

November 30, 2021

Quality Assurance Assessment of External Datasets for Development of the Clean Water Act (CWA) §303(d)/ §305(b) 2022-2024 Integrated List

The New Mexico Surface Water Quality Bureau (SWQB) used external datasets along with data collected by the SWQB to develop the 2022-2024 CWA §303(d)/§305(b) Integrated List. Chemical, physical, biological, and bacteriological data for any stream, river, lake, or reservoir in the state may be considered for assessment purposes and subject to New Mexico's water quality standards published in 20.6.4 NMAC. Prior to incorporation into the development of the Integrated List and Report, data obtained from external sources must first be reviewed with regards to data quality, usefulness, and consistency with SWQB procedures.

External data generally consists of data submitted from outside entities as well as data retrieved from publicly available national and regional water quality databases. The SWQB Data Submission Guidelines¹ in combination with the Comprehensive Assessment and Listing Methodology (CALM) Appendix A², the SWQB Quality Assurance Project Plan (QAPP), and SWQB Standard Operating Procedures (SOPs)³ are used to assess the quality of external datasets for inclusion into the development of the Integrated List. Specifically, datasets and associated documentation are reviewed to determine: (1) if there is documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirements described in the SWQB's most recent quality assurance project plan (QAPP); and (2) if there is reasonable evidence or assurance that these procedures were followed. Data determined to be data quality level 3 or 4 as described in the Data Submission Guidelines meet required quality assurance standards for full assessment purposes.

For the 2022-2024 listing cycle, data packets were received or acquired from the following sources:

- Arid Lands Institute
- Natural Channel Design
- Pathfinder Environmental Inc., UPWA
- Cimarron Watershed Alliance
- Hermits Peak Watershed Alliance
- Amigos Bravos
- Silver City Watershed Keepers
- AMAFCA
- CSWCD/Bernalillo (Tijeras)
- NMED DOE Oversight Bureau (downloaded via Intellus New Mexico⁴) for the Rio Grande near Buckman Diversion and Pajarito Plateau
- LANL
- Chevron Questa Mine (submitted by the NMED Ground Water Quality Bureau)

Attached are quality assurance reviews of the above-mentioned datasets. In addition, EPA and USGS data for the Animas and San Juan Rivers were download from the Water Quality Portal⁵.

¹ <https://www.env.nm.gov/surface-water-quality/data-submittals/>

² <https://www.env.nm.gov/surface-water-quality/calm/>

³ <https://www.env.nm.gov/surface-water-quality/sop/>

⁴ <https://www.intellusnm.com/>

⁵ <https://www.waterqualitydata.us/>



November 19, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by Amigos Bravos to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022-2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 NMAC and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received Amigos Bravos initial water quality data set on approximately July 23, 2021 for consideration in development of the **2022-2024 IR**. The SWQB recognizes the data was collected in various stream locations around Taos, NM in the Rio Hondo, Red River, Rio Fernando, and Rio Pueblo de Taos. The data's temporal coverage began in Summer 2019 and continues through Summer 2020. The SWQB acknowledges the data was collected to monitor change in water quality for the protection of surface waters in NM. The SWQB only assess data from monitoring sites for waters that meet the definition of surface waters of the state in 20.6.4.7 NMAC.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined most of the data collected in surface water does meet the quality assurance requirements for use in the development of the 2020-2022 IR. The Data Quality Tables identified in appendix A of the 2021 Comprehensive Assessment and Listing Methodology were used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality level of the submitted data with respect to assessment, and to determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Determination of Data Quality Level

The water quality data submitted by Amigos Bravos collected in various locations in the Rio Hondo, Red River, Rio Fernando, and Rio Pueblo de Taos and have been reviewed for consideration in development of the 2022-2024 IR. The data package included adequate supporting documentation to determine if the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The assigned Data Quality Level (DQL) and explanation is detailed in Table 1. Data assigned a DQL of 2 may still be usable for purposes such as supporting data, screening, planning, and informal information gathering to guide decision making. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by Amigos Bravos			
In-stream <i>E. coli</i>	<p>Technical Component: Water quality monitoring using grab sampling analyzed with Idexx Colilert® and Quanti-Tray/2000. The method used is comparable to the Standard Method 9223 B. Enzyme Substrate Test and is identified as in acceptable method in 20.6.4 NMAC</p> <p>Spatial/Temporal Coverage: Monitoring included limited spatial and temporal coverage of fixed sites with sufficient frequency to capture acute event.</p>	The method and procedure listed in the planning documents provided by Amigos Bravos for the collection and analysis of <i>E. coli</i> in surface water are comparable to the method and procedures stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by Amigos Bravos planning documents are similar to the SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.	3
In-stream Nitrate as Nitrogen and	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed</p>	The methods and procedures listed in the planning documents provided by Amigos Bravos for the collection and analysis of	3

