TABLE 1

SUMMARY OF WATER-SUPPLY WELLS IN THE AREA OF INTEREST AND THE SELECTION CRITERIA

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

WSW Well ID	Within Pavillion Gas Field (Criteria #1)	1000 Feet From Invert O&G Well (Criteria #2)	1000 Feet From Drilling/ Production Pit (Criteria #3)	1000 Feet From O&G Well With Bradenhead Pressure (Criteria #4)	Wells With Detections of One or More: Methane, TPH-DRO/GRO, VOCs, SVOCs (Criteria #5)	1000 Feet From O&G With Shallow Surface Casing (Criteria #6)
LD02	√	√	√		√	√
PGDW05	√	√	√	√	√	
PGDW14	√	√	√	√	√	
PGDW20	√	√	√		√	
PGDW23	√	√	√	√	√	
PGDW30	√	√	√	√	√	
PGDW32	√	√	√	√	√	√
PGDW33	√	√	√	√		
PGDW41A and 41B	√		√	√	√	
PGDW44	√	√	√	√	√	√
PGDW45	√	√	√	√	√	
PGDW49	√	√	√	√	√	
60F*	√	√	√	√	√	√

Notes

** Although this well met selection criteria, WDEQ found that this well was not a viable well to evaluate groundwater conditions in the area. Instead, this well was used to collect groundwater elevations. Two other water wells within the near vicinity were sampled and evaluated for groundwater chemical composition.*

DRO = Diesel range Organics

GRO = Gasoline Range Organics

O&G = Oil and Gas

SVOCs = Semivolatile Organic Compounds

TPH = Total Petroleum Hydrocarbon

VOCs = Volatile Organic Compounds

WSW = Water-Supply Wells

TABLE 2

WATER-SUPPLY WELLS INCLUDED IN STUDY
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Well ID	Latitude	Longitude	Approxi-mate Ground Surface Elevation (feet)	Original Well Use	Well Status	Cistern Installed at Property	Total Depth (feet bgs)	Depth Data Source	Well Location	Sampling Point Description	Sampling Point Before Pressure Tanks	Pump Type	Well Head Description	Access Port	Vault Depth Where Present	Remarks
LD02	43.251542	-108.591198	5324.4	Never used	Not used	Yes	610/ collapsed to 398	Video Survey	Well is located near residence, to E of driveway. Open access to well.	Sampling point is at well casing. Bailer or other grab sampling device may be used fo sample collection.	Y	None	6-inch PVC well cap. No piping from well. Slip cap can be removed.	Y	NA	Well has never been in production because of odor. Well is not plumb which caused EPA downhole sampling pump to become stuck, leading to difficult removal.
PGDW05	43.258851	-108.612630	5353.2	Domestic supply	In use, low yield.	No	210	SEO	Well located in lawn approximately 20 feet E of residence.	Recommended sample spigot with 3/4-inch hose thread is on outside N wall of W portion of house; it is downstream of pressure tanks which are located under house.	N	Sub-mersible	Well is located inside concrete vault. Heavy concrete vault lid 3X3 feet requires sturdy tool for removal. Pitless adapter with 1-inch pipe. 5-bolt aluminum watertight well cap.	N	7.5	Owner said well has lost production capacity and runs dry. EPA sampled at wellhead by removing well cap and mechanically lifting pump, and sampling from faucet in mudroom.
PGDW14	43.251533	-108.627365	5395.2	Domestic supply	In use	No	190	EPA	Well located downhill approximately 200 feet NW of residence, adjacent to road.	Sampling point is blue yard hydrant 4 feet NE of wellhead. Hydrant has 3/4-inch hose thread. No pressure tank observed.	Y	Sub-mersible	Well is located under plastic cover adjacent to concrete vault. Vault is 8 feet deep concrete culvert with wooden door and metal ladder. Pitless adapter to metal piping manifold located in vault.	N	8	Hydrant was EPA sampling point. Original domestic well was west of residence. Owner stated there is an RO unit.
PGDW20	43.251666	-108.591265	5324.6	Domestic supply	Not used	Yes	410/ collapsed to 380	Owner	Well is located near residence, in the center of a large tractor tire within a protective metal portable fence. Open access to well.	Sample point is hydrant with 3/4-inch hose thread in corral approximately 250 feet N of well. Piping from well N 15 feet to pump house with RO unit and pressure tanks, then to hydrant. Owner to switch valves from cistern to well for sampling.	N	Sub-mersible	Pitless adapter that goes to pump house. 4-bolt ABS watertight well cap.	N	NA	Was used as domestic well for residence; has RO system and pressure tank with booster pumps. Cistern now installed. Well original total depth 410 feet collapsed to 380 feet. Hydrant was EPA sampling point.
PGDW23	43.248660	-108.622587	5415.2	Domestic supply	In use	No	475	Driller's log, owner copy	Well is located near residence, in open area to SW and adjacent to a steel tank used as storage shed.	Sampling point is hydrant 5 feet from wellhead. Hydrant has 3/4-inch hose thread (was EPA sampling point). Sample point prior to pressure tank (pressure tanks, if present, are likely located under house).	Y	Sub-mersible	Pitless adapter goes to pressure tank under house. Has freezeless yard hydrant within 5-feet of wellhead. Has 4-bolt ABS watertight well cap.	N	NA	Not the same well as well listed in Wyoming Oil and Gas Conservation Commission well integrity and pits reports. Owner reports using bottled water for 3 years.
PGDW30	43.257541	-108.622552	5364.8	Domestic supply	Stock, irrigation	Yes	260	EPA	Well is located near residence in a shed to ENE. Limited access to well.	Sampling spigot with 3/4-inch hose thread outside W wall of shed. Pressure tank in shed.	N	Sub-mersible	Wellhead in NW corner of shed inside a closet with limited access/ close confines. Casing is flush to surface. No pitless adapter present. 4-bolt cast iron split well cap. Piping above well cap.	N	NA	Was a domestic water supply. Cistern now installed at residence.
PGDW32	43.240751	-108.594132	5334.6	Domestic supply, stock	In use		675/ owner reported 900	SEO	Well is located near residence in SW corner of yard. Open access to well.	Sampling point is red-handle hydrant with 3/4-inch hose thread ~100 feet NE of well. Sampling point before pressure tanks, which are located under house to N of hydrant.	Y	Sub-mersible	Pitless adapter goes to pressure tank under house. Sampling point is before pressure tank. 4-bolt cast iron split well cap with 5/8-inch access port.	Y	NA	Hydrant was EPA sampling point. Owner stated there is an RO filter.
PGDW33	43.238541	-108.596406	5341.1	Domestic supply	In use		30	SEO	Well is located approximately 1200 feet SW of residence in a pump house. Access is limited.	Wellhead in vault. Sampling point is blue handle hydrant with 3/4-inch hose thread in yard ~50 feet SW of house. Pressure tanks in vault upstream of sampling point.	N	Jet	Wellhead covered by metal cap. No pitless adapter present. Jet pump is plumbed to pressure tank, then towards house.	N	4	Hydrant was EPA sampling point.
PGDW41A	43.262126	-108.637860	5395.7	Domestic supply	Stock, irrigation	Yes	376	EPA	Well is located near residence 8 feet SW of vault. Open access to well.	Pressure tanks and breakers inside vault. Sampling point is hydrant with 3/4-inch hose thread downstream of pressure tanks by N wall of vault. Isolate from PGDW41B with breakers. (Breaker for PGDW41A is labeled "Pump #1".)	N	Sub-mersible	7-foot vault houses pump breakers and pressure tanks from wells 41A and 41B. Pitless adapter goes to vault containing breaker, valves, and pressure tanks. Has 4-bolt ABS watertight well cap without access port.	N	7	Owners report cattle died after drinking well water.

TABLE 2

WATER-SUPPLY WELLS INCLUDED IN STUDY
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Well ID	Latitude	Longitude	Approxi-mate Ground Surface Elevation (feet)	Original Well Use	Well Status	Cistern Installed at Property	Total Depth (feet bgs)	Depth Data Source	Well Location	Sampling Point Description	Sampling Point Before Pressure Tanks	Pump Type	Well Head Description	Access Port	Vault Depth Where Present	Remarks
PGDW41B	43.262139	-108.637845	5395.6	Domestic supply	Stock, irrigation	Yes	70	SEO	Well is located near residence 4 feet SW of vault . Open access to well.	Pressure tanks and breakers inside vault. Sampling point is hydrant with 3/4-inch hose thread downstream of pressure tanks by N wall of vault. Isolate from PGDW41A with breakers. (Breaker for PGDW41B is labeled "Pump #2".)	N	Sub-mersible	7-foot vault houses pump breakers and pressure tanks from wells 41A and 41B. Pitless adapter goes to vault containing breaker, valves, and pressure tanks. Has 4-bolt ABS watertight well cap without access port.	N	7	Owners report cattle died after drinking well water.
PGDW42	43.255745	-108.647316	5394.7	Domestic supply, stock	-		200	SEO	-	Not sampled in 2014.	NA	Sub-mersible	-	-	NA	Not sampled in 2014. Well information from WOGCC, 2014.
PGDW44	43.250277	-108.626442	5401.9	Stock	In use	NA; Stock well not piped to residence.	>176.6	Video Survey	Well is located approximately 150 feet SE of residence inside steel tank used as storage shed. Access to well is limited and would require partial removal of wood floor to access wellhead.	Well is in 8-feet deep concrete culvert vault inside well house fashioned from metal tank. Sampling point is hydrant with 3/4-inch hose thread 10 feet N of wellhead (near fence). Sampling point before pressure tank.	Y	Sub-mersible	Pitless adapter to black plastic piping manifold. No well cap or seal present (need to unscrew wood floor for access to well for open access to well). Pressure tank plumbed on opposite side of plastic manifold and is after sampling location.	Y	8	Owner reports pump set at 150 feet below ground surface. Owner reports was former Shell exploratory well; driller listed as Shell Oil Co on SEO permit. Able to supply drinking water for 750 head of horses during summer per owner.
PGDW45	43.258888	-108.612953	5353.7	Stock, irrigation	In use	No	48	Owner	Well is located within lawn adjacent to residence.	Sampling point is a 3/4-inch hose thread (Y adapter) spigot located in the piping approx. 10 N of the well. No pressure tank present. Well pumps directly to surface piping.	Y	Sub-mersible	No pitless adapter. 4-bolt cast iron split well cap with 5/8-inch access port. Piping above well cap.	Y	NA	Well is used for irrigation.
PGDW49	43.255080	-108.618107	5369.3	Stock	In use	NA	50.7	Video Survey	Well is in the center of a large tractor tire within a stock pen.	Sampling point is spigot with 3/4-inch hose thread immediately above the wellhead. No pressure tank present. Pumps directly to surface piping.	Y	Sub-mersible	No pitless adapter. Cast iron well cap with 3/4-inch access port. Piping above well cap.	Y	NA	
Well Designated for Groundwater Level Measurement Only																
60F	43.258881	-108.613004	5362.9	Stock		No	Unknown	NA	Well is located within a shed near livestock pens. Open access to well.	Well located in well house. Sampling point is in well house and is a 3/4-inch hose thread spigot located before pressure tank. Well pumps directly to surface piping.	NA	NA	No pitless adapter. Has pressure tank. 4-bolt split metal well cap with 3/4-inch access port. Well is not in a vault.	Y	NA	

Notes
1. Latitude and longitude used North American Datum of 1983 (NAD 83).
2. Elevation values estimated from USGS digital elevation model, referenced to the North American Vertical Datum of 1988 (NAVD 88).

bgs = Below ground surface
EPA = US EPA, 2011
NA = Not applicable
PVC = Polyvinyl chloride
RO unit = Reverse osmosis water treatment unit
SEO = Wyoming State Engineer's Office, Well Permit
USGS = United States Geological Survey

TABLE 3

WATER-SUPPLY WELL CONSTRUCTION AND CONDITION
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Well ID	SEO Permit Number	Year Com-pleted	Original Well Use	Total Depth (feet bgs)	Depth Data Source	Surface Casing Depth (feet bgs)	Surface Seal Noted on Permit	Screen/ Perf-oration Depth (feet bgs)	Screen/ Perf-oration Type	Filter Pack	Casing Dia-meter (inches)	Casing Material	Well Con-struction Data Source	Pump Type	Well Yield* (gpm)	Pump Depth (feet bgs)	Top of Casing/ Measuring Point to Ground Surface (feet)	Video Survey Observations					Remarks
																		Video Survey Date	Apparent Condition of Casing and Screen	Fouling/ Encrustation of Well Casing	Bubbles and/or Particles in Water Column; Water Clarity	Other	
LD02	-	1994	Never used	610/ collapsed to 398	Video Survey	>398	-	>398	Unknown	-	6	PVC	Video Survey	None	NA	NA	2.0	10/8/14	Well casing is fractured from 380 to 398 feet bgs. Chatter marks were noted on the casing in proximity to the vertical fracture collapsed section.	Fragile algal and/or bacterial dark brown-colored film consistently covers the well casing.	No gas bubbles observed. Particles in water column observed due to video camera scraping against the well casing.	Video survey observed well collapse at 398 feet bgs, and terminated at that point. Could not assess whether the blockage at 398 feet bgs was a bridge (partial blockage) or the beginning of a complete collapse from 398 to 610 feet bgs.	Water sample results from July 14, 1994 annotated 'New Well'. Water right permit for well cancelled by October 1994.
PGDW05	32161	1973	Domestic supply	210	SEO	161.5	Yes	161.5-TD	Open borehole	NA	7 (6 on permit)	Steel	SEO, Video Survey	Sub-mersible	2.3	189	-1.5	10/6/14	Pervasive encrustations precluded assessment of casing condition below static water level . No major physical compromises observed. Narrowing of open borehole was observed between approx. 166.2 to 168.5 feet bgs.	Above water level, scaling is observed with minor encrustations. Encrustations become more pronounced with black spherical concretions below the water level.	No gas bubbles observed. Water clarity is consistently moderately cloudy with good visibility.	Video survey was halted at 179.2 feet bgs due to centralizer blocking passage.	Pump depth from SEO permit.
PGDW14	-	-	Domestic supply	190	EPA	Unknown	-	Unknown	Unknown	-	6	PVC	-	Sub-mersible	6	-	0.5	NA	NA	NA	NA	NA	-

TABLE 3

WATER-SUPPLY WELL CONSTRUCTION AND CONDITION
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Well ID	SEO Permit Number	Year Com-pleted	Original Well Use	Total Depth (feet bgs)	Depth Data Source	Surface Casing Depth (feet bgs)	Surface Seal Noted on Permit	Screen/ Perf-oration Depth (feet bgs)	Screen/ Perf-oration Type	Filter Pack	Casing Dia-meter (inches)	Casing Material	Well Con-struction Data Source	Pump Type	Well Yield* (gpm)	Pump Depth (feet bgs)	Top of Casing/ Measuring Point to Ground Surface (feet)	Video Survey Observations					Remarks
																		Video Survey Date	Apparent Condition of Casing and Screen	Fouling/ Encrustation of Well Casing	Bubbles and/or Particles in Water Column; Water Clarity	Other	
PGDW20	-	Before 1988	Domestic supply	410/ collapsed to 380	Owner	>245.8	-	>245.8	Unknown	-	5	Steel	Video Survey	Sub-mersible	3.2	245.8	1.5	10/10/14	Pervasive, typically nodular concretions obscure the nature of the casing.	Soft encrustations and scaling appear throughout the well casing. Above water level, scaling is observed with typical pervasive encrustations. Encrustation become more pronounced below water level.	No gas bubbles observed. The water clarity is good from static water level, 113.1 feet bgs to 221.5 feet bgs. Water clarity quickly degrades to blackening out the video camera view. Suspended soft concretions and scale were observed during pumping and non-pumping conditions. Particles visible in water column during recharge.	Video survey unable to continue beyond 245.8 feet bgs due to obstruction between pump and well casing.	Water sample results from January 11, 1988 when owner purchased property.
PGDW23	-	2001/ 2002	Domestic supply	475	Driller's log, owner copy	445	-	445-465	Factory Slots	-	6	PVC	Driller's log, owner copy, Video Survey.	Sub-mersible	6	358.5	1.7	10/9/14	The casing is in very good condition, with no observed damage to well integrity.	There is minor yellow staining associated with the water column.	No gas bubbles observed. Water clarity is good throughout the entire video survey during non-pumping conditions. After drawdown test, clarity above the pump became a cloudy white.	The video survey did not progress beyond the top of the pump at 358.5 feet bgs due to limited annular space between the pump and well casing.	Not the same well as well listed in Wyoming Oil and Gas Conservation Commission well integrity and pits reports.
PGDW30	-	-	Domestic supply	260	EPA	Unknown	-	Unknown	Unknown	-	6	PVC	-	Sub-mersible	5	-	0.5	NA	NA	NA	NA	NA	-
PGDW32	64110	1983	Domestic supply, stock	675/ owner reported 900	SEO	30 (8 inch)	Yes	550-675	Open borehole	NA	6	Steel	SEO	Sub-mersible	7.5	384	1.5	NA	NA	NA	NA	NA	Pump depth from SEO permit.
PGDW33	22662	1934	Domestic supply	30	SEO	Unknown	-	Unknown	Unknown	-	6 (7 on permit)	Unknown	-	Jet	0.8	-	-4	NA	NA	NA	NA	NA	-

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WATER-SUPPLY WELL CONSTRUCTION AND CONDITION
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Well ID	SEO Permit Number	Year Com-pleted	Original Well Use	Total Depth (feet bgs)	Depth Data Source	Surface Casing Depth (feet bgs)	Surface Seal Noted on Permit	Screen/ Perf-oration Depth (feet bgs)	Screen/ Perf-oration Type	Filter Pack	Casing Dia-meter (inches)	Casing Material	Well Con-struction Data Source	Pump Type	Well Yield* (gpm)	Pump Depth (feet bgs)	Top of Casing/ Measuring Point to Ground Surface (feet)	Video Survey Observations					Remarks
																		Video Survey Date	Apparent Condition of Casing and Screen	Fouling/ Encrustation of Well Casing	Bubbles and/or Particles in Water Column; Water Clarity	Other	
PGDW41A	-	-	Domestic supply	376	EPA	>352.1	-	>352.1	Unknown	-	6	PVC	Video Survey	Sub-mersible	3	352.1	1.3	10/7/14	Casing appears torn at 283 feet bgs. PVC splinters appear at 322.7 feet bgs. Gouge marks in the PVC casing at 341.9 feet bgs.	Finger-like protrusions proximal to casing joint at 283 feet bgs.	No gas bubbles observed. Water clarity in a static condition was slightly foggy, with light suspended particles.	Scratch marks and gouges may be the result of a deviated well casing. The video survey did not progress beyond the top of the pump at 352.1 feet bgs due to limited annular space.	-
PGDW41B	66345	1984	Domestic supply	70	SEO	53	Yes	53-68	5/16 drilled holes, 4 per foot	Average 1 inch	8 (6 on permit)	PVC	SEO, Video Survey	Sub-mersible	6	60	0.8	10/7/14	Possible damage at the first casing joint approx. 10.8 feet bgs.	Grainy, dark brown algae and/or bacteria appear above water level. Orange/yellow inconsistent film appears on the casing surface between static water level and a centralizer.	Medium sized gas bubbles were observed floating up to pumping water level at approximately 1 second intervals between 32.8 - 49.7 feet bgs. Bubbles became more abundant with greater drawdown. Gas bubbles were not observed in a static or recharging state.	The video survey did not progress beyond a centralizer at 49.7 feet bgs.	Pump depth from SEO permit.
PGDW42	41517	1981	Domestic supply, stock	200	SEO	180	Yes	180-200	1/4 inch, NOS	None	5	PVC	SEO	Sub-mersible	NA	180	-	NA	NA	NA	NA	NA	-

TABLE 3

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Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Well ID	SEO Permit Number	Year Com-pleted	Original Well Use	Total Depth (feet bgs)	Depth Data Source	Surface Casing Depth (feet bgs)	Surface Seal Noted on Permit	Screen/ Perf-oration Depth (feet bgs)	Screen/ Perf-oration Type	Filter Pack	Casing Dia-meter (inches)	Casing Material	Well Con-struction Data Source	Pump Type	Well Yield* (gpm)	Pump Depth (feet bgs)	Top of Casing/ Measuring Point to Ground Surface (feet)	Video Survey Observations					Remarks
																		Video Survey Date	Apparent Condition of Casing and Screen	Fouling/ Encrustation of Well Casing	Bubbles and/or Particles in Water Column; Water Clarity	Other	
PGDW44	24508	1964	Stock	>176.6	Video Survey	>176.6	-	Unknown	Unknown	-	9	Steel	SEO, Video Survey	Sub-mersible	1.3	176.6	-0.4	10/9/14	No major physical compromises to the well casing.	Minor scaling was observed along he length of the casing. Bulbous concretions observed from 39.2 to 177.2 feet bgs.	No gas bubbles were observed. Static water conditions revealed milky water with limited visibility from top of water to 119.2 feet bgs. From 119.2 to 139.2 feet bgs water clarity improved.	The video survey did not progress beyond the top of the pump at 176.6 feet bgs. Change in water clarity might 119.2 to 139.2 feet bgs a zone that produces water.	SEO permit lists total depth as 175 feet.
PGDW45	-	-	Stock, irrigation	48	Owner	Unknown	-	Unknown	Unknown	-	6	PVC	-	Sub-mersible	10	-	1.5	NA	NA	NA	NA	NA	-
PGDW49	-	-	Stock	50.7	Video Survey	23	-	23 - ?	Unknown	-	6	Steel	Video Survey	Sub-mersible	8	31	1.0	10/6/14	Due to moderate but pervasive encrustations of the surface of the well casing, the condition of the well casing could not be assessed.	Pervasive encrustations were observed throughout the entire length of the well column. The encrustations appeared grey and brittle. From 23 feet bgs down, these circumferential encrustations varied in size.	No gas bubbles were observed. Small white debris was observed floating atop static water level at 5.2 feet bgs. At 23 feet bgs the groundwater suddenly cleared within the casing and the beginning of circumferential encrustations was seen.	Detached rubber well seals were observed at 0.7 and 34.5 feet bgs. Well casing did not have centralizers installed which made it possible to move the pump and piping aside to lower the video camera to total depth at 50.7 feet bgs. The changes in water clarity and the character of encrustations at 23 feet bgs may indicate the top of the well screen.	-
Well Designated for Groundwater Level Measurement Only																	-						
60F	-	-	Stock	Unknown	NA	Unknown	-	Unknown	-	-	6	PVC	-	-	NA	-	0.7	NA	NA	NA	NA	NA	-

Notes
** = Well yield observed during June 2014 sampling event.*
bgs = Below ground surface
NA = Not applicable
NOS = Not otherwise specified.

