

**TABLE G-1: ENVIRONMENTAL FOOTPRINT INVENTORY DATA SOURCES,
JULY - DECEMBER 2020**

**Nevada Environmental Response Trust Site
Henderson, Nevada**

Parameter	Data Sources
Personnel Transportation	Personnel transportation estimates are compiled by the Trust, Ramboll, Tetra Tech, and Envirogen for tasks associated with the Groundwater Monitoring Program and the Groundwater Extraction and Treatment System (GWETS).
	Flight distances are estimated using the approximate distance from the starting location city/airport to Las Vegas airport. Driving distances are estimated using the approximate driving distance reported by Google Maps.
	Transportation associated with one-time events (e.g. system construction) is not included.
On-site Equipment Usage	Envirogen's gasoline usage for on-site vehicles is compiled from available vehicle analysis reports.
	Tetra Tech's and Ramboll's gasoline usage for on-site vehicles is estimated using approximate mileage amounts provided by field personnel and an assumed fuel efficiency determined based on type of vehicle used and type of vehicle usage.
	Estimates for fuel usage for other on-site equipment are provided by Envirogen.
	Equipment usage associated with one-time events (e.g. system construction) is not included.
Electricity Usage	Electricity usage is compiled from invoices received from the Colorado River Commission of Nevada and NV Energy.
	Fuel mix information for grid electricity is available from the Colorado River Commission of Nevada and NV Energy websites.
Materials Usage and Transportation	Materials usage information is provided by Envirogen personnel based on electronic outputs from their process control systems.
	All information regarding specifications and formulations is obtained from Safety Data Sheets maintained at the Site.
	Information regarding mode of transportation to the Site and location of manufacture is provided by Envirogen. Fuel types are assumed based on mode of transportation. Distances traveled are estimated based on the approximate distance between the manufacturing location and the Site.
	Materials usage and transportation associated with one-time events (e.g. system construction) is not included.
Waste Disposal and Transportation	Waste disposal and transportation information is compiled from invoices provided by Envirogen and Tetra Tech containing information regarding waste hauled off-site. Invoice line items are counted to determine the number of pickup trips. Distances traveled are estimated based on the distance between the disposal location and the Site.
Water Usage	Surface water usage is determined based on totalizer readings from the Site's main water supply line and subtracting totalizer readings associated with usage by Tronox (not part of Site operations). For periods when readings from the Site's main water supply line were not available, surface water usage was estimated by summing readings from individual point discharge locations.
	Extracted groundwater is calculated from the GWETS field sheet maintained by Tetra Tech and Envirogen.
	GW-11 evaporation is estimated based on GW-11 stage area estimates provided by Envirogen and historic pan evaporation data (Shevenell 1996).
Off-site Laboratory Analyses	The total number of analyses conducted is compiled based on information available from the Site's Analytical Database maintained by Ramboll and only includes sampling related to GWETS operations or the groundwater monitoring program. Quality Assurance (QA) and Quality Control (QC) samples, including equipment blanks, field blanks, trip blanks, and field duplicates, are also included. Pricing information for each analytical method is estimated based on unit prices provided by TestAmerica.

TABLE G-2: PERSONNEL TRANSPORTATION, JULY - DECEMBER 2020

**Nevada Environmental Response Trust Site
Henderson, Nevada**

Personnel Location/ Activities	Number of Personnel	Estimated Roundtrips to Site per Person	Roundtrip Distance to Site (miles)	Mode of Transportation	Transport Fuel Type	Notes
GWETS Activities						
GWETS Operations and Maintenance	2	84	40	Light-Duty Truck	Gasoline	[A]
	2	84	40	Car	Gasoline	
	1	120	10	Light-Duty Truck	Gasoline	
	1	120	10	Car	Gasoline	
	4	150	30	Car	Gasoline	
	2	150	30	Light-Duty Truck	Gasoline	
Extraction Well and Conveyance Maintenance	1	123	30	Van	Gasoline	
	1	123	30	Heavy-Duty Truck	Gasoline	
Groundwater Monitoring	1	123	30	Van	Gasoline	
General Site Management	1	120	30	Van	Gasoline	
	1	120	30	Heavy-Duty Truck	Gasoline	
IX Monitoring and Management	1	123	30	Heavy-Duty Truck	Gasoline	
Director of Remediation	1	0	10	Car	Gasoline	[B]
Chicago	1	1	3,020	Flight	NA	[B]
Atlanta	1	2	3,490	Flight	NA	[C]
	1	1	3,490	Flight	NA	[C]
Denver	1	2	1,260	Flight	NA	[C]
	1	1	1,260	Flight	NA	[C]
Las Vegas Area	2	5	20	Car	Gasoline	[C]
	1	132	20	Light-Duty Truck	Gasoline	[C]
GWM Activities						
Denver	1	2	1,260	Flight	NA	[C]
Diamond Bar	1	1	490	Car	Gasoline	[C]
Irvine	1	1	540	Flight	NA	[C]
Las Vegas Area	1	29	20	Car	Gasoline	[C]
	1	16				
	1	1				
Sacramento	1	1	790	Flight	NA	[C]
Salt Lake City	1	1	820	Car	Gasoline	[D]

