

Thank you for this opportunity to comment on the DEIS for the Tombstone MOA. I am a Rodeo resident living on the outskirts of town, and I will comment on most problematic operations. However most comments on NOISE I will leave to the resident acoustics expert of our community who lives in Portal – Gordon Miller.

I DO HAVE A QUESTION: With the A10 being phased out and replaced by aircraft that do not require extremely low altitude or supersonic airspace capabilities, doesn't that reduce the demand for low altitude training in the Tombstone MOA???

The USAF says there will not be ANY impacts from the various operations, but according to my research – mostly from government studies, there will be MANY impacts, which I will discuss below. I have included references. I will also offer what I hope might be potential solutions and/or alternative training suggestions for the USAF to achieve its training and optimization needs. First though, I would like to point out some important considerations that were not analyzed in the DEIS.

OMMISSIONS IN THE DEIS – things of significance that were not considered

1) I found **NO MENTION OF PRIVATE LANDS in the DEIS**, other than ranches. ONE WOULD THINK THE WHOLE AREA WAS UNINHABITED and belonged only to Federal and State land management agencies. You state chaff and flare release mostly occur in the middle of an MOA, where noise would be loudest. That would seem to be Corridor C and slightly west. You say you'd avoid the most populated places but are you aware that Corridor C IS WHERE MOST OF THE POPULATION OF RODEO AND PORTAL LIVES? It is also the corridor for Highway 80. Will you be releasing chaff and flares on the cars? **The TOWNS OF Rodeo, NM and PORTAL, AZ are not mentioned, or shown on any map I saw in the DEIS.** They are either in Corridor C or just N. in the proposed expansion area. **Does the AF even know that Rodeo and Portal exist?**

Keeping FAA distance from a town is good, **but MORE PEOPLE ACTUALLY LIVE E. of Portal and N. or S. of Rodeo, THAN LIVE IN THE TOWNS THEMSELVES!** Rodeoites live between Hwy. 80 and the base of the Peloncillos, and Portalites live between Hwy. 80 and the base of the Chiricahuas. **This is the country – people live on acreage – anywhere from 4 acres to 80 or more! MUCH OF THE LAND IN YOUR MOA IS PRIVATELY OWNED LAND, BETWEEN GOVT. AGENCY AND STATE LANDS!** This was not considered in the DEIS.

2) The DEIS states the population of Hidalgo County has decreased in the last few years, while IN THE LAST 10 YEARS THE POPULATION OF RODEO, NM AS WELL AS THE POPULATION OF PORTAL AZ, has significantly increased!

3) **THE DEIS DID NOT TO MENTION THE REAL POSSIBILITY OF SONIC BOOMS CAUSING BOULDERS ON THE CLIFFS TO COME CRASHING DOWN ON PEOPLES HOMES, ON USFS ROADS, AND ON HIKER ON SOME TRAILS!!** Some of the boulders must weigh 5-20+ tons! There are MANY CLIFFS WITH BOULDERS IN AND AROUND Portal and Rodeo! **Loss of a home or car would be a significant economic impact. Loss of a loved one if they were a working family member would also be a huge economic impact, as would funeral expenses!**

4) The DEIS did not evaluate risks to farms, soils, or fully evaluate Earth Resources, stating there would be no impacts as no activities would be disturbing or digging up the ground or moving things around on the ground. However anything that falls from a plane can cause an impact on the ground, as I discuss in the chaff section below. Also the pressure wave of sonic booms and the low frequency sounds of jet aircraft at the low levels proposed can have affect plants and animals! (See – Impacts to Earth Resources section.)

5) I don't think the AF adequately analyzed the small number of EMTs and firefighters we have in this area – or the very limited amount of firetrucks and firefighting equipment we have. Please see discussion under the Fire section.

IMPACTS FROM CHAFF

It takes 5-8 MILLION pieces of chaff to make one jet radar invisible. A government study in one MOA found 5,000 sorties in one year, with 30 aircraft per sortie released 7.12 TONS of chaff. Here the AF wants to do as many as 8,000 sorties a year, so maybe between 8-9 TONS of chaff would be released. Number of planes per sortie was not specified in the DEIS, but it would be about 22 sorties a day! Times of operations would be mainly M-F 6AM – 10PM – day after day, year after year, with weekends by NOTAM (notice to airmen). EVEN MORE CHAFF COULD BE RELEASED ANNUALLY WITH THE MENTIONED ADDITION OF SEVERAL MORE SQUADRONS AND HELICOPTERS FROM 2 MARINE BASES IN THE NEAR FUTURE! There are few, somewhat short term studies on Chaff, and they are seriously outdated. Those talking about “small quantities” of chaff refer to small amounts found in deterrent flares sent out to deter heat seeking missiles. Flares do contain a small amount of chaff, but the larger concern is the radar reflecting chaff.

