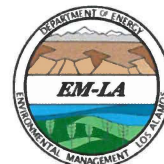




**N3B-Los Alamos**  
1200 Trinity Drive, Suite 150  
Los Alamos, New Mexico 87544  
(505) 257-7690



**Environmental Management**  
Los Alamos Field Office  
1200 Trinity Drive, Suite 400  
Los Alamos, New Mexico 87544  
(240) 562-1122

*Date:* August 23, 2023  
*Refer To:* N3B-2023-0311

Ricardo Maestas, Acting Bureau Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6313

**Subject: Notification to the New Mexico Environment Department Hazardous Waste Bureau of Erroneous R-35a Data in IntellusNM Database**

Dear Mr. Maestas:

This letter is to inform you that erroneous screening-level data from an extended purge conducted on May 19, 2023, at R-35a was reported in the Intellus New Mexico database (IntellusNM [<https://intellusnm.com/>]). The chromium concentration data showed an inconsistent trend during the extended purge, and some values exceeded the groundwater standard (Enclosure 1). Triad National Security, LLC's, Geology & Geochemistry Research Laboratory (GGRL), the laboratory responsible for these measurements, has identified an inductively coupled plasma mass spectrometry (ICP-MS) instrumentation error as the cause for the erroneous analytical results. GGRL noted that chromium did not pass its check standard prior to the analytical runs in question. The analytical technician uploaded the data, in violation of GGRL's quality assurance (QA) process. The data have been flagged as rejected in IntellusNM, as indicated in the rightmost two columns in Table 1 (Enclosure 1). Results for other constituents impacted by the instrument malfunction have been similarly flagged. GGRL is currently performing a quality check for all data analyzed over the past year to determine whether this was an isolated issue.

This is the second extended purge conducted at R-35a, conducted to identify the cause for increases in manganese and iron concentrations observed, beginning in 2022. The first extended purge, conducted on August 25, 2022, confirmed that more representative water quality samples could be obtained by removing the volume of water affected by localized-reducing conditions near the wellbore. Newport News Nuclear BWXT-Los Alamos, LLC (N3B) has hypothesized that since pumping at PM-3 ceased (in April 2022), groundwater flow through R-35a has decreased, leading to minor reducing conditions that produce elevated iron and manganese concentrations. These extended purges are intended to confirm or refute this hypothesis.

For regulatory purposes the standard purge volume sample at 3 casing volumes (CVs) was sent to the U.S. Department of Energy (DOE) Consolidated Audit Program – Accreditation Program–certified laboratory, GEL Laboratories, LLC, Division of the GEL Group, Inc., Charleston, South Carolina (GELC) for analysis. The result, listed in the final row of the table, indicate that the chromium concentration remains at background. N3B and DOE are currently in the process of transferring any remaining water samples from the extended purge to the certified laboratory (GELC) to provide qualified analytical results.

Customary QA review of these data by N3B did not identify the issue because GGRL data do not contain sufficient information for N3B’s Sample and Data Management (SDM) team to perform a standard level 1 (examination) and level 2 (verification) review, as is universally standard for other data from third-party analytical laboratories. SDM does perform a simplified “detect status” examination corresponding to a level 1 review on GGRL data. For this reason, SDM recommends that data from GGRL be used as screening level only.

GGRL continues to provide analytical services for several scoping-level investigations to interpret groundwater data (e.g., extended purges to resolve local reducing conditions, quick turnaround on samples collected during drilling and in-situ experiments). N3B will be working with GGRL to identify QA procedures that prevent a recurrence of invalid analytical results being uploaded into IntellusNM. N3B will be reviewing internal processes pertaining to laboratory selection and data review and will document the outcome of this review in N3B’s internal QA issue tracker.

DOE’s Environmental Management Los Alamos Field Office (EM-LA) will notify the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) of the final analytical results from GELC within 2 weeks of validation by N3B. Although the R-35a measurements are erroneous and as such do not constitute exceedances of any groundwater standards, courtesy notification to NMED is appropriate considering (1) the importance of R-35a as a sentinel well for PM-3, and (2) accessibility of the data (although flagged as rejected) in IntellusNM.

