animas environmental services

February 5, 2021

Zach Stradling
Benson-Montin-Greer Drilling Corp.
4900 College Blvd.
Farmington, New Mexico 87402

Re: Soil Boring and Monitor Well Installation
and 4th Quarter 2020 Groundwater Monitoring Report
O-9 Pipeline Release
NMOCD Order Number: AP-31
Rio Arriba County, New Mexico

Dear Mr. Stradling:

Animas Environmental Services, LLC (AES) has prepared this report detailing the installation of soil borings and monitor wells (SB-16, SB-17/MW-9, and SB-18/MW-10) and fourth quarter 2020 groundwater monitoring and sampling at the Benson-Montin-Greer Drilling Corporation (BMG) O-9 release location in November 2020. A topographic site location map and an aerial site location map are included as Figures 1 and 2.

1.0 Site History

1.1 Initial Release and Investigation

Hydrocarbons were discovered in the vicinity of the O-9 pipeline in Santa Fe National Forest by BMG during the summer of 2000. BMG completed removal of approximately 2,800 cubic yards of hydrocarbon-impacted soils and backfilled the excavation with clean soil.

Philip Environmental Services Corporation (Philip) was contracted by BMG to perform a limited subsurface investigation of soil and groundwater from a crude oil pipeline spill. Ten soil borings were completed in August 2000 to assess environmental impacts from the O-9 Line Leak. Five of the borings were converted into monitoring wells (MW-1 through MW-5).

On September 20 and 21, 2001, AMEC Earth & Environmental, Inc. (AMEC) completed

624 E. Comanche Street, Farmington, NM 87401
P.O. Box 8, Farmington, NM 87499-008
505-564-2281 animasenvironmental.com

further site investigation activities. Seven soil borings were completed, of which three were converted into monitor wells (MW-6 through MW-8). August 2000 to October 2001 depth to groundwater measurements and water quality data are summarized and presented in Table 1, and laboratory analytical results are presented in Table 2.

1.2 Abatement Plan

BMG submitted a Stage 1 and Stage 2 abatement plan to New Mexico Oil Conservation Division (NMOCD) on November 28, 2001. Public notice requirements were completed by March 11, 2002. Further information required to complete the abatement plan was submitted to NMOCD on August 26, 2002.

1.3 Groundwater Monitoring and Sampling, April 2019 to September 2020

AES completed quarterly groundwater monitoring and sampling at the location between April 2019 and June 2020. Brief summaries are included below:

- **April 2019** - Groundwater was observed between 14.62 and 17.83 ft bgs, and groundwater elevations decreased by approximately 0.36 ft since the October 2001 sampling event. A slight sheen was detected in MW-5 and MW-7 but was bailed off, and both wells were subsequently sampled. Dissolved phase benzene, toluene, ethylbenzene, and total xylene (BTEX) concentrations did not exceed laboratory detection limits or New Mexico Water Quality Control Commission (WQCC) standards in any of the wells except MW-5 (5.7 µg/L total xylenes). Total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) were also detected in MW-5, at 2.6 mg/L. TPH as diesel range organics (DRO) was detected in MW-5 (13 mg/L) and MW-7 (6.1 mg/L).

- **August 2019** – Shallow groundwater was observed to flow to the northeast, with an approximate gradient of 0.01 ft/ft which is indicative of seasonal gaining stream characteristics. A slight residual sheen was detected in MW-5 and MW-7 but was bailed off, and both wells were sampled. Dissolved phase BTEX concentrations were reported below applicable WQCC standards in all wells.

- **December 2019** - All samples were either below laboratory detection limits or well below WQCC standards for contaminants of concern. An oil absorbent sock was installed at 20 ft bgs within MW-5, which was observed to have a measurable residual NAPL sheen.

- **March 2020** - Groundwater was observed between 16.38 and 19.72 ft bgs. A slight sheen was detected in MW-5 and MW-7 but was bailed off, and both wells were sampled. Dissolved phase BTEX was detected at concentrations below WQCC standards in all wells. TPH as GRO (1.2 mg/L) and DRO (1.6 mg/L) were detected in MW-5 only.

- **June 2020** - All samples (MW-1 through MW-3 and MW-5 through MW-8) were either below laboratory detection limits or below WQCC standards for each contaminant of concern. June 2020 was the eighth consecutive sampling event where samples from MW-1, MW-2, and MW-3 were below laboratory detection limits for all constituents of concern

- **September 2020** - All contaminants of concern were either below laboratory detection limits and/or below WQCC standards in each well that was sampled. Contaminants of concern at MW-8 were all below laboratory detection limits for the eighth consecutive sampling event.

2.0 Soil Boring and Monitor Well Installation, November 2020

AES worked with Enviro-Drill (EDI) of Albuquerque, New Mexico, to advance three soil borings (SB-16 through SB-18) at the site to further delineate the dissolved phase contamination at the site. Two of the borings were completed as 2-inch monitor wells (MW-9 and MW-10) on November 4, 2020. The soil borings were advanced via hollow stem auger (HSA) drilling by EDI. The soil boring and monitor well locations are included on Figures 2 and 3, and photographs of site work are included in Appendix A.

2.1 NMOSE Permitting

Prior to installation, MW-9, MW-10, and previously installed MW-1 through MW-8 were permitted through NMOSE, and the NMOSE permit (WR-07) and well records (WR-20) are included in Appendix B.

2.2 Soil Boring Installation

Soil borings were drilled to approximately 25 ft bgs. The lithology encountered at SB-16 through SB-18 was consistent with what was observed during the 2001 monitor well installations. The observed lithology was comprised of mainly fine to medium grained sand from the surface down to approximately 14 ft bgs and very low plasticity clay from

approximately 14 ft bgs to 25 ft bgs. Weathered sandstone was encountered in SB-17 and SB-18 at approximately 10 and 25 ft bgs respectively. Evidence of groundwater was observed in SB-17/MW-9 at approximately 18 ft bgs but was not observed in SB-16 or SB-18/MW-10. Visual and olfactory observations did not indicate hydrocarbon contamination. SB-16 was abandoned and back-filled with soil cuttings. Soil boring logs and well completion diagrams are presented in Appendix C.

2.3 Field Screening and Results

AES collected soil samples for heated headspace field screening and laboratory analysis from all borings. Soil samples were collected using split spoon samplers at 5-ft intervals. A handful of soil from each split spoon sample was placed in a clean mason jar which was then sealed shut using aluminum foil and the mason jar ring. The sample was labeled and heated using the floorboard heater in the field vehicle. Once warmed, the PID/OVM tip was used to puncture the foil to facilitate surveying of the vapors within. The screening threshold of 100 ppmv was only exceeded at SB-18/MW-10 (154.6 ppmv at 10 ft bgs). Field screening OVM results are included in the soil boring logs and on Figure 3.

2.4 Monitor Well Construction

SB-17 and SB-18 were completed as 2-inch diameter schedule 40 PVC monitor wells. Each well was constructed with 15 ft of 0.050-inch slot screen and 10 ft of riser. Next, 10/20 silica sand was placed from the bottom of each bore hole up to two ft above the top of the screen. A 3-ft bentonite plug (3/8-inch chips) was placed above the sand and hydrated. Portland cement grout was placed from the bentonite plug up to the surface by tremie pipe. Finally, a steel stickup well protector was installed extending approximately 2 ft above grade and set in a concrete pad approximately 2 ft in diameter. Well construction diagrams are attached in Appendix C.

2.5 Soil Laboratory Analyses

Soil samples were collected from 10 and 25 ft bgs in SB-16 and SB-18, and at 5 and 20 ft bgs in SB-17. Samples collected for laboratory analysis were placed in new, clean, laboratory-supplied containers, labeled, placed on ice, and logged onto a sample chain of custody record. The samples were kept on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall), in Albuquerque, New Mexico. Soil samples were analyzed for:

- BTEX per USEPA Method 8021B;
- TPH (GRO/DRO/MRO) per USEPA Method 8015M; and
- Chlorides per USEPA Method 300.0.

2.6 Soil Analytical Results

BTEX and chlorides were not detected in any of the six soil samples that were collected. TPH (as GRO, DRO, and MRO) was detected in the samples from SB-16 at 10 ft bgs (94 mg/kg) and SB-18 at 10 ft bgs (350 mg/kg), which exceeds the NMOCD action level of 100 mg/kg. Note that in the sample collected in SB-18 at 25 ft bgs, TPH concentrations were below laboratory detection limits in all three ranges (GRO, DRO, and MRO). Laboratory analytical results are summarized and presented in Table 1 and on Figures 3A and 3B.

2.7 Monitor Well Development

Monitor wells MW-9 and MW-10 were developed on November 11, 2020, to remove fine-grained sediments that may have been trapped in the filter pack during installation. The wells were developed by a combination of surging and bailing techniques using a new disposable bailer. Note that MW-10 contained only 0.3 ft of water, which was not enough for development activities to be performed. Well development records are included in Appendix D.

2.8 Investigation Derived Waste

Drill cuttings were used to backfill SB-16. Drill cuttings from SB-17 and SB-18 were thin-spread at the site.

3.0 Groundwater Monitoring and Sampling, November 2020

On November 19, 2020, AES conducted groundwater monitoring and sampling at the site. Ten monitor wells (MW-1 through MW-10) were gauged, and four monitor wells (MW-6 through MW-9) were purged and sampled. Monitor wells MW-4, MW-5, and MW-10 did not contain enough water to allow for purging and sampling.

Depth to groundwater was measured in each well at the site and used to calculate purge volumes. Wells were purged of approximately three well volumes or until nearly dry with new disposable bailers. Recharge rates at the site vary between very slow to steady

production. The bailers were lowered slowly and carefully into the wells to minimize turbidity. Samples were collected with new disposable bailers and transferred into 40-mL vials, which were labeled and stored on ice at less than 6°C in a cooler until delivered to Hall in Albuquerque, New Mexico. Groundwater samples were analyzed for BTEX per U.S. Environmental Protection Agency (USEPA) Method 8260 as well as TPH as GRO and DRO per USEPA Method 8015.

3.1 Groundwater Measurement and Water Quality Data

On November 19, 2020, groundwater elevations had decreased by an average of approximately 0.24 ft since the September 2020 sampling event. Groundwater elevations ranged between 7,433.71 ft above mean sea level (AMSL) in MW-8 and 7,441.62 ft AMSL in MW-4. Shallow groundwater was observed to flow to the east-northeast, with an approximate gradient of 0.01 ft/ft. Depth to groundwater measurements and water quality data are summarized on Table 2, and a groundwater elevation contour map is included as Figure 4. Groundwater sample collection forms are attached.

3.2 Groundwater Analytical Results

November 2020 groundwater analytical results showed that dissolved phase BTEX concentrations were reported below applicable WQCC standards in all wells. TPH as GRO was detected in MW-7 (0.054 mg/L). TPH as DRO was also detected in MW-7 (3.4 mg/L). Laboratory analytical results are included on Table 3, and contaminant concentrations are presented on Figure 5. The laboratory analytical report is attached.

4.0 Discussion

The geology at the site consists primarily of poorly sorted sands ranging from silty to medium grained from the surface to approximately 14 ft bgs. The alternating sands are interbedded with layers including tight clay fractions. Below 14 ft bgs lies alternating layers of silty and sandy clays. Weathered sandstone was encountered at 24 ft bgs in SB-18/MW-10. Average depth to groundwater has declined by approximately 4.57 ft since October 2001.

It appears that subsequent to the contaminated soil removal in 2000, some residual NAPL remained in the subsurface outside the excavated area. This residual NAPL has been a source for dissolved phase BTEX and TPH contamination, specifically in monitor wells

MW-5 and MW-7 where a residual NAPL sheen (non-measurable) has regularly been observed. An absorbent hydrophobic sock has been installed MW-5 to mitigate the sheen.

With the installation of soil boring SB-16, SB-17 and SB-18 in November 2020, the following objectives have been met:

1. Vertical delineation below the base of the 2000 excavation has been confirmed with the installation of SB-16. No odors or staining were noted; soil concentrations from 10 ft and 25 ft bgs showed that benzene, BTEX, and TPH (GRO, DRO, and MRO) were below NMOCD action levels (see Figure 3A).

2. Further lateral and vertical delineation of the southeast wall of the 2000 excavation has been completed with the installation of SB-17/MW-9. Weathered sandstone was encountered in this boring at about 10 ft and 18 ft bgs, and saturated soils were observed at about 22 ft bgs. No odors or staining were observed within the boring. Soil samples collected from 5 ft and 20 ft were below laboratory detection limits for benzene, BTEX, and TPH (GRO, DRO, and MRO) (see Figure 3A). Groundwater laboratory analytical results were also below laboratory detection limits for BTEX and TPH (see Figure 5).

3. The vertical extent of soil contamination in the area of SB-15 has been confirmed with the installation of SB-18/MW-10. Poorly sorted sands interbedded with low plasticity clays were noted in this well, and sandstone was encountered at about 24 ft bgs. No staining or odors were noted within this boring; however, laboratory analytical results from 10 ft bgs showed that TPH (DRO/MRO) exceeded the NMOCD action level with 350 mg/kg. Soil sample results from 25 ft were below laboratory detection limits for benzene, BTEX, and TPH, confirming the vertical extent of soil impacts (see Figure 3A). A trace amount of groundwater was measured at 27.12 ft in November 2020, and a groundwater sample could not be collected.

Groundwater concentrations in MW-1, MW-2, MW-3 and MW-8 have remained below New Mexico WQCC BTEX standards for eight consecutive sampling events. Wells MW-4 and 5 have been dry or had insufficient water and have not recently been sampled. MW-6 and MW-7 have had seven consecutive sampling events below WQCC standards. Additionally, positive oxidation reduction potential (ORP) measurements and healthy concentrations of dissolved oxygen indicate an aerobic environment that is conducive to

natural attenuation of petroleum compounds.

5.0 Conclusions and Recommendations

AES installed soil borings and monitor wells (SB-16, SB-17/MW-9, and SB-18/MW-10) on November 4, 2020 and completed quarterly groundwater monitoring and sampling at the site on November 19, 2020. Vertical and lateral extents of the former excavation (2000) were confirmed with the installation of SB-16 and SB-17. Residual petroleum hydrocarbon contamination above the NMOCD action level was observed in SB-18 at 10 ft bgs (180 mg/kg DRO and 170 mg/kg MRO). However, SB-18 at 25 ft bgs had concentrations below laboratory detection limits for BTEX, TPH, and chlorides, therefore completing vertical delineation to the historic release.

AES recommends continuing to attempt to obtain a groundwater sample from MW-10 to confirm that groundwater is not impacted. Evaluating the effectiveness of limited and shallow injections (10 to 15 ft bgs) into soils in the area of SB-15 and SB-18 to treat residual petroleum hydrocarbon contamination may be warranted.

AES also recommends continued quarterly monitoring of wells that have not yet obtained eight consecutive sampling events with concentrations below applicable WQCC standards. Per NMOCD's recommendations, wells that have obtained eight consecutive events below WQCC standards will be scheduled for annual sampling.

5.1 Scheduled Site Activities

AES has scheduled the following site activities during Q1 2021:

- Groundwater monitoring and sampling will be conducted in February or March 2021, and project notification for field activities will be provided to NMOCD at least two days before work is conducted.
- Sampling will include MW-4 through MW-7, MW-9 and MW-10; all other wells will be gauged for depth to groundwater.
- Laboratory analytical methods will include full list VOCs by USEPA Method 8260 and GRO/DRO by EPA Method 8015.
- MW-7 will continue to be monitored for a NAPL sheen. In the event a measurable thickness of residual NAPL is observed, AES will hand bail the well until all residual NAPL is removed and install an oil absorbent hydrophobic sock. Absorbent socks

will be checked and maintained as part of each quarterly sampling event and residual NAPL will be recovered as it is observed.

If you have any questions about this report, site conditions, or the scheduled work, please feel free to contact Eddie Hubbert at (505) 401-5323 or Elizabeth McNally at (505) 564-2281.

Respectfully Submitted,

David J. Reese
Environmental Scientist

Edward Hubbert
Project Manager

Elizabeth McNally, P.E.

