

Table A-1. Gold King Mine Event- Related Data. Includes sources for data collected during GKM event and post-event.

Data source	Information Obtained	Use in study
US EPA http://www2.epa.gov/goldkingmine	<ul style="list-style-type: none"> - GKM event-related sediment and/or surface water quality data collected in Colorado, New Mexico, Arizona, and Utah - interactive map with GKM release location, river mile markers, and location of surface water and sediment sampling sites - geographic coordinates of sampling sites and GKM release location 	<ul style="list-style-type: none"> - empirical graphing and analysis for release characterization, WASP model calibration - reference, establish distance from GKM source, obtain the coordinates of the GKM release location for mapping purposes - reference, analysis, and cartography
US EPA Region 6 Scribe database https://www.epaosc.org/site/SCRIBE (database access requires password permission)	<ul style="list-style-type: none"> - list and location of public water systems (PWS) sampled by EPA Region 6 in relation to the GKM event - GKM event-related water quality data for the above PWS 	<ul style="list-style-type: none"> - groundwater analysis: site selection and analysis
Animas Water Company Personal communication facilitated by US EPA Region 8	<ul style="list-style-type: none"> - GKM event-related data for community wells in Colorado 	<ul style="list-style-type: none"> - groundwater analysis
Colorado Department of Public Health and Environment (CDPHE) https://www.colorado.gov/pacific/cdphe/animas-river-water-quality-sampling-and-data	<ul style="list-style-type: none"> - GKM event-related surface water and sediment quality data collected in Colorado - GKM event-related drinking water quality data collected in Colorado - GKM event-related fish tissue sample data collected in the Animas River - geographic coordinates of sampling sites 	<ul style="list-style-type: none"> - empirical graphing and analysis for release characterization - hypothesis testing of groundwater connection to public wells - corroboration of BASS simulation for arsenic - reference, analysis, and cartography
New Mexico Department of Environment https://www.env.nm.gov/riverwatersafety/GoldKingData.html	<ul style="list-style-type: none"> - GKM event-related surface water quality data collected in New Mexico - GKM event-related sonde data collected in New Mexico - GKM event-related well water quality collected in New Mexico - geographic coordinates of sampling sites 	<ul style="list-style-type: none"> - empirical graphing and analysis for release characterization -GKM plume timing - groundwater analysis - reference, analysis, and cartography
Utah Department of Environmental Quality http://www.deq.utah.gov/Topics/Water/goldkingmine/data.htm	<ul style="list-style-type: none"> - GKM event-related surface water and sediment quality data collected in the San Juan River in Utah and Colorado - geographic coordinates of sampling sites 	<ul style="list-style-type: none"> - empirical graphing and analysis for release characterization - reference, analysis, and cartography
Southern Ute Indian Tribe ftp://ftp.southernute-nsn.gov (requires password permission)	<ul style="list-style-type: none"> - GKM event-related surface water and sediment quality data collected in SUIT Reservation in Colorado - GKM event-related sonde data collected on SUIT Reservation - geographic coordinates of sampling sites 	<ul style="list-style-type: none"> - empirical graphing and analysis for release characterization - GKM plume timing - reference, analysis, and cartography
National Water Quality Monitoring Council http://waterqualitydata.us/portal/	<ul style="list-style-type: none"> - GKM event-related water quality data collected in Navajo Nation Reservation in New Mexico and Utah - geographic coordinates of sampling sites 	<ul style="list-style-type: none"> - GKM fate and transport analysis - reference, analysis, and cartography
New Mexico Bureau of Geology and Mineral Resources, Aquifer Mapping Program Personal communication	<ul style="list-style-type: none"> - location and construction information for wells near the Animas and San Juan Rivers located mostly in New Mexico - water level measurements for a subset of the wells - GKM event-related and post-event well water quality data for a subset of the wells 	<ul style="list-style-type: none"> - groundwater analysis and modeling

Table A-2. Sources for pre-event or historic data used for Gold King Mine release event analysis.

Data source	Information Obtained	Use in study
US EPA Superfund Analytic Data Integrator & Explorer (SADIE) https://r8.ercloud.org/sadie (requires password permission)	- surface water and sediment quality data collected pre-GKM release	- pre-event water quality characterization
US EPA STORET Central Warehouse (https://www.epa.gov/waterdata/storage-and-retrieval-and-water-quality-exchange)	- surface water quality data collected pre-GKM release	- pre-event water quality characterization
USGS Gold King Mine Release Database http://water.usgs.gov/owq/gkm/wq.html	- surface water and sediment quality data collected pre-GKM release	- pre-event water quality characterization
USGS Professional Paper 1651 database http://pubs.usgs.gov/pp/1651/	- surface water and sediment quality data collected pre-GKM release	- pre-event water quality characterization
USGS Open-File Report 97-151 appendices data https://pubs.er.usgs.gov/publication/ofr97151	- surface water and sediment quality data collected pre-GKM release	- pre-event water quality characterization
National Water Quality Monitoring Council http://waterqualitydata.us/portal/	- pre-GKM event water quality data collected in Navajo Nation Reservation in New Mexico and Utah - geographic coordinates of sampling sites	- pre-event water quality characterization - reference, analysis, and cartography
Ute Mountain Tribe Personal communication	- surface water quality data collected pre-GKM release - macroinvertebrate screening data pre-GKM release	- pre-event water quality characterization
USGS National Water Information System (NWIS) Surface Water Data http://waterdata.usgs.gov/nwis	- water quality data for a reference gage in the San Juan River	-WASP GKM plume modeling
Southern Ute Indian Tribe Personal communication	- metal concentrations in fish sampled on tribal lands pre-GKM release	- bioaccumulation modeling