TABLE 4

OIL AND GAS WELLS WITHIN 1,420 FEET OF WATER-SUPPLY WELLS
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

			Location						Completion[1]						Cumulative Production					
API #	Well Name	Mineral Ownership	Township Range Section	Latitude	Longitude	Latitude/ Longitude Source	Ground Elevation (feet)	Kelly Bushing Elevation (feet)	Operator	Completion Date	Total Depth (feet)	Surface Casing Depth (feet)	Production Casing Cement Top[2] (feet [year])	Depth of Highest Perforation (feet)	Well Status	Oil (barrels)	Gas Volume (MCF)	Water (barrels)	Last Time Reported	Water Supply Wells within 1420 Feet (distance in feet)
1321128	Tribal 14-2	Tribal	T3N R2E Section 2	43.260210	-108.615830	WOGCC	5,368	5383	Shell Oil Co.	5/28/1981	5,160	584	2200 [1980] <585 [1982]	1,566	Active	0	3,335,646	44	Mar 2015	PGDW45 (895) and PGDW05 (986)
1322236	Tribal Pavillion 24-02	Tribal	T3N R2E Section 2	43.259882	-108.610983	Field GPS	5,368	5378	Tom Brown Inc.	11/4/2004	3,932	552	558 [2004] Surface [2005]	1,528	Active	0	489,446	174	Mar 2015	PGDW05 (578) and PGDW45 (650)
1306388	Mae H. Rhodes 1	Fee	T3N R2E Section 3	43.260090	-108.635190	WOGCC	5,387	5399	Gulf Oil Corp.	12/31/1953	10,988	502	1,776 [1953]	N/A	Plugged	0	0	0		PGDW41A (1,028) and PGDW41B (1,029)
1322246	Pavillion Fee 13-03W	Fee	T3N R2E Section 3	43.262919	-108.636420	Field GPS	5,398	5408	Encana O&G (USA) Inc.	4/23/2005	4,592	598	Surface [2005]	1,486	Active	3	249,933	1,340	Mar 2015	PGDW41B (474) and PGDW41A (480)
1321904	Pavillion Fee 13X-3	Fee	T3N R2E Section 3	43.263330	-108.634170	WOGCC	5,350	5363	Tom Brown Inc.	10/21/1999	6,031	617	535 [1999]	1,335	Plugged	0	0	0		PGDW41B (1,071) and PGDW41A (1,076)
1322623	Pavillion Fee 14-03B	Fee	T3N R2E Section 3	43.259440	-108.634250	WOGCC	5,389	5399	Encana O&G (USA) Inc.	4/5/2005	3,924	610	<34 [2005]	2,901	Active	5	1,175,124	1,901	Mar 2015	PGDW41A (1,372) and PGDW41B (1,373)
1322219	Pavillion Fee 14-03W	Fee	T3N R2E Section 3	43.260720	-108.635750	WOGCC	5,396	5406	Tom Brown Inc.	4/13/2002	5,690	610	Surface [2002]	4,450	Active	3	3,602,780	5,727	Mar 2015	PGDW41A (761) and PGDW41B (761)
1322005	Pavillion Fee 34-03	Fee	T3N R2E Section 3	43.260218	-108.625389	Field GPS	5,377	NA	Tom Brown Inc.	12/14/2000	192	N/A	N/A	N/A	Plugged	0	0	0		PGDW30 (1,234)
1322087	Pavillion Fee 34-03R	Fee	T3N R2E Section 3	43.260280	-108.625278	WOGCC	5,376	5388	Tom Brown Inc.	5/4/2001	3,388	350	<300 [2001]	2,371	Active	2	864,336	1,153	Mar 2015	PGDW30 (1,234)
1321906	Tribal Pavillion 44-03	Tribal	T3N R2E Section 3	43.259440	-108.621110	WOGCC	5,377	5390	Tom Brown Inc.	6/21/1999	5,996	550	2,150 [1999] <500 [1999]	686	Active	1	1,516,058	1,663	Mar 2015	PGDW30 (792)
1322721	Tribal Pavillion 44-03C	Tribal	T3N R2E Section 3	43.261360	-108.622778	WOGCC	5,383	5393	Tom Brown Inc.	5/25/2005	3,893	633	Surface [2005]	1,857	Shut In	545	153,642	21,787	Jun 2011	PGDW30 (1,393)
1320298	W.E. Lloyd 1	Fee	T3N R2E Section 3	43.260110	-108.625280	WOGCC	5,378	5391	Hickerson Oil Co.	6/14/1971	15,562	898	N/A	N/A	Plugged	0	0	0		PGDW30 (1,185)
1320668	Blankenship 4-8	Fee	T3N R2E Section 4	43.265560	-108.640089	WOGCC	5,404	5415	Palmer Oil & Gas	3/25/1977	5,193	433	1,850 [2005]	2,059	Shut In	365	6,245,356	63,110	Apr 2008	PGDW41B (1,383) and PGDW41A (1,385)
1322633	Pavillion Fee 43-04	Fee	T3N R2E Section 4	43.262618	-108.640212	Field GPS	5,399	5409	Encana O&G (USA) Inc.	4/2/2005	4,734	590	<48 [2005]	1,710	Shut In	44	389,638	19,681	Mar 2015	PGDW41A (652) and PGDW41B (654)
1322634	Pavillion Fee 44-04	Fee	T3N R2E Section 4	43.259440	-108.639943	WOGCC	5,394	5404	Encana O&G (USA) Inc.	3/15/2005	5,690	601	<68 [2005]	3,774	Active	1,262	173,288	26,707	Mar 2015	PGDW41A (1,125) and PGDW41B (1,131)
1320084	Maxson 32-9	Fee	T3N R2E Section 9	43.252780	-108.645109	WOGCC	5,390	5401	Shell Oil Co.	5/27/1968	3,500	596	N/A	N/A	Plugged	0	0	0		PGDW42 (1,230)
1322172	Pavillion Fee 31-9	Fee	T3N R2E Section 9	43.256860	-108.644860	WOGCC	5,399	5409	Tom Brown Inc.	11/8/2001	3,435	524	120 [2001]	2,303	Active	2	432,828	1,346	Mar 2015	PGDW42 (770)
1322227	Pavillion Fee 32-09W	Fee	T3N R2E Section 9	43.254080	-108.644721	WOGCC	5,398	5408	Tom Brown Inc.	3/22/2002	3,450	522	<30 [2002]	2,548	Active	2	502,715	1,380	Mar 2015	PGDW42 (920)
1321130	Tribal 21-9	Tribal	T3N R2E Section 9	43.256390	-108.650109	WOGCC	5,390	5405	Shell Oil Co.	6/24/1981	5,289	800	1,044 [1981]	2,143	Plugged	0	271,143	11	May 1991	PGDW42 (781)
1306363	Govt Tribal 33X-10	Tribal	T3N R2E Section 10	43.250190	-108.625280	WOGCC	5,391	5415	Shell Oil Co.	5/11/1965	19,211	197	N/A	3,212	Plugged	0	6,262,865	0	Apr 1983	PGDW44 (311), PGDW14 (740), and PGDW23 (909)
1321691	Pavillion Fee 31-10	Fee	T3N R2E Section 10	43.256365	-108.625138	Field GPS	5,372	5387	Tom Brown Inc.	6/25/1994	5,957	583	2,114 [1994]	3,320	Active	1,412	4,297,601	15,507	Mar 2015	PGDW30 (811)
1322268	Pavillion Fee 31-10B	Fee	T3N R2E Section 10	43.254940	-108.628222	WOGCC	5,378	5388	Encana O&G (USA) Inc.	1/23/2005	5,545	620	1,340 [2004] 743 [2005]	1,692	Active	2,535	249,826	14,005	Mar 2015	PGDW14 (1,263)
1322198	Pavillion Fee 41-10	Fee	T3N R2E Section 10	43.255851	-108.620913	Field GPS	5,372	5382	Tom Brown Inc.	1/23/2002	3,170	524	518 [2002]	1,608	Active	0	956,129	157	Mar 2015	PGDW30 (755) and PGDW49 (799)
1322624	Pavillion Fee 41-10B	Fee	T3N R2E Section 10	43.256943	-108.620175	Field GPS	5,371	5381	Encana O&G (USA) Inc.	5/7/2005	3,831	630	<42 [2005]	1,782	Active	0	291,365	293	Mar 2015	PGDW30 (670) and PGDW49 (874)
1321696	Tribal 42-10	Tribal	T3N R2E Section 10	43.254231	-108.620931	Field GPS	5,368	5383	Tom Brown Inc.	6/15/1994	5,980	611	2,590 [1994] 1,750 [2004]	2,487	Active	595	3,333,658	14,503	Mar 2015	PGDW49 (814) and PGDW30 (1,281)
1321692	Tribal Pavillion 23-10	Tribal	T3N R2E Section 10	43.248890	-108.630680	WOGCC	5,406	5421	Tom Brown Inc.	7/14/1994	5,985	590	1,340 [1994]	4,577	Shut In	7	1,939,835	112,463	Apr 2008	PGDW44 (1,237) and PGDW14 (1,307)
1322417	Tribal Pavillion 23-10B	Tribal	T3N R2E Section 10	43.250470	-108.631222	WOGCC	5,410	5420	Tom Brown Inc.	11/5/2004	5,636	631	970 [2004]	2,280	Active	6	1,726,343	4,626	Mar 2015	PGDW14 (1,098) and PGDW44 (1,275)
1322418	Tribal Pavillion 23-10C	Tribal	T3N R2E Section 10	43.247890	-108.629472		5,433	5443	Tom Brown Inc.	10/13/2004	5,720	566	150 [2004]	1,761	Active	6	792,668	4,555	Mar 2015	PGDW44 (1,187)
1321968	Tribal Pavillion 32-10	Tribal	T3N R2E Section 10	43.253238	-108.630100	Field GPS	5,387	5400	Tom Brown Inc.	5/10/2000	5,580	613	1,000 [2000]	5,293	Active	29	4,779,225	2,205	Mar 2015	PGDW14 (958)

TABLE 4

OIL AND GAS WELLS WITHIN 1,420 FEET OF WATER-SUPPLY WELLS
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			Location						Completion[1]						Cumulative Production					
API #	Well Name	Mineral Ownership	Township Range Section	Latitude	Longitude	Latitude/ Longitude Source	Ground Elevation (feet)	Kelly Bushing Elevation (feet)	Operator	Completion Date	Total Depth (feet)	Surface Casing Depth (feet)	Production Casing Cement Top[2] (feet [year])	Depth of Highest Perforation (feet)	Well Status	Oil (barrels)	Gas Volume (MCF)	Water (barrels)	Last Time Reported	Water Supply Wells within 1420 Feet (distance in feet)
1322224	Tribal Pavillion 32-10B	Tribal	T3N R2E Section 10	43.253280	-108.625389	WOGCC	5,374	5384	Tom Brown Inc.	3/28/2002	5,840	612	<130 [2002]	4,511	Active	14	4,615,867	4,727	Mar 2015	PGDW14 (829) and PGDW44 (1,130)
1322419	Tribal Pavillion 32-10C	Tribal	T3N R2E Section 10	43.252211	-108.627491	Field GPS	5,381	5391	Encana O&G (USA) Inc.	2/18/2005	4,010	616	110 [2005]	1,910	Active	8	316,741	7,102	Dec 2014	PGDW14 (249) and PGDW44 (758)
1321862	Tribal Pavillion 33-10	Tribal	T3N R2E Section 10	43.248612	-108.626454	Field GPS	5,470	5483	Tom Brown Inc.	5/6/1999	5,957	501	680 [1999]	2,088	Active	3	5,200,661	2,583	Mar 2015	PGDW44 (607), PGDW23 (1,030), and PGDW14 (1,092)
1322274	Tribal Pavillion 33-10B	Tribal	T3N R2E Section 10	43.249535	-108.624267	Field GPS	5,395	5405	Tom Brown Inc.	12/14/2004	5,600	629	74 [2004]	1,632	Active	2	1,129,141	2,219	Mar 2015	PGDW23 (549), PGDW44 (639), and PGDW14 (1,101)
1322195	Tribal Pavillion 33-10W	Tribal	T3N R2E Section 10	43.248702	-108.626805	Field GPS	5,473	5483	Tom Brown Inc.	12/6/2001	5,060	518	<550 [2001]	1,756	Active	2	933,515	8,229	Mar 2015	PGDW44 (582), PGDW14 (1,042), and PGDW23 (1,124)
1322149	Tribal Pavillion 34-10	Tribal	T3N R2E Section 10	43.246580	-108.625260	WOGCC	5,402	5412	Tom Brown Inc.	10/6/2001	5,722	638	<618 [2001]	4,606	Active	5	3,147,222	4,867	Mar 2015	PGDW23 (1,040) and PGDW44 (1,384)
1322324	Tribal Pavillion 42-10B	Tribal	T3N R2E Section 10	43.252190	-108.620194	WOGCC	5,366	5376	Encana O&G (USA) Inc.	2/16/2005	5,595	611	<42 [2005]	1,880	Active	0	994,205	2,892	Mar 2015	PGDW49 (1,191)
1321704	Tribal Pavillion 43-10	Tribal	T3N R2E Section 10	43.249234	-108.621267	Field GPS	5,378	5393	Tom Brown Inc.	9/21/1994	5,941	626	Surface [1994]	4,544	Active	606	6,837,638	28,467	Mar 2015	PGDW23 (409)
1322420	Tribal Pavillion 43-10B	Tribal	T3N R2E Section 10	43.247613	-108.620928	Field GPS	5,439	5449	Encana O&G (USA) Inc.	1/20/2005	5,750	626	1,170 [2004]	1,800	Active	2	533,657	2,606	Mar 2015	PGDW23 (584)
1320414	Unit 41X-10	Tribal	T3N R2E Section 10	43.255110	-108.622010	WOGCC	5,366	5376	Shell Oil Co.	1/29/1973	5,037	609	1,370 [1972]	1,799	Plugged	0	0	0		PGDW30 (898) and PGDW49 (1,040)
1320879	Unit 44-10	Tribal	T3N R2E Section 10	43.246490	-108.621610	WOGCC	5,389	5403	Shell Oil Co.	12/17/1979	5,186	591	1,918 [1979]	2,677	Active	2	4,546,216	1,751	Mar 2015	PGDW23 (833)
1320876	USA Tribal 22-10	Tribal	T3N R2E Section 10	43.251940	-108.632220	WOGCC	5,408	5422	Shell Oil Co.	10/13/1979	5,138	594	1,805 [1979]	1,980	Active	2	6,382,976	1,363	Mar 2015	PGDW14 (1,302)
1322059	Pavillion Fee 11-11	Fee	T3N R2E Section 11	43.255122	-108.613706	Field GPS	5,355	5366	Tom Brown Inc.	5/17/2001	5,835	531	<330 [2001]	3,348	Active	0	836,681	9,051	Mar 2015	PGDW49 (1,172), PGDW45 (1,383), and PGDW05 (1,389)
1322220	Pavillion Fee 11-11B	Fee	T3N R2E Section 11	43.256970	-108.615944	WOGCC	5,365	5375	Tom Brown Inc.	2/16/2002	4,770	550	<520 [2002]	1,506	Active	4	792,048	13,056	Mar 2015	PGDW49 (898), PGDW45 (1,048), and PGDW05 (1,118)
1322272	Pavillion Fee 12-11B	Fee	T3N R2E Section 11	43.254237	-108.615986	Field GPS	5,362	5371	Encana O&G (USA) Inc.	1/15/2005	3,851	541	970 [2004] 226 [2005]	1,397	Active	0	359,275	731	Mar 2015	PGDW49 (643)
1322102	Pavillion Fee 12-11W	Fee	T3N R2E Section 11	43.251940	-108.615000	WOGCC	5,356	5368	Tom Brown Inc.	5/3/2001	3,238	418	1,930 [2001] Surface [2013]	2,517	Active	0	860,979	460	Mar 2015	PGDW49 (1,412)
1321669	Pavillion Unit 12-11	Fee	T3N R2E Section 11	43.252270	-108.614830	WOGCC	5,357	5372	Tom Brown Inc.	10/19/1993	6,467	612	852 [1993]	3,367	Active	229	5,747,110	8,453	Mar 2015	PGDW49 (1,346)
1322586	Tribal Pavillion 21-11B	Tribal	T3N R2E Section 11	43.256953	-108.610928	Field GPS	5,355	5365	Encana O&G (USA) Inc.	4/19/2005	3,865	632	<30 [2005]	1,434	Active	18	647,856	1,560	Mar 2015	PGDW05 (827) and PGDW45 (894)
1322060	Pavillion Fee 13-12	Fee	T3N R2E Section 12	43.250891	-108.593728	Field GPS	5,323	5335	Tom Brown Inc.	6/1/2001	3,263	315	915 [2001]	2,158	Active	0	672,943	223	Mar 2015	PGDW20 (715) and LD-02 (715)
1322186	Pavillion Fee 23-12	Fee	T3N R2E Section 12	43.250699	-108.589188	Field GPS	5,323	5333	Tom Brown Inc.	9/19/2001	3,250	524	<29 [2001]	1,720	Active	0	431,878	139	Mar 2015	LD-02 (617) and PGDW20 (656)
1320878	Unit 22-12	Tribal	T3N R2E Section 12	43.253096	-108.593332	Field GPS	5,324	5338	Shell Oil Co.	1/17/1980	5,186	572	N/A	1,687	Active	0	3,648,078	288	Mar 2015	PGDW20 (758) and LD-02 (802)

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			Location						Completion[1]						Cumulative Production					
API #	Well Name	Mineral Ownership	Township Range Section	Latitude	Longitude	Latitude/ Longitude Source	Ground Elevation (feet)	Kelly Bushing Elevation (feet)	Operator	Completion Date	Total Depth (feet)	Surface Casing Depth (feet)	Production Casing Cement Top[2] (feet [year])	Depth of Highest Perforation (feet)	Well Status	Oil (barrels)	Gas Volume (MCF)	Water (barrels)	Last Time Reported	Water Supply Wells within 1420 Feet (distance in feet)
1322057	Pavillion Fee 21-13	Fee	T3N R2E Section 13	43.242179	-108.590497	WOGCC	5,315	5327	Tom Brown Inc.	2/23/2001	3,488	430	1,190 [2001]	1,642	Flowing	2	163,466	1,422	Mar 2015	PGDW32 (1,100)
1320855	Tribal Pavillion 12-13	Tribal	T3N R2E Section 13	43.239720	-108.595768	Field GPS	5,328	5338	Shell Oil Co.	5/12/1979	5,390	566	544 [1979] 950 [2000]	1,888	Plugged	0	1,043,834	18	Oct 2000	PGDW33 (462) and PGDW32 (576)

Notes
[1] All completion depths measured from ground level
[2] For wells with remedial cementing or multiple cement top measurements, only the first and last are presented.
N/A = not available
MCF = million cubic feet

TABLE 5

PITS WITHIN 1,420 FEET OF WATER-SUPPLY WELLS

Pavillion, Wyoming Area Domestic Water Wells

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Well/Pit Name	Well Completion Date	Drilling Mud Type	Well Status	Pit Latitude	Pit Longitude	Pit Latitude/ Longitude Source	Pit Type	Pit Comments / Cuttings Disposition	WOGCC Pit Investigation Summary	Water-Supply Wells within 1,420 Feet (distance in feet)
Blankenship 4-8	1/31/1977	Invert	Shut in	43.265799	-108.640282	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment completed in September 2011, soil samples all below 1,000 ppm, but groundwater detected at 2.5 feet below surface, benzene, TPH-GRO detected above WDEQ cleanup levels; site investigated and remediated under WDEQ VRP. Site granted Certificate of Completion by VRP April 30, 2015.	PGDW41B (1,484) and PGDW41A (1,486); the gas well is within 1,420 feet
Govt Tribal 33X-10	5/11/1965	Invert	Plugged	43.251156	-108.624980	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment completed in December 2007, OCSRRS Goal = 1,000 ppm, remediation (excavation) required, excavated 560 cubic yards, post-excavation samples max TPH = 1,000 ppm (further investigation recommended)	PGDW44 (505), PGDW14 (650), and PGDW23 (1,111)
Mae H. Rhodes 1	12/31/1953	Water	Plugged	43.260090	-108.635190	WOGCC Shape Files	Reserve (Water)	Water based mud/cuttings	No investigation	PGDW41A (1,028) and PGDW41B (1,029)
Maxson 32-9	5/27/1968	Invert	Plugged	43.252780	-108.645109	WOGCC Shape Files	Reserve (Invert)	Invert drill mud/cuttings	No investigation (investigation recommended conditionally)	PGDW42 (1,230)
Pavillion Fee 13X-3	10/21/1999	LSND	Plugged	43.263330	-108.634170	WOGCC Shape Files	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW41B (1,071) and PGDW41A (1,076)
Pavillion Fee 31-9	11/8/2001	LSND	Active	43.256666	-108.646053	WOGCC Shape Files	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	Site assessment completed in August 2011, no remediation required - no detections of SVOCs, TPH-DRO, TPH-GRO	PGDW42 (475)
Pavillion Unit 12-11	10/19/1993	KCl Polymer	Active	43.252270	-108.614830	WOGCC Shape Files	Cuttings (KCl)	Closed system, cuttings buried onsite	No investigation	PGDW49 (1,346)
Tribal 14-2	5/28/1981	Invert	Active	43.260189	-108.616637	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment completed in November 2006, OCSRRS Goal = 1,000 ppm, excavated 50 cu yds, post-remediation sample max = 861 ppm, additional soils and groundwater investigation in October 2014 performed under WDEQ VRP. Site granted Certificate of Completion by VRP on April 29, 2015.	PGDW45 (1,079) and PGDW05 (1,174)
Tribal 21-9	6/24/1981	Invert	Plugged	43.256414	-108.650675	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessments completed in August 2011, October 2012, and November 2012, TPH in groundwater detected below WDEQ cleanup levels, excavation conducted October-November 2013, excavation and confirmation sampling until TPH soil goals met, total excavated 8,522 cubic yards, closure using treated/tested fill material	PGDW42 (928)
Tribal 42-10	6/15/1994	KCl Polymer	Active	43.254231	-108.620931	Field GPS	Cuttings (KCl)	Closed system, cuttings buried onsite	No Investigation	PGDW49 (814) and PGDW30 (1,281)
Tribal Pavillion 12-13	5/12/1979	Invert	Plugged	43.240041	-108.595714	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment conducted in September 2011 based on reports from residents of potential pit location, no evidence of pit found (further investigation recommended)	PGDW32 (495) and PGDW33 (577)
Tribal Pavillion 23-10	7/14/1994	LSND	Shut in	43.248890	-108.630680	WOGCC Shape Files	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW44 (1,237) and PGDW14 (1,307)
Tribal Pavillion 23-10B	11/5/2004	LSND	Active	43.250470	-108.631222	WOGCC Shape Files	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW14 (1,098) and PGDW44 (1,275)
Tribal Pavillion 23-10C	10/13/2004	LSND	Active	43.247890	-108.629472	WOGCC Shape Files	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW44 (1,187) and PGDW14 (1,441; the gas well is within 1,420 feet)
Tribal Pavillion 32-10	5/10/2000	LSND	Active	43.253238	-108.630100	Field GPS	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW14 (958)
Tribal Pavillion 33-10	5/6/1999	KCl Polymer	Active	43.248612	-108.626454	Field GPS	Cuttings (KCl)	Closed system, cuttings buried onsite	No investigation	PGDW44 (607), PGDW23 (1,030), and PGDW14 (1,092)