Tables

1. Cumulative Soil Analytical Results
2. Groundwater Measurements and Water Quality Data
3. Groundwater Laboratory Analytical Results

Figures

1. Topographic Site Location Map
2. Aerial Site Map
3. Soil Field Screening and Laboratory Analysis Results, November 2020

3A. Lateral Extents and Cumulative Soil Analytical Results
3B. Geologic Cross Sections

4. Groundwater Elevations, November 2020
5. Groundwater Contaminant Concentrations, November 2020

Appendices

A. Photograph Log
B. NMOSE Well Permit WR-07 and Well Record WR-20 (MW-9 and MW-10)
C. Soil Boring Logs/Well Construction Diagrams (SB-16, SB-17/MW-9, SB-18/MW-10)
D. Monitor Well Development Records (MW-9 and MW-10)
E. Water Sample Collection Forms (November 2020)
F. Laboratory Analytical Reports (Hall Nos. 2011427 and 2011A71)

Cc: Cory Smith (*cory.smith@state.nm.us*)
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Larry D. Gore (larry.gore@usda.gov)
U.S. Forest Service
Santa Fe National Forest
P.O. Box 130
Cuba, NM 87013

https://animasenvironmental.sharepoint.com/sites/bmgprojectsnon-spcc/Shared Documents/O-9 Release/Reports and Workplans/BMG O-9 Line Leak Well Installation & 4th Qtr GW Monitoring Report 123020 DR2 EH3 EM2.docx

Tables

TABLE 1
CUMULATIVE SOIL ANALYTICAL RESULTS
BMG Ojito Canyon (O-9) Release
Rio Arriba County, New Mexico

Sample ID	Sample Date	Depth of Sample (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	TPH-GRO C6-C10 (mg/kg)	TPH-DRO C10-C28 (mg/kg)	TPH-MRO C28-C36 (mg/kg)	Chloride (mg/kg)
NMOCD Action Level*			10 mg/kg Benzene (50 mg/kg BTEX)				100			600
SB-16 @ 10'	4-Nov-20	10	<0.024	<0.048	<0.048	<0.097	<4.8	17	77	<59
SB-16 @ 25'	4-Nov-20	25	<0.025	<0.049	<0.049	<0.099	<4.9	<9.5	<48	<60
SB-17/MW-9 @ 5'	4-Nov-20	5	<0.025	<0.049	<0.049	<0.098	<4.9	<9.8	<49	<60
SB-17/MW-9 @ 20'	4-Nov-20	20	<0.025	<0.049	<0.049	<0.098	<4.9	<8.7	<43	<60
SB-18/MW-10 @ 10'	4-Nov-20	10	<0.12	<0.23	<0.23	<0.46	**<23**	**180**	**170**	<60
SB-18/MW-10 @ 25'	4-Nov-20	25	<0.024	<0.048	<0.048	<0.096	<4.8	<9.4	<47	<60

Notes:
< Analyte not detected above listed method limit
NA Not Analyzed
NE Not Established

Laboratory Analytical Methods: 8260 and 8015
*NMAC 19.15.29.12E Table I

TABLE 2
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG Ojito Canyon (O-9) Release
Rio Arriba County, New Mexico

Well ID	Date Measured	TOC Elevation* (ft amsl)	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Water Level Elevation (ft amsl)	Corrected GW Elev. (ft)	Temp. (°C)	Specific Conduct. (mS)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
MW-1	30-Aug-00	7507.22		16.69		7490.53		16.9	NM	NM	NM	NM
MW-1	06-Feb-01	7507.22		16.08		7491.14		7.6	0.862	NM	5.54	NM
MW-1	05-Oct-01	7507.22		16.15		7491.07		NM	NM	NM	NM	NM
MW-1	03-Apr-19	7507.22		16.74		7490.48		8.3	493.0	2.23	7.32	107.1
MW-1	16-Aug-19	7507.22		18.54		7488.68		10.1	0.77	2.22	7.52	70.6
MW-1	23-Dec-19	7507.22		20.56		7486.66		9.96	0.803	2.66	7.28	119.2
MW-1	24-Mar-20	7507.22		18.91		7488.31		8.5	0.707	3.54	7.14	136.4
MW-1	18-Jun-20	7507.22		19.98		7487.24		8.9	0.72	3.94	7.17	179.8
MW-1	16-Sep-20	7457.88		22.05		7435.83		NM	NM	NM	NM	NM
MW-1	19-Nov-20	7457.88		22.41		7435.47		NM	NM	NM	NM	NM
MW-2	30-Aug-00	7506.50		16.62		7489.88		15.2	NM	NM	NM	NM
MW-2	06-Feb-01	7506.50		15.91		7490.59		9.48	1.06	NM	5.9	NM
MW-2	05-Oct-01	7506.50		15.94		7490.56		NA	0.463	6.44	NM	226.7
MW-2	03-Apr-19	7506.50		16.30		7490.20		7.9	448.3	7.02	7.49	72.2
MW-2	16-Aug-19	7506.50		17.81		7488.69		10.8	0.84	1.47	7.40	-67.0
MW-2	23-Dec-19	7506.50		20.41		7486.09		10.16	1.035	2.25	7.13	-67.8
MW-2	24-Mar-20	7506.50		19.12		7487.38		8.5	0.830	3.02	6.97	5.3
MW-2	18-Jun-20	7506.50		19.87		7486.63		10.0	0.82	1.51	6.99	79.5
MW-2	16-Sep-20	7457.24		21.57		7435.67		NM	NM	NM	NM	NM
MW-2	19-Nov-20	7457.24		21.75		7435.49		NM	NM	NM	NM	NM
MW-3	30-Aug-00	7508.63		17.21		7491.42		14.3	NM	NM	NM	NM
MW-3	06-Feb-01	7508.63		16.88		7491.75		9.3	84.6	NM	4.97	NM
MW-3	05-Oct-01	7508.63		17.01		7491.62		NM	NM	NM	NM	NM
MW-3	03-Apr-19	7508.63		17.83		7490.80		8.6	446.3	1.55	7.25	134.9
MW-3	16-Aug-19	7508.63		20.69		7487.94		10.6	0.672	1.67	7.52	158.1
MW-3	23-Dec-19	7508.63		21.46		7487.17		9.75	0.729	2.18	7.34	156.7
MW-3	24-Mar-20	7508.63		19.72		7488.91		8.8	0.655	0.98	7.01	158.5
MW-3	18-Jun-20	7508.63		21.42		7487.21		8.9	0.658	1.56	7.04	174.6
MW-3	16-Sep-20	7460.72		22.90		7437.82		NM	NM	NM	NM	NM

TABLE 2
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG Ojito Canyon (O-9) Release
Rio Arriba County, New Mexico

Well ID	Date Measured	TOC Elevation* (ft amsl)	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Water Level Elevation (ft amsl)	Corrected GW Elev. (ft)	Temp. (°C)	Specific Conduct. (mS)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
MW-3	19-Nov-20	7460.72		22.74		7437.98		NM	NM	NM	NM	NM
MW-4	30-Aug-00	7507.10		15.51		7491.59		14.9	NM	NM	NM	NM
MW-4	06-Feb-01	7507.10		15.05		7492.05		7.02	0.77	NM	5.15	NM
MW-4	05-Oct-01	7507.10		15.14		7491.96		NM	NM	NM	NM	NM
MW-4	03-Apr-19	7507.10		14.62		7492.48		4.6	237.3	6.74	7.44	108.9
MW-4	16-Aug-19	7507.10		16.79		7490.31		NM - Insufficient Water				
MW-4	23-Dec-19	7507.10		16.97		7490.13		NM - Insufficient Water				
MW-4	24-Mar-20	7507.10		16.92		7490.18		NM - Insufficient Water				
MW-4	18-Jun-20	7507.10		16.80		7490.30		NM - Insufficient Water				
MW-4	16-Sep-20	7458.66		16.82		7441.84		NM - Insufficient Water				
MW-4	19-Nov-20	7458.66		17.04		7441.62		NM - Insufficient Water				
MW-5	30-Aug-00	7503.22		16.66		7486.56		12.6	NM	NM	NM	NM
MW-5	06-Feb-01	7503.22	16.23	17.41	1.18	7485.81	7486.73	NM - NAPL PRESENT				
MW-5	05-Oct-01	7503.22	16.26	16.74	0.48	7486.48	7486.85	NM - NAPL PRESENT				
MW-5	03-Apr-19	7503.22	16.92	16.93	0.01	7486.29	7486.30	NM - NAPL SHEEN PRESENT				
MW-5	16-Aug-19	7503.22	17.74	17.74		7485.48		NM - NAPL SHEEN PRESENT				
MW-5	23-Dec-19	7503.22	19.25	19.25		7483.97		NM - NAPL SHEEN PRESENT				
MW-5	24-Mar-20	7503.22	17.83	17.83		7485.39		NM - NAPL SHEEN PRESENT				
MW-5	18-Jun-20	7503.22	18.40	18.40		7484.82		NM - NAPL SHEEN PRESENT				
MW-5	16-Sep-20	7456.42	20.13	20.13		7436.29		NM - NAPL SHEEN PRESENT				
MW-5	19-Nov-20	7456.42		20.74		7435.68		NM - Insufficient Water				
MW-6	05-Oct-01	NS		15.81				NA	0.544	3.29	NM	213.9
MW-6	03-Apr-19	NS		16.04				7.3	209.5	8.09	7.63	140.5
MW-6	16-Aug-19	NS		17.02				10.6	0.618	6.22	7.61	125.7
MW-6	23-Dec-19	NS		18.28				9.32	0.719	1.77	7.22	48.6
MW-6	24-Mar-20	NS		17.21				7.8	0.437	6.14	7.40	154.2
MW-6	18-Jun-20	NS		17.77				9.0	0.580	2.50	7.30	130.2
MW-6	16-Sep-20	7454.18		19.09		7435.09		11.1	0.484	1.98	7.19	149.7

TABLE 2
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG Ojito Canyon (O-9) Release
Rio Arriba County, New Mexico

Well ID	Date Measured	TOC Elevation* (ft amsl)	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Water Level Elevation (ft amsl)	Corrected GW Elev. (ft)	Temp. (°C)	Specific Conduct. (mS)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
MW-6	19-Nov-20	7454.18		19.47		7434.71		11.3	0.509	2.18	6.82	149.0
MW-7	05-Oct-01	NS		16.00				NA	0.547	3.10	NM	-65.9
MW-7	03-Apr-19	NS	16.67	16.68	0.01			NM - NAPL SHEEN PRESENT				
MW-7	16-Aug-19	NS		17.45				NM - NAPL SHEEN PRESENT				
MW-7	23-Dec-19	NS		18.93				NM - NAPL SHEEN PRESENT				
MW-7	24-Mar-20	NS	17.62	17.62	0.00			7.7	1.02	4.52	7.11	112.1
MW-7	18-Jun-20	NS		18.17				NM - NAPL SHEEN PRESENT				
MW-7	16-Sep-20	7455.96		19.16		7436.80		NM - NAPL SHEEN PRESENT				
MW-7	19-Nov-20	7455.96		21.17		7434.79		NM - NAPL SHEEN PRESENT				
MW-8	05-Oct-01	NS		14.06				NM	NM	NM	NM	NM
MW-8	03-Apr-19	NS		14.69				8.8	485.7	4.19	7.36	130.6
MW-8	16-Aug-19	NS		16.71				11.2	0.72	1.44	6.08	85.3
MW-8	23-Dec-19	NS		17.47				10.41	0.798	1.89	7.13	-57.4
MW-8	24-Mar-20	NS		16.38				9.4	0.720	1.59	7.11	-49.8
MW-8	18-Jun-20	NS		17.45				10.2	0.70	1.58	7.18	-15.4
MW-8	16-Sep-20	7452.31		18.67		7433.64		11.6	0.545	1.60	6.97	-19.1
MW-8	19-Nov-20	7452.31		18.60		7433.71		11.4	0.544	1.45	6.78	-30.9
MW-9	19-Nov-20	7458.38		22.84		7435.54		9.2	0.485	5.24	7.07	184.4
MW-10	19-Nov-20	7453.59		27.12		7426.47		NM - Insufficient Water				

NOTES: NA NOT AVAILABLE
NM NOT MEASURED
NS NOT SURVEYED
TOC TOP OF CASING
*September 2020 TOCs were measured at MW-1 through MW-10 using UAS/drone mapping and were not professionally surveyed.

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG Ojito Canyon (O-9) Release
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B/ 8260B**	**8021B/ 8260B**	**8021B/ 8260B**	**8021B/ 8260B**	**8015B/ 8015D**	**8015B/ 8015M/D**	**8015B/ 8015M/D**
NM WQCC STANDARD		***5***	***1,000***	***700***	***620***	***NE***	***NE***	***NE***
MW-1	30-Aug-00	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	<1.0
MW-1	06-Feb-01	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	<1.0
MW-1	25-Sep-01	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
MW-1	03-Apr-19	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-1	16-Aug-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	23-Dec-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-1	24-Mar-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-1	18-Jun-20	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-2	30-Aug-00	<0.5	<0.5	<0.5	2.1	<2.0	<1.0	<1.0
MW-2	06-Feb-01	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	<1.0
MW-2	05-Oct-01	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
MW-2	03-Apr-19	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-2	16-Aug-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	23-Dec-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-2	24-Mar-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-2	18-Jun-20	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-3	30-Aug-00	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	<1.0
MW-3	06-Feb-01	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	<1.0
MW-3	25-Sep-01	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
MW-3	03-Apr-19	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-3	16-Aug-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	23-Dec-19	<2.0	<2.0	<2.0	<4.0	<0.10	<1.0	NA
MW-3	24-Mar-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-3	18-Jun-20	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-4	30-Aug-00	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	<1.0
MW-4	06-Feb-01	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	<1.0
MW-4	25-Sep-01	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
MW-4	03-Apr-19	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-5	30-Aug-00	**400**	56	79	260	<2.0	1.6	<1.0
MW-5	03-Apr-19	<2.0	<2.0	<2.0	5.7	2.6	13	NA
MW-5	16-Aug-19	<1.0	<1.0	2.3	13	3.0	20	5.4

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG Ojito Canyon (O-9) Release
Rio Arriba County, New Mexico

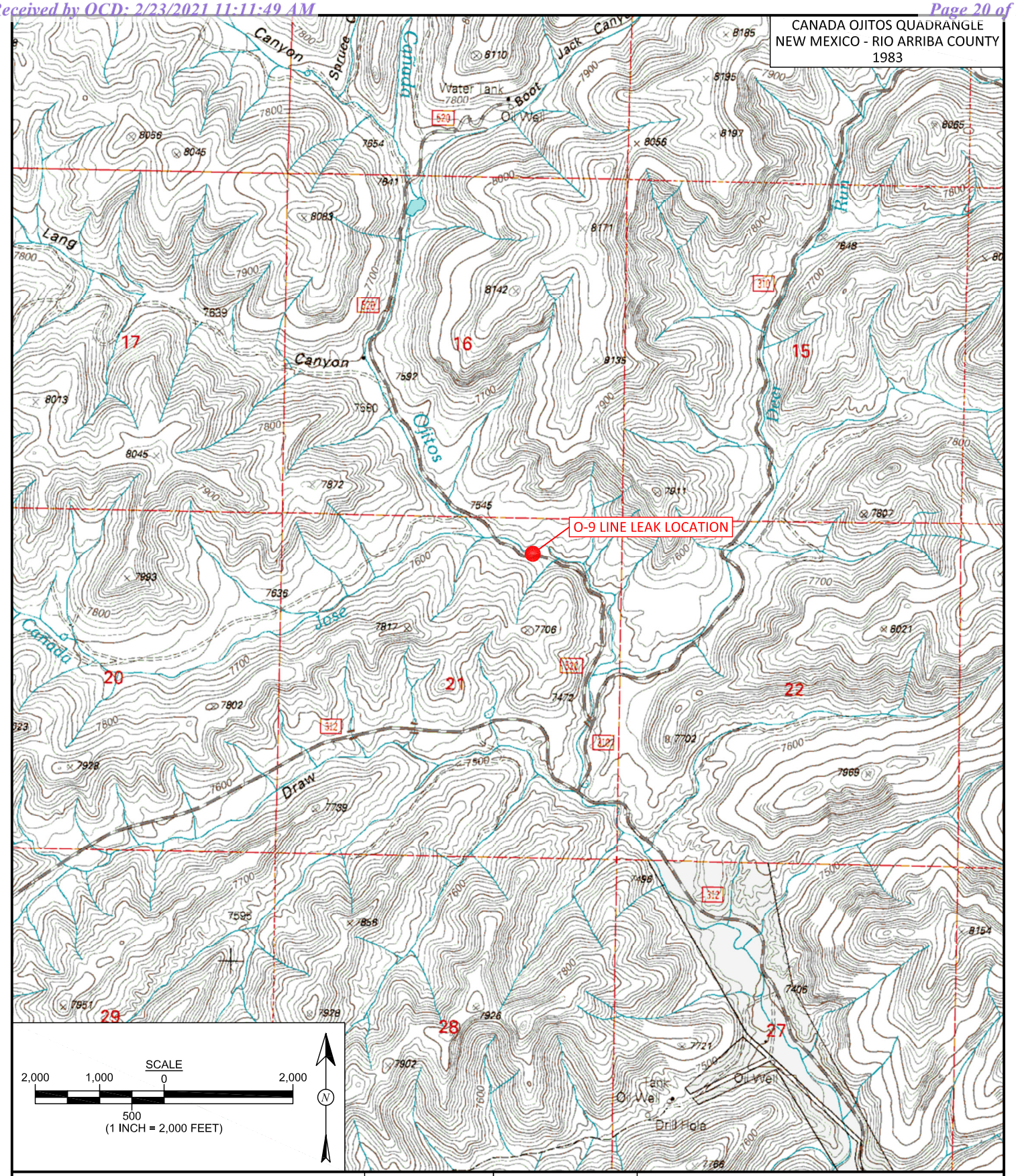
Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
Analytical Method		8021B/ 8260B	8021B/ 8260B	8021B/ 8260B	8021B/ 8260B	8015B/ 8015D	8015B/ 8015M/D	8015B/ 8015M/D
NM WQCC STANDARD		*5*	*1,000*	*700*	*620*	*NE*	*NE*	*NE*
MW-5	23-Dec-19	<5.0	<5.0	10	64	12	1,100	NA
MW-5	24-Mar-20	<2.0	<2.0	<2.0	<3.0	1.2	1.6	NA
MW-5	18-Jun-20	<1.0	<1.0	<1.0	<2.0	1.6	15	<5.0
MW-5	16-Sep-20	<1.0	<1.0	<1.0	<1.5	0.34	4.5	NA
MW-5	19-Nov-20	Not Sampled - Well Dry						
MW-6	05-Oct-01	**69**	<0.5	23	41	NA	NA	NA
MW-6	03-Apr-19	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-6	16-Aug-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	23-Dec-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-6	24-Mar-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-6	18-Jun-20	<2.0	<2.0	<2.0	<4.0	<0.10	<1.0	NA
MW-6	16-Sep-20	<1.0	<1.0	<1.0	<1.5	<0.10	<1.0	NA
MW-6	19-Nov-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-7	05-Oct-01	**350**	47	87	310	NA	NA	NA
MW-7	03-Apr-19	<1.0	<1.0	<1.0	<1.5	<0.050	6.1	NA
MW-7	16-Aug-19	<1.0	<1.0	<1.0	<2.0	<0.050	8.1	<5.0
MW-7	23-Dec-19	<2.0	<2.0	<2.0	<4.0	<0.10	4.2	NA
MW-7	24-Mar-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-7	18-Jun-20	<1.0	<1.0	<1.0	<2.0	<0.050	6.7	<5.0
MW-7	16-Sep-20	<1.0	<1.0	<1.0	<1.5	0.078	5.7	NA
MW-7	19-Nov-20	<1.0	<1.0	<1.0	<1.5	0.054	3.4	<5.0
MW-8	25-Sep-01	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
MW-8	03-Apr-19	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-8	16-Aug-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-8	23-Dec-19	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-8	24-Mar-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-8	18-Jun-20	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA
MW-8	16-Sep-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	NA
MW-8	19-Nov-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-9	19-Nov-20	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG Ojito Canyon (O-9) Release
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B/ 8260B**	**8021B/ 8260B**	**8021B/ 8260B**	**8021B/ 8260B**	**8015B/ 8015D**	**8015B/ 8015M/D**	**8015B/ 8015M/D**
NM WQCC STANDARD		***5***	***1,000***	***700***	***620***	***NE***	***NE***	***NE***