Notes

Due to national travel restrictions in place during the reporting period, some personnel traveled via car rather than flying and only essential trips to the Site were made (other routine business was conducted remotely).

- A) Travel estimates were provided by Envirogen.
- B) Travel estimates were provided by the Nevada Environmental Response Trust.
- C) Travel estimates were provided by Tetra Tech.
- D) Travel estimates were provided by Ramboll.
- E) Average roundtrip distances are rounded to the nearest 10 miles.
- F) For each flight, a 30-mile car trip is assumed to account for roundtrip transportation from the airport to the Site.

NA = Not Applicable

TABLE G-3: ON-SITE EQUIPMENT USAGE, JULY - DECEMBER 2020

Nevada Environmental Response Trust Site

Henderson, Nevada

On-site Equipment	Fuel Quantity (gallons)	Fuel Type	Notes
GWETS Activities			
Combined Truck Use	1,280	Gasoline	[A]
Back-up Air Compressor	10	Diesel	[B]
Pressure Washer	24	Gasoline	[C]
GWM Activities			
Combined Truck Use	160	Gasoline	[A]

Notes

A) Gasoline usage was estimated based on vehicle usage information provided by Envirogen, Tetra Tech, and Ramboll personnel. Estimates shown are rounded to the nearest 10 gallons.

B) Personnel with Envirogen indicated approximately 20 gallons of diesel are used per year for operation of the back up air compressor at the groundwater treatment plant (GWTP).

C) Personnel with Envirogen indicated approximately 4 gallons of gasoline are used per month for operation of the pressure washer.

TABLE G-4: ELECTRICITY USAGE, JULY - DECEMBER 2020

Nevada Environmental Response Trust Site

Henderson, Nevada

Grid Electricity	Kilowatt-hours	Energy Source	Notes
Treatment Plant	2,694,529	Colorado River Commission of NV	[A]
Extraction Wells and Lift Stations	741,945	NV Energy	[B]
Total Electricity Used	3,436,474	-	-

Notes

A) The Colorado River Commission of Nevada is responsible for acquiring and managing Nevada's water and hydropower resources from the Colorado River. Electricity provided by the Colorado River Commission of Nevada to the NERT Site is generated from hydropower resources.

B) NV Energy is listed as the electricity provider on invoices for the off-site extraction wells and pump stations. Information regarding the energy sources of electricity provided is available from the following document:
https://www.nvenergy.com/publish/content/dam/nvenergy/bill_inserts/2021/01_jan/power-content-insert-south-2020_1_30.pdf

