



CAMP LONGHORN INDIAN SPRINGS

1000 Indian Springs Rd
Burnet, TX 78611

Phone (512) 756-4650 Fax (512) 756-2783
springs@camplonghorn.com



To our honorable Judge and County Commissioners,

Our county now is at a critical junction. We are faced with 18 aggregate companies, and the number is growing.

We are especially concerned with the proposed rock crushing plant on FM 3509. This proposed site is next to Camp Longhorn Indian Springs, Longhorn Cavern State Park and Inks Lake State Park.

We have been told that there will be blasting to depths of 120 feet. This will implode the caverns as you will read in the study in your notebook. The caverns extend under Camp Longhorn and under the proposed site. Then let's add in the poisonous silica dust in the air and in the runoff into Spring Creek and Peters Creek affecting our lakes.

This folder has maps and information on the damage this rock crushing plant could do to our county and its people.

TCEQ and the LCRA have permitted even after over 6,000 protests. Our hope and prayers are that the Central Texas Water Commission will not grant the permit. Homes and ranches near the site already have wells that have gone dry.

SaveBurnet.com has thousands of followers that are writing to the Governor. The bill that we thought would pass on to the Senate was killed by a House member who we found out receives a huge amount of money from the aggregates. Our Senator Flores has

spoken on rights of property owners. What about the folks that have been here for generations? They didn't move next to this disaster.

Can our county use its legal powers to curtail this insanity?

We thank you for your resolution opposing but can we do more?

With hope and respect,

Nan Manning

A handwritten signature in black ink that reads "Nan Manning". The script is cursive and fluid, with the first name "Nan" and last name "Manning" clearly legible.

Overview of potentially harmful dust from Aggregate Production Operations (APO's) in our area



SAVEBURNET.COM

Using past performance to predict the future

- We know that there are 3 active APO's near Marble falls
 - Capital Aggregate Inc. - with a size of 101 disturbed acres.
 - Collier Materials Inc. - with a size of 131 disturbed acres.
 - Texas Materials Group, Inc. - with a size of 450 disturbed acres.
- The proposed Rock Crushing site in Burnet is:
 - equivalent in size (acreage)
 - Only 15 miles away so it will have same wind and weather conditions
- Look at the following pictures that show massive amounts of dust being release. Is this what you want next to:
 - Two state Parks (Inks Lake & Longhorn Caverns)?
 - Camp Longhorn, where thousands of kids sleep in open-air cabins?

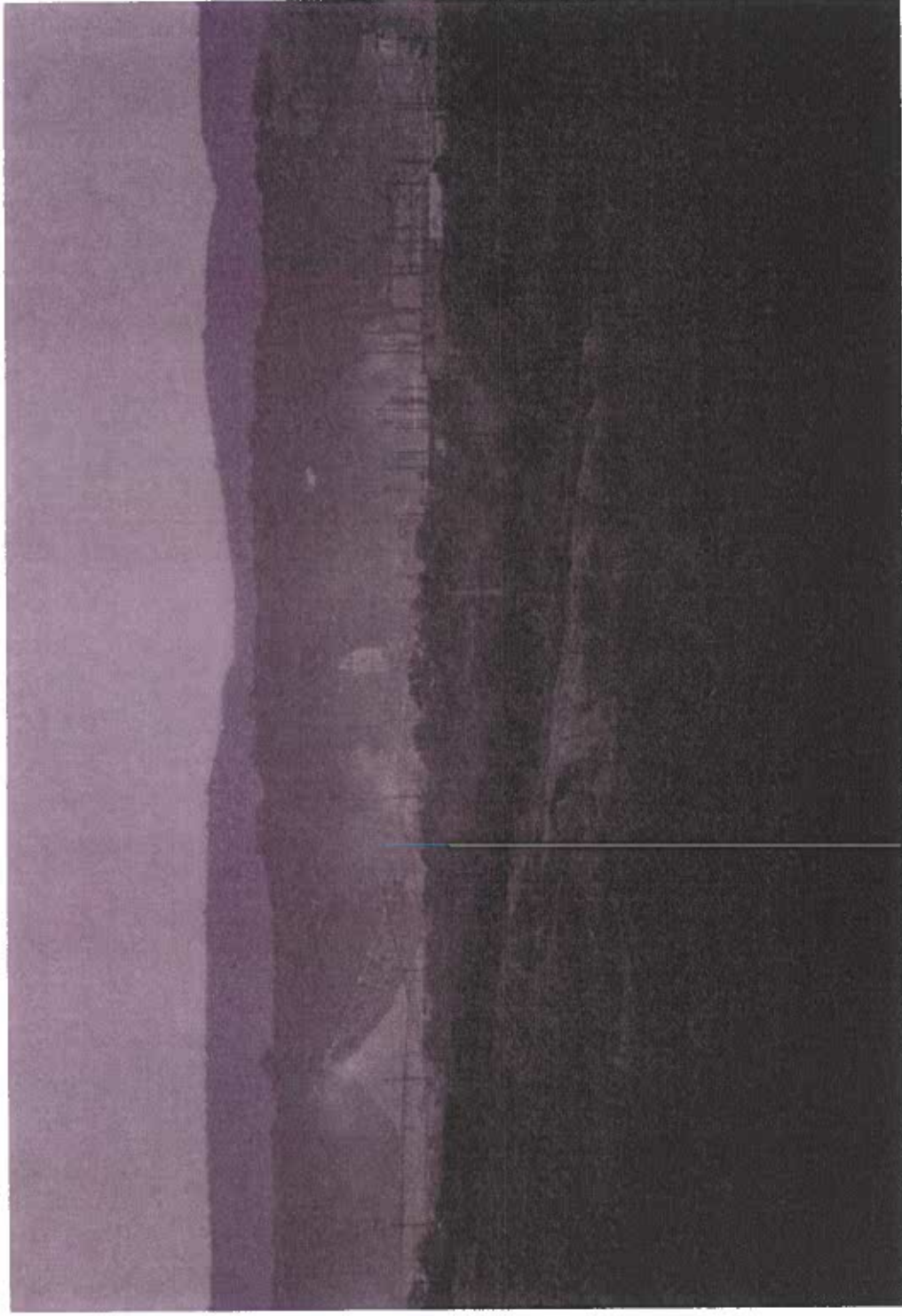
What can we learn from Marble Falls

CAPITOL AGGREGATES DELTA MATERIALS		1
Organization Name	CAPITOL AGGREGATES INC.	
Site Address Description	US 776 COURTESY ROAD 1/1	
Registration	APR000725	
Regulated Entity	GRAVEL, OTHER SAND	
Material Type	101	
Area Disturbed (Acres)	ACTIVE	
Registration Status	Jan 06, 2008	
Current Expiration Date		
COLLER MATERIALS		2
Organization Name	COLLER MATERIALS INC	
Site Address Description	ON 201 COUNTY ROAD 121	
Registration	APR002153	
Regulated Entity	RN-03870406	
Material Type	GRAVEL OTHER	
Area Disturbed (Acres)	2.9	
Registration Status	ACTIVE	
Current Expiration Date	Feb 14, 2026	
MARBLE FALLS QUARRY		3
Organization Name	TEXAS MATERIALS GROUP INC.	
Site Address Description	(No Value)	
Registration	APR002224	
Regulated Entity	RN-02050167	
Material Type	Gravel/Stone	
Area Disturbed (Acres)	6.75	
Registration Status	Active	
Current Expiration Date	Nov 03, 2025	



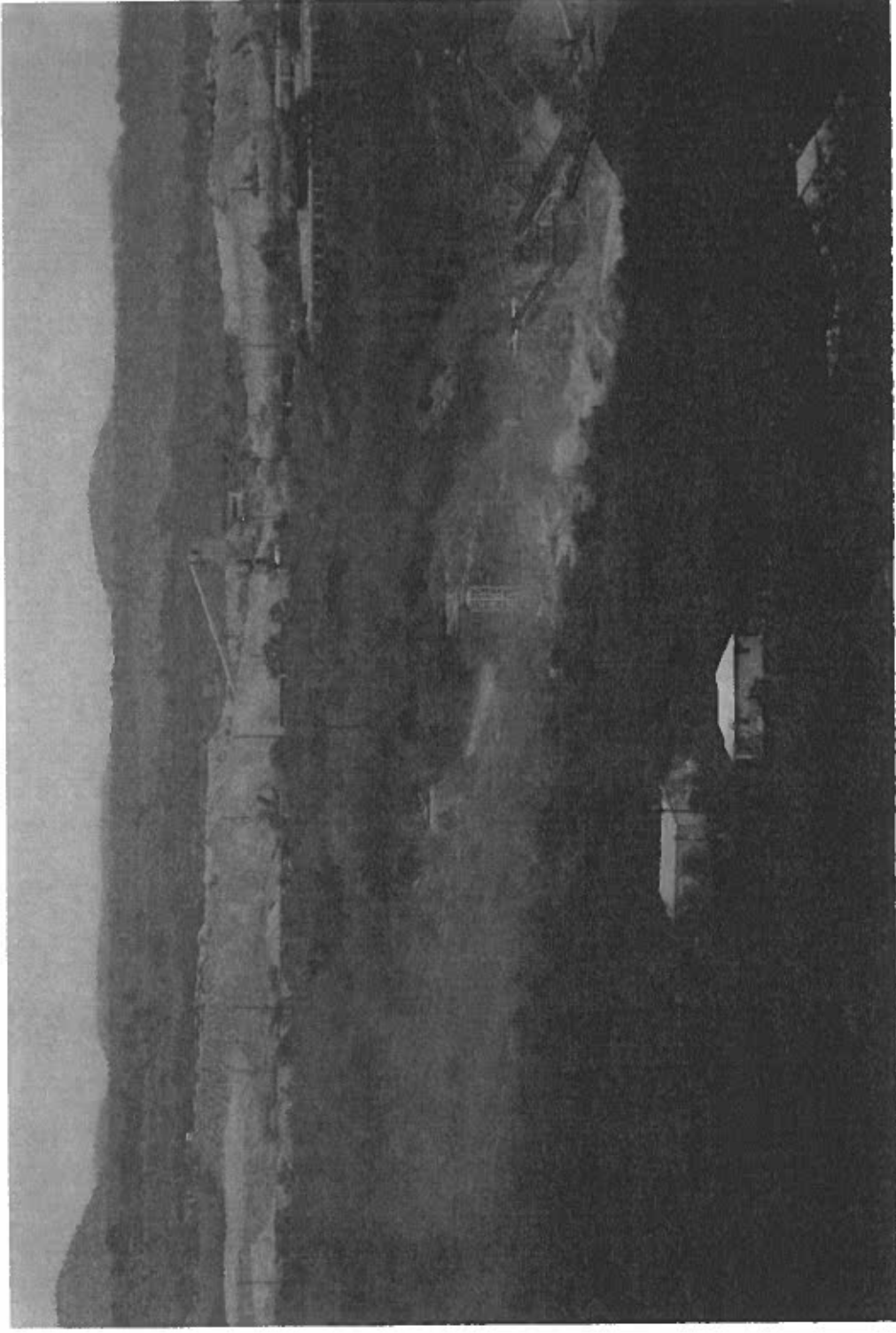
**Texas Materials
Group, Inc.
Picture taken 1.5
miles away in
March 2025**

