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FIRST AMENDED NOTICE OF INTENT TO BRING LEGAL ACTION

1. The Trinity Edwards Springs Protection Association, "TESPA," provides notice of its intent to file suit seeking injunctive relief arising from and relating to a proposed quarry and rock crushing operation in Hays County, Texas, sixty days after the service of this notice as required by the Endangered Species Act, 16 U.S.C. § 1540(g), the Clean Water Act 33 U.S.C. § 1365(b), and the Safe Drinking Water Act 42 U.S.C. § 300j-8.

2. Additionally, TESPA will request an injunction to prohibit the proposed quarry/rock crushing activities until it obtains the appropriate authorizations and permits to comply with the Edwards Aquifer Authority regulations found at 30 T.A.C. chapter 213.

3. **ISSUE** – FAR SOUTH MINING LLC, "FSM," proposes to operate a rock quarry and rock crushing operation in an area between Wimberley and San Marcos, Texas. See Exhibit 1 for a map. The operation likely will cause "take" as defined by the Endangered Species Act through "harm or harass" of endangered species such as the Comal Springs Dryopid Beetle, Golden-cheeked Warbler, San Marcos Springs Salamander, and Texas Blind Salamander, interfere with Regional Habitat Conservation Plans promulgated under the Endangered Species Act, as well contaminate groundwater and even drinking water supplies, which would be a violation of the Clean Water Act and Safe Drinking Water Act. FSM has failed to apply for and to obtain the permits required to comply with the Edwards Aquifer Act and regulations of the Edwards Aquifer Protection Program.

RELIEF SOUGHT

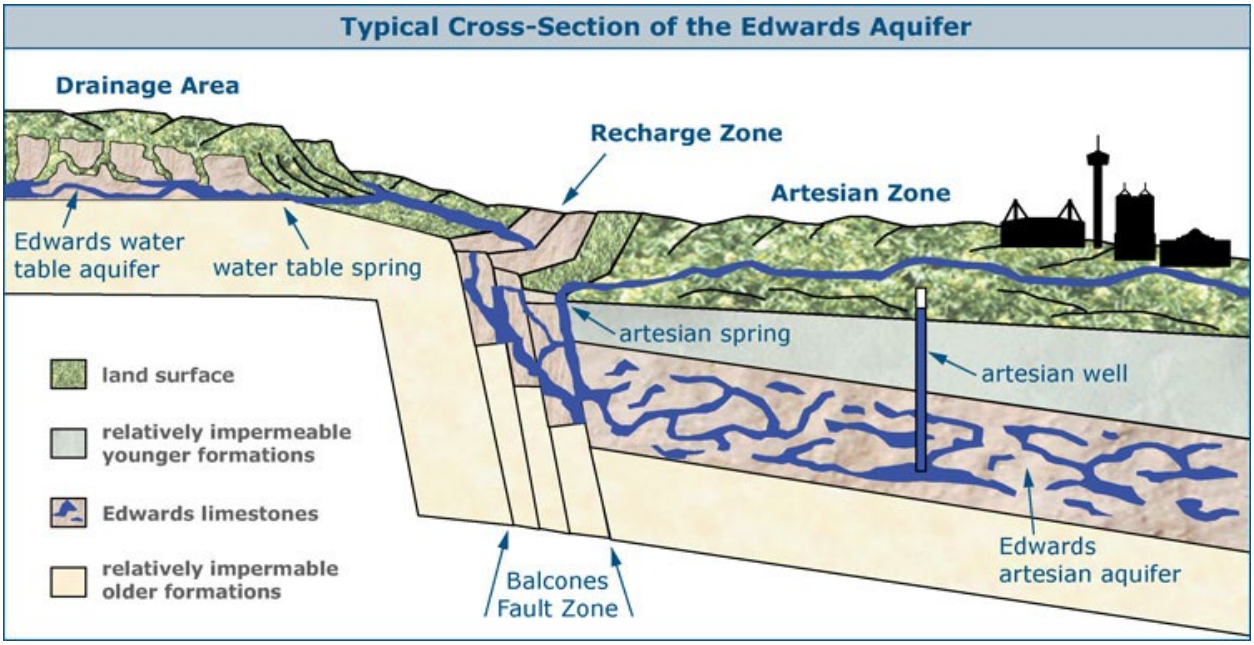
4. In short, TESPA seeks to prevent Far South Mining LLC from its publicly announced proposal to operate a quarry estimated at 2,000' x 4,000' initially in size. The related activities involve blasting, operation of heavy equipment, rock crushing, involving an estimated 100+ truckloads of rock per day in Hays County, Texas, between Wimberley on the Needmore Ranch formerly known as "Little Arkansas" and San Marcos and surrounding areas.

5. Far South Mining LLC's proposed quarry and rock crushing operations on the Needmore Ranch pose imminent threats of irreparable harm to federally protected endangered species and their designated critical habitat through:

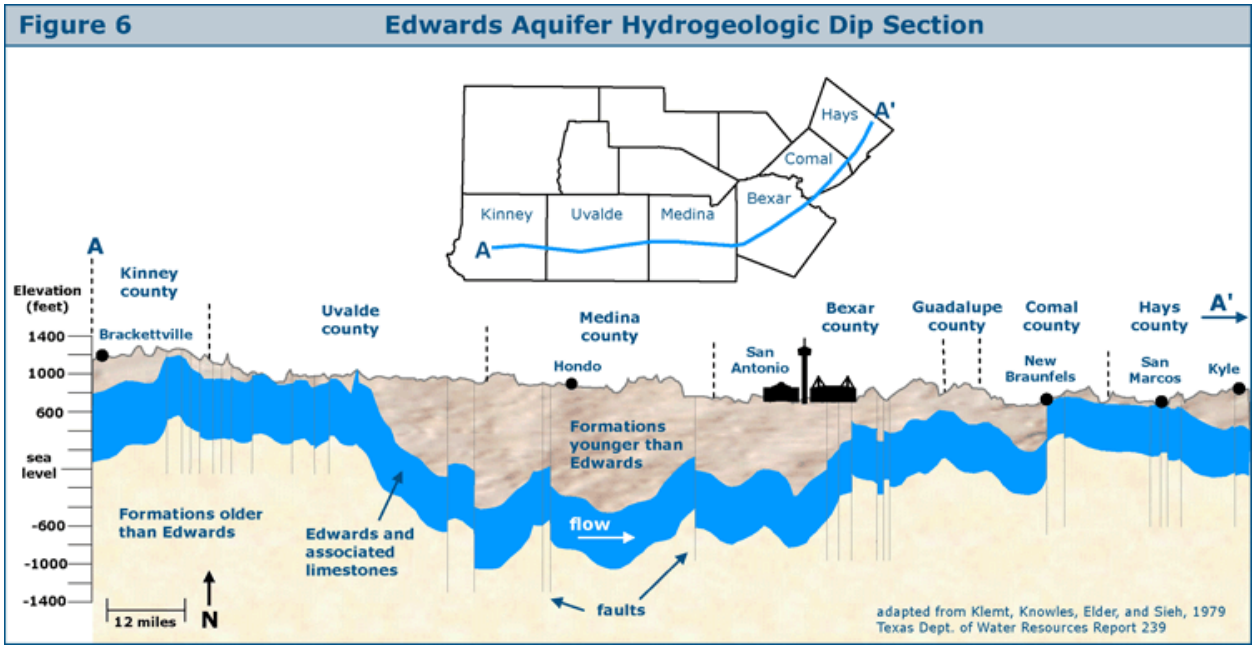
- lowering of local groundwater and surface water levels from mining operations and dewatering
- changes in turbidity levels in groundwater/surface water due to blasting and quarry operations
- interruption of groundwater conduit flow paths by rock removal and/or blasting in karst systems
- temperature change (thermal impacts) in springs and surface water streams
- seismic impacts to endangered species
- impacts to groundwater/surface water quality from hazardous chemical spills and blasting residuals
- impacts from point and non-point sources of dust to surface water and groundwater from stormwater runoff and fugitive dust
- destruction of sensitive superficial karst features, such as caves
- disruption of natural drainage patterns and stream morphology
- pollution from residues of nitrates and petroleum products accumulating in the stormwater runoff and groundwater from the ammonium nitrate blasting slurry and related activities
- leaks and spills of petroleum products from equipment as well as the risk of outright spills such as the 2,000-gallon spill of diesel[1]

