.3.3033.07 from Ángel González Rul A. (SCT) to [redacted] (CALICA), p. 2 (24 July 2007) (C-0057-SPA) (free translation, the original text reads: "[API Quintana Roo] es la única legitimada para cobrar la tarifa de puerto a las embarcaciones que arriban a [Punta Venado] [. . .]").

[244] Memorial, ¶ 132. On 7 March 2012, the Superior Chamber of the Federal Court of Fiscal and Administrative Justice annulled the SCT official letters because they were issued "in contravention of the [port] concession granted in favor of Calizas Industriales del Carmen, S.A. de C.V." Decision of Mexico's Supreme Court, Claim 1256/2016, p. 4 (25 January 2017) (C-0059-SPA). This ruling was confirmed by the Plenary Session of the Superior Chamber of the Federal Tax and Administrative Court, which, on 3 September 2014, ruled that API Quintana Roo "cannot collect port fees from [CALICA's private port terminal]." *Id*, p. 9.

used the concessioned private terminal.[245] The record is clear: CALICA was the only entity with the right to charge port fees to vessels that docked at its own private terminal, and it was unlawful for API Quintana Roo to usurp this right by charging port fees for Legacy Vulcan vessels (or any others) docking at that terminal. By misappropriating CALICA's right to charge port fees to vessels that docked at CALICA's private port terminal, API Quintana Roo deprived CALICA of that right and funds for more than a decade.

2. Port Fees Are Not Taxes Under Mexican Law

110. Contrary to what Mexico alleges,[246] it is irrelevant whether CALICA or Vulica paid the illegally charged port fees to API Quintana Roo. As [redacted] noted in [redacted] first witness declaration and [redacted] confirms, CALICA and Vulica were forced to pay [redacted] in port fees (*tarifas de puerto*) to API Quintana Roo from 2007 to 2017 for the use of CALICA's own concessioned private terminal.[247] API Quintana Roo has refused to reimburse these fees.[248]

111. The [redacted] in port fees (*tarifas de puerto*) paid to API Quintana Roo are not taxes, as Mexico asserts.[249] Mexico argues that Article 200 of the Mexican Federal Duties Law (*Ley Federal de Derechos*), which provides that "entities using national ports or *public terminals* [. . .] must pay port duties," shows that port fees ought to be considered "tax measures."[250] This is incorrect.

112. According to Article 40, Section X of the Mexican Ports Law (*Ley de Puertos*)[251] — and, again, as explicitly recognized by Mexico's witness, José Alberto Atempa Lobato — port fees (*tarifas de puerto*) are the amounts that port concessionaires may charge third parties for using their infrastructure or for services provided in relation thereto.[252] While port *duties* (*derechos de puerto*) are levies paid directly to the Mexican government for the use of public

[245] Declaración Testimonial del Sr. José A. Atempa Lobato, ¶ 22 (RW-006).

[246] Counter-Memorial, ¶¶ 246-247.

[247] Memorial, ¶¶ 137, 225.

[248] Witness Statement-[redacted]-Claimant's Reply-ENG, ¶ 12.

[249] Counter-Memorial, ¶ 289.

[250] Declaración Testimonial José A. Atempa Lobato, ¶ 29 (RW-006).

[251] Mexican Ports Law, Art. 40, Section X (C-0155-SPA).

[252] Declaración Testimonial José A. Atempa Lobato, ¶¶ 5-6 (RW-006); Ley de Puertos, Artículo 40 fracción X. The original text reads: "*Percibir, en los términos que fijen los reglamentos correspondientes y el título de concesión, ingresos por el uso de la infraestructura portuaria, por la celebración de contratos, por los servicios que presten directamente, así como por las demás actividades comerciales que realicen*".

assets (*e.g.*, public port terminals), port *fees* (*tarifas de puerto*) are paid to entities holding concession titles in consideration for the use of their concessioned assets.[253] Here API Quintana Roo illegally charged CALICA port fees for Legacy Vulcan vessels docking in CALICA's own private port terminal to export its production to the United States.[254] For these reasons, the port fees that API Quintana Roo illegally charged CALICA are not tax measures.

3. API Quintana Roo Must Reimburse CALICA the Port Fees It Illegally Charged For More Than a Decade

113. Mexico does not dispute that API Quintana Roo collected port fees (*tarifas de puerto*) that it was not entitled to collect. Rather, Mexico denies having violated the final determination of its judiciary by arguing that API Quintana Roo was not a party in CALICA's lawsuit challenging the port fees and that there is no judicial order requiring API Quintana Roo to reimburse those fees.[255] This argument lacks merit, both as a matter of common sense and as a matter of Mexican law.

114. The fact that CALICA's lawsuit targeted the SCT — specifically, that entity's determination that API Quintana Roo was entitled to charge port fees for the use of CALICA's private terminal — does not immunize API Quintana Roo from liability or exempt it from reimbursing fees that were ultimately held to be unlawful. API Quintana Roo was summoned to the proceeding and actively participated in it as an interested third party (*tercero interesado*), offering pleadings and evidence and filing appeals throughout many years of litigation.[256]

115. Nor is API Quintana Roo exempt from reimbursing the illegally collected fees until there is a court order expressly requiring it to do so, as Mexico contends.[257] As explained in Claimant's Memorial, Mexico's Supreme Court affirmed lower court rulings holding that it was contrary to the CALICA Port Concession, and thus unlawful, for the SCT to authorize API Quintana Roo to collect port fees for the use of CALICA's concessioned private port terminal.[258]

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[253] Declaración Testimonial José A. Atempa Lobato, ¶ 17 (RW-006).

[254] Memorial, Part II(H)(2).

[255] Counter-Memorial, ¶ 132.

[256] Decision of Mexico's Supreme Court, Claim 1256/2016, pp. 5-10 (25 January 2017) (C-0059-SPA) (describing the procedural history of the litigation and API Quintana Roo's participation as an interested third party, including by pursuing *amparo* and other claims, as well as appeals relating to the ruling on port fees).

[257] Counter-Memorial, ¶ 245.

[258] Memorial, ¶ 132.

Despite this ruling, API Quintana Roo continued charging those port fees to CALICA for more than 10 months, through 3 December 2017.[259]

116. The Mexican judiciary has therefore definitively established that API Quintana Roo was never entitled to collect port fees from CALICA and that it had done so unlawfully. For this reason, on 2 January 2018, CALICA formally requested through a judicial summons that API Quintana Roo reimburse CALICA for these fees, plus interest, within five days.[260] As both a matter of common sense and Mexican law, API Quintana Roo was therefore obligated to reimburse its ill-gotten gains to the lawful owner of the funds: CALICA. But, instead of reimbursing those unlawfully charged port fees, API Quintana Roo threatened to shut down CALICA's operations if it persisted on seeking that reimbursement in Mexican court.[261] As shown above, Mexico delivered on that threat when it shut down operations in El Corchalito.[262]

III. LEGAL BASIS FOR THE CLAIMS

A. MEXICO'S JURISDICTIONAL OBJECTIONS HAVE NO MERIT

1. Legacy Vulcan's Claims Are Timely Under NAFTA Articles 1116(2) and 1117(2)

117. As Legacy Vulcan demonstrated in its Memorial, its claims were brought within the three-year limitations period set forth under NAFTA Articles 1116(2) and 1117(2).[263] Legacy Vulcan submitted its claims to arbitration on 3 December 2018, less than three years after Legacy Vulcan and CALICA first acquired, or should have first acquired, knowledge of Mexico's breaches and of the losses incurred from them. Those breaches and losses stem from (i) Mexico's failure to amend the POEL by 5 December 2015, as required by the 2014 Agreements, which Mexico subsequently repudiated; (ii) Mexico's disregard of the Mexican judiciary's determination — made

[259] *Id.* [redacted]. API Resumen 2007-2017 Spreadsheet, 2020, Tab "Resumen" (DC-0083).

[260] CALICA's filing regarding port fees, p. 8 (2 January 2018) (C-0107-SPA) [redacted]

[261] Memorial, ¶ 135.

[262] *See supra* Part II.C.

[263] Memorial, ¶¶ 184-185.

final in January 2017 — that API Quintana Roo had no right collect the millions of dollars in port fees collected from CALICA for over a decade; and (iii) Mexico's unlawful shutdown of CALICA's operations in El Corchalito in January 2018.[264]

118. Mexico does not refute that Legacy Vulcan's claims are timely. Instead, Mexico asserts that "the Tribunal must be careful" when addressing events that "took place prior to 3 December 2015," adding that the issue presented is one of jurisdiction, not admissibility.[265] Mexico also contends that background facts relating to the breaches claimed in this arbitration "are outside the jurisdiction of the Tribunal and cannot serve as a basis for the claim."[266] Putting aside Mexico's academic question of whether the timing requirement of NAFTA Articles 1116(2) and 1117(2) is an issue of admissibility or jurisdiction,[267] there is no question that Legacy Vulcan meets this requirement.

119. Mexico is wrong to suggest that the Tribunal is jurisdictionally constrained from considering background facts relevant to the dispute. Multiple tribunals have recognized that limitation periods in investment treaties do not preclude the consideration of background facts when ruling on timely claims.[268] The award in *Rusoro Mining Ltd. v. the Bolivarian Republic of Venezuela*, cited by Mexico, illustrates this principle. The tribunal in that case analyzed a three-year limitation period similar to that of NAFTA[269] and acknowledged that:

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[264] *Id.*, ¶ 185. Mexico selectively quotes from this paragraph and labels it "conclusory," Counter-Memorial, ¶ 274, but it is nothing of the sort; it explains why Legacy Vulcan's claims are timely with respect to each of Mexico's breaches.

[265] Counter-Memorial, ¶¶ 275, 281 (free translation, the original text reads: "el Tribunal debe ser cuidadoso al abordar [. . .] eventos que tomaron lugar antes del 3 de diciembre de 2015").

[266] *Id.* ¶ 273 (free translation, the original reads: "esos eventos anteriores están fuera de la jurisdicción del Tribunal y no pueden servir como base de la reclamación").

[267] *See id.*, ¶¶ 275-278 (arguing that the timing requirement is an issue of jurisdiction).

[268] *See, e.g.*, *Bilcon of Delaware et al v. Government of Canada*, PCA Case No. 2009-04, Award on Jurisdiction and Liability, ¶ 282 (17 March 2015) (Simma (P), McRae, Schwartz) (CL-0009-ENG) (hereinafter, "*Bilcon v. Canada* (Award)") ("While Article 1116(2) bars breaches in respect of events that took place more than three years before the claim was made, events prior to the three-year bar, however, are by no means irrelevant. They can provide necessary background or context for determining whether breaches occurred during the time-eligible period."); *Mondev International Ltd. v. United States of America,* ICSID Case No. ARB(AF)/99/2, Award, ¶ 70 (11 October 2002) (CL-0011-ENG) (hereinafter *"Mondev v. United States* (Award)") ("events or conduct prior to the entry into force of an obligation for the respondent State may be relevant in determining whether the State has subsequently committed a breach of the obligation").

[269] *Rusoro Mining Ltd. v. Bolivarian Republic of Venezuela* , ICSID Case No. ARB (AF)/12/5, Award, ¶¶ 203-205 (22 August 2016) (RL-0003) (setting forth the limitations period in the relevant treaty and "not[ing] the similarities between [that provision] and NAFTA Art. 1116(2)").

> [W]hile [. . .] the Treaty bars claims concerning alleged breaches which occurred before the Cut-Off Date [*i.e.*, the date three years before the request for arbitration], this does not imply that the measures underlying such breaches become irrelevant. They provide the necessary background and context for adjudicating the case, and the legitimate expectations of an investor may depend crucially on matters that occurred before such Cut-Off Date.[270]

120. Legacy Vulcan has not alleged NAFTA breaches predating 3 December 2015; rather, it has alleged breaches that materialized after that date.[271] In support of these allegations, Legacy Vulcan also outlined background facts in its Memorial, including facts regarding Legacy Vulcan's investments in Mexico as well as prior governmental measures and representations that provide the necessary background and context for adjudicating this case.[272] Articles 1116(2) and 1117(2) do not preclude the Tribunal from considering these facts.

2. The Tribunal Has Jurisdiction *Ratione Materiae* Over the Claims Legacy Vulcan Has Submitted to Arbitration

121. Legacy Vulcan submitted its claims in this proceeding on its own behalf under Article 1116(1) and on behalf of its enterprise, CALICA, under Article 1117(1).[273] Mexico does not dispute that Legacy Vulcan is an investor of the United States with investments in Mexico, including its enterprise, CALICA.[274] Instead, Mexico aims its jurisdictional challenge at the "CALICA Network," arguing that it is not an "enterprise" of Mexico on behalf of which a claim may be submitted pursuant to NAFTA Article 1117(1).[275] This jurisdictional challenge lacks merit.

122. As explained more fully in the discussion of Compensation below (Part IV.A.2), Mexico conflates jurisdictional requirements with the causation requirement for compensation. Contrary to what Mexico suggests, no claim has been submitted here on behalf of the CALICA Network under Article 1117(1). Rather, Legacy Vulcan submitted a claim on behalf of its Mexican enterprise, CALICA, under that Article.[276]

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[270] *Id.*, ¶ 223.

[271] *See* Memorial, ¶ 185.

[272] *See* Memorial, Parts II.A through II.G.

[273] Memorial, ¶¶ 20, 172; Request for Arbitration, ¶ 12 ("Legacy Vulcan is submitting investment claims to arbitration on its own behalf and on behalf of its enterprise CALICA pursuant to NAFTA Articles 1116(1) and 1117(1), respectively.").

[274] Memorial, ¶¶ 20, 172; Counter-Memorial, ¶¶ 282-287 (not disputing these facts).

[275] Counter-Memorial, ¶¶ 282-287.

[276] Memorial, ¶¶ 20, 172; Request for Arbitration, ¶ 12.

123. Pursuant to Article 1116(1), Legacy Vulcan, unquestionably an "investor of a Party" (the United States), has submitted "to arbitration [. . .] a claim that another Party [Mexico] has breached an obligation under [] Section A [of NAFTA] [. . .] and that the investor has incurred loss or damage by reason of, or arising out of, that breach."[277] As part of this claim, Legacy Vulcan has shown that it "has incurred loss or damage by reason of, or arising out of," Mexico's breaches because, as a consequence of those breaches, the value of its integrated quarrying, shipping, and distribution business (*i.e.*, the CALICA Network) — which is anchored and dependent on CALICA's quarrying operations in Mexico — has substantially decreased.[278] As further discussed below (Parts III.A.2 and IV.A.1), the fact that some elements of this network are located outside of Mexico does not deprive the Tribunal of jurisdiction over Legacy Vulcan's claim or otherwise preclude consideration of the claimed "loss or damage" that was proximately caused to Legacy Vulcan by Mexico's breaches.

3. The Port Fees Mexico Unlawfully Collected from CALICA Are Not Taxation Measures Excluded by NAFTA

124. Mexico argues that Legacy Vulcan's claim relating to the port fees that Mexico unlawfully collected from CALICA is jurisdictionally barred because it is a "taxation measure" excluded under NAFTA Article 2103.[279] This is incorrect. The port fees at issue here do not qualify as a tax under Mexican law or that Article.

125. Mexico conflates port duties (*derechos de puerto*), which it claims qualify as "taxation measures,"[280] with port fees (*tarifas de puerto*), which its own witness confirms do not constitute taxes under Mexican law.[281] Legacy Vulcan's claim is premised on the unlawful collection of certain port fees (*tarifas de puerto*) by API Quintana Roo for vessels docking at CALICA's concessioned private port terminal, not on port duties (*derechos de puerto*).[282] API Quintana Roo started collecting those port fees after the SCT declared in July 2007 that it had the

[277] NAFTA, Article 1116(1) (C-0009-SPA); Memorial, ¶¶ 20, 172.

[278] Memorial, ¶ 337.

[279] Counter-Memorial, ¶¶ 289-290; NAFTA, Article 2103(1) (C-0156-ENG) ("Except as set out in this Article, nothing in this Agreement shall apply to taxation measures.").

[280] Counter-Memorial, ¶ 289 (arguing that port duties (*derechos de puerto*) are taxation measures under Mexican law).

[281] Declaración Testimonial de José Atempa Lobato, ¶¶ 9, 13, 17 (RW-006) (distinguishing between port duties (*derechos de puerto*) and port fees (*tarifas de puerto*), and confirming that "tarifas portuarias no son contribuciones, toda vez que son cobros por el uso de infraestructura o la prestación de servicios portuarios").

[282] *See supra* Part II.D.2; Memorial, ¶¶ 66, 225.

right to do so and instructed CALICA that vessels docking at CALICA's private terminal in Punta Venado, including Legacy Vulcan vessels, "must pay *port fees* (*la tarifa de puerto*) to API Quintana Roo [. . .]."[283] By Mexico's own admission, these port fees are not part of a tax regime within the ambit of the tax exclusion under NAFTA Article 2103.[284]

126. Since the port fees at issue here are not tax measures under Mexican law or under NAFTA Article 2103, the Tribunal has jurisdiction to decide Legacy Vulcan's claim.

B. MEXICO STANDS IN BREACH OF NAFTA

1. Mexico Failed to Accord Fair and Equitable Treatment to Legacy Vulcan's Investments in Breach of NAFTA Article 1105

a) The Applicable Standard

127. Mexico agrees that the minimum standard of treatment under customary international law is infringed by conduct that "is arbitrary, grossly unfair, unjust or idiosyncratic" or "involves a lack of due process."[285] The award in *Waste Management v. Mexico*, on which Mexico relies, concluded that the minimum standard of treatment is also infringed by conduct that involves "a complete lack of transparency and candour in an administrative process," and that "[i]n applying this standard, it is relevant that the treatment is in breach of representations made by the host State which were reasonably relied on by the claimant."[286]

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[283] Letter No. 7.3.3033.07 from Ángel González Rul A. (SCT) to [redacted] (CALICA), p. 2 (24 July 2007) (C-0057-SPA) (emphasis added); *see also* Letter No. 7.3.-1679.09.4257 from Alejandro Hernández Cervantes (SCT) to [redacted] (CALICA), p. 1 (2 July 2009) ("*la tarifa de puerto* debe cobrarse por la Administración Portuaria Integral de Quintana Roo, S.A. de C.V." (emphasis added)); Letter No. API.DG.GJ.0405.07 from Javier F. Zetina González (State of Quintana Roo) to [redacted] (CALICA), p. 2 (9 July 2007) (C-0056-SPA) ("a partir del día 1º de julio del [2007] todas las embarcaciones que arriben a dichas instalaciones [en Punta Venado] se les cobrará *la tarifa de puerto* [. . .]" (emphasis added)); Letter No. API.DG.GJ.0405.07 from Javier F. Zetina González (State of Quintana Roo) to Oscar Amable Tenório (Agencia Consignataria del Sureste, S.A. de C.V.), p. 2 (4 July 2007) (C-0055-SPA) (same); Declaración Testimonial de José A Atempa Lobato, ¶ 47 (RW-006) (discussing the SCT's communication and stating that "las embarcaciones que transitaran, arribaran o fondearan en Punta Venado debían pagar una *Tarifa de Puerto a la API [Quintana Roo]* [. . .]" (emphasis added)); Memorial, ¶ 66.

[284] Declaración Testimonial de José Atempa Lobato, ¶ 17 (RW-006) (acknowledging that port fees (*tarifas de puerto*) are not part of Mexico's tax regime); *see also* Counter-Memorial, ¶ 289 (stating that the term "taxation measure" under NAFTA Article 2103 encompasses measures that are "part of the regime for the imposition of a tax").

[285] Counter-Memorial, ¶ 299 (citing to *Waste Management v. United Mexican States (II)*, ICSID Case No. ARB(AF)/00/3, Award, ¶ 98 (30 April 2004) (Crawford (P), Civiletti, Magallón Gómez) (CL-0007-ENG) (hereinafter "*Waste Management v. Mexico* (Award)")); *see* Memorial, ¶¶ 191, 201.

[286] *Waste Management v. Mexico* (Award), ¶ 98 (CL-0007-ENG). NAFTA tribunals have endorsed the definition of minimum standard of treatment in *Waste Management*. *See Mobil Investments Canada Inc. and Murphy Oil Corporation v. Canada*, ICSID Case No. ARB(AF)/07/4, Decision on Liability and Principles of Quantum, ¶¶ 152(2), 171 (22 May 2012) (van Houtte (P), Sands, Janow) (CL-0008-ENG)

128. In addition, Mexico does not dispute that *Waste Management* also recognized that the minimum standard of treatment evolves and is "constantly in a process of development."[287] Legacy Vulcan has cited extensive sources showing that, as a consequence of this evolution, the minimum standard of treatment under Article 1105 affords foreign investors essentially the same level of protection as the autonomous fair and equitable treatment standard.[288] This autonomous standard requires "the host State to act in a consistent manner, free from ambiguity and totally transparently in its relations with the foreign investor, so that it may know beforehand any and all rules and regulations that will govern its investments, as well as the goals of the relevant policies and administrative practices or directives."[289]

129. Further, Legacy Vulcan is also entitled to the more favorable treatment that Mexico affords to investors of Korea, Germany, Greece and the Netherlands pursuant to Mexico's BITs with those countries, all of which postdate NAFTA and contain autonomous fair and equitable

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(hereinafter "*Mobil v. Canada* (Award)"); *Bilcon v. Canada* (Award), ¶ 442 (CL-0009-ENG); *Mesa Power Group, LLC. v. Government of Canada*, PCA Case No. 2012-17, Award, ¶ 501 (26 March 2016) (Kaufmann-Kohler (P), Brower, Landau) (CL-0015-ENG) (hereinafter, "*Mesa v. Canada* (Award)"); *Glamis Gold, Ltd. v. United States of America*, UNCITRAL, Award, ¶ 559 (8 June 2009) (Young (P), Caron, Hubbard) (CL-0016-ENG) (hereinafter, "*Glamis v. United States* (Award)"); *Cargill, Incorporated v. United Mexican States*, ICSID Case No. ARB(AF)/05/2, Award, ¶ 283 (18 September 2009) (Pryles (P), Caron, McRae) (CL-0017-ENG) (hereinafter, "*Cargill v. Mexico* (Award)"); *Merrill and Ring Forestry L.P. v. Canada*, ICSID Case No. UNCT/07/1, Award, ¶¶ 199, 208 (31 March 2010) (Orrego Vicuña (P), Dam, Rowley) (CL-0005-ENG) (hereinafter, "*Merrill & Ring v. Canada* (Award)"); *GAMI Investments, Inc. v. Government of the United Mexican States*, UNCITRAL, Final Award, ¶¶ 95 *et seq*. (15 November 2004) (Paulsson (P), Reisman, Muró) (CL-0012-ENG) (hereinafter, "*GAMI v. Mexico* (Award)").

[287] *Waste Management v. Mexico* (Award), ¶ 92 (CL-0007-ENG).

[288] Memorial, ¶¶ 192-193 (citing to a dozen cases and articles supporting that the minimum standard of treatment provides the same protection as fair and equitable treatment, including *Merrill & Ring v. Canada* (Award), ¶¶ 210-211 (CL-0005-ENG) (recognizing that "fair and equitable treatment has become a part of customary law"); *Valores Mundiales, S.L. et al. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/13/11, Award, ¶ 536 (25 July 2017) (Zuleta (P), Grigera-Naón, Derains) (CL-0023-SPA) (hereinafter, "*Valores Mundiales v. Venezuela* (Award)") ("[T]he concept of 'minimum standard of treatment' has been expanded to such an extent that it now provides protection very similar to that accorded under the standard of fair and equitable treatment."); *Azurix Corp. v. Argentine Republic*, ICSID Case No. ARB/01/12, Award, ¶ 361 (14 July 2006) (Rigo Sureda (P), Lalonde, Martins) (CL-0028-ENG) (hereinafter, "*Azurix v. Argentina* (Award)") ("the minimum requirement to satisfy this [autonomous FET standard] has evolved and [. . .] its content is substantially similar whether the terms are interpreted in their ordinary meaning, as required by the Vienna Convention, or in accordance with customary international law."); and Stephen Schwebel, *The Influence of Bilateral Investment Treaties on Customary International Law*, 98 Am. Soc'y Int'l. L. Proc. 27, p. 29-30 (2004) (CL-0029-ENG) (hereinafter, "Schwebel, *Influence of Bilateral Investment Treaties*") ("[W]hen BITs prescribe treating the foreign investor in accordance with customary international law, they should be understood to mean the standard of international law embodied in the terms of some two thousand concordant BITs. The minimum standard of international law is the contemporary standard.").