**Does it look like
dust abatement is
working well?**



**Capital Aggregate
Inc. &
Collier Materials
Picture taken 1.5
miles away in
March 2025**

**Does it look like
dust abatement is
working well?**



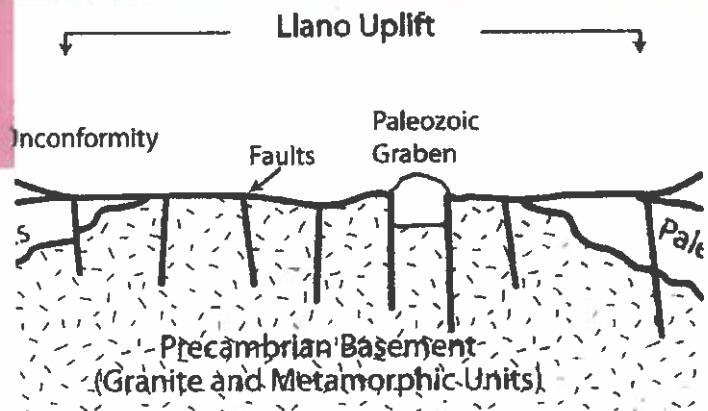
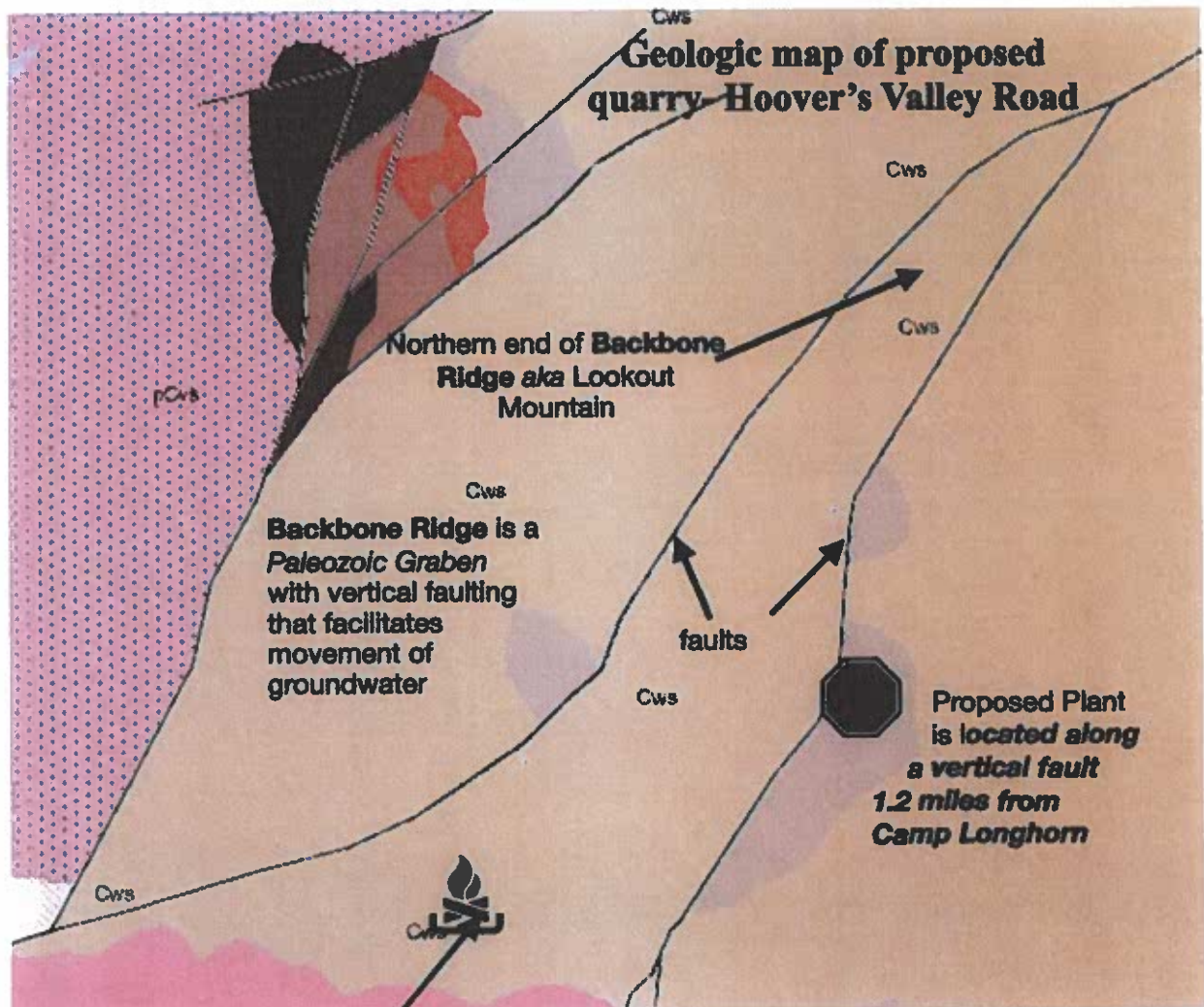
- Texas Materials Group, Inc. ,
- Capital Aggregate Inc.
- Collier Materials Inc.

Picture taken 2.5 miles away in March 2025

TCEQ & EPA have done little to nothing to ensure residents have safe air to breath.



7

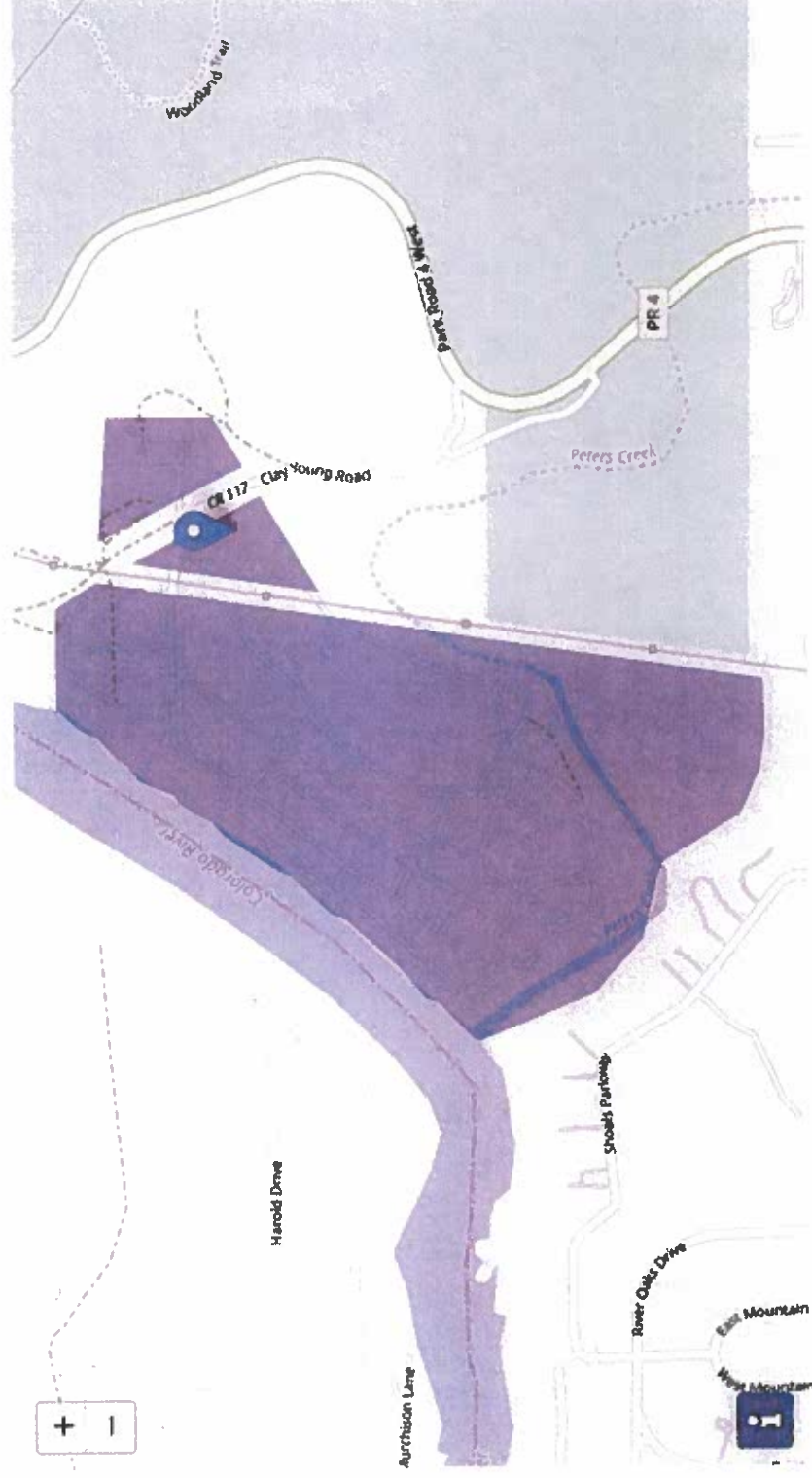


Geologic Cross Section - from Brian Hunt

Water concerns related to the proposed Rock
Crushing plant at 3221 FM 3509, Burnet TX.

The livelihood and way of life for the Burnet
community will be negatively impacted

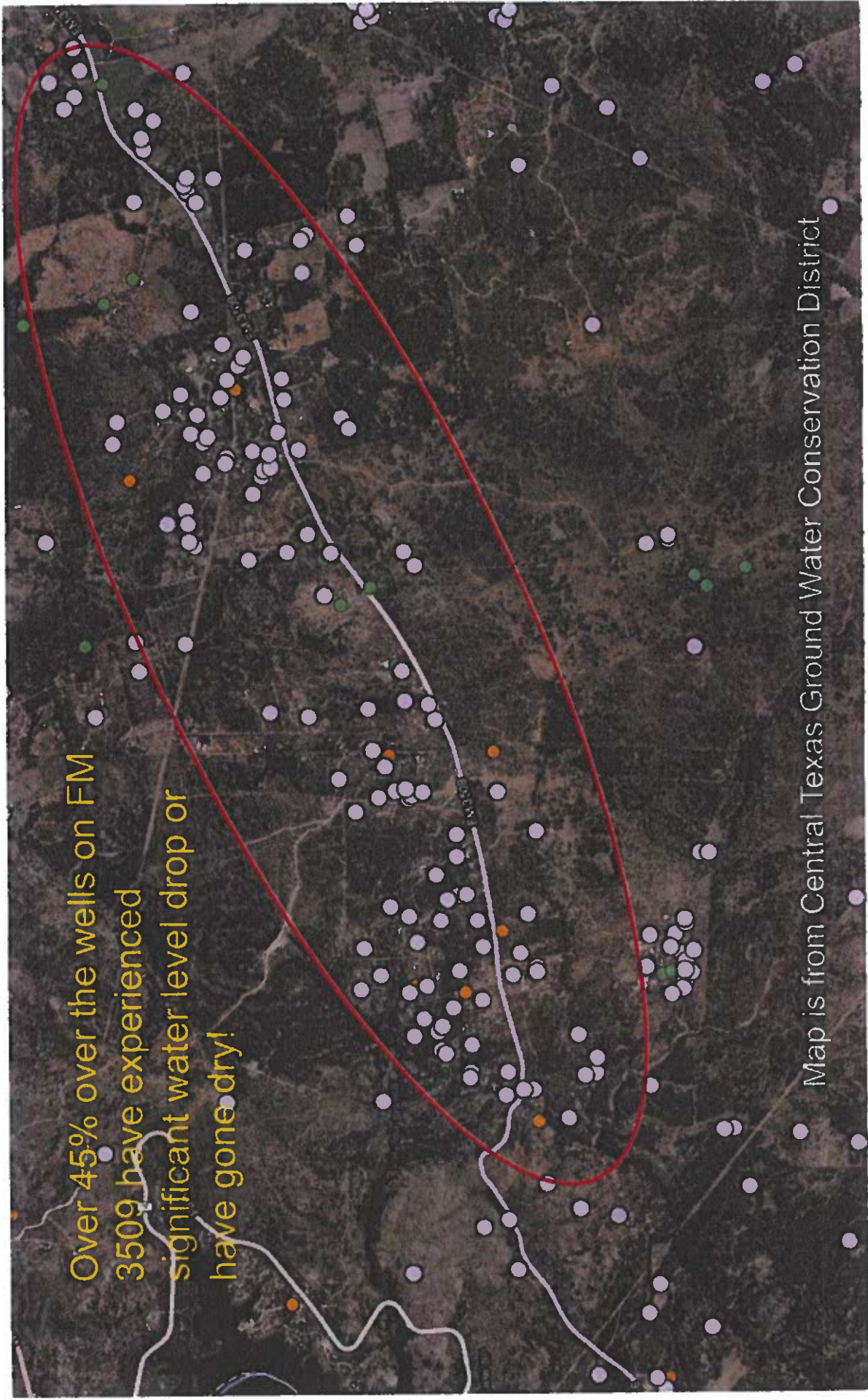
Peters Creek, flows to the Fish Hatchery!