[1] https://www.stop3009vulcanquarry.com/news/area-quarries-polluting-comal-springs/

EDWARDS AQUIFER FACTS

6. 

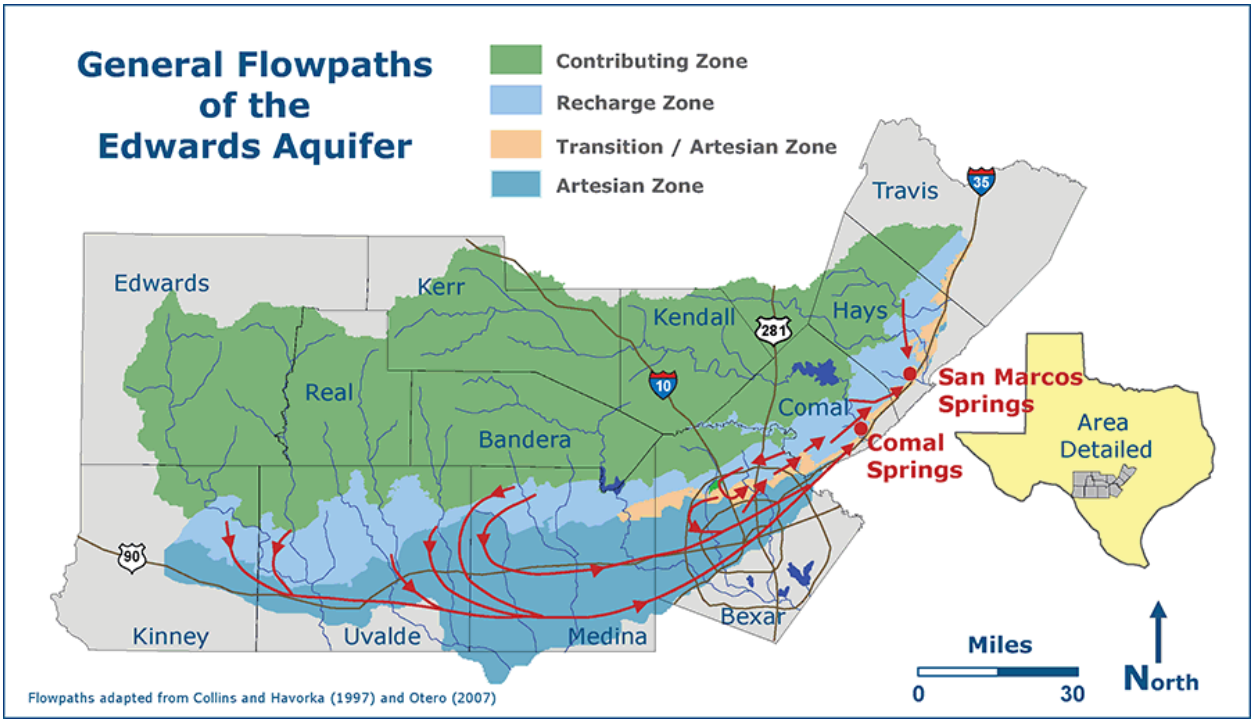
7. The Edwards Aquifer is relatively near the surface in the San Marcos, Hays County area.[2]

1. 

[2] https://www.edwardsaquifer.net/geology.html

8. The general flow path of this area is towards San Marcos.[3]

9.



10. The rock matrix in this area, somewhat similar to Swiss Cheese, is known as "karst." 95% of the water in this area is stored in the rock matrix and flows through conduits in the rock matrix.