[289] *Técnicas Medioambientales Tecmed, S.A. v. United Mexican States*, ICSID Case No. ARB (AF)/00/2, Award, ¶ 154 (29 May 2003) (Grigera Naón (P), Fernández Rosas, Bernal Verea) (CL-0052-ENG) (hereinafter, "*Tecmed v. Mexico* (Award)").

treatment provisions.[290] As the tribunal in *Pope & Talbot* stated: "under Article 1105, every NAFTA investor is entitled, by virtue of Article 1103, to the treatment accorded [to] nationals of other states under BITs containing the fairness elements unlimited by customary international law."[291]

130. As described below, Mexico's conduct here constitutes a violation of the minimum standard of treatment under customary international law as it has evolved. Even if the Tribunal were to hold that the minimum standard of treatment under Article 1105 has not evolved to the level of the autonomous fair and equitable treatment standard, Mexico's conduct here is still contrary to the minimum standard of treatment under customary international law.

b) Mexico's Unfair and Inequitable Treatment of Legacy Vulcan's Investments

(1) Mexico Frustrated Legacy Vulcan's and CALICA's Legitimate Expectations to Quarry La Adelita

131. As Legacy Vulcan has demonstrated, Mexico made explicit and unequivocal assurances to Legacy Vulcan and CALICA that CALICA would be able to quarry La Adelita, causing Legacy Vulcan to invest [redacted] in the Project.[292] These specific assurances were reinforced in writing in the 2014 Agreements, in which Mexico assured Legacy Vulcan that

[290] Agreement between the Government of the United Mexican States and the Government of the Republic of Korea for the Promotion and Reciprocal Protection of Investments, signed on 14 November 2000, in force as of 6 July 2002 (C-0134-ENG) ("2.2 Investments made by investors of each Contracting Party shall at all times be accorded fair and equitable treatment and shall enjoy full protection and security in the territory of the other Contracting Party."); Agreement between the United Mexican States and the Federal Republic of Germany on the Promotion and Reciprocal Protection of Investments, signed on 25 August 1998, in force as of 23 February 2001 (C-0135-ENG) ("2.3 Each Contracting State shall in any case accord investments of the other Contracting State fair and equitable treatment."); Agreement between the Government of the United Mexican States and the Government of the Hellenic Republic on the Promotion and Reciprocal Protection of Investments, signed on 30 November 2000, in force as of 17 September 2002 (C-0136-ENG) ("3.2 Investments of investors of a Contracting Party shall, at all times, be accorded fair and equitable treatment and shall enjoy full protection and security in the territory of the other Contracting Party."); Agreement on Promotion, Encouragement and Reciprocal Protection of Investments Between the Kingdom of the Netherlands and the United Mexican States, signed on 13 May 1998, in force as of 1 October 1999 (C-0137-ENG) ("3.1 Each Contracting Party shall ensure fair and equitable treatment of the investments of nationals of the other Contracting Party and shall not impair, by unjustifiable or discriminatory measures, the operation, management, maintenance, use, enjoyment or disposal thereof by those nationals.").

[291] *Pope & Talbot Inc. v. Government of Canada*, UNCITRAL, Damages Award, n.54 (31 May 2002) (Dervaird (P), Greenberg, Belman) (CL-0031-ENG) (hereinafter, "*Pope & Talbot v. Canada* (Damages)").

[292] Memorial, ¶¶ 230-235, *see supra*, Part II.A.1, II.B.1.

it would amend the POEL by 5 December 2015 to allow CALICA to begin quarrying operations in La Adelita.[293]

132. Tribunals have consistently recognized that such specific assurances play a decisive role in the creation of legitimate expectations.[294] *Bilcon v. Canada* is representative. In that case, the tribunal found that repeated assurances by government officials created legitimate expectations in the investor regarding the viability of a quarry investment in Nova Scotia, and that "the[se] specific encouragements were critical for the [i]nvestors' decision to continue with the project."[295]

133. Similarly, in *Metalclad v. Mexico*, the tribunal concluded that Mexico failed to accord fair and equitable treatment in part because the investor had relied on specific representations by federal officials that certain permits were forthcoming, only for those permits to be denied thereafter.[296] In reaching this conclusion, the tribunal emphasized that Metalclad was entitled to rely on the representations of Mexican federal officials, and that "[i]n following the advice of these officials [. . .] Metalclad was merely acting prudently."[297] Commentators, including Professors Dolzer and Schreuer, cited by Mexico, have similarly acknowledged that specific assurances "are the strongest basis" for legitimate expectations.[298]

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[293] Memorial, ¶ 199.

[294] *See, e.g.*, *Parkerings-Compagniet AS v. Republic of Lithuania*, ICSID Case No. ARB/05/8, Award, ¶ 331 (11 September 2007) (Lévy (P), Lew, Lalonde) (CL-0107-ENG) (hereinafter, "*Parkerings-Compagniet v. Lithuania* (Award)") ("The expectation is legitimate if the investor received an explicit promise or guaranty from the host-State[.]"); *Sempra Energy International v. The Argentine Republic*, ICSID Case No. ARB/02/16, Award, ¶ 298 (28 September 2007) (Orrego Vicuña (P), Lalonde, Morelli Rico) (CL-0108-ENG) (hereinafter, "*Sempra v. Argentina* (Award)") (recognizing that the need to protect investor's legitimate expectations is "particularly meaningful when the investment has been attracted and induced by means of assurances and representations").

[295] *Bilcon v. Canada* (Award), ¶¶ 468-471, 589 (CL-0009-ENG).

[296] *See Metalclad Corporation v. United Mexican States*, ICSID Case No. ARB(AF)/97/1, Award, ¶¶ 97-101 (30 August 2000) (Lauterpacht (P), Civiletti, Siqueiros) (CL-0019-ENG) (hereinafter, "*Metalclad v. Mexico* (Award)").

[297] *Id.*, ¶ 89.

[298] RUDOLPH DOLZER & CHRISTOPH SCHREUER, PRINCIPLES OF INTERNATIONAL INVESTMENT LAW, 145 (Oxford University Press, 2012) (CL-0109-ENG) (hereinafter, "Dolzer & Schreuer, INVESTMENT LAW") ("Specific representations play a central role in the creation of legitimate expectations. Undertakings and representations made explicitly or implicitly by the host state are the strongest basis for legitimate expectations."); *see also* Christoph Schreuer & Ursula Kriebaum, *At What Time Must Legitimate Expectations Exist*, *in* A LIBER AMICORUM: THOMAS WÄLDE – LAW BEYOND CONVENTIONAL THOUGHT 1, p. 10 (J. Werner & A. H. Ali eds., 2009) (CL-0074-ENG) ("[T]he decisive element for the protection of legitimate expectations of foreign investors is reliance on general or specific assurances given by the host State at the relevant time.").

134. Mexico does not deny that it made specific assurances to CALICA that it would be allowed to quarry La Adelita, and that these assurances were captured in writing in the 2014 Agreements. Rather than address the merits of Legacy Vulcan's legitimate expectations claim, Mexico misrepresents the legal framework and introduces multiple red herrings.[299]

135. Mexico asserts that "the Tribunal must be careful" not to analyze Legacy Vulcan's expectations "as if they were a source of Mexico's obligations."[300] This is misleading. Mexico has framed the obligations in the reverse: Legacy Vulcan's legitimate expectations are not the source of independent obligations for Mexico; rather, NAFTA Article 1105(1) is the source of Mexico's obligation not to frustrate Legacy Vulcan's legitimate expectations regarding its investment in La Adelita.[301]

136. Mexico's attempt to situate financial risk within the legitimate expectations framework is also misleading.[302] An investor's expectations regarding the treatment that its investment will receive from the host state is a separate issue from the investor's financial expectations regarding the *profitability* of its investment, which is not at issue here.[303] Legacy Vulcan is not seeking indemnification from Mexico for financial loss suffered as a result of a high-risk investment. Rather, Legacy Vulcan is seeking relief under Article 1105 based on Mexico's frustration of Legacy Vulcan's legitimate expectations that it would be able to quarry La Adelita, a critical component of its CALICA Network, a business with a record of profitability that spans close to three decades.

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[299] *See* Counter-Memorial, ¶¶ 301-313.

[300] *Id.*, ¶ 301 (free translation, the original text reads: "El Tribunal debe tener cuidado de no basar su análisis de expectativas de la Demandante como si se trataran de una fuente de obligaciones de México").

[301] *See* Memorial, ¶¶ 227-229.

[302] *See* Counter-Memorial, ¶ 302 (suggesting that the word "legitimate" implies a principle that "the host state should not be responsible for losses resulting from risky or erroneous business decisions").

[303] *See id.* (selectively quoting Professor Muchlinksi by removing the word "profitability;" the complete statement reads: "[There] appears to be developing a principle that the investor is bound to assess the extent of the investment risk before entering the investment, to have realistic expectations *as to its profitability* and to be on notice of both the prospects and pitfalls of an investment undertaken in a high risk-high return location.") (quoting Peter Muchlinski, *'Caveat Investor'? The Relevance of the Conduct of the Investor Under the Fair and Equitable Treatment Standard*, 55 Int'l & Comp. LQ 527, 542 (2006) (RL-016) (emphasis added)); *see also Suez, Sociedad General de Aguas de Barcelona, S.A. and Vivendi Universal, S.A. v. Argentine Republic,* ICSID Case No. ARB/03/19, Decision on Liability, ¶ 222 (30 July 2010) (Salacuse (P), Kaufmann-Kohler, Nikken) (CL-0110-ENG) (hereinafter, "*Suez v. Argentina* (Award)") ("When an investor undertakes an investment, a host government [. . .] creates in the investor certain expectations *about the nature of the treatment* that it may anticipate from the host State. The resulting reasonable and legitimate expectations are important factors that influence initial investment decisions and afterwards the manner in which the investment is to be managed.") (emphasis added).

137. Mexico confuses the issue further when it cites *MTD v. Chile* to argue that "[a]n investment in a developing country cannot justify legitimate expectations as to the stability of the investment environment."[304] In *MTD v. Chile*, the claimant did not invest after repeated specific assurances from the host state regarding the viability of its investment; instead, the claimant invested after assurances from a private landowner that his land could be rezoned.[305] Legacy Vulcan is seeking relief based on Mexico's repudiation of its many specific written assurances that CALICA would be allowed to quarry La Adelita. Mexico fails to show how investors' financial expectations regarding profitability are relevant to the merits of that issue.

138. Mexico's assertion that Legacy Vulcan could not have formed legitimate expectations because it did not conduct an appropriate risk assessment is also wrong.[306] An independent risk assessment is not a precondition for the formation of legitimate expectations.[307] This is particularly the case when, like here, the host state has made repeated specific assurances regarding the viability of conducting quarrying activities in La Adelita *before* and *after* Legacy Vulcan acquired that lot for that sole purpose and the investor has been actively investing in the host country in light of those assurances for more than twenty years.[308]

139. Mexico ignores that, in cases where tribunals have inquired into investors' diligence, the investors had not relied on repeated specific assurances from the host state regarding the viability of their investments.[309] For example, in *Methanex v. United States*, cited

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[304] Counter-Memorial, ¶ 303.

[305] *See MTD Equity Sdn. Bhd. & MTD Chile S.A. v. Republic of Chile*, ICSID Case No. ARB/01/7, Award, ¶¶ 42, 169, 172 (25 May 2004) (Rigo Sureda (P), Oreamuno Blanco, Lalonde) (RL-019-ENG) (hereinafter, "*MTD v. Chile* (Award)").

[306] Counter-Memorial, ¶ 304.

[307] *See SolEs Badajoz GmbH v. Kingdom of Spain*, ICSID Case No. ARB/15/38, Award, ¶ 396 (31 July 2019) (Donoghue (P), Sacerdoti, Williams) (CL-0111-ENG) (hereinafter, "*SolEs v. Spain* (Award)") ("The Tribunal considers that a formal due diligence process is not a precondition to a successful claim of legitimate expectations."); *Cube Infrastructure Fund SICAV and others v. Kingdom of Spain*, ICSID Case No. ARB/15/20, Decision on Jurisdiction, Liability and Partial Decision on Quantum, ¶ 396 (19 February 2019) (Lowe (P), Spigelman, Tomuschat) (CL-0112-ENG) (hereinafter, "*Cube Infrastructure v. Spain* (Award)") ("[T]he right to rely upon the representations made in this case do not depend on there being evidence of any particular form or scale of legal due diligence by external advisors.").

[308] *See supra*, II.A.1, II.B.1.

[309] *See* Counter-Memorial, ¶¶ 304-307 (citing distinguishable awards involving host States that had not made targeted assurances that created legitimate expectations); *Grand River Enterprises Six Nations, Ltd., et al. v. United States of America*, UNCITRAL, Award, ¶ 141 (12 January 2011) (Nariman (P), Crook, Anaya) (RL-023-ENG) (finding that laws of general application did not give rise to legitimate expectations and highlighting the lack of any specific commitments or representations made by respondent); *Glamis v. United States* (Award), ¶¶ 622, 767 (8 June 2009) (RL-011-ENG) (finding no breach of legitimate expectations as the host State had not made any specific assurances); *International Thunderbird Gaming Corporation v. United Mexican States*, UNCITRAL, Award, ¶¶ 148-164 (26 January 2006) (van den Berg

by Mexico, the tribunal found that the claimant had not formed legitimate expectations that California would abstain from making regulatory changes because the claimant had not received any "special representations" from the state.[310] The tribunal noted that the investor's claim was not an instance "where specific commitments respecting [. . .] future regulatory actions were made to induce investors to enter a market and then those commitments were not honored."[311] By contrast, Legacy Vulcan's expectations were based on repeated governmental assurances, which in turn induced Legacy Vulcan to commit hundreds of millions of dollars to commence quarrying operations in La Adelita by early 2016.[312]

140. Mexico also argues that it should be absolved of liability arising from Legacy Vulcan's and CALICA's legitimate expectations because mining operations can often become "highly controversial."[313] This contention has no basis on the facts or the law. As a matter of fact, CALICA is not engaged in mining operations, which are controlled by Mexico's Mining Law and subject to concessions. CALICA is engaged in quarrying operations, which are not subject to Mexico's Mining Law or any concessions for its extracting activities.[314] As such, CALICA is the lawful owner of all the reserves in its lots.[315] Mexico is also wrong as a matter of law. Tribunals have consistently found states liable for breach of investors' legitimate expectations in highly regulated industries when the host state has made assurances or specific representations regarding their investments.[316]

(P), Wälde, Ariosa) (CL-0004-ENG / RL-021-ESP) (finding that an opinion from a government entity did not generate legitimate expectation because the claimant misrepresented the nature of its investment and the claimant knew that its business was illegal under Mexican law).

[310] *Methanex Corporation v. United States of America*, UNCITRAL, Final Award on Jurisdiction and Merits, Part IV, ¶¶ 8-10 (3 August 2005) (Veeder (P), Rowley, Reisman) (RL-020) (quoting the *Waste Management* tribunal's finding that "[i]n applying the minimum standard of treatment, it is relevant that the treatment is in breach of representations made by the host State which were reasonably relied upon by the claimant") (citation omitted).

[311] *Id.*, ¶ 10.

[312] Memorial, ¶¶ 105-109; *see also supra*, Part II.A.1, II.B.1.

[313] Counter-Memorial, ¶¶ 308-310.

[314] Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶ 20.

[315] *Id.*

[316] *See CEF Energia BV v. Italian Republic*, SCC Case No. 2015/158, Award, ¶¶ 227, 247 (16 January 2019) (Reichert (P), Sachs, Sacerdoti) (CL-0113-ENG) (finding that changes enacted by the government in the renewable energy sector frustrated the claimant's legitimate expectations despite Italy's assertion that "[i]n Italy, alternative energy incentive programmes are highly regulated and constantly evolving at the local, national and EU level"); *Cube Infrastructure v. Spain* (Award), ¶¶ 299, 442 (CL-0112-ENG) (finding that, despite a judgment by the Supreme Court of Spain affirming the government's "broad authorisations" in "a highly regulated area such as the electricity sector," certain regulatory reforms in that sector frustrated the claimant's legitimate expectations); *see also ADC Affiliate Limited & ADMC Management Limited v.*

141. Finally, Mexico asserts that not every breach of a contractual obligation by a state automatically amounts to a violation of legitimate expectations.[317] Mexico strikes a straw man. The cases cited by Mexico are easily distinguishable. *Impregilo v. Pakistan* involved a contract dispute related to the construction of a hydroelectric plant.[318] In that case, the tribunal concluded that fair and equitable treatment was not implicated because the merits were based on the application of the contract and did not involve the exercise of state authority.[319] That is not the situation here. In the exercise of their sovereign authority, Mexico's instrumentalities have both entered into and later repudiated the 2014 Agreements.

142. Mexico also cites *Hamester v. Ghana* and *Parkerings v. Lithuania*,[320] which are likewise inapposite. In *Hamester*, the tribunal recognized the distinction between contractual obligations under domestic law and legitimate expectations under international law.[321] In *Parkerings*, the tribunal noted that contracts involve "*intrinsic expectations* from each party that do not amount to expectations as understood in international law."[322] These distinctions are inapplicable to Legacy Vulcan's claim. Legacy Vulcan does not allege that it formed legitimate expectations only from a contractual arrangement. As shown below, Legacy Vulcan formed legitimate expectations over many years of specific assurances from Mexico that it would be able to quarry La Adelita, culminating with the specific representations in the 2014 Agreements. Mexico's obligations under the 2014 Agreements were not commercial in nature; they represented the exercise of its sovereign capacity to amend the zoning laws applicable to La Adelita.

143. Mexico cannot credibly argue that Legacy Vulcan did not form legitimate expectations based on Mexico's numerous specific assurances that CALICA would be permitted to quarry La Adelita. The facts here present a textbook case of breach of an investor's legitimate expectations.

Republic of Hungary, ICSID Case No. ARB/03/16, Award, ¶ 424 (2 October 2006) (Kaplan (P), Brower, van den Berg) (CL-0081-ENG) ("The related point made by the Respondent that by investing in a host State, the investor assumes the '*risk*' associated with the State's regulatory regime is equally unacceptable to the Tribunal.") (emphasis in the original).

[317] Counter-Memorial, ¶¶ 393-400.

[318] *Impregilo v. Pakistan*, ICSID Case No. ARB/03/3, Decision on Jurisdiction, ¶ 8 (22 April 2005) (Guillaume (P), Cremades, Landau) (RL-031-ENG) (hereinafter, "*Impregilo v. Pakistan* (Jurisdiction)").

[319] *Id.*, ¶¶ 268-269.

[320] Counter-Memorial, ¶ 399.

[321] *Gustav FW Hamester GmbH & Co KG v. Republic of Ghana*, ICSID Case No. ARB/07/24, Award, ¶¶ 335-337 (18 June 2010) (Stern (P), Cremades, Landau) (RL-035-ENG).

[322] *Parkerings-Compagniet v. Lithuania* (Award), ¶ 344 (RL-018-ENG) (emphasis added).

(a) Legacy Vulcan and CALICA Reasonably Relied on Representations Made by Mexico's Instrumentalities that CALICA Would Be Able to Quarry La Adelita

144. For decades, Mexico's instrumentalities gave repeated assurances and confirmed that CALICA would be able to quarry La Adelita, even before CALICA purchased that lot, as summarized below.

- In April 1996, prior to acquiring La Adelita and El Corchalito, the State of Quintana Roo provided written assurance to CALICA that quarrying operations were feasible in both lots under local environmental regulations.[323]
- In September 1996, the Municipality of Solidaridad represented to CALICA that "it had no objection" to the quarrying activities that CALICA planned to undertake in La Adelita and El Corchalito.[324]
- In November 1996, the State of Quintana Roo granted CALICA the Corchalito/Adelita State Environmental Authorization, which allows CALICA to extract petrous materials above the water table in La Adelita and El Corchalito and is valid until 2036 (inclusive of extensions).[325]
- In November 2000, Mexico's federal government, through SEMARNAT, issued the Corchalito/Adelita Federal Environmental Authorization, which allows CALICA to quarry La Adelita and El Corchalito below the water table for a renewable initial term of 20 years.[326]
- In 2001, the State of Quintana Roo issued the POET,[327] zoning La Adelita and El Corchalito to allow quarrying under certain conditions.[328]
- In March 2006, the State of Quintana Roo extended the Corchalito/Adelita State Environmental Authorization for another five years, noting that quarrying those lots was feasible.[329]

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[323] Letter No. SIMAP/792/996 from Sergio Pérez Perales (Ministry of Infrastructure, Environment and Fishery (Secretaría de Infraestructura, Medio Ambiente y Pesca) ("SIMAP")) to [redacted] (CALICA), p. 1 (19 April 1996) (C-0071-SPA); Letter No. SIMAP/791/1996 from Sergio Pérez Perales (SIMAP) to [redacted] (CALICA), p. 1 (19 April 1996) (C-0072-SPA); *see supra*, Part II.A.1.

[324] Letter from Rafael Ernesto Medina Rivero (Municipality of Solidaridad) to CALICA (2 September 1996) (C-0073-SPA); *see supra*, Part II.A.1.

[325] Corchalito/Adelita State Environmental Authorization, p. 1 (11 December 1996) (C-0018-SPA); *see supra*, ¶ 20.

[326] Corchalito/Adelita Federal Environmental Authorization, p. 9 (30 November 2000) (C-0017-SPA); *see supra*, ¶ 20.

[327] Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶¶ 34-36; POET (16 November 2001) (C-0078-SPA); *see supra,* ¶ 20.

[328] POET (16 November 2001), p. 15-16 (C-0078-SPA); *see supra,* ¶ 20.

[329] First Amendment to the Corchalito/Adelita State Environmental Authorization, p. 2 (3 March 2006) (C-0074-SPA); *see supra*, ¶ 20.

- In October 2007, the Municipality of Solidaridad granted CALICA a Land Use License to quarry La Adelita and El Corchalito, which remains valid and confirms that CALICA is allowed to "extract petrous material" in both lots.[330]
- In May 2009, the State of Quintana Roo issued the POEL.[331] The POEL explicitly "recognize[s] and respect[s] [. . .] vested rights," and disclaimed applying retroactively to authorizations obtained before its enactment.[332]
- In March 2010, the High Court of the State of Quintana Roo confirmed that "the [POEL] does not apply to [CALICA]." [333] During this legal proceeding to confirm that CALICA's rights remained unaffected by the POEL, both municipal and state authorities represented to the court that the POEL does not affect CALICA's vested rights to quarry La Adelita.[334]
- In May 2011, the State of Quintana Roo renewed the Corchalito/Adelita State Environmental Authorization, expressly stating that La Adelita and El Corchalito were subject to the previous zoning regime, which allows quarrying.[335]

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[330] Land Use License (2 October 2007) (C-0079-SPA) ("Authorized land use: extraction of petrous material[.]") (free translation, the original text reads: "Uso de suelo autorizado: aprovechamiento de material pétreo[.]"); Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶ 59-60; *see supra*, ¶ 20 .

[331] POEL (25 May 2009) (C-0080-SPA); *see supra*, ¶ 20.

[332] *Id.*, Section 2.6 (25 May 2009) (C-0080-SPA) ("[It] shall not apply retroactively to concrete cases, which have official documents in force before its entry into force [. . .] nor in respect of their future renewal [. . .] [and] [. . .] it recognizes and respects [. . .] acquired rights [. . .]") (free translation, the original text reads: "no se aplicará retroactivamente a los casos en concreto, que cuenten con documentos oficiales y vigentes hasta antes de su entrada en vigor [. . .] ni en lo que toca a la futura renovación de los mismos [. . .] [y] [s]e reconocen y respetan [. . .] los derechos adquiridos [. . .]").

[333] Decision of the High Court of Justice of the State of Quintana Roo, pp. 3-4 (25 March 2010) (C-0087-SPA) ("It should be noted that the grounds for the dismissal amount to the point that the interests of the plaintiff are not affected, since the [POEL] does not apply to it") (free translation, the original text reads: "Es de apreciarse que la causal de improcedencia hecha valer converge en la cuestión relativa a que no se afectan los intereses de la parte actora, al no serle aplicable el Programa de Ordenamiento Ecológico Local").

[334] Answer from the Secretary of Urban Development and Environment of the State of Quintana Roo to CALICA's Legal Action Against the POEL, p. 5 (8 July 2009) (C-0083-SPA) ("[the POEL] establishes [...] an exception to the rights of those [...] who have acquired or obtained authorizations, submitted applications or requested renewals thereof prior to the entry into force of the said program (POEL [...]), [and] likewise it was established therein that it would not be applied retroactively in those cases that have or had authorizations [...] which would be recognized and respected [...] because they are considered vested rights") (free translation, the original text reads: "establece [...] salvedad para todos aquellos sujetos de derecho que hayan adquirido u obtenido licencias, iniciado trámites o solicitado la renovación de los mismos antes de la vigencia del referido programa (POEL de SOLIDARIDAD), asimismo se estableció en el cuerpo del referido decreto que no sería aplicable retroactivamente a los casos particulares que cuenten o que contaren con autorizaciones documentos vigentes o renovaciones de los mismos los cuales se reconocerían y respetarían por el decreto motivo de la presente demanda, en virtud de que se toman como derecho adquiridos, respetando los mismos bajo un contexto de estricto control constitucional e irretroactividad de la Ley o acto de autoridad."); Answer from the Quintana Roo Undersecretary for Legal Affairs to CALICA's Legal Action Against the POEL, p. 3 (13 July 2009) (C-0084-SPA) ("The rights acquired by [CALICA] prior to the approval and publication of the Local Ecological Management Program of the Municipality of Solidaridad were not affected.") (free translation, the original text reads: "[a CALICA] no se le afectaron sus derechos adquiridos con anterioridad a la aprobación y publicación del Programa de Ordenamiento Ecológico Local del Municipio de Solidaridad."); *see supra*, ¶ 20.

[335] Second Amendment to the Corchalito/Adelita State Environmental Authorization, p. 4 (19 May 2011)

- In the 2014 Agreements, the State of Quintana Roo and the Municipality of Solidaridad assured CALICA that they would exercise their power to amend the POEL to enable CALICA to exercise its vested rights to quarry La Adelita.[336] The State of Quintana Roo's and the Municipality of Solidaridad's obligations under these agreements involved the exercise of sovereign powers.[337] The State of Quintana Roo also assured CALICA that it would issue a new or modified environmental impact authorization to increase the annual quarrying area above the water table in La Adelita and El Corchalito.[338]
- In early 2015, when the State of Quintana Roo and the Municipality of Solidaridad failed to amend the POEL within the originally agreed timeframe, the State and the Municipality again assured CALICA that they would amend the POEL to explicitly "recognize" CALICA's right to quarry La Adelita.[339] As part of this assurance, they committed to a phased process and specific timeline for amending the POEL.[340]

145. Mexico disputes none of these facts. All of these targeted and explicit written assurances, spanning the course of almost 20 years and culminating in the 2014 Agreements, created reasonable and justifiable expectations that CALICA would be allowed to quarry La Adelita.