Spring Creek, flows into Ink's Lake at Devil's Backbone Nature Trail!



Over 45% over the wells on FM
3509 have experienced
significant water level drop or
have gone dry!

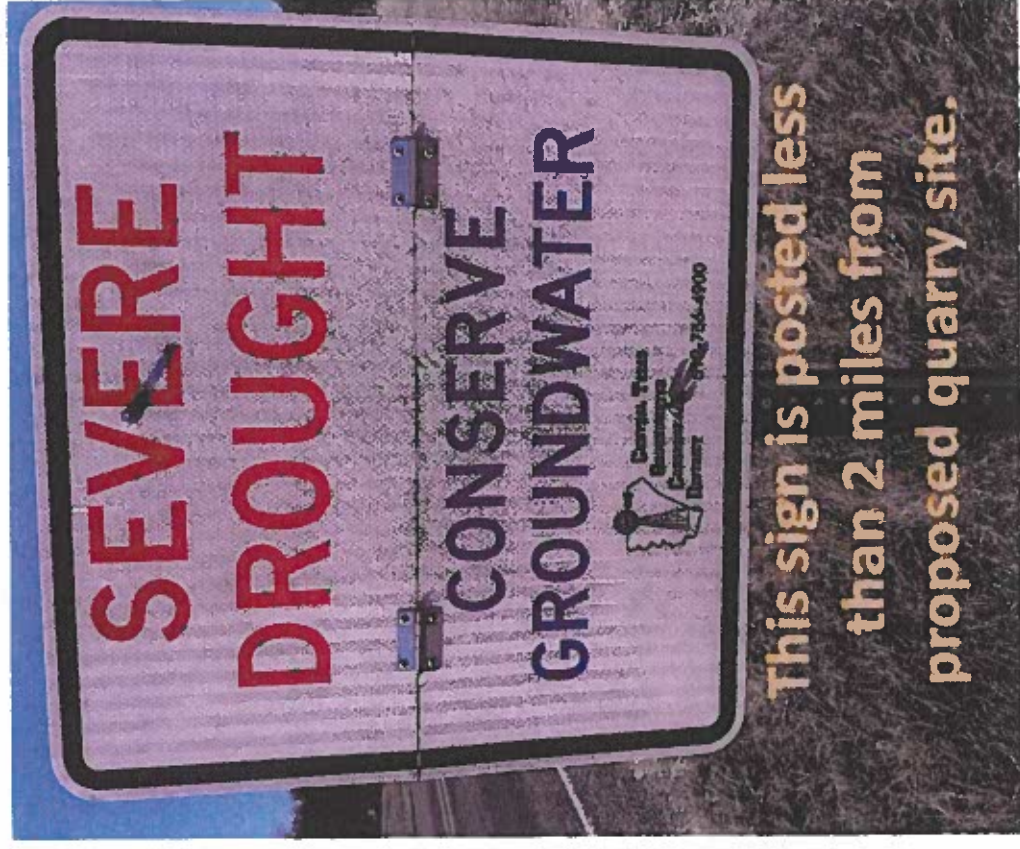


Map is from Central Texas Ground Water Conservation District

The citizens of Burnet County are being asked to conserve water... Which they are doing!

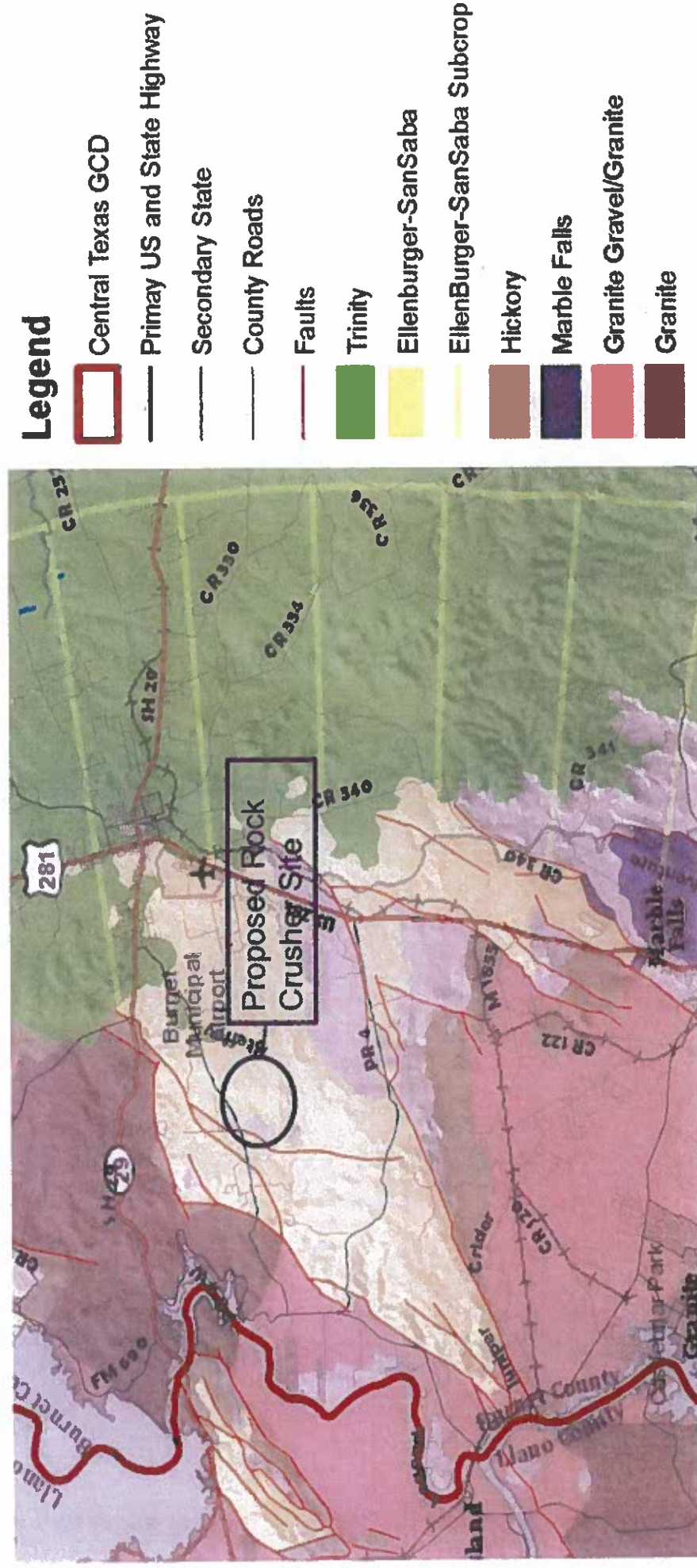
This rock crushing plant is estimated to use between 648,000 to 9,000,000 gallons per month!

Why would our state officials approve a permit for a rock crushing plant at the detriment of its local residence?





Daily Dynamite Explosions May Affect the Water Eco System



Map is from Central Texas Ground Water Conservation District

When fault lines are near aquifers, the primary concern is that seismic activity along the fault can disrupt groundwater flow, potentially causing changes in water availability, quality, and even sudden fluctuations in water levels due to the creation of new pathways or barriers to water movement within the aquifer; this can manifest as changes in spring discharge, new springs appearing, or existing springs drying up depending on the fault movement.

Key issues related to fault lines near aquifers:

Groundwater level fluctuations:

Seismic activity can cause sudden changes in groundwater levels due to the shifting of rock along the fault, potentially leading to wells running dry or experiencing sudden influxes of water depending on the movement direction.

Changes in water quality:

Faulting can introduce new contaminants into the aquifer by fracturing the rock and exposing previously isolated pockets of water with different chemical compositions.

Increased permeability:

Fault zones can act as conduits for groundwater flow, potentially increasing the rate of water movement through the aquifer, which could impact recharge and extraction rates.

Spring activity variations:

Springs that are fed by an aquifer near a fault line can experience changes in flow rate and water quality following seismic activity.

Sinkhole formation:

In certain situations, where the rock above an aquifer is weakened by faulting, seismic activity can trigger the collapse of the overlying rock, leading to sinkhole formation.

Factors influencing the impact of faults on aquifers:

Fault type:

The type of fault (normal, reverse, strike-slip) and its orientation relative to the aquifer can significantly impact how groundwater flow is affected.

Fault activity:

Actively slipping faults are more likely to cause significant disruptions to groundwater flow compared to inactive faults.

Aquifer characteristics:

The permeability and thickness of the aquifer will determine how easily groundwater flow can be altered by faulting.

Management considerations:

Geological surveys:

Detailed geological mapping to identify fault locations and assess their potential impact on nearby aquifers.

Groundwater monitoring:

Regularly monitoring water levels and quality in wells located near fault zones to detect changes associated with seismic activity.

Sustainable water management:

Considering potential impacts of faulting when planning water extraction strategies, including contingency plans for disruptions.

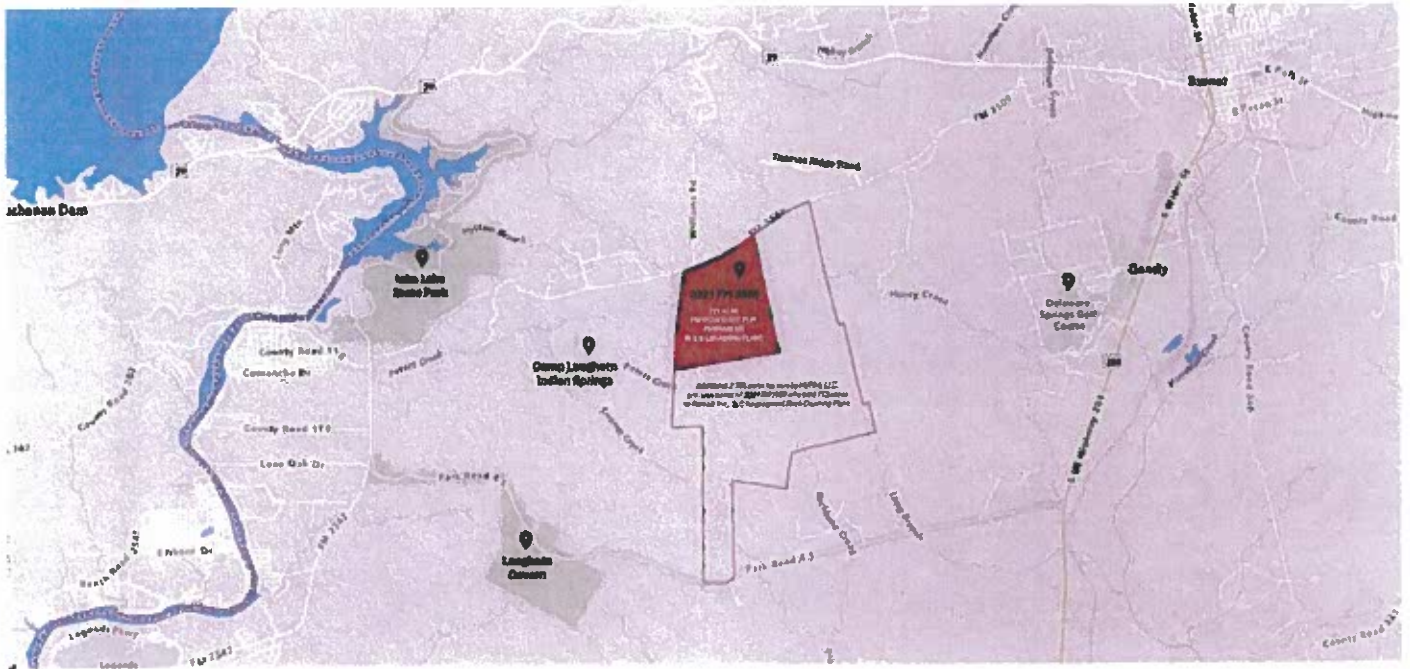
One of the worst site selections for an APO in all of Texas!

