

PAJARITO PLATEAU ASSESSMENT NOTES

SWQB conducted a special study of the Pajarito Plateau in 2006 and 2007. This was primarily a storm water study performed with assistance and cooperation from the NMED Department of Energy Oversight Bureau (DOE OB) and Los Alamos National Laboratory (LANL). These data, along with available LANL data, were assessed during the 2010 assessment cycle.

For the 2014 cycle, SWQB combined these data with more recent LANL and NM DOE OB data downloaded from *Intellus New Mexico*. To prepare the final metals, polychlorinated biphenyls (PCBs), and radionuclide assessment datasets, the following steps were taken:

- a) Data downloaded and collated: All available 2004 – 2013 surface water quality data from priority watershed stations were collated. For the purpose of assessment, watershed stations are those sites located on a natural watercourse. This was determined based the sampling location having a clearly defined upstream surface water course drainage pattern when land surface topography is viewed on United States Geological Survey 24K quad maps.
- b) Station crosswalk created: Different sections within LANL, NM DOE OB, and SWQB do not use the same station naming convention. Therefore, an extensive station alias crosswalk was prepared in order to properly assign data into the appropriate station and associated assessment unit.
- c) Intellus NM data reviewed to determine usability for assessment purposes: As is the case with all outside data, relevant LANL and NM DOE OB standard operating procedures (SOPs) and quality assurance project plans (QAPPs) were reviewed by SWQB's QA Officer to assess for consistency with the SWQB's data collection activities and quality assurance procedures. These procedures met the basic SWQB submitted data requirements and were, therefore, found to be acceptable. Specific to this review were a multitude of data qualifiers used by LANL, NM DOE OB, and their associated laboratories. All practical attempts were made to equate these qualifier codes with those used and generated by SWQB and the State Laboratory Division Water Chemistry Lab for consistency and comparability. Two unique SWQB QA qualifiers were created and attributed to the Pajarito dataset in order to indicate applicability to assessment determination. These unique qualifiers (X & R) indicated whether or not the quality of the certain aspects of the data were uncertain but still considered usable for assessment purposes (X) or that the data should be rejected (R) and should not be used for assessment purposes. Data assigned R by the SWQB QA Officer were removed from the final Pajarito data assessment set.
- d) Assessment date range determined depending on data availability: The 2014 listing cycle generally includes data from May 1, 2008 – May 1, 2013. The collated Pajarito data set contained various date ranges depending on the sampling location. Therefore, the following rules were applied to prepare the final assessment dataset in order to give preference to more recent data:

- a. If there were adequate data to do a complete assessment ($n \geq 4$) from the period May 1, 2008, forward, data from this time period were assessed.
 - b. If there were less than four data points available after May 1, 2008, at least the four most recent data points were assessed.
 - c. If there were only older data (prior to May 1, 2008), all data before this date considered.
- e) Duplicate data: Several of NM DOE OB and SWQB water quality monitoring stations are co-located at LANL gaging stations and set to automatically sample during storm events. Therefore, there are instances when storm water from the same storm event were collected and analyzed by both NMED and LANL, albeit from different points on the storm hydrograph and by different laboratories. Examples include data from LANL automatic water samplers (ISCOs) and NMED ISCOs, or LANL ISCOs and NMED Environmental Liquid Sampler (ELS) single stage sampling devices. Data were considered to be collected from the same storm event when the recorded sample time is generally within two hours. When this was the case, or in the case of field duplicates, the highest concentration was used for assessment to be conservative.
- f) Hardness-dependent metals: To assess hardness-dependent metals, concurrent hardness data calculated from dissolved calcium and magnesium were used. When these concurrent data were not available, the associated metals data were not assessed. All dissolved aluminum listings from the 2012-2014 Integrated List for the Pajarito Plateau were carried over as placeholders (IR Category 5C) because there are inadequate total recoverable aluminum data for the assessment period. Total recoverable aluminum samples with concurrent turbidity > 30 NTU must be filtered with a 10 micron filter prior to analysis to be usable for assessment.