(C-0075-SPA) ("the lots called El Corchalito [and] La Adelita [. . .] are regulated by Environmental Management Units nineteen and thirty (UGA 19 and 30) of the [POET] [. . .] and, therefore [. . .] the exploitation of petrous materials in these lots is feasible according to the policy of exploitation and predominant use for mining [established by] (UGA 19), as well as to the determination to allow mining on a conditional basis by (UGA 30)") (free translation, the original text reads: "los predios denominados El Corchalito, [y] La Adelita [. . .] se encuentran regulados por las Unidades de Gestión Ambiental diecinueve y treinta (UGA 19 y 30) del [POET] [. . .] por lo que se determina que el aprovechamiento de los materiales pétreos en dichos predios es factible de acuerdo a la política de Aprovechamiento y uso predominante para la minería de la (UGA 19), así como al uso condicionado para la Minería de la (UGA 30)."); *see supra*, ¶ 20.

[336] MOU, p. 3 (12 June 2014) (C-0021-SPA) ("3. To carry out the necessary actions before the municipal or state authorities, in accordance with the legislation in force, tending to promote the execution of the corporate and business purpose of CALICA and/or affiliates in the Private Use Terminal, consisting of the following: a) Solidaridad's Local Ecological Management Program ("POEL"). The Municipality of Solidaridad and the Secretary of Ecology will revise the POEL for the Municipality of Solidaridad in order to arrange with the technical and executive bodies for the incorporation of the 'Use of Mining and/or exploitation of stone material' regarding the properties owned and/or possessed by CALICA and/or its affiliates, known as 'LA ROSITA', 'EL CORCHALITO', and 'LA ADELITA'.") (free translation, the original text reads: "3. Llevar a cabo las acciones necesarias ante las autoridades municipales o estatales, conforme a la legislación vigente, tendientes a promover la ejecución del objeto social y de negocios de CALICA y/o afiliadas en la Terminal de Uso Particular, consistentes en lo siguiente: a) Programa de Ordenamiento Ecológico Local ("POEL") de Solidaridad.- El Municipio de Solidaridad y la Secretaria de Ecología, revisarán el POEL para el Municipio de Solidaridad para gestionar ante los órganos técnico y ejecutivo la incorporación del 'Uso de Minería y/o explotación de material pétreo' con respecto a los inmuebles propiedad y/o posesión de CALICA y/o afiliadas, conocidas como 'LA ROSITA', 'EL CORCHALITO', y 'LA ADELITA.'").

[337] The 2014 Agreements were not commercial contracts, as Mexico alleges. *See* Counter-Memorial, ¶¶ 393-396.

[338] MOU, p. 3 (12 June 2014) (C-0021-SPA).

[339] *See* Memorial, ¶¶ 97-99.

[340] *Id.*, ¶¶ 99-104.

146. Relying on Mexico's assurances, particularly those in the 2014 Agreements, Legacy Vulcan committed additional investments between June 2014 and December 2017.[341] These investments, worth approximately [redacted] involved the construction of a supplemental processing plant and a new explosives storage facility, and the acquisition of heavy machinery and two Panamax vessels specially designed to meet the CALICA Network's specifications.[342] Legacy Vulcan would not have made these significant and long-term investments had Mexico not made repeated representations and assurances that CALICA would be permitted to quarry La Adelita.[343] Mexico does not dispute that Legacy Vulcan made these investments in reliance on Mexico's representations and assurances.

147. Nor does Mexico deny that its instrumentalities took steps to comply with several of its obligations under the 2014 Agreements. Rather, Mexico argues that the 2014 Agreements were not binding under Mexican law.[344] Mexico's focus on the binding nature of the 2014 Agreements is a distraction. Even assuming, *arguendo*, that the 2014 Agreements were not binding under Mexican law — they are, as explained in the expert report of [redacted] — these agreements at a minimum constitute written representations by Mexico and its instrumentalities that, *inter alia*, the POEL would be amended to expressly recognize CALICA's vested right to quarry La Adelita.

148. International tribunals have consistently recognized that an investor may form legitimate expectations in response to a variety of state conduct and communications.[346] Mexico's attempt to focus the tribunal's attention on the legal nature of the 2014 Agreements is just another attempt to distract from the real issue: the repudiation of its assurances that CALICA would be permitted to quarry La Adelita.

149. Mexico's argument that "[a] delay by the municipal government in approving the amendments to the zoning regulations — by itself — cannot constitute a violation of customary

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[341] *Id.*, ¶ 105-108.

[342] *Id.*; *supra* ¶ 35.

[343] Memorial, ¶ 109; *supra* ¶ 36.

[344] Counter-Memorial, ¶ 389.

[345] Expert Report-[redacted] -Constitutional Law-Claimant's Reply, ¶¶ 45-71.

[346] *See, e.g.*, *Suez v. Argentina* (Award), ¶ 222 (CL-0110-ENG) ("When an investor undertakes an investment, a host government through its laws, regulations, declared policies, and statements creates in the investor certain expectations about the nature of the treatment that it may anticipate from the host State.").

international law" is also a red herring.[347] *First*, Mexico has repudiated its obligation to amend the POEL for political reasons. Thus, in this case, there is not a mere "delay" but a complete reneging of Mexico's assurances and commitments.[348] *Second*, Mexico and its instrumentalities failed to provide any technical or legal justifications for abandoning the process to amend the POEL after the Committee to Amend the POEL approved the diagnostic phase, the last technical step required prior to amendment.[349] *Third*, it was reasonable for Legacy Vulcan and CALICA to expect that Mexico and its instrumentalities would amend the POEL in the timeframe agreed to in the 2014 Agreements. As explained in the expert report of [redacted] the amendment to the POEL was limited: it required a simple change to the zoning of the area in which La Adelita is located.[350] Not surprisingly, during the negotiation of the 2014 Agreements, Mexican officials represented to CALICA that this amendment would in any event take no more than one year to process.[351] CALICA reasonably believed these representations.[352]

150. Mexico's allegation that CALICA was "negligent" because it did not request the CUSTF in "due time" is yet another distraction.[353] As explained above, CALICA was not required to obtain the CUSTF before 2009 because it did not plan to quarry La Adelita during that timeframe.[354] Additionally, as further discussed above, when the State of Quintana Roo issued the POEL in 2009, it explicitly recognized CALICA's vested right to quarry La Adelita. When CALICA sought to confirm and exercise this vested right, Mexico made repeated assurances that

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[347] Counter-Memorial, ¶¶ 354, 363.

[348] Memorial, ¶ 204 ("[O]n 17 July 2018, the State of Quintana Roo expressly confirmed its repudiation of its obligation to amend the POEL when the Governor emphatically told CALICA's General Manager: 'You are not entering La Adelita — period.'").

[349] *Id.*, ¶ 119 ("The Committee to Amend the POEL formally approved its expert's report on 28 January 2016. With this act, and based on Gómez Nieto's conclusions in the diagnostic phase, all that was left in the process to amend the POEL was for the Committee to assess how quarrying activities would evolve in the municipality and to propose the specific text of the amendment to the POEL."); Expert Report-[redacted] Environmental Law-Claimant's Reply-Second Report-SPA ¶ 149.

[350] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA ¶ 151; *see also* Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 5.

[351] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶¶ 4-5.

[352] *See id.*, ¶ 5 [redacted]

[353] Counter-Memorial, ¶ 342.

[354] *See supra*, Part II.A.2; Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA ¶¶ 156-157 (indicating that CALICA was required to obtain the CUSTF to quarry La Adelita only to commence operations in that lot).

it would amend the POEL to allow CALICA to obtain the CUSTF necessary to commence quarrying operations.[355] Mexico's assertion that CALICA was "negligent" because it did not obtain a permit that it did not need before 2009 is disingenuous at best.

151. Mexico's argument that it was unreasonable for Legacy Vulcan and CALICA to rely on the specific assurances made by Mexico's instrumentalities is tantamount to an admission that those instrumentalities could not be trusted and were not acting in good faith. This is not a valid defense for Mexico.

(b) Mexico Failed to Amend the POEL and Caused Damages to Legacy Vulcan and CALICA

152. The emptiness of Mexico's repeated assurances has been borne out by events. Despite Mexico's assurance that it would amend the POEL by 5 December 2015,[356] Mexico failed to do so. Mexico does not dispute that it has repudiated its written assurances, and it has indicated that it does not plan to honor them in the future.[357] As a result, despite CALICA's vested right to quarry La Adelita —a right that Mexico had affirmed repeatedly throughout the course of nearly 20 years— CALICA has been unable to commence quarrying operations in that lot.[358]

153. By frustrating Legacy Vulcan's legitimate expectations that it would be able to quarry La Adelita, Mexico has caused significant losses to Legacy Vulcan and CALICA.[359]

(2) Mexico's Measures Are Arbitrary

154. Mexico acknowledges that NAFTA Article 1105 protects investors against arbitrary State conduct.[360] Conduct is arbitrary if it is "founded on prejudice or preference rather than on reason or fact."[361] Mexico does not dispute that tribunals have considered as arbitrary and

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[355] Memorial, ¶¶ 94, 99.

[356] Amended MOU, p. 4 (13 May 2015) (C-0022-SPA) ("By December 5, 2015, the updated POEL of the Municipality of Solidaridad must be published in the Official Newspaper of the State of Quintana Roo") (free translation, the original text reads: "A más tardar el 5 de Diciembre de 2015 deberá publicarse en el Periódico Oficial del Estado de Quintana Roo el POEL actualizado del Municipio de Solidaridad.").

[357] Memorial, ¶ 9 ("CALICA's repeated pleas for compliance yielded a curt response from Quintana Roo's governor: 'You are not entering La Adelita — period.'").

[358] *See id.*, ¶ 131; *supra*, Part II.A.1; Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 7.

[359] Memorial, Part IV.C.1.

[360] Counter-Memorial, ¶ 299; *see also Metalclad Corporation v. United Mexican States*, ICSID Case No. ARB(AF)/97/1, Mexico's Counter-Memorial, ¶ 841 (22 May 1998) (CL-0042-ENG).

[361] Memorial, ¶ 200 (citing to *Ronald Lauder v. Czech Republic*, UNCITRAL, Award, ¶221 (3 September

contrary to fair and equitable treatment: (i) conduct that is politically motivated;[362] (ii) conduct contrary to due process and good faith;[363] and (iii) conduct that infringes the rule of law.[364] Mexico's conduct here meets each of these grounds.

(a) Arbitrary Measures Affecting La Adelita

155. Mexico does not contest that State conduct is arbitrary when it is not based on facts or law, but rather on domestic politics and discretion.[365] Mexico's repudiation of its commitment to amend the POEL pursuant to the 2014 Agreements — effectively precluding CALICA from initiating operations in La Adelita — is arbitrary because it was based on raw political

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2001) (Briner (P), Klein, Cutler) (CL-0044-ENG); *Plama Consortium Limited v. Republic of Bulgaria*, ICSID Case No. ARB/03/24, Award, ¶ 184 (27 August 2008) (Salans (P), van den Berg, Veeder) (CL-0045-ENG)).

[362] Memorial, ¶ 201 (citing to *Eureko B.V. v. Republic of Poland*, UNCITRAL, Partial Award, ¶ 233 (19 August 2005) (Yves Fortier (P), Schwebel, Rajski) (CL-0046-ENG) (hereinafter, "*Eureko v. Poland* (Award)") ("The Tribunal has found that [Poland], by the conduct of organs of the State, acted not for cause but for purely arbitrary reasons linked to the interplay of Polish politics and nationalistic reasons of a discriminatory character.")).

[363] Memorial, ¶ 201 (citing to *Waste Management v. Mexico* (Award), ¶ 98 (CL-0007-ENG) ("the minimum standard of treatment of fair and equitable treatment is infringed by conduct attributable to the State and harmful to the claimant if the conduct [. . .] involves a lack of due process leading to an outcome which offends judicial propriety—as might be the case with a manifest failure of natural justice in judicial proceedings or a complete lack of transparency and candour in an administrative process"); *Abengoa, S.A. y COFIDES, S.A. v. United Mexican States*, ICSID Case No. ARB(AF)/09/2, Award, ¶¶ 643-644 (Mourre (P), Siqueiros, Fernández-Armesto) (CL-0047-SPA) ("The Arbitral Tribunal also considers that the minimum standard of treatment in accordance with customary international law is an expression of and a constituent part of the principle of good faith. [. . .] Many awards have referred to the principle of good faith in assessing the State's compliance with its fair and equitable treatment obligations.") (free translation, the original text reads: "*El Tribunal Arbitral estima también que el nivel mínimo de trato acorde con el derecho internacional consuetudinario es una expresión y parte constitutiva del principio de buena fe. [. . .] Numerosos laudos se han referido al principio de buena fe para valorar el respeto de la obligación de trato por parte del Estado.*") (citations omitted)); *Jan de Nul N.V. and Dredging International N.V. v. Arab Republic of Egypt*, ICSID Case No. ARB/04/13, Award, ¶ 187 (6 November 2008) (Kaufmann-Kohler (P), Mayer, Stern) (CL-0140-ENG) ("It is also common ground that the fair and equitable treatment may be violated when procedural propriety and due process are denied.").

[364] Memorial, ¶ 201 (citing to *Waguih Elie George Siag and Clorinda Vecchi v. Arab Republic of Egypt*, ICSID Case No. ARB/05/15, Award, ¶¶ 453-454 (1 June 2009) (Williams (P), Pryles, Orrego Vicuña) (CL-0048-ENG); *OI European Group B.V. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/11/25, Award, ¶ 491 (10 March 2015) (Fernández-Armesto, Orrego Vicuña, Mourre) (CL-0049-ENG)).

[365] Memorial, ¶¶ 202-203 (citing to Rudolph Dolzer, *Fair and Equitable Treatment: Today's Contours*, 12(1) Santa Clara J. Int'l L. 7, p. 31 (2014) (CL-0050-ENG) (hereinafter, "Dolzer, *FET Contours*") ("fair and equitable treatment will stand in the way of conduct of the host state that is driven by domestic politics instead of arising out of considerations related to the investment. Governmental action will also be suspect in case it is not based on a proper review of facts relevant to a decision."); Christoph Schreuer, *Protection against Arbitrary or Discriminatory Measures*, *in* THE FUTURE OF INVESTMENT ARBITRATION, 183, 188 (R. Alford, C. Rogers, eds. 2009) (CL-0051-ENG) (hereinafter, "Schreuer, *Arbitrary or Discriminatory Measures*") (stating a measure will be arbitrary "where a public interest is put forward as a pretext to take measures that are designed to harm the investor.")).

convenience. Tribunals have routinely recognized that manifest arbitrariness involves action taken purely on the basis of "prejudice, preference or bias" without any legitimate explanation.[366]

156. Mexico admits that the POEL was not amended as provided in the 2014 Agreements.[367] In its Counter-Memorial, Mexico tries to excuse this failure by alleging that processes to issue POELs can be complex, can take years, and can be delayed by changes in administration, and financial difficulties.[368] As [redacted] explains in [redacted] supplemental witness statement, however, when [redacted] met with former and current government officials at the federal, state, and local level, none of them ever raised any of these excuses.[369] Mexico nowhere addresses or rebuts the ample record evidence showing that the simple, targeted amendment it agreed to pursue here was arbitrarily abandoned due to politics after the initiative had cleared the required technical hurdles.

157. There is abundant evidence in the record establishing that Mexico's abandonment of the POEL amendment process it agreed to pursue and complete was arbitrarily driven by politics, bias, prejudice, and preference to local interests. The following facts stand unrebutted:

- In January 2016, the same day that the Committee to Amend the POEL approved the diagnostic report identifying CALICA's lots as the most suitable areas for quarrying, then Solidaridad councilwoman and now Mayor Laura Beristain publicly expressed her opposition to "land use changes" in the POEL in favor of CALICA.[370] Not long thereafter, the Committee stopped convening, bringing the POEL amendment process to an end.[371]

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[366] *Joseph C. Lemire v. Ukraine*, ICSID Case No. ARB/06/18, Decision on Jurisdiction and Liability, ¶ 385 (14 January 2010) (Fernández-Armesto (P), Paulsson, Voss) (CL-0072-ENG) ("Summing up, the underlying notion of arbitrariness is that prejudice, preference or bias is substituted for the rule of law."); *Ronald Lauder v. Czech Republic*, UNCITRAL, Award, ¶ 221 (3 September 2001) (Briner (P), Klein, Cutler) (CL-0044-ENG) (defining an arbitrary measure as "founded on prejudice or preference rather than on reason or fact"); *see also* UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT, FAIR AND EQUITABLE TREATMENT, p. xvi (United Nations, 2012) (CL-0043-ENG) (hereinafter, "UNCTAD, Fair and Equitable Treatment") (recognizing that manifest arbitrariness in decision-making involves "measures taken purely on the basis of prejudice or bias without a legitimate purpose or rational explanation").

[367] Counter-Memorial, ¶ 237.

[368] Counter-Memorial, ¶¶ 350-354, 360.

[369] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 7; Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶¶ 40, 44-45, 47-52, 59 (describing remarks by Mexican officials relating to compliance with the commitment to pursue an amendment to the POEL).

[370] Laura Beristain, "The Mayan jungle must be protected. NO to changes in land use, [the] POEL must protect biological wealth #STOPCALICA" (free translation, the original text reads: "La selva maya debe protegerse. NO a los cambios de uso de suelo, POEL debe conservar riqueza biológica #ALTOaCALICA.") 28 January 2016, 9:40 PM, Tweet (C-0103-SPA).

[371] Memorial, ¶ 120.

- In August 2016, Solidaridad's then Mayor-elect told [redacted] that the Municipality of Solidaridad and the State of Quintana Roo would not comply voluntarily with the 2014 Agreements to avoid confrontation with the hotel industry and environmental groups.[372]
- In March 2017, the Governor of the State of Quintana Roo, told [redacted] that it would be politically "unpalatable" to allow CALICA to quarry La Adelita and that he was under pressure from the tourism industry to develop CALICA's lots.[373]
- In April 2017, the Legislature of the State of Quintana Roo approved a non-binding, political Point of Agreement introduced by Beristain, urging that the POEL not be amended to allow CALICA to quarry La Adelita because CALICA was allegedly supplying materials to build the wall along the U.S.-Mexico border.[374] During her floor speech, Beristain premised her Point of Agreement on the false allegation that CALICA "is one of the main suppliers of materials for the works promoted by Donald Trump" and that "the ground of [Quintana Roo]" was being allowed "to become part of [President Trump's] wall of hate."[375]
- In June 2017, the Secretary of Ecology and Environment of the State of Quintana Roo acknowledged that there were no technical objective issues with CALICA's planned operations in La Adelita but that vested interests were using unfounded allegations against CALICA to advance their agendas.[376]
- In August 2017, the Governor of the State of Quintana Roo emphasized that amending the POEL would be politically difficult despite the lack of any technical, objective issues with CALICA's planned activities in La Adelita.[377]
- On 22 January 2018, three days after API Quintana Roo threatened to shut down CALICA's operations, a political ally and member of Beristain's team of advisors, Marciano "Chano" Toledo, led a protest outside CALICA's facilities.[378] He climbed the entrance gate to those facilities and, while holding a chainsaw, hoisted pejorative signs against CALICA.[379] He also yelled allegations that echoed the ones Beristain had made to justify her Point of Agreement in April 2017. He yelled, for example: "Donald Trump, [expletive] president: you're not going to take one more gram for your [expletive] wall of ignominy. We're going to wait for you, bastard. We're going to wait for you right here."[380]

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[372] *Id.*, ¶ 123.

[373] *Id.*, ¶ 125.

[374] *Id.*, ¶ 126.

[375] Quintana Roo Lower House, Ordinary Session No. 15, Debate Log, p. 39 (statement of Laura Beristain) (3 April 2017) (C-0102-SPA) (free translation, the original text reads: "*CALICA, es una de las principales proveedoras de materiales de las obras promovidas por Donald Trump […] ¿En que estarán pensando? Los que quieren permitir que el suelo de mi estado se convierta en parte del muro del odio.*").

[376] Memorial, ¶ 128.

[377] *Id.*, ¶ 129.

[378] *Id.*, ¶ 136.

[379] *Id.*

[380] *Arma 'Chano' Toledo Protesta Contra CALICA: Arremete Activista Contra Trump y El Negocio de Exportación de Material Pétreo desde la Riviera Maya; "Es un Presidente de […], Dice*, NOTICARIBE (22 January 2018) (C-0108-SPA) ("Donald Trump, [expletive] president: you're not going to take one more

- In July 2018, the Governor of the State of Quintana Roo reaffirmed that amending the POEL was not politically viable despite "the law being on CALICA's side" because interested parties could resort to activism and social opposition and bluntly declared that CALICA "[is] not entering La Adelita — period."[381]
- In September 2018, Beristain was elected Mayor of the Municipality of Solidaridad, and her administration predictably has done nothing to amend the POEL in accordance with the 2014 Agreements. To the contrary, Beristain's administration has continued to be ideologically opposed to CALICA, as illustrated by the protest held at the entrance of CALICA's facilities by political ally and member of her team, "Chano" Toledo, a former Solidaridad mayor himself, now presently pursuing election into office once again.[382]
- In March 2020, "Chano" Toledo continued his public attacks against CALICA.[383]

158. These facts show that Mexico's conduct was not only arbitrary — it was manifestly arbitrary — in repudiating the very act that it obligated itself to perform by 5 December 2015. It did so by refusing to complete the process to amend the POEL out of the political and ideological caprice of public officials. Mexico's conduct was also biased against CALICA and admittedly designed to favor local interests over those of a U.S. investors. On these facts, Mexico has clearly engaged in arbitrary conduct in violation of NAFTA Article 1105.

159. The facts alleged by Mexico do not establish anything different. Its claim that the amendment process takes time and is uncertain[384] is both unproven and beside the point; the State of Quintana Roo and the Municipality of Solidaridad agreed in the MOU (as amended) to a reasonable timeframe for conducting the amendment process only to abandon it without more.[385] And Mexico's claim that the process to amend the POEL was delayed due to a change in administration and financial issues[386] is belied by the undisputed statements and actions of

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gram for your [expletive] wall of ignominy. We're going to wait for you, bastard. We're going to wait for you right here. Don't back down. You're acting tough, you bastard, because you don't know us well yet. There's a history of us not giving in to [expletive] like you, you [expletive], [expletive] president. Here, in Mexico, we do have dignity, and we also ask for dignity also from the authorities, from all over the state, from all the federal authorities. Don't let CALICA devastate Mexican land anymore. [CALICA] is offering US$50,000,000 in bribes to change the land use. We can't allow it. Let's call out those traitors, if they do. We say: Donald Trump, don't take a gram of soil from here for your [expletive] wall over there [...] here, you bastard, you're going to have to get through us, you bastard [...]").

[381] Memorial, ¶ 131.

[382] *Id.*, ¶ 136.

[383] *Aunque Calica se llame Sac Tun, sigue siendo una empresa ecocida: 'Chano' Toledo*, PEDRO CANCHÉ NOTICAS (8 March 2020) (C-0109-SPA) (noting that Chano Toledo "owns land in areas adjacent to CALICA and has staged various protests against this company over the years").

[384] Counter-Memorial, ¶¶ 347-352.

[385] *See supra*, ¶¶ 52-54.

[386] Counter-Memorial, ¶ 356.

government officials outlined above indicating the true reason of Mexico's inaction. Political expediency and bias trumped an express commitment to do what was necessary to achieve a simple, technical amendment to the POEL: reflecting that, as the State of Quintana Roo and its courts had recognized numerous times, the zoning regime of the POET applies to La Adelita and allows quarrying there.[387] Reneging on this commitment the way Mexico did is arbitrary.

(b) Arbitrary Measures Affecting El Corchalito

160. The way PROFEPA instituted and preserved its shutdown of operations in El Corchalito is contrary to basic principles of due process,[388] revealing a desire to preclude CALICA from quarrying in El Corchalito and La Adelita regardless of the facts or the law. As Professor Schreuer has recognized, the weight of authority suggests that the "decisive criterion" for finding such an action to be arbitrary is "whether it can be justified in terms of rational reasons that are related to the facts."[389] Arbitrariness is present if the measure is not a "reasonable and proportionate reaction to objectively verifiable circumstances."[390]

161. Contrary to what Mexico asserts in its Counter-Memorial, PROFEPA effectively denied CALICA the opportunity to be heard by refusing to consider evidence repeatedly offered specifically to address the issue at the core of the shutdown: whether CALICA had exceeded the area for extraction under the water table in El Corchalito. After PROFEPA's first inspection in May 2017, CALICA offered independent expert evidence from a civil engineer to show that PROFEPA's measurements of that area were unreliable.[391] Lacking a valid basis to deny it, PROFEPA accepted that evidence, which indeed demonstrated flaws in PROFEPA's inspection and led to a second inspection.[392]

162. Mexico flags this fact to argue that CALICA was given an adequate opportunity to present evidence and to defend itself, but it illustrates the opposite.[393] After PROFEPA conducted

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[387] *See, e.g.*, *supra*, Part II.A.1; Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 5.