TABLE 5

PITS WITHIN 1,420 FEET OF WATER-SUPPLY WELLS

Pavillion, Wyoming Area Domestic Water Wells

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Well/Pit Name	Well Completion Date	Drilling Mud Type	Well Status	Pit Latitude	Pit Longitude	Pit Latitude/ Longitude Source	Pit Type	Pit Comments / Cuttings Disposition	WOGCC Pit Investigation Summary	Water-Supply Wells within 1,420 Feet (distance in feet)
Tribal Pavillion 33-10B	12/14/2004	LSND	Active	43.249535	-108.624267	Field GPS	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW23 (549), PGDW44 (639), and PGDW14 (1,101)
Tribal Pavillion 43-10	9/21/1994	KCl Polymer	Active	43.249234	-108.621267	Field GPS	Cuttings (KCl)	Closed system, cuttings buried onsite	No investigation (recommended for investigation to determine the need for additional work at KCl polymer-type cuttings pits)	PGDW23 (409)
Tribal Pavillion 43-10B	1/20/2005	LSND	Active	43.247613	-108.620928	Field GPS	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW23 (584)
Tribal Pavillion 44-03	6/21/1999	LSND	Active	43.259440	-108.621110	WOGCC Shape Files	Cuttings (LSND)	Closed loop drilling, cuttings buried onsite	No investigation	PGDW30 (792)
Unit 22-12	1/17/1980	Invert	Active	43.253318	-108.593446	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment conducted December 2006, excavation of 40-60 cubic yards completed March 2008, second site assessment conducted August 2011, soil and groundwater samples below cleanup concentrations, additional monitoring wells installed in October 2012, low (below WDEQ standards) BTEX concentrations in sample from one well; site in WDEQ VRP	PGDW20 (837) and LD-02 (882)
Unit 41X-10	1/29/1973	Invert	Plugged	43.254792	-108.622366	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment conducted in December 2007, seven trenches dug at north, south, and east ends of site, soil was reportedly indicative of native non-impacted soils (further investigation recommended)	PGDW30 (1,003) and PGDW49 (1,140)
Unit 44-10	12/17/1979	Invert	Active	43.246680	-108.622413	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment conducted in May 2007, OCSRRS Goal = 5,500 ppm, 60 cubic yards excavated, post-excavation sample max = 2,920 ppm (further investigation recommended)	PGDW23 (723)
USA Tribal 22-10	10/13/1979	Invert	Active	43.252033	-108.632856	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment completed in April 2007, OCSRRS Goal = 7,000 ppm, no remediation required, max soil sample = 201 ppm (further investigation recommended)	PGDW14 (1,474; the gas well is within 1,420 feet)
W.E. Lloyd 1	6/14/1971	Invert	Plugged	43.260478	-108.625590	WOGCC Shape Files	Reserve & Production (Invert)	Invert drill mud/cuttings and produced water	Site assessment completed in August 2011, OCSRRS Goal = 1,000 ppm, soil TPH below OCSRRS Goal, no remediation	PGDW30 (1,342)

Notes

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = diesel range organics

GRO = gasoline range organics

OCSRRS = Oil Contaminated Soil Remediation Ranking System by the Wyoming Oil and Gas Conservation Commission (WOGCC)

ppm = parts per million

SVOCs = semivolatile organic compounds

TPH = total petroleum hydrocarbons

VRP = Voluntary Remediation Program

WDEQ = Wyoming Department of Environmental Quality

TABLE 6

LIST OF FIELD SAMPLES INCLUDING QUALITY ASSURANCE SAMPLES

Pavillion, Wyoming Area Domestic Water Wells

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Well ID	Sample Date	Primary Sample	Field Duplicate	Equipment Blank	MS/ MSD	Trip Blank	Purge Start Time	Purge End Time	Purge Volume (gallons)	Total Depth (feet)	Depth To Water (feet bmp)	Depth to Water Esti-mated[1]	Casing Dia-meter (inches)	Estimated Casing Volume (gallons)[2]	Notes	Purge Water Disposition
JUNE 2014 SAMPLING EVENT																
LD02	6/20/2014	LD02-06202014	-	-	-	Y	NA	NA	NA	610	166	N	6	NA	Not equipped with pump. Bent casing. Not purged. Used HydraSleeve™ grab sampling devices, with intake depth at approximately 200 feet below top of casing.	Discharged to ditch approximately 90 feet south of well.
PGDW05	6/16/2014	PGDW05-06162014	-	-	-	Y	1305	1415	170	210	20	Y	7	380	Low yield reported by owner. Purged and sampled at low rate to avoid dewatering.	Discharged to grass NW of house.
PGDW14	6/12/2014	PGDW14-06122014	-	-	-	Y	0816	1004	588	190	20	Y	6	250		Discharged to irrigate landscape trees, plants.
PGDW20	6/20/2014	PGDW20-06202014	-	-	-	Y	0740	1108	679	380	170	Y	5	210	Give one day notice to owner to change valves. Hydrant set screw apparently slipped since flow from valve at sample point to approximately 3 gpm. (EPA reported 10-15 gpm). Allowed for distance from well to sampling point in purge volume.	Discharged to a concrete ditch approximately 55 feet north of sample point.
PGDW23	6/13/2014	PGDW23-06132014	-	-	-	Y	0600	0941	1700	475	120	Y	6	520	Owner began running pump at 0600 on full volume estimated at 8 gpm. Depth to water estimate from driller's log.	Irrigated landscape trees and shrubs.
PGDW30	6/18/2014	PGDW30-06182014	-	FB-1-06182014	-	Y	0500	0939	1500	260	20	Y	6	350	Owner began running pump at 0500 at approximately 5 gpm.	Discharged to field E of well shed and E of fence.
PGDW32	6/11/2014	PGDW32-06112014	DUPE-1-06112014	-	-	Y	0600	1111	2200	675	250	N	6	620	Owner began running pump at approx. 0600 at estimated 8 gpm. Sampling began at 1100 due to estimated time to collect, prepare, and transport primary and duplicate samples to common carrier.	Discharged to grass lawn.
PGDW33	6/10/2014	PGDW33-06102014	-	-	-	Y	0700	0940	110	30	20	Y	6	10	Well production rate low. Owner ran pump at low rate of 1 gpm for approximately 1 hour prior to monitoring. Allowed for distance from well to sampling point in purge volume.	Irrigated grass lawn.
PGDW41A	6/19/2014	PGDW41A-06192014	-	-	-	Y	1026	1215	387	376	20	Y	6	520	Pump began to surge after 1 hour; turned off pump for approximately 1/2 hour then reduced pumping rate from 6 to 3 gpm. Samples collected after field parameters stabilized.	Discharged to ditch located W of horse corral approximately 100 feet from the well.
PGDW41B	6/19/2014	PGDW41B-06192014	-	-	-	Y	0830	0928	325	70	20	Y	8	130	Turbidity >20 NTU, did not collect unfiltered sample for metals.	Discharged to ditch located W of horse corral approximately 100 feet from the well.
PGDW44	6/12/2014	PGDW44-06122014	-	-	-	Y	0810	1359	1200	176.6	46	Y	9	430	Well initially produced 8 gpm but ran dry after 2 hours; turned off pump for 3 hours then reduced pumping rate to 1.3 gpm to purge/ sample. Depth to water from August.	Irrigated landscape trees and plants.
PGDW45	6/16/2014	PGDW45-06162014	DUPE-2-06162014	-	-	Y	1032	1111	377	48	26	N	6	30		Irrigated to grass lawn around well and house.
PGDW49	6/17/2014	PGDW49-06172014	-	-	Y	Y	0858	1037	1062	51.7	10	N	6	60	Extended purge volume to allow field parameters to stabilize.	Discharged to field N of well.

TABLE 6

LIST OF FIELD SAMPLES INCLUDING QUALITY ASSURANCE SAMPLES

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Well ID	Sample Date	Primary Sample	Field Duplicate	Equipment Blank	MS/ MSD	Trip Blank	Purge Start Time	Purge End Time	Purge Volume (gallons)	Total Depth (feet)	Depth To Water (feet bmp)	Depth to Water Esti-mated[1]	Casing Dia-meter (inches)	Estimated Casing Volume (gallons)[2]	Notes	Purge Water Disposition
AUGUST 2014 SAMPLING EVENT																
LD02	8/21/2014	LD02-08212014	-	-	-	Y	NA	NA	NA	610	168	N	6	NA	Not equipped with pump. Bent casing. Not purged. Used HydraSleeve™ grab sampling devices, with intake depth at approximately 200 feet below top of casing.	Discharged to ditch approximately 90 feet south of well.
PGDW05	8/18/2014	PGDW05-08182014	-	-	-	Y	0826	0910	99	210	15	Y	7	390	Low yield reported by owner. Purged and sampled at low rate to avoid dewatering.	Discharged to grass NW of house.
PGDW14	8/14/2014	PGDW14-08142014	-	-	-	Y	0830	0947	484	190	20	Y	6	250		Discharged to irrigate landscape trees, plants.
PGDW20	8/21/2014	PGDW20-08212014	-	-	-	Y	0630	0957	870	380	170	Y	5	210	Owner began running pump at 0630. Purge rate calculated at 5 gpm. Allowed for distance from well to sampling point in purge volume.	Discharged to a concrete ditch approximately 55 feet north of sample point.
PGDW23	8/15/2014	PGDW23-08152014	DUPE-1-08152014	-	-	Y	0600	0932	1700	475	120	Y	6	520	Owner began running pump at 0600 on full volume estimated at 8.5 gpm. Depth to water estimate from driller's log.	Irrigated landscape trees and shrubs.
PGDW30	8/12/2014	PGDW30-08122014	-	-	Y	Y	0600	0925	900	260	20	Y	6	350	Owner began running pump at 0600 on full volume estimated at 5 gpm.	Discharged to field E of well shed and E of fence.
PGDW32	8/13/2014	PGDW32-08132014	-	-	-	Y	0600	1255	2200	675	272	N	6	590	Owner began running pump at approx. 0600 at estimated 1.5 gpm. Increased flow rate to 9 gpm with larger diameter hose 0830 to 1105. Sampling began at 1100 due to estimated time to collect, prepare, and transport sample to common carrier.	Discharged to grass lawn.
PGDW33	8/13/2014	PGDW33-08132014	-	FB-1-08132014	-	Y	0600	0942	170	30	20	Y	6	10	Well production rate low. Owner ran pump at low rate of 1 gpm for approximately 2.5 hours prior to monitoring. Allowed for distance from well to sampling point in purge volume.	Irrigated grass lawn.
PGDW41A	8/20/2014	PGDW41A-08202014	-	-	-	Y	1046	1141	154	376	20	Y	6	520	Well purged at low rate, approximately 3 gpm, to prevent groundwater from reaching pump intake.	Discharged to ditch located W of horse corral approximately 100 feet from the well.
PGDW41B	8/20/2014	PGDW41B-08202014	-	-	-	Y	0836	0930	345	70	20	Y	8	130	Owner stated that well pump was in use as cistern was dry. Turbidity >20 NTU, did not collect unfiltered sample for metals.	Discharged to ditch located W of horse corral approximately 100 feet from the well.
PGDW44	8/14/2014	PGDW44-08142014	-	-	-	Y	0940	1220	500	176.7	46	Y	9	430	Initial purge at 2 gpm 0940-1135 to prevent the well from going dry; then purged at an average of 3 gpm for 45 minutes.	Irrigated landscape trees and plants.
PGDW45	8/18/2014	PGDW45-08182014	-	-	-	Y	1026	1057	221	48	10	N	6	60		Irrigated to grass lawn around well and house.

TABLE 6

LIST OF FIELD SAMPLES INCLUDING QUALITY ASSURANCE SAMPLES

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Well ID	Sample Date	Primary Sample	Field Duplicate	Equipment Blank	MS/ MSD	Trip Blank	Purge Start Time	Purge End Time	Purge Volume (gallons)	Total Depth (feet)	Depth To Water (feet bmp)	Depth to Water Esti-mated[1]	Casing Dia-meter (inches)	Estimated Casing Volume (gallons)[2]	Notes	Purge Water Disposition
PGDW49	8/19/2014	PGDW49-08192014	DUPE-2-08192014	-	-	Y	0838	0946	628	51.7	19	N	6	50	Based on DO readings water level may have neared pump intake. Adjust flow downward at 0926, pump off at 0946 to allow well to recover. Resume purged 1013, monitor field parameters for stability, then collected sample.	Discharged to field N of well.

Notes

bgs = Below ground surface

bmp = Below measuring point.

DO = Dissolved oxygen

gpm = Gallons per minute

MS/MSD = Matrix spike/ matrix spike duplicate

NA =Not Applicable

NTU = nephelometric turbidity units

Trip blanks included with each cooler shipped that contained samples for:

Volatile organic compounds by EPA 8260B

Gasoline range organics by EPA 8015D

Dissolved gases by RSK-SOP 175

1. *Depth to water estimated from other nearby water-supply wells where measurement not available, unless as noted otherwise.*
2. *Casing volume estimate may differ from field notes because of updates to well depth, casing diameter, and depth to water estimates subsequent to field work.*

TABLE 7

FIELD PARAMETER MEASUREMENTS AND METHODS

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Parameter	Stability Criterion	Measurement Method	Method Description	Stated Accuracy	Calibration Notes
Temperature	+/- 0.5 degree C	Meter/ flow-through cell*	Thermistor	+/- 0.15 degree C	Check prior to each sampling event; +/- 0.2 C.
Specific Conductance	+/- 5 percent	Meter/ flow-through cell*	Four electrode cell	+/- 0.5%	Check start and end of each day; +/- 5% 1 point with mid-range solution (e.g. 10 mS/cm) plus distilled water check (<0.03 mS/cm).
pH	+/- 0.1 pH unit	Meter/ flow-through cell*	Glass sensing and Ag/AgCl reference electrodes	+/- 0.2 unit	Calibrate start and end of each day; +/- 0.5 units. Two-point pH 7 and 10.
Oxidation-Reduction Potential	NA	Meter/ flow-through cell*	Ag/AgCl reference electrode	+/- 20 mV	Calibrate start and end of each day; +/- 20 mV, following pH calibration.
Dissolved Oxygen	+/- 0.3 mg/L	Meter/ flow-through cell*	Optical luminescence (ROX™)	+/- 0.1 mg/L	Check start and end of each day; +/- 5% to water-saturated air, 15 minutes. Sensor must be kept wet.
Turbidity	Minimize. Greater of +/- 10 percent or +/- 1 NTU	Meter/ flow-through cell*	Optical	+/- 2%	Calibrate start and end of each day 1 point with 0 NTU solution plus mid-range check (e.g. 12.7 NTU) +/- 5% using AMCO-AEPA standards (polymer beads).
Ferrous Iron	NA	Colorimetric**	Hach method 8146 with AccVac™ Ampules	+/- 1% in lab	Zero instrument with blank each reading.
Salinity	NA	Determined from specific conductance	NA	NA	NA

Notes

** YSI 6920V2-2 multiparameter meter with two optical ports for turbidity and dissolved oxygen by optical luminescence.*

*** Hach DR/890 portable colorimeter.*

TABLE 8A

SAMPLE ANALYSES, CONTAINERS, PRESERVATION, AND HOLDING TIMES
LISTED BY PARAMETER GROUP
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Group	Analysis	Method	Total or Dissolved	Laboratory	Equip Blank	MS/MSD	Trip Blank	Number of Containers	Size Liters	Descrip-tion	Preserv-ative	Holding Time
Dissolved gases	Complete compositional gas analysis	GC Headspace	T	Isotech				1	0.75	Isoflask	Bactericide	NS
Dissolved gases	Methane, ethane, ethene	RSK-SOP 175	T	C&T		X	X	3	0.04	VOA	HCl	14 days
General chemistry	Alkalinity	SM 2320B	T	C&T		X		1	1**	P	Cold	14 days
General chemistry	Cyanide	SM 4500-Cn-E	T	C&T		X		1	0.25	P	NaOH	14 days
General chemistry	Total and dissolved organic carbon	SM 5310C	T	C&T		X		1	0.5***	G	H2SO4	28 days
General chemistry	Major anions: Br, Cl, F, NO2, NO3, SO4	EPA 300.0	T	C&T		X		0	1**	P	Cold	48 hours
General chemistry	Methylene Blue Activated Substances (MBAS)	SM 5540C	T	C&T		X		0	1**	P	Cold	48 hours
General chemistry	Nitrogen, ammonia	SM 4500NH3-D	T	C&T		X		0	0.5***	G	H2SO4	28 days
General chemistry	Oil and grease, petroleum (non-polar)	EPA1664A	T	C&T		X		1	1	G	HCl	28 days
General chemistry	Sulfide	SM 4500-S2- D	T	Precision				4	0.04	VOA	Cold	NS
General chemistry	Total dissolved solids (TDS)	SM 2540C	T	C&T		X		0	1**	P	Cold	7 days
Microorganisms	E. Coli	SM 9223B	T	Precision	X			1	0.125	P	Na2S2O3	30 hours
Microorganisms	Total coliform	SM 9223B	T	Precision	X			1	0.125	P	Na2S2O3	30 hours
Microorganisms	Iron reducing bacteria	BART™ Bioreactor	T	Precision	X			1	1	P	Cold	30 hours
Microorganisms	Sulfate reducing bacteria	BART™ Bioreactor	T	Precision	X			0	*	P	Cold	30 hours
Radiochemistry	Gross-alpha (including Ra-226 but not Rn and U)	EPA 900.0	T	C&T/ GEL				1	0.5	P	HNO3	6 months
Radiochemistry	Radium-226	EPA 903.1	T	C&T/ GEL				1	1	P	HNO3	6 months
Radiochemistry	Radium-228	EPA 904.0	T	C&T/ GEL				1	1	P	HNO3	6 months
Radiochemistry	Radon-222	SM 7500-RN-B	T	C&T/ GEL				2	0.04	VOA	Cold	4 days
Radiochemistry	Stontium-90	EPA 905.0	T	C&T/ GEL				1	1	P	HNO3	6 months
Semivolatile organics	Acrylamide	SW846 8316	T	C&T/TA		X		1	0.5	G	Cold	7 days
Semivolatile organics	Diesel range organics, with and without SGCU	SW846 8015D	T	C&T		X		2	0.5	G	Cold	14 days
Semivolatile organics	Nitrogen- and phosporus-containing pesticides	EPA 507	T	C&T/ APPL		X		1	1	G	Cold	14 days
Semivolatile organics	Organochlorine pesticides	SW846 8081A	T	C&T		X		1	1	G	Cold	14 days
Semivolatile organics	Organophosphorus compounds	SW846 8141A	T	C&T/ APPL		X		2	1	G	Cold	7 days
Semivolatile organics	Semivolatile organic compounds	SW846 8270C, report TICs.	T	C&T	X	X		2	1	G	Cold	7 days

TABLE 8A

SAMPLE ANALYSES, CONTAINERS, PRESERVATION, AND HOLDING TIMES
LISTED BY PARAMETER GROUP
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Group	Analysis	Method	Total or Dissolved	Laboratory	Equip Blank	MS/MSD	Trip Blank	Number of Containers	Size Liters	Descrip-tion	Preserv-ative	Holding Time
Stable isotopes	Isotopes of carbon (d13C) and hydrogen (dD) in methane, and (d13C) ethane	GC/ Dual Inlet MS	T	Isotech				0	*	Isoflask	Bactericide	NS
Stable isotopes	Isotopes of carbon (d13C) in dissolved inorganic carbon	Not Specified.	D	Isotech				1	0.06	P	Cold	NS
Stable isotopes	Isotopes of nitrogen (d15N) and oxygen (d180) in dissolved nitrate	Not Specified.	D	Isotech				1	1	P	Cold	NS
Trace metals	Metals, 22 trace and cations: Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Th, V, Zn	SW846 6010B	T****	C&T		X		1	0.5	P	HNO3	6 months
Trace metals	Mercury (Hg)	SW846 7470A	T****	C&T		X		0	*	P	HNO3	28 days
Trace metals	Lithium (Li) and Uranium (U)	SW846 6020A	T****	C&T/ GEL		X		1	0.25	P	HNO3	28 days
Trace metals	Metals, 22 trace and cations: Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Th, V, Zn	SW846 6010B	D	C&T		X		1	0.5	P	HNO3	6 months
Trace metals	Mercury (Hg)	SW846 7470A	D	C&T		X		0	*	P	HNO3	28 days
Trace metals	Lithium (Li) and Uranium (U)	SW846 6020A	D	C&T/ GEL		X		1	0.25	P	HNO3	28 days
Volatile organics	Gasoline range organics	SW846 8015B	T	C&T	X	X	X	3	0.04	VOA	HCl	14 days
Volatile organics	Glycols: 2-butoxyethanol, diethylene glycol, triethylene glycol, tetraethylene glycol	SW846 8015B	T	C&T/ Weck		X		3	0.04	VOA	Cool	14 days
Volatile organics	Volatile organic acids: acetate, butyrate, lactate, propionate, pyruvate	HPLC Microbac 830-MBA	T	C&T/ Microbac	X	X		1	0.5	P	Cold	NS
Volatile organics	Volatile organic compounds	SW846 8260B w/ 5035 prep, report TICs.	T	C&T	X	X	X	3	0.04	VOA	HCl	14 days

Notes
All samples are aqueous samples.
** = Analyses combined; container listed on previous line item.*
*** = Alkalinity, anions, MBAS, and TDS analyses be combined in single 1-liter container.*
**** = Organic carbon and ammonia analyses combined in a single 0.5-liter container.*
*****= In the event that field turbidiy readings remain above 20 NTU, only filtered (i.e. dissolved) samples for trace metals will be collected.*
SGCU = Silica gel cleanup
TICs = Tentatively identified compounds

TABLE 8A

SAMPLE ANALYSES, CONTAINERS, PRESERVATION, AND HOLDING TIMES
LISTED BY PARAMETER GROUP
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

G = Amber glass
H2SO4 = Sulfuric Acid to pH < 2
HCL = Hydrochloric Acid to pH < 2
HNO3 = Nitric Acid to pH < 2
NaOH = Sodium Hydroxide to pH >12
P = Polyethylene
VOA = 40mL Amber VOA Vial

Laboratories:
C&T = Cutis and Tompkins Laboatories in Berkeley, California
C&T / APPL = Agriculture & Priority Pollutants Laboratories, Inc. in Clovis, California subcontracted to C&T
C&T/ GEL = GEL Laboratories in Charleston, South Carolina subcontracted to C&T
C&T/ Microbac = Microbac Laboratories, Inc. in Marietta Ohio subcontracted to C&T
C&T/ TA = TestAmerica, Inc. in Tallahassee Florida subcontracted to C&T
C&T/ Weck = Weck Laboratories, Inc. In City of Industry, California subcontracted to C&T
Isotech = Isotech Laboratories, Inc. in Champaign, Illinois
Precision = Precision Analysis in Riverton, Wyoming

TABLE 8B

SAMPLE ANALYSES, CONTAINERS, PRESERVATION, AND HOLDING TIMES
LISTED BY ORDER SAMPLED
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Group	Analysis	Method	Total or Dissolved	Laboratory	Equip Blank	MS/MSD	Trip Blank	Number of Containers	Size Liters	Descrip-tion	Preserv-ative	Holding Time
General chemistry	Sulfide	SM 4500-S2- D	T	Precision				4	0.04	VOA	Cold	NS
Volatile organics	Gasoline range organics	SW846 8015B	T	C&T	X	X	X	3	0.04	VOA	HCl	14 days
Volatile organics	Glycols: 2-butoxyethanol, diethylene glycol, triethylene glycol, tetraethylene glycol	SW846 8015B	T	C&T/ Weck		X		3	0.04	VOA	Cool	14 days
Volatile organics	Volatile organic acids: acetate, butyrate, lactate, propionate, pyruvate	HPLC Microbac 830-MBA	T	C&T/ Microbac	X	X		1	0.5	P	Cold	NS
Volatile organics	Volatile organic compounds	SW846 8260B w/ 5035 prep, report TICs.	T	C&T	X	X	X	3	0.04	VOA	HCl	14 days
Dissolved gases	Methane, ethane, ethene	RSK-SOP 175	T	C&T		X	X	3	0.04	VOA	HCl	14 days
Dissolved gases	Complete compositional gas analysis	GC Headspace	T	Isotech				1	0.75	Isoflask	Bactericide	NS
Stable isotopes	Isotopes of carbon (d13C) and hydrogen (dD) in methane, and (d13C) ethane	GC/ Dual Inlet MS	T	Isotech				0	*	Isoflask	Bactericide	NS
Semivolatile organics	Acrylamide	SW846 8316	T	C&T/TA		X		1	0.5	G	Cold	7 days
Semivolatile organics	Diesel range organics, with and without SGCU	SW846 8015D	T	C&T		X		2	0.5	G	Cold	14 days
Semivolatile organics	Nitrogen- and phosporus-containing pesticides	EPA 507	T	C&T/ APPL		X		1	1	G	Cold	14 days
Semivolatile organics	Organochlorine pesticides	SW846 8081A	T	C&T		X		1	1	G	Cold	14 days
Semivolatile organics	Organophosphorus compounds	SW846 8141A	T	C&T/ APPL		X		2	1	G	Cold	7 days
Semivolatile organics	Semivolatile organic compounds	SW846 8270C, report TICs.	T	C&T	X	X		2	1	G	Cold	7 days
Trace metals	Metals, 22 trace and cations: Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Th, V, Zn	SW846 6010B	T****	C&T		X		1	0.5	P	HNO3	6 months
Trace metals	Mercury (Hg)	SW846 7470A	T****	C&T		X		0	*	P	HNO3	28 days
Trace metals	Lithium (Li) and Uranium (U)	SW846 6020A	T****	C&T/ GEL		X		1	0.25	P	HNO3	28 days