11. **Recharge Zone**

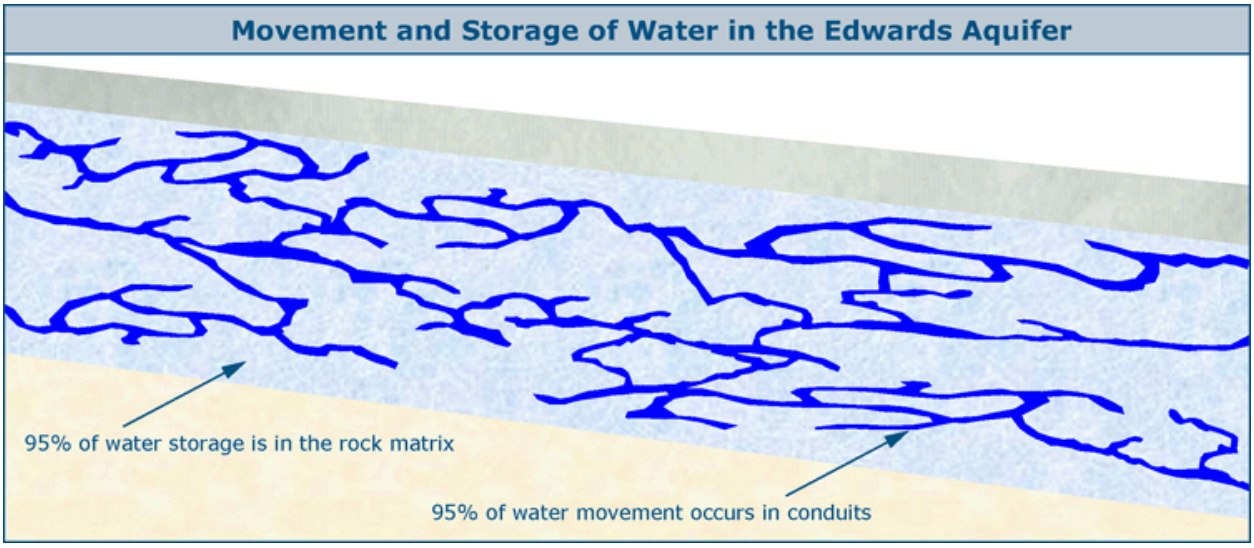
The recharge zone is a 1,250 square mile area where highly faulted and fractured Edwards limestones outcrop at the land surface, allowing large quantities of water to flow into the Aquifer. For this reason, the Edwards is often called a fault-zone aquifer (see section on Faults & Caves for fault map and photos). About 75-80% of recharge occurs when streams and rivers cross the permeable formation and go underground. This is called *allogenic* recharge. Most of the remaining percentage of recharge occurs when precipitation falls directly on the outcrop. This is called *autogenic* recharge.[4]

[3] https://www.edwardsaquifer.net/geology.html

[4] https://www.edwardsaquifer.net/intro.html

12. 

13. While the general flow direction is towards San Marcos, the matrix contains irregular water flow paths.[5]

14. 

[5] https://www.edwardsaquifer.net/geology.html

DEFENDANT'S LIMESTONE MINING ACTIVITIES

15. Defendant **will bulldoze the surface, blast, mine, cut or crush to size, and then transport** an estimated 100+ truckloads of rock per day and the quarry foreseeably will operate 100 or more years into the future.

16. Modern blasting techniques in quarry operations utilize a wet slurry mixture of ammonium nitrate mixed with fuel oil, typically diesel, called "ANFO," short for ammonium nitrate fuel oil. This mixture is tremendously destructive. This ANFO explosive is what was used to attack and destroy the federal courthouse in Oklahoma City. The slurry is used to fill blast holes drilled into the rock and then ignited with TNT and a blasting cap.

17. Here is a real example of the blasting method:

https://www.youtube.com/watch?v=P8VTWqTI154

18. Bulldozing obviously destroys surface habitat such as the habitat of the Golden-cheeked Warbler.

19. Additionally, the activities will create seismic impacts measureable miles away from the footprint of the actual surface destruction.

20. Here are actual examples of blasting in limestone quarry operations:

https://www.youtube.com/watch?v=NYh5ZQGCP7g

https://www.youtube.com/watch?v=feQbBw16jag

21. Here are limestone quarries:

https://www.youtube.com/watch?v=o-ZWmdzMiMY

22. Here are the Defendant's own videos of blasting limestone at its limestone mine in Tuleta, Texas, (DEFENDANT IS WARNED NOT TO REMOVE OR DESTROY THESE PUBLICLY AVAILABLE VIDEOS WHICH WOULD CONSTITUTE SPOILATION OF EVIDENCE):

1. FSM Tuleta Blast 1: https://www.youtube.com/watch?v=wqLEem-8am4
2. FSM Tuleta Blast 2: https://www.youtube.com/watch?v=AlkiLRe7oOw
3. FSM Tuleta Blast 3: https://www.youtube.com/watch?v=4dtGSHVvCt4
4. FSM Tuleta Blast 4 is missing from the videos posted by FSM on its youtube channel.
5. FSM Tuleta Blast 5: https://www.youtube.com/watch?v=IRmXc7ZodGI

23. This video is posted by FSM, but appears to be from the History Channel. It is unknown if this blasting operation in granite is by FSM or another mining company, but FSM appears to think it is of interest and representative. https://www.youtube.com/watch?v=W3Q6Dq9x2oA

24. See also, Exhibits 3 – 20, photographs from FSM's website, Photos section, of its operations: https://www.farsouthmining.com/photos/

25. Defendant's activities foreseeably will last 100 or more years into the future. So, the impacts of the activities must be viewed through the lens of the cumulative impact day after day, week after week, month after month, and year after year, through wet years and dry and even drought years, which tend to concentrate contaminants in water.

26. The residue of the ANFO blasting slurry causes petrochemicals to accumulate in the groundwater. Such limestone mining blast residue accumulation caused benzene contamination in the aquifer supplying the drinking water to Miami causing the shutdown of municipal water wells causing it to shutdown multiple municipal drinking water wells.[6]

[6] *See, Sierra Club v. Strock*, 495 F. Supp. 2d 1188, 1196–97 (S.D. Fla. 2007), *vacated sub nom. Sierra Club v. Van Antwerp*, 526 F.3d 1353 (11th Cir. 2008)(emphasis added)(action under the

27. Water pollution and contamination require management decades even after the mine closes.[7]

28. Even some limestone mining companies acknowledge the adverse impacts such as pollution, groundwater contamination, subsidence, habitat destruction, and dust emissions from limestone mining in areas of karst and groundwater.[8]

29. Seattle has similar groundwater contamination due to limestone mining of limestone deposits with karst and groundwater interactions.[9]

30. The aquatic endangered species made the basis of this action are likely to be adversely impacted and cannot simply swim away somewhere else far from Defendant's unyielding and never-ending blasting, seismic shock waves, and pollution including but not limited to benzene, an established human carcinogen.

31. Plaintiff intends to offer testimony from a preeminent hydrogeologist showing the water flow patterns, impacts, and couple that with testimony from expert biologists on the endangered species of this area and how they will be impacted.

32. Simply stated, Defendant's activities likely will have adverse impacts on water as it flows downhill, which will cause adverse impacts down gradient i.e. water flows downhill due to gravity towards the aquatic endangered species.