[388] Memorial, ¶ 207.

[389] Schreuer, *Arbitrary or Discriminatory Measures*, p. 188 (CL-0051-ENG); *see also* Dolzer, *FET Contours*, p. 31 (CL-0050-ENG) ("Governmental action will also be suspect in case it is not based on a proper review of facts relevant to a decision.")

[390] Schreuer, *Arbitrary or Discriminatory Measures*, p. 188 (CL-0051-ENG).

[391] Memorial, ¶ 141.

[392] *Id.*, ¶¶ 142-143. *See also*, Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 26; SOLCARGO, ¶ 157.

[393] Counter-Memorial, ¶ 317.

a second inspection to take new measurements in November 2017, CALICA offered to submit the *same* kind of independent expert evidence it had submitted before to scrutinize those measurements in the first inspection. Mexico rejected it for no valid reason.[394] After the Shutdown Order in January 2018, CALICA again sought to prove through expert evidence that PROFEPA's measurements were flawed and could not support the shutdown. Mexico again precluded CALICA from doing so for no valid reason. Mexico imposed the shutdown based on the flawed measurements CALICA was not allowed to rebut which indicated that CALICA had exceeded the total quarrying area under the water table by just about 1%.[395]

163. As the tribunal in *Mondev v. United States* concluded, an important reference point for determining whether certain administrative conduct is arbitrary is whether a decision "unreasonably departs from the principles of justice recognized by the principal legal systems of the world."[396] By categorically prohibiting CALICA from presenting expert evidence on its behalf, Mexico's actions fit squarely within this category of conduct.

164. Mexico points out that PROFEPA addressed CALICA's arguments and evidence in its administrative pronouncements,[397] but the explanation for its refusal to even consider CALICA's proffered expert evidence after PROFEPA's second inspection is no explanation at all. As explained in the expert reports of [redacted] and [redacted] PROFEPA may only refuse to consider evidence "that has no relation to the substance of the matter."[398] PROFEPA asserted that CALICA's evidence was not "directly related" to its measurement because

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[394] *See supra*, Part II.C.1(c) (CALICA offered the same type of civil engineering expert evidence after the first inspection and the second inspection). *See also* Expert Report-[redacted]-Environmental Law-Claimant's Reply- Second Report-SPA, ¶¶ 26-29.

[395] *See supra*, Part II.C.1(c). *See also* Expert Report-[redacted]-Environmental Law-Claimant's Reply- Second Report-SPA, ¶¶ 29-32 (SOLCARGO fails to explain why PROFEPA violated CALICA's right to offer evidence after the second inspection when it allowed CALICA to offer evidence following the first inspection, in particular given that the measurement was used by PROFEPA to shutdown CALICA's operations); Expert Report-[redacted]-Constitutional Law-Claimant's Reply-SPA, ¶¶ 177-178 (PROFEPA violated CALICA's due process rights by not permitting it to rebut the findings of the supplemental inspection).

[396] *Mondev v. United States* (Award), n.57 (CL-0011-ENG) (citing Harvard Draft Convention on the International Responsibility of States for Injuries to Aliens, Article 8 (b), reprinted in L.B. Sohn & R.R. Baxter, *Responsibility of States for Injuries to the Economic Interests of Aliens*, 55 AJIL 515, 551 (1961)).

[397] Counter-Memorial, ¶¶ 317-323.

[398] Expert Report-[redacted]-Environmental Law-Claimant's Memorial-SPA, ¶¶ 213-214 (the guiding principle for administrative authorities is the admission of evidence, and only in exceptional circumstances shall evidence be refused); Expert Report-[redacted]- Constitutional Law-Claimant's Reply-SPA, ¶ 108 (Article 68 of the Federal Law of Administrative Procedure grants "[t]hose who are visited" the right to "make observations" and "offer evidence" in relation to the facts gathered during an inspection); *Id*., ¶¶ 173-176 (PROFEPA may not refuse to consider evidence that is clearly related to the proceeding).

CALICA referenced a "topographic survey" when PROFEPA had conducted a "georeferenced survey." This is an artificial distinction without a substantive difference; as explained by civil engineer [redacted]

165. Regardless of the nomenclature, it was evident that CALICA was challenging PROFEPA's area measurements.[400] This fact is confirmed by PROFEPA's acceptance of the same type of evidence with respect to its concededly flawed first inspection.[401] PROFEPA's rejection of CALICA's expert evidence thereafter seemed designed to thwart a showing that PROFEPA's second measurements were also wrong. Under these circumstances, PROFEPA's refusal to admit this evidence cannot be "justified in terms of rational reasons that are related to the facts."[402]

166. Mexico also effectively denied CALICA the opportunity to defend itself by preserving and justifying the shutdown at the conclusion of the proceeding on purported violations that were not identified as such in the Shutdown Order. The section of that Order where PROFEPA specified CALICA's alleged violations listed the purported failure to quarry "in accordance with the total authorized exploitation area under the water table."[403] It nowhere listed as a violation CALICA's failure to quarry El Corchalito and La Adelita simultaneously,[404]

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[399] Expert Report-[redacted]-Civil Engineering-Claimant's Reply, ¶ 54 (there were no differences between the independent expert evidence offered by CALICA following the first inspection and the expert evidence that CALICA offered following the second inspection); *id.*, ¶ 61 ("'georeferenced survey' and 'topographic survey' are not exclusive terms. The first one simply requires its presentation in UTM or geographical coordinates with a certain degree of precision for each polygonal, as indicated by Lic. Pérez Marín. And a topographic survey can perfectly be a georeferenced survey if it has those properties.").

[400] *See supra*, ¶¶ 70-73.

[401] *See* Schreuer, *Arbitrary or Discriminatory Measures*, p. 188 (CL-0051-ENG) (One category of arbitrary measures are measures "taken for reasons that are different from those put forward by the decision-maker."); *see also* EDF *(Services) Limited v. Romania*, ICSID Case No. ARB/05/13, Award, ¶ 303 (8 October 2009) (Bernardini (P), Derains, Rovine) (CL-0053-ENG) (hereinafter, "*EDF v. Romania* (Award)") (adopting Prof. Schreuer's definition of arbitrary measures); *Crystallex International Corporation v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB(AF)/11/2, Award, ¶ 578 (4 April 2016) (Lévy (P), Boisson de Chazournes, Gotanda) (CL-0089-ENG) (hereinafter, "*Crystallex v. Bolivia* (Award)") (citing the tribunal in *EDF v. Romania* and stating that "a measure is for instance arbitrary if it is not based on legal standards but on excess of discretion, prejudice or personal preference, and taken for reasons that are different from those put forward by the decision maker.").

[402] Schreuer, *Arbitrary or Discriminatory Measures*, p. 188 (CL-0051-ENG).

[403] Shutdown Order, p. 272 (C-0117-SPA) (free translation, the original reads: "no acreditó que ha realizado el aprovechamiento del banco de conformidad con la superficie total explotada autorizada por debajo del manto freático"); *see also id.*, p. 280 ("Lo anterior en virtud del probable incumplimiento detectado durante las visitas de inspección realizadas, al presuntamente haberse rebasado en 2.15 hectáreas el área autorizada para la extracción de roca caliza por debajo del manto freático, aunado a que la empresa ya realizó el aprovechamiento total de la superficie de extracción de roca caliza por debajo del nivel freático el cual le fue autorizado en anualidades hasta el 2020.").

[404] *See* Shutdown Order, pp. 271-273 (C-0117-SPA).

something that the Corchalito/Adelita Federal Environmental Authorization does not require.[405] Nor did it list as a violation quarrying more than the area authorized per year under the water table.[406] Yet, PROFEPA highlighted these purported violations in its final Resolution of the proceeding (as Mexico does in this arbitration) to preserve the shutdown.[407]

167. The timing of the Resolution — a few weeks before Mexico's Counter-Memorial was due —strongly suggests that PROFEPA raised these new issues as a last-ditch effort to paper over its highly irregular conduct and to give some semblance of legitimacy to its unlawful measures. Mexico violated CALICA's due process rights by introducing new and shifting rationales for its shutdown at the end of the proceeding, against which CALICA lacked an effective opportunity to defend itself. As explained by [redacted] who worked at PROFEPA for a decade, this constituted a violation of CALICA's right to defend itself, and is one of the most serious and egregious violations that he has witnessed by PROFEPA.[408]

168. It is no defense to argue — as Mexico does — that CALICA had recourse to Mexican courts to challenge PROFEPA's acts.[409] NAFTA contains no requirement to exhaust domestic remedies; it contains a requirement for the host State to accord covered investments fair and equitable treatment.[410] Mexico violated that standard by shutting down a big chunk of CALICA's operations for more than three years while effectively denying CALICA due process, regardless of whether CALICA could seek domestic judicial remedies against that measure.

169. Ironically, Mexico faults CALICA for having sought those remedies, claiming that domestic litigation postponed the conclusion of PROFEPA's proceeding.[411] That is inaccurate. Contrary to what Mexico and its legal experts allege, PROFEPA was able to move forward with the administrative proceeding notwithstanding the *amparo* lawsuits.[412] As a general rule, an

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[405] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 106-108 (the Corchalito/Adelita Federal Environmental Authorization does not require CALICA to quarry both lots simultaneously).

[406] *See* Shutdown Order, pp. 271-273 (C-0117-SPA); Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 102-105 (PROFEPA did not base the Shutdown Order on CALICA's alleged failure to (i) quarry both lots simultaneously or (ii) to comply with the alleged yearly extraction rate).

[407] Resolution, p. 220 (R-0005-SPA); Counter-Memorial, ¶ 317.

[408] Expert Report-[redacted]-Environmental Law-Claimant's Reply-SPA, ¶ 103.

[409] Counter-Memorial, ¶ 325.

[410] *See* NAFTA, Article 1105(1) (C-0009-ENG).

[411] Counter-Memorial, ¶ 32.

[412] Expert Report-[redacted]-Constitutional Law-Claimant's Reply-SPA, ¶ 181.

amparo lawsuit may prohibit the administrative authority from issuing a final resolution, but the authority may continue with all other aspects of the administrative proceeding.[413] In fact, under Mexican law, PROFEPA is required to conduct all the necessary steps to resolve the proceeding.[414] As [redacted] explains, it was unreasonable for PROFEPA to suspend activity for two years when it was required to move forward, and then, when it was no longer precluded by court order from issuing a final resolution, to delay issuing that resolution for more than a year.[415]

170. PROFEPA placed CALICA in a Catch-22 situation: to lift the shutdown, PROFEPA required CALICA to obtain an amendment of the Corchalito/Adelita Federal Environmental Authorization from SEMARNAT, but SEMARNAT would not grant such an amendment while the PROFEPA proceeding was open. Mexico admits that an amendment or renewal of that Authorization could not be obtained from SEMARNAT until PROFEPA's administrative proceeding had been closed.[416]

171. Mexico and its legal experts posit that CALICA could have escaped from this predicament without having to concede that it quarried an area [redacted] under the water table to lift the shutdown. But the Shutdown Order conditioned the lifting of the shutdown on CALICA's obtaining an amendment of the Corchalito/Adelita Federal Environmental Authorization to allow underwater quarrying [redacted] The alternative to this condition that Mexico now posits is not meaningfully different: offering to pay damages for the alleged excess extraction, followed by a court challenge.[417] But as [redacted] explains, this so-called "Damages Study" was not only not offered as an option to lift the shutdown in the Shutdown Order, but it would have required CALICA to expressly admit that it had wrongfully caused damage to the environment.[418]

172. These due-process deficiencies underpinning PROFEPA's shutdown measure are further illustrated and compounded by the legal infirmities of PROFEPA's conduct. There was no basis in Mexican law for PROFEPA's "supplemental inspection," which was invalid *ab initio* and

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[413] *Id.*, ¶¶ 180-184.

[414] *Id.*, ¶ 183.

[415] *Id.*, ¶ 187.

[416] Counter-Memorial, ¶ 332 ("CALICA could have terminated the proceeding before PROFEPA [to avoid] generating the situation in which it placed itself, *i.e.*, not being able to renew the Federal EIA before SEMARNAT due to the open proceeding with PROFEPA"); SOLCARGO, ¶ 63 (RE-001).

[417] Counter-Memorial, ¶ 331.

[418] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 88-89, 94-95, 164.

contrary to due process.[419] As explained by [redacted] and [redacted] PROFEPA's inspections are acts of authority and not legally equivalent to evidence-gathering exercises under the law cited by PROFEPA as support for its second inspection.[420] In a late attempt to fix this legal infirmity, PROFEPA asserts in its Resolution and in this arbitration that the second inspection was not really an inspection but rather an expert evidence-gathering exercise.[421] But official contemporary documents confirmed that it indeed was an inspection, carried out in a manner similar to the first, flawed one conducted in May 2017.[422] And even if it were an expert evidence-gathering exercise, it begs the question as to why CALICA's proffered expert evidence was rejected. Mexico offers no satisfactory answers.

173. Mexico did not base the shutdown on a finding of imminent risk of ecological imbalance or severe harm to the environment, as required by Article 170 of the LGEEPA.[423] Instead, the Shutdown Order was premised on the "probable" non-compliance with the Corchalito/Adelita Federal Environmental Authorization resulting from the alleged excess extraction of 2.15 hectares below the water table. This does not satisfy the requirements of Mexican law, and merely asserting that the measure is based on Article 170 of the LGEEPA does not supply the requisite finding. Without that finding, there was no basis for the shutdown, and CALICA was left to guess which purported imminent risks or severe harms it had to disprove.[424] Under Mexican law, PROFEPA has the burden of proving the existence of impending and severe

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[419] *See supra*, ¶¶ 66, Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 20 (the supplemental inspection was invalid *ab initio*); Expert Report-[redacted]-Constitutional Law- Claimant's Reply-SPA, ¶¶ 169-170 (PROFEPA does not have the power to use a supplemental inspection to modify the content of the first inspection. PROFEPA's attempt to disguise the supplemental inspection as expert evidence is illegal.).

[420] *See supra*, ¶¶ 66, Expert Report-[redacted]-Environmental Law-Claimant's Reply- Second Report-SPA, ¶¶ 14-17 (explaining that the "supplemental inspection" was conducted as an inspection and not as an expert survey); Expert Report-[redacted]-Constitutional Law- Claimant's Reply-SPA, ¶ 144 (the supplemental inspection was conducted as an inspection – not an expert evidence-gathering exercise – which affects the privacy of an individual, and thus, must comply with the Mexican Constitution and other legislation to protect the individual's legal rights); *id*., ¶ 149 (The authority has the power to conduct an inspection. Following the inspection, the individual has the right to present evidence to challenge the statements made by the inspectors and to provide any information required by the authority.); *id*., ¶ 156 (By ordering a supplemental inspection without any legal basis, PROFEPA acted arbitrarily and in violation of Article 16 of the Mexican Constitution.).

[421] Resolution, pp. 38-39 (R-0005-SPA); Counter-Memorial, ¶ 62; Declaración Testimonial de la Sra. Silvia Rodríguez Rosas, ¶¶ 33-34 (RW-002).

[422] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 14-16; Expert Report-[redacted]-Constitutional Law-Claimant's Reply-SPA, ¶¶ 166-170.

[423] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-Second Report-SPA, ¶¶ 49, 79, 85, 163.

[424] *Id*., ¶ 49.

environmental harm, but it failed to do so and effectively forced CALICA to prove that it did not commit an undefined environmental harm that PROFEPA never bothered to substantiate.[425]

174. Neither can Mexico now try to supply the missing showing of environmental harm through the testimony of a PROFEPA employee (Margarita Balcázar), when PROFEPA did not conduct the necessary studies to find the required imminent risk or severe harm from the alleged conduct. Had those studies been conducted, no harm would have been found. In fact, no environmental or ecological impacts, beyond those assessed and deemed manageable by SEMARNAT, flowed from CALICA's activities in El Corchalito, as shown in the expert report of [redacted] This deficiency further demonstrates that Mexico is in breach of NAFTA Article 1105.[427]

175. Contrary to what Mexico asserts, Legacy Vulcan does not expect the Tribunal to act as a Mexican or appellate court by ruling on the merits of PROFEPA's proceeding in light of Mexican law.[428] Instead, Legacy Vulcan is asking the Tribunal to find that PROFEPA's shutdown measure was in violation of Mexico's international obligations under NAFTA, given the egregious facts and circumstances surrounding that measure.[429]

176. Mexico's reliance on *Glamis Gold v. United States* is misplaced. In that case, the tribunal held that the conduct of a government agency could engage the international responsibility of a state under NAFTA if the agency's review and conclusions are arbitrary or lack due process.[430] In *Glamis*, the tribunal was satisfied that the respondent's quick and effective remediation of procedural deficiencies through domestic channels was sufficient to cure its administrative process of any due process defects.[431] Here, Mexico has presented no evidence to

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[425] *Id.*, ¶¶ 79, 87.

[426] Expert Report-[redacted]-Environmental Sustainability-Claimant's Reply-SPA, ¶¶ 8-14.

[427] Memorial, ¶ 213 (noting that in *Metalclad v. Mexico*, the tribunal held that a municipality's denial of a construction permit on grounds that were beyond the scope of its legal authority constituted a procedural and substantive deficiency that breached NAFTA Article 1105).

[428] *But see Crystallex v. Bolivia* (Award) (CL-0089-ENG) ("[D]eference to the primary decision-makers cannot be unlimited, as otherwise a host state would be entirely shielded from state responsibility."); *Global Telecom Holding S.A.E. v. Canad*a, ICSID Case No. ARB/16/16, Award, ¶ 562 (27 March 2020) (Affaki (P), Born, Lowe) (CL-0114-ENG) (quoting the tribunal in *Crystallex*).

[429] *Metalclad v. Mexico* (Award), ¶¶ 86, 92, 106 (CL-0019-ENG) (finding that a municipality's denial of a construction permit based on reasons beyond the scope of its legal authority under Mexican law constituted a violation of fair and equitable treatment).

[430] *Glamis v. United States* (Award), ¶¶ 779 (CL-0016-ENG).

[431] *Id.*, ¶ 771.

show that it took any action to correct the errors flagged herein under domestic law. To the contrary, Mexico's actions in the PROFEPA proceeding and arguments in this arbitration show that Mexico is doubling down on its unlawful shutdown of CALICA's operations.

177. PROFEPA has once again placed CALICA in a Catch-22 situation. As it did in the Shutdown Order, in its 30 October 2020 Resolution PROFEPA determined that the shutdown will be lifted only if CALICA secures an amendment of the Corchalito/Adelita Federal Environmental Authorization from SEMARNAT for the alleged excess extraction of 2.15 hectares.[432] After CALICA applied for this amendment to comply with PROFEPA's Resolution, SEMARNAT informed CALICA that it needed PROFEPA's "validation" of CALICA's latest quarterly compliance report to process the application.[433] PROFEPA has told SEMARNAT that the way it "validates" compliance reports is through inspections.[434] But PROFEPA ordered the amendment of the Authorization as a "corrective measure" because it has already concluded wrongly, through its unlawful 2017 inspections, that CALICA is not in compliance with the terms of the Authorization. There is therefore no way CALICA can obtain PROFEPA's "validation," which in turn leaves the requested amendment of the Authorization in limbo, which in turn precludes the lifting of the shutdown.[435]

178. In sum, the record establishes that Mexico decreed the shutdown of CALICA's quarrying activities in El Corchalito days after CALICA was threatened with a shutdown by a Mexican government official, based on flawed area measurements that CALICA was effectively precluded from contesting and that PROFEPA took in violation of Mexican law. Mexico then preserved the shutdown relying on purported violations that had not previously been identified as such, effectively precluding CALICA from mounting a defense against them. Mexico did all of this through an administrative proceeding marred by irregularities. These facts show that Mexico failed to afford CALICA the most basic due process and acted arbitrarily in connection with the shutdown measure, in violation of NAFTA Article 1105.

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[432] Resolution, p. 230 (R-0005-SPA); Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶ 69.

[433] SEMARNAT Letter to CALICA, Oficio No. SGPA/DGIRA/DG/06183, p. 8 (4 December 2020) (C-0154-SPA).

[434] *Id.*, p. 4.

[435] Expert Report-[redacted]-Environmental Law-Claimant's Reply-Second Report-SPA, ¶¶ 69-73 (explaining that PROFEPA ordered CALICA to comply with an obligation that was impossible to meet).

(c) Mexico's Arbitrary Disregard of Its Judiciary's Final Determination that the Port Fees Were Illegal

179. Mexico does not dispute that a State's failure to comply with a final judgment of its domestic courts may amount to a violation of NAFTA Article 1105.[436] Here, Mexican government entities have ignored the final ruling of Mexico's judiciary confirming the illegality of API Quintana Roo's collection of port fees from CALICA.

180. As explained in Part II.D above, Mexico does not dispute that, for more than a decade — July 2007 to December 2017 — API Quintana Roo collected port fees (*tarifas de puerto*) for the use of CALICA's own private port terminal. In doing so, API Quintana Roo usurped CALICA's rights to charge those fees and collect those funds. After ten years of litigation, in January 2017, CALICA obtained a judgment from Mexico's Supreme Court conclusively ending proceedings in which the courts had consistently ruled that API Quintana Roo had no right to charge those port fees to CALICA.[437]

181. In disregard for this ruling, API Quintana Roo continued collecting port fees for nearly a year and failed to reimburse CALICA the money unlawfully collected in violation of Mexican law.[438] When CALICA took steps to secure reimbursement of those fees, API Quintana Roo threatened CALICA with shutting down its operations if it went further.[439]

182. API Quintana Roo's conduct, including its disregard of the final ruling of Mexico's judiciary constitutes arbitrary conduct in violation of the fair and equitable treatment standard.

2. Mexico Failed to Observe the Obligations It Undertook in the 2014 Agreements in Breach of NAFTA Article 1103

183. In support of its arguments that the most favored nation ("MFN") clause contained in Article 1103 does not entitle Legacy Vulcan to receive at least the same treatment that Mexico affords to Swiss investors under Article 10(2) of the Mexico-Switzerland BIT, Mexico seeks to create uncertainty where there is none by advocating for a reading of Article 1103 that is not supported by NAFTA's text.

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[436] Counter-Memorial, ¶ 364.

[437] *See supra*, ¶ 108.

[438] *See supra*, ¶ 115.

[439] *See supra*, ¶ 116.

184. *First*, Mexico argues that a strict reading of the MFN clause contained in Article 1103 supports its position.[440] However, Mexico ignores the language contained in its Schedule to NAFTA Annex IV, which establishes that the MFN obligation enshrined in Article 1103 applies when more favorable treatment is granted through treaties of Mexico that went into effect or were signed after NAFTA entered into force.

185. As noted in Claimant's Memorial, NAFTA Article 1103 and Mexico's Schedule to NAFTA Annex IV provide that:

> Article 1103: Most-Favored-Nation Treatment
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> "Each Party shall accord to investors [and investments of investors] of another Party treatment no less favorable than that it accords, in like circumstances, to investors [and investments of investors] of any other Party or of a non-Party with respect to the establishment, acquisition, expansion, management, conduct, operation, and sale or other disposition of investments."[441]
>
> Annex IV: Exceptions from the Most-Favored-Nation Treatment (Chapter 11) Schedule of Mexico
>
> "Mexico takes an exception to Article 1103 for *treatment accorded under all bilateral or multilateral international agreements* in force or signed prior to the date of entry into force of this Agreement. For international agreements in force or signed after the date of entry into force of this Agreement, Mexico takes an exception to Article 1103 for treatment accorded under those agreements involving: (a) aviation; (b) fisheries; (c) maritime matters, including salvage; or (d) telecommunications."[442]

186. Consistent with Article 31(1) of the Vienna Convention on the Law of Treaties, the language in Annex IV "shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose."[443] The obligation set out under NAFTA Annex IV is clear. Mexico recognized that (i) Article 1103 applies when more favorable treatment is granted through treaties that postdate NAFTA, and (ii) "treatment" for purposes of Article 1103 encompasses all such favorable treatment, including substantive protections afforded in those treaties. The Mexico-Switzerland BIT postdates NAFTA

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[440] Counter-Memorial, ¶ 411.

[441] NAFTA, Article 1103 (C-0009-ENG).

[442] NAFTA, Annex IV - Schedule of Mexico: Exceptions from Most-Favored-Nation Treatment (Chapter 11) (C-0133-ENG) (emphasis added); *see also* Memorial, ¶ 195.

[443] Vienna Convention on the Law of Treaties ("Vienna Convention"), 1155 U.N.T.S. 331, Art. 31(1) (23 May 1969) (CL-0141).

and affords Swiss investors the right under Article 10(2) of that BIT to elevate claims of breach of obligations to treaty claims. Legacy Vulcan and its investments are entitled to enjoy the same right pursuant to NAFTA Article 1103.[444]

187. Annex IV makes clear that the purpose of the MFN provision is to ensure U.S. and Canadian investors receive treatment equal to the treatment Mexico accords to third-country investors under Mexico's post-NAFTA investment treaties, subject only to the exceptions articulated in Annex IV. Because the text of that Annex is clear, the Tribunal's analysis of Mexico's obligations under Annex IV can end here. Disregarding the plain text, Mexico attempts to graft onto it heightened restrictions and conditions that Annex IV does not contain and that rules of treaty interpretation do not support.[445] Mexico's interpretation of Article 1103 as prohibiting the importation of substantive provisions from other treaties is incorrect and should be rejected.