TABLE 8B

SAMPLE ANALYSES, CONTAINERS, PRESERVATION, AND HOLDING TIMES
LISTED BY ORDER SAMPLED
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Group	Analysis	Method	Total or Dissolved	Laboratory	Equip Blank	MS/MSD	Trip Blank	Number of Containers	Size Liters	Descrip-tion	Preserv-ative	Holding Time
Trace metals	Metals, 22 trace and cations: Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Th, V, Zn	SW846 6010B	D	C&T		X		1	0.5	P	HNO3	6 months
Trace metals	Mercury (Hg)	SW846 7470A	D	C&T		X		0	*	P	HNO3	28 days
Trace metals	Lithium (Li) and Uranium (U)	SW846 6020A	D	C&T/ GEL		X		1	0.25	P	HNO3	28 days
Stable isotopes	Isotopes of carbon (d13C) in dissolved inorganic carbon	Not Specified.	D	Isotech				1	0.06	P	Cold	NS
Stable isotopes	Isotopes of nitrogen (d15N) and oxygen (d180) in dissolved nitrate	Not Specified.	D	Isotech				1	1	P	Cold	NS
General chemistry	Alkalinity	SM 2320B	T	C&T		X		1	1**	P	Cold	14 days
General chemistry	Cyanide	SM 4500-Cn-E	T	C&T		X		1	0.25	P	NaOH	14 days
General chemistry	Major anions: Br, Cl, F, NO2, NO3, SO4	EPA 300.0	T	C&T		X		0	1**	P	Cold	48 hours
General chemistry	Methylene Blue Activated Substances (MBAS)	SM 5540C	T	C&T		X		0	1**	P	Cold	48 hours
General chemistry	Nitrogen, ammonia	SM 4500NH3-D	T	C&T		X		0	0.5***	G	H2SO4	28 days
General chemistry	Oil and grease, petroleum (non-polar)	EPA1664A	T	C&T		X		1	1	G	HCl	28 days
General chemistry	Total and dissolved organic carbon	SM 5310C	T	C&T		X		1	0.5***	G	H2SO4	28 days
General chemistry	Total dissolved solids (TDS)	SM 2540C	T	C&T		X		0	1**	P	Cold	7 days
Radiochemistry	Gross-alpha (including Ra-226 but not Rn and U)	EPA 900.0	T	C&T/ GEL				1	0.5	P	HNO3	6 months
Radiochemistry	Radium-226	EPA 903.1	T	C&T/ GEL				1	1	P	HNO3	6 months
Radiochemistry	Radium-228	EPA 904.0	T	C&T/ GEL				1	1	P	HNO3	6 months
Radiochemistry	Radon-222	SM 7500-RN-B	T	C&T/ GEL				2	0.04	VOA	Cold	4 days
Radiochemistry	Stontium-90	EPA 905.0	T	C&T/ GEL				1	1	P	HNO3	6 months
Microorganisms	E. Coli	SM 9223B	T	Precision	X			1	0.125	P	Na2S2O3	30 hours
Microorganisms	Total coliform	SM 9223B	T	Precision	X			1	0.125	P	Na2S2O3	30 hours
Microorganisms	Iron reducing bacteria	BART™ Bioreactor	T	Precision	X			1	1	P	Cold	30 hours
Microorganisms	Sulfate reducing bacteria	BART™ Bioreactor	T	Precision	X			0	*	P	Cold	30 hours

Notes
All samples are aqueous samples.
** = Analyses combined; container listed on previous line item.*
*** = Alkalinity, anions, MBAS, and TDS analyses be combined in single 1-liter container.*

TABLE 8B

SAMPLE ANALYSES, CONTAINERS, PRESERVATION, AND HOLDING TIMES
LISTED BY ORDER SAMPLED
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

**** = Organic carbon and ammonia analyses combined in a single 0.5-liter container.*
*****= In the event that field turbidiy readings remain above 20 NTU, only filtered (i.e. dissolved) samples for trace metals will be collected.*
SGCU = Silica gel cleanup
TICs = Tentatively identified compounds

G = Amber glass
H2SO4 = Sulfuric Acid to pH < 2
HCL = Hydrochloric Acid to pH < 2
HNO3 = Nitric Acid to pH < 2
NaOH = Sodium Hydroxide to pH >12
P = Polyethylene
VOA = 40mL Amber VOA Vial

Laboratories:
C&T = Cutis and Tompkins Laboatories in Berkeley, California
C&T / APPL = Agriculture & Priority Pollutants Laboratories, Inc. in Clovis, California subcontracted to C&T
C&T/ GEL = GEL Laboratories in Charleston, South Carolina subcontracted to C&T
C&T/ Microbac = Microbac Laboratories, Inc. in Marietta Ohio subcontracted to C&T
C&T/ TA = TestAmerica, Inc. in Tallahassee Florida subcontracted to C&T
C&T/ Weck = Weck Laboratories, Inc. In City of Industry, California subcontracted to C&T
Isotech = Isotech Laboratories, Inc. in Champaign, Illinois
Precision = Precision Analysis in Riverton, Wyoming

TABLE 9

LAND USE NEAR WATER-SUPPLY WELLS INCLUDED IN STUDY

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Well ID	Surrounding Land Use	Petroleum Aboveground Storage Tanks	Hazardous Chemicals	Septic System	Livestock	Irrigation/Ditches	Gas and Oil Production (See Note)
LD02/ PGDW20	Adjacent land use surrounding residence is agricultural and livestock use and farming equipment storage.	NA	NA	NA	PGDW20 sampling hydrant located within a horse corral.	Ditch located approximately 90 feet S of LD02; concrete ditch approximately 55 feet N of PGDW20 sample point.	NA
PGDW05/ PGDW45	Adjacent land use surrounding residence is agricultural and livestock use.	Four ASTs: approx. 100 feet S of PGDW05 / 175 feet SE of PGDW45, along E side of driveway. Two of the newer tanks are currently being used for unleaded and diesel. The remaining older two tanks are no longer in use.	Auto, equipment maintenance and/or repair conducted in large shop. Shop is approx. 52 feet N of PGDW05. Weed spraying in yard. No recent field spraying. Field spray 4-5 years ago to kill alfalfa in the field S of house.	Septic tank is located approx. 75 feet SW of PGDW05/ 50 feet S of PGDW45.. The leach lines extend SW from the septic tank. Septic system is for domestic purposes, no chemicals or other materials are disposed in the system.	Livestock have been kept approx. 150 feet N from PGDW05/ 150 feet NE of PGDW45.	Sprinkler irrigation of yard around/near PGDW05 and PGDW45. Flood irrigation of adjacent fields. Ditch approx. 350 feet S of PGDW05 and PDGW45.	Owner stated there is a pipeline that runs E from a gas well approx. 900 feet NW.
PGDW14/ PGDW44	Adjacent land use surrounding residence is agricultural use. The property is sloped towards the NE.	PGDW14: Gasoline AST uphill approx. 250 feet SSE; diesel AST uphill approx. 500 feet SE. PGDW44: Gasoline AST downhill approx. 250 feet NW; diesel AST downhill approx. 250 feet NE. Used motor oil taken to recycler.	Chemical spraying with tractor of adjacent fields N of PGDW14/PGDW44. Previous aerial spraying of adjacent fields for alfalfa weevil.	PGDW14: Septic system located uphill approx. 175 feet SSW. PGDW44: Septic system located downhill approx. 500 feet NW. Household use of septic system only.	Horses were corralled to the SW of PGDW14 and N of PGDW44 previously.	Hose irrigation of landscaping. Flood irrigation of adjacent fields.	Owner had no knowledge of pipelines near PGDW14 and PGDW44. Owner of well PGDW23 reported cuttings from gas well Government Tribal 33X-10 were disposed of in a gully approximately 2000 feet WNW of PGDW23 (approximately 800 feet WNW of PGDW14).
PGDW23	Adjacent land use surrounding residence is agricultural use and property is sloped towards the NE.	Gasoline AST approx. 1,200 feet W and diesel AST approx. 1,000 feet W. (same ASTs listed for PGDW14 and PGDW44). Vehicle maintenance performed at the shop building approx. 1,000 feet W. Used motor oil taken to recycler in a 5-gallon bucket.	Have mowed all weeds for the past 5-6 years. Some spot application of herbicide around PGDW23 N of the house. No fertilizer application for approx. 10 years.	There are two small septic systems located N and downhill approx. 90 feet from PGDW23; 1) graywater system for kitchen, and 2) blackwater system for the toilets. No chemicals are disposed in the systems.	Approx. 1,000 feet W in the corrals during the winter months.	Irrigation is a drip system around the house on the ornamental trees and shrubs. Previously used a sprinkler system on a small garden. Flood irrigates the hayfields.	There is a large pipeline trending N/S approx. 800 feet W of PGDW23 with a valve located near shop building. There is a pipeline to a well pad approx. 330 feet NE of PGDW23. Owner reported seeing gas bubbles near abandoned well 33X-10 when standing water was present.
PGDW30	Adjacent land use surrounding residence is agricultural and livestock use.	None.	No use of pesticides or herbicides. No spraying. No aerial spraying.	Septic for household use only. Septic system is located approx. 100 feet NW of PGDW30.	Goats near well house.	Flood irrigate adjacent field with gated pipe.	Owner stated there is a pipeline S of PGDW30, oriented SSW to NNE.
PGDW32	Adjacent land use surrounding residence is agricultural and livestock use.	There is a diesel AST and irregular small spill stains that occurred during refueling. Vehicle maintenance performed by owner. Used motor oil taken to recycler.	Pesticides and herbicides applied by a licensed contractor.	There are two septic systems approx. 250-300 feet from PGDW32; 1) system for the house is located NW, and 2) a small system for the shop is to the E of PGDW32.	During the winter months (Dec - Feb) cows are corralled approx. 300 feet away from PGDW32 during the day and rounded up and put in the barn at night >300 feet from PGDW32.	Irrigation is primarily from the ditch 2,700 feet to the S and not from PGDW32.	-
PGDW33	Adjacent land use surrounding well is agricultural and livestock use.	There is a gasoline AST and irregular small spills during refueling. Vehicle maintenance performed by owner. Used motor oil taken to recycler.	Pesticides and herbicides applied by a licensed contractor.	There is a small septic system for the barn apartment approx. 450 feet from PGDW33.	During the winter months (Dec - Feb) livestock are pastured in adjacent field >100 feet away from PGDW33.	Irrigation is primarily from the ditch 2,200 feet to the S and not from PGDW33.	-

TABLE 9

LAND USE NEAR WATER-SUPPLY WELLS INCLUDED IN STUDY
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Well ID	Surrounding Land Use	Petroleum Aboveground Storage Tanks	Hazardous Chemicals	Septic System	Livestock	Irrigation/Ditches	Gas and Oil Production (See Note)
PGDW41A /PGDW41B	Adjacent land use surrounding residence is agricultural and livestock use.	One gasoline and one diesel AST are located approximately 200 feet NE of PGDW41A/ PGDW41B.	Owners stated cattle died after drinking well water from PGDW41A/ PGDW41B. Weed spray by tractor/machine.	The septic tank is located approx. 130 feet SE from PGDW41A/ PGDW41B. The leach lines extend SE from the septic tank.	Horses and cows are corralled approx. 100 feet W of PGDW41A/ PGDW41B.	Flood irrigation of nearby fields.	-
PGDW42	NA	NA	NA	NA	NA	NA	NA
PGDW49	Adjacent land use surrounding residence is agricultural and livestock use.	No AST tanks.	Herbicides applied by owner for weed control.	No septic system.	Cow manure present on ground in stock pen around well.	Flood irrigation of adjacent fields. Irrigation ditch approximately 170 feet south.	Owner stated he did not know of a pipeline near PGDW49.

Notes
1. Gas and oil equipment as noted by well owner; excludes distances from gas wells and pits. See Tables 3 and 4 for distances to oil and gas wells and pits.

AST = Aboveground storage tank
NA = Not assessed. Interview not conducted.

TABLE 10

GROUNDWATER DEPTH DATA
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Date and Time	Approximate Ground Surface Elevation (feet)	Approximate Measuring Point to Ground Surface (feet)	Depth to Water (feet bmp)	Depth to Water (feet bgs)	Approximate Groundwater Elevation (feet)	Measurement Method
60F	6/16/14 13:29	5,362.90	0.7	14.4	13.7	5,349.20	Acoustic
LD02	6/20/14 9:07	5,324.40	2.0	166.1	164.1	5,160.30	Acoustic
PGDW32	6/11/14 8:05	5,334.60	1.5	250.3	248.8	5,085.80	Acoustic
PGDW45	6/16/14 8:35	5,353.70	1.5	25.8	24.3	5,329.40	Acoustic
PGDW49	6/17/14 8:55	5,369.30	1.0	10.1	9.1	5,360.20	Acoustic
LD02	8/21/14 8:53	5,324.40	2.0	167.9	165.9	5,158.50	Acoustic
PGDW32	8/13/14 8:52	5,334.60	1.5	271.8	270.3	5,064.30	Acoustic
PGDW44	8/14/14 9:34	5,401.90	-0.4	45.9	46.3	5,355.60	Acoustic
PGDW45	8/18/14 10:12	5,353.70	1.5	10.3	8.8	5,344.90	Acoustic
PGDW49	8/19/14 8:25	5,369.30	1.0	18.7	17.7	5,351.60	Acoustic
LD02	10/6/14 0:00	5,324.40	2.0	164.1	162.1	5,162.30	Video
PGDW05	10/6/14 0:00	5,353.20	-1.5	135.3	136.8	5,216.40	Video
PGDW20	10/10/14 0:00	5,324.60	1.5	114.8	113.3	5,211.30	Video
PGDW23	10/6/14 0:00	5,415.20	1.7	197.5	195.8	5,219.40	Video
PGDW41A	10/7/14 0:00	5,395.70	1.3	107.7	106.4	5,289.30	Video
PGDW41B	10/6/14 0:00	5,395.60	0.8	8.7	7.9	5,387.70	Video
PGDW44	10/6/14 0:00	5,401.90	-0.4	60.6	61.0	5,340.90	Video
PGDW49	10/6/14 0:00	5,369.30	1.0	6.2	5.2	5,364.10	Video

Notes
1. Elevation values estimated from USGS digital elevation model, referenced to the North American Vertical Datum of 1988 (NAVD 88).
2. Depth to water measurement in PGDW44 from June rejected; was deeper than reported pump depth.

bgs = Below ground surface
bmp = Below measuring point.
USGS = United States Geological Survey

TABLE 11

GROUNDWATER FIELD WATER QUALITY PARAMETERS

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Location	Sample Date	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Oxidation Reduction Potential (Eh)	pH	Salinity ($^0/_{00}$)	Specific Conductance (mS/cm)	Temperature (^oC)	Turbidity (NTU)
EPA MCL		NA	NA	NA	NA	NA	NA	NA	**5**
WY CLASS I DOMESTIC		NA	**0.3**	NA	**6.5 to 8.5**	NA	NA	NA	**5**
LD02	6/20/2014	1.7	0.04	0.0245	8.29	1.9	3.61	24.2	4.5
PGDW05	6/16/2014	0.13	0	-0.132	9.29	0.44	0.878	10.88	-2.9
PGDW05	8/18/2014	0.17	0	-0.069	9.09	0.48	0.969	11	2.4
PGDW14	6/12/2014	0.15	0	0.113	7.65	2.08	3.92	10.5	**12**
PGDW14	8/14/2014	0.18	0	0.194	7.62	2.19	4.11	11.3	3
PGDW20	6/20/2014	-0.02	0	-0.143	8.84	1.5	2.88	11.6	0.6
PGDW20	8/21/2014	0.15	0	-0.148	8.75	1.56	2.98	12.18	1.5
PGDW23	6/13/2014	0.2	0	-0.136	9.28	0.54	1.08	12.6	0
PGDW23	8/15/2014	0.16	0	-0.104	9.09	0.55	1.11	12.4	0.3
PGDW30	6/18/2014	1.23	0	-	9.19	0.52	1.04	10.9	-5.3
PGDW30	8/12/2014	0.71	0	-0.022	8.84	0.52	1.04	10.6	1.6
PGDW32	6/11/2014	0.14	0.01	-0.175	9.97	0.56	1.11	12.9	-3
PGDW32	8/13/2014	0.14	0	-0.133	9.88	0.56	1.12	13.7	3
PGDW33	6/10/2014	0.99	0	0.0738	7.05	0.95	1.86	14	-3.5
PGDW33	8/13/2014	4.29	0	0.213	7.21	0.86	1.7	17.1	2.3
PGDW41A	6/19/2014	7.35	0	0.0955	7.22	4.26	7.68	9.66	0.3
PGDW41A	8/20/2014	0.91	0	0.093	7.07	4.5	8.08	10.47	1.6
PGDW41B	6/19/2014	0.02	0.73	-0.0912	7.61	2.84	5.24	10.2	**29**
PGDW41B	8/20/2014	0.16	0.74	-0.063	7.62	2.86	5.27	10.7	**59**
PGDW44	6/12/2014	0.17	2.26	-0.225	8.11	3.09	5.68	11.4	2.6
PGDW44	8/14/2014	0.15	3.3	-0.278	8.28	3.21	5.9	11.9	**12**
PGDW45	6/16/2014	1.16	0	0.158	7.17	0.66	1.31	8.65	-6.1
PGDW45	8/18/2014	1.4	0	0.117	7.01	0.57	1.15	9.2	-0.2
PGDW49	6/17/2014	0.56	0.1	0.186	7.31	3.18	5.84	9.86	1.8
PGDW49	8/19/2014	1.55	0.12	0.038	7.09	3.39	6.19	11.89	**12**

Notes

*EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in **bold** with a yellow highlight)*

WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard (Exceedances are underlined with a yellow highlight). Standards listed are also included in US EPA Secondary Drinking Water Regulations.

$^0/_{00}$ = parts per thousand

Eh = Redox potential (volts)

mS/cm = millisiemens per centimeter

pH = standard units for acidity and alkalinity

^{o}C= degrees Celsius

mg/L = milligrams per liter

NTU = nephelometric turbidity units

NA = Not available

TABLE 12A

GROUNDWATER ANALYTICAL DATA, MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 2014
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Major Cations							Major Anions and Total Dissolved Solids										
			Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Strontium	Alkalinity, Bicarbonate	Alkalinity, Carbonate	Alkalinity, Hydroxide	Alkalinity, Total as CaCO3	Bromide	Chloride	Fluoride	Nitrate	Nitrite	Sulfate	Total Dissolved Solids
		CAS#	14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	7440-24-6	NA	NA	NA	471-34-1	24959-67-9	16887-00-6	16984-48-8	14797-55-8	14797-65-0	14996-02-2	NA
		EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	1	NA	NA
		WY CLASS I DOMESTIC	NA	0.30	NA	0.050	NA	NA	8	NA	NA	NA	NA	NA	250	4	10	1	250	500
		EPA DWEL	NA	NA	NA	1.6	NA	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		WY DWEL	NA	*	NA	*	NA	NA	*	NA	NA	NA	NA	NA	*	*	*	*	*	*
		EPA SDWR	NA	0.30	NA	0.050	NA	NA	NA	NA	NA	NA	NA	NA	250	NA	NA	NA	250	500
		EPA DWA	NA	NA	NA	NA	NA	20/30-60**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	NA
LD02	6/20/2014	T	140	0.42	21	0.37	2.2	730	1.6	56	< 2.0	< 2.0	56	< 0.15	38	1.5	< 0.25 U	< 0.03	1700	2500
LD02	6/20/2014	D	140	0.094 J	20	0.079	1.8	680	1.6	-	-	-	-	-	-	-	-	-	-	-
LD02	8/21/2014	T	130 J+	0.11 U	22	0.092	1.4	640	1.6	62	< 2.0	< 2.0	62	< 0.15	37	1.5	0.04 J	< 0.25 U	1700	2560
LD02	8/21/2014	D	130 J+	< 0.0076	22	0.0029 J	1.6	630	1.6	-	-	-	-	-	-	-	-	-	-	-
PGDW05	6/16/2014	T	3.4	0.48	0.11 J	0.0026 J	0.27 J	200	0.048	77	15	< 1.0	92	0.093 J	19	1.0	< 0.005	< 0.006	310	560
PGDW05	6/16/2014	D	3.4	< 0.1 U	< 0.5 U	< 0.0050 U	< 0.1	220	0.054	-	-	-	-	-	-	-	-	-	-	-
PGDW05	8/18/2014	T	3.8	0.23	< 0.05 U	0.0016 J	0.32 J	200 J+	0.057	85	12	< 2.0	97	0.099 J	18	0.92	< 0.005	< 0.05 U	300	560
PGDW05	8/18/2014	D	3.5	0.034 J	0.11 J	0.0012 J	0.37 J	170	0.054	-	-	-	-	-	-	-	-	-	-	-
PGDW14	6/12/2014	T	180	< 0.1 U	20	0.0032 J	4.4	880	1.6	160	< 4.0	< 4.0	160	0.29 J	29	< 0.40	0.44	< 0.06	2000	2930
PGDW14	6/12/2014	D	170	< 0.1 U	19	< 0.0050 U	3.5	820	1.5	-	-	-	-	-	-	-	-	-	-	-
PGDW14	8/14/2014	T	160 J+	< 0.1 U	21	0.0037 J	4.3	780	1.7	160	< 1.00	< 1.00	160	< 0.15	28	0.25 J	0.38	< 0.03	1900	2910
PGDW14	8/14/2014	D	140	< 0.1 UJ	18	0.0030 J	4.4	700	1.5	-	-	-	-	-	-	-	-	-	-	-
PGDW20	6/20/2014	T	75	< 0.1 U	7.7	0.028	1.4	630	1.1	83	< 2.0	< 2.0	83	< 0.15	35	0.92	< 0.03	< 0.03	1300	1990
PGDW20	6/20/2014	D	78	0.12	7.6	0.029	0.72	630	1.1	-	-	-	-	-	-	-	-	-	-	-
PGDW20	8/21/2014	T	84 J-	0.21 J-	8.2 J-	0.032 J-	0.95 J-	560 J-	1.1 J-	83	< 1.0	< 1.0	83	0.13 J	35	0.89	< 0.01	< 0.01	1300	2050
PGDW20	8/21/2014	D	82 J-	0.038 J-	8 J-	0.031 J-	0.91 J-	520 J-	1.2 J-	-	-	-	-	-	-	-	-	-	-	-

TABLE 12A

GROUNDWATER ANALYTICAL DATA, MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 2014
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