TABLE G-5: MATERIALS USAGE AND TRANSPORTATION, JULY - DECEMBER 2020

Nevada Environmental Response Trust Site

Henderson, Nevada

Material Type	Quantity	Units	Location of Manufacture	One-way Distance to Site (miles)	Mode of Transportation	Specific Gravity	Density (lbs/gal)
Ferrous sulfate (FeSO ₄)	7,100	gal	South Gate, CA	250	Truck	1.203	10.02
PolymerDewater BF CP 9869	140	gal	Riceboro, GA	2,200	Truck	0.12	1.00
DAF polymer BF CP 2661	3,400	gal	Greensboro, South Carolina	2,250	Truck	1.03	8.60
Polymer Superfloc 4818 RS GWTP	230	lbs	Madison, Alabama	1,750	Truck	1.072	8.95
Lime (hydrated lime)	550	lbs	Sainte Genevieve, MO	1,600	Truck	2.2	-
Ethanol (190 proof)	44,000	gal	Peoria, IL	1,950	Train	0.817	-
				250	Truck		
Phosphoric acid (H ₃ PO ₄)	2,000	gal	Pocatello, ID	600	Truck	1.20-1.26	10.0-10.5
pH adjustment (NaOH)	6,600	gal	Plaquemine, LA	1,650	Train/Truck	1.33	11.1
Micronutrients (VWNA micronutrient)	4,500	gal	South Gate, CA	250	Truck	1.1075	9.24
Hydrogen peroxide (H ₂ O ₂)	8,900	gal	Longview, WA	1,050	Truck	1.1327	9.44
			Woodstock, TN	1,600			
Ferric chloride (FeCl ₃)	2,700	gal	Mojave, CA	200	Truck	-	11.8-12.0
Aluminum Chlorohydrate (ACH) <i>(Discontinued)</i>	0	gal	Phoenix, AZ	300	Truck	-	11.1-11.3
Ion exchange (IX) resin	400	cubic feet	India	10,400	Boat	1.0-1.15	-
				2,550	Truck		
Granular activated carbon (GAC)	0	lbs	Pittsburg, PA	2,200	Truck	0.4-0.7	3.3-5.8

Notes

gal = gallons

lbs = pounds

A) Materials usage information is provided by Envirogen personnel based on electronic outputs from their process control systems and inventory ordering information. Envirogen reported all materials are refined and none of the materials are from recycled sources.

B) Information regarding location of manufacture and mode of transportation is provided by Envirogen personnel. Approximate one-way distance to the Site is estimated using Google Maps rounded to the nearest 50 miles.

C) Specific gravity and density information for each material is obtained from Safety Data Sheets maintained at the Site.

D) According to Envirogen personnel, the GAC is tested annually for potential contaminant breakthrough and is replaced only if breakthrough is observed. Approximately one hundred percent of the GAC is regenerated and reused.

TABLE G-6: WASTE DISPOSAL AND TRANSPORTATION, JULY - DECEMBER 2020

Nevada Environmental Response Trust Site

Henderson, Nevada

Waste Generated	Notes	Quantity	Units	Number of Trips	Treatment/ Disposal Site	One-way Distance to Site (miles)	Mode of Transportation
Fluidized Bed Reactor (FBR) Sludge	A	212	tons	42	Apex Industrial Solid Landfill	30	Truck
Groundwater Water Treatment Plant (GWTP) Sludge		13	tons	2			
Ion Exchange (IX) Resin		14	tons	4			

Notes

A) Information regarding FBR sludge, GWTP sludge, IX resin and Spent GAC hauled off-site was compiled from invoices provided by Envirogen personnel.

TABLE G-7: WATER USAGE, JULY - DECEMBER 2020

Nevada Environmental Response Trust Site

Henderson, Nevada

Water Source	Quantity	Unit	Use/Fate
Extracted Groundwater	338	MGal	Treat and discharge to Las Vegas Wash
Lake Mead	9.0	MGal	See Note A
GW-11 Evaporation	19.0	MGal	Evaporation - See Note B

Notes

MGal = million gallons

A) Lake Mead water is used for granular activated carbon (GAC) backwash events, which occur on average three times per month. Lake Mead water is also used for Fluidized Bed Reactor (FBR) polymer additions, groundwater treatment plant polymer additions, washing down equipment in the treatment plant, sanitary water, seal water for FBR pumps, AP Area flushing, and AP-5 solids removal and treatment (which ended in the second half of 2018). After use, Lake Mead water is discharged to GW-11 and then eventually treated and discharged to Las Vegas Wash, except for sanitary water which is discharged to an on-site septic system.

B) GW-11 evaporation was estimated using information contained within the GW-11 Pond Volume Model maintained by Envirogen. The GW-11 Pond Volume Model includes measured pond water levels (collected approximately twice per month) and corresponding calculated pond volume and stage area estimates. Stage area estimates and historical pan evaporation data (Shevenell 1996) are used to calculate estimated evaporation during the reporting period. Details of these calculations are included in the SEFA input workbook.