188. Mexico also mischaracterizes the state of international law on this issue as well as the relevance of the cases it invokes in support of its argument. Mexico claims that "[t]he interpretation and application of the MFN clauses has proven to be one of the most controversial issues not only between the disputing parties in a particular case but also within the world of international investment law more generally."[446] However, the authorities Mexico cites in support of this proposition address the use of an MFN clause to import *dispute settlement provisions* from other BITs.[447] This is not what Legacy Vulcan is seeking to do in this case. Rather, Legacy Vulcan's claims under Article 1103 relate to more favorable treatment provided under the *substantive obligations* contained within Mexico's other treaties. It is a well-established principle that MFN provisions may be used to import substantive obligations from other treaties.[448]

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[444] Memorial, ¶ 241.

[445] *See* Counter-Memorial, ¶ 436; *but see* NAFTA, Article 1103 and Annex IV (containing no such requirements).

[446] Counter-Memorial, ¶ 407 (citing *Daimler Financial Services AG v. Argentine Republic*, ICSID Case No. ARB/05/1, Award (22 August 2012) (Dupuy (P), Brower, Janeiro) (RL-041-ENG)).

[447] Counter-Memorial, n.521.

[448] Patrick Dumberry, *The Importation of "Better" Fair and Equitable Treatment Standard Protection Through MFN Clauses: An analysis of NAFTA Article 1103*, 14(1) TDM 1, pp. 2, 13-14 (2017) (CL-0038-ENG) ("MFN clauses allow for the importation of better substantive rights contained in other treaties entered into by the host State."); STEPHAN SCHILL, THE MULTILATERALIZATION OF INTERNATIONAL INVESTMENT LAW, p. 142 (Cambridge University Press, 2009) (CL-0037-ENG) ("the reaction of arbitral tribunals to the FTC's interpretation of fair and equitable treatment under Article 1105 [of] NAFTA illustrates that MFN clauses elevate the level of protection in any given host State to the maximum level granted in any of that State's investment treaties."). The commentator cited by Mexico confirms that "it is almost always assumed that the importation of substantive standards of treatment [. . .] is permitted by the

189. Indeed, multiple tribunals have held that MFN provisions may be used to import substantive obligations from other treaties to expand the standard of treatment already present in the basic treaty or to benefit from a standard absent from the basic treaty.[449] Tribunals have described the use of MFN clauses to import substantive treaty obligations as "'the very essence of an MFN provision in a BIT.'"[450] As the tribunal in *Berschader v. Russia* stated, "it is universally agreed that the very essence of an MFN provision in a BIT is to afford to investors all material protection provided by subsequent treaties[.]" [451] Commentators have reached the same conclusion.[452]

190. Mexico's own authorities support this conclusion. For instance, in support of its assertion that Article 1103 does not support importation of substantive obligations from other treaties, Mexico cites extensively to a 2017 article authored by Simon Batifort and J. Benton Heath. But those authors acknowledge that:

> "[A] conventional wisdom has taken hold that MFN clauses generally may be invoked by investors to rely on standards of treatment, such as fair and equitable treatment (FET), full

MFN clause" in such cases. *See* Simon Batifort & J. Benton Heath, *The New Debate on the Interpretation of MFN Clauses in Investment Treaties: Putting the Brakes on Multilateralization*, 111 Am. J. Int'l L. 874, 882 (2017) (RL-040) (hereinafter, "Batifort, *MFN Clauses*").

[449] *Pope & Talbot v. Canada* (Damages), n.54 (CL-0031-ENG) ("under Article 1105, every NAFTA investor is entitled, by virtue of Article 1103, to the treatment accorded [to] nationals of other states under BITs containing the fairness elements unlimited by customary international law. The [FTC Interpretation] did not purport to change that fact, nor could it."); *ICS Inspection and Control Services Limited (United Kingdom) v. Argentine Republic*, PCA Case No. 2010-09, Award on Jurisdiction, ¶ 286 (10 February 2012) (Dupuy (P), Torres Bernárdez, Lalonde) (CL-0032-ENG) (recognizing that "treatment" in MFN clauses encompasses substantive treatment provisions); *United Parcel Service of America Inc. v. Government of Canada*, ICSID Case No. UNCT/02/1, Award on Jurisdiction, ¶ 97 (22 November 2002) (Keith (P), Yves Fortier, Cass) (CL-0035-ENG) (emphasizing the "likely availability to the investor of the protection of the most favoured nation obligation in article 1103, by reference to other bilateral investment treaties").

[450] *Vladimir Berschader and Moïse Berschader v. The Russian Federation*, SCC Case No. 080/2004, Award, ¶ 179 (21 April 2006) (Sjövall (P), Lebedev, Weiler) (CL-0115-ENG) (hereinafter, "*Berschader v. Russia* (Award)"); *see also White Industries Australia Limited v. The Republic of India*, UNCITRAL, Final Award, ¶¶ 11.2.3-11.2.4 (30 November 2011) (Rowley (P), Brower, Lau) (CL-0116-ENG) (hereinafter, "*White Industries v. India* (Award)") (noting that importing a more favorable substantive provision does not subvert the negotiated balance of the BIT, rather "it achieves exactly the result which the parties intended by the incorporation in the BIT of an MFN clause").

[451] *Berschader v. Russia* (Award), ¶ 179 (CL-0115-ENG).

[452] Dolzer & Schreuer, INVESTMENT LAW, p. 211 (RL-030-ENG) ("[t]he weight of authority clearly supports the view that an MFN rule grants a claimant the right to benefit from substantive guarantees contained in third treaties"); Ieva Kalnina, *White Industries v. The Republic of India: A Tale of Treaty Shopping and Second Chances,* 9(4) Transnat'l Disp. Mgmt. 1, 6 (2012) (CL-0117-ENG) (noting that the importation of substantive provisions through MFN provisions is not controversial); J.R. Weeramantry, TREATY INTERPRETATION IN INVESTMENT ARBITRATION, p. 177 (Oxford University Press, 2012) (CL-0118-ENG); S. Vesel, *Clearing a Path Through a Tangled Jurisprudence: Most-Favored-Nation Clauses and Dispute Settlement Provisions in Bilateral Investment Treaties,* 32 YALE J. INT'L L. 125, 163 (2007) (CL-0119-ENG).

> protection and security (FPS), or protection from arbitrary or discriminatory measures, which are absent from the applicable investment treaty or present in an allegedly less attractive form. In line with that conventional wisdom, most tribunals have treated the use of MFN clauses to import substantive treaty obligations as uncontroversial, or even, in the words of one decision, as 'universally agreed' and 'the very essence of an MFN provision in a BIT.'"[453]

191. Messrs. Batifort and Heath add that "it is almost always assumed that the importation of substantive standards of treatment [...] is permitted by the MFN clause."[454] While these authors propose a novel, more restrictive approach to MFN, the well-established understanding regularly reflected in the decisions of the majority of investment treaty tribunals is to the contrary.

192. Mexico also incorrectly asserts that NAFTA tribunals have rejected all attempts by claimants to invoke Article 1103 to import substantive provisions from other treaties.[455] NAFTA tribunals have not yet ruled directly on whether an umbrella clause may be imported from other treaties through Article 1103. Notably, NAFTA does not expressly preclude importation of other treaty obligations under NAFTA's MFN clause, unlike other treaties concluded by the NAFTA parties. In fact, the NAFTA parties explicitly included language restricting application of the MFN clause in the recently negotiated U.S.-Mexico-Canada Agreement ("USMCA"), which became effective in July 2020.[456] Such a restriction would have been unnecessary and superfluous if the language in NAFTA did in fact have the same restrictive effect as Mexico argues here.

193. Several investment treaty tribunals have specifically determined that MFN clauses may be used to import umbrella clauses from other treaties.[457] In *Consutel Group v. Algeria*, the

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[453] Simon Batifort & J. Benton Heath, *The New Debate on the Interpretation of MFN Clauses in Investment Treaties: Putting the Brakes on Multilateralization*, 111 Am. J. Int'l L. 873, 874 (2017) (RL-040-ENG).

[454] *Id.,* p. 882.

[455] Counter-Memorial, ¶ 425.

[456] USMCA, Chapter 14, fn. 22 (C-0157-ENG) ("For the purposes of this paragraph: (i) the 'treatment' referred to in Article 14.5 (Most-Favored-Nation Treatment) excludes provisions in other international trade or investment agreements that establish international dispute resolution procedures or impose substantive obligations; and (ii) the 'treatment' referred to in Article 14.5 only encompasses measures adopted or maintained by the other Annex Party, which for greater clarity may include measures adopted in connection with the implementation of substantive obligations in other international trade or investment agreements.").

[457] *EDF International S.A. et al. v. Argentine Republic*, ICSID Case No. ARB/03/23, Award, ¶ 933 (11 June 2012) (Park (P), Kaufmann-Kohler, Remón) (CL-0078-ENG) (hereinafter, "*EDF v. Argentina* (Award)"); *Mr. Franck Charles Arif v. Republic of Moldova*, ICSID Case No. ARB/11/23, Award, ¶ 396 (8 April 2013) (Cremades (P), Hanotiau, Knieper) (CL-0079-ENG); *MTD v. Chile* (Award), ¶ 104 (CL-0062-ENG). In *Impregilo v. Pakistan*, the tribunal ultimately did not rule on the issue, but it did not rule out the possibility

tribunal noted that umbrella clauses are substantive in nature and determined that the claimant could rely on the umbrella clause imported from another treaty.[458] Commentators have also concluded that umbrella clauses can be imported through the MFN clause.[459] The majority of tribunals have also concluded that the principle of *ejusdem generis* does not preclude investors from using the MFN clause to rely on the umbrella clause in other investment treaties, even if that specific provision is absent from the base treaty.[460] That MFN clauses are designed to import standards of treatment unless specific treaty text expresses a clear intent to the contrary has been articulated by a number of investment treaty tribunals.[461]

194. Contrary to Mexico's suggestions,[462] most international tribunals have also held that a comparator investor is not needed when invoking the MFN clause to import a provision from another treaty.[463] Mexico cites a single case, *İçkale v. Turkmenistan*, to argue that a

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of using an MFN provision to import an umbrella clause. *See Impregilo v. Pakistan* (Jurisdiction), ¶¶ 220-223 (RL-031-ENG).

[458] *Consutel Group S.P.A. in Liquidazione v. People's Democratic Republic of Algeria,* PCA Case No. 2017-33, Final Award, ¶¶ 358-359 (3 February 2020) (Mourre (P), Tanzi, Mahiou) (CL-0120-FRE).

[459] Noah Rubins, Thomas-Nektarios Papanastasiou, & N. Stephan Kinsella, *The Substantive Law of Contemporary International Investment Protection in* INTERNATIONAL INVESTMENT, POLITICAL RISK, AND DISPUTE RESOLUTION: A PRACTITIONER'S GUIDE (2ND EDITION), ¶ 6.145 (2020) (CL-0122-ENG) (hereinafter, "Rubins, *Investment Protection*") (noting that "to the extent that the host State has entered into at least one investment treaty that provides *pacta sunt servanda* coverage, the investor should be able to 'import' the third-party clause into the applicable instrument").

[460] *EDF International S.A. et al. v. Argentine Republic*, ICSID Case No. ARB/03/23, Annulment Decision, ¶¶ 237-238 (5 February 2016) (Park (P), Kaufmann-Kohler, Remón) (CL-0121-ENG); *Daimler Financial Services AG v. Argentine Republic*, ICSID Case No. ARB/05/1, Award, ¶¶ 215-216 (22 August 2012) (Dupuy (P), Brower, Janeiro) (CL-0123-ENG); *see also* Sabahi Rubins, *Discrimination: National Treatment, Most-Favoured Nation Treatment, and Discriminatory Impairment in* INVESTOR-STATE ARBITRATION (2ND EDITION) 568, ¶ 17.62 (Sabahi et al. eds. 2019) (CL-0124-ENG) (noting that the majority of tribunals have allowed the importation of protection standards even when such standards are absent in the basic treaty); Stephan W. Schill, *Multilateralizing Investment Treaties through Most-Favourite-Nation Clauses,* 27 BERKELEY J. INT'L L. 496, 524 (2009) (CL-0125-ENG); Rubins, *Investment Protection*, ¶ 6.130 (CL-0122-ENG).

[461] *MTD v. Chile* (Award), ¶ 104 (CL-0062-ENG); *Bayindir Insaat Turizm Ticaret Ve Sanayi A.S. v. Islamic Republic of Pakistan*, ICSID Case No. ARB/03/29, Award, ¶ 107 (27 August 2009) (Kaufmann-Kohler (P), Berman, Böckstiegel) (CL-0126-ENG) (hereinafter, "*Bayindir v. Pakistan* (Award)"); *White Industries v. India* (Award), ¶¶ 11.2.3-11.2.4 (CL-0116-ENG); *Hesham Talaat M. Al-Warraq v. The Republic of Indonesia*, UNCITRAL, Award, ¶¶ 540-55 (15 December 2014) (Cremades (P), Hwang, Nariman) (CL-0127-ENG).

[462] Counter-Memorial, ¶¶ 417-422.

[463] *European American Investment Bank AG v. The Slovak Republic,* UNCITRAL, PCA Case No. 2010-17, Award on Jurisdiction, ¶ 435 (22 October 2012) (Greenwood (P), Stern, Petsche) (CL-0128-ENG). Abby Cohen Smutny, Petr Polášek, & Chad Farrell, *The MFN Clause and its Evolving Boundaries in* ARBITRATION UNDER INTERNATIONAL INVESTMENT AGREEMENTS; A GUIDE TO THE KEY ISSUES, ¶ 23.20 (K. Yannaca-Small ed., 2018) (CL-0129-ENG) (hereinafter, "Smutny, *The MFN Clause*") ("The beneficiary of the MFN clause, however, does not need to show that the third-party state (or its nationals) have, in fact, invoked the benefits of the third-party treaty. The mere existence of the third-party treaty is sufficient.").

comparator investor is required to import substantive provisions through an MFN clause.[464] This argument is deeply flawed. As Professor Stephan Schill has explained, the reasoning in *İçkale* was "entirely sealed off" from how tribunals and authorities have applied and interpreted MFN clauses.[465] In *İçkale*, the tribunal erred in concluding that the qualifier "in similar situations" means that the MFN treatment obligation only protects against "de facto discriminations,"[466] as opposed to situations where the host state "accords more favorable treatment in the *abstract*."[467] The latter interpretation, which reflects the "general international law framework on the interpretation and application of MFN clauses," gives effect to "similar circumstances" and is the "conclusion [that] should have been adopted by the Tribunal."[468]

195. As acknowledged by the authorities Mexico cites, following the approach of the *İçkale* tribunal would require the Tribunal in this case "to rethink the prevailing approach to MFN clauses in investment treaties."[469] Instead, the Tribunal should follow the well-established principle that no concrete third-party investor is required when invoking the MFN clause to import a provision from another treaty.[470] Where the MFN clause, like Article 1103, contains language regarding investors "in like circumstances," it is sufficient for an investor invoking the MFN provision to identify a third-party treaty that sets the standard of treatment that a hypothetical third-country investor "in like circumstances" would enjoy.[471] Thus, for example, because a hypothetical Swiss investor with quarrying operations in Mexico would be granted the

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[464] *See* Counter-Memorial, ¶¶ 421-422 (citing to *İçkale İnşaat Limited Şirketi v. Turkmenistan*, ICSID Case No. ARB/10/24, Award (8 March 2016) (Heiskanen (P), Lamm, Sands) (RL-050-ENG)).

[465] Stephan W. Schill, *MFN Clauses as bilateral Commitments to Multilateralism: A Reply to Simon Batifort and J. Benton Heath*, 111 Am. J. Int'l L. 914, 929-933 (2017) (CL-0130-ENG) (hereinafter, "Schill, *MFN Clauses*").

[466] *Id.*, p. 931 (identifying the *non sequitur* in the *İçkale* tribunal's reasoning, which leads the tribunal to arrive at the erroneous conclusion that the MFN treaty provision only protects against de facto discriminations).

[467] *Id.*, p. 931-932 (emphasis added).

[468] *Id.*, p. 932.

[469] Simon Batifort & J. Benton Heath, *The New Debate on the Interpretation of MFN Clauses in Investment Treaties: Putting the Brakes on Multilateralization*, 111 Am. J. Int'l L. 873, 897 (2017) (RL-040-ENG).

[470] Certain commentators suggest that the only comparison required when a claimant seeks to import substantive MFN provisions is the comparison of treaty provisions, as the third-party provision (if in force) inherently establishes the existence of comparator investors. *See, e.g.*, Smutny, *The MFN Clause*, ¶ 23.20 (CL-0129-ENG) ("In most cases, however, the specific benefits to be invoked under an MFN clause are contained in an appropriate third-party treaty. In such a case, both the basic treaty and the third-party treaty must be in force in order for the MFN clause to operate. The beneficiary of the MFN clause, however, does not need to show that the third-party state (or its nationals) have, in fact, invoked the benefits of the third-party treaty. The mere existence of the third-party treaty is sufficient.").

[471] Schill, *MFN Clauses*, p. 932 (CL-0130-ENG).

more favorable substantive standard of treatment under the Swiss-Mexico BIT, Legacy Vulcan can invoke the MFN clause to receive that same standard of treatment.[472]

196. Indeed, several tribunals have specifically considered the importation of substantive protections from third-party treaties under MFN clauses that require the host state to accord "treatment no less favourable than that accorded *in similar situations* to investments of its investors or to investments of investors of any third country, whichever is the most favourable."[473] The tribunals in these cases allowed the claimants to use these MFN provisions to import substantive protections from third-party treaties without requiring concrete comparator investors.[474]

197. Furthermore, the exceptions in NAFTA Annex IV (Schedule of Mexico) would not be needed at all if the qualifier "in like circumstances" already had the effect of excluding benefits granted under third-party treaties. This interpretation of the qualifier provision in the MFN clause is therefore contrary to the *effet utile* principle, since it would render the exceptions from MFN treatment superfluous.[475]

198. Under NAFTA Article 1103, Legacy Vulcan is entitled to receive at least the same treatment that Mexico affords to Swiss investors under Article 10(2) of the Mexico-Switzerland BIT. In Article 10(2) of the Mexico-Switzerland BIT, Mexico guarantees to "observe any other obligation it has assumed with regard to investments in its territory by investors of [Switzerland]."[476] The 2014 Agreements contain obligations undertaken by Mexico with regard to investments in its territory by Legacy Vulcan within the scope of the imported umbrella clause in Article 10(2) of the Mexico-Switzerland BIT.

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[472] *Id.*

[473] *Bayindir v. Pakistan* (Award), ¶¶ 156-158 (CL-0126-ENG) (interpreting Article II(2) of the Turkey-Pakistan BIT, which provides that "Each Party shall accord to these investments, once established, treatment no less favourable than that accorded *in similar situations* to investments of its investors or to investments of investors of any third country, whichever is the most favourable") (emphasis added); *ATA Construction, Industrial and Trading Company v. The Hashemite Kingdom of Jordan*, ICSID Case No. ARB/08/2, Award, ¶ 73 (18 May 2010) (Fortier (P), El-Kosheri, Reisman) (CL-0131-ENG) (hereinafter, "*ATA Construction v. Jordan* (Award)") (interpreting Article II(2) of the Turkey-Jordan BIT, which contains the same provision as the Turkey-Pakistan BIT).

[474] *Bayindir v. Pakistan* (Award), ¶¶ 156-158 (CL-0126-ENG); *ATA Construction v. Jordan* (Award), ¶ 73 (CL-0131-ENG).

[475] Schill, *MFN Clauses*, p. 933 (CL-0130-ENG).

[476] Agreement between the Swiss Confederation and the United Mexican States on the Promotion and Reciprocal Protection of Investments, signed 10 July 1995, entered into force 14 March 1996 (C-0138-ENG).

199. The SCT, the State of Quintana Roo, API Quintana Roo, and the Municipality of Solidaridad entered into the 2014 Agreements in the exercise of their sovereign powers. Under the 2014 Agreements, Mexico and its instrumentalities agreed to amend the POEL. And, as explained above, the 2014 Agreements are binding under Mexican law.[477]

200. Mexico's repudiation of the 2014 Agreements constitutes a breach of the umbrella clause in Article 10(2) of the Mexico-Switzerland BIT, which is applicable here by giving effect to NAFTA Article 1103. This breach forms a separate and independent basis for Mexico's liability in this proceeding, entitling Legacy Vulcan to compensation for losses incurred from its inability to quarry La Adelita.

IV. COMPENSATION

A. LEGACY VULCAN IS ENTITLED TO FULL REPARATION FOR THE LOSSES IT SUFFERED DUE TO MEXICO'S BREACHES OF THE TREATY

201. Legacy Vulcan and Mexico agree that the applicable standard of compensation is "full reparation" of the losses suffered by Legacy Vulcan as a result of Mexico's violations of Article 1105.[478] "Full reparation," as described in the judgment of the Permanent Court of International Justice in the *Chorzów Factory* case, means that "reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed."[479] This standard was codified in the International Law Commission's Articles on State Responsibility, which provide that "[t]he responsible State is under an obligation to make full reparation for the injury caused by the internationally wrongful act" and that such "compensation shall cover any financially assessable damage including loss of profits insofar as it is established."[480]

202. While Mexico agrees that international law requires full reparation for violations of NAFTA Article 1105,[481] it claims that Legacy Vulcan would be entitled only to [redacted] for damage suffered by CALICA in Mexico.[482] Mexico arrives at this negligible value by calculating

[477] *See supra*, Part II.B.2.

[478] Memorial, ¶¶ 251-252; Counter-Memorial, ¶ 446.

[479] *Case Concerning the Factory at Chorzów*, PCIJ Judgment No. 13, Decision on the Merits, p. 46 (13 September 1928) (CL-0080-ENG) (hereinafter, "*Chorzów Factory* (Judgment)").

[480] *See* ILC Draft Articles, Articles 31, 36 (C-0139-ENG).

[481] Counter-Memorial, ¶ 446 ("*La Demandada está de acuerdo que el estándar de compensación aplicable bajo el TLCAN por violaciones distintas a la expropiación es el de reparación plena*").

[482] Counter-Memorial, ¶ 524.

Legacy Vulcan's damages based on CALICA's lost profits within Mexico — rather than across the entire CALICA Network. Specifically, Mexico argues that, even if the Tribunal were to find that Mexico violated the Treaty, (1) the Tribunal lacks jurisdiction over claims for losses incurred by Vulica and the U.S. Yards outside Mexican territory; (2) Legacy Vulcan cannot submit a claim on behalf of the CALICA Network under Article 1117 because the CALICA Network is not an "enterprise of a Party;" and (3) the Tribunal lacks jurisdiction over Legacy Vulcan's claims under NAFTA Article 1116 because Legacy Vulcan has failed to show that it has suffered damages as an "investor" and therefore, has not met one of the requirements for the submission of a claim under Article 1116.[483]

203. These arguments are meritless. As explained below, Mexico's damages case is founded upon the false legal premise that NAFTA limits Legacy Vulcan's damages to those suffered within Mexico. But NAFTA imposes no such territorial limitation, as shown in Part IV.A.1. Mexico also mischaracterizes Legacy Vulcan's damages case and, as explained in Part IV.A.2, attacks a strawman when it argues that Legacy Vulcan cannot bring a claim on behalf of the CALICA Network. Last, Mexico's causation arguments are based on a fundamental misunderstanding of the seamless integration of the CALICA Network's quarrying, shipping, and distribution segments. As discussed in Part IV.A.3, Legacy Vulcan has plainly met the burden and standard of proof under NAFTA, and established that Mexico caused the damages it suffered.

1. NAFTA Does Not Impose a Territorial Limitation on the Scope of Damages That Legacy Vulcan Can Recover

204. Mexico's entire damages case is based on the false legal premise that NAFTA imposes a territorial limitation on the scope of recoverable damages caused by its Treaty violations. Based on this false premise, Mexico argues that Legacy Vulcan's damages are limited to those suffered as a result of CALICA's lost profits within Mexico, and not across the entire Network. But NAFTA imposes no such limitation on the scope of recoverable damages.

205. In its Memorial, Legacy Vulcan "submitted investment claims to arbitration on its own behalf under NAFTA Article 1116(1) and on behalf of its enterprise, CALICA, under NAFTA Article 1117(1)."[484] NAFTA Article 1116 permits claims by an investor, such as Legacy Vulcan, where there has been a breach of NAFTA and "the investor has incurred loss or damage by reason

[483] *Id.*, ¶ 509.

[484] Memorial, ¶ 20.

of, or arising out of, that breach."[485] In turn, NAFTA Article 1117 permits claims by an investor on behalf of an enterprise that it controls directly or indirectly where there has been a breach of NAFTA and "the enterprise has incurred loss or damage by reason of, or arising out of, that breach."[486]

206. Mexico does not dispute that Legacy Vulcan constitutes an "investor of a Party" and that CALICA qualifies as an "investment" in the territory of Mexico as well as an "enterprise of a Party." Mexico also states that Legacy Vulcan's claim for loss or damage under Article 1116 is not limited to direct damages and may include a claim for indirect losses incurred by Legacy Vulcan as a shareholder of CALICA.[487] Yet Mexico seeks to graft onto the Treaty a territorial limitation on the scope of damages that is absent from the text of Article 1116, arguing that "[a]ny claim for damages must be limited to damages suffered by the only investment protected by NAFTA *in Mexico*. That investment is CALICA."[488]

207. While Mexico is correct that NAFTA Chapter 11 applies only to measures relating to investments that are in the territory of the State Party enacting the measures,[489] Mexico conflates NAFTA's jurisdictional territoriality requirement with Legacy Vulcan's entitlement to recover damages flowing from Mexico's breaches. To the extent that Mexico argues that NAFTA somehow limits the extent of damages that Legacy Vulcan can claim to those sustained within Mexico — thus excluding other losses suffered across Legacy Vulcan's integrated Network — Mexico is mistaken. Neither Article 1116 nor Article 1117 sets out limits, other than causation, as to the nature and scope of recoverable damages for NAFTA violations.

