



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 1/25/2021

ORM Number: SPA-2017-00017-LCO

Associated JDs:

<http://www.spa.usace.army.mil/Portals/16/docs/civilworks/regulatory/Jurisdiction/Approved%20JDs/New%20Mexico/SPA-2017-00017%20AJD%20form%20final.pdf?ver=2017-11-22-180426-260>

Review Area Location¹: State/Territory: New Mexico City: Tyrone County/Parish/Borough: Grant

Center Coordinates of Review Area: Latitude 32.654733° Longitude -108.102183°

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): ³			
(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):			
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A.	N/A.	N/A.	N/A.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):			
(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.

¹ Map(s)/figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District’s list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



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Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A.	N/A.	N/A.	N/A.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size		Exclusion ⁵	Rationale for Exclusion Determination
Deadman Canyon	5360	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	See Section III.C below
California Gulch	1011	linear feet		
Unnamed Tributary	264	linear feet		

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

- Information submitted by, or on behalf of, the applicant/consultant: [HILGART WILSON, LLC](#)

This information is sufficient for purposes of this AJD.

Rationale: [N/A](#)

- Data sheets prepared by the Corps: [Title\(s\) and/or date\(s\)](#).
- Photographs: [Aerial and Other: Google Earth Imagery 2016 through 2020 \(latitude 32.654733, longitude -108.402183, Grant County, New Mexico\)](#)
- Corps site visit(s) conducted on: [Date\(s\)](#).
- Previous Jurisdictional Determinations (AJDs or PJDs): [SPA-2017-00017-LCO, 28-Feb-2018](#)
- Antecedent Precipitation Tool: [provide detailed discussion in Section III.B.](#)
- USDA NRCS Soil Survey: [Title\(s\) and/or date\(s\)](#).
- USFWS NWI maps: [Title\(s\) and/or date\(s\)](#).
- USGS topographic maps: [Title\(s\) and/or date\(s\)](#).

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	Hilgart Wilson LLC, 2017. Little Rock Mine Approved Jurisdictional Determination Report A. Park Williams, Edward R. Cook, Jason E. Smerdon, Benjamin I. Cook, John

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
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Data Source (select)	Name and/or date and other relevant information
	T. Abatzoglou, Kasey Bolles, Seung H. Baek, Andrew M. Badger, Ben Livneh. 2018. Large Contribution from Anthropogenic Warming to an Emerging North American Megadrought. Science. Vol. 368 Issue 6488. Pp. 314-318.

B. Typical year assessment(s): The Antecedent Precipitation Tool (APT) was run across five dates: August 10, 2020, as well as the same date in 2019, 2018, 2017, and 2016, which corresponds to available dates of the aerial imagery. The APT results indicated that from 2016 thru 2019 the site was experiencing normal conditions, with precipitation falling between the 30th and 70th percentile of the 30-year rolling period. However, the APT results showed that during 2020 the site was experiencing a drier than normal year, with two out of the three data points falling below the 30th percentile. Subsequently, the drought index for 2020 indicated moderate drought conditions for the review area, with the 2019 data indicating mild drought. The 2017 data shows incipient wetness and 2018 as experiencing severe drought conditions.

The APT indicates that the drought levels seem to be going from wet to dry and back to wet conditions over the last 5 years, with the precipitation conditions staying relatively the same. The 2020 data indicates that the review area is in drier than normal conditions; although it just falls out of the 30th percentile with the following days returning to normal conditions. The August 10, 2020 APT reading seems to be an outlier from the other data indicating normal conditions.

It is worth noting that a study by Columbia University concludes that the American Southwest is experiencing a historic “megadrought” not seen in centuries. In fact, for several western states, including New Mexico and Texas, the last twenty years ranks as the second-driest period in the past 1,200 years (A. Park. Williams, 2018).