If approved this site will be using explosives / blasting:

- Less than 3.5 miles from TWO State Parks
- Less than 100 yards from a camp for children, many with respiratory issues.
- On top of a documented fault line
- 5 miles from Seton Hospital, medical facilities and several nursing homes for the elderly.
- In a section of land where residents are struggling to have household water.
- The site's runoff water will flow into a federal fish hatchery.
- On the same property that was not approved for water just 2 years prior when applying for a subdivision that would use less water than the proposed rock crusher.

It is time that our State authorities do the right thing and not approve the LCRA application for Asphalt Inc. LLC.

Proposed Rock Crushing Plant Location



Only 3.6 miles to National Inks
Dam Fish Hatchery



21

Less than 3 miles to Delaware Springs Golf Course



Less than 1 mile from where 1,000's kids sleep in open air cabins. Camp borders the Rock Plant Property



Less than 3 miles to
Falkenstein Castle



Only 3 miles to Longhorn
Caverns



Only 3.5 miles to Inks Lake
State Park



3.25 Miles from Torr Na Lochs
Vineyard & Winery



Life's better outside.®

Commissioners

Jeffery D. Hildebrand
Chairman
Houston

Oliver J. Bell
Vice-Chairman
Cleveland

James E. Abell
Kilgore

Wm. Leslie Doggett
Houston

Paul L. Foster
El Paso

Anna B. Galo
Laredo

Robert L. "Bobby" Patton, Jr.
Fort Worth

Travis B. "Blake" Rowling
Dallas

Dick Scott
Wimberley

Lee M. Bass
Chairman-Emeritus
Fort Worth

T. Dan Friedkin
Chairman-Emeritus
Houston

David Yoskowitz, Ph.D.
Executive Director

September 25, 2024

Office of the Chief Clerk, MC 105
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Dear Chief Clerk:

Texas Parks and Wildlife Department (TPWD) appreciates the opportunity to provide comment on Asphalt Inc, LLC's proposed air quality permit No. 176835, which would authorize construction of a rock crushing plant at 3221 FM 3509, Burnet, TX 78611. TPWD has a vested interest in this application and kindly requests continued notification of any future communications and correspondence.

TPWD is the agency with primary responsibilities of protecting the state's fish and wildlife resources, while also facilitating outdoor recreation opportunities for the public. In service to this mission, TPWD has managed Inks Lake State Park and Longhorn Cavern State Park for more than 80 years, which have main entrances on Park Road 4, approximately 3 miles from the proposed rock crushing plant. The park's resource management includes almost 2,000 acres of Central Texas Hill Country habitats with a wide variety of native plants and animals, including the federally endangered Golden-cheeked Warbler (*Setophaga chrysoparia*). Longhorn Cavern was designated a National Natural Landmark in 1971 and provides habitat for the Tricolored Bat (*Perimyotis subflavus*), which has also been proposed for listing as federally endangered species.

Since opening in 1930's and 1940's, Inks Lake and Longhorn Cavern State Parks have been treasured destinations by Texas' residents which currently host more than 300,000 visitors annually. The parks offer a diverse range of outdoor recreational opportunities include hiking, biking, paddling, fishing, camping, wildlife watching, outdoor education, children's playground facilities, as well as opportunities to enjoy multiple historic structures and landscapes built by the Civilian Conservation Corps. Visitors including individuals, small and large groups of various ages and abilities, may spend a couple of hours or an entire weekend hiking and camping in the outdoors while at the park.

While TPWD is not opposed to natural resource mining and processing operations, this particular facility raises concerns regarding potential adverse impacts on the fish and wildlife resources of Texas, as well as impacts to the outdoor environment and the health of Park visitors. The Parks are sensitive receptors for any particulate matter emanating from the planned rock crushing plant. Additionally, TPWD is concerned about impacts from the noise, vibration, light pollution, and traffic associated with resource mining and processing plants. Considering these concerns,

TPWD requests that the Applicant be required to initiate coordination with TPWD's Ecological and Environmental Planning Program's Environmental Review Team. The Environmental Review Team reviews development projects from a variety of industries and provides recommendations that help to protect fish and wildlife resources and minimize impacts to natural resources during the construction of the projects. In addition to this required coordination, TPWD requests that the Applicant be required to conduct air dispersion modeling that considers impacts to Inks Lake and Longhorn Cavern State Parks. TPWD hopes to use the information generated through the air dispersion modeling to better understand and respond to the expected negative impacts related to air quality.

TPWD appreciate the opportunity to offer comment and look forward to working with the Texas Commission on Environmental Quality, the Applicant, and other stakeholders on this matter. If you have any questions or need more information, please contact Greg Creacy at greg.creacy@tpwd.texas.gov or at (512) 389-4897. Thank you.

Sincerely,



Rodney Franklin
Director, State Parks

RF:dl

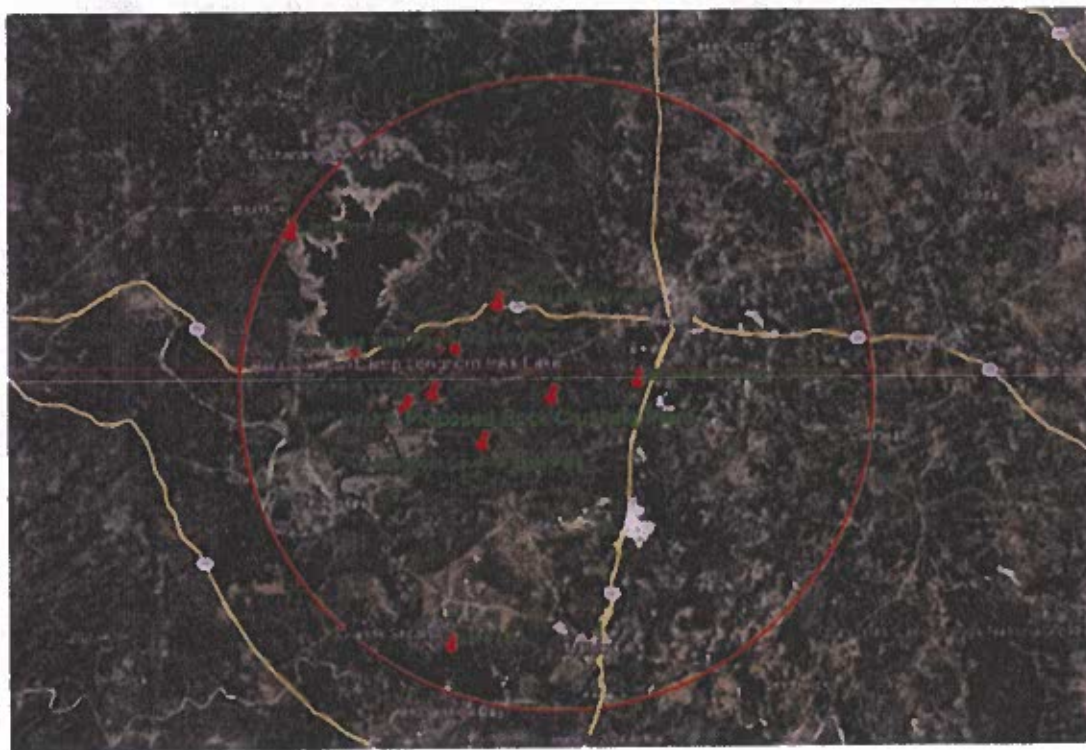
cc: Mr. Todd McClanahan



To: Brian Burkitt, Water Quality Protection
From: The Lake Buchanan Communities Alliance (LBCA)
Re: Permit Application # 2024-5606 U0
Date: February 24, 2025
Dear Mr. Burkitt,

We would like to thank you for your letter of January 31, 2025 to Mr. Curt Campbell outlining your questions concerning Burnet Quarry Application #2024-5606 U0. You raised some legitimate concerns that we at LBCA would like to see addressed.

The reason for this letter is to express our deep distress over the above permit application. Our concerns are illustrated below.



Pins:

Center:
Proposed Plant

Clockwise from
below:
Longhorn Caverns
Uplift Vineyards
Perissos Vineyards
Inks Lake State Park
Camp Longhorn
Delaware Springs
Lake Buchanan
Inks Lake
Lake LBJ
Not shown:
Camp Buckner – 4.5
miles away.

As you can see, the proposed location is directly in the middle of one of the most environmentally sensitive areas in the Highland Lakes region. The red circle represents a 12-mile radius around the proposed site. A sampling of what we hold most dear to our homelands is within that circle. Just a few of the parallel concerns we have are:

- We have been in a severe drought for more than a decade. For example, since 2011, Lake Buchanan has only reached the full level once - in 2018.
- Many residents in the area are reporting issues with dried up or slowing water wells.
- Over 45% of the wells on FM 3509 have experienced significant water level drop or have gone dry.



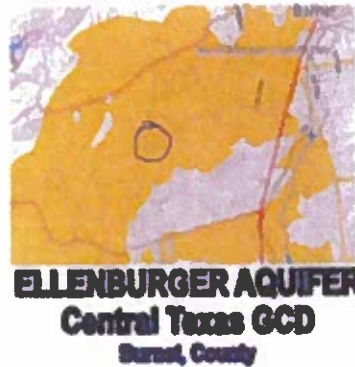
31

- While citizens in the highland lakes area are being asked to conserve water (and are doing so), this rock crushing plant is estimated to use between 648,000 to 9 MILLION gallons of water per MONTH.
- It is quite possible that the dynamite explosions could cause irreparable harm to the area water ecosystem.
- Seismic activity can cause sudden changes in groundwater levels due to the shifting of rock along the fault, potentially leading to wells running dry or to experiencing sudden influxes of water depending on the movement direction.
- Faulting can introduce new contaminants into the aquifer by fracturing the rock and exposing previously isolated pockets of water with different chemical compositions.

Rock Crushing Plant – Water

A typical family will use 5,600 gallons of water a month. A Rock Crushing plant will use about 50,000 gallons per day or 1.5M per month which is equivalent to over 265 families per month.