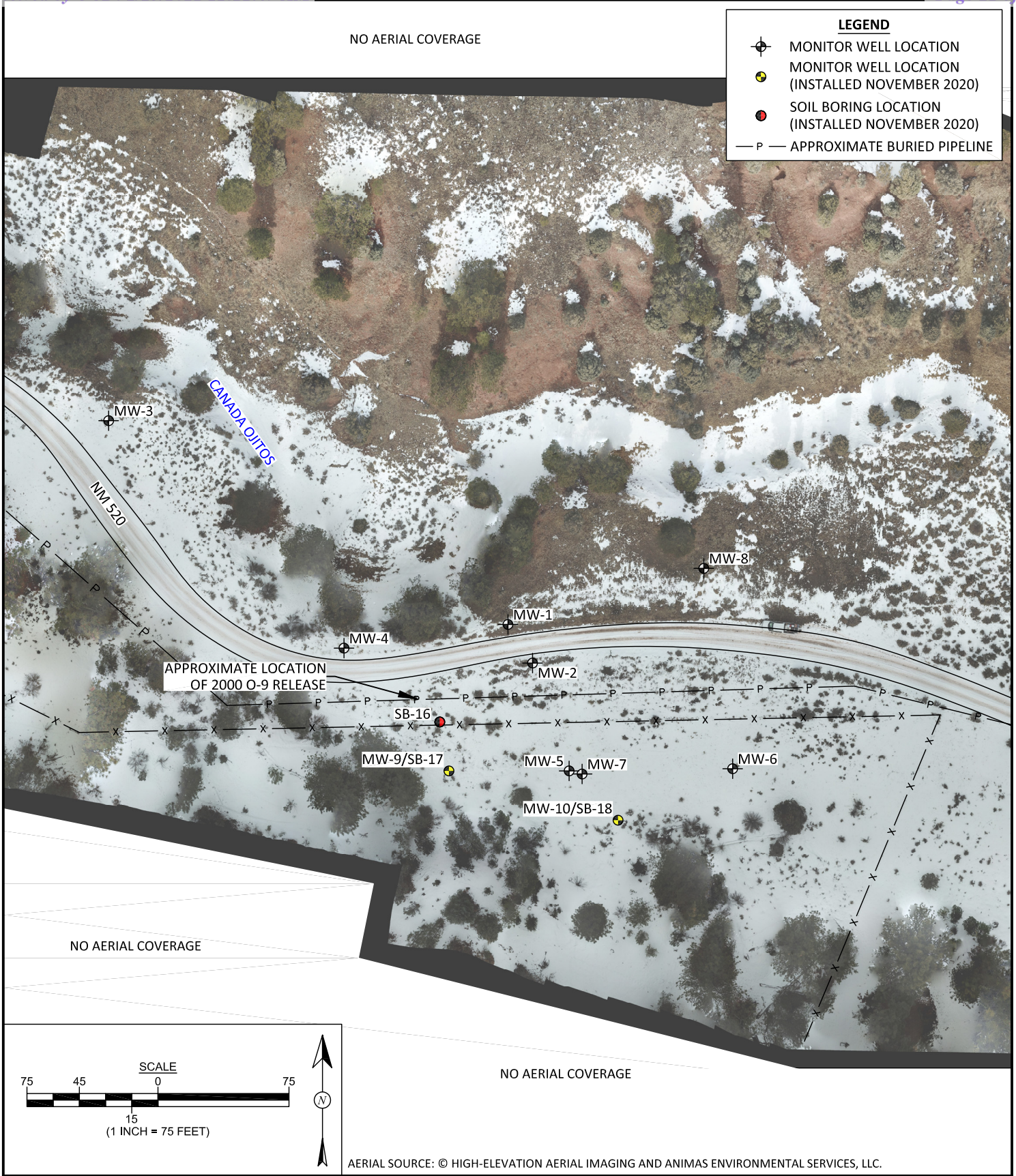
NOTES: NA = Not Analyzed
NE = Not Established
NS = Not Sampled
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MRO = Motor Oil Range Organics

Figures



DRAWN BY: C. Lameman	**DATE DRAWN:** June 3, 2019	**FIGURE 1**
REVISIONS BY: C. Lameman	**DATE REVISED:** December 22, 2020	**TOPOGRAPHIC SITE LOCATION MAP** BENSON-MONTIN-GREER O-9 LINE LEAK LOCATION N½ OF NE¼, SECTION 21, T26N, R1W RIO ARRIBA COUNTY, NEW MEXICO
CHECKED BY: D. Reese	**DATE CHECKED:** December 22, 2020	
APPROVED BY: E. McNally	**DATE APPROVED:** December 22, 2020	

animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com



AERIAL SOURCE: © HIGH-ELEVATION AERIAL IMAGING AND ANIMAS ENVIRONMENTAL SERVICES, LLC.

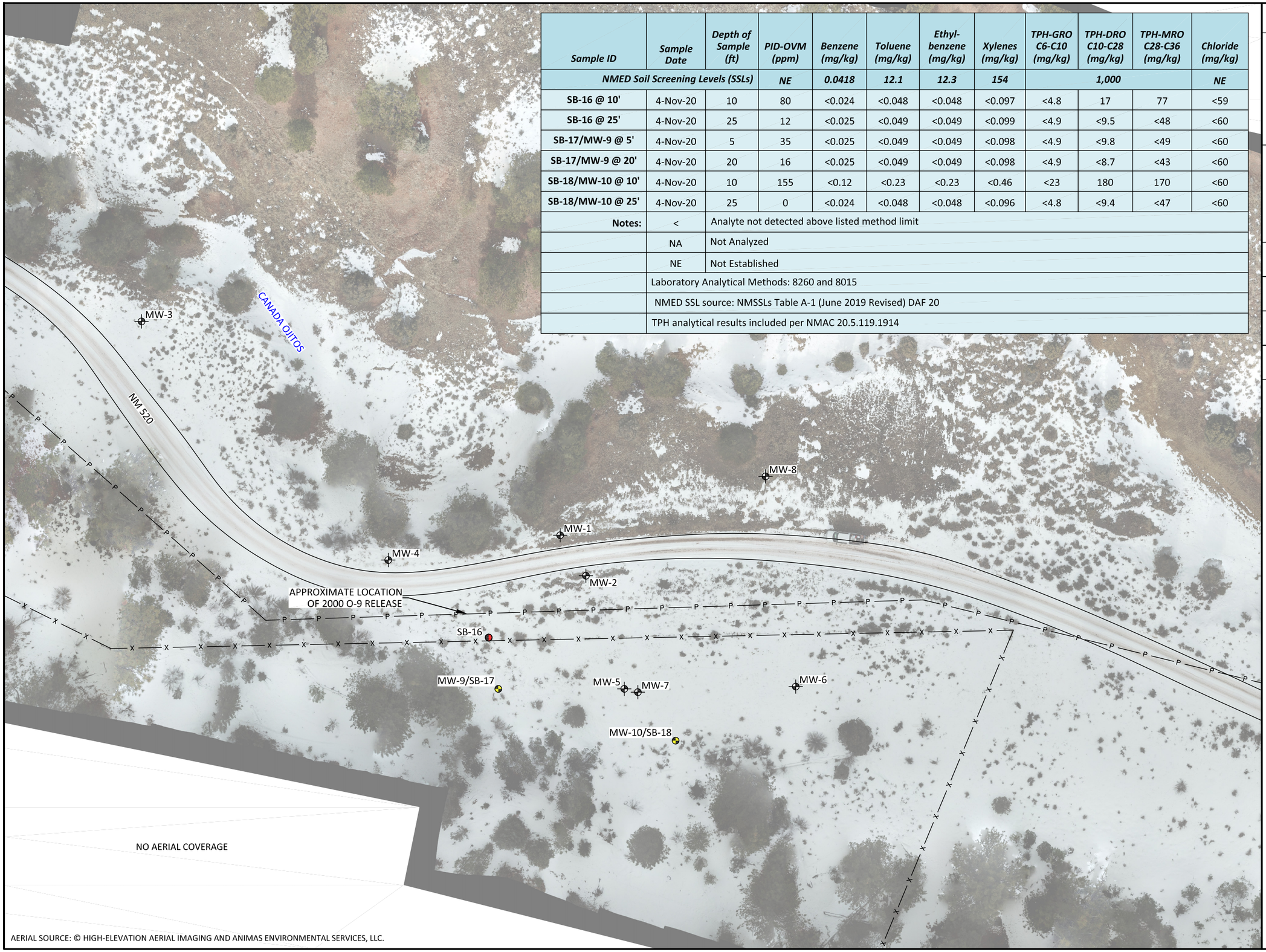
animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

DRAWN BY: C. Lameman	**DATE DRAWN:** June 3, 2019
REVISIONS BY: C. Lameman	**DATE REVISED:** December 22, 2020
CHECKED BY: D. Reese	**DATE CHECKED:** December 22, 2020
APPROVED BY: E. McNally	**DATE APPROVED:** December 22, 2020

FIGURE 2

AERIAL SITE LOCATION MAP AND MONITOR WELL LOCATIONS
BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N½ OF NE¼, SECTION 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

Sample ID	Sample Date	Depth of Sample (ft)	PID-OVM (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	TPH-GRO C6-C10 (mg/kg)	TPH-DRO C10-C28 (mg/kg)	TPH-MRO C28-C36 (mg/kg)	Chloride (mg/kg)
NMED Soil Screening Levels (SSLs)			NE	0.0418	12.1	12.3	154	1,000			NE
SB-16 @ 10'	4-Nov-20	10	80	<0.024	<0.048	<0.048	<0.097	<4.8	17	77	<59
SB-16 @ 25'	4-Nov-20	25	12	<0.025	<0.049	<0.049	<0.099	<4.9	<9.5	<48	<60
SB-17/MW-9 @ 5'	4-Nov-20	5	35	<0.025	<0.049	<0.049	<0.098	<4.9	<9.8	<49	<60
SB-17/MW-9 @ 20'	4-Nov-20	20	16	<0.025	<0.049	<0.049	<0.098	<4.9	<8.7	<43	<60
SB-18/MW-10 @ 10'	4-Nov-20	10	155	<0.12	<0.23	<0.23	<0.46	<23	180	170	<60
SB-18/MW-10 @ 25'	4-Nov-20	25	0	<0.024	<0.048	<0.048	<0.096	<4.8	<9.4	<47	<60
Notes:	<	Analyte not detected above listed method limit									
	NA	Not Analyzed									
	NE	Not Established									
	Laboratory Analytical Methods: 8260 and 8015										
	NMED SSL source: NMSSLs Table A-1 (June 2019 Revised) DAF 20										
	TPH analytical results included per NMAC 20.5.119.1914										



AERIAL SOURCE: © HIGH-ELEVATION AERIAL IMAGING AND ANIMAS ENVIRONMENTAL SERVICES, LLC.

FIGURE 3

SOIL FIELD SCREENING AND LABORATORY ANALYSIS RESULTS, NOVEMBER 2020

BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N½ OF NE¼, SECTION 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

DRAWN BY:	DATE DRAWN:
C. Lameman	December 22, 2020
REVISIONS BY:	**DATE REVISED:**
C. Lameman	December 22, 2020
CHECKED BY:	**DATE CHECKED:**
D. Reese	December 22, 2020
APPROVED BY:	**DATE APPROVED:**
E. McNally	December 22, 2020

LEGEND

- MONITOR WELL LOCATION
- MONITOR WELL LOCATION (INSTALLED NOVEMBER 2020)
- SOIL BORING LOCATION (INSTALLED NOVEMBER 2020)
- P — APPROXIMATE BURIED PIPELINE

N

SCALE
50 30 0 50
10
(1 INCH = 50 FEET)

FIGURE 3A

LATERAL EXTENT AND SOIL CONCENTRATIONS MAP

BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N½ OF NE¼, SECTION 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

DRAWN BY:	DATE DRAWN:
C. Lameman	October 7, 2019
REVISIONS BY:	**DATE REVISED:**
C. Lameman	January 27, 2021
CHECKED BY:	**DATE CHECKED:**
E. McNally	January 27, 2021
APPROVED BY:	**DATE APPROVED:**
E. McNally	January 27, 2021

LEGEND

- MONITOR WELL AND SOIL BORING LOCATION (INSTALLED AUGUST 2000)
- APPROXIMATE SOIL BORING LOCATION (AUGUST 2000)
- MONITOR WELL AND SOIL BORING LOCATION (INSTALLED SEPTEMBER 2001)
- APPROXIMATE SOIL BORING LOCATION (SEPTEMBER 2001)
- SOIL BORING LOCATION (NOVEMBER 2020)
- MONITOR WELL AND SOIL BORING LOCATION (INSTALLED NOVEMBER 2020)
- —P— APPROXIMATE BURIED PIPELINE
- —X— FENCE LINE
- B BENZENE
- T TOLUENE
- E ETHYLBENZENE
- X XYLENES, TOTAL
- GRO GASOLINE RANGE ORGANICS
- DRO DIESEL RANGE ORGANICS
- MRO MOTOR OIL RANGE ORGANICS
- mg/kg MILLIGRAMS PER KILOGRAM (ppm)
- < ANALYTE NOT DETECTED ABOVE LISTED METHOD LIMIT

NOTE: SOIL SAMPLES COLLECTED ON AUGUST 29 AND 30, 2000 WERE ANALYZED PER USEPA METHOD 8021 AND 8015.
SOIL SAMPLES COLLECTED ON SEPTEMBER 20 AND 21, 2001 WERE ANALYZED PER USEPA METHOD 8020 AND 8015.
SOIL SAMPLES COLLECTED ON NOVEMBER 4, 2020 WERE ANALYZED PER USEPA METHOD 8021 AND 8015.

AERIAL SOURCE: © HIGH-ELEVATION AERIAL IMAGING AND ANIMAS ENVIRONMENTAL SERVICES, LLC.

SCALE
50 30 0 50
10
(1 INCH = 50 FEET)

N

CANADA OJITOS
NM 520
MW-3/SB-6
MW-4/SB-7
MW-1/SB-1
MW-2/SB-2
MW-8/ SB-17 (AMEC)
MW-7/ SB-16 (AMEC)
MW-5/ SB-10
MW-6/SB-13
SB-5
SB-4
SB-9
SB-3
SB-17/ MW-9
SB-16
SB-8
SB-15
SB-18/ MW-10
SB-11
SB-12
SB-14

APPROXIMATE ORIGIN OF THE O-9 LINE LEAK (DISCOVERED SUMMER 2000)

APPROXIMATE EXCAVATION AREA 40FT x 80FT x 18FT H

LATERAL EXTENT OF SOIL CONTAMINANT IMPACTS 2001

SOIL - AUG. 29, 2000
20 to 22 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = 19 mg/kg
MRO = <10 mg/kg

SOIL - AUG. 29, 2000
15 to 17 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

SOIL - AUG. 29, 2000
25 to 27 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

SOIL - AUG. 29, 2000
13 to 15 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

SOIL - SEPT. 21, 2001
10 to 12 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

SOIL - SEPT. 21, 2001
NOT ANALYZED

SB-14
SOIL - SEPT. 20, 2001
14 to 16 FEET
B = <0.025 mg/kg
BTEX = 0.045 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

SOIL - SEPT. 20, 2001
12 to 14 FEET
B = <0.025 mg/kg
BTEX = 0.031 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

5 ft BGS
10 ft BGS
15 ft BGS
20 ft BGS
25 ft BGS

SB-5
SOIL - AUG. 29, 2000
5 to 7 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = 35 mg/kg
MRO = 21 mg/kg

SB-4
SOIL - AUG. 29, 2000
15 to 17 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = 11 mg/kg
MRO = <10 mg/kg

SB-16
SOIL - NOV. 4, 2020
10 FEET
B = <0.024 mg/kg
BTEX = <0.217 mg/kg
GRO = <4.8 mg/kg
DRO = 17 mg/kg
MRO = 77 mg/kg

SB-16
SOIL - NOV. 4, 2020
25 FEET
B = <0.024 mg/kg
BTEX = <0.222 mg/kg
GRO = <4.9 mg/kg
DRO = <9.5 mg/kg
MRO = <48 mg/kg

SB-9
SOIL - AUG. 30, 2000
15 to 17 FEET
B = 0.42 mg/kg
BTEX = 12.82 mg/kg
GRO = 650 mg/kg
DRO = 860 mg/kg
MRO = 290 mg/kg

SB-3
SOIL - AUG. 29, 2000
5 to 7 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = 17 mg/kg
MRO = <10 mg/kg

SB-17
SOIL - NOV. 4, 2020
5 FEET
B = <0.025 mg/kg
BTEX = <0.221 mg/kg
GRO = <4.9 mg/kg
DRO = <9.8 mg/kg
MRO = <49 mg/kg

SB-17
SOIL - NOV. 4, 2020
20 FEET
B = <0.025 mg/kg
BTEX = <0.221 mg/kg
GRO = <4.9 mg/kg
DRO = <8.7 mg/kg
MRO = <43 mg/kg

SB-8
SOIL - AUG. 30, 2000
10 to 12 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = 29 mg/kg
MRO = <10 mg/kg

SB-10
SOIL - AUG. 30, 2000
10 to 12 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