33. ***Exhibits 3 – 20 are actual photos of Far South Mining's operations and activities at other of its mining operations showing its activitie.***[10]

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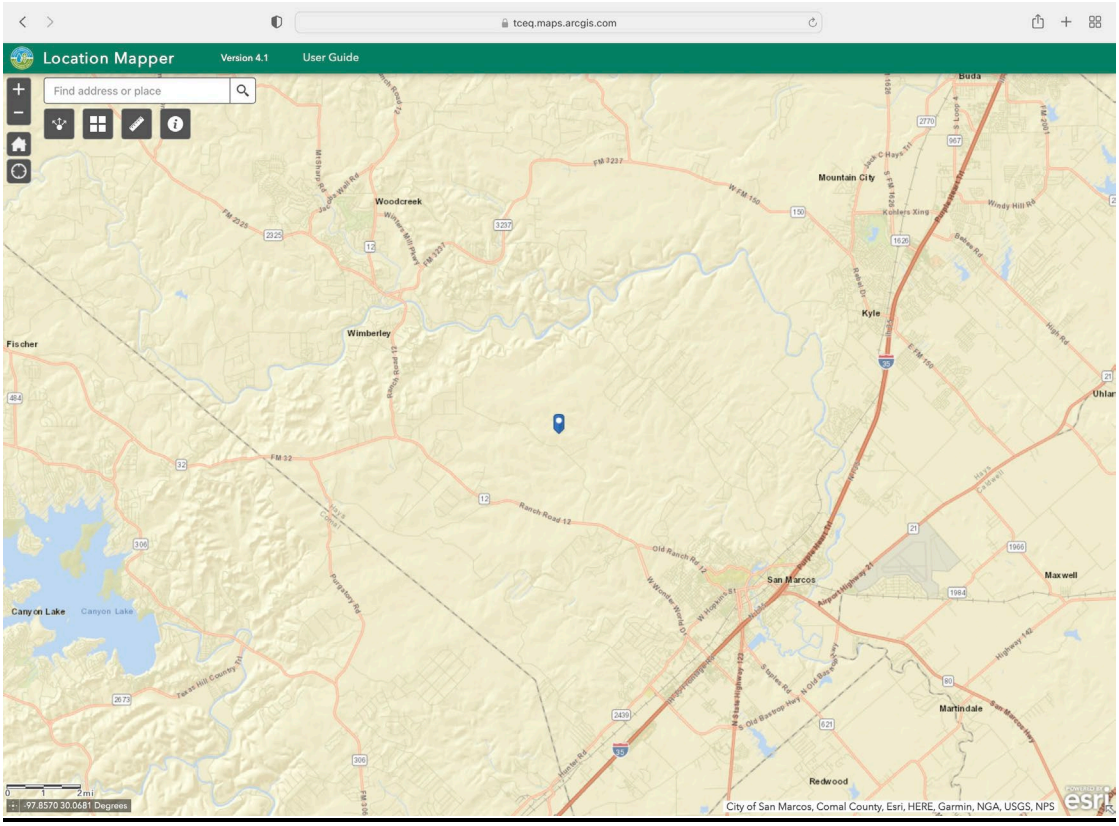
[7] https://www.safewater.org/fact-sheets-1/2017/1/23/miningandwaterpollution

[8] https://miamilimestone.com/potential-environmental-hazards-of-limestone-mining/#What_are_the_environmental_impacts_of_quarries

[9] https://education.seattlepi.com/environmental-hazards-limestone-mining-5608.html

[10] https://www.farsouthmining.com/photos/

34. 

https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbddd360f8168250f&marker=-98.0197%2C29.9431&level=12

EDWARDS AQUIFER AUTHORITY – RED ZONE

35. This proposed activity the Edwards Aquifer Authorities' jurisdictional red zone: https://www.arcgis.com/home/webmap/viewer.html?webmap=aed0e4eddc794ec49d740a267d42560a&extent=-101.1491,28.3085,-96.6364,30.6845

FSM AIR PERMIT APPLICATION

36. FSM has submitted to the TCEQ an application[11] for an air pollution permit to operate a rock crushing/quarry operation in Hays County, Texas, which is within one of the State Implementation Program, "SIP," zones, administered by TCEQ to enforce and comply with the federal Clean Air Act.[12] The application for the air pollution permit triggers the application of Section 7 of the Endangered Species Act in addition to Section 9 for the proposed activities. Thus, FSM needs to engage formal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act.

KEY RELEVANT LAW PROVISIONS

37. Limestone mining operations have a notorious history of polluting groundwater including but not limited to polluting municipal drinking water wells including contamination with benzene, a Class 1, human carcinogen, from the blasting slurry residues accumulating over time. Such pollution violates the Clean Water Act and also the federal Safe Drinking Water Act.

38. A federal district judge in Miami found:

> Shockingly, the Court learned for the first time during the evidentiary hearing, in June 2006, that benzene, a carcinogen,[9] had been detected as early as January 2005 in the water being pumped from the Biscayne Aquifer ("Aquifer"), "the primary source of drinking water for the Miami–Dade County area." AR1028,[10] p. 4. The contamination was found in the area where limestone mining, which uses explosives[11] to remove the limestone from the Aquifer, is proceeding pursuant to the challenged permits. The contamination was so significant[12] that Miami–Dade County's Water and Sewer Department ("WASD") (the agency responsible for the delivery of drinking water for the County) shut down seven of the fifteen production wells which draw water from the Aquifer in that area, known as the Northwest Wellfield ("Wellfield"), and pump it to water treatment plants several miles away.[13] More than two years after the initial contamination incident,[14] Miami–Dade County's Department of Environmental Resources Management ("DERM"), the agency responsible for protecting the Wellfield, announced that it could not eliminate the mining-related blasting as a source of the benzene.[15] DERM's report concluded that the *1192 two reported contamination periods

[11] Application number: RN167888
[12] https://www.tceq.texas.gov/airquality/sip

(January 2005 to February 2006, and a second episode beginning in August 2006) were *not* caused by several other potential sources.[16]
Despite protestations to the contrary, it appears likely that the Corps-permitted mining activities, specifically the blasting used to dislodge the limestone[17] from the Aquifer, are a source of the benzene. A significant portion of the mining occurs in this same Wellfield where the contamination was discovered—some of the active mining operations are less than 3000 feet from the production wells. The Court need not determine conclusively[18] whether *1193 the benzene originated from mining-related blasting as the contamination itself (and the Corps' failure to treat it as significant) is sufficient to expose the Corps' ongoing violations and dereliction of their duties under the CWA, NEPA, and APA.[19]

Sierra Club v. Strock, 495 F. Supp. 2d 1188, 1191–93 (S.D. Fla. 2007), *vacated sub nom. Sierra Club v. Van Antwerp*, 526 F.3d 1353 (11th Cir. 2008)

ENDANGERED SPECIES ACT

39. The Endangered Species Act, 16 U.S.C.A. § 1538 Prohibited Acts (also referred to as Section 9) – provides:

(a) Generally
(1) Except as provided in sections 1535(g)(2) and 1539 of this title, with respect to any endangered species of fish or wildlife listed pursuant to section 1533 of this title it is unlawful for any person subject to the jurisdiction of the United States to--

…
(B) take any such species within the United States or the territorial sea of the United States; …or

(G) violate any regulation pertaining to such species or to any threatened species of fish or wildlife listed pursuant to section 1533 of this title and promulgated by the Secretary pursuant to authority provided by this chapter.