C. Additional comments to support AJD: The following discussion includes background information on the review area and previous requests for an AJD, which encompasses the location of the Little Rock Mine. The request for this AJD was made by Freeport McMoRan Tyrone Inc. (FMTI) and the report “Little Rock Mine Approved Jurisdictional Determination, Grant County, NM” was prepared by HilgartWilson on behalf of FTMI in August 2017 (herein referred to as the HilgartWilson report).

BACKGROUND

Turquoise, copper, and fluorspar were mined in the area from the late 1870s through the early 1900s. Open-pit copper mining began in 1967. Since 1992, the Little Rock Mine has been solely a copper leaching operation. In 2004 the open pit complex at Tyrone encompassed approximately 1,250 acres, including the Main, West Main, Valencia, Gettysburg, Copper Mountain, South Rim, Savanna, and San Salvador Hill pits. The mine also contains a mill and concentrator, a solution extraction electrowinning plant (SX/EW), and other ancillary facilities. The principal features at the Little Rock Mine include the open pit, the North and West Canyon overburden stockpiles, historic Ohio Mine and dam, the reclaimed Copper Leach Stockpile and Precipitation Plant (Tyrone Mine Closure/Closeout Plan Update, Phelps Dodge Tyrone, Inc., Prepared by Golder and Associates and Submitted by Freeport McMoRan Tyrone, Inc, October 2007).

Freeport-McMoRan Tyrone Inc. (FMTI) previously requested an AJD for the review area under the Rapanos guidance in 2017. An AJD was provided by the Regulatory Division (RD) on October 31, 2017. In accordance with 33 CFR Section 33.69(c), FMTI provided additional information and requests for reconsideration on December 28, 2017 and again on April 23, 2018. As a result, the RD issued revised



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AJDs on February 23, 2018 and July 7, 2018, which incorporated the new information provided by FMTI. A third reconsideration request was submitted by FTMI on September 7, 2018. However, no new information was provided. On February 12, 2019, FMTI submitted a request for appeal of the AJD. On April 25, 2019, a meeting and site visit was scheduled with FMTI and RD staff to discuss the appeal process and way-ahead. On June 24, 2020, the appeal was found to be without merit. On October 26, 2020, FMTI requested an AJD under the Navigable Waters Protection Rule (NWPR), which was implemented on June 22, 2020.

REVIEW AREA

The review area addressed in this AJD contains three aquatic resources: Deadman Canyon, California Gulch, and an unnamed tributary that flows to Whitewater Creek. Figure 4 of the HilgartWilson report shows the three waters that comprise the review area for this AJD. These three waters will be referred to as “review area waters” for the purposes of this AJD. As described in the HilgartWilson report, the review area waters are located within the Willow Creek-Mangas Creek Watershed (HUC12 150400020301) within the Upper Gila-Mangas Subbasin. Temperatures in this area range from 4.5 to 41° Celcius (C) (40 to 105° Fahrenheit [F]); and the average annual temperature is 21° C (69° F). The mean annual precipitation is 407 millimeters (mm) (16.02 inches [in]) with a range of approximately 172 to 634 mm (6.77 to 25 in), The mean annual snowfall is 37 centimeters (cm) (14.5 inches [in]) . Soils are well drained and the water table exceeds 80 inches in depth. See Figure 8 of the HilgartWilson report for a map of the review area in the vicinity of the Little Rock and Tyrone mines.

SETTING

The review area is located within a hard-rock mining district that includes two primary mines, the Tyrone Copper Mine and the adjacent Little Rock Copper Mine, both owned by FTMI. Information provided by FTMI describe the Little Rock Mine as a unit of the larger Tyrone Mine. The Little Rock and Tyrone mines are located approximately 10 miles southwest of Silver City, New Mexico. The Tyrone Mine straddles the Continental Divide and the Mimbres and Gila River basins.

The following paragraphs describe the flow path between Deadman Canyon and the Gila River; and maps are provided in the HilgartWilson report. Deadman Canyon flows from south to north through the Little Rock Mine project area.