			Major Cations							Major Anions and Total Dissolved Solids										
Location	Sample Date	Fraction	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Strontium	Alkalinity, Bicarbonate	Alkalinity, Carbonate	Alkalinity, Hydroxide	Alkalinity, Total as CaCO3	Bromide	Chloride	Fluoride	Nitrate	Nitrite	Sulfate	Total Dissolved Solids
		CAS#	14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	7440-24-6	NA	NA	NA	471-34-1	24959-67-9	16887-00-6	16984-48-8	14797-55-8	14797-65-0	14996-02-2	NA
		EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	1	NA	NA
		WY CLASS I DOMESTIC	NA	0.30	NA	0.050	NA	NA	8	NA	NA	NA	NA	NA	250	4	10	1	250	500
		EPA DWEL	NA	NA	NA	1.6	NA	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		WY DWEL	NA	*	NA	*	NA	NA	*	NA	NA	NA	NA	NA	*	*	*	*	*	*
		EPA SDWR	NA	0.30	NA	0.050	NA	NA	NA	NA	NA	NA	NA	NA	250	NA	NA	NA	250	500
		EPA DWA	NA	NA	NA	NA	NA	20/30-60**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	NA
PGDW23	6/13/2014	T	6.6	< 0.1 U	0.068 J	0.0024 J	0.39 J	240	0.079	53	3.4	< 1.0	57	0.14 J	22	1.5	0.03 J	< 0.01	400	650
PGDW23	6/13/2014	D	6.2	< 0.1 U	< 0.5 U	< 0.0050 U	0.11 J	240	0.079	-	-	-	-	-	-	-	-	-	-	-
PGDW23	8/15/2014	T	7.1	< 0.1 U	< 0.5 U	0.0023 J	0.41 J	210 J+	0.085	48	12	< 2.0	61	0.11 J	21	1.5	< 0.005	0.02 J	380	650
PGDW23	8/15/2014	D	7.4	< 0.0076	0.083 J	0.0020 J	0.37 J	200	0.082	-	-	-	-	-	-	-	-	-	-	-
PGDW23 Dup	8/15/2014	T	7	< 0.1 U	< 0.5 U	0.0025 J	0.39 J	210 J+	0.083	50	10	< 2.0	60	0.10 J	21	1.5	< 0.005	0.02 J	380	640
PGDW23 Dup	8/15/2014	D	6.7	< 0.0076	0.11 J	0.0020 J	0.42 J	190	0.079	-	-	-	-	-	-	-	-	-	-	-
PGDW30	6/18/2014	T	4.6	< 0.1 U	0.11 J	0.0016 J	0.34 J	250	0.064	97	< 1.0	< 1.0	97	0.11 J	17	0.91	< 0.005 R	< 0.006 R	360	630
PGDW30	6/18/2014	D	4.3	< 0.1 U	< 0.5 U	< 0.0050 U	0.18 J	240 J+	0.063	-	-	-	-	-	-	-	-	-	-	-
PGDW30	8/12/2014	T	5	< 0.1 U	< 0.5 U	0.0016 J	0.3 J	240	0.068	87	8.8	< 1.00	96	0.080 J	17	0.87	< 0.005	0.02 J	340	640
PGDW30	8/12/2014	D	4.5	< 0.0076	0.1 J	0.0012 J	0.33 J	240 J	0.067 J+	-	-	-	-	-	-	-	-	-	-	-
PGDW32	6/11/2014	T	8	< 0.1 U	< 0.02	0.00097 J	0.47 J	230	0.089	12	17	< 1.0	29	< 0.030	24	2.5	< 0.005	< 0.006	400	620
PGDW32	6/11/2014	D	7.4 J	< 0.1 U	< 0.02	< 0.0050 U	< 0.1	230 J	0.085	-	-	-	-	-	-	-	-	-	-	-
PGDW32 Dup	6/11/2014	T	7.9	< 0.1 U	0.03 J	0.00094 J	0.45 J	230	0.084	16	15	< 1.0	30	< 0.030	24	2.5	< 0.005	< 0.006	410	630
PGDW32 Dup	6/11/2014	D	7.2 J	0.086 J	< 0.5 U	< 0.0050 U	< 0.1	290 J	0.084	-	-	-	-	-	-	-	-	-	-	-
PGDW32	8/13/2014	T	7.3 J+	< 0.1 U	< 0.5 U	0.0011 J	0.42 J	220 J+	0.091	12	22	< 1.00	34	0.086 J	22	2.3	< 0.005	< 0.05 U	380	640
PGDW32	8/13/2014	D	8	< 0.0076	0.038 J	0.00065 J	0.42 J	190	0.088	-	-	-	-	-	-	-	-	-	-	-

TABLE 12A

GROUNDWATER ANALYTICAL DATA, MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 2014
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Major Cations							Major Anions and Total Dissolved Solids										
			Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Strontium	Alkalinity, Bicarbonate	Alkalinity, Carbonate	Alkalinity, Hydroxide	Alkalinity, Total as CaCO3	Bromide	Chloride	Fluoride	Nitrate	Nitrite	Sulfate	Total Dissolved Solids
		CAS#	14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	7440-24-6	NA	NA	NA	471-34-1	24959-67-9	16887-00-6	16984-48-8	14797-55-8	14797-65-0	14996-02-2	NA
		EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	1	NA	NA
		WY CLASS I DOMESTIC	NA	0.30	NA	0.050	NA	NA	8	NA	NA	NA	NA	NA	250	4	10	1	250	500
		EPA DWEL	NA	NA	NA	1.6	NA	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		WY DWEL	NA	*	NA	*	NA	NA	*	NA	NA	NA	NA	NA	*	*	*	*	*	*
		EPA SDWR	NA	0.30	NA	0.050	NA	NA	NA	NA	NA	NA	NA	NA	250	NA	NA	NA	250	500
		EPA DWA	NA	NA	NA	NA	NA	20/30-60**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	NA
PGDW33	6/10/2014	T	230	< 0.1 U	38	0.0030 J	4	170	1.3	310	< 1.0	< 1.0	310	< 0.030	20	0.65	3.2	< 0.006	700	1350
PGDW33	6/10/2014	D	200	0.087 J	39	0.0030 J	3.8	150	1.4	-	-	-	-	-	-	-	-	-	-	-
PGDW33	8/13/2014	T	150	0.2	27	0.038	3	170 J+	1	260	< 2.0	< 2.0	260	0.043 J	18	0.98	2.0	< 0.05 U	590	1180
PGDW33	8/13/2014	D	150	< 0.0076	27	0.035	3	160	1	-	-	-	-	-	-	-	-	-	-	-
PGDW41A	6/19/2014	T	650	< 0.1 U	60	0.0087	5.1	1400	5.8	320	< 2.0	< 2.0	320	< 0.30	710	0.15 J	21	< 0.06	3200	5840
PGDW41A	6/19/2014	D	670	< 0.1 U	56	0.0046 J	6.2	1400	5.5	-	-	-	-	-	-	-	-	-	-	-
PGDW41A	8/20/2014	T	610	< 0.1 U	57	0.013	5.1	1300	5.3	340	< 2.0	< 2.0	340	< 0.30	850	0.17 J	17	0.66	3100	6350
PGDW41A	8/20/2014	D	580	0.0090 J+	54	0.011	5.4	1300	5.3	-	-	-	-	-	-	-	-	-	-	-
PGDW41B	6/19/2014	T	-	-	-	-	-	-	-	130	< 2.0	< 2.0	130	< 0.15	35	0.44 J	< 0.03	< 0.03	2800	4170
PGDW41B	6/19/2014	D	290	0.56	55	0.16	4.3	980	3.9	-	-	-	-	-	-	-	-	-	-	-
PGDW41B	8/20/2014	T	-	-	-	-	-	-	-	140	< 2.0	< 2.0	140	< 0.30	34	0.39 J	< 0.05	0.18 J	2700	4220
PGDW41B	8/20/2014	D	270	0.55	61	0.17	3.4	920	4	-	-	-	-	-	-	-	-	-	-	-
PGDW44	6/12/2014	T	300	2.6	22	0.31	3.4	1300	2.9	81	< 4.0	< 4.0	81	< 0.15	45	0.34 J	< 0.03	< 0.03	3100	4420
PGDW44	6/12/2014	D	290	2.4	20	0.3	2.2	1100	2.7	-	-	-	-	-	-	-	-	-	-	-
PGDW44	8/14/2014	T	270	3.7	23	0.3	2.8	1100	2.8	80	< 2.0	< 2.0	80	< 0.15	44	0.22 J	< 0.03	0.08 J	2900	4440
PGDW44	8/14/2014	D	250	3	21	0.29	2.8	1000	2.7	-	-	-	-	-	-	-	-	-	-	-

TABLE 12A

GROUNDWATER ANALYTICAL DATA, MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 2014
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Major Cations							Major Anions and Total Dissolved Solids											
			Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Strontium	Alkalinity, Bicarbonate	Alkalinity, Carbonate	Alkalinity, Hydroxide	Alkalinity, Total as CaCO3	Bromide	Chloride	Fluoride	Nitrate	Nitrite	Sulfate	Total Dissolved Solids
		CAS#	14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	7440-24-6	NA	NA	NA	471-34-1	24959-67-9	16887-00-6	16984-48-8	14797-55-8	14797-65-0	14996-02-2	NA
		EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	1	NA	NA
		WY CLASS I DOMESTIC	NA	0.30	NA	0.050	NA	NA	8	NA	NA	NA	NA	NA	250	4	10	1	250	500
		EPA DWEL	NA	NA	NA	1.6	NA	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		WY DWEL	NA	*	NA	*	NA	NA	*	NA	NA	NA	NA	NA	*	*	*	*	*	*
		EPA SDWR	NA	0.30	NA	0.050	NA	NA	NA	NA	NA	NA	NA	NA	250	NA	NA	NA	250	500
		EPA DWA	NA	NA	NA	NA	NA	20/30-60**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	NA
PGDW45	6/16/2014	T	160	< 0.1 U	36	0.00093 J	3.2	98	2	350	< 4.0	< 4.0	350	0.19 J	31	2.0	1.4	< 0.006	330	820
PGDW45	6/16/2014	D	160	< 0.0076	35	< 0.00048	2.7	97	1.9	-	-	-	-	-	-	-	-	-	-	-
PGDW45 Dup	6/16/2014	T	160	< 0.1 U	35	< 0.00048	3	96	1.9	350	< 4.0	< 4.0	350	0.19 J	31	2.0	1.5	< 0.006	330	820
PGDW45 Dup	6/16/2014	D	160	< 0.1 U	36	< 0.00048	2.7	98	1.8	-	-	-	-	-	-	-	-	-	-	-
PGDW45	8/18/2014	T	120 J+	< 0.14 U	31	< 0.00048	2.9	79	1.8	360	< 2.0	< 2.0	360	0.24	36	1.7	0.98	< 0.05 U	250	740
PGDW45	8/18/2014	D	120	< 0.0076	32	< 0.00048	3	79	1.9	-	-	-	-	-	-	-	-	-	-	-
PGDW49	6/17/2014	T	460	0.29	150	0.12 J-	12	1100	7.8	330	< 4.0	< 4.0	330	0.20 J	68	0.58	6.0	0.10 J	3500	5340
PGDW49	6/17/2014	D	430	0.084 J	140	0.1	10	990	8	-	-	-	-	-	-	-	-	-	-	-
PGDW49	8/19/2014	T	400	0.27	120	0.11	10	930	7.1	310	< 2.0	< 2.0	310	0.19 J	61	0.46 J	4.4	0.06 J	3300	5220
PGDW49	8/19/2014	D	420	0.18	130	0.11	11	960	7.4	-	-	-	-	-	-	-	-	-	-	-
PGDW49 Dup	8/19/2014	T	450	0.15	140	0.11	11	1000	7.7	310	< 2.0	< 2.0	310	0.18 J	61	0.47 J	4.3	0.07 J	3300	5200
PGDW49 Dup	8/19/2014	D	420	0.1	130	0.11	11	960	7.4	-	-	-	-	-	-	-	-	-	-	-

Notes
< = result was less than the Method Detection Limit/ result was less than the Reporting Limit for Alkalinity and Total Dissolved Solids
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available* *T = Total* *D = Dissolved* *- = Not Analyzed*

TABLE 12A

GROUNDWATER ANALYTICAL DATA, MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 2014
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Exceedance *EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in* ***bold*** *with a yellow highlight)*

Exceedance *WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard (exceedances are underlined with a yellow highlight; green highlight if also exceeds EPA DWA).*

EPA DWEL = US EPA Drinking Water Equivalent Level

WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

EPA SDWR = US EPA Secondary Drinking Water Regulations

Exceedance *EPA DWA = US EPA Drinking Water Advisory (Exceedances are highlighted green).*

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

*** EPA requires Public Water Systems that exceed 20 mg/L to notify local and State public health officials (U.S. EPA 1996). The EPA guidance was developed for those individuals restricted to a total sodium intake of 500 mg/day (U.S. EPA 1976) and should not be extrapolated to the entire population. EPA Drinking Water Advisory recommends that the sodium concentration in drinking water not exceed a range of 30 to 60 mg/L because of possible adverse effects on taste at higher concentrations.*

Methods

Cations analyzed by EPA Method SW846 6010B *Anions analyzed by EPA Method EPA 300.0* *TDS analyzed by Standard Method 2540C*

Data Validation Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
J+ = high bias
J- = low bias
R = The sample results and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality-control criteria. The presence or absence of the analyte cannot be
U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 12B

GROUNDWATER ANALYTICAL DATA , MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 1979-2008

(milligrams per liter)

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

			Major Cations						Major Anions, Total Suspended Solids, Total Dissolved Solids												
Location	**Sample Date**	**Fraction**	**Calcium**	**Iron**	**Magnesium**	**Manganese**	**Potassium**	**Sodium**	**Alkalinity, Bicarbonate**	**Alkalinity, Carbonate**	**Alkalinity, Hydroxide**	**Alkalinity, Total**	**Bromide**	**Chloride**	**Fluoride**	**Nitrate-N**	**Nitrite+Nitrate-N**	**Nitrite-N**	**Orthophosphate**	**Sulfate**	**Total Suspended Solids**	**Total Dissolved Solids**
CAS #			14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	NA	NA	NA	471-34-1	24959-67-9	16887-00-6	16984-48-8	14797-55-8	NA	14797-65-0	13457-18-6	14996-02-2	NA	NA
EPA MCL			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	**10**	**1**	NA	NA	NA	NA
WY CLASS I DOMESTIC			NA	**0.30**	NA	**0.050**	NA	NA	NA	NA	NA	NA	NA	**250**	**4**	**10**	NA	**1**	NA	**250**	NA	**500**
EPA DWEL			NA	NA	NA	**1.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WY DWEL			NA	*	NA	*	NA	NA	NA	NA	NA	NA	NA	*	*	*	*	*	NA	*	NA	*
EPA SDWR			NA	**0.30**	NA	**0.050**	NA	NA	NA	NA	NA	NA	NA	**250**	NA	NA	NA	NA	NA	**250**	NA	**500**
EPA DWA			NA	NA	NA	NA	NA	**20/30-60****	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**500**	NA	NA
LD02	7/13/1994	T	-	-	-	-	-	555	-	-	-	-	-	-	-	< 1	-	-	-	1161	-	4010
PGDW05	9/30/2004	T	4	0.08	< 1	< 0.01	< 1	193	93	7	-	85	-	17	1.2	-	< 0.10	-	-	304	-	516
PGDW05	4/5/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	4/7/2005	T	4.5	0.10	< 0.5	-	<0.5	199	100	8	-	-	-	17	-	-	-	-	-	288	-	536
PGDW05 Inside	4/25/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05 Outside	4/25/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	6/22/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	7/4/2006	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	12/6/2006	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	7/18/2007	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	508
PGDW05 Dup	7/18/2007	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	516
PGDW05	8/13/2007	T	4.0	0.10	< 0.5	< 0.01	< 0.5	191	88	11	-	91	-	18	1.3	-	< 0.1	-	-	306	2.0	566
PGDW05 Dup	8/13/2007	T	-	-	-	-	-	-	-	-	-	91	-	18	1.3	-	< 0.1	-	-	308	<1.0	576
PGDW05	10/2/2007	T	-	0.31	-	< 0.0030	-	-	-	-	-	-	-	16.4	-	-	-	-	-	273	-	547
PGDW05	11/1/2007	T	4	-	< 1	-	< 1	135	81	12	-	86	-	17	1.0	-	< 0.05	-	-	293	-	557
PGDW05 Deep	10/7/2008	D	3.6	< 0.070	-	-	0.47	190	67.6	22.8	< 5.0	91.1/ 90.3	0.144	18.3	1.4	<	<	<	< 0.20	293	< 5	575/ 564
PGDW05 Shallow	10/7/2008	D	3.8	0.73	-	-	0.62	190	70.3	20.9	< 5	89.9/ 91.2	0.143	18.7	1.4	<	<	<	< 0.20	295	-	567/ 572
PGDW20	1/11/1988	T	-	-	-	-	-	170	-	-	-	-	-	-	-	0.0	-	-	-	250	-	532
PGDW20	5/26/1992	T	260	-	48	-	-	1100	110	0	-	88	-	61	-	< 0.2	-	-	-	3000	-	4600
PGDW20	10/11/1993	T	260	-	47	-	-	1200	130	0	-	110	-	55	-	< 0.2	-	-	-	3000	-	4500

TABLE 12B

GROUNDWATER ANALYTICAL DATA , MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 1979-2008
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

			Major Cations						Major Anions, Total Suspended Solids, Total Dissolved Solids													
Location	Sample Date	Fraction	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Alkalinity, Bicarbonate	Alkalinity, Carbonate	Alkalinity, Hydroxide	Alkalinity, Total	Bromide	Chloride	Fluoride	Nitrate-N	Nitrite+Nitrate-N	Nitrite-N	Orthophosphate	Sulfate	Total Suspended Solids	Total Dissolved Solids
CAS #			14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	NA	NA	NA	471-34-1	24959-67-9	16887-00-6	16984-48-8	14797-55-8	NA	14797-65-0	13457-18-6	14996-02-2	NA	NA
EPA MCL			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	**10**	**1**	NA	NA	NA	NA
WY CLASS I DOMESTIC			NA	**0.30**	NA	**0.050**	NA	NA	NA	NA	NA	NA	NA	**250**	**4**	**10**	NA	**1**	NA	**250**	NA	**500**
EPA DWEL			NA	NA	NA	**1.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WY DWEL			NA	*	NA	*	NA	NA	NA	NA	NA	NA	NA	*	*	*	*	*	NA	*	NA	*
EPA SDWR			NA	**0.30**	NA	**0.050**	NA	NA	NA	NA	NA	NA	NA	**250**	NA	NA	NA	NA	NA	**250**	NA	**500**
EPA DWA			NA	NA	NA	NA	NA	**20/30-60****	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**500**	NA	NA
PGDW20	1/7/1997	T	-	-	-	-	-	959	-	-	-	-	-	-	-	0.1	-	-	-	4630	-	3950
PGDW20	3/21/2006	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW23	9/9/2004	T	-	-	-	-	-	210	-	-	-	-	-	-	1.2	-	<0.10	<0.10	-	347	-	-
PGDW30/ PGDW30 Dup	12/7/2007	T	3.9	0.15	ND	ND	ND	209	100	7	-	93	-	16	1	ND	ND	ND	ND	360	-	637
PGDW41B	10/26/2004	T	279	0.54	57	0.15	3	947	123	< 1	-	101	-	38	0.7	-	< 0.1	-	-	2730 D	-	4100
PGDW44	7/11/1979	T	283	0.68	51	-	5	1185	110	-	-	-	-	58	-	-	-	-	-	3200	-	4836
PGDW44 Dup	7/11/1979	T	245	5.39	34	-	6	1191	134	-	-	-	-	84	-	-	-	-	-	3000	-	4626
PGDW44	7/16/1979	T	302	ND	14	-	4	1140	110	-	-	-	-	60	-	-	-	-	-	3000	-	4575
PGDW44 Dup	7/16/1979	T	255	ND	26	-	5	976	122	-	-	-	-	48	-	-	-	-	-	2600	-	3970

Notes:
Total alkalinity and total dissolved solids were reported twice for each sample from PGDW05, without explanation on report summary table.

< = result was less than the Reporting Limit
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available* *ND = Not Detected* *T = Total* *D = Dissolved* *- = Not Analyzed*

EPA MCL = US EPA Maximum Contaminant Level

Exceedance

WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard (Exceedances are underlined with a yellow highlight; green highlight if also exceeds EPA DWA.)

EPA DWEL = US EPA Drinking Water Equivalent Level

WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

EPA SDWR = US EPA Secondary Drinking Water Regulations

Exceedance

EPA DWA = US EPA Drinking Water Advisory (Exceedances are highlighted green)

TABLE 12B

GROUNDWATER ANALYTICAL DATA , MAJOR CATIONS, MAJOR ANIONS, AND TOTAL DISSOLVED SOLIDS, 1979-2008
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*
*** EPA requires Public Water Systems that exceed 20 mg/L to notify local and State public health officials (U.S. EPA 1996). The EPA guidance was developed for those individuals restricted to a total sodium intake of 500 mg/day (U.S. EPA 1976) and should not be extrapolated to the entire population. EPA Drinking Water Advisory recommends that the sodium concentration in drinking water not exceed a range of 30 to 60 mg/L because of possible adverse effects on taste at higher concentrations.*

Methods
Alkalinity analyzed by Standard Method 2320B
Bromide, nitrate, and o-phosphate analyzed by EPA Method 300.0
Cations analyzed by EPA Method E200.7 except for October 2, 2007 and October 7, 2008 (SW846 6010B) and manganese on September 30, 2004 (EPA Method 200.8).
Chloride analyzed by EPA Method EPA 300.0 except for September 30, 2004 and October 26, 2004 (EPA Method 200.7) and April 7, 2005 and August 13, 2007 (Method 4500-ClB)
Fluoride analyzed by Standard Method 4500-FC
Nitrite + Nitrate analyzed by Method E353.2 except for October 7, 2008 (EPA Method 300.0)
Nitrite analyzed by EPA Method 300.0 except for September 9, 2004 (Standard Method 4500-NO2B)
Sulfate analyzed by EPA Method 300.0 except for September 30, 2004 and October 26, 2004 (EPA Method 200.7) and September 9, 2004, April 7, 2005, and August 13, 2007 (Standard Method 4500-SO4E)
TDS analyzed by Standard Method 2540C, except for October 2, 2007 (EPA Method 160.1)
Total suspended solids analyzed by Standard Method 2540D

Analytical methods for LD02, PGDW20, and PGDW44 not reported.
Laboratory analytical report was not provided for PGDW05 sample on June 22, 2005

Data Validation Qualifiers
D = Reporting limit increased due to sample matrix interference.