- No requirement to use recycled water
- Water table will be affected, many in our neighborhood struggle to pump enough water now
- The Rock Crushing plant and all the neighbors will be drawing from the Ellenburger Aquifer

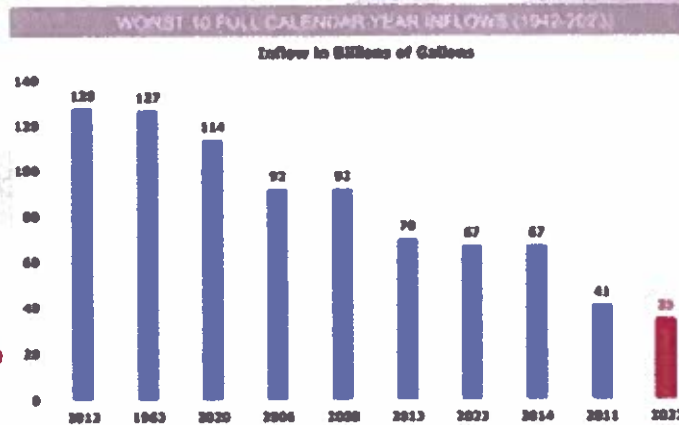


Credit: Save Burnet

As noted above, rock crushing plants need copious amounts of water for their operation. This proposal, if approved, would undeniably tax an already stressed groundwater system. Even now residents in the area struggle to get their pumps to produce needed water. This presents not only drinking water issues, but also the imminent danger of wildfire ignition. And, little discussion has been offered about what to do with the effluent from this proposed plant which has the potential to foul our water supply as well as impact the Inks Dam National Fish Hatchery.

Currently the two reservoirs in the Highland Lakes system are at 51% capacity. They've only been at 100% in 3 of the last 20 years. The chart below, from the Central Texas Water Coalition, illustrates that the surface water in the area is in even worse shape than the groundwater situation. The year 2022 was the worst on record in terms of inflows into the Highland Lakes. In 2023 the 4th worst inflows on record were recorded. Please keep in mind that the Highland Lakes systems of ground and surface water provides water for agriculture as well as drinking water for the Austin, Round Rock and Georgetown metro area - over 1 million people and growing. This absolutely critical resource must be used wisely and remain clean and pure.

2022 Inflows Were the Worst in History of the Lakes
 9 out of the 10 worst annual inflows have occurred since 2006

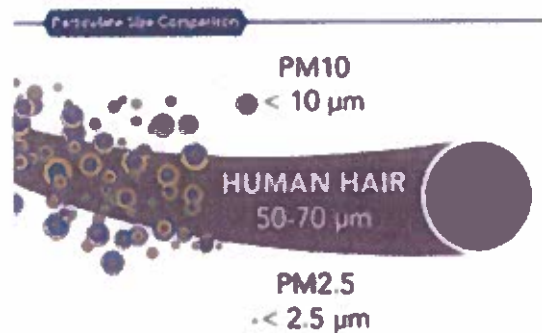


One of the biggest problem areas, and a reason for the permit application, is airborne dust. Note the 12-mile circle shown above. 10PM particles can travel almost three times the distance of the above circle. It takes an N95 mask to filter out the 2.5PM particles. No matter which way the wind blows, parts of the environmentally sensitive area of Lake Buchanan, Inks Lake, Lake LBJ and Lake Travis along with the two State parks and Camp Longhorn will be covered in toxic dust. Not to mention the devastating effects on the three wineries noted.

Rock Crushing Plant – Dust

Dust can travel hundreds of miles, depending on the size of the dust particles and the strength of the wind:

- PM 10 particles: Can travel up to 30 miles.
- PM 2.5 particles: Can travel hundreds of miles.
- Silica dust: Can travel up to 50 miles from the source





33

In conclusion we, The Lake Buchanan Communities Alliance, respectfully ask that permit # 2024-5606 U0 be denied on the above grounds. Its approval would have a devastating effect on the environment of our area, the quantity and quality of our water as well as our quality of life.

Sincerely,

Wayne Shipley
President
Lake Buchanan Communities Alliance
P.O Box 11, Buchanan Dam, Texas 78609
325-423-3466



34

ELLEN TROXCLAIR

TEXAS STATE REPRESENTATIVE • DISTRICT 19

April 4, 2025

Laurie Gharis, Chief Clerk
Texas Commission on Environmental Quality
Office of the Chief Clerk
Austin, Texas 78711
RE: TCEQ Docket No. 2025-0338-AIR

To Ms. Gharis:

As a duly elected member of the Texas House of Representatives, I write to support the Office of Public Interest Counsel ("OPIC")'s March 28th recommendation, and reiterate my request that the Commission grant motions to overturn the issuance of Standard Air Permit No. 176835 to Asphalt Inc. LLC ("Asphalt Inc.") timely filed by *Save Burnet*, myself, and others.

OPIC's recommendation and the report of expert Dr. David Mitchell found the emissions calculations presented in Asphalt Inc.'s application "certainly not scientifically realistic." The TCEQ has not adequately addressed the wealth of credible evidence and analysis proffered by Dr. Mitchell, the Texas Parks and Wildlife Department, the City Council of Burnet, and the thousands of comments filed in opposition to this permit.

As stated in my March 3rd motion, Asphalt Inc.'s application inexplicably uses lower emission rates than those considered by TCEQ's protectiveness review, and fails to consider potential public health and environmental harms posed by the facility, specify proposed control technology, or provide support for its representations of compliance with TCEQ regulations.

The proposed quarry and rock crusher's operations could disrupt sensitive Hill Country wildlife habitat and devalue some of our state's most precious natural assets, archaeological sites, and historical treasures. It also impacts some of my constituents, whose family lands may be polluted with unexamined air and water emissions, while their private property rights are railroaded by Asphalt Inc.'s ever-expanding scope.

The Commission may grant a motion to overturn where "substantial evidence in the record" supports such decision. Surely, the evidence raised in the record by myself, State agencies, scientists, and thousands of our fellow Texans are "substantial" enough to justify overturning this standard permit issued on the grounds of an insufficient application. 35

I respectfully request your continued careful consideration, and I hope this letter might serve as a further resource in your deliberations.

Sincerely,

Ellen Troxclair

Ellen Troxclair
State Representative, District 19

MET Associates

Dr. David L. Mitchell, Ph.D.
MET Associates
P.O. Box 70
Dayton, Texas 77535

Forensic and Air Quality Meteorology

**Particulate Matter Exposure
Asphalt Inc, LLC. Rock Crushing Plant
Burnet, Texas**

My name is Dr. David Mitchell. I am a PhD in Atmospheric Science and Meteorology. I am a member of the National Association of Environmental Professionals. I spent much of my career in the energy industry by working for companies such as Conoco, Tenneco, and British Petroleum. I have worked on air pollution problems for the past forty nine years. I have modeled many of the air pollution and water pollution scenarios I have been charged with. I have also worked in teams with other professionals such as industrial hygienists, minerologists, toxicologists, geologists, and others.

I was asked to construct a model of exposures using the data provided by Asphalt LLC. I wrote a report explaining some of my findings. My understanding is that this report was given to both the Texas Commission on Environmental Quality (TCEQ) and the applicant, Asphalt LLC. I have been furnished and have read the TCEQ's Directors response to the Motion to Overturn and the attendant article the Director cites in her papers entitled "Ambient Monitoring of particulates, including crystalline silica, near APO facilities, final report. (2024)".

I make the following observations:

1. I was puzzled to learn that the TCEQ approved a permit so close to a community and especially so close to a children's camp given the asbestos and silica risks at issue.
2. The discussion in the Director's response and the measurements from the paper do not change my firm belief in the opinions contained in my report. I was surprised as a scientist that my report was not commented on other than to mention the receipt of it in a footnote. The spread of the particulate that I illustrated should be concerning to those involved in safeguarding public health.
3. It is important to underscore that the model was made from the data that Asphalt LLC supplied. I stated in my report and continue to believe based on my training and experience that Asphalt's exposure numbers contained in their permit application are unrealistically low. I do not believe their exposure estimates account for the magnitude of exposure from the rock crusher, the spikes in exposure common in these operations, the massive releases due to blasting operations of a new quarry, the exposures from tailings, and other issues.
4. The article cited in the response does not give me the comfort in this situation that it gives the Director. Putting aside some of the methodological issues in the study, the real problem is that the paper shows that rock crushing plants emit silica, that the silica travels, and can put local communities at risk. The dangers associated with silica exposure are real. The levels of crystalline silica contained in the study are potentially hazardous because they exceed action levels published by the National Institute for Occupational Safety and Health and the American Conference of Governmental Industrial Hygienists.

- 13
5. The Director's response does not mention asbestos exposure. This is especially troubling. I have been involved in the forensic meteorology of asbestos fiber drift for decades. The risk of mesothelioma from fugitive emissions from mining and other industrial operations is real. There is no safe level of exposure to asbestos.
 6. I would respectfully suggest to the Commissioners that they be cautious in this situation. Some of the disease risk is short term but many of the ailments associated with asbestos and silica are latent diseases that may show up decades later.
 7. I would also suggest that the Commissioners deny the permit at this time and take the following steps:
 - a. Assemble a team of scientists to include: a Certified Industrial Hygienist (CIH), a minerologist, a toxicologist, and a forensic meteorologist.
 - b. Require the applicant to give the TCEQ all of the mineralogical information it possesses. If the minerologist determines that samples are needed to determine silica or asbestos content, require that too.
 - c. Allow the scientists time to make their findings in writing and require that the community be presented with their report(s).
 8. I remain available to the Commissioners should they have any questions concerning my report or this statement.

I certify that the foregoing information is true and accurate to the best of my information and belief. All opinions are held by me to be true and accurate within a reasonable degree of meteorological probability and that any estimations, interpolations or assumptions that have been made were done so with expert accuracy by a professional meteorologist.

Signed,



Dr. David L. Mitchell, Ph.D.
Consulting Forensic Meteorologist
MET Associates
P.O. Box 70
Dayton, Texas 77535

28
3

TCEQ DOCKET NO. 2025-0338-AIR

IN THE MATTER OF THE MOTIONS	§	BEFORE THE TEXAS
TO OVERTURN THE EXECUTIVE	§	
DIRECTOR'S APPROVAL OF STANDARD	§	COMMISSION ON
PERMIT REGISTRATION NO. 176835	§	
TO ASPHALT INC., LLC	§	ENVIRONMENTAL QUALITY

**PRINTZ, MANNING, SAVEBURNET.COM RESPONSE TO THE
BRIEFS OF THE EXECUTIVE DIRECTOR AND ASPHALT INC.**

**TO THE HONORABLE COMMISSIONERS OF THE TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY:**

RANDY PRINTZ, NAN MANNING AND SAVEBURNET.COM file this their response to the briefs of the Executive Director, (hereinafter ED) and Asphalt Inc. (hereinafter AI) and would show the Commission as follows:

Needless to say that my clients Randy Printz, Nan Manning and SaveBurnet.com and the Burnet community at large support the careful analysis and position of the Public Interest Counsel. It has actually addressed the technical issues with as much vigor as the ED's counsel tried to avoid them. Reading the ED's brief is like witnessing two ships passing in the night unaware of the existence of the other. It seems like the authors cut and pasted the old arguments together then read the MTOs so there could provide a passing reference to them. At some point the Commission needs to force the ED to address the contrary technical opinions it seeks repeated to avoid. For example ED's brief mentions "child" or "children" only once.

