



# Southwest Geophysical Consulting, LLC



January 01, 2020

Mr. Jon Smith  
XYZ Environmental  
123 Main St.  
Albuquerque, NM 87102

Dear Mr. Smith,

This letter serves to inform you of the results of the surface-karst desk study performed by Southwest Geophysical Consulting, LLC (SWG) on January 1, 2020 within a 200-meter boundary of the Burton Flats Federal 18 pad site provided by you via email on December 31, 2019 (**Burton\_Flats\_18\_Shapefiles.zip** and **Burton\_Flats\_18.kmz**). The study was performed using satellite imagery from Google Earth Pro dated December 21, 2019; any features formed after this date will not be visible in this imagery. Features less than one meter in diameter may also not be located during this study.

An inquiry to the New Mexico Cave Database and the Southwest Geophysical Cave and Karst Database was submitted on January 1, 2020; three previously known cave or karst features were located within the requested area (see attached data file: **BF18\_Data.kmz**). One of these is a known cave, "Crystal Cave", and is located 315 meters east of the northeast corner of BF18 Pad 1. BF03 is almost certainly a karst feature, either a small cave or a large swallet. This feature is located 128 meters east of the southeast corner of BF18 Pad 1. If this is a cave, BF18 Pad 1 will be within the 200-meter recommended avoidance buffer. It is recommended that this feature be ground checked to determine its status. BF04 is also almost certainly a cave; however, this feature is located greater than 500 meters from any of the proposed pad locations. A search of the Illinois Camp SE, 1: 24,000 topographic map (1985) and the Geologic Map of New Mexico, 1: 500,000 geology map (2003) returned no additional results within the survey boundary.

Two additional possible surface karst features were identified within the survey boundary during the inspection of the satellite imagery. BF01 is located 213 meters southwest of the southwest boundary of BF18 Pad 3 and is possibly a 5-meter-diameter cover-collapse sinkhole in a playa lake. This feature could also be pseudokarst along the pipeline just to the north, but due to its size, this is unlikely. BF02 is another possible cover-collapse sinkhole 217 meters west of the northwest corner of BF18 Pad 1. None of the proposed pad locations are within the recommended avoidance buffers of these two features.

If there are any questions regarding this response, or if a field confirmation of the features noted above is desired, please contact me via phone at (505) 585-2550 or e-mail at [dave@swgeophys.com](mailto:dave@swgeophys.com).

Sincerely,

Dave Decker, PhD  
CEO, Principal Geologist  
Southwest Geophysical Consulting, LLC