I read two Govt. Accounting Office studies on chaff cloud drift. The earlier one done for Sen. Harry Reid says chaff can stay airborne for an entire day, and DRIFT HUNDREDS OF MILES from the release point. The 2nd study at one MOA says it stayed in the air up to 10 hours and was found 140 miles away. Chaff drift will vary depending on the geology of the area, and wind conditions on the day of release. (See References 3 &4 at the end on comments.)

Chaff does not biodegrade, but cars driving over it, animals and people walking on it, and rocks falling on it, would break it into small particles which could then be resuspended in the winds (especially with the 50-70+ mph winds we get here) and be inhaled, damaging the lungs of any person or animal in the area. OSHA says crystalline silica can cause lung damage, lung cancer, COPD, kidney disease, and eventually death. There is no question about this! The AF claims none of its operations will have an impact, but besides chaff CAUSING HEALTH PROBLEMS AND EVEN DEATH, MEDICAL BILLS WOULD BE AN ECONOMIC IMPACT for anyone who inhales it! (OSHA.gov>silica-crystalline>health-effects). Government studies have admitted this “exposure – oral or inhalatory, to small fibrous particles could pose a risk to an exposed population.” (environmental effects of rf chaff pdf) This same study was quoted by the current AF DEIS as a verification to a question/comment made during the initial scoping process- THE AF ADMITS CHAFF COULD CAUSE A HEALTH IMPACT TOO!!

_JUST AS BAD as health problems caused by inhalation of silica particles, would be those caused by exposure to toxic chemicals – TEFLON AND OTHER PFAS coating chaff, called KAPTON – a fluoropolymer!

The DAF recently admitted Kapton persists in the environment and terminated its release over oceans because marine predators might think it was a food source. However I found no mention of restriction of its use on land.

[8] Fluoropolymers are a group of polymers within the class of per- and polyfluoroalkyl substances (PFAS).

[9] Kapton is a registered trademark of DuPont in the United States. Reference: DuPont Kapton Polyimide Film data sheet, undated. <https://www.dupont.com/electronics-industrial/kapton-fn.html>

[10] FINAL SUPPLEMENTAL REPORT UPDATE ENVIRONMENTAL EFFECTS OF TRAINING WITH DEFENSIVE COUNTERMEASURES, prepared for: Air Force Civil Engineer Center by U.S. Army Corps of Engineers, Appendix A, March 2023.

[12] FINAL SUPPLEMENTAL REPORT UPDATE ENVIRONMENTAL EFFECTS OF TRAINING WITH DEFENSIVE COUNTERMEASURES, prepared for: Air Force Civil Engineer Center by U.S. Army Corps of Engineers, Appendix A, March 2023.

[13] FINAL SUPPLEMENTAL REPORT UPDATE ENVIRONMENTAL EFFECTS OF TRAINING WITH DEFENSIVE COUNTERMEASURES, prepared for: Air Force Civil Engineer Center by U.S. Army Corps of Engineers, Appendix A, March 2023.

CHAFF IMPACTS ON AIR QUALITY

Needless to say, with chaff pieces and their aluminum/PFAS coating frequently being resuspended in the air several times a month, one cannot say chaff won't have a heavy impact on our air quality!

The AF has not been transparent in revealing PFAS is used in chaff coating.
HOW CAN THE USAF SAY THERE WILL BE NO IMPACTS FROM ANY OF ITS OPERATIONS WHILE USING PFAS THAT CAN CONTAMINATE SOILS AND WATER SOURCES, AND CAUSE SERIOUS HEALTH IMPACTS – especially dumping at least 500 tons of it each year all over the country. The cumulative and long term effects of that are unimaginable! Saying there can be no impacts defies logic!

CHAFF IMPACTS TO RANCHERS AND LIVESTOCK OWNERS AND WILDLIFE

Animals would suffer from silica and PFAS inhalation just like people would, but animals could also eat it. What would PFAS do to a biological organism if eaten over a long period? Who would knowingly want to buy PFAS saturated beef. **PFAS stays in the food chain so that people would unknowingly be eating it too.**

Chaff forms clusters that hang in bushes where livestock, pets and wildlife can eat them. A study by the National Institute of Health fed chaff to calves for 39 days and found the calves still put on weight. **The AF cites this study as showing chaff has no impacts to livestock, but they don't tell you the same study found chaff could cause a hairball like problem in calves.**

Many types of animals can have hairball like problems, including horses and most livestock, chickens, deer, Bighorn sheep, antelopes, and other wildlife. If caught early in cows the blockage can be moved through with treatment. If not it will continue to grow and would need to be surgically removed or it could kill the animal causing a painful death! (See References 5-7.)

Chaff use could be devastating for MANY species of wildlife! If not eating chaff in bushes, **many animals eat soils high in certain minerals. If the minerals were in a chaff area or chaff wind drift area chaff could also be eaten.**

Treatment, surgery, or loss of any livestock animal would be an economic impact to the owner. The same study mentioned above also says that no studies have been done on ABSORPTION OF THE ALUMINUM COATING OF CHAFF IN THE GUT, but says theoretically it could happen and COULD INHIBIT THE INTAKE OF PHOSPHORUS which all mammals need to live. (See References 5 &6.)