40. Definition of "Take" - 16 U.S.C.A. § 1532 (19) The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

50 C.F.R. § 17.3 further defines the definition of "take":

"Harass" in the definition of "take" in the Act means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering….

"Harm" in the definition of "take" in the Act means an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

ENDANGERED SPECIES – CRITICAL HABITAT DESIGNATION

41. The ranch on which this operation proposes to operate the quarry and rock crushing includes Fern Bank Springs, which is designated as "critical habitat" under the Endangered Species Act for a federally protected endangered species, the Comal Springs Dryopid Beetle *Stygoparnus comalensis*. See, 72 FR 39248-01; 78 FR 63100-02.

Critical habitat is defined in the Endangered Species Act, 16 U.S.C. § 1532 as:

(5)(A) The term "critical habitat" for a threatened or endangered species means--
(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.

DESIGNATION OF FERN BANK SPRINGS AS CRITICAL HABITAT

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Comal Springs Dryopid Beetle, Comal Springs Riffle Beetle, and Peck's Cave Amphipod, 78 FR 63100-02

EDWARDS AQUIFER AUTHORITY ACT PROHIBITS WATER DEGRADATION

42. The Edwards Aquifer Act plainly and purposefully imposes strong protections of this precious resource. FSM has failed to apply for, much less obtain, approval of its proposed activities as required by the Edwards Aquifer Act.

43. The purpose of this chapter is to regulate activities having the potential for polluting the Edwards Aquifer and hydrologically connected surface streams in order to protect existing and potential uses of groundwater and maintain Texas Surface Water Quality Standards. The activities addressed are those that pose a threat to water quality.

(1) Consistent with Texas Water Code, §26.401, the goal of this chapter is that the existing quality of groundwater not be degraded, consistent with the protection of public health and welfare, the propagation and protection of terrestrial and aquatic life, the protection of the environment, the operation of existing industries, and the maintenance and enhancement of the long-term economic health of the state.

(2) Nothing in this chapter is intended to restrict the powers of the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. In addition to the rules of the commission, an applicant may also be required to comply with local ordinances and regulations providing for the protection of water quality.

(3) The executive director shall review and act on an application subject to this chapter. The applicant or a person affected may file with the chief clerk a motion to overturn, under §50.139(a), (b), and (d) - (g) of this title (relating to Motion to Overturn Executive Director's Decision), of the executive director's final action on an Edwards Aquifer protection plan, modification to a plan, or exception.

Source Note: The provisions of this §213.1 adopted to be effective December 27, 1996, 21

TexReg 12125; amended to be effective September 1, 2005, 30 TexReg 4984

AUTHORIZATION IS REQUIRED

44. These rules specifically apply to the Edwards Aquifer and are not intended to be applied to any other aquifers in the state of Texas. Unless otherwise provided under this chapter, the owner of an existing or proposed site, such as a residential or commercial development, sewage collection system, or aboveground or underground storage tank facility for static hydrocarbons or hazardous substances, who proposes new or additional regulated activities under this chapter, must file and receive executive director approval of all appropriate applications prior to commencement of construction of new or additional regulated activities.
30 T.A.C. § 213.2

FSM'S INTERFERENCE WITH REGIONAL ENDANGERED SPECIES HABITAT CONSERVATION PLANS

45. Hays County and the Edwards Aquifer Authority both have developed Habitat Conservation Plans, "HCP's," applicable to the geographic area proposed for the FSM quarry and rock crushing operations. Both entities have invested tens of thousands of hours and millions of dollars in public fund developing the HCP's to assure compliance with the Endangered Species Act through developing the HCP's under Section 10 of the Endangered Species Act. Far South Mining has made no known efforts to participate in the Habitat Conservation Plans, yet it's activities are likely to violate Section 9 of the Endangered Species Act.

46. "The Hays County Commissioners Court voted to implement its federally approved Regional Habitat Conservation Plan (RHCP) in July 2013 following six years of staff development that culminated in federal approval."[13] Hays County has an Endangered Species Act form for submitting a project for review to obtain permitting to assure compliance with the Endangered Species Act, which on information and belief, ***Far South Mining has neither applied for nor obtained***.[14]

47. Similarly, the Edwards Aquifer Authority has an even more extensive Endangered Species Act Habitat Conservation Plan, especially focused on water quality, water flows, and adverse impacts to aquatic habitat and species. Again, on information and belief, Far South Mining has done nothing to assure its activities will not interfere with or frustrate the purposes of the EAA's Habitat Conservation Plan, which is especially focused on aquatic habitats. Far South Mining's

[13] https://hayscountytx.com/departments/development-services/hays-county-regional-habitat-conservation-plan/

[14] https://hayscountytx.com//www/wp-content/uploads/2021/04/FINAL-2020-HAYS-COUNTY-ESA-FORM.pdf

operations likely will adversely impact the aquatic habitats sought to be protected through the Edwards Aquifer Authorities' Habitat Conservation Plan through the long-term cumulative impacts of its operations.[15]

TCEQ QUARRY BMP'S DO NOT AVOID ESA ENFORCEMENT AND

2007 TUGGLE "NO TAKE" LETTER IS INAPPLICABLE & UNENFORCEABLE

48. TESPA will seek a declaratory judgment pursuant 28 U.S.C. § 2201 to determine the applicability and legal effects, if any, of the 2007 letter from Benjamin Tuggle[16], then the Regional Director for the Southwest Region of the USFWS, to the Edwards Aquifer Authority in which he stated he would support a "no take" opinion on the application of the Endangered Species Act as to certain listed endangered species including certain listed salamander species found in San Marcos Springs and Fern Bank Springs.

49. The Tuggle letter does not include the Comal Springs Dryopid Beetle, and should not apply to any other endangered or threatened species such as the Texas Blind Salamander or San Marcos Springs Salamander as applied to this proposed operation.