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>

Orthophosphate as Phosphorus	<p>using various analytical methods. Methods utilized by the laboratory are comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events</p>	<p>nutrients in surface waters are comparable to the methods and procedures stated by the 2018 SWQB QAPP. The verification and validation procedures identified by Amigos Bravos planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p>	
In-stream Metals	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using various analytical methods. Methods utilized by the laboratory are comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events</p>	<p>The methods and procedures listed in the planning documents provided by Amigos Bravos for the collection and analysis of metals in surface waters are comparable to the method stated by the 2018 SWQB QAPP and associated. The verification and validation procedures identified by Amigos Bravos planning documents are similar to the SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p>	3
In-stream Hardness (CaCO ₃)	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using Standard Method 2340. Method utilized by the laboratory is comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included one sampled collected from a fixed</p>	<p>The method and procedure listed in the planning documents provided by Amigos Bravos for the collection and analysis of hardness in surface waters are comparable to the method stated by the 2018 SWQB QAPP. The verification and validation procedures identified by Amigos Bravos planning documents are similar to the SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p>	3

	<p>site, sampling would only capture an acute event.</p> <p>Note: The data will need to be combined with an additional data set for use in assessment in development of IR.</p>		
In-stream Hardness (CaCO ₃)	<p>Technical Component: Water quality monitoring using grab samples, analyzed using a stream side test kit. Method utilized by Amigos Bravos is comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events</p>	The drop count titration/EDTA-powder pillows method utilized by the organization at stream side monitoring locations does not have sufficient sensitivity to calculate hardness for usability in the IR. The method sensitivity is currently increments of 20 mg/l, the designated uses and their criteria identified in the NM water quality standards 20.6.4 NMAC require results in increments of 5-10mg/l so that the proper designated use criterion can be determined. For this reason hardness data analyzed stream side with Hach Test Kit model 5-EP MG-L Cat No 1454-01 have been given a DQL of 2.	2
In-stream Dissolved Oxygen	<p>Technical Component: Water quality monitoring using grab samples, analyzed using a stream side test kit. Method utilized by Amigos Bravos is comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events</p>	The Indigo Carmine method utilized by the organization at stream side monitoring locations does not have sufficient sensitivity and accuracy to utilize dissolved oxygen data for usability in the IR. The method sensitivity is currently increments of 1 ppm (mg/l) and its accuracy is currently ± 10% error at 11.25 ppm, ± 20% error at 3.75 ppm, ± 30% error at 2.0 ppm. The sensitivity and accuracy are not equivalent to SWQB equipment. For this reason the dissolved oxygen data analyzed stream side with CHEMets Dissolved Oxygen K-7512 has been given a DQL of 2.	2
In-stream Sonde Data (pH and electrical conductivity)	<p>Technical Component: Water quality monitoring utilizing hand held meters for grab samples. Methods utilized by Amigos Bravos are comparable</p>	No post check verification of calibration conducted for probes after data collection. For this reason the sonde data has been given a DQL of 2.	2

	<p>to the methods identified in 20.6.4 NMAC</p> <p>Temporal and. Spatial Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>		
In-stream Sonde Data (temperature)	<p>Technical Component: Water quality monitoring utilizing hand held meters for grab samples. Method utilized by Amigos Bravos are comparable to the methods identified in 20.6.4 NMAC.</p> <p>Temporal and Spatial Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	An annual accuracy check procedures for temperature probe needs to be implemented using a NIST-certified thermometer so that data can be used in development of the IR. The temperature accuracy check procedures verifies that the temperature probes is reading +/- .5 °C before field season begins and serves as a post verification for previous field season. Due to this reason the data has been assigned a DQL of 2.	2

For information regarding the determination of the DQL, please contact me at miguel.montoya@state.nm.us or (505) 819-9882

**Miguel
Montoya**

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Date: 2021.11.19 09:27:25 -07'00'

QA Officer Review: _____

Date: _____



MICHELLE LUJAN GRISHAM
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JAMES C. KENNEY
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November 19, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by Arid Lands Institute to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022-2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 NMAC and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received the water quality data set on approximately July 19, 2021 from the Arid Land Institute for consideration in development of the **2022-2024 IR**. The data were collected in the Embudo Creek for the development of a Watershed Based Plan, conducted under a sub-grant agreement with the Watershed Protection Section of the SWQB. The SWQB does not assess data from monitoring sites located within tribal jurisdiction or other waters that do not meet the definition of surface waters of the state in 20.6.4.7 NMAC.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined the turbidity data collected in surface water does meet the quality assurance requirements for use in the development of the 2020-2022 IR. The Data Quality Tables identified in appendix A of the 2021 Comprehensive Assessment and Listing Methodology as used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality of the submitted data and determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. Please see the data quality level determination on the following page for the reasoning and explanation.

Determination of Data Quality Level

The water quality data submitted by the Arid Lands Institute collected in the Embudo Creek have been reviewed for consideration in development of the IR. The data package included adequate supporting documentation to determine that the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The data package included turbidity measurements recorded by data loggers in Embudo Creek. The in-stream turbidity data has been assigned a Data Quality Level (DQL) of 3 by the reviewing QA Officer. The reasoning for the assigned DQL is detailed in Table 1. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by Arid Lands Institute			
In-stream Turbidity	<p>Technical Component: Forest Technology Systems DTS-12 Digital Turbidity and H-2 Datalogger, utilizing long-term deployment for data collection (continuous monitoring device).</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	<p>The method and procedure listed in the planning documents provided by the Arid Lands Institute for the collection of in-stream turbidity are comparable to the method stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by Arid Lands Institute planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: Before incorporation into the IR the Monitoring Assessment and Standards Section of the SWQB must review the data set for points or periods of anomalous and aberrant data using procedures identified in approved SWQB SOPs.</p>	3

For information regarding the determination of the DQL, please contact me at miguel.montoya@state.nm.us or (505) 819-9882.