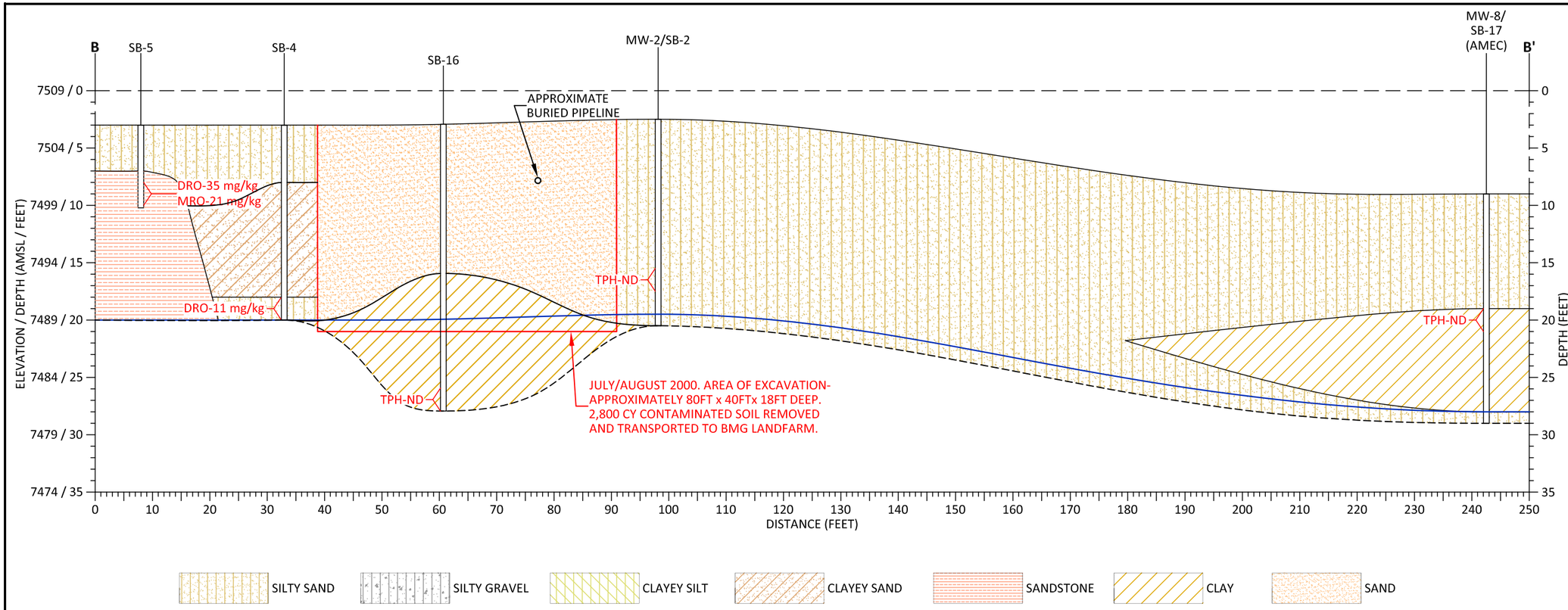
SB-18
SOIL - NOV. 4, 2020
10 FEET
B = <0.12 mg/kg
BTEX = <1.04 mg/kg
GRO = <23 mg/kg
DRO = 180 mg/kg
MRO = 170 mg/kg

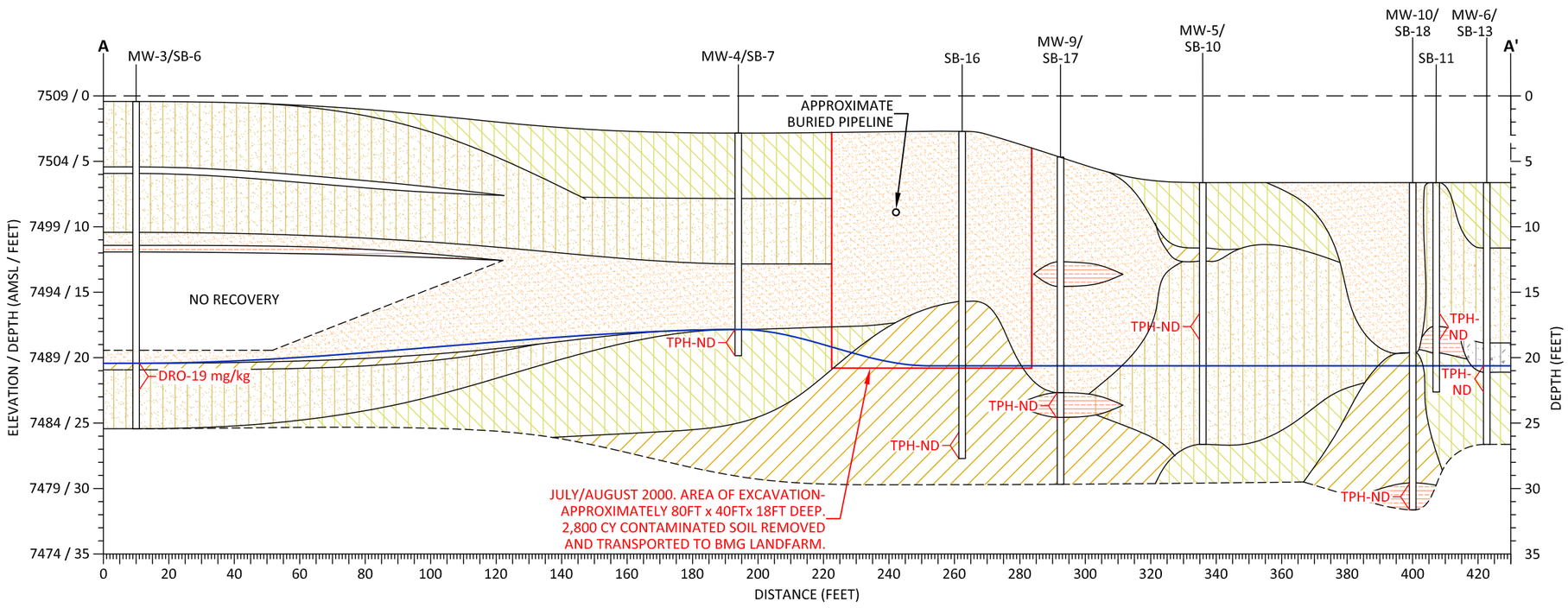
SB-18
SOIL - NOV. 4, 2020
25 FEET
B = <0.024 mg/kg
BTEX = <0.216 mg/kg
GRO = <4.8 mg/kg
DRO = <9.4 mg/kg
MRO = <47 mg/kg

SB-15
SOIL - SEPT. 20, 2001
12 to 14 FEET
B = <0.025 mg/kg
BTEX = 0.069 mg/kg
GRO = 19 mg/kg
DRO = 84 mg/kg
MRO = 30 mg/kg

SB-11
SOIL - SEPT. 20, 2001
12 to 14 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg

SB-12
SOIL - SEPT. 20, 2001
12 to 14 FEET
B = <0.025 mg/kg
BTEX = <0.1 mg/kg
GRO = <10 mg/kg
DRO = <10 mg/kg
MRO = <10 mg/kg





NOT TO SCALE

FIGURE 3B

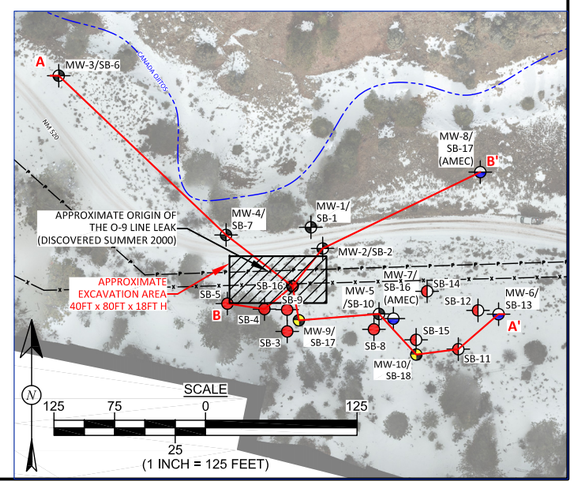
GEOLOGIC CROSS SECTION
BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N½ OF NE¼, SECTION 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

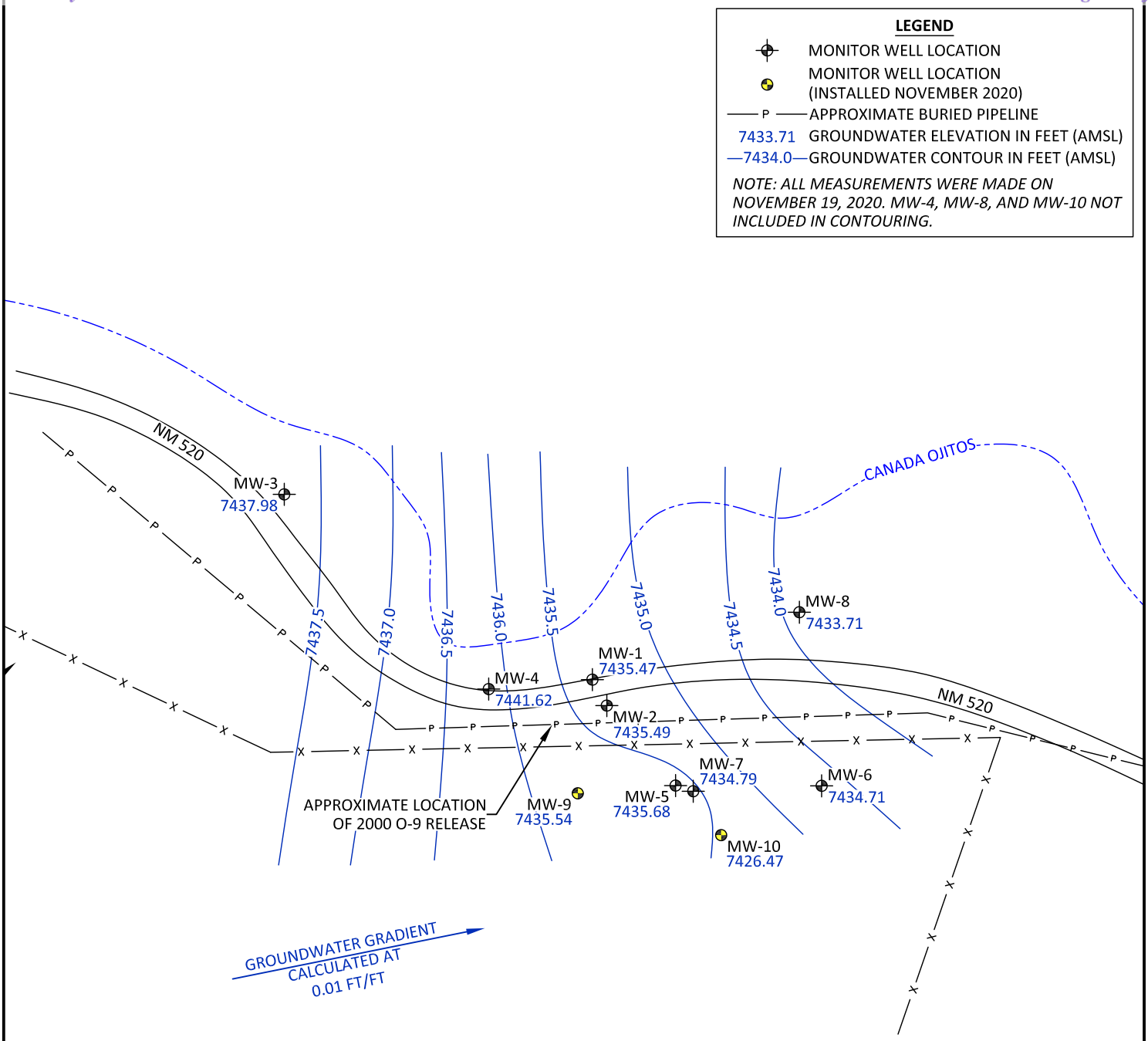
animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

DRAWN BY: C. Lameman	**DATE DRAWN:** October 7, 2019
REVISIONS BY: C. Lameman	**DATE REVISED:** January 27, 2021
CHECKED BY: E. McNally	**DATE CHECKED:** January 27, 2021
APPROVED BY: E. McNally	**DATE APPROVED:** January 27, 2021

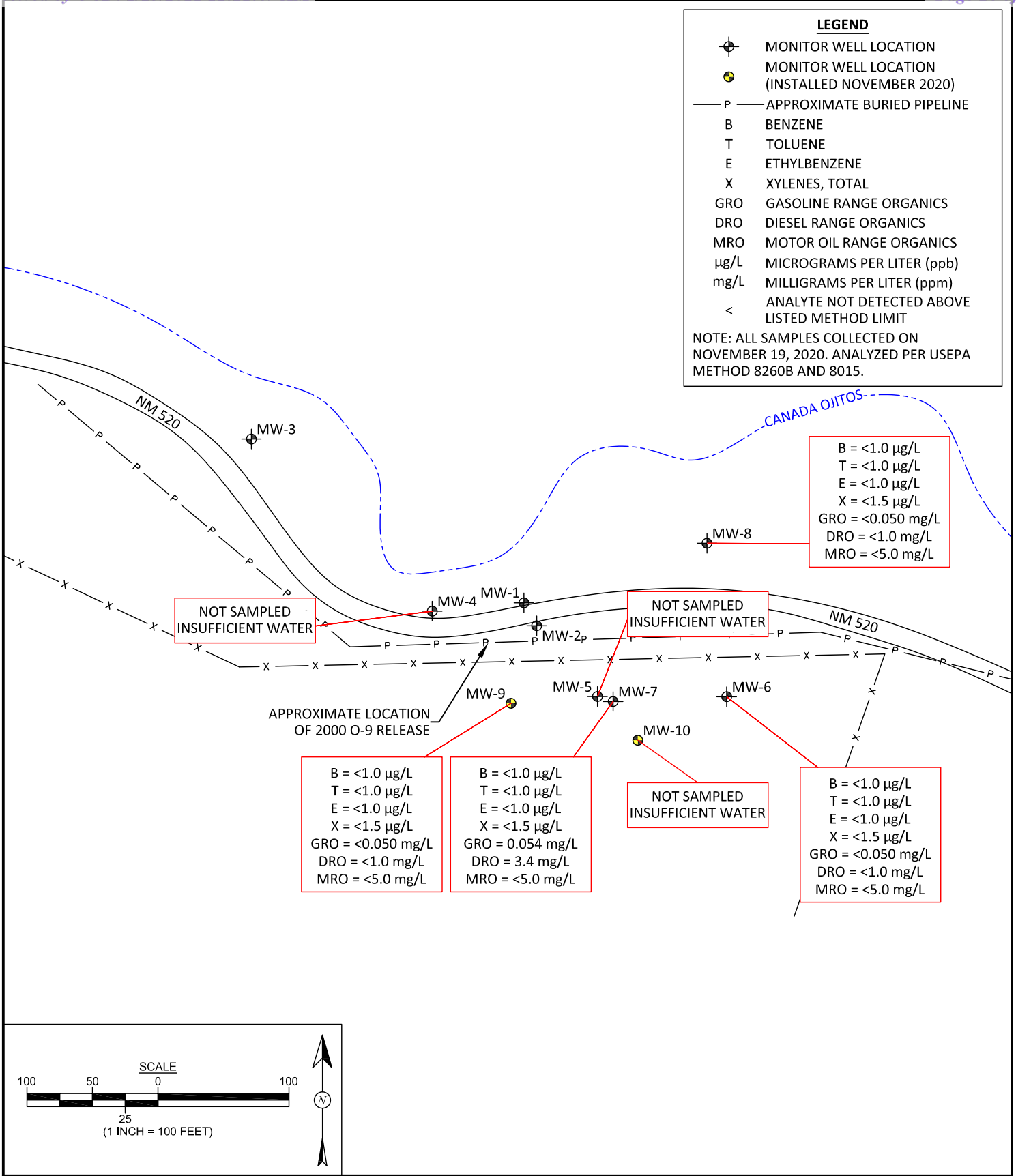
LEGEND

- MONITOR WELL AND SOIL BORING LOCATION (INSTALLED AUGUST 2000)
- APPROXIMATE SOIL BORING LOCATION (AUGUST 2000)
- MONITOR WELL AND SOIL BORING LOCATION (INSTALLED SEPTEMBER 2001)
- APPROXIMATE SOIL BORING LOCATION (SEPTEMBER 2001)
- SOIL BORING LOCATION (NOVEMBER 2020)
- MONITOR WELL AND SOIL BORING LOCATION (INSTALLED NOVEMBER 2020)
- P — APPROXIMATE BURIED PIPELINE
- x — FENCE LINE
- GROUNDWATER LEVEL





animas environmental services Farmington, NM • Durango, CO animasenvironmental.com	**DRAWN BY:** C. Lameman	**DATE DRAWN:** June 3, 2019	**FIGURE 4** **GROUNDWATER ELEVATIONS NOVEMBER 2020** BENSON-MONTIN-GREER O-9 LINE LEAK LOCATION N½ OF NE¼, SECTION 21, T26N, R1W RIO ARRIBA COUNTY, NEW MEXICO
	REVISIONS BY: C. Lameman	**DATE REVISED:** December 22, 2020	
	CHECKED BY: D. Reese	**DATE CHECKED:** December 22, 2020	
	APPROVED BY: E. McNally	**DATE APPROVED:** December 22, 2020	



animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

DRAWN BY: C. Lameman	**DATE DRAWN:** June 3, 2019
REVISIONS BY: C. Lameman	**DATE REVISED:** December 22, 2020
CHECKED BY: D. Reese	**DATE CHECKED:** December 22, 2020
APPROVED BY: E. McNally	**DATE APPROVED:** December 22, 2020

FIGURE 5

GROUNDWATER CONTAMINANT CONCENTRATIONS, NOVEMBER 2020
BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N½ OF NE¼, SECTION 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

Appendices

Appendix A

Photo 1: SB-16 boring location. ***Photo taken 11/4/2020.***

Photo 2: SB-17/MW-9 location. ***Photo taken 11/4/2020.***

Photo 3: SB-18/MW-10 location in background. *Photo taken 11/4/2020*.

Appendix B

John R. D Antonio, Jr., P.E.
State Engineer

Albuquerque Office
5550 SAN ANTONIO DR., NE
ALBUQUERQUE, NM 87109

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 679016
File Nbr: RG 99068

Sep. 22, 2020

KAREN LUPTON
US FOREST SERVICE
624 E COMANCHE ST.
FARMNGTON, NM 87401

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Daniel Driscoll
(505)383-4000

Enclosure

explore

File No.