208. On the contrary, the argument that there is a territorial limitation to the scope of recoverable damages under NAFTA has been rejected, and rightly so, by other NAFTA tribunals. As the tribunal in *S.D. Myers* explained, "[t]he purpose of virtually any investment in a host state is to produce revenues for the investor in its own state. The investor may recover losses it sustains when, as a proximate cause of a Chapter 11 breach, there is interference with the investment and

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[485] NAFTA, Article 1116 (C-0009-ENG).

[486] NAFTA, Article 1117 (C-0009-ENG).

[487] Counter-Memorial, ¶ 466 ("*la Demandante solo puede presentar una reclamación al amparo del el (sic) artículo 1116(1) si logra demostrar que ella –i.e., no su inversión–* sufrió *pérdidas o daños indirectos como consecuencia de su participación en la inversión protegida que fue afectada por la supuesta violación al artículo 1105.*") (emphasis added).

[488] *Id.*, ¶ 458 (*"Toda reclamación por daños debe limitarse a los daños sufridos por la única inversión protegida por el TLCAN en México. Esa inversión es CALICA.*") (emphasis added).

[489] *See, e.g.*, *Cargill, Incorporated v. United Mexican States*, ICSID Case No. ARB(AF)/05/2, Award, ¶ 522 (18 September 2009) (Pryles (P), Caron, McRae) (CL-0017-ENG).

the financial benefit to the investor is diminished."[490] As in *S.D. Myers*, the purpose of Legacy Vulcan's investment in CALICA was to export aggregates for sale in the U.S. Gulf Coast markets, and the CALICA Network was built to serve that sole purpose.[491]

209. The *S.D. Myers* tribunal made clear that "[t]here is no provision that requires that all of the investor's losses must be sustained within the host state in order to be recoverable. The test is that the loss to the (foreign) investor must be suffered as a result of the interference with its investment in the host state."[492] Legacy Vulcan is thus entitled to recover losses it sustains throughout the Network as long as the proximate cause of those losses is the Respondent's interference with its investment in Mexico.

210. Mexico's attempt to impose a territorial limitation on recoverable damages for NAFTA violations has failed before. In *Cargill v. Mexico*, Mexico argued before the Ontario Superior Court in a set aside proceeding that NAFTA Articles 1116, 1101, and 1139 "jurisdictionally limit the scope of an arbitration award of damages to damages suffered by an investor by reason of Mexico's trade barriers as they affected Cargill's investment in Mexico, *but not as they affected its investments in the United States*."[493] The Court rejected Mexico's argument, noting that:

> "[h]ad there been language in the [Chapter 11] provisions that prohibited awarding any damages that were suffered by the investor in its home business operation, even if those damages related to and were integrated with the Mexican investment, that would have been a jurisdictional limitation that would have precluded the arbitration panel from awarding such damages, even if in its view, they otherwise flowed from the breaches. *But there is not such limiting language*."[494]

211. Legacy Vulcan's damages at the Vulica and U.S. Yards levels are directly related to the Mexican investment and there is no legal (or economic) basis to exclude them when they flow directly from Mexico's NAFTA breaches.

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[490] *S.D. Myers, Inc. v. Government of Canada*, UNCITRAL, Second Partial Award (Damages), ¶ 121 (21 October 2002) (Hunter (P), Chiasson, Schwartz) (CL-0132-ENG) (hereinafter, "*S.D. Myers v. Canada* (Damages)"); *id.*, ¶ 122 ("The Tribunal concludes that compensation should be awarded for the overall economic losses sustained by SDMI that are a proximate cause of CANADA's measure, not only those that appear on the balance sheet of its investment.").

[491] *See* Witness Statement-[redacted]-Claimant's Reply—ENG, ¶¶ 8-9.

[492] *S.D. Myers v. Canada* (Damages), ¶ 118 (CL-0132-ENG).

[493] *See United Mexican States v. Cargill Incorporated*, 2011 ONCA 622 (Ont CA), ¶ 65 (4 October 2011) (CL-0133-ENG) (emphasis added).

[494] *Id.*, ¶ 72 (emphasis added).

212. In sum, the measure of injury suffered by the investor, *i.e.*, Legacy Vulcan, is not co-extensive with, or limited to, damages suffered by CALICA within the host State. Legacy Vulcan is entitled to compensation for the overall economic losses it sustained throughout the CALICA Network by reason of or arising out of Mexico's NAFTA breaches, regardless of where those damages were incurred. And they include losses suffered by Legacy Vulcan through its ownership of Vulica and the U.S. Yards, which are fully integrated with and dependent on Legacy Vulcan's investment in Mexico.

2. Mexico's Argument That Legacy Vulcan Cannot Bring a Claim Under Article 1117 on Behalf of the CALICA Network Is Misplaced and in Any Event, Irrelevant

213. Mexico attacks a strawman when it argues that Legacy Vulcan "cannot submit a claim under article 1117, on behalf of the CALICA Network. It can only do so on behalf of CALICA, the Mexican investment."[495] Legacy Vulcan never claimed that the CALICA Network is an "enterprise of a Party," as defined by NAFTA, and has not brought claims under Article 1117 on behalf of the CALICA Network. Rather, Legacy Vulcan has brought (i) derivative claims under Article 1117(1) on behalf of CALICA, which Mexico does not dispute qualifies as an "enterprise" of Legacy Vulcan in the territory of Mexico; and (ii) direct claims under Article 1116 for losses it has suffered as an investor as a consequence of Mexico's violations.

214. In any event, in the context of this dispute, the distinction between claiming under Article 1116 or Article 1117 is, in the words of the *UPS v. Canada* tribunal, "an almost entirely formal one, without any significant implication for the substance of the claims or the rights of the parties."[496] As in *UPS*, Legacy Vulcan is the sole (indirect) owner of CALICA. As such, it is entitled to file a claim for its *own* losses, including losses incurred by CALICA, and there is no question regarding how much of CALICA's losses flow through to Legacy Vulcan. "Whether the damage is directly to [Legacy Vulcan] or directly to [CALICA] and only indirectly to [Legacy Vulcan] is irrelevant to [the Tribunal's] jurisdiction over these claims."[497]

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[495] Counter-Memorial, ¶ 473 ("*[N]o puede presentar una reclamación en virtud del artículo 1117, a nombre de la Red Calica. Sólo puede hacerlo a nombre de CALICA, la inversión Mexicana*").

[496] *United Parcel Service of America Inc. v. Government of Canada*, UNCITRAL, Award on the Merits, ¶ 35 (24 May 2007) (Keith (P), Cass, Fortier) (CL-0134-ENG).

[497] *Id.*

215. Simply put, Mexico's argument that Legacy Vulcan "erroneously combines [the] claims"[498] is mistaken and, in any event, inconsequential.

3. Legacy Vulcan Has Met the Burden and Standard of Proof Under NAFTA, and Established That Mexico Caused the Damages It Suffered

216. In a further attempt to limit Legacy Vulcan's recovery, Mexico claims that Legacy Vulcan has failed to establish which of the damages or losses suffered by CALICA "flowed through the three intermediary companies to the Claimant"[499] and therefore, "has not shown, *prima facie*, its claim for damages under Article 1116(1)."[500] Mexico further asserts that Legacy Vulcan "bears the burden of proof regarding the facts and the amount of damages, as well as the causal link between the illegal acts determined by the Tribunal and the damages."[501] While this is uncontroversial, Mexico misstates the nature of the burden, which Legacy Vulcan has plainly met.

a) The Applicable Standard of Proof Is the Balance of Probabilities.

217. Legacy Vulcan and Mexico agree that "[i]t is a well-established principle that damages need not be determined with absolute certainty."[502] And as investment tribunals have repeatedly emphasized, "the fact that damages cannot be fixed with certainty is no reason not to award damages when a loss has been incurred. In such cases, approximations are inevitable; the settling of damages is not an exact science."[503]

218. While Mexico claims that Legacy Vulcan has failed to advance a position on the applicable standard of proof, the well-established applicable standard of proof here is a "balance

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[498] Counter-Memorial, ¶ 465 ("*erróneamente combina estas dos reclamaciones*").

[499] *Id.*, ¶ 467 ("*fluyeron a través de las tres empresas intermediarias a la Demandante*").

[500] *Id.*, ¶ 468 ("*no ha demostrado, prima facie, su reclamación de daños bajo el artículo 1116(1).*").

[501] *Id.*, ¶ 442 ("*tiene la carga de la prueba con respecto a los hechos y la cuantía de los daños, así como a la relación causal entre los actos ilícitos que determine el Tribunal y los daños.*").

[502] *Id.*, ¶ 455 ("*Es un principio bien establecido que no es necesario determinar los daños con absoluta certeza.*").

[503] *Compañía de Aguas del Aconquija S.A. and Vivendi Universal SA v. Argentine Republic,* ICSID Case No. ARB/97/3, Award, ¶ 8.3.16 (20 August 2007) (Rowley (P), Bernal Verea, Kaufmann-Kohler) (CL-0087-ENG) (hereinafter, "*Vivendi v. Argentina* (Award)") (citations omitted); *see also Gold Reserve Inc. v. Bolivarian Republic of Venezuela*, ICSID Case No ARB(AF)/09/1, Award, ¶¶ 685-686 (22 September 2014) (Bernardini (P), Dupuy, Williams) (CL-0086-ENG) (hereinafter, "*Gold Reserve v. Venezuela* (Award)"); *Crystallex v. Bolivia* (Award), ¶¶ 865-876 (CL-0089-ENG); *South American Silver Limited (Bermuda) v. The Plurinational State of Bolivia*, PCA Case No. 2013-15, Award, ¶¶ 824-825 (22 November 2018) (Jaramillo (P), Vicuña, Guglielmino) (CL-0135-ENG).

of probabilities."[504] In the damages context, this standard has been defined to mean that the evidence of damages "is enough for the judge to be able to admit with sufficient probability the existence and extent of the damage."[505] Proving the amount of damages "is not therefore an exercise in certainty, as such, but [. . .] an exercise in 'sufficient certainty.'" [506] Here, Mexico's argument is academic since the Brattle Report proffered by Legacy Vulcan documents in great detail the damages that Legacy Vulcan sustained as a consequence of Mexico's breaches of NAFTA.

b) Legacy Vulcan Has Proven That It Has Suffered Losses and That Mexico's Treaty Breaches Were the Proximate Cause of Such Losses.

219. There is no dispute between the Parties that "[a] State responsible for an internationally wrongful act is under an obligation to make reparation only for the injury caused by that act."[507] Mexico argues, however, that Legacy Vulcan "has not met the burden to prove causation"[508] and identifies four purported "evidentiary deficiencies."[509] These arguments are without merit and, as explained below, are based in part on a misreading of the evidence submitted by Legacy Vulcan and, more broadly, on a fundamental misunderstanding of the seamless integration of the CALICA Network's quarrying, shipping, and distribution segments.

220. *First*, Mexico claims that the Brattle Report is not based on contemporaneous corporate documents but rather on "spreadsheets created by unknown authors."[510] This is demonstrably incorrect. The materials that the Brattle Report relies upon are precisely the same materials that VMC consulted to evaluate the CALICA Network's performance before (and after)

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[504] *Ioannis Kardassopoulos and Ron Fuchs v. Republic of Georgia*, ICSID Case Nos ARB/05/18 and ARB/07/15, Award, ¶ 229 (3 March 2010) (Fortier (P), Vicuña, Lowe) (CL-0136-ENG); *Impregilo SpA v. Argentine Republic*, ICSID Case No. ARB/07/17, Award, ¶ 371 (21 June 2011) (Danelius (P), Brower, Stern) (CL-0137-ENG).

[505] *Sapphire International Petroleum Ltd v. National Iranian Oil Company*, Arbitral Award, p. 27 (15 March 1963) (Cavin) (CL-0067-ENG) (hereinafter, "*Sapphire v. NIOC* (Award)") (emphasis added); *see also Southern Pacific Properties (Middle East) Limited v Arab Republic of Egypt*, ICSID Case No. ARB/84/3, Award on the Merits, ¶ 215 (20 May 1992) (Jiménez De Aréchaga (P), El Mahdi, Pietrowski) (CL-0139-ENG) ("It is well settled that the fact that damages cannot be settled with certainty is no reason not to award damages when a loss has been incurred.").

[506] *Gemplus SA and others v. United Mexican States*, and *Talsud SA v. United Mexican States,* ICSID Case Nos. ARB(AF)/04/3 and ARB(AF)/04/4, Award, ¶¶ 13-91 (16 June 2010) (Veeder (P), Gómez, Fortier) (CL-0140-ENG); *see also Vivendi v. Argentina* (Award), ¶ 8.3.4 (CL-0087-ENG).

[507] Counter-Memorial, ¶ 449 n. 582 (citing Ripinsky & Williams, p. 135 (RL-065)).

[508] *Id.*, ¶ 454 ("*no ha cumplido con la carga de probar la causalidad*").

[509] *Id.*, ¶¶ 476-490.

[510] *Id.*, ¶ 476 ("*hojas de cálculo creadas por autores desconocidos*").

the events in question, and are the same materials that VMC used to make important financial and investment decisions that went to the heart of VMC's business strategy relating to the CALICA Network and its other businesses.[511] As [redacted] describes, the financial and operational data relied upon by Brattle has been extracted from [redacted] which VMC uses to prepare its financial statements and [redacted] relies on to audit them.[512] [redacted]

221. Insofar as Credibility's argument is predicated on there being no specific legal entity known as the CALICA Network — and thus no contemporaneous "CALICA Network" corporate documents to rely upon — this argument is wholly irrelevant. Mexico even argues that the CALICA Network is "a fictional concept used by the Claimant to unreasonably inflate the claim for damages."[514] This is patently false. As [redacted] explains, the CALICA Network is a "single business unit" within Legacy Vulcan's business and there are numerous planning documents and presentations prepared prior to December 2015 that make explicit reference to this Network.[515] For example, the Authorization for Expenditure (AFE) for the Supplemental Plant constructed by Legacy Vulcan in La Rosita explicitly references the "network" and includes a table of CALICA Network tons and margin reports which are extracted from the Netback Reports,[516] as shown below:

[511] *See* Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶¶ 6-9.

[512] *Id.*, ¶ 6.

[513] *Id.*

[514] Counter-Memorial, ¶ 473 ("*un concepto ficticio utilizado por la Demandante para inflar injustificadamente la reclamación de daños*").

[515] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶¶ 6, 8 (noting that the terms "CALICA netback margin" and "CALICA Network" are used in these presentations with great frequency).

[516] *Id.*, ¶ 7 (citing Authorization for Expenditure (AFE) Project Description, Plant 4511 Sac Tun, MX, Supplemental Plant, dated 24 April 2015 (C-0089-ENG), at 6).

222. As explained in detail in Legacy Vulcan's Memorial, the components of the CALICA Network were developed as an integrated business unit for the precise purpose of quarrying, shipping, and distributing aggregate materials from CALICA.[517] The CALICA Network dates back to 1986, when Legacy Vulcan partnered with Grupo ICA, a major Mexican conglomerate, to export aggregates from CALICA into the U.S. Gulf Coast.[518] As [redacted] explains, "the CALICA Network has always been viewed by VMC as a single, integrated business."[519] From the outset, the Network was built and managed by Legacy Vulcan and its former joint venture partner, Grupo ICA, as "an integrated business unit [that] had a separate management structure from the rest of VMC."[520] As [redacted] further explains, "[w]hen Legacy Vulcan acquired Grupo ICA's interests in the joint venture in 2001, [it] negotiated the purchase price as a whole based on the integrated value of the CALICA Network."[521] Legacy Vulcan, therefore, acquired an integrated extraction, transportation, and distribution network, "rather than simply a quarrying operation in Mexico," as [redacted] explains in [redacted] witness statement.[522]

[517] Memorial, Part II.C.2-4.

[518] *See* Witness Statement-[redacted]-Claimant's Reply—ENG, ¶ 9.

[519] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 5.

[520] *Id.*, ¶ 4.

[521] *Id.*, ¶ 5.

[522] Witness Statement-[redacted]-Claimant's Reply—ENG, ¶ 10.

223. That the CALICA Network is a seamless and integrated business unit is reflected in the Network's business records. [redacted] Credibility's argument about "contemporaneous business records" is simply another effort to sever CALICA's Mexico operations from the fully integrated shipping and distribution segments of the CALICA Network. [redacted]

224. *Second*, Mexico argues that Brattle relied on *ex post* information that would not have been available to a hypothetical seller and buyer on the valuation date and, therefore, Brattle failed to measure the change in the Fair Market Value ("FMV") of the CALICA Network on the valuation date.[524] This argument is based on a misunderstanding both of Mr. Chodorow's damages analysis and the documents themselves. For example, Mexico suggests that because the "Netback Data Summary," showing CALICA Network netback data, is dated 2019, Mr. Chodorow relied on *ex post* information to support its damages analysis.[525] But this spreadsheet contains *historical* data through the first quarter of 2019 when it was prepared[526] and is based on data "maintained in the ordinary course of business" and "updated regularly" by the VMC team with information from [redacted] financial reporting and enterprise performance management system — the same source underlying VMC's audited financial statements.[527] A potential buyer would have access to this historical netback margin data as of the valuation dates; it is not *ex post*.

225. Mexico's criticism that Mr. Chodorow relied on quarrying plans based on *ex post* information is also wrong.[528] As [redacted] explains, "VMC's team of engineers and geologists prepared quarrying plans using information that was available as of December 2015 (for our inability to quarry La Adelita) and January 2018 (for our inability to quarry El Corchalito) and in a manner that is consistent with the practices that VMC and other industry participants would have [. . .] used when buying or selling a quarry."[529] This information, therefore, would have been

[523] *Id.*, ¶ 12 [redacted]

[524] Counter-Memorial, ¶ 479.

[525] *Id.*, ¶ 58.

[526] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 90.

[527] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶¶ 6, 9.

[528] Credibility Report, ¶ 60.

[529] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 27. As [redacted]

available as of the relevant valuation dates, and could have been evaluated or created by any potential buyer in the course of due diligence.

226. *Third*, Mexico advances a series of causation arguments, suggesting that the available evidence contradicts Legacy Vulcan's claim that it has suffered damages beyond those suffered by CALICA in Mexico.[530] In particular, Credibility's report asserts that (1) Legacy Vulcan's damages are not "real" [redacted] and (3) Vulcan's inventory levels have increased [redacted] from 2012 to 2019, which allegedly "indicates that the trend in Vulcan sales has fallen short of production significantly on a cumulative basis during this eight-year period."[533] Credibility is mistaken on each of these points, as explained below.

(1) [redacted]

227. [redacted]

further notes, [redacted] *Id.*, ¶ 28.

[530] Counter-Memorial, ¶ 482.

[531] Credibility Report, ¶¶ 23-24 [redacted]

[532] *Id.*, ¶¶ 75-76.

[533] *Id.*, ¶ 78.

[534] *Id.*, ¶¶ 23-24

[535] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 76.

228.

229.

[536] *Id.* As explains, Witness Statement- -Claimant's Reply-Second Statement-ENG, ¶ 31.

[537] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 76.

[538] *Id.*

[539] *Id.*; Witness Statement- -Claimant's Reply-Second Statement-ENG, ¶¶ 30-32.

[540] Credibility Report, ¶ 24.

[541] Witness Statement- -Claimant's Reply—ENG, ¶ 24.

[542] *Id.*

[543] *Id.*

[544] *Id.*,¶ 25.

[545]

230. [redacted]

231. [redacted]

232. [redacted]

[redacted]

546 Credibility Report, ¶ 28 and Figure 1.2.

547 Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 79; Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 96 and Figure 11 (Breach #1) and ¶ 187 and Figure 17 (Breach #2).

548 Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 81.

549 *Chorzów Factory* (Judgment), p. 47 (CL-0080-ENG).

550 Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 54.

[redacted]

(2) [redacted]

233. [redacted]

234. [redacted]

235. [redacted]

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551 Witness Statement-[redacted]-Claimant's Reply—ENG, ¶ 24.

552 *Id.*; Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 96 and Figure 11 (Breach #1) and ¶ 187 and Figure 17 (Breach #2); Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 79.

553 Credibility Report, ¶ 76.

554 Witness Statement-[redacted]Claimant's Reply—ENG, ¶ 30.

555 Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 17.

556 Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶¶ 160-163; Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 37.

557 Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 18.

[redacted]

(3) Mexico's "Oversupply" Argument Misreads VMC's Documents and Makes No Economic Sense

236. Mexico then argues that, because "Vulcan's finished goods inventory levels steadily increased from 2012 to 2019," VMC was in an oversupply position, and therefore the loss of CALICA reserves will not result in lost future sales.[562] But Credibility simply mischaracterizes the growth of inventories as indicative of shrinking or stagnant demand to reach a misleading conclusion. [redacted] VMC's inventory levels rose simply because its sales volumes increased during this period.[564] Credibility misses this point entirely. Even though VMC's inventory levels have grown in absolute terms, they have actually been shrinking in relation to sales.[565] Between 2012 and 2019, while VMC's finished goods inventory rose by [redacted] VMC's net sales during this particular period increased by [redacted] from [redacted] to [redacted] Therefore, while VMC's finished goods inventory levels have increased in absolute terms during the period identified by Credibility, they

[558] Witness Statement-[redacted]-Claimant's Reply—ENG, ¶ 33.

[559] *Id.*

[560] *Id.* [redacted]

[561] *Id.*

[562] Credibility Report, ¶ 73.

[563] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 25.

[564] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 84.

[565] *Id.*

[566] *Id.*

[redacted] as shown in Figure 1 below:

Figure 1: VMC's Finished Goods Inventory as a Percentage of Net Revenue

[redacted]

(4) CALICA Is the Lawful Owner of the Illegally Collected Port Fees

237. Mexico also argues that "there is no evidence that the port fees have been paid by CALICA."[568] As Legacy Vulcan showed in its Memorial and in Part II.D above, it is clear from the port fees litigation record before Respondent's own courts that, for over a decade, API Quintana Roo illegally collected port fees for the use of the private port terminal for the loading of aggregates into Vulica and CSL vessels.[569] As [redacted] explains in [redacted] witness statement, [redacted] prepared a spreadsheet summarizing these payments (DC-0083) based on a review of bank statements, invoices, and payment records that Legacy Vulcan maintains in the ordinary course of business.[570] This spreadsheet shows that, between 2007 and 2017, API Quintana Roo collected [redacted] in port fees.[571] The fact that Vulica made advanced payments to CALICA to pay for the

[567] *Id.*

[568] Counter-Memorial, ¶ 484 ("*no hay evidencia de que las tarifas portuarias hayan sido pagadas por CALICA.*").

[569] *See* Memorial, ¶¶ 65-67.

[570] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 35. *See also* Sample Port Fees Payment ([redacted]-0015-SPA).

[571] *See* API Resumen 2007 - 2017 Spreadsheet, 2020, Tab, "Resumen" (DC-0083). As [redacted] further explains, in December 2017 a third party audit concluded that, between August 2007 and November 2017,

port fees is inconsequential, as it was ultimately CALICA who was entitled to charge those port fees under the concession and is thus the lawful owner of the illegally collected port fees.

(5) Mexico's Argument That the Measures Are Not Permanent Is Disingenuous

238. Lastly, Mexico points to Legacy Vulcan's request for relief in the Memorial to show that Legacy Vulcan's damages case is purportedly based on the unproven assumption that Mexico's measures giving rise to Breaches 1 and 2 are not permanent.[572] Mexico's argument is disingenuous. Legacy Vulcan's request for relief simply outlines an "option [for Mexico] to pay less than the full amount ordered" if Mexico were to take certain measures (collectively, the "Settlement Measures") to put Legacy Vulcan in the same position it would have been had Mexico not breached the Treaty.[573] The Settlement Measures would advance Legacy Vulcan's ultimate goal of resolving this dispute amicably. As [redacted] explains in [redacted] witness statement, Legacy Vulcan "expects that this arbitration will lead Mexico to let us exercise our grandfathered rights to quarry La Adelita and lift the shutdown of operations in El Chorchalito."[574] Only Mexico, as a sovereign, has the power to revert the wrongful measures. But that does not mean that the measures are not permanent. Mexico cannot have it both ways. It cannot in good faith claim that the measures giving rise to Breach 1 and Breach 2 are not permanent when, at the same time, (i) it claims that it has no obligation to comply with the 2014 Agreements;[575] and (ii) it shut down operations in El Corchalito indefinitely.[576]

B. UNDER THE FULL REPARATION STANDARD, LEGACY VULCAN IS ENTITLED TO COMPENSATION FOR THE DIMINUTION IN THE FAIR MARKET VALUE OF THE CALICA NETWORK

239. Legacy Vulcan and Mexico agree on three important points. *First*, the parties agree that damages should be measured as the impact of the alleged breaches on the FMV of a relevant

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CALICA paid to API Quintana Roo [redacted] *See* Accounting Report on the Determination of the Consideration Paid for the Use of the Maritime Terminal "Punta Venado" by the Company *Calizas Industriales del Carmen, S.A. de C.V.* to the *Administración Portuaria Integral de Quintana Roo, S.A. de C.V.*, December 29, 2017 ([redacted]-0016-SPA)). The discrepancy between the audited amount and the amount calculated by [redacted] relates mainly to payments that CSL made directly to API Quintana Roo for approximately [redacted] CALICA ultimately reimbursed CSL for these port fees. *See* Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 35.