Miguel Montoya

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QA Officer Review: _____

Date: _____

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>



November 15, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by Albuquerque Metropolitan Arroyo Flood Control Authority to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022- 2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat, and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 New Mexico Administrative Code (NMAC) and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received water quality data submitted by the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) on October 27, 2021 for consideration for development of the **2022-2024 IR**. The SWQB recognizes that the water quality data were collected in various locations (e.g., arroyos, ditches and side channels) throughout the Albuquerque Metropolitan area and directly from the Rio Grande within the general vicinity of the Albuquerque Metropolitan area. The SWQB does not assess data from monitoring sites located within tribal jurisdiction or other waters that do not meet the definition of surface waters of the state in 20.6.4.7 NMAC. The SWQB acknowledges the data's temporal coverage begins in 2015 and continues through 2020. The data were collected in both the wet and dry seasons for stormwater monitoring due to federal permit requirements.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined that the data submitted by AMAFCA meet the SWQB quality assurance requirements for use in development of the **2022-2024 IR**. The criteria in the Data Quality Tables identified in Appendix A of the 2021 Comprehensive Assessment and Listing Methodology (CALM) were used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality level of the submitted data with respect to assessment, and to determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Determination of Data Quality Level

The water quality data submitted by AMAFCA collected in the Rio Grande have been reviewed by the QA Officer for consideration in development of the 2022-2024 IR. The data package included adequate supporting documentation to determine if the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The data submitted by AMAFCA has been given a Data Quality Level (DQL) of 3. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's CALM¹. All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by AMAFCA			
Various Analytes (Inorganics, Organics, Radionuclides, Bacteria)	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using various analytical methods. Methods utilized by the laboratory are comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial and Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute and chronic events.</p>	The methods and procedures listed in the planning documents and data files provided by AMAFCA for the collection and analysis of grab samples in surface water for various analytes are comparable to the methods and procedures stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by AMAFCA planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.	3
TKN, Nitrogen as NO ₂ , and Nitrogen as NO ₃	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using various analytical methods. Methods utilized by the laboratory are comparable to the methods identified in 20.6.4 NMAC.</p>	The methods and procedures listed in the planning documents and data files provided by AMAFCA for the collection and analysis of grab samples in surface water for various analytes are comparable to the methods and procedures stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by AMAFCA planning documents are similar to the 2018	3

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>

	<p>Spatial and Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute and chronic events.</p>	<p>SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: The submitted nutrient data cannot be assessed for aquatic life use support as there are not currently applicable thresholds for large rivers in New Mexico. For more information regarding the SWQB’s nutrient assessment procedure see Appendix C of the CALM.</p>	
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For information regarding the determination of the DQL, please contact me at miguel.montoya@state.nm.us or (505) 819-9882

QA Officer Review: Miguel Montoya

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MICHELLE LUJAN GRISHAM
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November 19, 2021

Meredith Zeigler
New Mexico Environment Department
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1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by Bernalillo County to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022- 2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat, and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 New Mexico Administrative Code (NMAC) and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received water quality data submitted by Bernalillo County on August 12, 2021 for consideration for development of the **2022-2024 IR**. The SWQB recognizes that the water quality data were collected at various locations on Tijeras Creek, the most downstream sample site is at Four Hills Bridge in Albuquerque, NM. The SWQB does not assess data from monitoring sites located within tribal jurisdiction or other waters that do not meet the definition of surface waters of the state in 20.6.4.7 NMAC. The SWQB acknowledges the data's temporal coverage begins in 2015 and continues through 2020. The data were collected in both the wet and dry season for stormwater monitoring due to federal permit requirements.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined that most of the data submitted by Bernalillo County meet the SWQB quality assurance requirements for use in development of the 2022-2024 IR. The criteria in the Data Quality Tables identified in Appendix A of the 2021 Comprehensive Assessment and Listing Methodology (CALM) were used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality level of the submitted data with respect to assessment, and to determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Determination of Data Quality Level

The water quality data submitted by Bernalillo County collected in the Tijeras Creek have been reviewed by the QA Officer for consideration in development of the 2022-2024 IR. The data package included adequate supporting documentation to determine if the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The assigned Data Quality Level (DQL) and reasoning is detailed in Table 1. Total Kjeldahl nitrogen (TKN) has been given a DQL of 2 due to the laboratory sample detection limit not meeting the nutrient threshold limits for assessment in development of IR. The nutrient threshold can be located in Appendix C of the Comprehensive Assessment and Listing Methodology (CALM). Data assigned a DQL of 2 may still be usable for purposes such as supporting data, screening, planning, and informal information gathering to guide decision making. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's CALM¹. All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by Bernalillo County			
Phosphorus	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using EPA method 365.1. Method utilized by the laboratory are comparable to the methods identified in 20.6.4. NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events.</p>	The method and procedure listed in the planning documents and data files provided by Bernalillo County for the collection and analysis of grab samples in surface water for various analytes are comparable to the methods and procedures stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by Bernalillo County planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.	3
Nitrogen as NO ₂ , and Nitrogen as NO ₃	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using various analytical methods. Methods utilized by the laboratory are comparable to the methods identified in 20.6.4. NMAC.</p>	The methods and procedures listed in the planning documents and data files provided by Bernalillo County for the collection and analysis of grab samples in surface water for various analytes are comparable to the methods and procedures stated by the SWQB QAPP and associated SOPs. The verification and validation procedures identified by Bernalillo County planning	3