It is a startling admission that the ED does not mention the report of Dr. Mitchell except in passing. There is no technical criticism or contrary technical analysis. It seems that no one with a technical degree or background has ever read the report even when repeatedly invited

39
to do so by the MTOs. It is mystifying that the ED refuses to identify the subject matter experts it touts as guiding the agency. One can only conclude that it is likely because they agree with Dr. Mitchell and don't want their name and reputation sullied with the ED's position. Why not step up and at least attempt a technical response. Apparently, these subject matter experts choose to stay in the shadows

The ED does not contest the analysis that the location of the proposed rock crusher is the equivalent of being between two elementary schools, she just says that she does not care. The technical report relied upon by the ED does not contain even once mention the word "child" or "children." It is beyond logic that the ED treats even the mention of a child's health to be toxic in itself.

The Danger of Silica Exposure

The Director's response gives cursory and dismissive treatment of the very real risks the surrounding area faces from the crystalline silica plumes that come from normal operations of these rock crushers. It is well understood that silica exposure causes circulatory and heart problems. Stachyra 2022, Ecotox & Environ Safety Vol 23015Jan2022.

<https://www.sciencedirect.com/science/article/pii/S0147651321012240>

The American Cancer Society is of the opinion that you can have silica induced lung cancer without underlying silicosis.

<https://acsjournals.onlinelibrary.wiley.com/doi/full/10.3322/caac.21214#:~:text=First%2C%20recent%20epidemiologic%20studies%20have,64:63%E2%80%93369.&text=2013%20American%20Cancer%20Society%2C%20Inc.,> see also *Is Silicosis required*

for silica-associated lung cancer? Checkoway, Am J Ind Med. 2000 Mar 37(3).

Humans begin to have a higher risk of silica induced lung cancer at $4.5 \mu\text{g}/\text{m}^3$ years.

<https://pubmed.ncbi.nlm.nih.gov/11714104/> As the commission is aware you calculate mg/m^3 years by multiplying the average exposure level times the number of years the person is exposed. According to *AI's own data*, people who live at Camp Longhorn Indian Springs full time may exceed this level before the end of the first full year the crusher is in operation. Their risk of lung cancer will continue to rise each year, as the risk is cumulative. The healthy residents of Burnet will have their lung cancer risks rise after the third year of operation. Children, senior adults, and adults with pre-existing health conditions will be at risk much earlier. The only evidence before the Commission regarding exposure to the outlying community is the exposure impacts from Dr. Mitchell's report. Since we do not have access to the raw data used to calculate the exposure estimates used by AI to acquire the permit (although we asked for it during the meeting and were told they would get access to this data), Dr. Mitchell had to use AI's estimates. The resulting visual in his report shows a wide dispersal of particulates:



Instead of questioning any of Dr. Mitchell's serious conclusions, the ED instead pivots to another study it has done in other parts of the state using different machinery, geography, operations, and wind patterns (see ED's Response p. 4). Putting aside the acute and serious differences in these studies from the present situation and the rationale behind dropping the data from the actual permit application like a hot rock, there are other alarming reasons why this 2024 study should not be persuasive.

First, the data from TCEQ's 2024 study **proves** there will be health hazards to Burnet County residents on a continuing basis from the small silica particles that will get lodged in the resident's lungs. Even the rosier picture painted by the TCEQ still shows that people living in the surrounding communities will be exposed to and breathe 0.3 to 1.01 $\mu\text{g}/\text{m}^3$ **every day**. ("The long-term averages of PM₁₀ crystalline silica concentrations at the four sampling sites ranged from 0.3-1 $\mu\text{g}/\text{m}^3$). These levels are higher than necessary to induce silicosis, lung cancer, arteriosclerosis, and scleroderma on a cumulative basis. Recent scientific evidence shows that long term levels of silica exposure as low as 0.10 $\mu\text{g}/\text{m}^3$ can cause lung silicosis. <https://pubmed.ncbi.nlm.nih.gov/38791822/> It is important to put the TCEQ levels in perspective. The lower level of the TCEQ's estimate of 0.3 $\mu\text{g}/\text{m}^3$ in APOs is **six times higher** than the recommended exposure limit prescribed by the National Institute for Occupational Safety and Health. <https://www.cdc.gov/niosh/idlh/14808607.html> The 0.3 level is **twelve times higher** than that prescribed by the American Conference of Industrial Hygienists. <https://www.acgih.org/silica-crystalline-a-quartz-and-cristobalite/> These values are levels normally seen in **occupational** settings, where workers have access to respiratory protection and regular medical screenings, not in residential and

452
farm/ranch communities with children, senior citizens, and people with pre-existing medical conditions.

Second, the sites in the 2024 TCEQ study were for some reason analyzed with NAAQS values from years past to give these quarries a passing grade. When the authors instead used the 2024 NAAQS values every site sampled approached the NAAQS limit and three out of four actually exceeded it (2024 APO Study page 20, Table 5).

Third, the values the ED claims are protective of human health come from a place that makes no similar claim. The Director is using NAAQS values from the EPA that were made and are often modified to comply with the Federal Clean Air Act. These are simply worst case, thou shall not breach levels, prescribed by federal law. Compliance with these regulations only means the State of Texas does not get subjected to a lawsuit from the EPA, it does not mean that the regime is particularly protective of human health, just not illegal. More puzzling still is why TCEQ utilizes a silica NAAQS or AMCV value of its own making. To be clear, there is no Federal NAAQS value for silica. The NAAQS simply regulates 'particulate matter' and doesn't distinguish cotton candy from silica or asbestos. The TCEQ claims in its brief and attendant study that they came up with their own special NAAQS/AMCV of silica at $24 \mu\text{g}/\text{m}^3$. The ED claims this level is protective of human health without citing a single study, scientific journal, nationally recognized medical society, or expert in this area. It is claimed to be true, simply because the ED says so. Surely these *ipse dixit* statements ought to be more carefully examined by the Commissioners before we expose the people of Burnet County to silica dust and asbestos.

Fourth, the TCEQ's reliance on the 2024 study fails because it measured different

43
operations with different machinery, topography, operations, and wind patterns. A final important difference between the AI rock crusher and the places TCEQ sampled in 2024 is that the latter were ongoing operations. There were no explosives being used while these values were being taken. AI has already publicly admitted that they will perform ongoing blasting operations on site. The levels of exposure portend to be much higher than those proposed by the ED if the Commissioners were to allow this half baked permit to go forward.

Finally, the ED suggestion that 0.3 to 1.01 $\mu\text{g}/\text{m}^3$ levels of exposure to crystalline silica would be safe for the citizens Burnet County runs against the TCEQ's own analysis and findings. In 2009 the TCEQ issued its guidance document on silica exposure entitled "Silica, Crystalline Forms". The effect screening levels (ESLs) for chronic exposures would be exceeded by the values the TCEQ now claims are safe. Page one of the document contains the following table (red boxes added):

Chapter 1 Summary Tables

A summary of health- and welfare-based values from an evaluation of the acute and chronic toxicity of crystalline silica can be found in Table 1. Summary information on the physical chemical parameters of crystalline silica can be found in Table 2.

Table 1 Health- and Welfare-Based Values

Short-Term Values	Concentrations	Notes
acute ^a ESL[1 h] (HQ = 0.3)	14 $\mu\text{g}/\text{m}^3$ ^a Short-Term ESL for Air Permit Reviews	Critical Effects: respiratory inflammation—increased neutrophils and lactate dehydrogenase in bronchoalveolar lavage fluid in Crl:CD BR rats (male)
Acute ReV (HQ = 1.0)	47 $\mu\text{g}/\text{m}^3$	Critical Effects: Same as above
acute ^a ESL _{odor}	---	There are no odors associated with silica.
acute ^a ESL _{veg}	---	No negative impacts of silica were identified in plants.
Long-Term Values	Concentrations	Notes
chronic ^a ESL _{nonhnew(nc)} (HQ = 0.3)	0.60 $\mu\text{g}/\text{m}^3$ ^b	Critical Effect: silicosis in miners
Chronic ReV (HQ = 1.0)	2.0 $\mu\text{g}/\text{m}^3$ ^b	Critical Effects: Same as above
chronic ^a ESL _{linear(c)}	0.27 $\mu\text{g}/\text{m}^3$ ^{b, c} Long-Term ESL for Air Permit Reviews	Cancer Endpoint: lung cancer mortality in silica-exposed workers
chronic ^a ESL _{veg}	---	No negative impacts of silica were identified in plants.

The table makes clear, the ED would now permit AI to expose the children at Camp Longhorn, the people enjoying Inks Lake State Park, and the townspeople of Burnet to **industrial levels** of silica on a daily basis. Moreover, as shown previously, the scientific consensus continues to move in the direction of lower exposure levels even than the above to be protective of human health. Although the TCEQ levels in this chart are higher than what is considered protective today this may be because the last TCEQ review of silica exposure and the underlying medical literature last occurred in 2009. The “Standard Permit” to which the Director refers was created based in 2008. In the intervening eighteen years many things have changed. A simple PubMed search reveals that 2,817 articles have been

published since 2008 under the search terms "silica exposure health effects". (pubmed.ncbi.nlm.nih.gov; accessed April 3, 2025). The International Agency for Research on Cancer and the National Institute of Health have both updated their guidance on silica.

The "A" Word

The ED has consistently ignored concerns raised by stakeholders related to the dangers of asbestos from the rock crusher. In a comment made by Justin Shrader on September 27, 2024, it is noted that the geological deposits in and around this area contain asbestos as a natural contaminant according to University of Texas geological surveys. Shrader cites specific surveys in his comment. The mining and dynamiting of the subsurface will release asbestos fibers right next to a camp for children, a well used recreational park, and a growing town full of people. Asbestos is one of the most carcinogenic substances known to man. There is no safe level of exposure to asbestos below which you will not see cancer. Asbestos causes a unique, incurable cancer called mesothelioma which is especially pernicious. (see comment of Justin Shrader). The release of asbestos has never been accounted for in any of the Director's vague responses to date. The word "asbestos" doesn't even appear once in the Director's response to the motion to overturn. It's almost like the Director is ignoring this problem in the TCEQ analysis on purpose. The ED never required mineralogical analysis of the site by the petitioner. The ED never consulted the old University of Texas geological surveys that sit idle 9 miles from their office. No certified industrial hygienists have been hired to assess the danger. To go forward with these hazards in mind without any formal review, analysis, or response from the Director on these important issues is fallacious.

Another word mostly absent from the Director's brief is the word "children". After innumerable written comments about the safety of children in the surrounding community,

the many concerns raised in person at the public meeting, and the fact that the most directly exposed population from the rock crusher will be the children that attend Camp Longhorn right next door, one might think that the director would engage in more careful analysis. The single use of the word "children" in the Director's response is the following:

" Primary [TCEQ and EPA] standards protect the public health, including sensitive members of the populations, such as children, the elderly, and those individuals with preexisting health conditions." – Directors Response p3

Not only is this conclusory statement not backed by any evidence, it is also scientifically invalid and defies common sense. The health data used by the TCEQ for 'acceptable' silica exposure are based on studies done on healthy adult male silica miners and sandblasters, not kids or vulnerable adults. As the California Office of Environmental Health Hazard Assessment (OEHHA) noted, "Exacerbation of asthma, which has a more severe impact on children than on adults, is a known response to some respiratory irritants". They also stated: "Since children have smaller airways than adults and breathe more air on a body weight basis, penetration and deposition of particles in the airways and alveoli in children is likely greater than that in adults exposed to the same concentration." Environmental Working Group quoting OEHHA in <https://www.ewg.org/research/danger-air>. Another author warns; "Air pollution is a leading modifiable risk factor for various cardio-respiratory outcomes globally, both for children and for adults. Children are particularly susceptible to the adverse effects of air pollution due to various physiological and behavioural factors. Children are at a higher risk of outcomes such as acute respiratory infections, asthma and decreased lung function due to air pollution exposure..." Aithal 2023 Air quality and respiratory health in children, Breathe, Jun 13;19(2). With these quotes in mind, we urge the Commissioners to

5
overturn this permit until such time as a health study can be conducted from qualified minerologists, industrial hygienists, and physicians in order to properly assess the risks the crusher poses to children.