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☒ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☒ Temporary Request - Requested Start Date: April 10, 2020 Requested End Date: Unknown

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: Benson-Montin-Greer Drilling Corp. (Site: O-9 Pipeline Release)	Name: United States Forest Service
Contact or Agent: check here if Agent ☐ Zach Stradling	Contact or Agent: check here if Agent ☒ Karen Lupton
Mailing Address: 4900 College Blvd.	Mailing Address: 624 E. Comanche St.
City: Farmington	City: Farmington
State: NM Zip Code: 87402	State: NM Zip Code: 87401
Phone: 505-325-8874 work ☐ Home ☐ Cell Phone (Work):	Phone: 505-564-2281 work ☐ Home ☐ Cell Phone (Work):
E-mail (optional): zstradling@bmgdrilling.com	E-mail (optional): klupton@animasenvironmental.com

STATE ENGINEERS OFF
SANTA FE, NEW MEXI
2020 SEP 17 PM 3:

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

File No.: RG 90168	Trn. No.:	Receipt No.:
Trans Description (optional):		
Sub-Basin:	PCW/LOG Due Date:	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

■ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
MW-9	-106°56'37.81"	36°28'33.08"	NW1/4 NE1/4, Sec 21, T26N, R1W
MW-10	-106°56'36.33"	36°28'32.60"	NW1/4 NE1/4, Sec 21, T26N, R1W

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ Yes ■ No **If yes, how many**_____

Other description relating well to common landmarks, streets, or other:
on the south side of NM Highway 520; see attached maps - 1) Site Location Map; 2) Site Map with well locations.

Well is on land owned by: Schmitz Ranch - see attached permission for access

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ■ **Yes** ☐ **No**
If yes, how many 8

Approximate depth of well (feet): all approximately 25 feet	Outside diameter of well casing (inches): 2-inch nominal PVC
Driller Name: Rodgers & Co., Inc.	Driller License Number: 225

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Two groundwater monitor wells MW-9 and MW-10 will be installed by Rodgers & Co. as part of ongoing remedial activities under an Abatement Plan (NMOCD). Wells will be advanced to 25 feet bgs and completed as a 2-inch diameter well with screened interval from 10-25 ft. Purpose of the wells is for groundwater monitoring and also removal of non-aqueous phase liquids (NAPL); no removal of groundwater has been planned. Existing monitor wells include MW-1 through MW-8.

2020 SEP 16 PM 6:05
STATE ENGINEERS OFFICE
SANTA FE, NEW MEXICO

FOR OSE INTERNAL USE Application for Permit, Form WR-07

File No.: RG-99068	Trn No.:

NEW MEXICO OFFICE OF THE STATE ENGINEER

ATTACHMENT 1
POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

a. Is this a: ☒ Move-From Point of Diversion(s) ☐ Move-To Point of Diversion(s)	**b. Information on Attachment(s):** Number of points of diversion involved in the application: 10 Total number of pages attached to the application: 1
☐ **Surface Point of Diversion** **OR** ☒ **Well**	
Name of ditch, acequia, or spring:	
Stream or water course:	
Tributary of:	

c. Location (Required):
Required: Move to POD location coordinate must be either New Mexico State Plane (NAD 83), UTM (NAD 83), **or** Lat/Long (WGS84)

NM State Plane (NAD83) (feet) NM West Zone ☐ NM Central Zone ☐ NM East Zone ☐	UTM (NAD83) (meters) Zone 13N ☐ Zone 12N ☐	☒ Lat/Long–(WGS84) 1/10th of second	OTHER (allowable only for move-from descriptions - see application form for format) ☒ PLSS (quarters, section, township, range) ☐ Hydrographic Survey, Map & Tract ☐ Lot, Block & Subdivision ☐ Grant
POD Number: MW-1	X or Longitude -106°56'37.34"	Y or Latitude 36°28'33.63"	Other Location Description: NW1/4 NE1/4, Sec 21, T26N, R1W
POD Number: MW-2	X or Longitude -106°56'37.27"	Y or Latitude 36°28'33.37"	Other Location Description: NW1/4 NE1/4, Sec 21, T26N, R1W
POD Number: MW-3	X or Longitude -106°56'39.88"	Y or Latitude 36°28'34.81"	Other Location Description: NW1/4 NE1/4, Sec 21, T26N, R1W
POD Number: MW-4	X or Longitude -106°56'38.19"	Y or Latitude 36°28'33.52"	Other Location Description: NW1/4 NE1/4, Sec 21, T26N, R1W
POD Number: MW-5	X or Longitude -106°56'36.62"	Y or Latitude 36°28'32.87"	Other Location Description: NW1/4 NE1/4, Sec 21, T26N, R1W
POD Number: MW-6	X or Longitude -106°56'35.46"	Y or Latitude 36°28'32.93"	Other Location Description: NE1/4 NE1/4, Sec 21, T26N, R1W
POD Number: MW-7	X or Longitude -106°56'36.53"	Y or Latitude 36°28'32.87"	Other Location Description: NW1/4 NE1/4, Sec 21, T26N, R1W
POD Number: MW-8	X or Longitude -106°56'35.71"	Y or Latitude 36°28'34.05"	Other Location Description: NW1/4 NE1/4, Sec 21, T26N, R1W
POD Number:	X or Longitude	Y or Latitude	Other Location Description:

FOR OSE INTERNAL USE

Form wr-08
POD DESCRIPTIONS - ATTACHMENT 1

File Number: RG-99018	Trn Number:
Trans Description (optional):	

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	Pollution Control and/or Recovery:	Construction De-Watering:	Mine De-Watering:
☐ Include a description of any proposed pump test, if applicable. **Monitoring:** ▣ Include the reason for the monitoring well, and, ▣ The duration of the planned monitoring.	▣ Include a plan for pollution control/recovery, that includes the following: ▣ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge. ☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of. **Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Zach Stradling, Benson-Montin-Greer Drilling Corp.

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

[signature]

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☑ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 22 day of September 20 20 for the State Engineer,

John R. D'Antonio Jr. PE, State Engineer

By: [signature] Rick [illegible]

Signature Print

Title: Water Resource Professional III

Print

FOR OSE INTERNAL USE | Application for Permit, Form WR-07

File No.: LG 99068	Trn No.:

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
☐ Include a description of any proposed pump test, if applicable.	■ Include a plan for pollution control/recovery, that includes the following: ■ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge. ☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ■ Include the reason for the monitoring well, and, ■ The duration of the planned monitoring.		**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), United States Forest Service.
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☑ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 22 day of September 20 20

for the State Engineer,

John R. D'Antonio Jr. P.E., State Engineer

By: Signature

Rick Print

Title: Water Resource Professional III
Print

2020 SEP 22 AM 11:22

STATE ENGINEERS OFFICE SANTA FE, NEW MEXICO

FOR OSE INTERNAL USE Application for Permit, Form WR-07

File No.:	Trn No.:

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-4 No water shall be appropriated and beneficially used under this permit.

17-6D Well pod_basin pod_nbr pod_suffix shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging, but no later than

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

Trn Desc: RG 99068

File Number: RG 99068
Trn Number: 679016

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-G If artesian water is encountered, the well driller shall comply with all rules and regulations pertaining to the drilling and casing of artesian wells.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

LOG The Point of Diversion RG 99068 POD1 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD10 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD2 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD3 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD4 must be completed and the Well Log filed on or before 09/22/2021.

Trn Desc: RG 99068

File Number: RG 99068
Trn Number: 679016

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion RG 99068 POD5 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD6 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD7 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD8 must be completed and the Well Log filed on or before 09/22/2021.

LOG The Point of Diversion RG 99068 POD9 must be completed and the Well Log filed on or before 09/22/2021.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 09/16/2020 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 22 day of Sep A.D., 2020

John R. D Antonio, Jr., P.E., State Engineer

By: Rick Lusher

Trn Desc: RG 99068

File Number: RG 99068
Trn Number: 679016

From: Eddie Hubbert
To: Karen Lupton
Subject: Fwd: Authorization for O-9 Release site
Date: Thursday, August 13, 2020 4:11:13 PM
Attachments: image001.png
image002.png
image003.png
image004.png
BMG Multi-Day Exemption_jmb_2020.docx
Industrial Fire Plan Template Guidelines_022613_.doc

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Gore, Larry D -FS <larry.gore@usda.gov>
Sent: Wednesday, July 8, 2020 4:07:54 PM
To: Eddie Hubbert <ehubbert@animasenvironmental.com>; Zach Stradling (zstradling@bmgdrilling.com) <zstradling@bmgdrilling.com>
Subject: Authorization for O-9 Release site

Good afternoon Eddie and Zach,

Here is the authorization from the Cuba RD for the O-9 soil/water testing.

As noted in the exemption letter, please notify me on the days you plan on being in the field.

Thanks,
Larry Gore

From: Prewitt, Randal -FS <randal.prewitt@usda.gov>
Sent: Wednesday, July 8, 2020 3:23 PM
To: Bennett, Jamie -FS <jamie.bennett@usda.gov>; Gore, Larry D -FS <larry.gore@usda.gov>
Subject: Exemption

Larry here is the exemption form that they need to have with them while working. Also they do have to follow the Fire Industrial Plan; however, we are giving them the exemption to work during the hours of 10:00 am till 6:00 pm. Let me know if you have questions. thanks, randy

Randy Prewitt
District Fire Management Officer
Forest Service
Santa Fe National Forest Cuba Ranger District
p: 575-289-3264
c: 936-900-4126
f: 575-289-0232
randal.prewitt@usda.gov

P.O. Box 130
Cuba, NM 87144
www.fs.fed.us

Caring for the land and serving people

Stage 2/Forest Closure Exemption Permit

Santa Fe National Forest

July 8, 2020

Date of Authorization: 7/8/2020 **Expires: Concurrently when stage 2 fire restrictions or forest closures are rescinded.**

Person(s) authorized for exemption: Benson-Montin-Greer Drilling Co employees and contractors associated with Benson-Montin-Greer Drilling Co.

Purpose: This exemption permit allows Benson-Montin-Greer Drilling Co employees and contractors associated with Benson-Montin-Greer Drilling Co to continue routine well operations and maintenance.

Area authorized: All lands administered by the Santa Fe National Forest.

Mandates:

- When you are out on the Santa Fe National Forest, Stage II Fire Restrictions apply.
- Do not park on grass or any vegetation that could ignite.
- Smoking allowed only in a vehicle or outside in an area with a 3 feet diameter that is barren of any flammable materials.
- Follow the Fire Industrial Plan provided, we are under Stage C in the plan.
- When ground disturbing activities stop for the day you must remain on site for 30 minutes for a fire watch.
- Field going personnel of Benson-Montin-Greer Drilling Co will notify Santa Fe Dispatch immediately should a wildfire occur or be detected (505-438-5600).
- You do need to contact Larry Gore to let him know when you are working in the field at the following email: Larry.gore@usda.gov

This document serves as your permission to conduct authorized activities within the Santa Fe National Forest. You are required to have a copy of this document and present it as proof of authorization to any Forest Officer upon request. This exception does NOT authorize any use other than stated in description above.

Information on current fire restrictions on public lands in the Southwest can be obtained by calling 1-877-864-6985 or Santa Fe National Forest (505) 438-5300.

/s/ Jamie M. Bennett **7/8/2020**

Jamie M. Bennett Cuba District Ranger **Date**

INDUSTRIAL FIRE PLAN GUIDELINES
For
AUTHORIZED USERS

PURPOSE

The purpose of fire restrictions is to reduce the risk of human-caused fires during periods of high fire danger and/or burning conditions. The intent of these guidelines is to provide authorized users with the information they need to ensure their operations conform to the Industrial Fire Precaution Plan in the likely event that fire restrictions are implemented during critical fire season. For the purpose of these guidelines, authorized users include any permit holder, leasee, contractor, subcontractor and other user, engaged in permitted operations on National Forest Lands.

When operating on National Forest Lands, it is incumbent on the permitted user to know the current Industrial Fire Precaution Plan and to take the appropriate actions to meet the mitigation measures in these guidelines. In addition, it is also incumbent on the authorized user to inform any and all of their subordinates (contractors, subcontrators, etc…) of these precautions and to ensure that all requirements are being met.

GENERAL FIRE PRECAUTIONARY MEASURES

COMMUNICATIONS

Authorized users shall ensure a serviceable telephone, radio-telephone or radio communication system is available to provide prompt and reliable communications between the authorized user's operations and the Forest Service in the the event of a wildland fire ignition.

FIRE TOOLS

Authorized users shall furnish and maintain, in good working order, fires tools to be used only for suppressing wildland fires. Each operation shall be provided with one firefighting tool per person to equip all personnel engaged in authorized user's operations. Approved firefighting tools may include the following: pulaski; McLeod tool; long handled shovel.

FIRE TOOLS ON EQUIPMENT

Passenger carrying vehicles, including light pickup trucks and all terrain vehicles, shall be equipped with one (1) long-handled round pointed shovel and one (1) ABC dry chemical fire extinguisher not less than 2 1/2 pounds capacity. Each internal combustion fuel carrying piece of equipment (dumptruck, dozer, excavator, backhoe, etc…) shall be equipped with one long-handled round-pointed shovel, and one 5-pound capacity ABC dry chemical fire extinguisher. Shovels and fire extinguishers shall be so mounted as to be readily reached from the ground.

INDUSTRIAL FIRE PLAN GUIDELINES
For
AUTHORIZED USERS

SPARK ARRESTERS AND MUFFLERS

Authorized user will ensure that each internal combustion engine shall be equipped with a spark arrester qualified and rated under USDA Forest Service Standard (Spark Arrester Guide) 5100-1a or the latest revision of Society of Automotive Engineers "medium size engine, SAE recommended practice J350" unless it is:

(a) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass.

(b) A multi-position engine, such as on power saws purchased after 6/30/77 which must meet the performance levels set forth in the Society of Automotive Engineers "multi-positioned small engine exhaust fire ignition standard, SAE recommended practice J335B" as now or hereafter amended. Those purchased prior to the above date shall be equipped with an approved spark arrester/muffler containing a 0.023 inch mesh screen in good condition.

(c) A passenger carrying vehicle or light truck, or medium truck up to 40,000 GVW, used on roads and equipped with a factory designed muffler and an exhaust system in good working condition.

(d) A heavy duty truck, such as a dump truck, or other vehicle used for commercial hauling, used only on roads and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Exhaust equipment described in this Subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

POWERED HANDTOOLS

During periods of use, each powered handtool operator shall have readily available for use, one long-handled round-pointed shovel and one chemical-pressurized ABC dry chemical fire extinguisher of not less than 8-ounce capacity by weight. Muffler, extinguisher, and shovel shall be maintained in good working order at all times. Fueling or refueling of a powered handtool shall be done in an area which has been completely cleared of material which will carry fire.

Powered handtools shall be moved at least 10 feet from the place of fueling or refueling before starting.

GAS AND OIL STORAGE AND SERVICE AREAS

The location of equipment service areas and gas and oil storage areas shall be approved in writing by the permit adminstrator. All areas shall be cleared of brush, litter, grass or other flammable debris for a radius of 50 feet.

INDUSTRIAL FIRE PLAN GUIDELINES
For
AUTHORIZED USERS

BURNING OF REFUSE

No slash or other debris, such as that resulting from clearing on right-of-way, shall be burned without the written consent of the Forest Service.

BLASTING

Use of fuses in blasting shall not be permitted. A long-handled round-pointed shovel and at least five gallons of water for fire fighting purposes shall be available at all times. A fire guard must remain on the blasting site for a minimum of one hour after blasting operations have concluded.

WELDING

An area of sufficient size but not less than a 10 foot radius shall be cleared down to mineral soil before welding operations are started. Prior to welding, authorized user shall have available a round-pointed long-handled shovel, at least 5-gallons of water, and a 5-pound fire ABC dry chemical extinguisher at each welding site. A fire guard must remain on the welding site for a minimum of one hour after welding operations have concluded.

SPECIFIC FIRE PRECAUTIONARY MEASURES

EMERGENCY FIRE PRECAUTION SCHEDULE

EMERGENCY FIRE PRECAUTION SCHEDULE	
FIRE RESTRICTION/CLOSURE "STAGE"	
"STAGED" RESTRICTION LEVELS	INDUSTRIAL FIRE PRECAUTION PLAN
NO RESTRICTIONS	A
STAGE I	B
STAGE II	C
PARTIAL/FOREST CLOSURE **	D
RED FLAG WARNING (Issued by National Weather Service)	D

**** Partial Forest Closure:**

Project areas which are outside the boundaries of the partial forest closure may continue to operate under Industrial Fire Precaution Plan **"C"** operating criteria as agreed upon between the Permit Administrator and Purchaser in writing.

Project areas within the boundaries of the proclaimed partial forest closure area are to operate under Industrial Fire Precaution Plan **"D"**.

Staged restriction levels are determined by the appropriate Forest Line Officer in consultation with the Forest Fire Management Officer and Permit Administrator. The appropriate Forest Line

INDUSTRIAL FIRE PLAN GUIDELINES
For
AUTHORIZED USERS

Officer may adjust the predicted Industrial Fire Precaution Plan for local weather conditions within a Project Area. Changes in the predicted Industrial Fire Precaution Plan shall be agreed to in writing.

INDUSTRIAL FIRE PRECAUTION PLAN – DESCRIPTION

Authorized user will restrict operations in accordance with the attached Emergency Fire Precaution Schedule:

A - Normal Fire Precautions - No fire guard required except for welding and blasting operations.

B - Normal Fire Precautions – Authorized user will provide fire guard.

C - All power equipment use as well as blasting and welding operations will shut down from 10:00 am until 6:00 pm Mountain Standard Time. Operations on mineral soil involving activities such as road excavation, watering, grading, surfacing, rock crushing, and/or other equipment maintenance may continue. Authorized user will provide fire guard.

D - Shutdown all operations; except operations on mineral soil involving road excavation, watering, grading, gravel surfacing, and rock crushing may continue with special Forest Service permit. Blasting and welding are prohibited. Authorized user will provide fire guard.