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>

	<p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events.</p>	<p>documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: The laboratory sample detection limits for nitrogen as nitrite (NO₂), and nitrogen as nitrate (NO₃) are not sufficient to assess the nutrient thresholds according to Appendix C of the SWQB CALM. The nitrogen data may be used to assess Nitrite + Nitrate criterion for the designated use of Livestock watering.</p>	
TKN	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using EPA 351.2. Method utilized by the laboratory is recognized in 20.6.4 NMAC as acceptable methods to determine exceedance of water quality standards.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events.</p>	<p>The methods and procedures listed in the planning documents and data files provided by Bernalillo County for the collection and analysis of grab samples in surface water for TKN are comparable to the methods and procedures stated by the SWQB QAPP and associated SOPs. The verification and validation procedures identified by Bernalillo County planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The documentation provided by the organizations demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: The laboratory sample detection limit for total Kjeldahl nitrogen (TKN) is not sufficient to assess against the nutrient threshold criteria identified in the SWQB CALM, for this reason the data was given a DQL of 2.</p>	2

For information regarding the determination of the DQL, please contact me at miguel.montoya@state.nm.us or (505) 819-9882

QA Officer Review: _____

Miguel Montoya
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Date: _____



November 19, 2021

Meredith Zeigler
New Mexico Environment Department
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Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data collected by Chevron Mining Inc. in Red River for consideration for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022- 2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat, and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 New Mexico Administrative Code (NMAC) and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received water quality data submitted by the New Mexico Environment Department Ground Water Quality Bureau (GWQB) on September 17, 2021 for consideration for development of the **2022-2024 IR**. The SWQB recognizes that the water quality data were collected at various locations on the Red River by Chevron Mine Inc. (CMI) near the Chevron Mine site from near the former mill downstream to the USGS Questa, New Mexico stream gauge station. The SWQB may assess data from monitoring sites that meet the definition of surface waters of the state in 20.6.4.7 NMAC. The Bureau acknowledges the data's temporal coverage begins in 2019 and continues through 2020. The data were collected to fulfill the sampling requirements for performance monitoring of remedial actions in the Red River.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined that the data submitted by the GWQB meet the SWQB quality assurance requirements for use in development of the 2022-2024 IR. The criteria in the Data Quality Tables identified in Appendix A of the 2021 Comprehensive Assessment and Listing Methodology (CALM) were used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs (SWQB QAPP)* and associated SWQB Standard Operating Procedures (SOPs) to assess the quality level of the submitted data with respect to assessment, and to determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and associated SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.



November 15, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment of External Data Submittal by the Cimarron Watershed Association to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022-2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 NMAC and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received the complete data set from Cimarron Watershed Alliance on approximately August 9, 2021 for development of the **2022-2024 IR**. The SWQB recognizes the data was collected by the Cimarron Watershed Alliance at various locations in North Ponil Creek. The data's temporal coverage begins Summer 2020 and continues through Fall 2020. The SWQB acknowledges the data were collected under a sub-grant agreement with the NMED SWQB for a Clean Water Act Section 319 project. The SWQB only assess data from monitoring locations that meet the definition of surface waters of the state in 20.6.4.7 NMAC.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined the temperature data collected in surface water meet the quality assurance requirements for use in the development of the 2020-2022 IR. The Data Quality Tables identified in appendix A of the 2021 Comprehensive Assessment and Listing Methodology was used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality of the submitted data and determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and associated SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Data Quality Level Determination

The data package submitted by the Cimarron Watershed Alliance for consideration in development of the IR included adequate supporting documentation to determine that the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The data package consisted of stream temperature results collected by data loggers in North Ponil Creek. The parameter surface water temperature has been given a Data Quality Level (DQL) of 3 by the reviewing QA Officer. The reasoning for the assigned DQL is detailed in Table 1. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by Cimarron Watershed Alliance			
Surface Water Temperature	<p>Technical Component: Water quality monitoring utilizing a Hobo® Water Temp Pro V2 data logger utilizing continuous monitoring, using procedures detailed in SWQB Standard Operating Procedure 6.3 <i>Thermographs</i></p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	<p>The method and procedure listed in the planning documents provided by Cimarron Watershed Alliance for the collection of surface water temperature are comparable to the methods stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by Cimarron Watershed Alliance planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: Before incorporation into the IR the Monitoring Assessment and Standards Section of the SWQB must review the data set for points or periods of anomalous and aberrant data using procedures identified in approved SWQB SOPs.</p>	3

For information regarding the determination of the DQL, please contact me at miguel.montoya@state.nm.us or (505) 819-9882.