When it comes to the kids, the asbestos risks are even worse. Studies have shown that children are more than three times more likely to get mesothelioma than their adult counterparts from the same exposures. UK Committee on Carcinogenicity CC/13/S1. Because children have cells that are still rapidly dividing and their organs are still developing, they are far more susceptible to carcinogens than adults (Carpenter, J of Adolescent Health, May 2013). A thimbleful of inhaled asbestos is enough to increase a person's risk of mesothelioma by 400%. Iwatsubo, Am J Epidem, Vol 148, No. 2 1998. As Dr. Mitchell's report makes clear, although the children at Camp Longhorn face the most immediate risk, these small particles can travel large distances. All of the children in the surrounding community are at risk. The dangers of asbestos exposure in the granting of the instant permit have been totally ignored. The asbestos problem alone is a reason to overturn the Director's decision, but the added knowledge that it is children who are at risk requires it.

Dr. Mitchell has further evaluated the ED and AI's response and his analysis is attached as an exhibit hereto.

We would favorably consider a mediation with the ED and AI if in attendance were subject matter experts (qualified public health and metrological professionals) to discuss and analyze the long term risks to the children of Texas that this decision portends. That together with the precedent for placement of aggregate facilities should alarm anyone with children or grand children. If this permit is approved there are no more restraints on placement of like facilities.

48

TCEQ comments in response to well-deserved criticism in the Sunset Review process in September 2021 when discussing the public's concerns in the permitting process states "...the level of sophistication and comment detail, along with a higher degree of technical knowledge of the commenters, requires more TCEQ staff time to compile sufficiently detailed response to address comments." (Page 671) Although knowing this and seeking the funding to support such, the ED has failed to do so here.

The undersigned acknowledges the exceptional contribution of Justin Shrader, Attorney, in preparing this response.

The Commission needs to take one action here and that is to SAVE THE CHILDREN.

Respectfully submitted:



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RESOLUTION NO. R2024-68

**A RESOLUTION OF THE CITY COUNCIL OF CITY OF BURNET,
TEXAS, OBJECTING TO THE ISSUANCE OF A TCEQ AIR
QUALITY STANDARDS PERMIT FOR A ROCK AND CONCRETE
CRUSHER FACILITY PROPOSED TO BE LOCATED AT 3221 FM
3509, BURNET COUNTY, TEXAS**

Whereas, on August 20, 2024, the Texas Commission on Environmental Quality (TCEQ) issued notice of an application for a TCEQ Air Quality Standards Permit for a rock and concrete crusher facility proposed to be located at 3221 FM 3509, Burnet County, Texas (the "proposed project"); and

Whereas, the proposed project will include a quarry operation; and

Whereas, the eastern edge of the property line of the proposed project is approximately 2 miles from the Burnet City Limits and the Burnet Municipal Golf Course; and

Whereas, City Council finds and determines the proposed project could have an adverse impact on community public health safety and welfare for numerous reasons including the following:

- pollutants and particles shall be emitted into the air and will adversely impact the community's air quality; and
- groundwater usage will jeopardize groundwater availability to the community during drought conditions; and
- additional truck traffic will be generated that will make roads less safe for the community, advance road deterioration; and cause additional air pollution; and

Whereas, by this resolution City Council deems it appropriate to express its opposition to the permit application and take those actions reasonably necessary to prevent its issuance.

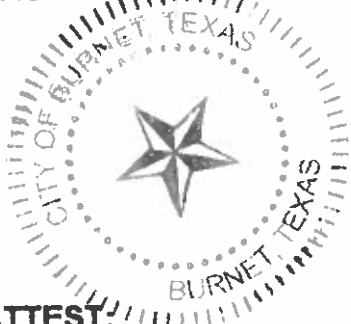
**NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF BURNET, TEXAS,
AS FOLLOWS:**

Section One. Findings. The recitals stated in this resolution are hereby found to be true and correct and are incorporated herein by reference as the findings of the Burnet City Council.

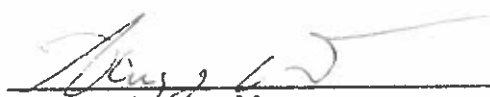
Section Two. Opposition. For reasons expressed in the findings of this Resolution, the City Council of the City of Burnet is opposed to the issuance of an Air Quality Standards Permit for a rock and concrete crusher facility proposed to be located at 3221 FM 3509, Burnet County, Texas.

Section Three. Authorization. The Mayor and City Manager, collectively or individually, are authorized to represent the city before the TCEQ, the Texas Office of Administrative Hearings, and other appropriate parties for the purpose of advocating the City's opposition to this permit application; and take those actions reasonably necessary to accomplish the denial of the permit application.

PASSED AND APPROVED this the 10th day of September 2024.



CITY OF BURNET, TEXAS



Gary Wideman, Mayor

ATTEST:



Maria Gonzales, City Secretary

Water Usage Calculation for Dust Abatement only

Looking at the section of TCEQ Permit #176835 and per the info on page 28 of the Asphalt Inc permit (shown below), you will see the following information provided for water usage related to dust. Please note that this calculation is just for the spray bars and not considering the water used to spray the roads or the facilities in their plant. This proposed rock crushing facility will have 31 Emission Point Numbers (EPN).



Texas Commission on Environment Quality

Table 17
Rock Crushers

Please Complete the Following				
Maximum operating schedule:		< 12 hours/day	< 7 days/week	< 52 weeks/year
Does the facility operate at night?				☐ YES ☒ NO
Maximum Plant Production Rates:				
☒ Primary Crusher	Type: Jaw	200 tons/hour	528,000 tons/year	
☒ Secondary Crusher(s)	Type: Cone	200 tons/hour	528,000 tons/year	
☐ Tertiary Crusher(s)	Type:	tons/hour	tons/year	
The Following Pieces of Equipment will be Controlled as Shown:				
Feed Hoppers:	☒ None	☐ Water Spray	☐ Suction to Baghouse	☐ Other:
All Belt Transfer Points:	☐ None	☒ Water Spray	☐ Suction to Baghouse	☐ Other:
Inlet of all Crushers:	☐ None	☒ Water Spray	☐ Suction to Baghouse	☐ Other:
Outlet of all Crushers:	☐ None	☒ Water Spray	☐ Suction to Baghouse	☐ Other:
All Shaker Screens:	☐ None	☒ Water Spray	☐ Suction to Baghouse	☐ Other:
If Water Sprays are used, Provide the Following Data:				
Water Flow Rate (gpm): 1-3				
Water Pressure at the Nozzle (psi): 30				
Number of Nozzles at each location: 1-5				
If baghouse is used, attach a Table 11 "Fabric Filters."				
Average material moisture content (%): >1.5%				
Maximum acreage covered by stockpiles (acres): 10				
Stockpiles have the following controls:		☐ None	☒ Water	☐ Chemical
In-plant roads will be:		☐ Paved and Vacuumed	☐ Paved and Swept	☐ Oiled
☒ Sprinkled with Water and/or Chemicals		☐ Other:		

- Permit list 31 EPNs (one EPN is a Feed Hopper and will not have a sprayer on it), so this leave 30.
- Each EPN will have a spray bar with 1-5 sprayers
- Each sprayer will use 1-3 GPM each sprayer
- The facility will run 12 hour per day
- 7 days a week

This gives us a minimum and maximum calculation of:

- Minimum usage: $30 \text{ EPN} \times 1 \text{ gal/min} \times 1 \text{ sprayer} \times 60 \text{ min} \times 12 \text{ hrs} \times 30 \text{ days} = \mathbf{648,000 \text{ gallons per month.}}$
- Maximum usage: $30 \text{ EPN} \times 3 \text{ gal/min} \times 5 \text{ sprayer} \times 60 \text{ min} \times 12 \text{ hrs} \times 30 \text{ days} = \mathbf{9,720,000 \text{ gallons per month.}}$

BURNET COUNTY

AMPHIBIANS

**Pedernales River Springs
salamander**

Eurycea sp. 6

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status:

State Status:

SGCN: N

Endemic: Y

Global Rank: G1

State Rank: S1S2

Strecker's chorus frog

Pseudacris streckeri

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

Woodhouse's toad

Anaxyrus woodhousii

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

ARACHNIDS

No accepted common name

Tyrannochthonius troglodytes

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G1G2

State Rank: S1

Reddell harvestman

Texella reddelli

Small, blind, cave-adapted harvestman endemic to a few caves in Travis and Williamson counties

Federal Status: E

State Status:

SGCN: Y

Endemic: Y

Global Rank: G2G3

State Rank: S2

BIRDS

bald eagle

Haliaeetus leucocephalus

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status: DL

State Status:

SGCN: N

Endemic: N

Global Rank: G5

State Rank: S3B,S3N

DISCLAIMER

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BURNET COUNTY

BIRDS

Bank Swallow

Riparia riparia

Bank Swallows live in low areas along rivers, streams, ocean coasts, and reservoirs. Their territories usually include vertical cliffs or banks where they nest in colonies of 10 to 2,000 nests. Though in the past Bank Swallows were most commonly found around natural bluffs or eroding streamside banks, they now often nest in human-made sites, such as sand and gravel quarries or road cuts. They forage in open areas and avoid places with tree cover.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2B,S4N

black-capped vireo

Vireo atricapilla

Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer

Federal Status: DL

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3B

Brewer's Blackbird

Euphagus cyanocephalus

Shrubby and bushy areas (especially near water), riparian woodland, aspen parklands, cultivated lands, marshes, and around human habitation; in migration and winter also in pastures and fields (AOU 1983).

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

Cactus Wren

Campylorhynchus brunneicapillus

Desert (especially with cholla cactus or yucca), mesquite, arid scrub, coastal sage scrub, and in trees in towns in arid regions (Tropical to Subtropical zones) (AOU 1983). Nests in OPUNTIA cactus, or in twiggy, thorny, trees and shrubs, sometimes in buildings. Nest may be relined and used as a winter roost.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4B

chestnut-collared longspur

Calcarius ornatus

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

Common Nighthawk

Chordeiles minor

Common Nighthawks nest in both rural and urban habitats including coastal sand dunes and beaches, logged forest, recently burned forest, woodland clearings, prairies, plains, sagebrush, grasslands, open forests, and rock outcrops. They also nest on flat gravel rooftops, though less often as gravel roofs are being replaced by smooth, rubberized roofs that provide an unsuitable surface.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4B

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BURNET COUNTY

BIRDS

Franklin's gull

Leucophaeus pipixcan

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2N

golden-cheeked warbler

Setophaga chrysoparia

Ashe juniper in mixed stands with various oaks (*Quercus* spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.

Federal Status: E

State Status: E

SGCN: Y

Endemic: N

Global Rank: G2

State Rank: S2S3B

interior least tern

Sternula antillarum athalassos

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status: DL

State Status: E

SGCN: N

Endemic: N

Global Rank: G4T3Q

State Rank: S1B

lark bunting

Calamospiza melanocorys

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (*Koeleria*), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4B

Least Tern

Sternula antillarum

Sand beaches, flats, bays, inlets, lagoons, islands, river sandbars and flat gravel rooftops in urban areas.