FIRE GUARDS

To prevent, detect, and suppress wildland fire, authorized users shall provide a fire guard at each operating area where power-driven equipment and tools have been operated during the day. The fire guards shall constantly perform their duties during operating hours and for half an hour after the work stops for the day, when the Fire Precaution Plan is Plan **"B", "C", or "D".**

A fire guard on one operating area shall satisfy the requirements on adjacent areas if the travel time with available transportation is not in excess of ten (10) minutes to any of the other areas requiring such service and provided the fire fuard patrols all area where authorized user's activities occurred.

Each fire guard shall be vigilant, able and prepared to actions to prevent, detect, and report any wildland fires and to promptly and efficiently take suppression action with available required firefighting equipment and personnel on any wildland fire that starts on project area. Each fire guard shall be equipped with a vehicle and a fire tool cache consisting of a cache box with a complement of fire tools maintained in serviceable condition. Approved firefighting tools may include the following: Pulaski; McLeod: long handles round pointed shovel. The fire guard will also carry at least 25 gallons of water for firefighting purposes.

RED FLAG EVENTS

A "Red Flag Event" by definition, is a combination of environmental factors that can lead to extreme wildland fire behavior. The criteria for a Red Flag Event include a combination of sustained high winds, low relative humidity, and dry fuels. The thresholds for Red Flag Events are established by the local National Weather Service office. Red Flag Events are categorized in

INDUSTRIAL FIRE PLAN GUIDELINES
For
AUTHORIZED USERS

the following order:

- FIRE WEATHER WATCH is issued to alert the possibility of the development of conditions that would lead to a Red Flag Alert.
- RED FLAG WARNING is issued to warn of a predicted, impending or ongoing event that will meet the criteria of a Red Flag Alert within the next 24 hour period. This warning will generally precede a full alert.
- RED FLAG ALERT is the most critical stage and implemented when conditions are extreme

When a Red Flag Alert is issued by the National Weather Service, all authorized user operations will adhere to Industrial Fire Precaution Plan "**D**" and will shut down operations until the Red Flag Alert is rescinded.

SOUTHWEST INTERAGENCY FIRE RESTRICTION AND CLOSURE
MASTER OPERATING PLAN

INDUSTRIAL FIRE PLAN GUIDELINES
For
AUTHORIZED USERS

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – AZTEC OFFICE

OFFICIAL RECEIPT NUMBER: 5 - 6650 DATE: 8-24-2020 FILE NO.: _____

TOTAL: 50.00 RECEIVED: fifty - dollars only DOLLARS ☐ CASH: X CHECK NO.: 13633

PAYOR: Animas Environmental Services ADDRESS: P.O. Box 8

CITY: Farmington, STATE: NM ZIP: 87499 RECEIVED BY: SLW

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; **yellow** copy remains in district office; and **goldenrod** copy to accompany application being filed. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of the daily deposit.

A. Ground Water Filing Fees

___ 1. Change of Ownership of Water Right $ 2.00
___ 2. Application to Appropriate or Supplement Domestic 72-12-1 Well $ 125.00
___ 3. Application to Repair or Deepen 72-12-1 Well $ 75.00
___ 4. Application for Replacement 72-12-1 Well $ 75.00
___ 5. Application to Change Purpose of Use 72-12-1 Well $ 75.00
___ 6. Application for Stock Well/Temp. Use $ 5.00

___ 7. Application to Appropriate Irrigation, Municipal, or Commercial Use $ 25.00
___ 8. Declaration of Water Right $ 1.00
___ 9. Application for Supplemental Non 72-12-1 Well $ 25.00
___ 10. Application to Change Place or Purpose of Use Non 72-12-1 Well $ 25.00
___ 11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water $ 50.00
___ 12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water $ 50.00
___ 13. Application to Change Point of Diversion of Non 72-12-1 Well $ 25.00
___ 14. Application to Repair or Deepen Non 72-12-1 Well $ 5.00

Y 15. Application for Test, Expl. Observ. Well $ 5.00 X10
___ 16. Application for Extension of Time $ 25.00
___ 17. Proof of Application to Beneficial Use $ 25.00
___ 18. Notice of Intent to Appropriate $ 25.00

B. Surface Water Filing Fees

___ 1. Change of Ownership of a Water Right $ 5.00
___ 2. Declaration of Water Right $ 10.00
___ 3. Amended Declaration $ 25.00
___ 4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water $ 200.00
___ 5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water $ 200.00
___ 6. Application to Change Point of Diversion $ 100.00
___ 7. Application to Change Place and/or Purpose of Use $ 100.00
___ 8. Application to Appropriate $ 25.00
___ 9. Notice of Intent to Appropriate $ 25.00
___ 10. Application for Extension of Time $ 50.00
___ 11. Supplemental Well to a Surface Right $ 100.00
___ 12. Return Flow Credit $ 100.00
___ 13. Proof of Completion of Works $ 25.00
___ 14. Proof of Application of Water to Beneficial Use $ 25.00
___ 15. Water Development Plan $ 100.00
___ 16. Declaration of Livestock Water Impoundment $ 10.00
___ 17. Application for Livestock Water Impoundment $ 10.00

All fees are non-refundable.

C. Well Driller Fees

___ 1. Application for Well Driller's License $ 50.00
___ 2. Application for Renewal of Well Driller's License $ 50.00

D. Reproduction of Documents

___ @ 25¢/copy $_____

___ Map(s) $_____

E. Certification $_____

F. *Credit Card Convenience Fee $_____

G. Other_____ $_____

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.): RG-99068 MW-9 (ANIMAS 384)	WELL TAG ID NO.: NA	OSE FILE NO(S.): RG-99068
WELL OWNER NAME(S): ZACH STRADLING		PHONE (OPTIONAL): (505)-325-8874
WELL OWNER MAILING ADDRESS: 4900 COLLEGE BLVD		CITY: FARMINGTON STATE: NM ZIP: 87402

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	36	28	33.08	N
LONGITUDE	-106	56	37.91	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE: SOUTH SIDE OF NM HIGHWAY 520

2. DRILLING & CASING INFORMATION

LICENSE NO.: WD 1186	NAME OF LICENSED DRILLER: RODNEY HAMMER		NAME OF WELL DRILLING COMPANY: ENVIRO-DRILL, INC.
DRILLING STARTED: 11-04-20	DRILLING ENDED: 11-05-20	DEPTH OF COMPLETED WELL (FT): 25'	BORE HOLE DEPTH (FT): ~~8~~ 25'
DEPTH WATER FIRST ENCOUNTERED (FT): 22'			
COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)			STATIC WATER LEVEL IN COMPLETED WELL (FT): 22.5'
DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:			
DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: HOLLOW STEM AUGER			

DEPTH (feet bgl) FROM	TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	10'	8"	SCH 40 PVC	FJT	2"	SCH 40	
10'	25'	8"	SCH 40 PVC	FJT	2"	SCH 40	.010

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	6'	8"	GROUT MIX	10 GAL	TRIMMIE
6'	8'	8"	3/8" HOLE PLUG	1.5	TRIMMIE
8'	25'	8"	10-20 SILICA SAND	8	TRIMMIE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	20'	20'	BROWN SAND	Y N	
20'	23'	3'	SAND STONE	(Y) N	
23'	25'	2'	HARD BROWN CLAY	(Y) N	N/A
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☑ BAILER ☐ OTHER – SPECIFY: monitor well

TOTAL ESTIMATED WELL YIELD (gpm): N/A 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

Juan Barraza — JUAN BARRAZA
SIGNATURE OF DRILLER / PRINT SIGNEE NAME

11-13-2020
DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
RG-99068 MW-10 ANMAS 384	NA	RG-99068

WELL OWNER NAME(S)	PHONE (OPTIONAL)
ZACH STRADLING	(505) 325-8874

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
4900 COLLEGE BLVD.	FARMINGTON	N.M.	87402

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	36	28	32.60	N
LONGITUDE	-106	56	36.33	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SOUTH SIDE OF NM HIGHWAY 520

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD 1186	RODNEY HAMMER	ENVIRO-DRILL INC

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
		25'	25'	22

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 24

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: HOLLOW STEM AUGER

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	10'	8"	SCH 40 PVC	FJT	2"	SCH 40	
10'	25'	8"	SCH 40 PVC	FJT	2"	SCH 40	.010

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	6'	8"	GROUT MIX	10 GAL	TRIMMIE
6'	8'	8"	3/8" HOLE PLUG	1.0	TRIMMIE
8'	25'	8"	10-20 SILICA SAND	8	TRIMMIE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	20'	20'	BROWN SAND	Y N	
20'	23'	3'	SAND STONE	(Y) N	
23'	25'	2'	HARD BROWN CLAY	Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

Juan Barraza — JUAN BARRAZA — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

11-13-2020 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

Appendix C

animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

LOG OF: SB-16

(Page 1 of 1)

BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N1/2 OF NW1/4, SEC. 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 11/04/2020	Latitude	: N36.475862
Date Completed	: 11/04/2020	Longitude	: W106.943749
Hole Diameter	: 4.25 in.	Datum	: WGS84
Drilling Method	: H.S.A.	GPS By	: C. Lameman
Sampling Method	: SPLIT SPOON	Logged By	: C. Lameman

Depth in Feet	Surf. Elev. 6527	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	6527			No split spoon sample collection.		
1	6526					
2	6525					
3	6524					
4	6523	SP		POORLY SORTED SAND, Fine to Medium Grained, Tan-Brown, Loose, No Staining, No Odor, Dry. Split Spoon sample from 3.5 to 5 feet.	4,5,5	0.0
5	6522			No split spoon sample collection.		
6	6521					
7	6520					
8	6519					
9	6518	SP		POORLY SORTED SAND, Fine to Medium Grained, Tan-Brown, Loose, No Staining, No Odor, Dry, Organics (Roots). Split Spoon sample from 8.5 to 10 feet.	4,8,8	80.4
10	6517			No split spoon sample collection.		
11	6516					
12	6515					
13	6514					
14	6513	CL		CLAY, Very Low Plasticity, Brown, Hard, No Staining, No Odor, Dry. Split Spoon sample from 13.5 to 15 feet.	14,30,52	15.0
15	6512			No split spoon sample collection.		
16	6511					
17	6510					
18	6509					
19	6508	CL		CLAY, Very Low Plasticity, Brown, Hard, No Staining, No Odor, Dry. Split Spoon sample from 18.5 to 20.25 feet.	21,52	23.6
20	6507			No split spoon sample collection.		
21	6506					
22	6505					
23	6504					
24	6503	CL		CLAY, Very Low Plasticity, Brown, Hard, No Staining, No Odor, Dry. Lenses of Coarse Sand. Split Spoon sample from 23.5 to 25 feet.	49,52	11.6
25						

animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

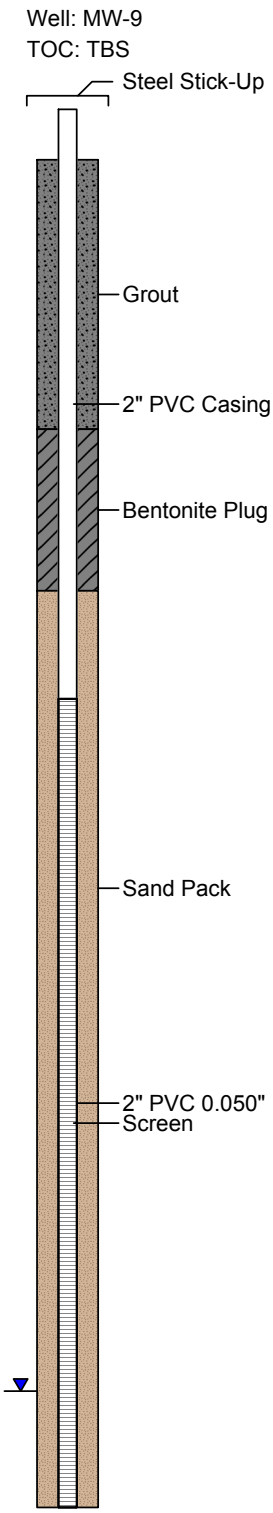
LOG OF: SB-17 / MW-9

(Page 1 of 1)

BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N1/2 OF NW1/4, SEC. 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 11/04/2020	Latitude	: N36.475788
Date Completed	: 11/04/2020	Longitude	: W106.943731
Hole Diameter	: 4.25 in.	Datum	: WGS84
Drilling Method	: H.S.A.	GPS By	: C. Lameman
Sampling Method	: SPLIT SPOON	Logged By	: C. Lameman

Depth in Feet	Surf. Elev. 6527	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	6527			No split spoon sample collection.		
1	6526					
2	6525					
3	6524					
4	6523	SP		POORLY SORTED SAND, Fine to Medium Grained, Brown, Loose, Organics (Roots), No Staining, No Odor, Dry. Split Spoon sample from 3.5 to 5 feet.	2,4,5	35.2
5	6522			No split spoon sample collection.		
6	6521					
7	6520					
8	6519					
9	6518	SS		SANDSTONE, Medium Grained, White-Tan, Very Dense, No Staining, No Odor, Dry. Small Recovery. Split Spoon sample from 8.5 to 10 feet.	28,50	34.0
10	6517			No split spoon sample collection.		
11	6516					
12	6515					
13	6514					
14	6513	SP		POORLY SORTED SAND, Fine to Medium Grained, Brown, Loose, No Staining, No Odor, Dry. Small Recovery. Split Spoon sample from 13.5 to 15 feet.	9,9,6	15.1
15	6512			No split spoon sample collection.		
16	6511					
17	6510					
18	6509					
19	6508	SS		SANDSTONE, Coarse Grained, Tan, Very Dense, Wet, No Staining, No Odor. Small Recovery. Split Spoon sample from 18.5 to 20 feet.	52	16.2
20	6507					
21	6506					
22	6505					
23	6504					
24	6503	CL		CLAY, Very Low Plasticity, Brown, Hard, No Staining, No Odor, Dry. Small Recovery. Split Spoon sample from 23.5 to 25 feet.	27,52	1.0
25						



animas environmental services
Farmington, NM • Durango, CO
animasenvironmental.com

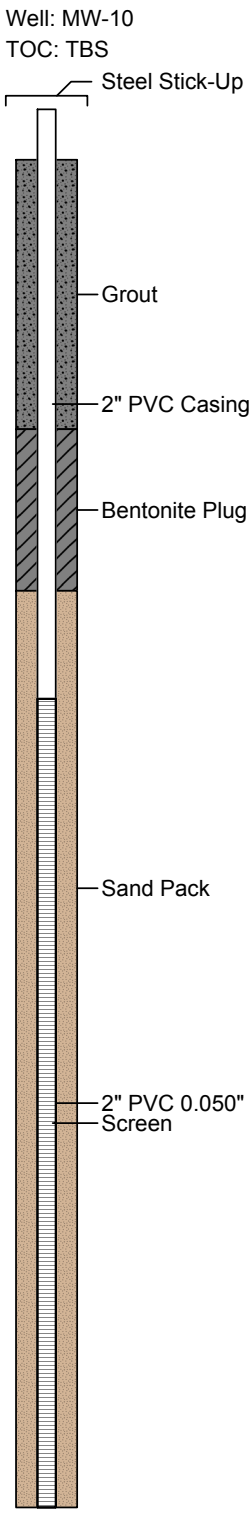
LOG OF: SB-18 / MW-10

(Page 1 of 1)

BENSON-MONTIN-GREER
O-9 LINE LEAK LOCATION
N1/2 OF NW1/4, SEC. 21, T26N, R1W
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 11/04/2020	Latitude	: N36.475717
Date Completed	: 11/04/2020	Longitude	: W106.943398
Hole Diameter	: 4.25 in.	Datum	: WGS84
Drilling Method	: H.S.A.	GPS By	: C. Lameman
Sampling Method	: SPLIT SPOON	Logged By	: C. Lameman

Depth in Feet	Surf. Elev. 6527	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	6527			No split spoon sample collection.		
1	6526					
2	6525					
3	6524					
4	6523	SP		POORLY SORTED SAND, Coarse Grained, Tan, Very Loose, Organics (Roots), No Staining, No Odor, Dry. Split Spoon sample from 3.5 to 5 feet.	2,4,5	93.3
5	6522			No split spoon sample collection.		
6	6521					
7	6520					
8	6519					
9	6518	SP		POORLY SORTED SAND, Coarse Grained, Tan-Brown, Loose, No Staining, No Odor, Dry, Organics (Roots). Split Spoon sample from 8.5 to 10 feet.	3,6,7	154.6
10	6517			No split spoon sample collection.		
11	6516					
12	6515					
13	6514					
14	6513	CL		CLAY, Very Low Plasticity, Brown, Hard, No Staining, No Odor, Dry. Split Spoon sample from 13.5 to 15 feet.	27,52	9.4
15	6512			No split spoon sample collection.		
16	6511					
17	6510					
18	6509					
19	6508	CL		CLAY, Very Low Plasticity, Brown, Hard, No Staining, No Odor, Dry. Small Recovery of SHALE at 20.25 feet, Fine Grained, Light Green, Hard, No Staining, No Odors. Split Spoon sample from 18.5 to 20.25 feet.	29,52	0.2
20	6507					
21	6506			No split spoon sample collection.		
22	6505					
23	6504					
24	6503	SS		SANDSTONE, Fine Grained, Light Tan-Brown, Very Dense, No Staining, No Odor, Dry. Small Recovery. Split Spoon sample from 23.5 to 25 feet.	50	0.3
25						



Appendix D

WATER SAMPLE COLLECTION FORM

Monitor Well No: MW-9

Animas Environmental Services
624 E Comanche St., Farmington NM
Tel. (505) 564-2281 animasenvironmental.com

Site: BMG
Location: O-9
Project:
Sampling Technician: G. Broome
Purge / No Purge: Purge
Well Diameter (in): 2"
Initial D.T.W. (ft): 27.78 Time: 1102 (taken at initial gauging of all wells)
Confirm D.T.W. (ft): 27.78 Time: 1104 (taken prior to purging well)
Final D.T.W. (ft): 26.92 Time: 1125 (taken after sample collection)
If NAPL Present: D.T.P.: 0 D.T.W.: — Thickness: 0 Time: —

Project No.:
Date: 11.11.20
Arrival Time: 1100
Air Temp: 36°F
T.O.C. Elev. (ft):
Total Well Depth (ft): 27.18

Water Quality Parameters - Recorded During Well Purging

YSI #___ Calibration Date:

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1107	9.6	471.0	8.25	7.73	178.5	Initial	Clear/No Smell
1113	8.9	493.1	7.56	7.46	173.3	1 gal	Brn/No Smell
1118	8.8	488.0	6.92	7.37	170.5	2 gal	Brn/No Smell

Analytical Parameters (include analysis method and number and type of sample containers)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments:

3 well vol = 2.15

Revised: 08/10/09

WATER SAMPLE COLLECTION FORM

Monitor Well No: MW-10

Animas Environmental Services
624 E Comanche St., Farmington NM
Tel. (505) 564-2281 animasenvironmental.com

Site: BMG
Location: 6-9
Project:
Sampling Technician: G. Broome
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 27.13 Time: (taken at initial gauging of all wells)
Confirm D.T.W. (ft): 27.13 Time: (taken prior to purging well)
Final D.T.W. (ft): Time: (taken after sample collection)
If NAPL Present: D.T.P.: D.T.W.: Thickness: Time:

Project No.:
Date: 11.11.20
Arrival Time: 10:42
Air Temp: 37° F
T.O.C. Elev. (ft):
Total Well Depth (ft): 27.43

Water Quality Parameters - Recorded During Well Purging

YSI # Calibration Date:

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
		LOW YIELD					
			.3 inches of				
				water			
		NO Purge	or				
		YSI Reading	Taken				

Analytical Parameters (include analysis method and number and type of sample containers)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments:

revised: 08/10/09

Appendix E

DEPTH TO GROUNDWATER MEASUREMENT FORM

Animas Environmental Services
624 E Comanche St, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Project: Groundwater Monitoring and Sampling
Site: BMG
Location: O-9
Tech: C. Lowman / G. Browne

Project No.:
Date: 11-19-20
Time: 9:50 – 1205
Form: 1 of 1

Well ID	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Notes / Observations
MW-1	10:01	–	22.41	–	
MW-2	10:02	–	21.75	–	
MW-3	9:55	–	22.74	–	
MW-4	9:58	–	17.04	–	
MW-5	11:48	–	20.74		
MW-6	10:39	–	19.47	–	
MW-7	11:32	–	21.17	–	
MW-8	10:07	–	18.60	–	
MW-9	11:15	–	22.84	–	
MW-10	10:59	–	27.12	–	

Wells measured with KECK water level or KECK interface tape, decontaminated between each well measurement.