50. The TESPA ESA and declaratory judgment action will challenge the "no take" opinion of the 2007 Tuggle letter as applied to the Far South Mining LLC's operation of quarries and rock crushing within the Edwards Aquifer Authority's jurisdiction. As the TCEQ has noted in its best management practices for quarries in the Edwards Aquifer:

> The optional water quality measures and best management practices (BMPs) contained in this document have been reviewed by the United States Fish and Wildlife Service (USFWS), which has issued a concurrence that these voluntary enhanced water quality measures will protect endangered and candidate species from impacts due to water quality degradation. USFWS

[15] https://www.edwardsaquifer.org/habitat-conservation-plan/

[16] https://www.tceq.texas.gov/downloads/permitting/edwards-aquifer/forms/usfw-sep-4-2007-to-tceq-a.pdf

> approved the predecessor document to this revised appendix on February 14, 2005. This revised and updated appendix was approved by correspondence from Dr. Benjamin N. Tuggle, USFWS Regional 2 Director to Governor Rick Perry dated September 4, 2007. This letter identified the following species as being included under this "no take" concurrence:
>
> Barton Springs salamander (Eurycea sosorum),
>
> Fountain darter (Etheostoma fonticola),
>
> Georgetown salamander (Eurycea naufragia),
>
> San Marcos salamander (Eurycean nana), and
>
> San Marcos gambusia (Gambusia georgei).
>
> This concurrence is not a delegation of the USFWS's responsibilities under the Endangered Species Act (ESA), but rather an acknowledgement that the TCEQ Edwards Aquifer Protection Program with these enhanced water quality measures addresses known threats to the identified species.

51. Neither EAA nor Dr. Tuggle's letter consider the effects of the alteration of water flows and flow patterns changing due to blasting in a quarry and/or increases in residue contaminants from the blasting agents, ammonium nitrate and diesel/petroleum products, not consumed in the blast.

52. In the unlikely event the 2007 Tuggle letter is found enforceable as applied to this proposed quarry and rock crushing operation, the 2012 TCEQ/EAA's "best management practices" [17] for quarry operations did not even exist, and thus, could not fall within the scope of potential impacts considered by Tuggle in his 2007 opinion letter. Further, the 2007 letter does not cover the Dryopid beetle found in Fern Bank Springs, the habitat which is designated as "critical habitat" under the Endangered Species Act. Thus, the TCEQ's quarry specific best management practices, "BMP's," do not apply to this species, even if the Tuggle letter is upheld – which it should not be.

[17] TCEQ Publications RG348A and RG500.

53. TCEQ plainly states in its Quarry BMP document:

> If these practices contained in this document are used, they are expected to result in "no take" of these species from degradation of water quality by non-Federal landowners and other non-Federal managers. This "no take" concurrence does not cover projects that: (1) occur outside the area regulated under the Edwards Aquifer Rules; (2) result in water quality impacts that may affect Federally-listed species not specifically named above; (3) result in impacts to Federally-listed species that are not water quality related; or (4) occur within one mile of spring openings that provide habitat for Federally-listed species.
> It is the responsibility of the applicant to determine the potential for impacting endangered species and take appropriate action based upon this information.

54. **As the TCEQ notes in the BMP's:**

Section 9 of the Endangered Species Act (Act) and Federal regulations adopted under section 4(d) of the Act prohibit the "take" of endangered and threatened species without special exemption. Take of listed species is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in such conduct. Harass is further defined as an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns. Harm includes significant habitat modification or degradation that results in death or injury to listed species.

55. **Finally, and perhaps most importantly of all, Dr. Tuggle was the subject of a federal whistleblower action which produced sworn testimony that Dr. Tuggle was not enforcing the Endangered Species Act in Texas due to political considerations rather than basing decisions on the "best available science" as required by the Endangered Species Act.[18]**

[18] https://peer.org/scientific-fraud-infests-fish-and-wildlife-service-top-ranks/

REPRESENTATIVE SCIENTIFIC LITERATURE OF IMPACTS TO WATER IN KARST

56. Quarrying Impacts on Groundwater Flow Paths

Green, Jeffrey A; Pavlish, Jeremy A; Leete, Jeanette H; Alexander Jr., E. Calvin; Merritt, RG (Proceedings of the Ninth Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst. © 2003 American Society of Civil Engineers. Published online: April 26, 2012, 2003)

https://conservancy.umn.edu/handle/11299/188252

Abstract
Quarrying in limestone aquifers can interfere with groundwater flow paths. Quarries can pirate karst conduit flow by physically breaking into the conduits and changing the groundwater discharge points. Another mechanism of groundwater flow interference occurs as quarry dewatering lowers the water table changing groundwater flow directions. Dye tracing is an effective tool to evaluate and quantify these impacts. In Minnesota, tracing investigations have been conducted at two quarries. The Big Spring quarry near Harmony, Minnesota is in the Ordovician Galena Formation. The quarry is 500 meters from Big Spring, the headwater spring of Camp Creek, a Minnesota designated trout stream. Although the quarry is nominally above the water table, beginning about forty years ago, the quarry intercepted conduits carrying groundwater to the spring. Groundwater that formerly discharged from Big Spring now rises in the quarry then flows overland joining Camp Creek 100 meters downstream of Big Spring. About 90 percent of the mapped groundwater basin of Big Spring is now routed through the quarry. The Osmundson quarry is in the Devonian Lithograph City Formation at LeRoy, Minnesota. This sub-water table quarry requires seasonal dewatering at 1,000-3,000 liters/minute. When the quarry is being dewatered, Sweets Spring, approximately 300 meters to the southeast, stops flowing. Dye tracing has verified that the quarry pirates the flow to the spring. Both of these cases demonstrate the utility of using dye traces to determine the impact of limestone quarrying on groundwater flow paths. This information can be used to evaluate proposed quarry sites for their potential alterations of groundwater flow paths.

57. **Quarrying in Karst: Geotechnical Estimation of Environmental Risk**

September 2008

Geotechnical Special Publication

DOI:10.1061/41003(327)68

Conference: 11th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst

Quarrying in karst poses potential environmental risk. Historically, well-documented, large-scale negative impacts related to extensive and deep quarries, include dewatering of aquifers, changes in groundwater flow, and induction of land subsidence and sinkholes. Estimating and mitigating risk prior to quarrying is difficult. Some geotechnical techniques in karst may be unreliable or imprecise owing to a high degree of anisotropy and heterogeneity transmitting groundwater exclusively through fractures (secondary porosity) and dissolutionally enlarged openings (tertiary porosity). Surficial geophysical investigations, (e.g. electrical resistivity, ground-penetrating radar, seismic exploration, lineament analysis) are useful but rarely definitive in characterizing a quarry site. Borehole geophysics, although very precise within each well, may not reflect the true configuration of conduit flow within the footprint of the quarry. Statistically, wells drilled in dense bedrock with wide fracture spacing may intersect few, if any, significant openings. Geophysical parameters and pump tests from such wells may lead to erroneous hydrogeologic conclusions about the site, including the areal extent of influence of a quarry. Dye-trace studies typically provide a better indication of potential risk. Quarries close to zones of recharge may introduce steep hydraulic gradients near the excavation, augmenting discharge into the opening. Conversely, quarries distant from such zones may produce much gentler gradients and have a reduced environmental impact.