CHAFF IMPACTS TO FARMERS

The AF did not consider there would be any impact to soils or farms because they were not digging up the earth or moving things around on it, but **anything that falls from a plane can have an impacts below**, even it gently floats to the ground and just sits on the surface!

It probably won't happen right away, depending on the prevailing direction of the wind, but over time enough chaff or chaff pieces could drift over farms and the **aluminum/PFAS coating over the fiberglass could be leached into the soil**, causing stunted plant growth, and loss of crops for the farmer. The MOAs of this region have **arid climates so the AF says the aluminum would not leach into soils, but most farmers irrigate so it could happen.** Aluminum can be removed with lime, (or calcium if enough water), but at the expense of the farmer. **PFAS could not be removed from the soil. IF THE SOIL GETS CONTAMINATED WITH PFAS THE CROPS will CONTAIN PFAS. If the wind was blowing towards the farms at harvest time, chaff or pieces of chaff could get onto the plants. If noticed it could mean a loss of the crop for the farmer. These would be 3 economic impacts to farmers. If the chaff was not noticed it is possible physical pieces of chaff could get into the food supply.** PFAS AND PHYSICAL CHAFF **CONTAMINATION OF OUR NATIONAL FOOD SUPPLY SHOULD BE CAREFULLY CONSIDERED, STUDIED, AND AVOIDED!**
Chaff use should be terminated and training done in simulators only!

CHAFF IMPACTS TO EARTH RESOURCES

SOILS, SURFACE WATERS, AND AQUATIC ORGANISMS

The AF says there is 25 years of chaff sitting on soils of the BMGR. Has there been any study on soils there in the last 10 years? **Has anyone analyzed the amount of aluminum and PFAS in soils in chaff areas and compared it to soils in areas without chaff?** Or compared the soil acidity? Have there been any studies on changes in vegetation there since chaff release started? Are there any before and after pictures, or vegetation studies in the chaff areas?

The assumption that the coating of chaff would not leach into soils in arid climates may not be correct. Arid areas get really heavy rainfalls and hail. Just the intensity of rainfall, or hail could literally knock the aluminum coating off from chaff, in tiny pieces through 'mechanical' action. Water is a soft substance, but with intensity can wear rocks and large boulders smooth.

In arid climates **often heavy rains sheet across large areas of the lands surface and could carry the aluminum and PFAS far from chaff areas, and potentially to ponds and surface water sources, contaminating them.** Aluminum could leach from chaff and inhibit phosphorous intake, and aluminum is implicated in a number of neurological diseases, like Alzheimer's.

The AF says there will be no impact from aluminum based on one study that found only a slight effect on fresh water organisms, **but a few government studies say this possibility needs further study.** Aquatic organisms are extremely sensitive to toxins in water, and could be affected for generations. **It is impossible to think there will be no impact from PFAS to many species and people at some point. Due to the high potential of chaff particle suspension, and the aluminum and PFAS coating on chaff and the health problems these can cause, chaff use should be terminated and chaff training done in simulators only!**

CHAFF IMPACTS TO PLANTS, INVERTEBRATES, REPTILES AND SMALL BURROWING ANIMALS

Possible impacts to vegetation seems not to have been studied because the AF stated there would be no impact to vegetation or habitats. Some impacts were discussed above.

In arid areas there are a number of species of tiny individual plants that might top out at an inch or less above the ground, and a few groundcover like plants that grow at certain times of year. Just with the sheer volume of chaff accumulation alone over 25 years, one would think small plants could not grow in chaff release areas, as plants need enough light to

photosynthesize. **The DEIS statement that one would not notice chaff except on bare ground areas or roads, may indicate the ground is bare because no plants can grow there! Also, how do small burrowing organisms have access to the ground in heavily covered chaff areas? How will the PFAS affect insects and animals that burrow?** As discussed the aluminum and PFAS coating on chaff could theoretically be absorbed in the gut and block phosphorus absorption.

Phosphorus is a mineral all living things need. Heavy rainfall could transport PFAS and aluminum to sites farther away and plants could absorb the chemicals and be eaten by wildlife, and insects. Chaff use should be terminated and training done in simulators only!

SUMMARY: POTENTIAL HUMAN AND ANIMAL HEALTH ISSUES - from Chaff and other operations

Physical chaff, and potential aluminum/PFAS contamination of the Nation's food supply!

Also possible dental damage from chaff pieces, and gastrointestinal problems.

Contamination of soils and water WITH ALUMINUM AND PFAS, and toxic chemical exposure from inhaling contaminated wind blown soils, ingesting contaminated crops, or drinking contaminated water. Smoke and chaff inhalation from fires and windblown chaff pieces causing lung destruction. Wind blown chaff particles can also cause skin irritation and get lodged in eyes.

Partial hearing loss from jet engine noise and sonic booms

Though it may be debatable, some studies say sonic booms and sudden loud engine noise can have a damaging effect on the nervous system, impair the endocrine system, and can also cause hypertension and coronary damage.