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-4

Animas Environmental Services
624 E Comanche St., Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: BMG
Location: O-9
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/CB
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 17.04 **Time:** 9:58 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): — **Time:** — *(taken prior to purging well)*
Final D.T.W. (ft): — **Time:** — *(taken after sample collection)*
If NAPL Present: **D.T.P.:** — **D.T.W.:** — **Thickness:** — **Time:** —

Project No.:
Date: 11-19-20
Arrival Time: 9:56
Air Temp:
T.O.C. Elev. (ft): 7507.1
Total Well Depth (ft): ~~17.12~~ 17.09

Water Quality Parameters - Recorded During Well Purging

YSI #___ Calibrated by:

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
	~~NO~~	SEE	NOTES		BELOW		

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX per EPA Method 8021 (3 - 40 mL Vials w/ HgCl2 preserve)
GRO + DRO per EPA Method 8015M (250 mL Amber Glass)

Disposal of Purged Water: N/A
Collected Samples Stored on Ice in Cooler: N/A
Chain of Custody Record Complete: N/A
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments: Insufficient water for Samples and no samples collected

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-5

Animas Environmental Services
624 E Comanche St., Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: BMG
Location: O-9
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/GB
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 20.74 **Time:** 11:46 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 20.74 **Time:** 11:48 *(taken prior to purging well)*
Final D.T.W. (ft): — **Time:** — *(taken after sample collection)*
If NAPL Present: **D.T.P.:** — **D.T.W.:** — **Thickness:** — **Time:** —

Project No.:
Date: 11-19-20
Arrival Time: 13:44
Air Temp: 64°F Sunny, Breezy
T.O.C. Elev. (ft): 7503.22
Total Well Depth (ft): ~~22.90~~ 21.70

Water Quality Parameters - Recorded During Well Purging

YSI # — **Calibrated by:** —

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
	SEE	NOTES			BELOW		

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX per EPA Method 8021 (3 - 40 mL Vials w/ HgCl2 preserve)
GRO + DRO per EPA Method 8015M (250 mL Amber Glass)

Disposal of Purged Water: NA
Collected Samples Stored on Ice in Cooler: NA
Chain of Custody Record Complete: NA
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments: Sent Bailer down. Bailer unable to collect water. Checked Total depth of Well. @ 21.47 Hit Sludge @ 21.70 TWD. Insufficient Water for Sample. NO SAMPLES COLLECTED

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-6

Animas Environmental Services
624 E Comanche St., Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: BMG
Location: O-9
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/GB
Purge / No Purge: Purge
Well Diameter (in): 4
Initial D.T.W. (ft): 19.47 **Time:** 10:37 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 19.47 **Time:** 10:39 *(taken prior to purging well)*
Final D.T.W. (ft): 21.46 **Time:** 10:56 *(taken after sample collection)*
If NAPL Present: D.T.P.:– D.T.W.:– Thickness:– Time:–

Project No.:
Date: 11-19-20
Arrival Time: 10:28
Air Temp: 55°F Sunny, Breezy
T.O.C. Elev. (ft):
Total Well Depth (ft): 23.41

Water Quality Parameters - Recorded During Well Purging

YSI # 1 Calibrated by: 11-19-20 GB

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
10:42	11.6	530	1.33	7.22	126.3	Initial	Clear / No Odor
10:46	11.3	503	2.03	7.01	136.6	1.0	Tan Brown / Turbid / No Odor
10:49	11.9	506	2.23	6.94	141.3	2.0	Tan Brown / V. Turbid / No Odor
10:51	11.1	506	2.20	6.88	145.3	3.0	S.A.A.
10:53	11.3	509	2.18	6.82	149.0	4.0	S.A.A.
10:55	—	—	—	—	—	—	Samples Collected
							Low Recharge

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX per EPA Method 8021 (3 - 40 mL Vials w/ HgCl2preserve)
GRO + DRO per EPA Method 8015M (250 mL Amber Glass)

Disposal of Purged Water: On Ground - No drainage to wash
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments: Calculated Purge Volume ≈ 7.75 Gallons

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-7

Animas Environmental Services
624 E Comanche St., Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: BMG
Location: O-9
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/GB
Purge / No Purge: Purge
Well Diameter (in): 4
Initial D.T.W. (ft): 21.17 **Time:** 11:31 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 21.17 **Time:** 11:32 *(taken prior to purging well)*
Final D.T.W. (ft): 21.62 **Time:** 11:42 *(taken after sample collection)*
If NAPL Present: **D.T.P.:** — **D.T.W.:** — **Thickness:** — **Time:** —

Project No.:
Date: 11-19-20
Arrival Time: 11:28
Air Temp: 62°F Sunny, Breezy
T.O.C. Elev. (ft):
Total Well Depth (ft): 21.82

Water Quality Parameters - Recorded During Well Purging

YSI # — **Calibrated by:** —

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
	SEE NOTES BELOW						
11:40	—	—	—	—	—	—	Very Turbid/Sl Odor Samples Collected

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX per EPA Method 8021 (3 - 40 mL Vials w/ HgCl2 preserve)
GRO + DRO per EPA Method 8015M (250 mL Amber Glass)

Disposal of Purged Water: On Ground - No drainage to Wash
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: ~~Keck Water Level~~ or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments: Low Yield / Only enough water to Collect Samples. No Water Quality Readings due to sheen.

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-8

Animas Environmental Services
624 E Comanche St., Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: BMG
Location: O-9
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/GB
Purge / No Purge: Purge
Well Diameter (in): 4
Initial D.T.W. (ft): 18.60 **Time:** 10:05 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 18.66 **Time:** 10:07 *(taken prior to purging well)*
Final D.T.W. (ft): 21.06 **Time:** 10:25 *(taken after sample collection)*
If NAPL Present: D.T.P.: — D.T.W.: — Thickness: — Time: —

Project No.:
Date: 11-19-20
Arrival Time: 10:04
Air Temp: 54°F Sunny, Breezy
T.O.C. Elev. (ft):
Total Well Depth (ft): 22.68

Water Quality Parameters - Recorded During Well Purging

YSI # 1 Calibrated by: 11-17-20 GB

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
10:11	12.4	569	1.45	7.66	56.8	Initial	Clear / No odor
10:13	11.7	546	1.32	7.28	22.5	1.0	Tan Sed / Sl. Turbid / No odor
10:15	11.6	544	1.64	7.03	-1.1	2.0	S.A.A.
10:18	11.5	541	1.51	6.93	-14.0	3.0	Tan Sed / Turbid / No odor
10:20	11.5	543	1.56	6.85	-21.5	4.0	Tan Sed / Turbid / Sl. odor
10:22	11.4	544	1.45	6.78	-30.9	5.0	S.A.A.
10:24	—	—	—	—	—	—	Samples Collected
							Low Recharge

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX per EPA Method 8021 (3 - 40 mL Vials w/ HgCl2preserve)
GRO + DRO per EPA Method 8015M (250 mL Amber Glass)

Disposal of Purged Water: On Ground - No Drainage to SW drains/wash
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments: Calculated Purge Volume ≈ 8 Gallons

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-9

Animas Environmental Services
624 E Comanche St., Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: BMG
Location: O-9
Project: Groundwater Monitoring and Sampling
Sampling Technician: GB
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 22.84 **Time:** 11:13 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 22.84 **Time:** 11:15 *(taken prior to purging well)*
Final D.T.W. (ft): 25.20 **Time:** 11:25 *(taken after sample collection)*
If NAPL Present: D.T.P.: – D.T.W.: – Thickness: – Time: –

Project No.:
Date: 11-19-20
Arrival Time: 11:02
Air Temp: 60°F Sunny, Breezy
T.O.C. Elev. (ft):
Total Well Depth (ft): 27.18

Water Quality Parameters - Recorded During Well Purging

YSI # 1 Calibrated by: 11-19-20 GB

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
11:17	9.9	502	5.87	7.26	175.7	Initial	Turbid/Sl. Turbid / No Odor
11:20	9.3	488.6	5.59	7.13	183.4	1.0	S.A.A.
11:22	9.2	484.5	5.24	7.07	184.4	2.0	S.A.A.
11:24							Sample Collected

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX per EPA Method 8021 (3 - 40 mL Vials w/ HgCl2preserve)
GRO + DRO per EPA Method 8015M (250 mL Amber Glass)

Disposal of Purged Water: On Ground - No drainage to Wash
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments: Calculated Purge Volume ≈ 2 Gallons
Height of Casing - 2'

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-10

Animas Environmental Services
624 E Comanche St., Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: BMG
Location: O-9
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/GB
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 27.12 **Time:** 10:59 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): — **Time:** — *(taken prior to purging well)*
Final D.T.W. (ft): — **Time:** — *(taken after sample collection)*
If NAPL Present: **D.T.P.:** — **D.T.W.:** — **Thickness:** — **Time:** —

Project No.:
Date: 11-19-20
Arrival Time: 10:58
Air Temp: 60°F Sunny, Breezy
T.O.C. Elev. (ft):
Total Well Depth (ft): 27.43

Water Quality Parameters - Recorded During Well Purging

YSI # — **Calibrated by:** —

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
	SEE NOTES BELOW						

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX per EPA Method 8021 (3 - 40 mL Vials w/ HgCl2preserve)
GRO + DRO per EPA Method 8015M (250 mL Amber Glass)

Disposal of Purged Water: NA
Collected Samples Stored on Ice in Cooler: NA
Chain of Custody Record Complete: NA
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments: Insufficient Water for Water quality Readings and NO SAMPLES COLLECTED.

Appendix F

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

November 12, 2020

Elizabeth McNally

Animas Environmental Services
624 E. Comanche
Farmington, NM 87401
TEL:
FAX:

RE: BMG O 9 OrderNo.: 2011427

Dear Elizabeth McNally:

Hall Environmental Analysis Laboratory received 6 sample(s) on 11/6/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2011427**
Date Reported: **11/12/2020**

CLIENT: Animas Environmental Services
Client Sample ID: SB-16 @ 10 ft
Project: BMG O 9
Collection Date: 11/4/2020 10:46:00 AM
Lab ID: 2011427-001 **Matrix:** SOIL **Received Date:** 11/6/2020 7:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	11/11/2020 5:44:19 PM	56384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	17	10		mg/Kg	1	11/11/2020 2:22:33 AM	56308
Motor Oil Range Organics (MRO)	77	50		mg/Kg	1	11/11/2020 2:22:33 AM	56308
Surr: DNOP	78.1	30.4-154		%Rec	1	11/11/2020 2:22:33 AM	56308
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/11/2020 1:55:13 PM	56283
Surr: BFB	90.0	75.3-105		%Rec	1	11/11/2020 1:55:13 PM	56283
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/11/2020 1:55:13 PM	56283
Toluene	ND	0.048		mg/Kg	1	11/11/2020 1:55:13 PM	56283
Ethylbenzene	ND	0.048		mg/Kg	1	11/11/2020 1:55:13 PM	56283
Xylenes, Total	ND	0.097		mg/Kg	1	11/11/2020 1:55:13 PM	56283
Surr: 4-Bromofluorobenzene	95.5	80-120		%Rec	1	11/11/2020 1:55:13 PM	56283

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2011427**
Date Reported: **11/12/2020**

CLIENT: Animas Environmental Services
Client Sample ID: SB-16 @ 25 ft
Project: BMG O 9
Collection Date: 11/4/2020 11:14:00 AM
Lab ID: 2011427-002 **Matrix:** SOIL **Received Date:** 11/6/2020 7:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/11/2020 6:21:33 PM	56384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/11/2020 2:45:49 AM	56308
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/11/2020 2:45:49 AM	56308
Surr: DNOP	75.3	30.4-154		%Rec	1	11/11/2020 2:45:49 AM	56308
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/11/2020 2:18:33 PM	56283
Surr: BFB	92.1	75.3-105		%Rec	1	11/11/2020 2:18:33 PM	56283
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/11/2020 2:18:33 PM	56283
Toluene	ND	0.049		mg/Kg	1	11/11/2020 2:18:33 PM	56283
Ethylbenzene	ND	0.049		mg/Kg	1	11/11/2020 2:18:33 PM	56283
Xylenes, Total	ND	0.099		mg/Kg	1	11/11/2020 2:18:33 PM	56283
Surr: 4-Bromofluorobenzene	99.8	80-120		%Rec	1	11/11/2020 2:18:33 PM	56283

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2011427**
Date Reported: **11/12/2020**

CLIENT: Animas Environmental Services
Client Sample ID: SB-17 @ 5 ft
Project: BMG O 9
Collection Date: 11/4/2020 12:17:00 PM
Lab ID: 2011427-003 **Matrix:** SOIL **Received Date:** 11/6/2020 7:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/11/2020 6:33:58 PM	56384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/11/2020 3:09:02 AM	56308
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/11/2020 3:09:02 AM	56308
Surr: DNOP	81.8	30.4-154		%Rec	1	11/11/2020 3:09:02 AM	56308
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/11/2020 2:41:52 PM	56283
Surr: BFB	92.7	75.3-105		%Rec	1	11/11/2020 2:41:52 PM	56283
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/11/2020 2:41:52 PM	56283
Toluene	ND	0.049		mg/Kg	1	11/11/2020 2:41:52 PM	56283
Ethylbenzene	ND	0.049		mg/Kg	1	11/11/2020 2:41:52 PM	56283
Xylenes, Total	ND	0.098		mg/Kg	1	11/11/2020 2:41:52 PM	56283
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/11/2020 2:41:52 PM	56283

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2011427**
Date Reported: **11/12/2020**

CLIENT: Animas Environmental Services
Client Sample ID: SB-17 @ 20 ft
Project: BMG O 9
Collection Date: 11/4/2020 12:39:00 PM
Lab ID: 2011427-004 **Matrix:** SOIL **Received Date:** 11/6/2020 7:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/11/2020 6:46:23 PM	56384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	11/11/2020 3:32:20 AM	56308
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	11/11/2020 3:32:20 AM	56308
Surr: DNOP	79.1	30.4-154		%Rec	1	11/11/2020 3:32:20 AM	56308
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/11/2020 3:52:15 PM	56283
Surr: BFB	90.2	75.3-105		%Rec	1	11/11/2020 3:52:15 PM	56283
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/11/2020 3:52:15 PM	56283
Toluene	ND	0.049		mg/Kg	1	11/11/2020 3:52:15 PM	56283
Ethylbenzene	ND	0.049		mg/Kg	1	11/11/2020 3:52:15 PM	56283
Xylenes, Total	ND	0.098		mg/Kg	1	11/11/2020 3:52:15 PM	56283
Surr: 4-Bromofluorobenzene	98.0	80-120		%Rec	1	11/11/2020 3:52:15 PM	56283

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2011427**
Date Reported: **11/12/2020**

CLIENT: Animas Environmental Services
Client Sample ID: SB-18 @ 10 ft
Project: BMG O 9
Collection Date: 11/4/2020 1:58:00 PM
Lab ID: 2011427-005 **Matrix:** SOIL
Received Date: 11/6/2020 7:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/11/2020 6:58:47 PM	56384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	180	9.5		mg/Kg	1	11/11/2020 3:55:54 AM	56308
Motor Oil Range Organics (MRO)	170	47		mg/Kg	1	11/11/2020 3:55:54 AM	56308
Surr: DNOP	90.2	30.4-154		%Rec	1	11/11/2020 3:55:54 AM	56308
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	23		mg/Kg	5	11/11/2020 4:15:51 PM	56283
Surr: BFB	89.6	75.3-105		%Rec	5	11/11/2020 4:15:51 PM	56283
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	11/11/2020 4:15:51 PM	56283
Toluene	ND	0.23		mg/Kg	5	11/11/2020 4:15:51 PM	56283
Ethylbenzene	ND	0.23		mg/Kg	5	11/11/2020 4:15:51 PM	56283
Xylenes, Total	ND	0.46		mg/Kg	5	11/11/2020 4:15:51 PM	56283
Surr: 4-Bromofluorobenzene	96.3	80-120		%Rec	5	11/11/2020 4:15:51 PM	56283