QA Officer Review: Miguel Montoya Digitally signed by Miguel Montoya
Date: 2021.11.16 09:56:09 -07'00'

Date: _____

¹ For information on SWQB Comprehensive Assessment and Listing Methodology or Data Quality Levels, see <https://www.env.nm.gov/surface-water-quality/calm/>



November 16, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by the Department of Energy Oversight Bureau, Los Alamos Oversight Section to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022- 2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat, and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 New Mexico Administrative Code (NMAC) and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received water quality data submitted by the Department of Energy Oversight Bureau (DOE), Los Alamos Oversight Section on August 6, 2021 for consideration for development of the **2022-2024 IR**. The SWQB recognizes that the water quality data were collected at various locations on the Pajarito Plateau and in the Rio Grande adjacent and downstream from the Los Alamos National Laboratory. The SWQB does not assess data from monitoring sites located within tribal jurisdiction or other waters that do not meet the definition of surface waters of the state in 20.6.4.7 NMAC. The SWQB acknowledges the data's temporal coverage begins in 2019 and continues through 2020. The data were collected to fulfill the sampling requirements of the 2016 Compliance Order on Consent for monitoring locations associated with Los Alamos National Laboratory.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined that the data submitted by the DOE, Los Alamos Oversight Section meet the SWQB quality assurance requirements for use in development of the 2022-2024 IR. The criteria in the Data Quality Tables identified in Appendix A of the 2021 Comprehensive Assessment and Listing Methodology (CALM) were used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality level of the submitted data with respect to assessment, and to determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Determination of Data Quality Level

The water quality data submitted by the DOE, Las Alamos Oversight Bureau collected at various locations on the Pajarito Plateau and in the Rio Grande adjacent and downstream from the Los Alamos National Laboratory have been reviewed by the QA Officer for consideration in development of the 2022-2024 IR. The data package included adequate supporting documentation to determine if the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The data submitted has been given a Data Quality Level (DQL) of 3 by the reviewing QA Officer. The reasoning for the assigned DQL is detailed in Table 1. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by DOE, Los Alamos Oversight Bureau			
Analytes collected in surface water (PCBs, Inorganics, Organics, and Radionuclides)	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using various analytical methods. Methods utilized by the laboratory are comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events.</p>	The methods and procedures listed in the planning documents and data files provided by DOE, Las Alamos Oversight Bureau for the collection and analysis of grab samples in surface water for various analytes are comparable to the methods and procedures stated by the SWQB QAPP and associated SOPs. The verification and validation procedures identified by DOE, Las Alamos Oversight Bureau planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.	3

For information regarding the determination of the DQL for specific analytes, please contact me at miguel.montoya@state.nm.us or (505) 819-9882

QA Officer Review: _____



Digitally signed by Miguel Montoya
Date: 2021.11.16 13:59:48 -07'00'

Date: _____

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>



November 19, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by Hermit's Peak Watershed Alliance to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022-2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 NMAC and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received Hermit's Peaks Watershed Alliance (HPWA) initial water quality data set on approximately July 16, 2021 for consideration in development of the **2022-2024 IR**. Further discussion was required between the SWQB and HPWA, the SWQB requested that HPWA provide the data in a format that could be easily accessed (e.g. excel format not pdf). The final data package was submitted in late August 2021. The SWQB recognizes the data was collected in various location in the Gallinas, Mora, and Sapello River. The data's temporal coverage consist of data collected Summer through Fall, 2019 and 2021. The SWQB acknowledges the data was collected to monitor change in water quality before and after implementation of best management practices. The projects were completed under a sub-grant agreements with the NMED SWQB for the Clean Water Act Section 319 and under a River Stewardship contract with the SWQB.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined most of the data collected in surface water does meet the quality assurance requirements for use in the development of the 2020-2022 IR. The Data Quality Tables identified in appendix A of the 2021 Comprehensive Assessment and Listing Methodology were used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality level of the submitted data with respect to assessment, and to determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset were reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Determination of Data Quality Level

The water quality data submitted by HPWA collected in various locations in the Gallinas, Mora, and Sapello River have been reviewed for consideration in development of the 2022-2024 IR. The data package included adequate supporting documentation to determine if the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The assigned Data Quality Level (DQL) and explanation is detailed in Table 1. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). Data assigned a DQL of 2 may still be usable for purposes such as supporting data, screening, planning, and informal information gathering to guide decision making. All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by Hermit's Peak Watershed Alliance			
Surface Water Temperature	<p>Technical Component: Hobo® Water Temp Pro V2 data logger (continuous monitoring device, using SWQB Standard Operating Procedure 6.3 <i>Thermographs</i>).</p> <p>Spatial and Temporal Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	<p>The method and procedure listed in the planning documents and data files provided by HPWA for the collection of surface water temperature is comparable to the method stated by the SWQB QAPP and associated SOPs. The verification and validation procedures identified by HPWA planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: Before incorporation into the IR the Monitoring Assessment and Standards Section of the SWQB must review the data set for points or periods of anomalous and aberrant data using procedures identified in approved SWQB SOPs.</p>	3
Physical Habitat Measurements	<p>Technical Component: The collection of physical habitat measurements using SWQB Standard Operating Procedure</p>	<p>The methods and procedures listed in the planning documents and data files provided by HPWA for the collection of physical habitat measurements are comparable to the method</p>	3