58. Environmental Impacts on Surface Water and Groundwater for Expanding Urban Water Supply Capacity Using Stone Quarries

May 2009
DOI:10.1061/41036(342)189
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A quarry reservoir can become thermal stratification during summer if it is deep enough, and the stratification can lead to oxygen depletion in the bottom waters, and then it may require hypolimnetic oxygenation (aeration) to improve water quality. A lake water quality model is used to examine water quality dynamics in different types of stone quarry reservoirs under different climate and watershed input scenarios.

59. **Marble Slurry's Impact on Groundwater: The Case Study of the Apuan Alps Karst Aquifers**, Piccini, et al

https://www.mdpi.com/2073-4441/11/12/2462/htm

Abstract

Modern sawing techniques employed in ornamental stones' exploitation produce large amounts of slurry that can be potentially diffused into the environment by runoff water. Slurry produced by limestone and marble quarrying can impact local karst aquifers, negatively affecting the groundwater quality and generating a remarkable environmental and economic damage. A very representative case-study is that of the Apuan Alps (north-western Tuscany, Italy) because of the intensive marble quarrying activity. The Apuan Alps region extends over about 650 km^2; it hosts several quarries, known all over the world for the quality of the marble extracted, and a karst aquifer producing about 70,000 m^3/day of high-quality water used directly for domestic purposes almost without treatments. In addition, Apuan Alps are an extraordinary area of natural and cultural heritage hosting many caves (about 1200), karst springs and geosites of international and national interest. During intense rain events, carbonate slurry systematically reaches the karst springs, making them temporarily unsuitable for domestic uses. In addition, the deterioration of the water quality threatens all the hypogean fauna living in the caves. This paper provides preliminary insights of the hydrological and biological indicators that can offer information about the impact of the marble quarrying activities on groundwater resources, karst habitats and their biodiversity.

SECTION 7 – FEDERAL NEXUS WITH THE CLEAN AIR ACT

60. Federal Approval of State Implementation Plan, 40 CFR Part 52

https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-52/subpart-SS?toc=1

EPA is charged under Section 309 of the Clean Air Act to review the environmental impact statements (EIS) of other federal agencies and to comment on the adequacy and the acceptability of the environmental impacts of the proposed action.

See generally, https://www.energy.gov/sites/default/files/G-EPA-309_caa_nepa.pdf

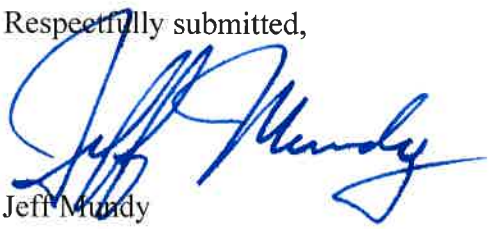
Who is responsible for enforcing a SIP?
SIPs are generally enforced by the state. However, the EPA is authorized to take enforcement action against violators for federally-approved SIPs. Members of the public can also file citizen suits under the Clean Air Act to address violations of SIPs.
If a SIP has been approved by a state but not yet approved by the EPA, then it is only state-enforceable and not federally-enforceable until approved by the EPA.
https://www.epa.gov/sips-tx

CONCLUSION

TESPA respectfully requests FAR SOUTH MINING LLC to abandon its announced plans to operate a quarry on the Needmore Ranch.

If FSM refuses to respect the threats to the water, endangered species, and law protecting both, the USFWS, Hays County, and/or Edwards Aquifer Authority are requested to halt and/or enjoin this activity failing FSM's cooperation. Further, the USFWS is requested to publicly disavow any further reliance on the 2007 Tuggle letter covering Hays County, as well as disavow the related 2007 Tuggle letter covering Travis and Williamson Counties.

Respectfully submitted,



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Attorney for Needmore Ranch aka NR Ranch II and related business entities of Greg LaMantia and related LaMantia business entities

Ms. Lauren Brown Watson
Registered Agent for
Four Boards Ranch LLC

EXHIBIT 1

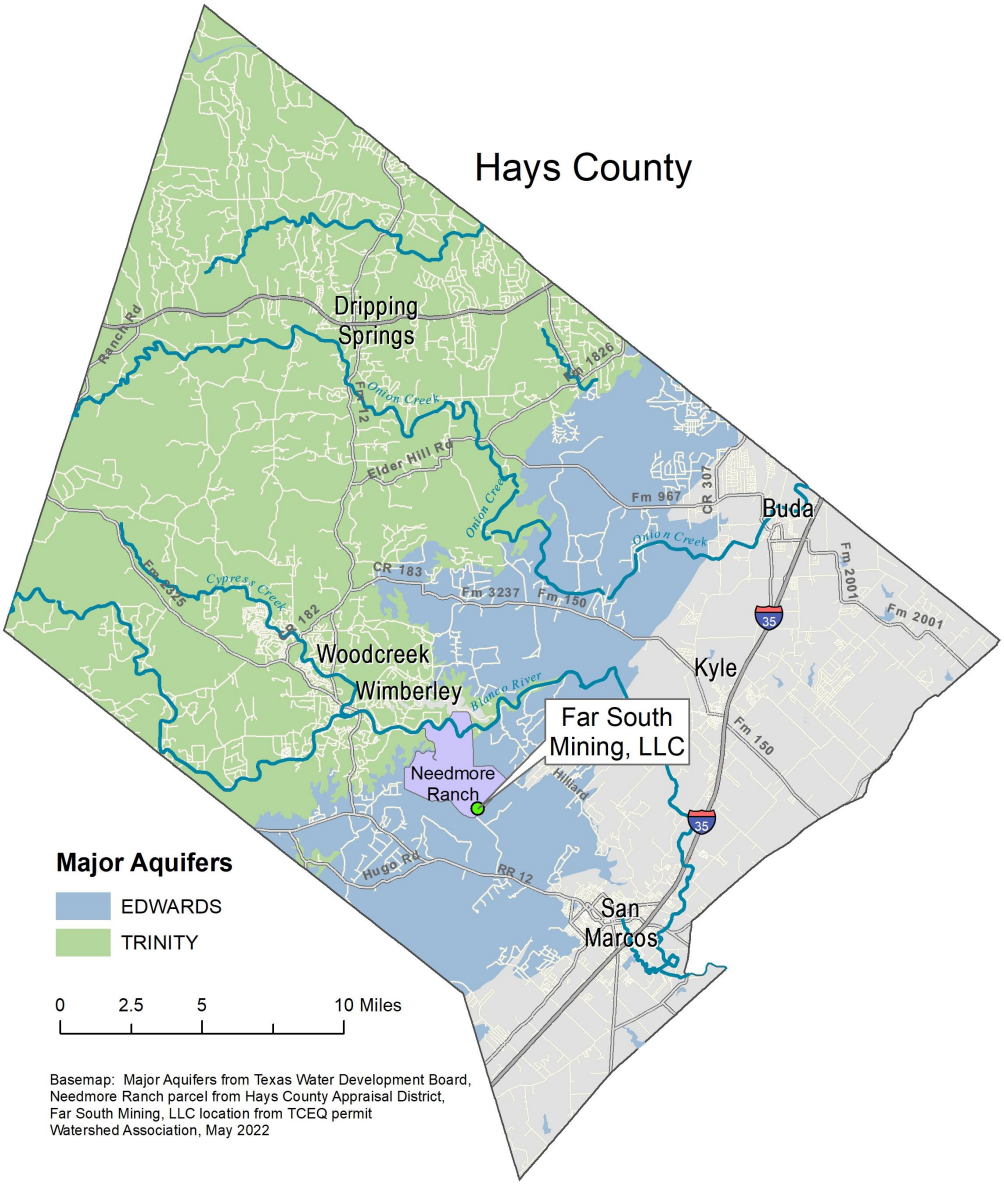
Hays County
Dripping Springs
Ranch Rd
Onion Creek
Elder Hill Rd
Fm 1826
Fm 967
CR 307
Buda
Fm 2001
CR 183
Fm 3237
Fm 150
Cypress Creek
Fm 2325
182
Woodcreek
Wimberley
Blanco River
Kyle
Far South Mining, LLC
Needmore Ranch
Hilliard
Huga Rd
RR 12
San Marcos
35
Major Aquifers
EDWARDS
TRINITY
0 2.5 5 10 Miles
Basemap: Major Aquifers from Texas Water Development Board,
Needmore Ranch parcel from Hays County Appraisal District,
Far South Mining, LLC location from TCEQ permit
Watershed Association, May 2022