[572] Counter-Memorial, ¶ 486.

[573] Memorial, ¶ 347(e).

[574] Witness Statement-[redacted]-Claimant's Reply—ENG, ¶ 24.

[575] *See supra*, ¶ 37; Counter-Memorial, ¶ 205.

[576] *See supra*, Part II.C.2.

business,[577] and that FMV reflects the price that a willing buyer would pay to a willing seller for the valued business or asset on a particular date, in circumstances in which each has good information, each desires to maximize his financial gain, and neither is under duress or threat.[578] *Second*, the Parties agree that the most appropriate methodology to measure damages is a discounted cash flow ("DCF") analysis, with damages being equal to the difference between the actual scenario (that is, reflecting the impact of the measures) and the but-for scenario (that is, without the measures). *Third*, the Parties agree that the reasonableness of a DCF valuation can be tested by using market values of similar companies or "comparables."[579]

240. While the Parties agree on these key points, they disagree on whether damages should be calculated based on CALICA's lost profits within Mexico ("CALICA Mexico"), as Mexico argues, or across the CALICA Network, as Legacy Vulcan has established. The Parties and their experts also disagree on the proper inputs and implementation of a DCF analysis and on the businesses that are appropriate comparables. As explained below and in Mr. Chodorow's expert reports, (1) Legacy Vulcan is entitled to compensation for losses suffered across the CALICA Network as a result of Mexico's breaches; (2) in any event, the FMV of CALICA Mexico includes lost profits earned by the CALICA Network; (3) Mr. Chodorow's comparables analysis confirms his DCF valuation; (4) Credibility's "adjustments" to Mr. Chodorow's DCF analysis generate unreliable results; (5) Credibility's CALICA-Network analysis is similarly flawed; and (6) Credibility's CALICA Mexico analysis severely understates damages.

1. Legacy Vulcan Is Entitled to Compensation for Losses Suffered Across the CALICA Network as a Result of Mexico's Breaches

241. As Legacy Vulcan explained in its Memorial and in Part IV.A.3(b) above, the CALICA Network is an integrated business comprised of dedicated assets to extract, transport and distribute CALICA's aggregates from the State of Quintana Roo to the Gulf Coast of the United States.[580] The inability to extract aggregates due to Mexico's breaches causes losses across the entire CALICA Network. Legacy Vulcan is entitled to full reparation for those losses.

[577] Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 21; Credibility Report, ¶ 21.

[578] *See* Credibility Report, Definition of "FMV" ("The price that a property would sell for on the open market. It represents the price of an asset under the following set of conditions: prospective buyers and sellers are reasonably knowledgeable about the asset, behaving in their own best interests, free of undue pressure to trade, and given a reasonable time period for completing the transaction.").

[579] Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 75; Credibility Report, ¶ 152.

[580] *See* Memorial, Part II.2-4.

242. Legacy Vulcan's damages expert, Mr. Darrell Chodorow, determined the reduction in FMV of the CALICA Network caused by Mexico's wrongful measures at [redacted] including interest, as of 30 April 2020, and adjustments to avoid double taxation, as set out in the First Brattle Report and summarized in the table below:

[redacted]

243. In an attempt to limit its liability, Mexico argues that damages should only be calculated based on CALICA's lost profits within Mexico, and that all losses suffered by CALICA's dedicated shipping and U.S. Yards assets as a result of Mexico's breaches must be excluded.[581] As already explained in Part IV.A.1 above, Mexico is wrong on the law, as there are no territorial limits under NAFTA on the damages that Mexico must compensate for its wrongful conduct. Limits on damages under NAFTA are based only on proximate causation (*i.e.*, a sufficient causal link between the breach and the loss which is not too remote), not artificial territorial limits.[582]

244. As Mr. Chodorow explains in his second report, full reparation requires CALICA Network damages: "[i]f the appropriate legal standard is to restore Legacy Vulcan to its pre-breach economic position, as a matter of economics, it is necessary then to include all losses

[581] Counter-Memorial, ¶ 458.

[582] NAFTA tribunals have consistently imposed a requirement of proximate causation under Articles 1116 and 1117. For example, in *S.D. Myers v. Canada* the tribunal held that damages may only be awarded to the extent there is a "sufficient causal link" between the breach of a specific NAFTA provision and the loss sustained by the investor. *S.D. Myers, Inc. v. Government of Canada,* UNCITRAL, Partial Award, ¶ 316 (13 November 2000) (Hunter (P), Chiasson, Schwartz) (CL-0059-ENG). The tribunal subsequently noted that "[o]ther ways of expressing the same concept might be that the harm must not be too remote, or that the breach of the specific NAFTA provision must be the proximate cause of the harm." *S.D. Myers v. Canada* (Damages), ¶ 140 (CL-0132-ENG).

arising as a consequence of the alleged breaches."[583] [redacted] As Mr. Chodorow further explains "a foreseeable consequence of a shortfall in Calica Mexico's aggregates production due to the alleged breaches is the loss of profits along the full Calica Network. [redacted] Therefore, given the integrated nature of the CALICA Network, [redacted] "a legal requirement to restore Legacy Vulcan to its pre-breach economic position would necessarily include damages across the CALICA Network."[586]

2. In Any Event, the Fair Market Value of CALICA Includes the Profits Earned on the CALICA Network

245. The CALICA-only damages analysis advocated by Mexico will not compensate Legacy Vulcan under NAFTA and the full reparation standard that the Parties agree applies here. But even if Legacy Vulcan's damages where somehow limited to CALICA-Mexico damages, Credibility's damages analysis fails to meet the FMV standard that Credibility purports to apply. Indeed, Credibility asserts that it has been instructed by counsel that the "FMV analysis should be based on the impact on the valuation of a hypothetical sale of the investment in Mexico, the CALICA business unit."[587] As Mr. Chodorow explains, "[i]f Credibility is correct that damages 'should be based on the impact on the valuation a hypothetical sale of the [. . .] CALICA business unit,'[588] a damages analysis that ignores any profits earned outside of Mexico fails to achieve this standard."[589]

246. The Parties agree that FMV reflects the price that a willing buyer would pay to a willing seller for the valued asset on a particular date, in circumstances in which each has good information, each desires to maximize his financial gain, and neither is under duress or threat.[590]

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[583] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 55.

[584] *Id.*, ¶ 56.

[585] *Id.*

[586] *See Id.*

[587] Credibility Report, ¶ 21.

[588] *Id.*

[589] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 64.

[590] *See* Credibility Report, Definition of "FMV" ("The price that a property would sell for on the open market.

As Mr. Chodorow explains, "[t]he FMV of Calica Mexico is based not only on the present value of future cash flows that would be generated by Calica Mexico, but also any incremental cash flows that access to Calica Mexico would allow its owner to generate."[591] "If Legacy Vulcan were to sell Calica Mexico, it would lose the right to cash flows generated by Calica Mexico as well as the cash flows generated solely as a function of its access to the uniquely positioned Calica Mexico resource. This includes the profits of Vulica and the US yards."[592]

247. Similarly, as Mr. Chodorow explains, "a willing buyer [of CALICA Mexico] would consider the ability to generate profits from a similar network, not just the profits generated by the asset in Mexico"[593] and "would be willing to pay a price for Calica Mexico that includes not only the cash flows that it expected from the facility in Mexico, but also on the downstream shipping and distribution cash flows arising from their ability to deploy their logistics and distribution expertise to leverage the unique value of Calica Mexico."[594]

248. Thus, a FMV-based damages analysis that incorporates profits for Vulica and the U.S. Yards, as Mr. Chodorow did in his analysis, is consistent with how Legacy Vulcan as the hypothetical seller and a hypothetical buyer would value CALICA-Mexico.

3. Mr. Chodorow's Comparables Analysis Confirms His DCF Analysis

249. As explained in Claimant's Memorial, Mr. Chodorow identified market valuations of companies (both publicly traded and corporate transactions) in the business of producing, distributing, and selling aggregates as comparables to test the reasonableness of his DCF analysis.[595] Credibility argues, however, that Mr. Chodorow's comparables analysis is "extremely flawed."[596] *First*, Credibility claims that five of the six publicly traded companies that Mr. Chodorow allegedly used as comparables have too little focus on aggregates. But Credibility misreads Brattle's report. In fact, Mr. Chodorow considered and disregarded these five

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It represents the price of an asset under the following set of conditions: prospective buyers and sellers are reasonably knowledgeable about the asset, behaving in their own best interests, free of undue pressure to trade, and given a reasonable time period for completing the transaction.").

[591] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 61.

[592] *Id.*

[593] *Id.*, ¶ 62.

[594] *Id.*

[595] Memorial, ¶ 299.

[596] Credibility Report, ¶ 156.

companies for the same reason.[597] *Second*, Credibility argues that VMC is not a reasonable comparable because it is not a "mining" company like CALICA.[598] But, as Mr. Chodorow explains, VMC is a reasonable comparable — whether analyzing CALICA Mexico or the CALICA Network — as the vast majority of profits for both CALICA and the CALICA Network are generated from the production and sale of aggregates destined for U.S. markets.[599] The same is true for VMC, which generated 88% of its 2015 gross profits from the sale of aggregates almost exclusively in the U.S. market.[600] Credibility's recommendation of valuing CALICA using coal companies makes no economic sense, as coal companies have poor long term prospects, as reflected in Figure 2 below, and are affected by significantly different economic considerations than CALICA, including the U.S.'s and other countries' efforts to curb carbon emissions,[601] as well as competition from alternative power generation technologies.[602] As [redacted] explains, in [redacted] more than 35 years in the industry, [redacted] has never seen a counterparty, investment bank, or industry analyst compare a coal business with an aggregates business for valuation purposes.[603]

Figure 2: US Coal and Aggregates Demand Relative to 2009

[redacted]

[597] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 94.

[598] Credibility Report, ¶ 156.i.

[599] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 95.

[600] *Id.* (citing Vulcan Materials Company, Form 10-K for the Fiscal Year Ended 31 December 2015, pp. 30-31 (accessed 25 April 2019) (DC-0073)).

[601] *Id.*, ¶ 164.

[602] *Id.*, ¶ 42.

[603] Witness Statement-[redacted]-Claimant's Reply—ENG, ¶ 34.

4. Credibility's "Adjustments" to Mr. Chodorow's CALICA Network DCF Analysis Generate Unreliable Results

250. The Parties agree that the DCF methodology is the appropriate method to calculate damages, but Credibility purports to show the impact of correcting alleged errors in Mr. Chodorow's DCF analysis. Credibility's "adjustments" relate to (i) gross profit margins; (ii) projected sales volumes; (iii) revenues, costs, and capex for Vulica and the U.S. Yards; (iv) the discount rate; (v) tax rate; and (vi) working capital. As Legacy Vulcan shows below and Mr. Chodorow explains in detail in his report, "these adjustments are unreasonable and generate nonsensical results."[604]

251. *First*, Credibility argues that the gross profits in Mr. Chodorow's DCF are inflated because of purported "missing costs" totaling [redacted] and therefore Credibility mistakenly adds [redacted] in costs to Mr. Chodorow's DCF.[605] But as Mr. Chodorow shows in his report, the purported "missing cost" of [redacted] for delivery of aggregates from the U.S. Yards to customers is based on Credibility's failure to understand that — as is the practice in the aggregates industry — [redacted] The remaining [redacted] added by Credibility to reflect an alleged understatement of CALICA's production costs [redacted] shipping costs [redacted] and U.S. Yard costs [redacted] are not missing costs at all.[608] They have already been accounted for as depreciation expenses in Mr. Chodorow's model.[609] [redacted]

[604] *Id.*, ¶ 105.

[605] Credibility Report, ¶¶ 174 and 188-189.

[606] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 113; Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 10.

[607] Credibility Report, ¶ 187 and Table 10.2.

[608] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶¶ 113-114.

[609] *Id.*

[610] Credibility Report, ¶ 188.

[611] *See, e.g.*, Memorandum for Meeting of the Board of Directors, p. 2 (11 July 2014) (C-0088-ENG) [redacted]

[612] Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 48 and Table 3.

[redacted]

252. In adjusting the gross profit margins down, Credibility makes another serious error. It projects revenues and (most, but not all) costs in real dollars.[614] However, it then discounts them at a nominal-dollar discount rate.[615] Mr. Chodorow explains that this violates basic finance principles.[616] As explained in the textbook *Principles of Corporate Finance*: "[i]f the discount rate is stated in nominal terms, then consistency requires that cash flows should also be estimated in nominal terms … Of course, there is nothing wrong with discounting real cash flows at a real discount rate."[617]

253. *Second*, Credibility asserts that Mr. Chodorow's DCF relies on an inflated demand forecast "created by an unknown author"[618] and proposes an alternative demand assumption that further reduces Legacy Vulcan's recovery by [redacted] But as [redacted] explained in [redacted] first witness statement — which Credibility simply ignores — the demand forecast relied upon by Mr. Chodorow was created in 2015 not by an "unknown author" but by VMC's Marketing Support Services ("MSS"), a department within VMC in charge of developing sales forecasts for CALICA (including local sales) and other VMC facilities, in the normal course of business.[620] As [redacted] further explains, this demand forecast served as the basis of VMC's decision to expand the CALICA Network's production capacity by investing in a supplemental crushing plant.[621] Therefore, this forecast is a reliable reflection of expected demand at the time the breach occurred. In contrast, Credibility's argument that the forecast was unreliable is based on *ex-post* information that actual sales fell short of the forecast and should therefore be rejected.[622] Credibility's argument that the CALICA port could not handle more than [redacted]

[613] Witness Statement-[redacted]-Claimant's Reply—ENG, ¶ 21.

[614] Credibility Report, ¶ 144.

[615] *Id.*

[616] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 144.

[617] *Id.*, ¶ 129 (citing RICHARD A. BREALEY, STEWART C. MYERS, AND FRANKLIN ALLEN, PRINCIPLES OF CORPORATE FINANCE, p. 131 (McGraw-Hill/Irwin, 2011) (DC-0052)).

[618] Credibility Report, ¶¶ 62 and 201.

[619] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 118.

[620] Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 22.

[621] *Id.*, ¶ 21.

[622] *See* Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 121.

export volume per year is also speculative and unsupported. In fact, as [redacted] explains, "there were no material constraints or maintenance requirements that prevented VMC from exporting in excess of [redacted] in a particular year."[623] For example, CALICA's 2015 shipping schedule shows that in July 2015 CALICA exported [redacted] that is, [redacted] annualized.[624]

254. *Third*, Credibility disregards revenues, costs, and capex for Vulica and the U.S. Yards. As already explained in Parts IV.B(1)-(2) above, Mexico is mistaken that the only relevant lost revenue and profits are those from the CALICA production facility in Mexico. It follows that these adjustments are unwarranted as a matter of law and, in any event, contravene standard valuation practice and lead to nonsensical results, as Mr. Chodorow explains in detail in his report.[625]

255. *Fourth*, Credibility argues that the appropriate discount rate for cash flows generated by the CALICA Network is [redacted] but nonetheless shows the impact of calculating the present value of the CALICA Network cash flows at a discount rate of [redacted] which Credibility (incorrectly) argues is the appropriate discount rate for CALICA-Mexico.[626] As Mr. Chodorow explains, the calculation of the present value of a set of cash flows (CALICA Network) at a discount rate that reflects the risk associated with a different set of cash flows (CALICA Mexico) contradicts basic financial practices.[627]

256. *Fifth*, Credibility shows the impact of applying the Mexican tax rate to all income generated by the CALICA Network.[628] There are three mistakes in this calculation:

a. Earnings from Vulica and the U.S. Yards are not subject to Mexican tax, and applying a Mexican tax rate to that income is nonsensical.

[623] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 24.

[624] *Id.* As [redacted] further explains, [redacted] *Id.*

[625] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 126.

[626] Credibility Report, Section 6.2.

[627] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 131.

[628] Credibility Report, ¶ 135.

b. The 10% Workers' Participation on Profits ("PTU") tax is already incorporated into CALICA's general overhead and administrative costs.[629] It is paid on income generated by CALICA's affiliate *Servicios Integrales, Gestoría y Administración, S.A. de C. V.* ("SIGA") and CALICA's subsidiary *Rapica Servicios Técnicos y Administrativos, S.A. de C.V.* ("RASETA"), which employ the workers in Mexico, not CALICA itself,[630] and is already included in Mr. Chodorow's cost structure.[631] Therefore, Credibility's adjustments would lead to paying the PTU tax twice since it is already reflected in the operating costs that Mr. Chodorow used in his analysis.[632]

c. The 10% withholding tax for non-resident or individual shareholders that Credibility applies to all income for the CALICA Network can be eliminated under exemptions available under applicable tax treaties between Mexico and the United States and between Mexico and the Netherlands.[633] Credibility is also wrong to apply these Mexican taxes to all income generated by the CALICA Network, as Vulica and the U.S. Yards are not subject to taxes in Mexico.[634]

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[629] *See* Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 33.

[630] *Id.*

[631] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 133.

[632] *See Id.*

[633] Witness Statement-[redacted]-Claimant's Reply-Second Statement-ENG, ¶ 34. The 10% withholding tax on earnings and distributions imposed on non-resident shareholders may be reduced or eliminated under certain of Mexico's tax treaties, including those with the United States and the Netherlands. *See* United States-Mexico Income Tax Convention, signed 18 September, 1993, entered into force 28 December 1993, Articles 10, 17, as updated for the 2002 Protocol, signed November 26, 2002, to the 1992 U.S.-Mexico income tax treaty, which in part replaced Article 10 (Dividends) and as a result added a new paragraph 3 (C-0158-ENG) (providing for an exemption from withholding tax for a U.S. company which is publicly traded, or owned by a company publicly traded in the U.S. (*i.e.*, VMC), and owns more than 80% of the Mexican company paying the dividend for a 12-month period preceding the date when the dividend is declared); Convention Between the Kingdom of the Netherlands and the United Mexican States for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion With Respect to Taxes on Income, signed 27 September 1993, as amended by Protocol of 11 December 2008, Article 10 (C-0159-ENG) (providing for an exemption from dividend withholding tax, to the extent that the dividend received in the Netherlands is not subject to income tax in the Netherlands and at least 10% of the capital is owned by a shareholder resident in the Netherlands). VMC obtained a Dutch advanced tax ruling ("ATR") confirming the Dutch tax authorities view that dividends from its Mexican subsidiaries (all of which are 10% or greater owned) are not subject to corporate tax of the Netherlands. *See* ATR Agreement Regarding Vulcan International B.V. (22 August 2018) (unofficial translation) (C-0163-ENG).

[634] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 135.

257. *Last*, Credibility argues that Mr. Chodorow understated net working capital needs, calculated by Mr. Chodorow as [redacted] of revenues for VCM and by Credibility as [redacted] of revenue.[635] As Mr. Chodorow explains, while Credibility uses the standard financial accounting definition of net working capital as *total* current assets minus *total* current liabilities,[636] for purposes of valuation, it is common practice to exclude excess cash and marketable securities to more accurately reflect the working capital needs of the business.[637] Consistent with this common practice, [redacted]

5. Credibility's Affirmative CALICA-Network Analysis Is Similarly Flawed

258. Credibility's affirmative damages assessment for the CALICA Network suffers from a key conceptual flaw: it ignores expectations about future performance as of the valuation date and adopts a backward-looking approach.[639] Beyond this conceptual flaw, Credibility's CALICA Network DCF also repeats some of the same errors described above.[640] Notably, Credibility (i) mistakenly discounts a cash flow forecast prepared in real dollars at a nominal dollar discount rate; (ii) mistakenly applies the Mexican 10% PTU tax which, as explained above, is already reflected in CALICA's costs; (iii) incorrectly asserts that the CALICA Network prices [redacted] and therefore adds in an additional [redacted] in freight costs for providing that delivery; and (iv) deducts depreciation expenses twice for production, shipping, and the U.S. Yards.[641]

259. Credibility's CALICA Network model also incurs in new errors.

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[635] Credibility Report, ¶ 116.

[636] Exhibit 3: DCF Results - CALICA Breach 1 and Breach 2, Credibility International, Exhibit 3.3 Assumptions, rows 59-61 (CRED-61).

[637] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 136 (citing Aswath Damodaran, *Working Capital in Valuation* (accessed 20 January 2021), pages.stern.nyu.edu/~adamodar/New_Home_Page/valquestions/noncashwc.htm (DC-0134) ("Working capital is usually defined to be the difference between current assets and current liabilities. However, we will modify that definition when we measure working capital for valuation purposes. We will back out cash and investments in marketable securities from current assets. This is because cash, especially in large amounts, is invested by firms in treasury bills, short term government securities or commercial paper.").

[638] *Id.*, ¶ 136.

[639] *Id.*, ¶ 181.

[640] *Id.*

[641] *Id.*, ¶ 182.

260. *First*, as Mr. Chodorow explains in his first report, some CALICA costs are variable and others are fixed.[642] Credibility's analysis fails to account for this distinction and therefore, misestimates CALICA's production costs forecast.[643]

261. *Second*, Credibility fails to account for the higher operating cost of below-water extraction.[644] Credibility simply averages historical operating costs and fails to account for the impact of the alleged breaches on the value of CALICA due to the acceleration of below-water extraction.[645] This results in understating damages.

262. *Third,* Credibility uses the beta from a very broad U.S. building materials sector rather than that for publicly traded companies that produce and sell aggregates in the U.S.[646]

263. *Fourth,* Credibility forecasts demand at an anomalously depressed level.[647] Credibility assumes that export sales in Breach 2 will be only [redacted] because that was the volume exported during 2017.[648] But the U.S. Geological Survey reports show that demand in the markets served by CALICA in 2017 was unusually depressed due to anomalous hurricane activity.[649] As Mr. Chodorow explains, it is unreasonable to forecast demand at a level depressed by unusual circumstances.[650]

264. *Fifth*, Credibility overstates capex by adopting projected sales below those in VMC's contemporaneous forecast relied upon in Mr. Chodorow's damages model, yet adopting the total capex from that model.[651] Some capex is variable, meaning that Credibility's lower sales

[642] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 182.

[643] *Id.*

[644] *Id.*, ¶ 159.

[645] *Id.*

[646] *Id.*, ¶ 182.

[647] *Id.*, ¶ 184.

[648] Credibility Report, ¶ 229.ii.a.

[649] Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 44; Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 184 (citing Jason Christopher Willet, "STONE (CRUSHED)," United States Geological Survey, accessed 13 February 2020, p. 155 (DC-0043)).

[650] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 184.

[651] *Id.*, ¶ 185.

forecast should have used lower capex requirements.[652] Therefore, as Mr. Chodorow concludes, Credibility overstates annual capex.[653]

265. *Last*, Credibility overstates shipping costs.[654] Vulica-owned vessels have a capacity of about [redacted] with CSL volumes chartered to carry additional volumes.[655] This is sufficient to carry Credibility's forecast of [redacted] of exports under Breach 2.[656] However, Credibility nonetheless assumes the CALICA Network will continue to incur substantial shipping costs, [redacted] per year, using CSL additional capacity.[657]

266. Beyond these errors, Credibility's DCF analysis implies that the CALICA Network is equal to [redacted] of the FMV of VMC's total assets of [redacted] This can be compared to the CALICA Network's contribution towards VMC's profitability. During 2015, the CALICA Network generated ("EBITDA") of [redacted] which amounts to [redacted] of VMC's total EBITDA during 2015.[659] Thus, Credibility's resulting valuation of the CALICA Network is highly inconsistent with, and severely understated relative to the Network's contribution to the FMV of VMC.

6. Credibility's CALICA Mexico Analysis Severely Understate Damages

a) Credibility's CALICA Mexico DCF Is Flawed

267. A CALICA Mexico damages (*i.e.*, one which considers only profits lost by CALICA Mexico) will not compensate Legacy Vulcan under the full reparation standard that applies here. But even if the Tribunal were to conclude that damages may only be awarded for the specific profits of CALICA Mexico, Credibility has failed to properly quantify this loss.[660] As with Credibility's CALICA Network model, its CALICA Mexico DCF ignores expectations about future

[652] Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 132; Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 185.

[653] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 185.

[654] *Id.*, ¶ 186.

[655] Expert Report-Darrell Chodorow-Claimant's Memorial-ENG, ¶ 117; Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 186.

[656] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 186.

[657] *Id.*

[658] *Id.*, ¶ 193.

[659] *Id.*

[660] *Id.*, ¶ 138.

performance as of the valuation date.[661] Beyond this conceptual flaw, Credibility's CALICA Mexico DCF many incurs in many errors, including: (i) failure to distinguish between fixed and variable costs; (ii) application of an excessive discount rate; (iii) double-counting the PTU tax; (iv) assuming capex that understates damages; and (v) failing to account for the higher costs of below-water extraction.[662]

268. *First*, Credibility's analysis fails to distinguish between variable and fixed costs and therefore, misestimates CALICA's production costs forecast.[663]

269. *Second*, Credibility's discount rate is excessive and overstated.[664] Credibility's CALICA Mexico damages analysis forecasts its cash flows in real dollars, but applies a nominal-dollar discount rate.[665] As discussed in paragraph 252 above, this is a violation of basic finance principles that have the effect of understating damages. Beyond this, Credibility's analysis overstates the discount rate due to a number of errors.[666]

270. In particular, Credibility adds a risk premium of [redacted] because it considers CALICA to be a small company.[667] But as Mr. Chodorow explains, this is inappropriate for various reasons. The application of a small company premium lacks a solid economic foundation and its use has declined or is ill advised.[668] [redacted] and faces a minimal risk of failure (but for the alleged breaches) due to its inherent logistical advantages in serving fast-growing demand in the U.S. Gulf Coast.[670] Last, CALICA is owned by Legacy Vulcan and, at a higher level, by VMC, both large companies that require no small company risk premium.[671] As Mr. Chodorow explains, since there are many large companies that would be potential buyers of CALICA and could integrate CALICA into their existing operations, if CALICA were up for sale,

[661] *Id.*, ¶ 141.