If you have any questions, please contact Clark Short at (505) 551-2942 ([clark.short@em-la.doe.gov](mailto:clark.short@em-la.doe.gov)) or Cheryl Rodriguez at (505) 414-0450 ([cheryl.rodriguez@em.doe.gov](mailto:cheryl.rodriguez@em.doe.gov)).

Sincerely,



Troy Thomson  
Program Manager  
Environmental Remediation  
N3B-Los Alamos

Sincerely,



Digitally signed by BRIAN  
HARCEK  
Date: 2023.08.21 06:40:43  
-06'00'

Brian Harcek, Acting Co-Director  
Office of Quality and Regulatory Compliance  
U.S. Department of Energy  
Environmental Management  
Los Alamos Field Office

Enclosure(s): Two hard copy with electronic files:

1. Table 1. Data in IntellusNM from R-35a Sampling Event on May 19, 2023, for both the Screening-Level Data Measured at GGRL During the Extended Purge, and the Regulatory Compliance Sample Measured at the EPA-Certified Laboratory (EM2023-0580)

cc (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX

Steve Yanicak, NMED-DOE-OB

Neelam Dhawan, NMED-HWB

Kylian Robinson, NMED-HWB

Rick Shean, NMED-RPD

Steven Lynne, LA County

Philo Shelton, LA County

Arturo Duran, EM-LA

Sarah Eli Gilbertson, EM-LA

Thomas McCrory, EM-LA

Kent Rich, EM-LA

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Public Reading Room (EPRR)

PRS website

Table 1. Data in IntellusNM from R-35a Sampling Event on May 19, 2023, for both the Screening-Level Data Measured at GGRL During the Extended Purge, and the Regulatory Compliance Sample Measured at the EPA-Certified Laboratory (final row in the table).

Location ID	Field Sample ID	Parameter Name	Sample Date	Sample Time	Report Result	Report Units	Lab Qualifier	Detected	Filtered	Lab Method	Report Detection Limit	Lab ID	Validation Qualifier	Sample Result Comments
R-35a	CASA-23-280670	Chromium	5-19-2023	09:00	0.2	µg/L	U	N	N	EPA:200.8	—	EES6	R	Data rejected because of an inductively coupled plasma mass spectrometry (ICP-MS) instrumentation error.
R-35a	CASA-23-280671	Chromium	5-19-2023	10:43	16.529	µg/L	—	Y	N	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-280673	Chromium	5-19-2023	13:01	0.2	µg/L	U	N	N	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-280674	Chromium	5-19-2023	15:18	13.148	µg/L	—	Y	N	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-280675	Chromium	5-19-2023	09:00	53.177	µg/L	—	Y	Y	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-280676	Chromium	5-19-2023	10:43	13.536	µg/L	—	Y	Y	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-280677	Chromium	5-19-2023	11:52	38.848	µg/L	—	Y	Y	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-280678	Chromium	5-19-2023	13:01	53.784	µg/L	—	Y	Y	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-280679	Chromium	5-19-2023	15:18	1.6311	µg/L	—	Y	Y	EPA:200.8	—	EES6	R	Data rejected because of an ICP-MS instrumentation error.
R-35a	CASA-23-282067	Chromium	5-19-2023	11:52	4.37	µg/L	J	Y	Y	SW-846:6020B	10.0	GELC	J	Data rejected because of an ICP-MS instrumentation error.

Notes:  
µg/L (Report Units) = Micrograms per liter  
J (Lab Qualifier) = Analyte was detected below quantitation limit  
U (Lab Qualifier) = Analyte was not detected above method detection limit  
Y (Detected/Filtered) = Analyte was detected/sample was filtered  
N (Detected/Filtered) = Analyte was not detected/ sample was not filtered  
R (Validation Qualifier) = Analyte was rejected  
— = Not applicable/lab qualifier not applicable  
EPA:200.8 (Lab Method) = Inductively Coupled Plasma Mass Spectrometry Method  
SW-846:6020B (Lab Method) = Inductively Coupled Plasma Mass Spectrometry Method  
EES6 (Lab ID) = Triad's Geology & Geochemistry Research Laboratory  
GELC (Lab ID) = GEL Laboratories