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>

	<p>5.0 Physical Habitat Measurements</p> <p>Spatial and Temporal Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	<p>stated by the SWQB QAPP and SOPs. The verification and validation procedures identified by HPWA planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p>	
<p>In-stream Sonde Data (pH, specific conductance, dissolved oxygen saturation and percent, turbidity)</p>	<p>Technical Component: Water quality monitoring utilizing a YSI 6920 Sonde for grab sampling of water quality parameters</p> <p>Spatial and Temporal Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	<p>The methods and procedures listed in the planning documents provided by HPWA for the collection of sonde measurements in surface water are comparable to the method stated by the SWQB QAPP and associated SOPs. The verification and validation procedures identified by HPWA planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p>	3
<p>In-stream Sonde Data (temperature)</p>	<p>Technical Component: Water quality monitoring utilizing a YSI 6920 Sonde for grab sampling of surface temperature.</p> <p>Spatial and Temporal Coverage: Monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	<p>An annual accuracy check procedures for temperature probe needs to be implemented using a NIST-certified thermometer so that data can be used in development of the IR. The temperature accuracy check procedures verifies that the temperature probes is reading +/- .5 °C before field season begins and serves as a post verification for previous field season. Due to this reason the data has been assigned a DQL of 2.</p>	2
<p>In-stream E. coli and Total Suspended Solids (TSS)</p>	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using various unknown analytical methods.</p> <p>Spatial and Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with</p>	<p>The planning documents and data files submitted by HPWA for the collection and analysis of E. coli and TSS in surface water do not provide sufficient information regarding the laboratory methods used for analyses.</p>	2



November 19, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by Los Alamos National Laboratory to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022- 2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat, and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 New Mexico Administrative Code (NMAC) and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received water quality data submitted by Robert Gallegos, employed by Los Alamos National Laboratory at time of submittal on approximately September 23, 2021 for consideration for development of the **2022-2024 IR**. The SWQB recognizes that the water quality data were collected at various locations on the Pajarito Plateau and in the Rio Grande adjacent and downstream from the Los Alamos National Laboratory. The SWQB cannot assess data from monitoring sites located within tribal jurisdiction or other waters that do not meet the definition of surface waters of the state in 20.6.4.7 NMAC. The SWQB acknowledges the data's temporal coverage begins in 2019 and continues through 2020. The SWQB recognizes that the data were collected to fulfill the sampling requirements of the 2016 Compliance Order on consent for monitoring locations associated with Los Alamos National Laboratory. According to the submitter (Robert Gallegos) the data were collected under the Interim Facility Groundwater Monitoring Plan and other planning documents utilized by LANL contracted organization. The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined that most of the data submitted meet the SWQB quality assurance requirements for use in development of the 2022-2024 IR. The criteria in the Data Quality Tables identified in Appendix A of the 2021 Comprehensive Assessment and Listing Methodology (CALM) were used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality level of the submitted data with respect to assessment, and to determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Determination of Data Quality Level


Data submitted with supporting documentation that could be directly linked to the “sampling program” identified in the data files have been reviewed for consideration in development of the 2022-2024 IR. This data (data reviewed) and its supporting documentation contained adequate information to determine if the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. Data that met the SWQB QAPP and associated SOP requirements have been given a Data Quality Level (DQL) of 3 by the reviewing QA Officer. Data that did not include supporting documentation will need to be censored from the assessment. The reasoning for the assigned DQL is explained in Table 1. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by Los Alamos National Laboratory			
Analytes collected in surface water: Inorganics, Organics, Radionuclides and PCBs	<p>Technical Component: Water quality monitoring using grab samples, laboratory analyzed using various analytical methods. Methods utilized by the laboratory are comparable to the methods identified in 20.6.4 NMAC.</p> <p>Spatial/Temporal Coverage: Monitoring included broad spatial and temporal coverage of fixed sites with sufficient frequency and coverage to capture acute events.</p>	The methods and procedures listed in the planning documents and data files provided to the SWQB for the collection and analysis of grab samples in surface water for various analytes are comparable to the methods and procedures stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by submitted planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.	3

For information regarding the determination of the DQL for specific analytes, please contact me at miguel.montoya@state.nm.us or (505) 819-9882

QA Officer Review: _____



Digitally signed by Miguel Montoya
 Date: 2021.11.19 09:46:18 -07'00'

Date: _____

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>



November 15, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Surface Water Temperature Data Submittal by Natural Channel Design, Inc. to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022-2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 NMAC and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received the surface water temperature data set on approximately August 5, 2021 from Natural Channel Design, Inc. for consideration in development of the IR. The SWQB recognizes the data were collected in various location in the Gila Wilderness area. The data's temporal coverage is from Summer through Fall 2017 for the Willow Creek, and Summer 2018 for the Black Canyon Creek. The SWQB acknowledges the data was collected under a sub-grant agreements with the NMED SWQB for Clean Water Act Section 319 project. The SWQB only assess data from monitoring sites for waters that meet the definition of surface waters of the state in 20.6.4.7 NMAC

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined the data for temperature in surface water does meet the quality assurance requirements for use in the development of the 2020-2022 IR. The Data Quality Tables identified in Appendix A of the 2021 Comprehensive Assessment and Listing Methodology was used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality of the submitted data and determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Data Quality Level Determination