[662] *Id.*, ¶¶ 140-159.

[663] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 143.

[664] *Id.*, ¶ 144.

[665] *Id.*

[666] *Id.*, ¶¶ 145-153.

[667] *Id.*, ¶ 146 and Appendix G.

[668] *Id.*

[669] *Id.*, ¶ 147.

[670] *Id.*

[671] *Id.*, ¶ 148.

companies that could hold the asset without incurring a small company discount would bid up the price, eliminating the artificial discount added by Credibility.[672]

271. Credibility also adds a country risk premium onto its discount rate that is 40% higher than Mexico's sovereign spread.[673] As Mr. Chodorow explains, this premium is inconsistent with CALICA's actual risk profile and the fact that the CALICA Network faces little or no risk related to the Mexican market — more than [redacted] of its revenues come from sales made in the U.S.[674] Thus, the CALICA Network is not subject to the risks of typical Mexican businesses. Further, Credibility's weighted-average cost of capital ("WACC") is internally inconsistent: Credibility uses one set of purported comparables (emerging markets metals and mining companies) to estimate CALICA's "beta" for calculating the cost of equity, but estimates the cost of debt and leverage ratio using a set of primarily coal companies that, as Mr. Chodorow explains, have a materially different risk profile.[675]

272. Credibility's discount rate analysis is also based on an excessive cost of debt.[676] Rather than using the opportunity cost of debt (*i.e.*, the rate at which new debt could be issued), Credibility calculated cost of debt based on an effective interest rate calculation on Vulcan debt issued long ago (known as the embedded cost of debt).[677] This means, for example, that while Credibility estimates Vulcan's embedded cost of debt at [redacted] for Breach 2, [redacted] Additionally, Credibility miscalculates the embedded cost of debt because it treats as interest expense amounts that are not actually interest, such as the cost to retire debt early.[679]

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[672] *Id.*

[673] *Id.*, ¶ 149.

[674] *See Id.*

[675] *See Id.*, ¶ 150.

[676] *See Id.*, ¶ 152.

[677] *See Id.* As Mr. Chodorow explains, "[t]he embedded cost of debt is calculated by taking interest expense during an accounting period and dividing it by the average amount of debt outstanding during that period. The effective interest rate on previously outstanding debt often does not reflect the market interest rate for issuing new debt, which is what the opportunity cost of debt measures. The difference can arise because of changes in credit risk profile and/or the interest rate environment." *Id.*, ¶ 152 n.258.

[678] *See Id.*, ¶ 152.

[679] *See Id.*

273. *Third*, Credibility calculates taxes assuming a Mexican tax rate of 40%, comprised of the 30% income tax rate plus the 10% PTU tax and incorrectly applies a dividend tax.[680] As explained in paragraphs 256 and 258 above, (i) the PTU tax does not apply to CALICA's income because it is paid by SIGA and RASETA, and (ii) the 10% dividend tax is not applicable to CALICA Mexico as a result of withholding tax exemptions under applicable tax treaties between Mexico and the United States and Mexico and the Netherlands.

274. *Fourth*, Credibility understates damages by projecting annual capex based on past capex and failing to recognize, with respect to Breach 1, that in the actual world, the value of CALICA is reduced because of the substantial acceleration of capex for (costlier) below-water extraction (including significant purchases of multiple costly draglines required to address the acceleration of below-water quarrying).[681] Thus, Credibility's assumed capex is based on pre-breach years and thus fails to reflect the higher capex caused by the breach.[682] With respect to Breach 2, Credibility relied on capex for 2016 and 2017, after Breach 1 had occurred. In these years, CALICA was investing heavily in draglines to allow it to move quickly to 100% below-water extraction. By forecasting based on the average capex from these two years, Credibility effectively assumed that CALICA will perpetually have to buy multiple draglines in every future year despite the fact that they are not needed under the extraction plans in the but-for scenario.[683]

275. *Last*, Credibility also fails to account for the higher operating cost of below-water extraction.[684] Credibility simply averages historical operating costs and fails to account for the impact of the alleged breaches on the value of CALICA due to the acceleration of below-water extraction.[685] This results in understating damages.

276. Beyond the errors identified by Mr. Chodorow, Credibility's DCF analysis fails the test of reasonableness and, as Mr. Chodorow explains, leads to an implausible valuation of CALICA-Mexico.[686] According to Credibility, CALICA Mexico is valued at [redacted] or approximately [redacted] of VMC's value at the end of 2015 but-for the breach despite the fact that it

[680] Credibility Report, ¶ 128.

[681] *See* Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶¶ 156-157.

[682] *Id.*, ¶ 157.

[683] *Id.*, ¶ 158.

[684] *Id.*, ¶ 159.

[685] *Id.*

[686] *Id.*, ¶ 177.

contributed [redacted] of VMC's total EBITDA of [redacted] during that year.[687] This clearly highlights that Credibility's DCF produces a valuation of CALICA Mexico that is inconsistent with, and severely understated relative to, its contribution towards VMC's profits.

b) Credibility's Comparables Analysis Is Entirely Unreliable

277. Credibility's comparables analysis relies on companies that are not comparable for purposes of valuing an aggregates quarry.[688] According to Credibility, "[s]ince Calica was a mining company with no shipping or distribution functions, our market approaches consider mining companies as the comparable group."[689] Credibility then identifies seven companies that it deems to be comparable: five coal companies, US Lime, and Martin Marietta.[690]

278. As Mr. Chodorow explains, coal companies are simply not comparable for valuing an aggregates quarry.[691] The explanation is simple: as explained in paragraph 249 above, while aggregates demand in the U.S. has been growing, demand for coal is declining in part due to efforts to curb carbon emissions.[692] Credibility's decision to include Martin Marietta and US Lime within its sample is also inconsistent.[693] One the one hand, Credibility mistakenly assumed that Mr. Chodorow had included Martin Marietta and US Lime as comparables in his market approach analysis, and argued that this was unreasonable because "[n]one of the comparable companies were mining companies, like CALICA."[694] Credibility, however, characterizes them as mining companies like CALICA here and when it actually applies multiples, it ignores Martin Marietta's multiples — which are significantly higher — in favor of the coal companies and US Lime.[695]

279. [redacted]

[687] *Id.*

[688] *See Id.*, ¶¶ 163-164.

[689] Credibility Report, ¶ 157.

[690] *Id.*, Table 9.1.

[691] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 164.

[692] *Id.*

[693] *Id.*, ¶ 166.

[694] Credibility Report, ¶ 155.

[695] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 167.

[redacted]

C. LEGACY VULCAN IS ENTITLED TO PRE-AWARD AND POST-AWARD INTEREST

280. To achieve "full reparation," Legacy Vulcan must receive interest based on Mexico's sovereign borrowing rate. Mexico does not dispute that "the compensation must include pre-award interest" or that "post-award interest is usually ordered to compensate the Claimant for the time value of money caused by any delay in the payment of the award.[701] Instead, Mexico argues that Mr. Chodorow "should have calculated pre-award interest based on a risk-free US Treasury rate."[702]

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[696] Ernst & Young LLP, "2015 Calizas Industriales del Carmen S.A. de C.V. Transfer Pricing Documentation," dated 6 September 2016, p. 24 (6 September 2016) (DC-0023).

[697] *Id.*

[698] *Id.*

[699] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 173.

[700] *Id.*

[701] Counter-Memorial, ¶ 532 ("*la reparación debe incluir intereses previos al laudo*"; ."*los intereses posteriores al laudo suelen ordenarse para compensar al Demandante por el valor del dinero en el tiempo derivado de cualquier retraso en el pago del laudo*.").

[702] Credibility Report, ¶ 243.

281. As Mr. Chodorow explains, Mexico's claim is conceptually incorrect. As a result of the Treaty braches, VMC in effect became a forced lender to Mexico from the breach date forward.[703] To lend U.S. dollars to Mexico, investors demand a sovereign spread that incorporates the lending risk, including a risk of default by Mexico. As Mr. Chodorow explains, Credibility's argument that a risk-free U.S. treasury rate should have been employed is not commercially reasonable.[704]

282. Credibility then erroneously asserts that "it seems that [Mr. Chodorow] compounded interest monthly,"[705] when he should have done so on annual basis. This is incorrect. As Mr. Chodorow explains, he used simple annualized rates,[706] and then applied them so they do not have the effect of monthly compounding.[707] For example, if the simple annual interest rate is 10%, Mr. Chodorow's methodology would calculate interest of $10 on an investment of $100, as set out below:

Table 2: Demonstration of Simple Annual Rate

Illustrative Simple Annualized Rate:		10 000%
Monthly Rate Equivalent:		0.797%
Month	Monthly Rate	Amount at End of Period
[1]	[2]	[3]
0		$100.00
1	0.797%	$100.80
2	0.797%	$101.60
3	0.797%	$102.41
4	0.797%	$103.23
5	0.797%	$104.05
6	0.797%	$104.88
7	0.797%	$105.72
8	0.797%	$106.56
9	0.797%	$107.41
10	0.797%	$108.27
11	0.797%	$109.13
12	0.797%	$110.00
Interest Rate		10%

Monthly rate = $(1 + \text{Annual Rate})^{(1/12)}-1$
[3] = [3] from prior month x (1 + [2])

[703] *See* Memorial, ¶ 339.

[704] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 197.

[705] Credibility Report, ¶ 245.

[706] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 196.

[707] *Id.*, ¶ 3.

D. LEGACY VULCAN IS ENTITLED TO AN AWARD ADJUSTED TO AVOID DOUBLE TAXATION

283. For the components of the CALICA Network in the United States (the U.S. Yards), VMC has paid — and continues to pay — applicable U.S. taxes. Therefore, full reparation requires an offset to avoid a second tax assessment on this portion of the Award.

284. Credibility first argues that the US yards are not properly part of the damages analysis, so there is no double taxation problem. This issue has been addressed in detail above: the US Yards are an integral part of the CALICA Network and Legacy Vulcan's investment in CALICA. Full reparation, based on an assessment of Legacy Vulcan's losses, requires that damages extend to the U.S. Yards operations specifically set up to support CALICA.

285. Credibility then suggests that (i) it is uncertain how the Award will be taxed,[708] (ii) Mexico has no control over taxes to be imposed by the U.S.,[709] (iii) it is possible that any U.S. tax would be offset by foreign tax credits. However, Credibility's uncertainty does not change the conclusion that the award would likely be taxed at the prevailing U.S. corporate tax rate of [redacted] that applies to Legacy Vulcan's income.[710] While Mexico may not have control over taxes imposed by the United States, it certainly had control over its own measures that resulted in Treaty breaches.

286. Finally, Credibility's speculation that U.S. taxes levied on the Award would be offset by Foreign Tax Credits ("FTCs") due on taxes paid in Mexico is wholly unsubstantiated. In any event, to the extent that part of the Award related to the U.S. Yards will be taxed in Mexico, that would effectively tax the same income for the third time, as Mr. Chodorow calculated damages to the U.S. Yards after tax,[711] and the Award will also be taxed in the U.S.[712] Mr. Chodorow concludes that "If Legacy Vulcan were to receive FTCs for those Mexican taxes, that would eliminate the third taxation, but would not address the double taxation of US Yard income."[713] Full reparation, therefore, would require that the Award be adjusted to remove the effect of the second taxation.

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[708] Credibility Report, ¶ 251.

[709] *Id.*, ¶ 250.

[710] *See* Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 27.

[711] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 69.

[712] *See* Witness Statement-[redacted]-Claimant's Memorial-ENG, ¶ 27.

[713] Expert Report-Darrell Chodorow-Claimant's Reply-Second Report-ENG, ¶ 69.

E. LEGACY VULCAN IS ENTITLED TO ARBITRATION COSTS AND EXPENSES

287. Mexico does not dispute that the principle of full reparation requires that Legacy Vulcan be made whole for costs incurred in this arbitration, as well as legal expenses.[714] Legacy Vulcan will submit a statement of its fees and costs at an appropriate time, as the Tribunal may order.

V. REQUEST FOR RELIEF

288. For the foregoing reasons, Legacy Vulcan respectfully requests that the Tribunal dismiss the defenses raised in the Respondent's Counter-Memorial, and render an award in favor of the Claimant:

a. Upholding the claims asserted by the Claimant in this proceeding;

b. Declaring that the Respondent has breached NAFTA and applicable principles of international law:

   i. By failing to accord the Claimant's investments, including CALICA, fair and equitable treatment in violation of Article 1105; and

   ii. By failing to observe the obligations it has assumed regarding the Claimant's investments (an international obligation that is applicable through the most-favored-nation clause of Article 1103 of NAFTA);

c. Determining that this breach has caused damages to the Claimant;

d. Ordering the Respondent to pay to the Claimant compensation, in accordance with NAFTA and customary international law, in an amount sufficient to provide full reparation to the Claimant for the damages incurred as a result of the Respondent's conduct in violation of NAFTA, including:

   i. Compensation for damages arising out of Mexico's repudiation of the 2014 Agreements in the amount of [redacted]

   ii. Compensation for damages arising out of Mexico's shutdown of CALICA's operations in El Corchalito in the amount of [redacted]

   iii. Compensation for port fees that Mexico illegally charged CALICA and Vulica and never reimbursed in the amount of [redacted]

   iv. Compensation of [redacted]

[714] Indeed, in its Counter-Memorial, Mexico seeks an award ordering Legacy Vulcan to pay Mexico's costs and expenses incurred in this arbitration on the basis that (i) it did not violate its obligations under NAFTA, and (ii) Legacy Vulcan has submitted a claim lacking legal merit to obtain an undue benefit. Counter-Memorial, ¶¶ 541-542.

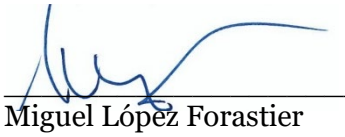
v. Pre-Award compound interest at a rate reflecting the cost of short-term borrowing by the Government of Mexico from the date of each breach to the date of the award, and post-Award compound interest also reflecting the cost of short-term borrowing by the Government of Mexico from the date of the Award until actual and full payment by Mexico, even if the Award is converted into a judgement of a court of a State party to the ICSID Convention;

e. Giving Respondent the option to pay less than the full amount ordered above for items (i), (ii), (iv) and (v) if Mexico's instrumentalities, (x) within three months from the issuance of the Award, were to amend the POEL to expressly allow quarrying operations by CALICA in La Adelita, *and* (y) immediately close all administrative and judicial proceedings against CALICA arising out of the inspection of El Corchalito, allowing CALICA to resume operations normally with no penalties to CALICA or any of its affiliates or any of their respective employees, agents, advisors or other representatives (collectively, the "Settlement Measures"), in which case the Respondent shall pay the damages effectively incurred up to the performance of the Settlement Measures;

f. Ordering the Respondent to pay all costs and expenses of this arbitration proceeding, including the fees and expenses of the Tribunal and the cost of legal representation, plus interest thereon; and

g. Such other or additional relief as may be appropriate under the applicable law or that may otherwise be just and proper.

Respectfully submitted,



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ANNEX A – LIST OF WITNESSES AND EXPERTS

Witness Statements

Witness	Subject
Witness Statement of [redacted]	Addressing the central importance of the CALICA Network to VMC's business operations, and the self-contained, integrated nature of the Network, among other issues.
Second Witness Statement of [redacted] Vulcan Materials Company.	Addressing the integrated nature of the CALICA Network, the central role of the CALICA quarry in respect of the other segments of the Network, and the degree to which VMC's profitability across the CALICA Network has suffered as a result of Mexico's breaches, among other issues.
Supplemental Witness Declaration of [redacted] ulcan Materials Company's International Division.	Addressing aspects of the 2014 Agreements and their repudiation, and factual developments since the Claimant's Memorial was filed.
Witness Declaration of [redacted] partner at [redacted]	Providing information regarding the status of the criminal complaint filed by PROFEPA against CALICA.

Expert Reports

Expert	Subject
Second Expert Report of [redacted] Mexican environmental law expert and [redacted]	Addressing assertions by Mexico's legal experts and PROFEPA witnesses.
Expert Report of Professor [redacted] constitutional law expert and professor of law at [redacted]	Addressing assertions by Mexico and its legal experts regarding the 2014 Agreements and the shutdown of El Corchalito.
Expert Report of [redacted] civil engineer and [redacted]	Addressing PROFEPA's measurements of CALICA's quarrying areas and rejection of CALICA's proffered evidence on those measurements.

Expert Reports	
Expert	**Subject**
Expert Report of Dr. [redacted] oceanologist and professor at [redacted] and Dr. [redacted] oceanologist and professor at [redacted]	Addressing Mexico's allegations of environmental damage.
Expert Reply Report of Darrell Chodorow, Principal at The Brattle Group.	Addressing the reliability of the opinions in the First Credibility Report and whether any of the information or analyses in that report change the conclusions of the First Brattle Report.

ANNEX B - GLOSSARY

Term	Description
2014 Agreements	Collectively, the Total Regularization Scheme, the MOU, and the Amended MOU.
Amended MOU	The MOU, as amended on 13 May 2015.
API	Integral Port Administration (*Administración Portuaria Integral*), a state-owned entity charged with overseeing and running ports in Mexico. Each seaside state has an API.
API Quintana Roo	The API overseeing the ports of the State of Quintana Roo.
API Quintana Roo Concession	The concession granted by the SCT to API Quintana Roo in 1994 to operate port facilities in the State of Quintana Roo.
Breach 1	Mexico's breach of its obligation in the 2014 Agreements to amend the zoning of La Adelita to recognize CALICA's vested rights to extract petrous materials in that site.
Breach 2	Mexico's unlawful administrative proceeding resulting in the shutdown of CALICA's operations in El Corchalito.
BIT	Bilateral Investment Treaty
CALICA	Calizas Industriales del Carmen, S.A. de C.V., a Mexican corporation indirectly owned and controlled by Legacy Vulcan.
CALICA Port Concession	The concession granted in 1987 by the SCT to CALICA to build and operate a port in Punta Venado.
Cenote	A natural pit, or sinkhole, revealing a pool of water.
Committee to Amend the POEL	A committee created on 30 October 2014 by the SEMARNAT, the State of Quintana Roo, and the Municipality of Solidaridad to amend the POEL.
Corchalito/Adelita Federal Environmental Authorization	An environmental permit granted by the Mexican Federal Government authorizing CALICA to quarry petrous materials below the water table in El Corchalito and La Adelita.
Corchalito/Adelita State Environmental Authorization	An environmental permit granted by the State of Quintana Roo authorizing CALICA to quarry petrous materials above the water table in El Corchalito and La Adelita.
CUSTF	Authorization for Soil-Use Change in Forested Terrains (*Autorización de Cambio de Uso del Suelo en Terrenos Forestales*), a permit granted by SEMARNAT to remove vegetation.

Term	Description
CSL	Canada Steamship Lines
DCF	Discounted Cash Flow
Dragline	An excavator used to extract rock (especially underwater) by means of a giant bucket hung from a crane by a series of cables.
El Corchalito	One of the plots of land indirectly owned by Claimant in Quintana Roo containing limestone reserves, which was being quarried until PROFEPA shut down CALICA's quarrying operations there in January 2018.
Environmental Impact Statement	Filing made by CALICA to obtain the Corchalito/Adelita Federal Environmental Authorization.
FTC	NAFTA Free Trade Commission
FTCs	Foreign Tax Credits
FY	Fiscal Year
Grupo ICA	Grupo Ingenieros Civiles Asociados, a Mexican industrial and construction conglomerate and former joint venture partner of Legacy Vulcan in the CALICA Network.
Investment Agreement	The 6 August 1986 agreement between CALICA, Mexico's Federal Government, and the State of Quintana Roo whereby Mexico authorized the Project from an environmental standpoint and acknowledged CALICA's right to quarry the Project site for as long as economically feasible.
La Adelita	One of the plots of land indirectly owned by Claimant in Quintana Roo containing limestone reserves, which has yet to be quarried.
La Rosita	One of the plots of land indirectly owned by Claimant in Quintana Roo containing limestone reserves, which is being quarried and where CALICA's processing plant is located.
Legacy Vulcan	Legacy Vulcan, LLC, a limited liability company organized and existing under the laws of Delaware, United States of America, and the Claimant in this arbitration.
LFPA	Mexican Federal Law of Administrative Procedure *(Ley Federal de Procedimiento Administrativo*)
LGEEPA	Mexican General Law of Ecological Equilibrium and Environmental Protection (*Ley General del Equilibrio Ecológico y la Protección al Ambiente*)

Term	Description
LGEEPA Regulations on Ecological Planning	Mexican General Law of Ecological Equilibrium and Environmental Protection Regulations on Ecological Planning (*Reglamento de la ley General del Equilibrio Ecológico y la Protección al Ambiente en Materia de Ordenamiento Ecológico*)
Longview	The data management system that VMC uses to prepare its financial statements.
MOU	The Memorandum of Understanding, an agreement by and among CALICA, the SCT, the State of Quintana Roo, API Quintana Roo, and the Municipality of Solidaridad, dated 12 June 2014.
MSS	"Marketing Support Services," a department within VMC in charge of developing sales forecasts for CALICA (including local sales) and other VMC facilities.
Municipality of Cozumel	A municipality in Quintana Roo, Mexico, where La Rosita is located.
Municipality of Solidaridad	A municipality in Quintana Roo, Mexico, where El Corchalito and La Adelita are located.
Panamax vessel	A cargo ship of medium size, up to 294 meters, capable of passing through the lock chambers of the original Panama Canal.
POEL	Program for Local Environmental Regulation (*Programa de Ordenamiento Ecológico Local*), the zoning regime applicable in Solidaridad since 2009.
POET	Program for Territorial Environmental Regulation (*Programa de Ordenamiento Ecológico Territorial*), the zoning regime applicable to the Cancún Tulum Corridor from 2001 to 2009.
Port Terminal	The terminal built by CALICA in Punta Venado to ship aggregates extracted from its quarrying operations in La Rosita, El Corchalito, and La Adelita. The Port Terminal comprises a Public Terminal and a Private Terminal.
Private Terminal	Terminal in Punta Venado used to ship CALICA's production aboard Vulica or CSL vessels.
PROFEPA	Mexico's federal environmental enforcement agency (*Procuraduría Federal de Protección al Ambiente*).
PTU	The 10% Workers' Participation on Profits tax.
Public Terminal	Terminal in Punta Venado used to dock ferries, cruise ships, and passenger ships.

Term	Description
Punta Venado	One of Claimant's land plots in Quintana Roo, where the Port Terminal is located.
Quintana Roo	A Mexican state in the Yucatán Peninsula.
RAPICA	Rancho Piedra Caliza, S.A. de C.V., a Mexican subsidiary of CALICA and the owner of La Rosita, El Corchalito, and La Adelita.
RASETA	CALICA's subsidiary *Rapica Servicios Técnicos y Administrativos, S.A. de C.V.*
Resolution	The resolution issued by PROFEPA on 30 October 2020 in its administrative proceeding against CALICA for alleged violation of the Corchalito/Adelita Federal Environmental Authorization.
Sac-Tun	A Mayan name used to refer to CALICA's quarries and/or CALICA.
SCT	Mexico's Ministry of Communications and Transportation (*Secretaría de Comunicaciones y Transportes*)
SEDUE	Mexico's Ministry of Urban Development and the Ecology (*Secretaría de Desarrollo Urbano y Ecología*). This agency ceased to exist in 1992 and was replaced by the INE and PROFEPA.
SEMAR	Mexican Navy (*Secretaría de Marina*)
SEMARNAT	Mexico's Ministry of the Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*)
Shutdown Order	The order issued by PROFEPA on 22 January 2018 mandating the closure of CALICA's quarrying activities below the water table at El Corchalito and further precluding those activities in La Adelita.
SIGA	CALICA's affiliate *Servicios Integrales, Gestoría y Administración, S.A. de C. V.*
SIMAP	Quintana Roo's Ministry of Infrastructure, Environment and Fishery (*Secretaría de Infraestructura, Medio Ambiente y Pesca*)
Total Regularization Scheme	An agreement by and among the SCT and CALICA, dated 14 June 2014, in which API Quintana Roo acted as a witness.
UGA	Environmental Management Units (*Unidad de Gestión Ambiental*), the smallest territorial zoning unit.

Term	Description
USMCA	U.S.-Mexico-Canada Agreement
U.S. Yards	Legacy Vulcan's shipyards along the U.S. Gulf Coast and Atlantic seaboard used for distribution of CALICA products.
VMC	Vulcan Materials Company, the parent company of Legacy Vulcan.
Vulica	Vulica Shipping Company, Limited, the Legacy Vulcan company that transports the aggregates from the Port Terminal to the U.S. Yards.
Vulica/ICA	Vulica/ICA Distribution Company was a company formed by the joint venture between Legacy Vulcan and Grupo ICA to carry out sales and marketing operations in the United States. This function is now performed by Vulcan Construction Materials, LLC.
Water table	The upper level of an underground surface in which the soil or rocks are permanently saturated with water.