TABLE 12C

GROUNDWATER ANALYTICAL DATA SUMMARY, MAJOR CATIONS AND MAJOR ANIONS, 2009-2011
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Major Cations						Major Anions					
			Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Alkalinity, Total as CaCO3	Chloride	Fluoride	Nitrate	Nitrite	Sulfate
CAS #			14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	471-34-1	16887-00-6	16984-48-8	14797-55-8	14797-65-0	14996-02-2
EPA MCL			NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	**1**	NA
WY CLASS I DOMESTIC			NA	**0.30**	NA	**0.050**	NA	NA	NA	**250**	**4**	**10**	**1**	**250**
EPA DWEL			NA	NA	NA	**1.6**	NA	NA	NA	NA	NA	NA	NA	NA
WY DWEL			NA	*	NA	*	NA	NA	NA	*	*	*	*	*
EPA SDWR			NA	**0.30**	NA	**0.050**	NA	NA	NA	**250**	NA	NA	NA	**250**
EPA DWA			NA	NA	NA	NA	NA	**20/30-60****	NA	NA	NA	NA	NA	**500**
EPA Phase II CRDL			**5**	**0.1**	**5**	**0.001**	**5**	**5**	**0.005**	**0.0005**	**0.0002**	**0.0005**	**0.0005**	**0.005**
PGDW05	3/3/2009	T	3.6 J-	< 0.1	< 5	0.0034	5 UJ	192	93.3	17.0	0.9	< 0.5	< 0.5	295
PGDW05	1/18/2010	T	3.33 J	0.0666 J	5 U	0.0022	5 U	189	88.4	16.5	0.9	< 0.3	< 0.3	287
PGDW05 Dup	1/18/2010	T	3.15 J	0.0647 J	5 U	0.0018	5 U	181	89.1	16.9	1	< 0.3	< 0.3	287
PGDW05	4/19/2011	T	-	-	-	-	-	-	80	16.8	1.2	ND	-	276
PGDW05	4/19/2011	D	3.35	-	0.08	-	0.24	190	-	-	-	-	-	-
PGDW14	Mar-09	T	154	< 0.1	18.1	0.0015 J	5 UJ	690	159	26.1	0.4	0.7	< 0.5	1820
PGDW14	4/20/2011	T	-	-	-	-	-	-	156	23.7	< 0.05	0.36	-	1760
PGDW14	4/20/2011	D	154	-	18.6	-	3.52	753	-	-	-	-	-	-
PGDW20	3/4/2009	T	79.3	0.0342 J	9.33	0.0356	5 UJ	520	70.2	34.5	0.8	< 0.5	< 0.5	1370
PGDW20	Jan-10	T	71.7	0.3	8.14	0.0313	5 U	550	67.9	32.6	0.8	< 0.3	< 0.3	1270
PGDW20	4/18/2011	T	-	-	-	-	-	-	102	22.9	1.3	< 0.03	-	1150
PGDW20	4/18/2011	D	63	-	6.86	-	0.78	520	-	-	-	-	-	-
PGDW23	3/4/2009	T	6.51	< 0.1	< 5	0.0039	5 UJ	208	61.4	19.8	1.2	< 0.5	< 0.5	365

TABLE 12C

GROUNDWATER ANALYTICAL DATA SUMMARY, MAJOR CATIONS AND MAJOR ANIONS, 2009-2011
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Major Cations						Major Anions					
			Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Alkalinity, Total as CaCO3	Chloride	Fluoride	Nitrate	Nitrite	Sulfate
CAS #			14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	471-34-1	16887-00-6	16984-48-8	14797-55-8	14797-65-0	14996-02-2
EPA MCL			NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	**1**	NA
WY CLASS I DOMESTIC			NA	**0.30**	NA	**0.050**	NA	NA	NA	**250**	**4**	**10**	**1**	**250**
EPA DWEL			NA	NA	NA	**1.6**	NA	NA	NA	NA	NA	NA	NA	NA
WY DWEL			NA	*	NA	*	NA	NA	NA	*	*	*	*	*
EPA SDWR			NA	**0.30**	NA	**0.050**	NA	NA	NA	**250**	NA	NA	NA	**250**
EPA DWA			NA	NA	NA	NA	NA	**20/30-60****	NA	NA	NA	NA	NA	**500**
EPA Phase II CRDL			**5**	**0.1**	**5**	**0.001**	**5**	**5**	**0.005**	**0.0005**	**0.0002**	**0.0005**	**0.0005**	**0.005**
PGDW23	1/18/2010	T	5.82	0.1 U	5 U	0.0028	5 U	194	54.2	19.7	1.5	< 0.3	< 0.3	368
PGDW23	4/21/2011	T	-	-	-	-	-	-	72	19.9	1.6	< 0.03	-	365
PGDW23	4/21/2011	D	6.7	-	0.17	-	0.31	208	-	-	-	-	-	-
PGDW30	3/5/2009	T	4.29 J-	0.117	< 5	0.0033	5 UJ	210	95.7	16.3	0.9	< 0.5	< 0.5	335
PGDW30 Dup	3/5/2009	T	4.14 J-	< 0.1	< 5	0.0016	5 UJ	202	95.4	16	0.8	-	-	331
PGDW30	1/19/2010	T	4.05 J	0.0441 J	5 U	0.0022	5 U	195	94	15.5	0.9	< 0.3	< 0.3	333
PGDW30	4/18/2011	T	-	-	-	-	-	-	82	16.1	1.1	< 0.03	-	327
PGDW30	4/18/2011	D	4.5	-	0.09	-	0.29	210	-	-	-	-	-	-
PGDW32	3/5/2009	T	7.16	0.412	< 5	0.0122	5 UJ	199	34.1	21.8	2.3	< 0.5	< 0.5	373
PGDW32	1/20/2010	T	6.89	0.125	5 U	0.0032	5 U	193	31.5	21.4	2.4	< 0.3	< 0.3	368
PGDW32	4/18/2011	T	-	-	-	-	-	-	46	18.8	2.0	< 0.03	-	361
PGDW32	4/18/2011	D	7.2	-	0.03	-	0.09	198	-	-	-	-	-	-
PGDW33	Mar-09	T	228	< 0.1	40.9	0.0018	5 UJ	178	276	23	0.2	2.1	< 0.5	2690

TABLE 12C

GROUNDWATER ANALYTICAL DATA SUMMARY, MAJOR CATIONS AND MAJOR ANIONS, 2009-2011
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Major Cations						Major Anions					
			Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Alkalinity, Total as CaCO3	Chloride	Fluoride	Nitrate	Nitrite	Sulfate
CAS #			14452-75-6	7439-89-6	7439-95-4	7439-96-5	7440-09-7	7440-23-5	471-34-1	16887-00-6	16984-48-8	14797-55-8	14797-65-0	14996-02-2
EPA MCL			NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	**1**	NA
WY CLASS I DOMESTIC			NA	**0.30**	NA	**0.050**	NA	NA	NA	**250**	**4**	**10**	**1**	**250**
EPA DWEL			NA	NA	NA	**1.6**	NA	NA	NA	NA	NA	NA	NA	NA
WY DWEL			NA	*	NA	*	NA	NA	NA	*	*	*	*	*
EPA SDWR			NA	**0.30**	NA	**0.050**	NA	NA	NA	**250**	NA	NA	NA	**250**
EPA DWA			NA	NA	NA	NA	NA	**20/30-60****	NA	NA	NA	NA	NA	**500**
EPA Phase II CRDL			**5**	**0.1**	**5**	**0.001**	**5**	**5**	**0.005**	**0.0005**	**0.0002**	**0.0005**	**0.0005**	**0.005**
PGDW41A	4/20/2011	T	-	-	-	-	-	-	112	97.6	<0.05	**17.5**	-	2640
PGDW41A	4/20/2011	D	452	-	46.9	-	3.18	896	-	-	-	-	-	-
PGDW41B	1/21/2010	T	270 J	1.88	57.5	0.222	2.68 J	1030	108	31.4	0.5	< 0.3	< 0.3	2670
PGDW42	1/19/2010	T	5.06	0.0966 J	5 U	0.003	5 U	181	88.5	13.2	1	< 0.3	< 0.3	311
PGDW44	1/18/2010	T	259	2.07	28.3	0.213	5 U	994	100	39.5	0.3	< 0.3	< 0.3	2880
PGDW44	4/21/2011	T	-	-	-	-	-	-	94	32.1	< 0.05	< 0.03	-	2900
PGDW44	4/21/2011	D	259	-	19.2	-	2.09	1060	-	-	-	-	-	-
PGDW45	1/18/2010	T	138	0.1 U	31.2	0.00032 J	2.61 J	59.4	379	14.5	1.9	0.3	< 0.3	213
PGDW45	4/19/2011	T	-	-	-	-	-	-	364	18.4	1.7	0.64	-	251
PGDW45	4/19/2011	D	159	-	34.5	-	2.81	61.6	-	-	-	-	-	-
PGDW49	1/20/2010	T	486 J	11.4	153	0.158	11.4	1210	243	64.3	0.4	7.7	< 0.3	3160
PGDW49	4/20/2011	T	-	-	-	-	-	-	296	54.3	< 0.05	8.75	-	3200
PGDW49	4/20/2011	D	417	-	127	-	9.66	982	-	-	-	-	-	-

TABLE 12C

GROUNDWATER ANALYTICAL DATA SUMMARY, MAJOR CATIONS AND MAJOR ANIONS, 2009-2011
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
1. EPA tables did not include data qualifiers for major anion results.
2. No specific sample date listed for Phase I analyses of PGDW14, PGDW33, PGDW41, PGDW42, PGDW44, PGDW45, and PGDW45 and Phase II analysis of PGDW20 in EPA reports
3. Based on EPA reports and 2010 Field Sampling Plan, it appears that the Phase I (2009) and Phase II (2010) samples for cations were not field filtered while Phase IV (2011) samples for cations were field filtered.

< = result was less than the Method Detection Limit/ result was less than the Reporting Limit for Alkalinity
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *T = Total* *D = Dissolved* *- = Not Analyzed* *NA = Not Available*

Exceedance	*EPA MCL = US EPA Maximum Contaminant Level (exceedances are in **bold** with a yellow highlight)*
Exceedance	*WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard (Exceedances are underlined with a yellow highlight; green highlight if also exceeds EPA DWA).*
	EPA DWEL = US EPA Drinking Water Equivalent Level
	WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.
	EPA SDWR = US EPA Secondary Drinking Water Regulations
Exceedance	*EPA DWA = US EPA Drinking Water Advisory (Exceedances are highlighted green)*

EPA CRDL = US EPA Contract Required Detection Limit

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

*** EPA requires Public Water Systems that exceed 20 mg/L to notify local and State public health officials (U.S. EPA 1996). The EPA guidance was developed for those individuals restricted to a total sodium intake of 500 mg/day (U.S. EPA 1976) and should not be extrapolated to the entire population. EPA Drinking Water Advisory recommends that the sodium concentration in drinking water not exceed a range of 30 to 60 mg/L because of possible adverse effects on taste at higher concentrations.*

TABLE 12C

GROUNDWATER ANALYTICAL DATA SUMMARY, MAJOR CATIONS AND MAJOR ANIONS, 2009-2011
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Methods
Cation results from ICP-MS analyses are presented when available; calcium, iron, magnesium, potassium, and sodium results for March 2009 results were analyzed by ICP-
Phases I and II: TAL metals results determined using U.S. EPA Method 6020 (ICP-MS) and U.S. EPA Method 200.7 (ICP-AES)
Phase IV: Metals and metals speciation determined using RSKSOP 213v4 and 257v2, or 332V0 and EPA Methods 200.7 and 6020.
Phases I and II: Fluoride, chloride, nitrite-N, nitrate-N, orthophosphate-P, and sulfate determined using EPA Method 300.0 and EPA Region SOP 310, alkalinity determined
Phase IV: SO_4, Cl, F, and Br determined using RSKSOP 276v3 and EPA Method 6500. NO_3 + NO_2 and NH_4 determined using RSKSOP 214v5 and EPA Method 350.

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 13A

GROUNDWATER ANALYTICAL DATA, GENERAL CHEMISTRY, 2014
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Ammonia	Cyanide	Dissolved Organic Carbon	Sulfide	Surfactants (MBAS)	Total Organic Carbon
	CAS#	**7664-41-7**	**57-12-5**	**NA**	**NA**	**NA**	**NA**
	EPA MCL	**NA**	**0.2**	**NA**	**NA**	**NA**	**NA**
	WY CLASS I DOMESTIC	**0.5**	**0.2**	**NA**	**NA**	**NA**	**NA**
	WY DWEL	*****	*****	**NA**	**NA**	**NA**	**NA**
	EPA SDWR	**NA**	**NA**	**NA**	**NA**	**0.5**	**NA**
	EPA DWA	**30**	**NA**	**NA**	**NA**	**NA**	**NA**
LD02	6/20/2014	< 0.10	0.05	1.0	30 J-	< 0.20	0.63
LD02	8/21/2014	0.13	< 0.01 U	0.92 J	10.00 J-	< 0.20	0.64
PGDW05	6/16/2014	< 0.10	< 0.01	0.75 J	10 J-	< 0.20	< 0.50
PGDW05	8/18/2014	< 0.10	0.008 J	0.71 J	20.00 J-	< 0.20	< 0.50
PGDW14	6/12/2014	< 0.10	< 0.01	1.2	30 J-	< 0.20	0.87
PGDW14	8/14/2014	< 0.10	0.01	1.5 J+	10.00 J-	< 0.20	1.1 J+
PGDW20	6/20/2014	0.15	0.03	0.79 J	50 J-	< 0.20	< 0.50
PGDW20	8/21/2014	0.16	< 0.01	0.77 J	10.00 J-	< 0.20	0.52
PGDW23	6/13/2014	0.10	< 0.01 U	0.63 J	10 J-	< 0.20	< 0.50
PGDW23	8/15/2014	< 0.10	0.007 J	< 0.20 U	10.00 J-	< 0.20	< 0.50
PGDW23 Dup	8/15/2014	< 0.10	0.01 J	< 0.20 U	10.00 J-	< 0.20	< 0.51 U
PGDW30	6/18/2014	< 0.10	< 0.01	0.65 J	10 J-	< 0.20 R	< 0.50
PGDW30	8/12/2014	< 0.10	0.004 J	< 0.20 U	10.00 J-	< 0.20	< 0.65 U
PGDW32	6/11/2014	0.13 J	< 0.01	0.57 J	90 J-	< 0.20	< 0.50
PGDW32 Dup	6/11/2014	0.18 J	< 0.01	0.55 J	60 J-	< 0.20	< 0.50
PGDW32	8/13/2014	0.13	0.02	< 0.20 U	< 0.01 UJ	< 0.20	< 0.50
PGDW33	6/10/2014	0.14	< 0.01	2.4	< 0.01 UJ	< 0.20	2.5
PGDW33	8/13/2014	< 0.12	0.02	2.4	40.00 J-	< 0.20	2.2 U
PGDW41A	6/19/2014	< 0.10	0.04	5.2	30 J-	< 0.20	5.1
PGDW41A	8/20/2014	< 0.10	0.002 J	4.6	10.00 J-	< 0.20	4.5
PGDW41B	6/19/2014	0.18	0.03	0.82 J	10 J-	< 0.20	0.52
PGDW41B	8/20/2014	0.14	< 0.01	1.0	30.00 J-	< 0.20	0.62
PGDW44	6/12/2014	0.20	< 0.01	1.4	40 J-	< 0.20	0.98
PGDW44	8/14/2014	0.13	0.005 J	1.4 J+	10.00 J-	< 0.20	1.1 J+
PGDW45	6/16/2014	< 0.10	< 0.01 U	2.5	< 0.01 UJ	< 0.20	2.2
PGDW45 Dup	6/16/2014	< 0.13	< 0.01	2.5	10 J-	< 0.20	2.2
PGDW45	8/18/2014	< 0.10	< 0.01	2.5	10.00 J-	< 0.20	2.2
PGDW49	6/17/2014	0.16	< 0.02 UJ	6.2	20 J-	< 0.20	6.0
PGDW49	8/19/2014	< 0.10	0.005 J	6.0	10.00 J-	< 0.20	6.1
PGDW49 Dup	8/19/2014	< 0.10	0.006 J	6.1	10.00 J-	< 0.20	6.0

TABLE 13A

GROUNDWATER ANALYTICAL DATA, GENERAL CHEMISTRY, 2014
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
< = result was less than the Reporting Limit/ result was less than the Method Detection Limit for DOC
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available*

EPA MCL = US EPA Maximum Contaminant Level
WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard.
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.
EPA SDWR = US EPA Secondary Drinking Water Regulations
EPA DWA = US EPA Drinking Water Advisory

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
Ammonia analyzed by SM 4500NH3-D
Cyanide analyzed by SM 4500-Cn-E
Total and dissolved organic carbon analyzed by SM 5310C
MBAS analyzed by SM 5540C
Sulfide analyzed by SM 4500-SD2-D

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = high bias
J- = low bias
R = The sample results and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality-control criteria. The presence or absence of the analyte cannot be verified.
U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 13B

GROUNDWATER ANALYTICAL DATA SUMMARY, GENERAL CHEMISTRY, 1979-2008

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Location	Sample Date	Specific Conductance (umhos/cm)	pH - A4500H-B	pH - E150.1	pH - SW9040B	pH - NOS	Ammonia as Nitrate (mg/L)	Total Cyanide (mg/L)	Sulfide (mg/L)	Surfactants (MBAS) (mg/L)	Total Organic Carbon (mg/L)	Total Kjeldahl Nitrogen (mg/L)
CAS #		NA	NA	NA	NA	NA	**7664-41-7**	**57-12-5**	**18496-25-8**	NA	NA	NA
EPA MCL		NA	NA	NA	NA	NA	NA	**0.2**	NA	NA	NA	NA
WY CLASS I DOMESTIC		NA	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	**0.5**	**0.2**	NA	NA	NA	NA
WY DWEL		NA	*	*	*	*	*	*	NA	NA	NA	NA
EPA SDWR		NA	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	NA	NA	NA	**0.5**	NA	NA
EPA DWA		NA	NA	NA	NA	NA	**30**	NA	NA	NA	NA	NA
LD02	7/13/1994	-	-	-	-	-	-	-	-	-	-	-
PGDW05	9/30/2004	921	9.10	-	-	-	< 0.05	-	< 1.0	-	-	-
PGDW05	4/5/2005	-	-	-	-	-	-	-	-	-	-	-
PGDW05	4/7/2005	917	9.14	-	-	-	-	-	-	-	-	-
PGDW05 Inside	4/25/2005	-	-	-	-	-	-	-	-	-	-	-
PGDW05 Outside	4/25/2005	-	-	-	-	-	-	-	-	-	-	-
PGDW05	6/22/2005	-	-	-	-	-	-	-	-	-	-	-
PGDW05	7/4/2006	-	-	-	-	-	-	-	-	-	-	-
PGDW05	12/6/2006	-	-	-	-	-	-	-	-	-	-	-
PGDW05	7/18/2007	-	-	-	-	-	-	-	-	-	-	-
PGDW05 Dup	7/18/2007	-	-	-	-	-	-	-	-	-	-	-
PGDW05	8/13/2007	869	9.22	-	-	-	< 0.05	-	< 0.50	< 1.0	< 0.5	-
PGDW05 Dup	8/13/2007	873	9.18	-	-	-	-	-	< 0.50	< 1.0	< 0.5	-
PGDW05	10/2/2007	-	-	-	-	-	-	-	< 0.10	< 0.025	< 1.0	-
PGDW05	11/1/2007	940	9.0	-	-	-	< 0.1	-	-	-	0.7	< 0.5
PGDW05 Deep	10/7/2008	842	-	9.24	9.30	-	-	-	-	-	1.2	-
PGDW05 Shallow	10/7/2008	850	-	9.23	9.28	-	-	-	-	-	1.0	-
PGDW20	1/11/1988	831	-	-	-	-	-	-	-	-	-	-
PGDW20	5/26/1992	5730	-	-	-	8.17	-	-	-	-	-	-
PGDW20	10/11/1993	5690	-	-	-	7.66	-	-	-	-	-	-
PGDW20	1/7/1997	4860	-	-	-	-	-	-	-	-	-	-
PGDW20	3/21/2006	-	-	-	-	-	-	-	-	-	-	-
PGDW23	9/9/2004	-	-	-	-	-	-	< 0.005	-	-	-	-
PGDW30/ PGDW30 Dup	12/7/2007	1010	-	-	-	8.97	0.12	-	-	-	-	-
PGDW41B	10/26/2004	5650	7.76	-	-	-	0.28	-	< 1.0	-	-	-

TABLE 13B

GROUNDWATER ANALYTICAL DATA SUMMARY, GENERAL CHEMISTRY, 1979-2008
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Specific Conductance (umhos/cm)	pH - A4500H-B	pH - E150.1	pH - SW9040B	pH - NOS	Ammonia as Nitrate (mg/L)	Total Cyanide (mg/L)	Sulfide (mg/L)	Surfactants (MBAS) (mg/L)	Total Organic Carbon (mg/L)	Total Kjeldahl Nitrogen (mg/L)
CAS #		NA	NA	NA	NA	NA	**7664-41-7**	**57-12-5**	**18496-25-8**	NA	NA	NA
EPA MCL		NA	NA	NA	NA	NA	NA	**0.2**	NA	NA	NA	NA
WY CLASS I DOMESTIC		NA	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	**0.5**	**0.2**	NA	NA	NA	NA
WY DWEL		NA	*	*	*	*	*	*	NA	NA	NA	NA
EPA SDWR		NA	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	**6.5 to 8.5**	NA	NA	NA	**0.5**	NA	NA
EPA DWA		NA	NA	NA	NA	NA	**30**	NA	NA	NA	NA	NA
PGDW44	7/11/1979	5130	-	-	-	7.7	-	-	-	-	-	-
PGDW44 Dup	7/11/1979	5130	-	-	-	7.3	-	-	-	-	-	-
PGDW44	7/16/1979	5000	-	-	-	7.8	-	-	-	-	-	-
PGDW44 Dup	7/16/1979	4650	-	-	-	7.3	-	-	-	-	-	-

Notes:
< = result was less than the Reporting Limit
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available* *NOS = not otherwise specified* *- = Not Analyzed*

EPA MCL = US EPA Maximum Contaminant Level

Exceedance

WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard (Exceedances are underlined with a yellow highlight). Standards listed are also included in US EPA Secondary Drinking Water Regulations.

WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

EPA SDWR = US EPA Secondary Drinking Water Regulations

EPA DWA = US EPA Drinking Water Advisory

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
Ammonia as Nitrogen analyzed by SM 4500-NH3G except for November 1, 2007 (EPA Method 350.1)
Cyanide analyzed by EPA Method 335.4
MBAS analyzed by SM 5540C except for October 2, 2007 (EPA Method 425.1)
pH analyzed by SM 4500H-B, EPA Method 150.1, and SW9040B unless in NOS column.
Specific conductance analyzed by SM 2510B
Sulfide analyzed by EPA Method 376.1 except for October 2, 2007 (EPA Method 376.2) and August 13, 2007 (SM 4500-SE)
Total Kjeldahl nitrogen analyzed by EPA Method 351.2
Total organic carbon analyzed by SM 5310C except for October 2, 2007 (EPA Method 415.1) and October 7, 2008 (SM 5310B)

Analytical methods for LD02, PGDW20, and PGDW44 not reported.
Laboratory analytical report was not provided for PGDW05 sample on June 22, 2005

TABLE 13C

GROUNDWATER ANALYTICAL DATA SUMMARY, GENERAL CHEMISTRY, 2009
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Cyanide (free)
	CAS #	**57-12-5**
	EPA MCL	**0.2**
	WY CLASS I DOMESTIC	**0.2**
	WY DWEL	*****
	EPA CRDL	**10**
PGDW05	3/3/2009	ND
PGDW14	Mar-09	0.0012 J-
PGDW20	3/4/2009	ND
PGDW23	3/4/2009	ND
PGDW30	3/5/2009	ND
PGDW30 Dup	3/5/2009	0.0022 J-
PGDW32	3/4/2009	ND
PGDW33	Mar-09	ND

Notes
No specific sample date listed for Phase I analyses of PGDW14 and PGDW33.