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2011427**
Date Reported: **11/12/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: SB-18 @ 25 ft
Project: BMG O 9
Collection Date: 11/4/2020 2:27:00 PM
Lab ID: 2011427-006 **Matrix:** SOIL **Received Date:** 11/6/2020 7:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/11/2020 7:11:11 PM	56384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/11/2020 4:19:31 AM	56308
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/11/2020 4:19:31 AM	56308
Surr: DNOP	69.2	30.4-154		%Rec	1	11/11/2020 4:19:31 AM	56308
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/11/2020 4:39:27 PM	56283
Surr: BFB	89.2	75.3-105		%Rec	1	11/11/2020 4:39:27 PM	56283
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/11/2020 4:39:27 PM	56283
Toluene	ND	0.048		mg/Kg	1	11/11/2020 4:39:27 PM	56283
Ethylbenzene	ND	0.048		mg/Kg	1	11/11/2020 4:39:27 PM	56283
Xylenes, Total	ND	0.096		mg/Kg	1	11/11/2020 4:39:27 PM	56283
Surr: 4-Bromofluorobenzene	96.3	80-120		%Rec	1	11/11/2020 4:39:27 PM	56283

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011427**
12-Nov-20

Client: Animas Environmental Services
Project: BMG O 9

Sample ID: **MB-56384**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **56384**	RunNo: **73276**							
Prep Date: **11/11/2020**	Analysis Date: **11/11/2020**	SeqNo: **2579019**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56384**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **56384**	RunNo: **73276**							
Prep Date: **11/11/2020**	Analysis Date: **11/11/2020**	SeqNo: **2579020**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011427**
12-Nov-20

Client: Animas Environmental Services
Project: BMG O 9

Sample ID: **MB-56308**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **56308**	RunNo: **73255**
Prep Date: **11/9/2020**	Analysis Date: **11/10/2020**	SeqNo: **2577432** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.8		10.00		77.5	30.4	154			

Sample ID: **LCS-56308**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **56308**	RunNo: **73255**
Prep Date: **11/9/2020**	Analysis Date: **11/10/2020**	SeqNo: **2577433** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.7	70	130			
Surr: DNOP	3.8		5.000		75.5	30.4	154			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011427**
12-Nov-20

Client: Animas Environmental Services
Project: BMG O 9

Sample ID: **mb-56283**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **56283**	RunNo: **73283**
Prep Date: **11/7/2020**	Analysis Date: **11/11/2020**	SeqNo: **2578642** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		92.6	75.3	105			

Sample ID: **lcs-56283**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **56283**	RunNo: **73283**
Prep Date: **11/7/2020**	Analysis Date: **11/11/2020**	SeqNo: **2578643** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.8	72.5	106			
Surr: BFB	1000		1000		101	75.3	105			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011427**
12-Nov-20

Client: Animas Environmental Services
Project: BMG O 9

Sample ID: **mb-56283**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **56283**	RunNo: **73283**							
Prep Date: **11/7/2020**	Analysis Date: **11/11/2020**	SeqNo: **2578689**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.3	80	120			

Sample ID: **LCS-56283**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **56283**	RunNo: **73283**							
Prep Date: **11/7/2020**	Analysis Date: **11/11/2020**	SeqNo: **2578690**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.0	80	120			
Toluene	0.95	0.050	1.000	0	94.8	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.4	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Animas Environmental Services** Work Order Number: **2011427** RcptNo: **1**

Received By: **Cheyenne Cason** **11/6/2020 7:58:00 AM**

Completed By: **Emily Mocho** **11/6/2020 11:34:29 AM**

Reviewed By: DAD 11/6/20

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: JR 11/6/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Yes			

Chain-of-Custody Record

Client: **Animas Environmental Services**

Mailing Address: **P.O. Box 8**
Farmington, NM 87499

Phone #: 505-564-2281

Email or Fax#: ehubbert@animasenvironmental.com

QA/QC Package:
X Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
BMG O-9

Project #:

Project Manager:
Elizabeth McNally/ Eddie Hubbert

Sampler: CL
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.9 + 0 = 4.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2011427	Analysis Request: BTEX (8021)	TPH (GRO, DRO, MRO) - 8015	Chlorides - 300.0						Air Bubbles (Y or N)
11-4-20	10:46	Soil	SB-16 @ 10 ft	2-4oz jars	2-Cool	001	X	X	X						
11-4-20	11:14	Soil	SB-16 @ 25 ft	2-4oz jars	2-Cool	002	X	X	X						
11-4-20	12:17	Soil	SB-17 @ 5 ft	2-4oz jars	2-Cool	003	X	X	X						
11-4-20	12:39	Soil	SB-17 @ 20 ft	1-4oz jars	1-Cool	004	X	X	X						
11-4-20	13:58	Soil	SB-18 @ 10 ft	2-4oz jars	2-Cool	005	X	X	X						
11-4-20	14:27	Soil	SB-18 @ 25 ft	1-4oz jar	1-Cool	006	X	X	X						

Date	Time	Relinquished by:	Received by:	Date	Time
11/5/2020	1315			11/5/2020	1315
11/5/2020	1843			11/6/20	0758

Remarks: Bill Directly to BMG.
Small Recovery for SB-17 @ 20ft and SB-18 @ 25 ft.
Call w/ Questions

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

December 02, 2020

Elizabeth McNally

Animas Environmental
624 E. Comanche
Farmington, NM 87401
TEL:
FAX:

RE: BMG 0 9 OrderNo.: 2011A71

Dear Elizabeth McNally:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/20/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2011A71**
Date Reported: **12/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: MW-6
Project: BMG 0 9
Collection Date: 11/19/2020 10:55:00 AM
Lab ID: 2011A71-001 **Matrix:** AQUEOUS **Received Date:** 11/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/23/2020 4:13:00 PM	G73581
Surr: BFB	91.4	70-130		%Rec	1	11/23/2020 4:13:00 PM	G73581
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/26/2020 5:38:04 AM	56647
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/26/2020 5:38:04 AM	56647
Surr: DNOP	96.0	70-130		%Rec	1	11/26/2020 5:38:04 AM	56647
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	11/23/2020 4:13:00 PM	SL73581
Toluene	ND	1.0		µg/L	1	11/23/2020 4:13:00 PM	SL73581
Ethylbenzene	ND	1.0		µg/L	1	11/23/2020 4:13:00 PM	SL73581
Xylenes, Total	ND	1.5		µg/L	1	11/23/2020 4:13:00 PM	SL73581
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	11/23/2020 4:13:00 PM	SL73581
Surr: Dibromofluoromethane	109	70-130		%Rec	1	11/23/2020 4:13:00 PM	SL73581
Surr: Toluene-d8	94.3	70-130		%Rec	1	11/23/2020 4:13:00 PM	SL73581

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2011A71**
Date Reported: **12/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: MW-7
Project: BMG 0 9
Collection Date: 11/19/2020 11:40:00 AM
Lab ID: 2011A71-002 **Matrix:** AQUEOUS **Received Date:** 11/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	0.054	0.050		mg/L	1	11/23/2020 5:24:00 PM	G73581
Surr: BFB	90.2	70-130		%Rec	1	11/23/2020 5:24:00 PM	G73581
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **CLP**	
Diesel Range Organics (DRO)	3.4	1.0		mg/L	1	11/26/2020 6:48:56 AM	56647
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/26/2020 6:48:56 AM	56647
Surr: DNOP	105	70-130		%Rec	1	11/26/2020 6:48:56 AM	56647
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	11/23/2020 5:24:00 PM	SL73581
Toluene	ND	1.0		µg/L	1	11/23/2020 5:24:00 PM	SL73581
Ethylbenzene	ND	1.0		µg/L	1	11/23/2020 5:24:00 PM	SL73581
Xylenes, Total	ND	1.5		µg/L	1	11/23/2020 5:24:00 PM	SL73581
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	11/23/2020 5:24:00 PM	SL73581
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/23/2020 5:24:00 PM	SL73581
Surr: Toluene-d8	93.3	70-130		%Rec	1	11/23/2020 5:24:00 PM	SL73581

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2011A71**
Date Reported: **12/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: MW-8
Project: BMG 0 9
Collection Date: 11/19/2020 10:24:00 AM
Lab ID: 2011A71-003 **Matrix:** AQUEOUS **Received Date:** 11/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/23/2020 6:35:00 PM	G73581
Surr: BFB	92.2	70-130		%Rec	1	11/23/2020 6:35:00 PM	G73581
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/26/2020 7:12:31 AM	56647
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/26/2020 7:12:31 AM	56647
Surr: DNOP	105	70-130		%Rec	1	11/26/2020 7:12:31 AM	56647
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	11/23/2020 6:35:00 PM	SL73581
Toluene	ND	1.0		µg/L	1	11/23/2020 6:35:00 PM	SL73581
Ethylbenzene	ND	1.0		µg/L	1	11/23/2020 6:35:00 PM	SL73581
Xylenes, Total	ND	1.5		µg/L	1	11/23/2020 6:35:00 PM	SL73581
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	11/23/2020 6:35:00 PM	SL73581
Surr: Dibromofluoromethane	107	70-130		%Rec	1	11/23/2020 6:35:00 PM	SL73581
Surr: Toluene-d8	92.7	70-130		%Rec	1	11/23/2020 6:35:00 PM	SL73581

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2011A71**
Date Reported: **12/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: MW-9
Project: BMG 0 9
Collection Date: 11/19/2020 11:24:00 AM
Lab ID: 2011A71-004 **Matrix:** AQUEOUS **Received Date:** 11/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/23/2020 6:59:00 PM	G73581
Surr: BFB	91.0	70-130		%Rec	1	11/23/2020 6:59:00 PM	G73581
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/26/2020 7:36:08 AM	56647
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/26/2020 7:36:08 AM	56647
Surr: DNOP	102	70-130		%Rec	1	11/26/2020 7:36:08 AM	56647
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	11/23/2020 6:59:00 PM	SL73581
Toluene	ND	1.0		µg/L	1	11/23/2020 6:59:00 PM	SL73581
Ethylbenzene	ND	1.0		µg/L	1	11/23/2020 6:59:00 PM	SL73581
Xylenes, Total	ND	1.5		µg/L	1	11/23/2020 6:59:00 PM	SL73581
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	11/23/2020 6:59:00 PM	SL73581
Surr: Dibromofluoromethane	106	70-130		%Rec	1	11/23/2020 6:59:00 PM	SL73581
Surr: Toluene-d8	94.0	70-130		%Rec	1	11/23/2020 6:59:00 PM	SL73581

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2011A71**
Date Reported: **12/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental **Client Sample ID:** Trip Blank
Project: BMG 0 9 **Collection Date:**
Lab ID: 2011A71-005 **Matrix:** AQUEOUS **Received Date:** 11/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	11/23/2020 7:23:00 PM	SL73581
Toluene	ND	1.0		µg/L	1	11/23/2020 7:23:00 PM	SL73581
Ethylbenzene	ND	1.0		µg/L	1	11/23/2020 7:23:00 PM	SL73581
Xylenes, Total	ND	1.5		µg/L	1	11/23/2020 7:23:00 PM	SL73581
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	11/23/2020 7:23:00 PM	SL73581
Surr: Dibromofluoromethane	105	70-130		%Rec	1	11/23/2020 7:23:00 PM	SL73581
Surr: Toluene-d8	94.6	70-130		%Rec	1	11/23/2020 7:23:00 PM	SL73581

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2011A71**

02-Dec-20

Client: Animas Environmental

Project: BMG 0 9

Sample ID: **MB-56647**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **56647**	RunNo: **73632**
Prep Date: **11/25/2020**	Analysis Date: **11/26/2020**	SeqNo: **2594892** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.86		1.000		86.1	70	130			

Sample ID: **LCS-56647**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **56647**	RunNo: **73632**
Prep Date: **11/25/2020**	Analysis Date: **11/26/2020**	SeqNo: **2594893** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.1	1.0	5.000	0	102	70	130			
Surr: DNOP	0.43		0.5000		86.0	70	130			

Sample ID: **2011A71-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MW-6**	Batch ID: **56647**	RunNo: **73632**
Prep Date: **11/25/2020**	Analysis Date: **11/26/2020**	SeqNo: **2594977** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	104	70	130			
Surr: DNOP	0.46		0.5000		91.5	70	130			

Sample ID: **2011A71-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MW-6**	Batch ID: **56647**	RunNo: **73632**
Prep Date: **11/25/2020**	Analysis Date: **11/26/2020**	SeqNo: **2594978** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	103	70	130	0.936	20	
Surr: DNOP	0.46		0.5000		91.5	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011A71**
02-Dec-20

Client: Animas Environmental
Project: BMG 0 9

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL73581** RunNo: **73581**
Prep Date: Analysis Date: **11/23/2020** SeqNo: **2592550** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	19	1.0	20.00	0	96.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL73581** RunNo: **73581**
Prep Date: Analysis Date: **11/23/2020** SeqNo: **2592551** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID: **2011A71-001ams** SampType: **MS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-6** Batch ID: **SL73581** RunNo: **73581**
Prep Date: Analysis Date: **11/23/2020** SeqNo: **2592553** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID: **2011A71-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-6** Batch ID: **SL73581** RunNo: **73581**
Prep Date: Analysis Date: **11/23/2020** SeqNo: **2592554** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130	2.73	20	
Toluene	19	1.0	20.00	0	96.7	70	130	4.29	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011A71**
02-Dec-20

Client: Animas Environmental
Project: BMG 0 9

Sample ID: **2011A71-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-6** Batch ID: **SL73581** RunNo: **73581**
Prep Date: Analysis Date: **11/23/2020** SeqNo: **2592554** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		106	70	130	0	0	
Surr: Toluene-d8	9.5		10.00		94.9	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011A71**
02-Dec-20

Client: Animas Environmental
Project: BMG 0 9

Sample ID: **2.5 ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G73581**	RunNo: **73581**
Prep Date:	Analysis Date: **11/23/2020**	SeqNo: **2592561** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	96.0	70	130			m
Surr: BFB	9.2		10.00		91.8	70	130			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G73581**	RunNo: **73581**
Prep Date:	Analysis Date: **11/23/2020**	SeqNo: **2592562** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								m
Surr: BFB	9.3		10.00		93.2	70	130			

Sample ID: **2011A71-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MW-7**	Batch ID: **G73581**	RunNo: **73581**
Prep Date:	Analysis Date: **11/23/2020**	SeqNo: **2592566** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0.05400	99.2	70	130			
Surr: BFB	9.2		10.00		92.5	70	130			

Sample ID: **2011A71-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MW-7**	Batch ID: **G73581**	RunNo: **73581**
Prep Date:	Analysis Date: **11/23/2020**	SeqNo: **2592567** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.59	0.050	0.5000	0.05400	106	70	130	6.34	20	
Surr: BFB	9.2		10.00		92.0	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Animas Environmental Se** Work Order Number: **2011A71** RcptNo: **1**

Received By: **Juan Rojas** **11/20/2020 8:00:00 AM** Juan Rojas

Completed By: **Isaiah Ortiz** **11/20/2020 11:03:55 AM** I-Ox

Reviewed By: JR 11/20/20

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH:
(<2 or >12 unless noted)
Adjusted?
Checked by: SGC 11/20/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.7	Good	Not Present			

Chain-of-Custody Record

Client: **Animas Environmental Services**

Mailing Address: **P.O. Box 8**
Farmington, NM 87499

Phone #: 505-564-2281

Email or Fax#: ehubbert@animasenvironmental.com

QA/QC Package:
X Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
X Standard ☐ Rush_____

Project Name:
BMG O-9

Project #:

Project Manager:
Elizabeth McNally/ Eddie Hubbert

Sampler: CL/GB
On Ice: ☑ Yes ☐ No
Sample Temperature: 3.8-0.1= 3.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2011A571	BTEX (8021)	TPH (GRO/DRO) (8015)							Air Bubbles (Y or N)
~~—~~		~~H_2O~~	~~MW-4~~	3- 40 mL VOA 250 mL amber glass	3-HgCl2 1-cool		x	x	cl						
~~—~~		~~H_2O~~	~~MW-5~~	3- 40 mL VOA 250 mL amber glass	3-HgCl2 1-cool		x	x	cl						
11-19-20	10:55	H_2O	MW-6	3- 40 mL VOA 250 mL amber glass	3-HgCl2 1-cool	001	x	x							
11-19-20	11:40	H_2O	MW-7	3- 40 mL VOA 250 mL amber glass	3-HgCl2 1-cool	002	x	x							
11-19-20	10:24	H_2O	MW-8	3- 40 mL VOA 250 mL amber glass	3-HgCl2 1-cool	003	x	x							
11-19-20	11:24	H_2O	MW-9	3- 40 mL VOA 250 mL amber glass	3-HgCl2 1-cool	004	x	x							
~~—~~		~~H_2O~~	~~MW-10~~	3- 40 mL VOA 250 mL amber glass	3-HgCl2 1-cool		x	x	cl						
		H_2O	Trip blank	2 - 40 mL VOA		005	x	x							

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/19/2020	1649		Christ Walls	11/19/2020	1649
Date:	Time:	Relinquished by:	Received by:	Date	Time
11/19/2020	1747	Christ Walls		11/20/20	8:00

Remarks: Direct bill to BMG. Call with any questions.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 18576

CONDITIONS

Operator:	OGRID:
BENSON-MONTIN-GREER DRILLING CORP 4900 College Blvd. Farmington, NM 87402	2096
	Action Number: 18576
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 91932 for most updated status.	10/19/2022