At the north side of the mine area, during a sufficiently sized storm event flows from Deadman Canyon are joined by California Gulch; and would continue north for a short distance to an earthen dike (Earthen Dike 1) where the dike blocks the natural flow path of Deadman Canyon. At Earthen Dike 1, a delta-like ponded area has formed where water is slowed and sediment drops out. During a major storm event, flows from the ponded area could be conveyed west and cross-gradient through a constructed cross-cut channel. The cross-cut channel was constructed in uplands to replace the natural flow path of the Deadman Canyon/California Gulch tributary system in order to provide a flow path around the Tyrone Mine tailings facilities. Further west, Whitewater Canyon, which is itself not part of the review area, connects to the cross-cut channel.

The alignment of Deadman Canyon, California Gulch, Whitewater Canyon, and the unnamed tributary continue west to a second earthen dike (Earthen Dike 2); which exhibits a second delta-like area where



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
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NAVIGABLE WATERS PROTECTION RULE**

storm flows can collect. During major storm events, the combined flows are conveyed northward in the Deadman Diversion Channel (DDC), which is a constructed channel that parallels Ride Out Road. The DDC was also constructed in uplands to replace the natural flow path of the tributary system in order to provide conveyance around the Tyrone Mine tailings facilities. The DDC continues northward until it crosses Ride Out Road and joins an unnamed tributary to Mangas Creek. At this point the channel steepens and continues through an incised reach to Mangas Creek. Mangas Creek conveys flows northwest to the Gila River.

REVIEW AREA WATERS

Review area waters are located within a significantly disturbed mining district that has undergone decades of water contaminant control intervention. Segments of review area waters still occur in their natural channel; however, large stretches have been rerouted into man made diversion channels as the footprint of mine area increased. According to the HilgartWilson report, site observations and anecdotal evidence from long term Tyrone personnel indicate that surface flows in the constructed DDC downgradient of the Whitewater Canyon delta area occur roughly every three to five years. The report also indicates that both of the earthen dikes are expected to convey flow in a 10 year 24-hour storm event (i.e. surface water is expected to flow past the earthen berms, on average, once every 10 years).

Based on aerial imagery of the review area from August 1996 to August 2019, the stream channels did not exhibit any evidence of flow. Additionally, there is no evidence of connecting springs that contribute flow to the waterways; and the watershed receives no snowpack during the year. Based on soils data, the water table is greater than 50 feet below the surface and does not rise up during the wet season and come in contact with the stream channels; and no consistent riparian corridors are present. Also, the flow path north of the earthen dike 1 and earthen dike 2 do not contain grass or shrub vegetation due to the mining activities in the area, and the dominate vegetation is Pinon Pine (*Pinus cembroides*) with sparse One Seed Juniper (*Juniperus monosperma*).

At the delta areas behind both earthen dike 1 and earthen dike 2, the vegetation is riparian in nature due to the ponding effect of the dikes, but the dominate surrounding vegetation includes (*Distichlis spicata*) Desert Saltgrass, with some individuals of (*Tamarix*) salt cedar. However, the presence of some riparian vegetation is a result of the earthen dikes forcing storm event flows to pond for a short time, increasing the amount of available water temporarily. Downstream of the earthen dike 1 and earthen dike 2 the channel becomes all but void of vegetation, with a few individuals of upland species that include Broom Snakeweed (*Gutierrezia sarothrae*), Honey Mesquite (*Prosopis glandulosa*), and Creosote Bush (*Larrea tridentata*).

JURISDICTIONAL DETERMINATION

Based on the review of aerial imagery, soil and water table data, the information provided in the HilgartWilson report, and site observations, the only flows that these waterways experience are from storm events. As a result, the waterways evaluated as part of this AJD are determined to be ephemeral stream channels. As such, and in accordance with 33 CFR 328.3 and the June 22, 2020 implementation of the NWPR, these waterways do not meet the definition of "Waters of the United States" and, therefore, are not currently subject to regulation under Section 404 of the Clean Water Act.