The data package submitted by the Natural Channel Design, Inc. for stream temperature collected by data loggers in the Willow Creek and Black Canyon Creek for consideration in development of the IR included adequate supporting documentation to determine that the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met. The parameter temperature in surface water identified in the data package has been given a Data Quality Level (DQL) of 3 by the reviewing QA Officer. The reasoning for the assigned DQL is detailed in Table 1. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Determination of Data Quality

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	Overall DQL
Collected by Natural Channel Design, Inc.			
Surface Water Temperature	<p>Technical Component: Water quality monitoring using a Hobo® Water Temp Pro V2 data logger device utilizing continuous monitoring using SWQB Standard Operating Procedure 6.3 <i>Thermographs</i></p> <p>Spatial and Temporal Coverage: Water quality monitoring included broad spatial and temporal coverage with sufficient frequency and coverage to capture acute events.</p>	<p>The method and procedure listed in the planning documents provided by Natural Channel Design, Inc. for the collection of surface water temperature are comparable to the method and procedure stated by the 2018 SWQB QAPP and associated SOPs. The verification and validation procedures identified by Natural Channel Design, Inc. planning documents are similar to the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: Before incorporation into the IR the Monitoring Assessment and Standards Section of the SWQB must review the data set for points or periods of anomalous and aberrant data using procedures identified in approved SWQB SOPs.</p>	3

For information regarding the determination of the DQL, please contact me at miguel.montoya@state.nm.us or (505) 819-9882.

QA Officer Review: Miguel Montoya Digitally signed by Miguel Montoya Date: 2021.11.15 13:47:29 -07'00'

Date: _____

¹ For information on SWQB Comprehensive Assessment and Listing Methodology or Data Quality Levels, see <https://www.env.nm.gov/surface-water-quality/calm/>



November 19, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment for External Water Quality Data Submitted by Silver City Watershed Keepers to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022-2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 NMAC and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received the water quality data set on approximately July 19, 2021 from the Silver City Watershed Keepers (SCWK) for consideration in development of the **2022-2024 IR**. The SWQB recognized the water quality data were collected in San Vicente Creek by the SCWK volunteer group. The SWQB assess data from monitoring sites that meet the definition of surface waters of the state in 20.6.4.7 NMAC. The submitted planning documents indicated the data was collected for the development and use of a reliable and credible database of baseline water quality and for protecting surface waters in the Silver City community. The Bureau acknowledges the data's temporal coverage was initiated in 2018 and has been limited due to the recent pandemic.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined that some of the water quality data in surface water meet the quality assurance requirements for use in the development of the 2020-2022 IR. The Data Quality Tables identified in appendix A of the 2021 Comprehensive Assessment and Listing Methodology as used in combination with the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality of the submitted data and determine its suitability for assessment in the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP and SOPs; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

Determination of Data Quality Level

The water quality data submitted by the SCWK collected in the San Vicente Creek have been reviewed for consideration in development of the IR. The data package included adequate supporting documentation to determine if the QA/QC requirements identified in the 2018 SWQB QAPP and associated SOPs were met for specific parameter. The *E. coli* data submitted in the data package has been given a Data Quality Level (DQL) of 3. Sonde data collected by various devices has been given a DQL of 2 due to the lack of a documented procedure for post-verification of calibration for sonde probes. Data with a DQL of 2 may still be usable for purposes such as supporting data, screening, planning, and informal information gathering to guide decision making. The reasoning for the assigned DQL is detailed in Table 1. A more detailed description of DQLs with respect to assessment is located in Appendix A of the SWQB's Comprehensive Assessment and Listing Methodology¹ (CALM). All external data considered for the development of the IR are subject to the criteria and requirements detailed in the CALM and 20.6.4 NMAC.

Table 1. Data Quality Determination

Parameter	Technical Components and Spatial/Temporal Coverage	Data Quality Indicators	DQL
Collected by Silver City Watershed Keepers			
In-stream <i>E. coli</i>	<p>Technical Component: Water quality monitoring using grab sampling analyzed with Idexx Colilert® and Quanti-Tray/2000. The method used is comparable to the Standard Method 9223 B. Enzyme Substrate Test and is identified as in acceptable method in 20.6.4 NMAC</p> <p>Spatial/Temporal Coverage: Monitoring included limited spatial and temporal coverage of fixed sites with sufficient frequency to capture acute events.</p> <p>Note: The data will need to be combined with an additional data set for use in assessment.</p>	<p>The method and procedure listed in the planning documents provided by the SCWK for the collection and analysis of <i>E. coli</i> are comparable to the methods and procedures stated by the 2018 SWQB QAPP and associated SOPs. The provided documentation demonstrates reasonable evidence and assurance that these procedures were followed during the course of the project.</p> <p>Note: The Monitoring Assessment and Standards Section of the SWQB must verify and validate the data using procedures identified in approved SWQB SOPs before use in development of the IR.</p>	3

¹ For information on SWQB assessment and listing methodology or data quality levels, see <https://www.env.nm.gov/surface-water-quality/calm/>