CAS# = Chemical Abstract Service Number
Dup = field duplicate sample *ND = Not Detected*

EPA MCL = US EPA Maximum Contaminant Level
WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard.
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL)

EPA CRDL = US EPA Contract Required Detection Limit

** When a coumpound has an EPA MCL or WY Class I Domestic value, WY doesn't consider a DWEL for that compound.*

Methods
Cyanide analyzed by U.S. EPA Method 200.7 (ICP-AES)

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = low bias

TABLE 14A

GROUNDWATER ANALYTICAL DATA, TRACE METALS, 2014
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Lithium	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Uranium	Vanadium	Zinc
CAS #			7429-90-5	7440-36-0	7440-38-2	214361-86-1	7787-47-5	7440-42-8	7440-43-9	7440-47-3	7440-48-4	7440-50-8	7439-92-1	7439-93-2	7439-97-6	7439-98-7	7440-02-0	7782-49-2	7440-22-4	7440-28-0	7440-61-1	7440-62-2	7440-66-6
EPA MCL			NA	6.0	10	2000	4.0	NA	5.0	100	NA	NA	NA	NA	2.0	NA	NA	50	NA	2.0	30.0	NA	NA
WY CLASS I DOMESTIC			NA	NA	50	2000	NA	750	5.0	100	NA	1000	15	NA	2.0	NA	NA	50	100	NA	NA	NA	5000
EPA DWEL			NA	10	10	7000	70	7000	20	100	NA	NA	NA	NA	10	200	700	200	200	NA	NA	NA	10000
WY DWEL			33333	*	*	*	*	*	*	*	10	*	*	67	*	167	667	*	*	*	*	167	*
EPA SDWR			50	NA	NA	NA	NA	NA	NA	NA	NA	1000	NA	NA	NA	NA	NA	NA	100	NA	NA	NA	5000
LD02	6/20/2014	T	47 J	< 0.65	< 1.3	13	0.32 J	230	< 0.58	< 0.57	< 0.32	3.1 J	< 0.91	57.4	0.16 J	8.2	0.74 J	< 3.2	1.6 J	< 2.0	0.327	< 0.67	110
LD02	6/20/2014	D	< 100 U	< 0.65	< 1.3	12	0.17 J	< 220 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	64.2	< 0.021	7.4	0.90 J	< 2.3	0.73 J	< 2.0	0.29	< 0.67	31
LD02	8/21/2014	T	< 28	< 0.65	< 1.3	12	0.28 J	240	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	64.7	< 0.2 U	7.1	< 0.71	< 2.3	0.80 J	< 2.0	0.316	< 0.67	< 49 U
LD02	8/21/2014	D	< 28	< 0.65	< 1.3	11	0.19 J	230	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	68.2	< 0.021	6.6	< 0.71	14	0.67 J	< 2.0	0.391	< 0.67	14 J
PGDW05	6/16/2014	T	32 J	< 0.65	2.5 J	11	0.15 J	130	< 0.58	< 0.57	< 0.32	3.5 J	< 0.91	21.5	< 0.021	5.1	< 0.71	< 3.2	0.92 J	< 2.0	< 0.067	< 0.67	< 3.0
PGDW05	6/16/2014	D	< 28	< 0.65	< 1.3	10	< 0.083	< 100 U	< 0.58	< 0.57	< 0.32	1.4 J	< 0.91	23.3	< 0.021	5.3	< 0.71	< 2.3	< 0.66	2.0 J	< 0.067	< 0.67	< 3.0
PGDW05	8/18/2014	T	< 28	< 0.65	< 1.3	11	< 0.083	140	< 0.58	< 0.57	< 0.32	< 5 U	< 0.91	27.8	< 0.021	5.5	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW05	8/18/2014	D	< 28	< 0.65	1.4 J	9.8	< 0.083	130	< 0.58	< 0.57	< 0.32	1.4 J	< 0.91	26.7	< 0.021	5.0 J	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW14	6/12/2014	T	< 28	0.77 J	2.8 J	7.1	0.58 J	170	< 0.58	< 0.57	< 0.32	2.1 J	< 0.91	36.6	< 0.021	6.2	< 0.71	< 3.2	2.9 J	< 2.0	17.8	< 0.67	19 J
PGDW14	6/12/2014	D	< 28	< 0.65	< 5.0 U	6.6	0.23 J	< 100 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	36.7	< 0.021	5.6	< 0.71	3.2 J	1.2 J	**3.3 J**	17.8	< 0.67	15 J
PGDW14	8/14/2014	T	< 28	< 0.65	< 1.3	6.8	0.30 J	170	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	43.4	< 0.021	5.1	< 0.71	22	0.97 J	< 2.0	19	< 0.67	< 20 U
PGDW14	8/14/2014	D	< 28	< 0.65	< 1.3	6.4	0.34 J	< 160 U	< 0.58	< 0.57	< 0.32	2.1 J	< 0.91	42.3	< 0.021	5.6	< 0.71	22	1.6 J	< 2.0	19.3	< 0.67	18 J
PGDW20	6/20/2014	T	< 28	< 0.65	< 1.3	12	0.26 J	180	< 0.58	< 0.57	< 0.32	2.0 J	< 0.91	49.9	< 0.021	5.4	< 0.71	< 3.2	1.2 J	< 2.0	0.087 J	< 0.67	< 3.0
PGDW20	6/20/2014	D	< 28	< 0.65	< 1.3	13	0.38 J	< 180 U	< 0.58	< 0.57	< 0.32	3.5 J	< 0.91	49.8	< 0.021	5.2	< 0.71	< 2.3	1.1 J	< 2.0	0.087 J	< 0.67	< 3.0
PGDW20	8/21/2014	T	< 28 UJ	< 0.65 UJ	< 1.3 UJ	14 J-	0.19 J-	190 J-	< 0.58 UJ	< 0.57 UJ	< 0.32 UJ	< 0.99 UJ	< 0.91 UJ	60.4	< 0.2 UJ	4.7 J-	< 0.71 UJ	5.1 J-	< 0.66 UJ	< 2.0 UJ	< 0.067	< 0.67 UJ	< 3.0 UJ
PGDW20	8/21/2014	D	< 28 UJ	< 0.65 UJ	< 1.3 UJ	14 J-	< 0.083 UJ	190 J-	< 0.58 UJ	< 0.57 UJ	< 0.32 UJ	< 0.99 UJ	< 0.91 UJ	59.8	< 0.021 UJ	4.5 J-	< 0.71 UJ	9.7 J-	< 0.66 UJ	< 2.0 UJ	< 0.067	< 0.67 UJ	< 3.0 UJ
PGDW23	6/13/2014	T	< 28	< 0.65	< 1.3	10	0.090 J	160	< 0.58	< 0.57	< 0.32	1.1 J	< 0.91	27.6	< 0.021	7.1	< 0.71	< 3.2	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW23	6/13/2014	D	< 28	< 0.65	< 1.3	9.6	< 0.083	< 100 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	28	0.024 J	6.8	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW23	8/15/2014	T	< 28	< 0.65	< 1.3	10	< 0.083	170	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	28.4	< 0.021	7.5	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW23	8/15/2014	D	< 28	< 0.65	< 1.3	9.7	< 0.083	160	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	27.9	< 0.021	6.3	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW23 Dup	8/15/2014	T	< 28	< 0.65	< 1.3	9.9	< 0.083	170	< 0.58	< 0.57	< 0.32	< 5.0 U	< 0.91	28.9	< 0.021	6.7	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW23 Dup	8/15/2014	D	< 28	< 0.65	1.9 J	9.7	< 0.083	160	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	26.6	< 0.021	6.4	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW30	6/18/2014	T	< 28	< 0.65	< 1.3	7.8	0.15 J	130	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	29.7	< 0.021	7.1	< 0.71	< 3.2	0.93 J	< 2.0	< 0.067	< 0.67	< 3.0
PGDW30	6/18/2014	D	< 28	< 0.65	< 1.3	7.5	< 0.083	< 100 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	26.1	< 0.021	6.6	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW30	8/12/2014	T	< 28	1.1 J	2.2 J	7.8	< 0.083	120	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	29.7	< 0.021	7.0	< 0.71	2.4 J	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW30	8/12/2014	D	< 28	< 0.65	2.0 J	7.7	< 0.083	120	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	30.4	< 0.021	6.4	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW32	6/11/2014	T	< 28	< 0.65	2.0 J	11	0.20 J	250	< 0.58	< 0.57	< 0.32	9.8 J	< 0.91	25.1	< 0.021	8.8	< 0.71	< 3.2	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW32	6/11/2014	D	< 28	< 0.65	< 1.3	9.6	< 0.083	< 100 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	24.2	< 0.021	8.2	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW32 Dup	6/11/2014	T	61 J	1.6 J	1.4 J	10	0.16 J	230	< 0.58	< 0.57	< 0.32	4.3 J	< 0.91	22.7	< 0.021	8.8	< 0.71	< 3.2	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW32 Dup	6/11/2014	D	< 100 U	< 0.65	< 1.3	9.9	< 0.083	< 100 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	23.2	< 0.021	8.0	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0
PGDW32	8/13/2014	T	< 28	< 0.65	< 1.3	10	< 0.083	< 100 U	< 0.58	< 0.57	< 0.32	4.2 J	< 0.91	24.3	< 0.021	8.4	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	6.3 J
PGDW32	8/13/2014	D	< 28	< 0.65	1.3 J	9.9	< 0.083	220	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	24.7	< 0.021	7.5	< 0.71	< 2.3	< 0.66	< 2.0	< 0.067	< 0.67	< 3.0

TABLE 14A

GROUNDWATER ANALYTICAL DATA, TRACE METALS, 2014
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Lithium	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Uranium	Vanadium	Zinc
CAS #			7429-90-5	7440-36-0	7440-38-2	214361-86-1	7787-47-5	7440-42-8	7440-43-9	7440-47-3	7440-48-4	7440-50-8	7439-92-1	7439-93-2	7439-97-6	7439-98-7	7440-02-0	7782-49-2	7440-22-4	7440-28-0	7440-61-1	7440-62-2	7440-66-6
EPA MCL			NA	**6.0**	**10**	**2000**	**4.0**	NA	**5.0**	**100**	NA	NA	NA	NA	**2.0**	NA	NA	**50**	NA	**2.0**	**30.0**	NA	NA
WY CLASS I DOMESTIC			NA	NA	**50**	**2000**	NA	**750**	**5.0**	**100**	NA	**1000**	**15**	NA	**2.0**	NA	NA	**50**	**100**	NA	NA	NA	**5000**
EPA DWEL			NA	**10**	**10**	**7000**	**70**	**7000**	**20**	**100**	NA	NA	NA	NA	**10**	**200**	**700**	**200**	**200**	NA	NA	NA	**10000**
WY DWEL			**33333**	*	*	*	*	*	*	*	**10**	*	*	**67**	*	**167**	**667**	*	*	*	*	**167**	*
EPA SDWR			**50**	NA	NA	NA	NA	NA	NA	NA	NA	**1000**	NA	NA	NA	NA	NA	NA	**100**	NA	NA	NA	**5000**
PGDW33	6/10/2014	T	< 28	< 0.65	2.1 J	28	0.33 J	220	< 0.58	0.91 J	0.40 J	5.6	< 0.91	30.1	< 0.021	5.6	1.6 J	< 3.2	1.2 J	< 2.0	**105**	< 0.67	120
PGDW33	6/10/2014	D	< 28	< 0.65	< 1.3	29	0.28 J	240 J	< 0.58	< 0.57	0.51 J	5.0	< 0.91 UJ	27	< 0.040	7.5	< 5 U	5.7 J	1.4 J	< 2.0	**101**	0.77 J	140
PGDW33	8/13/2014	T	< 28	< 0.65	< 1.3	79	0.26 J	< 100 U	< 0.58	< 0.57	< 0.32	21	< 0.91	30.3	< 0.021	6.2	2.6 J	16	0.70 J	< 2.0	**80.6**	< 0.67	500
PGDW33	8/13/2014	D	< 28	< 0.65	< 1.3	75	< 0.083	230	< 0.58	< 0.57	< 0.32	14	< 0.91	31.4	< 0.021	6.3	3.3 J	19	< 0.66	< 2.0	**81.4**	< 0.67	520
PGDW41A	6/19/2014	T	50 J	< 0.65	***13***	10	0.65 J	540	< 0.58	0.95 J	< 0.32	16	< 0.91	76.3	< 0.021	6.7	3.2 J	< 3.2	2.8 J	< 2.0	**236**	4.8 J	19 J
PGDW41A	6/19/2014	D	< 100 U	< 0.65	< 5.0 U	8.4	0.50 J	510	< 0.58	< 0.57	< 0.32	14	< 0.91	78.1	< 0.021	5.5	3.4 J	18	2.6 J	< 2.0	**236**	4.1 J	16 J
PGDW41A	8/20/2014	T	< 100 U	< 0.65	***11***	9.5	0.58 J	560	< 0.58	0.87 J	< 0.32	< 27 U	< 0.91	91.3	< 0.20 U	5.2	4.1 J	37	3.3 J	**2.9 J**	**260**	4.8 J	< 79 U
PGDW41A	8/20/2014	D	< 28	< 0.65	9.0	9.1	0.52 J	550	< 0.58	< 0.57	< 0.32	32	< 0.91	93.3	< 0.20 U	6.3	5.1	40	2.4 J	< 2.0	**265**	4.8 J	110
PGDW41B	6/19/2014	T	-	-	-	-	-	-	-	-	-	-	-	95.3	-	-	-	-	-	-	0.483	-	-
PGDW41B	6/19/2014	D	< 100 U	< 0.65	< 5.0 U	4.9 J	0.27 J	430	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	110	< 0.021	8.0	< 0.71	< 2.3	1.2 J	< 2.0	0.176 J	< 0.67	3.1 J
PGDW41B	8/20/2014	D	< 28	< 0.65	2.7 J	5.0	0.36 J	460	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	112	< 0.20 U	7.3	< 0.71	22	0.95 J	< 2.0	< 0.2 U	< 0.67	4.2 J
PGDW44	6/12/2014	T	74 J	< 0.65	4.8 J	9.8	0.52 J	190	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	70.1	< 0.021	6.0	< 0.71	< 3.2	2.3 J	< 2.0	< 0.067	< 0.67	23
PGDW44	6/12/2014	D	< 28	0.75 J	< 5.0 U	9.0	0.19 J	< 100 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	69.8	< 0.021	5.4	< 0.71	< 2.3	0.86 J	**2.8 J**	< 0.067	< 0.67	14 J
PGDW44	8/14/2014	T	< 28	< 0.65	1.7 J	9.2	0.35 J	190	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	90.8	< 0.021	4.9 J	< 0.71	< 2.3	1.5 J	< 2.0	< 0.067	< 0.67	< 20 U
PGDW44	8/14/2014	D	< 28	< 0.65	2.9 J	8.9	0.33 J	180	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	87.5	< 0.021	5.1	< 0.71	15	1.3 J	**2.4 J**	< 0.067	< 0.67	3.9 J
PGDW45	6/16/2014	T	< 28	< 0.65	< 1.3	33	0.33 J	190	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	31.5	< 0.021	12	< 0.71	< 3.2	1.3 J	< 2.0	**30.2**	< 0.67	< 3.0
PGDW45	6/16/2014	D	< 28	< 0.65	< 1.3	31	< 0.083	< 180 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	32.6	< 0.021	12	1.1 J	< 2.3	< 0.66	**3.2 J**	**31.3**	< 0.67	< 3.0
PGDW45 Dup	6/16/2014	T	< 28	< 0.65	1.5 J	32	0.26 J	190	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	32.4	< 0.021	12	< 0.71	< 3.2	0.95 J	< 2.0	29.8	< 0.67	< 3.0
PGDW45 Dup	6/16/2014	D	< 28	< 0.65	< 1.3	31	< 0.083	< 180 U	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	32.6	< 0.021	11	1.2 J	3.4 J	< 0.66	**2.9 J**	28.7	< 0.67	< 3.0
PGDW45	8/18/2014	T	< 28	< 0.65	< 1.3	30	0.12 J	160	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	28.6	< 0.021	9.8	< 0.71	17	0.74 J	< 2.0	23.1 J	< 0.67	< 20 U
PGDW45	8/18/2014	D	< 28	< 0.65	< 1.3	30	< 0.083	160	< 0.58	< 0.57	< 0.32	< 0.99	< 0.91	27.6	< 0.021	10	< 0.71	21	< 0.66	< 2.0	22.2 J	< 0.67	< 3.0
PGDW49	6/17/2014	T	< 28	< 0.65	***11***	6.6	0.82 J	690	< 0.58	1.6 J	< 0.32	< 0.99	< 0.91	93.3	< 0.021	9.2	2.9 J	< 3.2	3.6 J	< 2.0	**51.1 J**	< 0.67	< 3.0
PGDW49	6/17/2014	D	< 28	< 0.65	< 5.0 U	6.4 J-	0.68 J	670	< 0.58	1.4 J	< 0.32	< 0.99	< 0.91 R	87.9	< 0.021	11	2.4 J	< 2.3	2.9 J	< 2.0	**50.4 J**	< 0.67	< 3.0
PGDW49	8/19/2014	T	< 28	< 0.65	5.9	5.7	0.42 J	660	< 0.58	1.5 J	< 0.32	< 0.99	< 0.91	90.3	< 0.021	7.1	2.3 J	33	1.8 J	**2.6 J**	**60.3**	< 0.67	< 20 U
PGDW49	8/19/2014	D	< 28	< 0.65	7.9	5.9	0.36 J	690	< 0.58	1.3 J	< 0.32	< 0.99	< 0.91	92.6	< 0.2 U	7.5	3.1 J	33	1.4 J	**3.2 J**	**62.6**	< 0.67	5.5 J
PGDW49 Dup	8/19/2014	T	< 28	< 0.65	7.0	6.2	0.46 J	710	< 0.58	1.8 J	< 0.32	< 0.99	< 0.91	91	< 0.021	7.8	2.5 J	33	2.3 J	**2.4 J**	**60.8**	< 0.67	< 20 U
PGDW49 Dup	8/19/2014	D	< 28	< 0.65	7.3	5.8	0.36 J	660	< 0.58	1.3 J	< 0.32	< 0.99	< 0.91	91.9	< 0.2 U	7.5	3.0 J	29	1.4 J	**2.3 J**	**64.4**	< 0.67	5.6 J

TABLE 14A

GROUNDWATER ANALYTICAL DATA, TRACE METALS, 2014
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
< = result was less than the Method Detection Limit
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available* *T = Total* *D = Dissolved* *- = Not Analyzed*

Exceedance	*EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in **bold** with a yellow highlight)*
	WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard
Exceedance	*EPA DWEL = US EPA Drinking Water Equivalent Level (Exceedances are* italicized *with a yellow highlight)*
Exceedance	*WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information. (Exceedances are highlighted light orange)*
Exceedance	*EPA SDWR = US EPA Secondary Drinking Water Regulations (Exceedances are highlighted light blue)*
	Result was less than the Method Detection Limit (MDL), where MDL is greater than lowest cleanup level (black font and gray highlight)

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method SW846 6010B, except Mercury (SW846 7470A) and Lithium and Uranium (SW846 6020A)

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
J- = low bias
R = The sample results and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality-control criteria. The presence or absence of the analyte cannot be verified.
U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 14B

GROUNDWATER ANALYTICAL DATA, TRACE METALS, 1979-2008
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Phosphorus	Selenium	Silver	Thallium	Zinc
CAS #			7429-90-5	7440-36-0	7440-38-2	214361-86-1	7787-47-5	7440-42-8	7440-43-9	7440-47-3	7440-48-4	7440-50-8	7439-92-1	7439-97-6	7439-98-7	7440-02-0	7723-14-0	7782-49-2	7440-22-4	7440-28-0	7440-66-6
EPA MCL			NA	6.0	10	2000	4.0	NA	5.0	100	NA	NA	NA	2.0	NA	NA	NA	50	NA	2.0	NA
WY CLASS I DOMESTIC			NA		50	2000	NA	750	5.0	100	NA	1000	15	2.0	NA	NA	NA	50	100	NA	5000
EPA DWEL			NA	10	10	7000	70	7000	20	100	NA	NA	NA	10	200	700	NA	200	200	NA	10000
WY DWEL			33333	*	*	*	*	*	*	*	10	*	*	*	167	667	NA	*	*	*	*
EPA SDWR			50	NA	NA	NA	NA	NA	NA	NA	NA	1000	NA	NA	NA	NA	NA	NA	100	NA	5000
LD02	7/13/1994	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	9/30/2004	T	-	-	< 1	< 100	-	100	< 5	< 50	-	< 10	< 50	< 1	-	< 50	< 100	< 1	< 10	-	< 10
PGDW05	4/5/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	4/7/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05 Inside	4/25/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05 Outside	4/25/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	6/22/2005	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	7/4/2006	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	12/6/2006	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	7/18/2007	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05 Dup	7/18/2007	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	8/13/2007	T	-	-	< 1	< 100	-	100	< 10	< 50	-	< 10	< 50	< 1	-	< 50	< 100	< 1	< 10	-	30
PGDW05 Dup	8/13/2007	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW05	10/2/2007	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	-	-	-	-
PGDW05	11/1/2007	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	-	-	-	-
PGDW05 Deep	10/7/2008	D	< 100	-	< 50	14	< 0.45	120	< 8.0	< 10	< 5	< 5	< 70	< 0.10	< 5	< 30	< 100	< 90	< 26	-	< 30
PGDW05 Shallow	10/7/2008	D	< 100	-	< 50	9.5	< 0.45	120	< 8.0	< 10	< 5	< 5	< 70	< 0.10	5.1	< 30	< 100	< 90	< 26	-	-
PGDW20	1/11/1988	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW20	5/26/1992	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW20	10/11/1993	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW20	1/7/1997	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW20	3/21/2006	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW23	9/09/2004	T	-	< 1	< 5	< 100	< 0.5	-	< 0.5	< 50	-	< 10	< 1	< 0.5	-	< 20	-	< 5	-	< 0.4	-
PGDW41B	10/26/2004	T	-	-	1	< 100	-	400	< 5	< 50	-	< 10	< 50	< 1	-	< 50	< 100	4	< 10	-	10
PGDW44	7/11/1979	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW44 Dup	7/11/1979	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW44	7/16/1979	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PGDW44 Dup	7/16/1979	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 14B

GROUNDWATER ANALYTICAL DATA, TRACE METALS, 1979-2008
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
< = result was less than the Reporting Limit
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available* *T = Total* *D = Dissolved* *- = Not Analyzed*

EPA MCL = US EPA Maximum Contaminant Level
WY Class I Domestic = State of Wyoming Water Quality Rules and Regulation-, Chapter 8, Table 1, Class I Groundwater Quality Standard
EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.
EPA SDWR = US EPA Secondary Drinking Water Regulation
Result was less than the Reporting Limit (RL), where RL is greater than lowest cleanup level (black font and gray highlight)

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
Samples analyzed by EPA Method 200.8, except for Boron results on September 30, 2004 and August 13, 2007 (EPA Method 200.7) and all analytes on October 7, 2008 (EPA Method SW846 6010B)
Mercury samples analyzed by EPA Method 200.8 except for October 7, 2008 (SW846 7470A)
Phosphorus results analyzed by EPA Method 200.7 except for October 2, 2007 (EPA Method 365.2), November 1, 2007 (EPA Method 365.1), and October 7, 2008 (EPA Method SW846 6010B)