The Air Force has 10 MOAs across rural areas of AZ and S. NM where this chaff training would occur, as well as over several Indian Reservations. Given a wind drift factor of hundreds to 140 miles, chaff could drift over just about the entire State of AZ from above the Grand Canyon down to Mexico, and from the Colorado River east into NM and beyond the Great Divide! Though operations might be different in different MOAs, and some may not have chaff release as part of their operations, the AF INTENDS TO RELEASE CHAFF OVER MANY RESERVATIONS AND RURAL COMMUNITIES ACROSS THE COUNTRY – WHERE WE GROW MOST OF OUR FOOD!!

Due to sheer volume there is no way to clean chaff up or mitigate its impacts. Simulators should be used. **THE RISKS OF CHAFF USE ARE TOO GREAT, GIVEN THAT CURRENT STEALTH TECHNOLOGY AND CHAFF RADAR BLOCKING CLOUDS WILL SOON BE OBSOLETE DUE TO THE RECENT DEVELOPMENT OF QUANTUM RADAR BY THE CHINESE !!**

The Air Force does not even have to use training chaff. F-35 Flight simulators can replicate both chaff cloud and flare release. But the AF doesn't want to use simulators as they apparently cannot duplicate all aspects of training realistically.

POTENTIAL SOLUTION

Chaff release could be practiced in simulators and other scenarios practiced with real flying. **With practice chaff the planes are not visible to radar anyway, so why use it?** The AF would save tons of money not having to buy chaff, and a lot of money on fuel practicing in simulators. **Why contaminate any area, especially an entire state or country when you can simulate it?**

IMPACTS OF FIRES – Jet Crashes and Flares

In the last few years insurance companies have made no secret about their uninsuring areas with high fire potential. Will residents under the Tombstone MOA even be able to get fire insurance if they find out about increased fire risk due to proposed AF activities? **(ANOTHER POSSIBLE ECONOMIC IMPACT!)**

Altitudes for flights will be lowered to as little as 100 feet AGL. The lower the altitude the more risk of jet crashes and fires. Fire risk also will be high due to lowering release altitudes from the current 5,000 feet to 2,000 feet, and due to the significant volume increase of flights and flare drops allowed – **UP TO 30,000 FLARES AYEAR!** **Chemicals found in flares can catch fire spontaneously and intensify fires!** **The Air Force's desire to lower flare releases at this location is poorly timed, given our new recurrent weather pattern which is giving us more frequent and stronger winds, and considering we are just on the downside of the WORST DROUGHT IN 1200 YEARS!** This is an area where – even with the normal infrequent strong winds we used to get, it got so windy that I-10 between the State line and Lordsburg was closed down for hours several times a year due to dust storms, with the dust rising 30 feet or more into the sky! Also the wet monsoon season 2 years ago grew a lot of invasive grass which has now dried out. A fire here now, might well be a **Megafire!** There seems to be no way the AF could stop a megafire in any of the 10 MOAs.

FIREFIGHTING RESOURCES IN THE TOMBSTONE MOA AREA ARE AT A BARE MINIMUM, AND STAFFED BY VOLUNTEERS. **Between the few EMTs living in Portal, Rodeo and Animas, and Lordsburg they could only handle 3 incidents simultaneously.** If there was an incident in three communities at the same time (admittedly rare), there might not be anyone available to go to a crash sight. On the other side of the coin, if we had responders at a crash site and three incidents occurred in the communities, one of them would not be able to get immediate attention. Our EMTs have limited HAZMAT training. **At the hearings I asked one of the air Force staff what the response time would be for the AF to get to Rodeo if there was a crash and he said about 2 ½ hours. Wouldn't you use a helicopter? Once in Rodeo it might take another hour or more to get to the crash site if it was back in the mountains. The AF says its goal is to save lives, property and material by a timely response – SEVERAL HOURS IS NOT A TIMELY RESPONSE!** Also, the nearest 3 full facility HOSPITALS are 90 miles away, and the nearest burn centers are about 180 miles from this area. It seems the AF does not have a realistic plan for dealing with a flare or crash fire. - How will spilled fuel and other fluids get cleaned up in a timely manor?

WILL THE AF CONTRIBUTE AIRCRAFT AND PERSONNEL TO FIGHT FIRES CAUSED BY AF FLARES AND CRASHES?? Here, if a fire starts on private property we only get limited assistance from our local fire department office. If the fire spreads to land managed by BLM, USFS, or another land management agency, then the agency comes in to fight the fire.

The AF says its firefighters wear protective clothing or proximity suits and steel tipped and shanked boots, and have self contained breathing apparatus. Our firefighters have no breathing apparatus, clothing for fighting wildland fires only, and steel toed boots are not supposed to be worn for wildfires.

Neither our firefighters nor EMTs have self contained breathing apparatus, and would just have to try to stay out of the path of toxic smoke for 3-4 hours until the AF arrived.