<p>In-stream Sonde Data</p>	<p>Technical Component: Water quality monitoring utilizing a EcoSense® pH100 Meter for grab sampling of water quality parameters: pH</p> <p>Spatial/Temporal Coverage: Monitoring included limited spatial and temporal coverage of fixed sites with sufficient frequency to capture acute events.</p>	<p>The submitted planning documents do not describe a post-verification of calibration for sonde probes after data collection has been completed. The post verification of sonde probes verifies the calibration of the of equipment used to collected water quality data. Due to this reason the data has been assigned a DQL of 2.</p>	<p>2</p>
<p>In-stream Sonde Data</p>	<p>Technical Component: Water quality monitoring utilizing a EcoSense® DO200 Meter for grab sampling of water quality parameters: dissolved oxygen (saturation and percent)</p> <p>Spatial/Temporal Coverage: Monitoring included limited spatial and temporal coverage of fixed sites with sufficient frequency to capture acute events.</p>	<p>The submitted planning documents do not describe a post-verification of calibration for sonde probes after data collection has been completed. The post verification of sonde probes verifies the calibration of the of equipment used to collected water quality data. Due to this reason the data has been assigned a DQL of 2.</p>	<p>2</p>
<p>In-stream Sonde Data</p>	<p>Technical Component: Water quality monitoring utilizing a EcoSense® EC300 Meter for grab sampling of water quality parameters: specific conductance, salinity, total dissolved solids</p> <p>Spatial/Temporal Coverage: Monitoring included limited spatial and temporal coverage of fixed sites with sufficient frequency to capture acute events.</p>	<p>The submitted planning documents do not describe a post-verification of calibration for sonde probes after data collection has been completed. The post verification of sonde probes verifies the calibration of the of equipment used to collected water quality data. Due to this reason the data has been assigned a DQL of 2.</p>	<p>2</p>
<p>In-stream Sonde Data</p>	<p>Technical Component: Water quality monitoring utilizing a EcoSense® pH100 Meter and DO200 Meter for grab sampling of</p>	<p>An annual accuracy check procedures for temperature probe needs to be implemented using a NIST-certified thermometer so that data can be used in development of the IR. The</p>	<p>2</p>

	<p>water quality parameters: temperature</p> <p>Spatial/Temporal Coverage: Monitoring included limited spatial and temporal coverage of fixed sites with insufficient frequency to capture acute events.</p>	<p>temperature accuracy check procedures verifies that the temperature probes is reading +/- .5 °C before field season begins and serves as a post verification for previous field season. Due to this reason the data has been assigned a DQL of 2.</p>	
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For information regarding the determination of the DQL, please contact me at miguel.montoya@state.nm.us or (505) 819-9882.

Miguel Montoya Digitally signed by Miguel Montoya
Date: 2021.11.19 07:11:18 -07'00'

QA Officer Review: _____

Date: _____



November 15, 2021

Meredith Zeigler
New Mexico Environment Department
Surface Water Quality Bureau
Assessment Coordinator
1190 S. St. Francis Drive. Suite N2050
Santa Fe, New Mexico 87505

Re: Quality Assurance Assessment of External Data Submittal by the Upper Pecos Watershed Association & Pathfinder Environmental, LLC to the Surface Water Quality Bureau for the State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List for 2022-2024.

Dear Mrs. Zeigler,

The New Mexico Environment Department ("NMED") Surface Water Quality Bureau ("SWQB") solicited outside organizations to submit chemical, physical, biological, habitat and bacteriological (i.e., *E. coli*) data for all streams, rivers, lakes, and reservoirs in the state, acquired in the last five (5) years that could be considered subject to New Mexico's water quality standards published in 20.6.4 NMAC and incorporated into the development of the **State of New Mexico's Clean Water Act (CWA) §303(d) / §305(b) Integrated Report and List (IR) for 2022-2024**.

The NMED SWQB received the complete data set on approximately August 10, 2021 from the Upper Pecos Watershed Association (UPWA) & Pathfinder Environmental, LLC for consideration in development of the IR. The SWQB recognizes the data were collected at various locations in the Pecos River and Cow Creek. The data were collected Summer through Fall 2019 and 2020 for both the Pecos River and Cow Creek. The SWQB acknowledges the data were collected under sub-grant agreements and contacts with the NMED SWQB for Clean Water Act Section 319 and New Mexico Environment River Stewardship projects. The SWQB will only assess data from monitoring locations that meet the definition of surface waters of the state in 20.6.4.7 NMAC.

The SWQB Quality Assurance Officer (QA Officer) has reviewed the data and the supporting documentation and has determined that the water temperature data collected in surface water does meet the quality assurance requirements for use in development of the 2020-2022 IR. The Data Quality Tables identified in appendix A of the 2021 Comprehensive Assessment and Listing Methodology was used in combination the 2018 SWQB Quality Assurance Project Plan for *Water Quality Management Programs* (SWQB QAPP) and associated SWQB Standard Operating Procedures (SOPs) to assess the quality of the submitted data and determine its suitability for assessment into the development of the IR. Specifically, the submitted documentation associated with each dataset was reviewed to determine: (1) if there was documentation of QA/QC procedures that, at a minimum, meet the QA/QC requirement described in the SWQB's most recent QAPP; and (2) if there was reasonable evidence or assurance that these procedures were followed. The determination of data quality level with respect to assessment can be found on the next page.