TABLE G-8: OFF-SITE LABORATORY ANALYSES, JULY - DECEMBER 2020
Nevada Environmental Response Trust Site
Henderson, Nevada

Analyte	Method	Estimated Analytical Unit Price	Number of Analyses
Groundwater Extraction and Treatment System (GWETS) Analyses			
East Well Feed and West Well Feed - Weekly			
Chromium	EPA 200.7	\$25	52
Chromium, Hexavalent Dissolved	EPA 218.6	\$50	52
Perchlorate	EPA 314.0	\$25	52
FBR Plant Influent - Weekly			
Chromium	EPA 200.7	\$25	26
Iron		\$8	26
Chromium, Hexavalent Dissolved	EPA 218.6	\$50	26
Nitrate as N	EPA 300_ORGFMS	\$8	26
Nitrite as N		\$8	26
Total Inorganic Nitrogen	NTOTAL	\$5	26
Perchlorate	EPA 314.0	\$25	26
Nitrogen, Kjeldahl	EPA 351.2	\$25	26
Ammonia as N	SM400-NH3-D	\$20	26
FBR Plant Effluent - Weekly			
Chromium	EPA 200.7	\$25	26
Chromium, Hexavalent Dissolved	EPA 218.6	\$50	26
Nitrate as N	EPA 300_ORGFMS	\$8	26
Perchlorate	EPA 314.0	\$25	26
FBR Effluent and FBR Influent - Monthly			
Chlorate	EPA 300.1	\$12	12
FBR Influent - Quarterly			
Manganese	EPA 200.7	\$25	2
Total Dissolved Solids	SM 2540C	\$10	2
GW-11 Composite			
Calcium	EPA 200.7	\$25	2
Iron		\$8	2
Chromium, Hexavalent Dissolved	EPA 218.6	\$50	2
Chloride	EPA 300_ORGFM_28D	\$8	2
Sulfate		\$8	2
Chlorate	EPA 300.1	\$12	2
Total Suspended Solids	SM 2540D	\$10	2
pH	SM 4500H+	\$8	2
pH (Field)	FIELD SAMPLING (SM 4500H+)	\$0	8
GW-11 Static Mixer			
Chromium	EPA 200.7	\$25	6
Chromium, Hexavalent Dissolved	EPA 218.6	\$50	6
Perchlorate	EPA 314.0	\$25	6

TABLE G-8: OFF-SITE LABORATORY ANALYSES, JULY - DECEMBER 2020
Nevada Environmental Response Trust Site
Henderson, Nevada

Analyte	Method	Estimated Analytical Unit Price	Number of Analyses
GWTP Discharge			
Chromium	EPA 200.7	\$25	26
Chromium, Hexavalent Dissolved	EPA 218.6	\$50	26
Perchlorate	EPA 314.0	\$25	26
IX Effluent - Composite and IX Influent - Composite			
Perchlorate	EPA 314.0	\$25	52
IX Influent			
Chromium	EPA 200.7	\$25	6
Molybdenum		\$8	6
Selenium		\$8	6
Vanadium		\$8	6
Uranium	EPA 200.8	\$8	6
Total Phosphorus as P	EPA 365.3	\$22	6
Bicarbonate as HCO ₃	SM 2320	\$11	6
Carbonate as CO ₃			
Total Alkalinity as CaCO ₃			
Total Dissolved Solids	SM 2540C	\$10	2
Outfall 001 Effluent - Quarterly			
Antimony	EPA 200.7	\$100	2
Arsenic			
Beryllium			
Boron			
Cadmium			
Chromium			
Copper			
Lead			
Nickel			
Selenium			
Silver			
Thallium			
Zinc			
Mercury	EPA 245.1	\$22	2
Chloride	EPA 300_ORGFM_28D	\$8	2
Asbestos	EPA 600/R-94-134	\$306	2
Pesticides & PCBs	EPA 608	\$120	2
Volatile Organics	EPA 624	\$45	4
Base Neutral Acid Extractables	EPA 625	\$125	2
2,3,7,8-Tetrachlorodibenzo-p-dioxin	EPA 1613B	\$325	2
Oil & Grease	EPA 1664	\$35	2
Total Dissolved Solids	SM 2540C	\$10	2
Cyanide, Total	SM 4500-CN-E	\$33	2

TABLE G-8: OFF-SITE LABORATORY ANALYSES, JULY - DECEMBER 2020
Nevada Environmental Response Trust Site
Henderson, Nevada