The proposed change to the flare drop elevation will ensure homes, outbuildings and businesses outlying Portal, AZ and Rodeo, NM will be at almost constant risk of being burned during the day and into the night during training sessions, and most of the population here does live on the outskirts of the towns. Even the towns themselves could be at risk!

There has already been a possible AF related fire on the Grey Ranch a few years ago. Animas locals said they saw a planes shooting flares in that area shortly before the fire was reported. There was also a jet crash fire in June of 2015, near Douglas AZ. The San Carlos Apache Reservation has experienced and mapped 10 fires caused by flares! And there have been 21 F-35 crashes in the last 10 years!

There are many biological study areas like WSAs and ACECs, and many protected habitats with endangered species in the Tombstone MOA. A fire in those areas could be devastating for those species as well as others. I don't see how the AF could assure protection of those areas in a fire situation. Winds can change in an instant and fires can spread very quickly!

A 1997 AIR FORCE Report specifically stated – “While fire is a part of ecological cycles, fires originating from non-natural sources can be ill timed and limit managers’ ability to implement fire management programs aimed at balancing ecological necessity with human safety.” ----- “Fires tend to spread and damage larger areas in timber and grassland environments, including specifically protected areas such as Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, wildlife and habitat protected areas, and areas of designated outstanding visual quality. Areas specifically designed for Preservation of natural qualities have a low tolerance for changes brought on by non-ecological conditions, including litter and fires, and would be LEAST suitable as flare training areas. –” (Environmental Effects of Self-Protection Chaff and Flares. Final Report. August 1997.)

NOISE IMPACTS

What I know about the noise here is that my ears and brain perceive the F-35s to be several times louder than the F-16s when they fly over my house. Some noise levels mentioned in the DEIS seem to be above noise levels that OSHA says requires hearing protection. A 1999 study stated that hearing loss could occur with a noise event above 114dB, and the CDC says some hearing loss can occur with any sound as loud or louder than 85dB. The AF says the Lmax for the F-16 can be up to 131dB. **NOISE HAS ALREADY HAD A FINANCIAL IMPACT FOR SOMEONE WHO RECENTLY TRIED TO SELL THEIR HOUSE IN PORTAL. AN OFFER WAS MADE BUT FELL THROUGH WHEN THE BUYER FOUND OUT WHAT THE AF WOULD BE DOING HERE!**

The AF bases their analysis of noise level disturbance on a noise disturbance level that was designed for cities where plenty of other noise is always happening so no one notices. It is hard for people who live in cities to imagine the depth of “quietness” in this remote area. You don't have to go very far from the already quiet towns of Rodeo or Portal, or very far from the highway and main roads to experience the quiet, which may at times be gently broken by the rustle of leaves in the wind, or a bird's or ground squirrel's call. Even Highway 80 is rarely noisy. People often drive 50 miles and back from Douglas, or 33 miles to I-10, without even seeing another car!

A Federal Interagency Commission on Noise (FICON) stated that a 3dB increase in noise is a large change in noise – especially when the existing noise average is well below 65dB. The commission said that such a noise increase is “perceived as a degradation of their (the community's) sound environment.” That would certainly hold true here!

The noise of louder jets at the extremely low elevations proposed, as well as the greatly increased frequency of flights each week, would be very disturbing here, especially with 20-30 some sorties a day. It would mean more and louder noise, especially in the canyons which concentrate, amplify and echo noise. Sonic booms at these low elevations would be majorly disturbing!

NOISE IMPACTS TO EARTH RESOURCES - VEGETATION AND SMALL ANIMALS

In the comments section of the DEIS, someone commented that **NOISE OF JETS AT SUCH LOW ALTITUDES HAD THE POTENTIAL TO HEMMORHAGE THE BRAINS OF SMALL MAMMALS AND IMPACT VEGETATION. THE AF RESPONDED THAT: AF OPERATIONS AT THESE (low) ELEVATIONS DO HAVE POTENTIAL TO AFFECT VEGETATION, AND SMALL ANIMALS!** Yet the AF later in the same DEIS the AF claimed Earth Resources would not be studied because there would be no impact! As admitted in the DEIS, sonic booms would cause species that use the sound of lightening to determine hen to emerge from their burrows could deplete their energy and emerge at the wrong time of year and suffer desiccation.

NOISE IMPACTS OF SONIC BOOMS - STRUCTURE DAMAGE HARDSHIPS, AND HOME/CAR LOSS

In addition to being at risk due to fires, sonic booms would be lowered from 30,000 feet to 5,000 feet, bringing the potential for damage to tile roofs; broken glass; cracked plaster walls and ceilings; cracked stucco and adobe walls; and the knocking down of free standing walls. **There are several rock houses under the Tombstone MOA – will a boom affect them?**

Many homes in Rodeo, and several in lower Portal are quite old and not in good repair. Many are homes of senior citizens with limited incomes and not enough money to fix up their homes. No alternative housing exists for them to move to if their home is made unlivable by a sonic boom! ACCORDING TO FAA ORDER 1050-F this could cause relocation of a good percentage of Rodeo/Portal residents where no replacement housing is available!