Federal Status: DL

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S2B

Loggerhead Shrike

Lanius ludovicianus

Loggerhead Shrikes inhabit open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Loggerhead Shrikes are often seen along mowed roadsides with access to fence lines and utility poles.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S4B

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BURNET COUNTY

BIRDS

mountain plover

Charadrius montanus

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

Northern Bobwhite

Colinus virginianus

Inhabits a wide variety of vegetation types, particularly early successional stages. Occurs in croplands, grasslands, pastures, fallow fields, grass-brush rangelands, open pinelands, open mixed pine-hardwood forests, and habitat mosaics (Brennan 1999).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S4B

Pyrrhuloxia

Cardinalis sinuatus

Pyrrhuloxias live in upland deserts, mesquite savannas, riparian (streamside) woodlands, desert scrublands, farm fields with hedgerows, and residential areas with nearby mesquite. When not breeding, some Pyrrhuloxias wander into urban habitats, mesquite-hackberry habitats, and riparian habitats with Arizona sycamore and cottonwood.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

Sanderling

Calidris alba

Nonbreeding: primarily sandy beaches, less frequently on mud flats and shores of lakes or rivers (AOU 1983) also on exposed reefs (Pratt et al. 1987). Sleeps/loafs on upper beach or on salt pond dike.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

Snowy Plover

Charadrius nivosus

Algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. An optimal site characteristic would be large in size. The size of populations appear to be roughly proportional to the total area of suitable habitat used. Formerly an uncommon breeder in the Panhandle; potential migrant; winter along coast.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3B

Sprague's pipit

Anthus spragueii

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

western burrowing owl

Athene cunicularia hypugaea

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BURNET COUNTY

BIRDS

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G4T4	State Rank: S2

white-faced ibis *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: N
Endemic: N	Global Rank: G5	State Rank: S4B

whooping crane *Grus americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: E	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

Willet *Tringa semipalmata*

Marshes, tidal mudflats, beaches, lake margins, mangroves, tidal channels, river mouths, coastal lagoons, sandy or rocky shores, and, less frequently, open grassland (AOU 1983, Stiles and Skutch 1989).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5B

Wilson's Warbler *Cardellina pusilla*

Wilson's warblers key in on forests and scrubby areas along streams to fatten up during migration. During the nonbreeding season they use many types of habitats from lowland thickets near streams to high-elevation cloud forests in Mexico and Central America.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

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BURNET COUNTY

BIRDS

yellow-billed cuckoo *Coccyzus americanus*

In Texas, the populations of concern are found breeding in riparian areas in the Trans Pecos (known as part of the Western Distinct Population Segment). It is the Western DPS that is on the U.S. ESA threatened list and includes the Texas counties Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio. Riparian woodlands below 6,000' in elevation consisting of cottonwoods and willows are prime habitat. This species is a long-distant migrant that summers in Texas, but winters mainly in South America. Breeding birds of the Trans Pecos populations typically arrive on their breeding grounds possibly in late April but the peak arrival time is in May. Threats to preferred habitat include hydrologic changes that don't promote the regeneration of cottonwoods and willows, plus livestock browsing and trampling of sapling trees in sensitive riparian areas.

Federal Status: T	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4S5B

zone-tailed hawk *Buteo albonotatus*

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain country, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3B

CRUSTACEANS

Bifurcated Cave Amphipod *Stygobromus bifurcatus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3

FISH

Guadalupe bass *Micropterus treculii*

Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

silverband shiner *Notropis shumardi*

In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

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BURNET COUNTY

FISH

Texas shiner *Notropis amabilis*

In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. Typical habitat includes rocky or sandy runs, as well as pools.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

No accepted common name *Rhadine russelli*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S3

MAMMALS

big free-tailed bat *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

cave myotis bat *Myotis vellifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2S3

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

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BURNET COUNTY

MAMMALS

hoary bat

Lasiurus cinereus

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

Llano pocket gopher

Geomys texensis texensis

Found in deep, brown loamy sands or gravelly sandy loams and is isolated from other species of pocket gophers by intervening shallow stony to gravelly clayey soils

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3T2	State Rank: S2

mountain lion

Puma concolor

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

plains spotted skunk

Spilogale interrupta

Generalist; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

Seminole bat

Lasiurus seminolus

Pine-oak and long-leaf pine in east Texas. Habitats include pine, mixed pine-hardwood, and hardwood forests of uplands and bottomlands, particularly pine-dominated forests, including mature pine and pine-hardwood corridors in managed pine forest landscapes (Menzel et al. 1998, 1999, 2000; Carter et al. 2004; Marks and Marks 2006; Perry and Thill 2007; Perry et al. 2007; Hein et al. 2008; Ammerman et al. 2012).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

tricolored bat

Perimyotis subflavus

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status: PE	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S2

MOLLUSKS

Lilliput

Toxolasma parvum

Reported from small streams, where it may penetrate into the headwaters, to large rivers, oxbows, sloughs, lakes, ponds, canals, borrow pits, and reservoirs. Primarily occurs in still to slow currents in mud and sand substrates (Coker et al. 1921; Read 1954; Neck and Metcalf 1988; Williams et al. 2008; Watters et al. 2009).

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BURNET COUNTY

MOLLUSKS

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Mapleleaf *Quadrula quadrula*

Reported from streams to rivers, lakes, and reservoirs. In riverine habitats, it may be found in main-channel habitats such as riffles or runs in sand, gravel, and cobble substrates with moderate to swift currents. May also be found in nearshore habitats such as banks and backwaters to include pools in sand or mud substrates with little to no flow. (Williams et al. 2008; Howells 2016; Haag and Cicerello 2016).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Pimpleback *Cyclonaias pustulosa*

Occurs in small streams to large rivers in habitats including riffles and runs with flowing water, also found in nearshore habitats such as banks and backwaters or pools. Can occur in reservoirs but varies based by population. Is often found in substrates comprising of sand, gravel, and cobble but also mud and silt (Howells et al. 1996; Williams et al. 2008; Watters et al. 2009).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SNR

Pistolgrip *Tritogonia verrucosa*

Reported from streams to rivers, lakes, and reservoirs, but considered less tolerant of impoundment (Haag and Cicerello 2016). Can occur in a variety of habitat types but most often found in main channel habitats such as riffles and runs with moderate current and sand, gravel, or cobble substrates (Howells et al. 1996; Williams et al. 2008).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3S4

Tampico Pearlmussel *Cyrtanaias tampicoensis*

Reported from streams to rivers, reservoirs, and canals. In riverine habitats often found in nearshore habitats such as banks and backwaters, to include pools and oxbows, in mud or sand or among cobble and boulders with still to moderate currents (Howells et al. 1996).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

Tapered Pondhorn *Unio merus declivis*

It likely occurs in streams, rivers, oxbows, marshes, swamps, lakes, canals, ponds, and reservoirs in still to moderate currents in mud, sand, or gravel substrates. Also probably occurs in woody debris such as logjams and exposed roots of riparian trees (Williams et al. 2008).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SNR

Texas fatmucket *Lampsilis bracteata*

Reported to occur in slow to moderate current in sand, mud, and gravel substrates among large cobble, boulders, bedrock ledges, horizontal cracks in bedrock slabs, and macrophyte beds. Has also been observed inhabiting the roots of cypress trees and vegetation along steep banks. Past authorities have reported this species intolerant of reservoir conditions but recent surveys suggest it may persist in some impoundment conditions (Howells 2010c; Randklev et al. 2017b). [Mussel of Texas 2019]

Federal Status: E	State Status: T	SGCN: Y
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BURNET COUNTY

MOLLUSKS

Endemic: Y Global Rank: G1 State Rank: S1

Texas fawnsfoot *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: T State Status: T SGCN: Y
Endemic: Y Global Rank: G1 State Rank: S2

Texas pimpleback *Cyclonaias petrina*

Occurs in medium-size streams to large rivers primarily in riffles and runs. Often found in substrates composed of sand, gravel, and cobble, including mud-silt or gravel-filled cracks in bedrock slabs. Considered intolerant of reservoirs (Howells 2010m; Randklev et al. 2017b). [Mussels of Texas 2019]

Federal Status: E State Status: E SGCN: Y
Endemic: Y Global Rank: G1 State Rank: S1

REPTILES

Concho water snake *Nerodia paucimaculata*

Aquatic: Shallow, fast-flowing water with a rocky or gravelly substrate preferred. Adults can be found in deep water with mud bottoms, such as large section fo rivers and reservoirs. Riffle habitat is particularly important for this species.

Federal Status: DL State Status: SGCN: Y
Endemic: Y Global Rank: G1 State Rank: S1

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

plateau spot-tailed earless lizard *Holbrookia lacerata*

Terrestrial: Habitats include moderately open prairie-brushland regions, particularly fairly flat areas free of vegetation or other obstructions (e.g., open meadows, old and new fields, graded roadways, cleared and disturbed areas, prairie savanna, and active agriculture including row crops); also, oak-juniper woodlands and mesquite-prickly pear associations (Axtell 1968, Bartlett and Bartlett 1999).

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: GNR State Rank: S2

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BURNET COUNTY

REPTILES

slender glass lizard

Ophisaurus attenuatus

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

smooth softshell

Apalone mutica

Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

Texas horned lizard

Phrynosoma cornutum

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4G5

State Rank: S3

Texas map turtle

Graptemys versa

Aquatic: Primarily a river turtle but can also be found in reservoirs. Can be found in deep and shallow water with sufficient basking sites (emergent rocks and woody debris).

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G4

State Rank: SU

western box turtle

Terrapene ornata

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

western massasauga

Sistrurus tergeminus

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3

PLANTS

basin bellflower

Campanula reverchonii

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BURNET COUNTY

PLANTS

Stanfield's beebalm

Monarda stanfieldii

Largely confined to granite sands along the middle course of the Colorado River and its tributaries; Perennial

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3

State Rank: S3

sycamore-leaf snowbell

Styrax platanifolius ssp. platanifolius

Rare throughout range, usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-May; Fruiting May-Aug.

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3T3

State Rank: S3

Texas almond

Prunus minutiflora

Wide-ranging but scarce, in a variety of grassland and shrubland situations, mostly on calcareous soils underlain by limestone but occasionally in sandier neutral soils underlain by granite; Perennial; Flowering Feb-May and Oct; Fruiting Feb-Sept

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3G4

State Rank: S3S4

Texas amorphia

Amorpha roemeriana

Juniper-oak woodlands or shrublands on rocky limestone slopes, sometimes on dry shelves above creeks; Perennial; Flowering May-June; Fruiting June-Oct

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3

Texas claret-cup cactus

Echinocereus coccineus var. paucispinus

Mountains, hills, and mesas, igneous and limestone, oak-juniper-pinyon woodland or juniper woodland on limestone mesas, mostly rocky habitats but also in alluvial basins, grasslands, or among mesquite or other shrubs. Flowering March - April (Powell and Weedon 2004).

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5T3

State Rank: S3

Texas peachbush

Prunus texana

Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 m elevation; Perennial; Flowering Feb-Mar; Fruiting Apr-Jun

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3G4

State Rank: S3S4

threeflower penstemon

Penstemon triflorus var. triflorus

Occurs sparingly on rock outcrops and in grasslands associated with juniper-oak woodlands (Carr 2015).

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3T3

State Rank: S3

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BURNET COUNTY

PLANTS

tree dodder

Cuscuta exaltata

Parasitic on various *Quercus*, *Juglans*, *Rhus*, *Vitis*, *Ulmus*, and *Diospyros* species as well as *Acacia berlandieri* and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3

turnip-root scurfpea

Pediomelum cyphocalyx

Grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas (Carr 2015).

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3G4

State Rank: S2S3

Wright's milkvetch

Astragalus wrightii

On sandy or gravelly soils; Flowering/fruiting: April and May

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3

State Rank: S3

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