EXHIBIT 2

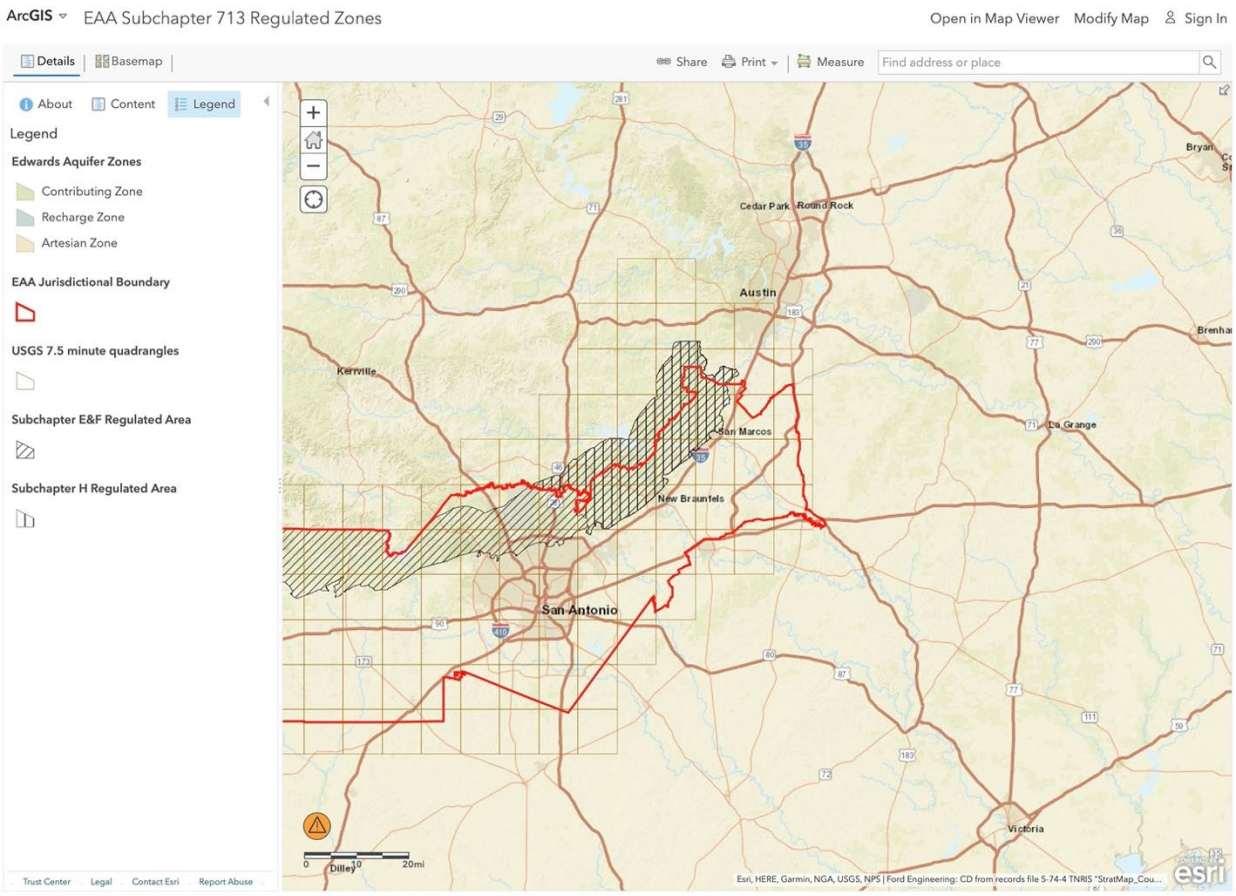

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EXHIBIT 3

EXHIBIT 4

EXHIBIT 5

6. 

EXHIBIT 6

7. 

EXHIBIT 7

EXHIBIT 8

EXHIBIT 9

EXHIBIT 10

EXHIBIT 11

EXHIBIT 12

EXHIBIT 13

EXHIBIT 14

EXHIBIT 15

EXHIBIT 16

EXHIBIT 17

EXHIBIT 18

EXHIBIT 19

EXHIBIT 20

EXHIBIT 21: FSM Tuleta Blast 1: https://www.youtube.com/watch?v=wqLEem-8am4

EXHIBIT 22: FSM Tuleta Blast 2: https://www.youtube.com/watch?v=AlkiLRe7oOw

EXIBHIT 23: FSM Tuleta Blast 3: https://www.youtube.com/watch?v=4dtGSHVvCt4

EXHIBIT 24: FSM Tuleta Blast 4 is missing from the videos posted by FSM on its youtube channel.

EXHIBIT 25: FSM Tuleta Blast 5: https://www.youtube.com/watch?v=IRmXc7ZodGI

END OF EXHIBITS