SONIC BOOMS AT SUCH LOW ELEVATIONS SHOULD NOT BE DONE WHERE CIVILIANS LIVE. Booms at such low elevations have an unacceptable shock wave pressure. IF THE AF WANTS TO DO LOW ELEVATION SONIC BOOMS IT SHOULD STAY AT THE BMGR OR GO TO AN EXISTING training ground that would not be impacted by that level of risk.

IMPACT HARDSHIP - There are not many repairmen living in this remote area. This area is far from services. One has to drive a hundred miles round trip to the nearest bank, pharmacy and market! It is 40 miles round trip to a gas station. It is **usually very difficult finding someone from Lordsburg or Douglas that will drive here to fix things. ONE OR MORE BROKEN WINDOWS IN THE HEAT OF SUMER OR DEAD OF WINTER COULD BE A REAL HARDSHIP, especially for seniors with health problems, as it could take weeks for a repairman to get time in his schedule to come here - if you could get one to come at all.**

THE DEIS DID NOT TO MENTION THE REAL POSSIBILITY OF SONIC BOOMS CAUSING BOULDERS ON THE CLIFFS TO COME CRASHING DOWN ON PEOPLES HOMES, ON USFS ROADS, AND ON HIKER ON SOME TRAILS!! Some of the boulders must weigh 5-20+ tons! There are MANY CLIFFS WITH BOULDERS IN AND AROUND Portal and Rodeo! **Loss of a home or car would be a significant economic impact. Loss of a loved one if they were a working family member would also be a huge economic impact, as would funeral expenses!**

The DEIS states that impacts like loud aircraft noise from flights 500 feet or lower, sonic booms and other operations would be rare and intermittent, and rarely repeated in the same area. The Tombstone MOA is large, but not infinite. With the volume of sorties I would think experiences might be repeated several

times a month. Especially for those living in corridor C in the middle of the MOA where you say most training activity will occur. Eighty sonic booms a year would average about 4.5 a day.

IMPACTS TO PUBLIC LANDS, RECREATION, AND THE ENVIRONMENT

Risk for people and wildlife to inhale pieces of chaff with resulting health problems.

Degradation of habitat by aluminum and PFAS coatings on chaff, contaminating of soils, water, and the food chain.

Risk of wildlife eating chaff on plants causing a hairball like blockage.

Loss of wildlife, habitat, and scenic recreational quality from fires caused by flares and aircraft crashes.

Loss of ecotourism business due to fire degradation of scenic areas.

Deposition of chaff over time affecting scenic quality.

These same impacts will destroy the recreational value of Public Lands!

Both Rodeo and Animas NM, and Portal, AZ have been under the “**Tombstone MOA**” since its creation. Portal is in and around the Chiricahua Mountains, and **the main town is surrounded by the Coronado National Forest – which includes several Wilderness Study Areas**. On the W. side of the mountains from Portal is the Chiricahua National Monument. The **Coronado N.F.** has **multiple Wilderness Study Areas and ACECs** - Areas of Critical Environmental Concern. A **National Wildlife Refuge is also under threat from the dropping of flares and chaff and the toxic chemicals they will release**. All, or portions of the above mentioned areas in AZ will be effected. The Coronado NF continues across into NM and the Peloncillo Mountains. **Sixty seven miles of the Continental Divide Scenic Trail also lie within this MOA. The Portal-Rodeo- Animas region is one of the most biodiverse areas of the country!** There are **endangered and threatened species on both sides of the State Line, as well as ACECs. An ACE** (Area of Critical Environmental Concern)) **in Portal was designated by the Forest Service as a ZOOLOGICAL AND BOTANIC AREA** in 2010. Portal is a WORLD RENOWNED birding area and was just designated as a **globally Important Bird Area (IBA) by the Audubon Society**. There is a **Biological Research Station** in Portal that is breeding and **reintroducing an endangered frog specie**, among other things. **This region, of both states, is known as the “Sky Islands” and is right now being considered for National Monument or National Park status!**

The FAA says the AF must evaluate impacts of the proposed actions on the use and enjoyment of recreation areas. They also must evaluate the interrelatedness of the natural and physical environmental effects of proposed actions on the economy and social environment for present and future generations. I would say given the impacts discussed above and to be discussed below, the present and future looks pretty bleak!

ECONOMIC IMPACTS

Three financial impacts to Ranchers and livestock owners, and 3 impacts to farmers have already been discussed under the Chaff section. Two Financial impacts to residents (medical bills and death of a family member are also discussed in the Chaff section, as is POTENTIAL CONTAMINATION TO THE LOCAL OR NATIONAL FOOD SUPPLY. which besides being a health impact could also be a financial impact to food processing companies, as well as raise prices of food on a National level, perhaps affecting our country's economy!

Financial impact from sonic boom structure damage is discussed above, and financial impact from loss of housing, cars or loss of life is implied due to sonic booms potential to loosen boulders (not mentioned

in the DEIS). **NOT BEING ABLE TO GET FIRE INSURANCE would be another big financial impact.** (See end of FIRE section.)