Analyte	Method	Estimated Analytical Unit Price	Number of Analyses
Outfall 001 Effluent - Monthly			
Sulfate	EPA 300_ORGFM_28D	\$8	6
Sulfide	SM 4500-S2-D	\$23	6
Outfall 001 Effluent - Weekly			
Chromium	EPA 200.7	\$25	26
Iron	EPA 200.7	\$8	26
Manganese	EPA 200.7	\$8	26
Chromium, Hexavalent Dissolved	EPA 218.6	\$50	26
Nitrate as N	EPA 300_ORGFMS	\$8	26
Nitrite as N		\$8	26
Total Inorganic Nitrogen	NTOTAL	\$5	26
Perchlorate	EPA 314.0	\$25	26
Ammonia as N	EPA 350.1	\$20	26
Total Phosphorus as P	EPA 365.3	\$22	26
Apparent Color	SM 2120	\$10	26
pH		\$8	26
Total Suspended Solids	SM 2540D	\$10	26
Dissolved Oxygen	SM 4500 OG	\$10	26
pH	SM 4500H+	\$8	26
pH (Field)	FIELD SAMPLING (SM 4500H+)	\$0	26
Carbonaceous Biochemical Oxygen Demand	SM 5210B	\$30	26
Las Vegas Wash 5.5			
Iron	EPA 200.7	\$25	2
Manganese		\$8	2
Total Dissolved Solids	SM 2540C	\$10	2
GW-11 Composite			
Arsenic	EPA 200.7	\$25	2
Boron		\$8	2
Chromium		\$8	2
Manganese		\$8	2
Selenium		\$8	2
Nitrate as N	EPA 300_ORGFMS	\$8	2
Nitrite as N		\$8	2
Total Inorganic Nitrogen	NTOTAL	\$5	2
Perchlorate	EPA 314.0	\$25	2
Ammonia as N	EPA 350.1	\$20	2
Total Phosphorus as P	EPA 365.3	\$22	2
Total Dissolved Solids	SM 2540C	\$10	2
Estimated Total Cost of GWETS Analyses		\$27,624	

TABLE G-8: OFF-SITE LABORATORY ANALYSES, JULY - DECEMBER 2020
Nevada Environmental Response Trust Site
Henderson, Nevada

Analyte	Method	Estimated Analytical Unit Price	Number of Analyses
Performance Monitoring (PM) Analyses			
Performance Monitoring Program Wells			
Chromium	EPA 200.7	\$25	524
Chromium, Hexavalent	EPA 218.6	\$50	408
Nitrate as N	EPA 300_ORGFMS	\$8	508
Chlorate	EPA 300.1	\$12	508
Perchlorate	EPA 314.0	\$25	524
Total Dissolved Solids	SM 2540C	\$10	524
pH (Field)	FIELD SAMPLING (SM 4500H+)	\$0	384
NPDES Requirements for Performance Monitoring Well M-10			
Arsenic	EPA 200.7	\$8	2
Boron		\$8	2
Iron		\$8	2
Manganese		\$8	2
Selenium		\$8	2
Chloride	EPA 300_ORGFM_28D	\$8	2
Nitrite as N	EPA 300_ORGFMS	\$8	2
Ammonia as N	EPA 350.1	\$20	2
Total Inorganic Nitrogen	NTOTAL	\$5	2
RCRA Requirements for Performance Monitoring Wells H-28A, M-5A, M-6A, and M-7B			
Boron	EPA 200.7	\$8	4
Iron		\$8	4
Manganese		\$8	4
Sodium		\$8	4
Chloride	EPA 300_ORGFM_28D	\$8	4
Sulfate		\$8	4
Phenols	EPA 420	\$35	4
Specific Conductance	SM 2510	\$10	4
Total Organic Carbon	SM 5310C	\$30	4
Total Organic Halides	SW 9020B	\$75	4
Performance Monitoring Program Surface Water Sampling			
Chlorate	EPA 300.1	\$12	222
Perchlorate	EPA 314.0	\$25	222
Total Dissolved Solids	SM 2540C	\$10	222
Performance Monitoring Program Northshore Road (LVW 0.55)			
Perchlorate	EPA 314.0	\$25	12
Estimated Total Cost of PM Analyses		\$73,688	

TABLE G-8: OFF-SITE LABORATORY ANALYSES, JULY - DECEMBER 2020
Nevada Environmental Response Trust Site
Henderson, Nevada

Analyte	Method	Estimated Analytical Unit Price	Number of Analyses
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Notes

A) Analytical costs were estimated based on TestAmerica Laboratories Inc. 2017 Unit Price List for NERT Projects included in the Master Project Subcontract Agreement between Ramboll and TestAmerica and correspondence with TestAmerica. Laboratory method names, matrix designations, and total number of analyses conducted were compiled from laboratory EDDs maintained in the NERT project database.