Table A-3. General Data Sources

Data source	Information Obtained	Use in study
USGS National Water Information System (NWIS) Surface Water Data http://waterdata.usgs.gov/nwis/sw	- gage field measurements (cross sections) - streamflow data - location of stream gages	- WASP modeling - WASP modeling, groundwater analysis - groundwater modeling
Automated Surface Observing System (ASOS) https://mesonet.agron.iastate.edu/request/download.p.html	- hourly precipitation data	- general reference
Google Earth 7.1.5.1557 https://www.google.com/earth/	- aerial imagery, georeference location, elevations	- basemap for groundwater model - basin characteristics, stream geomorphology
Better Assessment Science Integrating Point and Nonpoint Sources (BASINS) Version 4.1 http://water.epa.gov/scitech/datait/models/basins/index.cfm	- location of USGS streamflow gages - background GIS layers	- assist in the selection of stream gages with cross sectional data; reference and cartography - groundwater modeling
National Hydrography Dataset Plus (NHDPlus Version 2) http://www.horizon-systems.com/NHDPlus/index.php	- medium resolution (1:100,000) vector stream network	- provided dimensions for WASP segments - reference and cartography
National Hydrography Dataset (NHD) http://nhd.usgs.gov/index.html	- high-resolution (1:24,000 or larger scale) vector stream network	- reference and cartography
USGS The National Map http://nationalmap.gov/	- digital historical topographic maps - cities and towns shapefile; Indian Lands feature class - ground elevation data in raster format at 1/3 arc-second (about 10 meters)	- groundwater modeling site characterization - reference and cartography
Geospatial Data Gateway https://gdg.sc.egov.usda.gov/GDGOrder.aspx	- 8- and 10-digit Hydrologic Unit Code (HUC) shapefiles - mid-Animas River ortho-image - ground elevation data in raster format at 1/3 arc-second (about 10 meters)	- reference - create simplified shapefile of the mid-Animas River for measuring distance of wells to the river's edge - groundwater modeling site characterization
National Atlas of the United States http://nationalatlas.gov	- State boundaries	- reference and cartography
USGS StreamStats Version 3 (Colorado application) http://streamstatsags.cr.usgs.gov/v3_beta/viewer.htm?stabbr=CO	- drainage area delineations for the most downstream point of each WASP segment - drainage area delineations for EPA Baker's Bridge sampling site	- Determine unit area discharge for various sites for common hydrologic analysis - Various hydrologic statistics at long-term gage sites
USGS Mineral Resources On-Line Spatial Data http://mrdata.usgs.gov/	- mineral resources data - active mines - sediment geochemistry data	- data search for potential sources of metal influx to the stream
Colorado Division of Water Resources (DWR) http://www.dwr.state.co.us/wellpermitsearch/	- Colorado well permits and driller's logs	- groundwater model calibration - location and pumping rate of wells
Colorado's Decision Support Systems (CDSS) http://cdss.state.co.us/Pages/CDSSHome.aspx	- records of annual water diversions for selected Colorado wells - map of Colorado wells	- groundwater modeling project set-up

Data source	Information Obtained	Use in study
Colorado Department of Public Health and Environment (CDPHE) https://www.colorado.gov/cdphe/swap-assessment-phase	- various Source Water Assessment Reports for public water systems located in La Plata and San Juan Counties in Colorado	- groundwater background information
Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division https://www.colorado.gov/cdphe/wqcd	- Colorado consumer confidence reports	- groundwater background information
Flora Vista Mutual Domestic Water Association http://floravistawater.com/	- Flora Vista, New Mexico consumer confidence reports	- groundwater background information
City of Aztec, New Mexico http://www.aztecnm.gov/index.html	- Aztec, New Mexico consumer confidence reports	- groundwater background information
New Mexico Office of the State Engineer and Interstate Stream Commission http://www.ose.state.nm.us/index.php	- New Mexico well driller's logs, water rights, water use, location of wells, water column depth - aquifer test data	- groundwater modeling calibration
Utah Division of Water Rights http://www.waterrights.utah.gov/	- Utah well driller's logs, water rights, water use, location of wells	- groundwater background information
San Juan County Office of Emergency Management http://www.sjcoem.com/	- floodplain map for San Juan County, New Mexico	- groundwater modeling project set-up
La Plata County, Colorado GIS http://lpcgis.laplata.co.us/laplata/	- GIS layers for La Plata County, Colorado: streams, lakes/streams, irrigation ditches, structures, and location of wells by parcel	- groundwater modeling project set-up
GeoCommunity http://data.geocomm.com/catalog	- medium resolution (1:100,000 scale) USGS Digital Line Graphs - Hypsography, Hydrography, and Transportation	- groundwater modeling project set-up
GeoCommunicator http://www.geocommunicator.gov/GeoComm/isis_home/home/index.htm	- Public Land Survey System (PLSS) shapefiles for La Plata and San Juan Counties in Colorado, and San Juan County in New Mexico	- groundwater modeling project set-up
EPA Safe Drinking Water Information System (SDWIS) https://www.epa.gov/enviro/sdwis-search	- identification of public drinking water systems in CO, NM, and UT	- groundwater background information
New Mexico Bureau of Geology and Mineral Resources, Aquifer Mapping Program Personal communication	- feature classes for New Mexico's District 5: district and city boundaries; streams, Places of Use (POUs), and San Juan Basin conveyances - New Mexico's Points of Diversion (PODs) feature class	- reference