The AF could not determine if housing values would fall or if there would be economic impacts but they plan to carry out training here anyway. Already one house sale has fallen through in Portal because the buyer heard what the AF intends to do here and backed out. Our housing values will plummet! The economies of Rodeo and Portal rely heavily on ecotourism. If those businesses fall the businesses that provide lodging, and restaurants will fall, (AND THOSE ARE THE MAJORITY OF BUSINESSES IN Portal and Rodeo) – or if they stay open their business will be greatly reduced. A significant amount of county revenues will be lost to Hidalgo County. **THE COMMISSIONERS OF HIDALGO COUNTY, NM HAVE ASKED THE AF NOT TO CONDUCT THESE CHANGES OF OPERATIONS HERE. Grant and Craton counties are currently drafting Resolutions against proposed AF activities.**

The noise of jets at the extremely low elevations proposed, as well as the greatly increased frequency of flights each week, would be disturbing here, especially with 20-30 some sorties a day. Tourists come here because it is so quiet, and they are apt to see birds and other wildlife. **Ecotourism businesses know what their clients want because the people who come here tell them why they come here – the quietness and good chances of sighting wildlife are highest on the list. Those business owners ALREADY KNOW changes in AF activity here will have an enormous financial impact.**

According to FAA ORDER 1050 – 1F, 1) Impacts that create substantial relocation of community business producing hardships for the area have to be considered. Only in this case it will produce **obliteration** of businesses as there will be nowhere else for them to move to. 2) The high potential for low altitude sonic boom damage to a significant percentage of homes in ill repair in Rodeo (plus a few in lower Portal) with no alternative housing available – and the economic loss to those home owners, also needs to be considered. 3) Impacts from various AF operations have potential to substantially lower the tax base for Hidalgo County, and moderately lower it for Cochise County also needs to be considered under this FAA Order. Hidalgo County knows and fears this impact because it is a poor county with not many revenue sources, and they have asked the AF not to implement these operational changes here. 4) Items 1 and 3 above, as well as things listed in the summary of economic impacts below would create substantial economic disruption in the entire area. (There could also be substantial Economic disruption on a National level if our Nation's food supply was contaminated and disrupted!)

SUMMARY OF PROBABLE ECONOMIC IMPACTS

Livestock Owner – 3 types of impacts

Farmers – 3 types of impacts

Residents – Several health impacts, from various proposed AF operations that could affect ability to earn income, or bring death to an individual.

Medical bills for the above health impacts would also be an economic impact.

Death of an income earning family member.

Funeral expenses

Loss of homes, out buildings, or businesses – as well as belongings within buildings from fires.

Loss of Fire Insurance

Loss of ecotourism business in burned areas for several years.

Loss of recreational value in burned areas for several years.

Damaged homes or loss of home structural integrity from a sonic boom.

Loss of home, car, or family member from boulders loosened by sonic booms.

Loss of ability to sell your home. – THIS HAS ALREADY HAPPENED IN POTRAL!

Loss of property value.

Loss of businesses (most businesses of Portal AZ and Rodeo NM).

MAJOR LOSS TO TAX BASE FOR HIDALGO COUNTY, NM.

SOME LOSS TO TAX BASE IN COCHISE COUNTY, AZ.

Contamination of the National Food Supply from chaff pieces and PFAS – causing loss to food companies, which could increase food costs across the country and affect the Nation's economy!

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SUMMARY OF IMPACTS TO RESIDENTS AND THE COMMUNITY – socioeconomic impacts

The USAF expects us to risk our health, and even our lives from the impacts of several AF activities. We are expected to risk our homes and everything in them to almost inevitable fires - if the sonic booms don't shake them apart first. They want to take everything (listed below) from us, and aren't even obligated to buy us out under the law of Imminent Domaine!

Property values will fall from the get go. It will be impossible to sell your home – one home sale in Portal has already fallen through because the buyer found out what the AF wants to do here, and they haven't even started training here yet! **Ranchers, livestock owners, farmers and other businesses stand to suffer severe economic devastation, as will Hidalgo County, which has few sources of revenues. Cochise County will ALSO suffer a loss of tax base.**

For many who live here this is not only their home, but they are here living their dream. Low cost of living, no traffic, clean air, clean water, beautiful views, peaceful extreme quiet, living in close proximity to wildlife, and a vibrantly social community where we support and help each other is something extremely rare and priceless in today's world. What the USAF proposes here would destroy all this - everything that gives high quality to our lives and makes life worthwhile.

Our tightknit community (and Portal and Rodeo are as one community), will be torn apart as people who can afford to move away. There is a large percentage of seniors here – some probably not healthy enough to withstand a move. There are some with no family left and nowhere else to go. Most could not afford to move back to a city with a higher cost of living, where they might have a handful of friends left, especially if they could not get full market value for their homes. They would be trapped here with the health consequences, having to watch everything here - including the wildlife, be destroyed by AF activities over time.

RESIDENTS AND GROUND SAFETY

The **FAA** established SUAs/MOAs for nonhazardous training areas – non hazardous to who? Certainly no thought is being given to the impacts on living creatures and people on the ground below the Tombstone MOA. **The AF knew chaff covering contained PFAS and kept that fact concealed, implying chaff was harmless silica crystals**, with silica being one of the most common minerals of soils. But those crystals can be broken into smaller pieces, resuspended in the air, and cause lung damage – among other problems. The aluminum in the coating has its negatives too as do the Forever chemicals which the AF concealed.

The AF also cites one (39 day) study where calves were fed chaff and still put on weight as proving chaff had no impact, but did not reveal the study showed it gave calves a hairball like problem, and that theoretically the aluminum coating could be absorbed in the gut blocking the absorption of phosphorus, which all animals need to live. It gives the appearance that the AF was intentionally misleading the public about the true dangers of chaff, and diminishes the credibility of the AF. It would seem there is blatant disconcern for the public's health, and disconcern for the well being of the economies of farmers and livestock owners – as well lack of thought or disconcern for the safety of the food resources of this Nation, which could also impact the economy of this Nation. It would seem the AF's attitude is that we are expendable, just collateral damage in the process of their actions to achieve their goals of making this highly biodiverse area a war games zone.

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DEIS ANALYSIS SUMMARY

Proposed changes in AF operations here are in opposition to land management agency goals, and contrary to the goal of the State of New Mexico – to increase tourism and outdoor recreation in the state, which will boost the state's economy. The many, potentially severely negative impacts, most irreversible, of various operations in AF training have been discussed. Most changes would be damaging to the environment and to the animals and people who live here, in many ways. Most, and the worst impacts would be from chaff, which could contaminate the Naiton's food supply on a national level (both our meat and farm crops), and could affect our National economy.

The AF should not use chaff in rural areas where we grow our food and raise our cattle and other food animals. In fact the AF should not be using chaff at all due to PFAS contamination, and chaff particle contamination of the air. The AF should be restricted to using simulators for the chaff portion of their training. THE AF SHOULD KEEP TO ALTERNATIVE 1 – THE NO CHANGE ALTERNATIVE FOR THE TOMBSTONE MOA.

SUGGESTED ALTERNATIVE TRAINING AREAS AND OPTIMIZATION IDEAS

1) The AF says they are proposing increasing activities to save costs, so that pilots can train within 150 miles from their base. I assume the idea is so that pilots do not have to fly to and from an MOA twice that far or further every day. My suggestion is: have the squadron fly to the base nearest the distant training area and stay at that base for the 2-3 weeks or however long the training session is, then fly back to their home base when training is completed. This will cut fuel costs, and other bases usually have guest facilities where pilots could stay. If not they could build them. For instance, they could fly from Davis Montham AFB to Edwards AFB for sonic boom training and probably other training, and fly back when finished. It is good that the AF wants to save money, but how much money did they waste developing a simulator program for F-35s and then not using it. It seems ironic.

2) The AF gets money from sales of F-16s to foreign governments, and for training foreign pilots. That should compensate their operating budget quite a bit if there are extra fuel expenses for training needs, but **the AF should not expect Native American and rural communities to give up their health and everything they have to compensate for AF expenses.** We pay taxes and fund your operations to begin with!

3) The DEIS said the Sunny training area would meet needs, but training was already occurring there at different (I assume higher) elevations. Why can't the airspace be shared? One week or month for high elevation training, and the next month or week – or whatever amount of time needed, for lower elevation training?

4) The USAF is reorganizing, and even is moving aircraft out of some bases. I suggest that if this is a supposed reason for the AF to be making these changes of use for MOAs, then they should have to keep the aircraft where they are, or at least have the planes go back to those previously used areas to train.

5) My suggestion would be for all military branches that have flight training areas – if they have periods where those areas aren't being used, then they should have to share with each other. Perhaps the DOD or other government dept. should determine which branch has which needs and which training areas would work best, or at least be in charge of or oversee the scheduling for those training areas, to avoid the traditional ego antagonisms between the various branches of the military, and to avoid one branch getting bumped off the schedule by the host branch. Once scheduled, bumping should not be allowed.

6) I would propose that the AF train foreign pilots in their own countries where they would get the best benefit, as not only would they learn their aircraft, but would also familiarize themselves with their landscapes and the weather patterns over those landscapes and how the aircraft handles in such weather. Training foreign pilots in their own, or nearby countries has been done before.

7)The video presented at the Tombstone MOA DEIS hearings presented a map showing **the Air Force area of the BGMR in yellow. It is really just a tiny portion of the range. It seems it would not make a significant land contribution for more hazardous training on the range. The current low altitude/chaff training over the Goldwater Range should not be moved** from that location, which is already chaff polluted, **just to save money and not have staff working weekends – at what cost to US citizens? In the DEIS the AF admits the BMGR is adequate for their needs except for the cost to cover support crews on weekends. It would seem sales of aircraft to foreign governments would significantly compensate for the weekend expenses.**

Scottie McKasson