TABLE 14C

GROUNDWATER ANALYTICAL DATA SUMMARY, TRACE METALS, 2009-2010
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		CAS #	7429-90-5	7440-36-0	7440-38-2	214361-86-1	7787-47-5	7440-43-9	7440-47-3	7440-48-4	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7723-14-0	7782-49-2	7440-28-0	7440-62-2	7440-66-6
		EPA MCL	NA	6.0	10	2000	4.0	5.0	100	NA	NA	NA	2.0	NA	50	NA	2.0	NA	NA
		WY CLASS I DOMESTIC	NA	NA	50	2000	NA	5.0	100	NA	1000	15	2.0	NA	50	100	NA	NA	5000
		EPA DWEL	NA	10	10	7000	70	20	100	NA	NA	NA	10	700	200	200	NA	NA	10000
		WY DWEL	33333	*	*	*	*	*	*	10	*	*	*	667	*	*	*	167	*
		EPA SDWR	50	NA	NA	NA	NA	NA	NA	NA	1000	NA	NA	NA	NA	100	NA	NA	5000
		EPA Phase I ICP-MS CRDL	NA	2	1	10	1	1	2	1	2	1	NA	1	5	1	1	1	2
		EPA Phase I ICP-AES CRDL	200	NA	10	200	5	5	10	50	25	10	0	40	35	NA	NA	50	60
		EPA Phase II CRDL	200	10	1	10	1	1	2	1	2	1	0.2	1	5	1	1	5	2
PGDW05	3/3/2009	T	ND	ND	ND	10.0 UJ	1.0 UJ	ND	ND	1.0 UJ	5.6 J	1.7 J	ND	1.0 UJ	5.0 UJ	1.0 UJ	ND	ND	10.1J
PGDW05	1/18/2010	T	200 U	2 U	0.36 J	11.1	1 U	1 U	2 U	1 U	7.7 U	0.42 J	0.2 U	0.48 J	5 U	1 U	0.23 J	5 U	1.4 J
PGDW05 Dup	1/18/2010	T	200 U	2 U	1 U	10.3	1 U	1 U	2 U	1 U	4.7 J	1 U	0.2 U	0.21 J	5 U	1 U	1 U	5 U	2 U
PGDW14	Mar-09	T	ND	2.0 UJ	0.73 J	10.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	0.18 J	14.8 J	2.3 J	ND	1.7 J	14.2 J	1.0 UJ	0.052 J	0.58 J	36.3 J
PGDW20	3/4/2009	T	ND	ND	0.54 J	20.0 UJ	2.0 UJ	ND	ND	0.073 J	6.9 J	2.0 UJ	ND	2.0 UJ	10.0 UJ	2.0 UJ	ND	0.039 J	6.1 J
PGDW20	Jan-10	T	200 U	2 U	0.5 J	9.3 J	1 U	1 U	2 U	1 U	8.8 J	1 U	0.2 U	0.46 J	0.98 J	1 U	1 U	5 U	7.6
PGDW23	3/4/2009	T	ND	ND	0.15 J	11.1 J	1.0 UJ	ND	ND	0.023 J	3.7 J	1.0 UJ	ND	1.0 UJ	5.0 UJ	1.0 UJ	ND	0.084 J	7.6 J
PGDW23	1/18/2010	T	200 U	2 U	1 U	8.9 J	1 U	1 U	2 U	1 U	4.3 J	1 U	0.2 U	0.23 J	5 U	1 U	1 U	5 U	2 U
PGDW30	3/5/2009	T	76 J	2.0 UJ	0.094	7.9 J	ND	ND	ND	ND	3.9	0.14 J	ND	ND	ND	ND	ND	0.065 J	35.5 J
PGDW30 Dup	3/5/2009	T	30.9 J	-	0.1	8.2	-	-	-	-	6.7	-	ND	-	-	-	-	-	37
PGDW30	1/19/2010	T	200 U	2 U	1 U	6.8 J	1 U	1 U	2 U	1 U	3.9 J	1 U	0.2 U	0.83 J	5 U	1 U	1 U	5 U	1.2 J
PGDW32	3/5/2009	T	54.1 J	2.0 UJ	0.56 J	11.6 J	ND	ND	ND	0.046 J	15.2	1.6 J	ND	ND	ND	ND	ND	0.12 J	102 J
PGDW32	1/20/2010	T	200 U	2 U	0.53 J	9.6 J	1 U	1 U	2 U	1 U	3 J	1 U	0.2 U	0.61 J	5 U	1 U	1 U	5 U	23.9
PGDW33	Mar-09	T	51.2 J	2.0 UJ	0.41 J	39.7 J	ND	0.037 J	ND	0.45 J	16	2.2 J	ND	4.5	ND	ND	0.020 J	0.96 J	83.6 J
PGDW41B	1/21/2010	T	741	2 U	0.89 J	9.6 J	1 U	1 U	1.7 J	0.51 J	201 J	38.3	0.2 U	3.6	1.4 J	1 U	1 U	2.7 J	32.5
PGDW42	1/19/2010	T	200 U	2 U	1 U	7.9 J	1 U	1 U	2 U	1 U	5.5 J	1 U	0.2 U	0.42 J	5 U	1 U	1 U	5 U	1.2 J
PGDW44	1/18/2010	T	200 U	2 U	0.48 J	8 J	1 U	1 U	2 U	1 U	40 J	1 U	0.2 U	0.2 J	2.2 J	1 U	1 U	5 U	6.3
PGDW45	1/18/2010	T	200 U	2 U	0.46 J	37	1 U	1 U	2 U	1 U	4.5 UJ	0.21 J	0.2 U	1.3	5.1	1 U	1 U	5 U	4
PGDW49	1/20/2010	T	81.8 J	0.34 J	0.71 J	8.2 J	1 U	1 U	0.52 J	0.5 J	57.3 J	2.2	0.2 U	3.5	2.3 J	1 U	0.24 J	5 U	18.7

Notes

1. No specific sample dates listed for Phase I analyses of PGDW14 and PGDW33 and Phase II analysis of PGDW20 in EPA reports

2. Based on EPA reports and 2010 Field Sampling Plan, it appears that Phase I (2009) and Phase II (2010) samples were not field filtered.

TABLE 14C

GROUNDWATER ANALYTICAL DATA SUMMARY, TRACE METALS, 2009-2010
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available* *ND = Not Detected* *T = Total* *D = Dissolved*
- = Not Analayzed

EPA MCL = US EPA Maximum Contaminant Level
Exceedance *WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard (Exceedances are underlined with a yellow highlight)*
EPA DWEL = US EPA Drinking Water Equivalent Level (Exceedances are italicized with a yellow highlight)
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.
Exceedance *EPA SDWR = US EPA Secondary Drinking Water regulations- (Exceedances are highlighted light blue)*

EPA CRDL = US EPA Contract Required Detection Limit

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
TAL metals results determined using U.S. EPA Method 6020 (ICP-MS) and U.S. EPA Method 200.7 (ICP-AES)
Metals results from March 2009 are from ICP-MS analyses except for aluminum and mercury results which were analyzed by ICP-AES

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 15

GROUNDWATER ANALYTICAL DATA, PETROLEUM HYDROCARBONS
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Diesel C10-C24	Diesel C10-C24 (SGCU)	Gasoline C7-C12	Hydrocarbon Oil & Grease
Wyoming Action Level		10	10	6.6	Virtually Free
LD02	6/20/2014	< 0.016	< 0.016	< 0.013	< 5.45
LD02	8/21/2014	0.077 J	< 0.017	< 0.05 UJ	< 4.95
PGDW05	6/16/2014	< 0.05 U	0.026 J	0.15 J	< 4.75
PGDW05	8/18/2014	0.093 J	0.031 J	< 0.05 U	< 4.90
PGDW14	6/12/2014	0.029 J	< 0.016	< 0.011	< 4.95
PGDW14	8/14/2014	< 0.017	< 0.017	< 0.05 U	< 4.72
PGDW20	6/20/2014	< 0.049 U	< 0.016	< 0.05 U	< 4.75
PGDW20	8/21/2014	0.043 J	< 0.017	< 0.05 UJ	< 4.72
PGDW23	6/13/2014	0.021 J	< 0.016	< 0.05 U	< 4.90
PGDW23	8/15/2014	< 0.016	< 0.016	< 0.05 U	< 4.72
PGDW23 Dup	8/15/2014	< 0.016	< 0.016	< 0.05 U	< 4.72
PGDW30	6/18/2014	0.034 J	0.021 J	< 0.05 U	< 4.80
PGDW30	8/12/2014	0.074 J	< 0.016	< 0.05 U	< 4.72
PGDW32	6/11/2014	< 0.016	< 0.016	< 0.0057	< 5.00
PGDW32 Dup	6/11/2014	< 0.016	< 0.016	< 0.0057	< 5.00
PGDW32	8/13/2014	< 0.049 U	< 0.016	< 0.05 U	< 4.85
PGDW33	6/10/2014	< 0.016	< 0.016	< 0.0057	< 5.00
PGDW33	8/13/2014	< 0.049 U	< 0.016	< 0.05 U	< 4.81
PGDW41A	6/19/2014	0.15 J	< 0.016	< 0.05 U	< 4.90
PGDW41A	8/20/2014	< 0.049 U	< 0.016	< 0.05 U	< 4.72
PGDW41B	6/19/2014	0.17 J	0.18 J	< 0.05 U	< 4.75
PGDW41B	8/20/2014	0.25 J	0.23 J	< 0.05 U	< 4.72
PGDW44	6/12/2014	0.031 J	< 0.016	< 0.05 U	< 4.90
PGDW44	8/14/2014	< 0.051 U	< 0.017	< 0.05 U	< 4.85
PGDW45	6/16/2014	< 0.016	0.033 J	0.018 J	< 4.90
PGDW45 Dup	6/16/2014	< 0.2 U	< 0.016	0.025 J	< 4.90
PGDW45	8/18/2014	< 0.051 U	< 0.017	< 0.013	< 4.95
PGDW49	6/17/2014	0.11 J	< 0.016	< 0.013	< 5.00
PGDW49	8/19/2014	0.022 J	< 0.016	< 0.05 U	< 4.81
PGDW49 Dup	8/19/2014	0.038 J	< 0.017	< 0.05 U	< 4.81

Notes

1. Diesel C10-C24 is equivalent to DRO analysis

2. Gasoline C7-C12 is equivalent to GRO analysis

3. Reported DRO and GRO concentrations greater than the Reporting Limit were qualified by the laboratory as exhibiting a chromatographic pattern which did not resemble diesel or gasoline standards (Y)

< = result was less than the Method Detection Limit/ result was less than the Reporting Limit for Hydrocarbon Oil & Grease

Dup = field duplicate sample

TABLE 15

GROUNDWATER ANALYTICAL DATA, PETROLEUM HYDROCARBONS
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Wyoming Action Level = State of Wyoming Action Level, Storage Tank Program

Methods
Diesel analyzed by EPA Method SW846 8015D
Gasoline analyzed by EPA Method SW846 8015B
Hydrocarbon Oil & Grease analyzed by EPA Method 1664A

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 16A

GROUNDWATER ANALYTICAL DATA, VOLATILE ORGANIC COMPOUNDS
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (Methyl ethyl ketone)	2-Chlorotoluene	2-Hexanone	2-Propanol	4-Chlorotoluene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide
CAS #		630-20-6	71-55-6	79-34-5	79-00-5	75-34-3	75-35-4	26952-23-8	87-61-6	96-18-4	120-82-1	95-63-6	96-12-8	106-93-4	95-50-1	107-06-2	78-87-5	108-67-8	541-73-1	142-28-9	106-46-7	594-20-7	78-93-3	95-49-8	591-78-6	67-63-0	106-43-4	108-10-1	67-64-1	71-43-2	108-86-1	74-97-5	75-27-4	75-25-2	74-83-9	75-15-0
EPA MCL		NA	200	NA	5	NA	7	NA	NA	NA	70	NA	0.2	0.05	600	5	5	NA	NA	NA	75	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	81	81	NA	NA
EPA DWEL		1000	70000	400	100	NA	2000	NA	NA	100	350	NA	NA	300	3000	NA	NA	NA	3000	NA	4000	NA	20000	700	NA	NA	700	NA	NA	100	300	500	100	1000	50	NA
WY DWEL		3.45	*	0.45	*	15.7	*	0.897	26.7	0.003	*	333	*	*	*	*	*	333	75	667	*	2.49	20000	667	167	66667	667	NA	30000	*	267	1.45	*	11.4	46.7	3333
LD02	6/20/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.2	< 50 U	< 0.2	< 0.2	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
LD02	8/21/2014	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.2 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.4 UJ	< 0.1 UJ	< 0.2 UJ	< 3.8 UJ	< 0.1 UJ	< 0.7 UJ	< 10 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	0.2 J-
PGDW05	6/16/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	8.1 J	< 0.1	< 0.2	< 10 U	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW05	8/18/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW14	6/12/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1 UJ	< 0.3 UJ	< 0.1	< 0.2	6.0 J	< 0.2	< 0.2	< 0.5 UJ	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW14	8/14/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW20	6/20/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 50 U	< 0.1	< 0.7	1.8 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW20	8/21/2014	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.2 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.4 UJ	< 0.1 UJ	< 0.2 UJ	< 3.8 UJ	< 0.1 UJ	< 0.7 UJ	<1.6 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	0.3 J-
PGDW23	6/13/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.2	< 50 U	< 0.2	< 0.2	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW23 Dup	8/15/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW23	8/15/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW30	6/18/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.2	< 50 U	< 0.2	< 0.2	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	0.1 J
PGDW30	8/12/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 50 U	< 0.1	< 0.1	< 0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW32	6/11/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 50 U	< 0.1	< 0.2	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW32 Dup	6/11/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1 UJ	< 0.3	< 0.1	< 0.2	24 J	< 0.2	< 0.2	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW32	8/13/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW33	6/10/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	3.5 J	< 0.1	< 0.2	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW33	8/13/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW41A	6/19/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.2	< 50 U	< 0.2	< 0.2	< 0.5 UJ	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW41A	8/20/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW41B	6/19/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.2	< 50 U	< 0.2	< 0.2	< 0.5 UJ	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW41B	8/20/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW44	6/12/2014	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.3 UJ	< 0.1 UJ	< 0.2 UJ	11 J-	< 0.2 UJ	< 0.2 UJ	< 0.5 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ
PGDW44	8/14/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW45	6/16/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 2.2	< 0.1	< 0.2	< 10 U	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW45 Dup	6/16/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	15 J	< 0.1	< 0.2	< 10 U	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW45	8/18/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW49	6/17/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.2	< 50 U	< 0.2	< 0.2	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW49	8/19/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1
PGDW49 Dup	8/19/2014	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.2	< 3.8	< 0.1	< 0.7	< 1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2 UJ	< 0.1

Notes
< = result was less than the Method Detection Limit *CAS# = Chemical Abstract Service Number* *Dup = field duplicate sample* *NA = Not Available*

EPA MCL = US EPA Maximum Contaminant Level
EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.
Result was less than the Method Detection Limit (MDL), where MDL is greater than lowest cleanup level (black font and gray highlight)

TABLE 16A

GROUNDWATER ANALYTICAL DATA, VOLATILE ORGANIC COMPOUNDS
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method SW846 8260B

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
J- = low bias
U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 16B

GROUNDWATER ANALYTICAL DATA, VOLATILE ORGANIC COMPOUNDS
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethanol	Ethyl tert-Butyl Ether (ETBE)	Ethylbenzene	Hexachlorobutadiene	Isopropyl Ether (DIPE)	Isopropylbenzene	Methyl tert-Amyl Ether (TAME)	Methyl tertiary butyl ether (MTBE)	Methylene Chloride	m,p-Xylenes	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Isopropyltoluene	Sec-Butylbenzene	Styrene	tert-Butyl Alcohol (TBA)	Tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl Chloride
	CAS #	56-23-5	108-90-7	75-00-3	67-66-3	74-87-3	156-59-2	10061-01-5	124-48-1	74-95-3	75-71-8	64-17-5	637-92-3	100-41-4	87-68-3	108-20-3	98-82-8	994-05-8	1634-04-4	75-09-2	108-38-3 106-42-3	91-20-3	104-51-8	103-65-1	95-47-6	99-87-6	135-98-8	100-42-5	75-65-0	98-06-6	127-18-4	108-88-3	156-60-5	10061-02-6	79-01-6	75-69-4	75-01-4
EPA MCL		**5**	**100**	NA	**81**	NA	**70**	NA	**80**	NA	NA	NA	NA	**700**	NA	NA	NA	NA	NA	**5**	**10000**	NA	NA	NA	NA	NA	NA	**100**	NA	NA	**5**	**1000**	**100**	NA	**5**	NA	**2**
EPA DWEL		**100**	**700**	NA	**350**	NA	**70**	NA	**700**	NA	**5000**	NA	NA	**3000**	**10**	NA	**4000**	NA	NA	**2000**	**7000**	**700**	NA	NA	NA	NA	NA	**7000**	NA	NA	**500**	**3000**	**700**	NA	**200**	**10000**	**100**
WY DWEL		*	*	NA	*	NA	*	**0.90**	*	**15.7**	**6.67**	NA	**50**	*	**1.15**	**2667**	**3333**	**50**	**50**	*	**6667**	**667**	**1667**	**3333**	**6667**	**2667**	**3333**	*	**66667**	**3333**	*	*	*	**0.90**	*	**10000**	*
LD02	6/20/2014	< 0.1	< 0.1	< 0.2	< 0.5 U	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
LD02	8/21/2014	< 0.1 UJ	< 0.1 UJ	< 0.3 UJ	< 0.1 UJ	< 0.3 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 30 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 2.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ
PGDW05	6/16/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1 UJ	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 26	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 1.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PGDW05	8/18/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW14	6/12/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW14	8/14/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW20	6/20/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1 UJ	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW20	8/21/2014	< 0.1 UJ	< 0.1 UJ	< 0.3 UJ	< 0.1 UJ	< 0.3 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 30 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 2.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ
PGDW23	6/13/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW23	8/15/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW23 Dup	8/15/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW30	6/18/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW30	8/12/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 30	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
PGDW32	6/11/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 26	< 0.1	< 0.1	< 0.2	< 0.1	0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 1.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PGDW32 Dup	6/11/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2.0 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW32	8/13/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	0.1 J	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW33	6/10/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 26	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 1.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PGDW33	8/13/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW41A	6/19/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW41A	8/20/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW41B	6/19/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW41B	8/20/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW44	6/12/2014	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 26 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	0.2 J-	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 1.5 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.2 UJ	< 0.1 UJ
PGDW44	8/14/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW45	6/16/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1 UJ	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 26	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 1.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PGDW45 Dup	6/16/2014	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1 UJ	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 26	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 1.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PGDW45	8/18/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW49	6/17/2014	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 26	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
PGDW49	8/19/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1
PGDW49 Dup	8/19/2014	< 0.1	< 0.1	< 0.3	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 30	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 2.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1

Notes
< = result was less than the Method Detection Limit *CAS# = Chemical Abstract Service Number* *Dup = field duplicate sample* *NA = Not Available*

EPA MCL = US EPA Maximum Contaminant Level

TABLE 16B

GROUNDWATER ANALYTICAL DATA, VOLATILE ORGANIC COMPOUNDS
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method SW846 8260B

TABLE 16C

GROUNDWATER ANALYTICAL DATA, VOLATILE ORGANIC COMPOUNDS
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Tentatively Identified Compound	Result
LD02	6/20/2014	None reported.	
LD02	8/21/2014	None reported.	
PGDW05	6/16/2014	tert-Butyl Iodide	5.3 J
PGDW05	8/18/2014	None reported.	
PGDW14	6/12/2014	None reported.	
PGDW14	8/14/2014	None reported.	
PGDW20	6/20/2014	None reported.	
PGDW20	8/21/2014	None reported.	
PGDW23	6/13/2014	None reported.	
PGDW23	8/15/2014	None reported.	
PGDW23 Dup	8/15/2014	None reported.	
PGDW30	6/18/2014	None reported.	
PGDW30	8/12/2014	None reported.	
PGDW32	6/11/2014	None reported.	
PGDW32 Dup	6/11/2014	None reported.	
PGDW32	8/13/2014	None reported.	
PGDW33	6/10/2014	None reported.	
PGDW33	8/13/2014	None reported.	
PGDW41A	6/19/2014	None reported.	
PGDW41A	8/20/2014	None reported.	
PGDW41B	6/19/2014	None reported.	
PGDW41B	8/20/2014	None reported.	
PGDW44	6/12/2014	None reported.	
PGDW44	8/14/2014	None reported.	
PGDW45	6/16/2014	None reported.	
PGDW45 Dup	6/16/2014	None reported.	
PGDW45	8/18/2014	None reported.	
PGDW49	6/17/2014	None reported.	
PGDW49	8/19/2014	None reported.	
PGDW49 Dup	8/19/2014	None reported.	

Notes
Samples analyzed by EPA Method SW846 8260B

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

TABLE 17

GROUNDWATER ANALYTICAL DATA, GLYCOLS
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	2-Butoxyethanol	Diethylene Glycol	Ethylene Glycol	Propylene Glycol	Tetraethylene Glycol	Triethylene Glycol
	CAS #	111-76-2	111-46-6	107-21-1	57-55-6	112-60-7	112-27-6
	EPA DWEL	NA	NA	70	NA	NA	NA
	WY DWEL	3.33	67	67	667	67	67
LD02	6/20/2014	< 2.3	< 50	-	-	< 50	< 50
LD02	8/21/2014	-	-	< 10 UJ	< 20 UJ	-	-
PGDW05	6/16/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW05	8/18/2014	-	-	< 10	< 20	-	-
PGDW14	6/12/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW14	8/14/2014	-	-	< 10	< 20	-	-
PGDW20	6/20/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW20	8/21/2014	-	-	< 10 UJ	< 20 UJ	-	-
PGDW23	6/13/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW23	8/15/2014	-	-	< 10	< 20	-	-
PGDW23 Dup	8/15/2014	-	-	< 10	< 20	-	-
PGDW30	6/18/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW30	8/12/2014	-	-	< 10	< 20	-	-
PGDW32	6/11/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW32 Dup	6/11/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW32	8/13/2014	-	-	< 10	< 20	-	-
PGDW33	6/10/2014	3.1 J	< 50	-	-	< 50	< 50
PGDW33	8/13/2014	-	-	< 10	< 20	-	-
PGDW41A	6/19/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW41A	8/20/2014	-	-	< 10	< 20	-	-
PGDW41B	6/19/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW41B	8/20/2014	-	-	< 10	< 20	-	-
PGDW44	6/12/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW44	8/14/2014	-	-	< 10	< 20	-	-
PGDW45	6/16/2014	< 2.3	< 50 UJ	-	-	< 50	< 50 UJ
PGDW45 Dup	6/16/2014	< 2.3	< 50 UJ	-	-	< 50	< 50 UJ
PGDW45	8/18/2014	-	-	< 10	< 20	-	-
PGDW49	6/17/2014	< 2.3	< 50	-	-	< 50	< 50
PGDW49	8/19/2014	-	-	< 10	< 20	-	-
PGDW49 Dup	8/19/2014	-	-	< 10	< 20	-	-

Notes
< = result was less than the Method Detection Limit
CAS# = Chemical Abstract Service Number
NA = Not Available
Dup = field duplicate sample
- = Not Analyzed

EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

Samples analyzed by EPA Method SW846 8015B

TABLE 17

GROUNDWATER ANALYTICAL DATA, GLYCOLS
(milligrams per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 18

GROUNDWATER ANALYTICAL DATA, VOLATILE ORGANIC ACIDS
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Acetic Acid	Butyric Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
	CAS #	64-19-7	107-92-6	598-82-3	79-09-4	127-17-3
	Generally Recognized as Safe	90000	5900	100	No Limitations	5000
LD02	6/20/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
LD02	8/21/2014	< 500	< 500 UJ	< 500	< 5000	2060
PGDW05	6/16/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW05	8/18/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW14	6/12/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW14	8/14/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW20	6/20/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW20	8/21/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW23	6/13/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW23	8/15/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW23 Dup	8/15/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW30	6/18/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW30	8/12/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW32	6/11/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW32 Dup	6/11/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW32	8/13/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW33	6/10/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW33	8/13/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW41A	6/19/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW41A	8/20/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW41B	6/19/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW41B	8/20/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW44	6/12/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW44	8/14/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW45	6/16/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW45 Dup	6/16/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW45	8/18/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW49	6/17/2014	< 500 UJ	< 500 UJ	< 500 UJ	< 5000 UJ	< 50.0 UJ
PGDW49	8/19/2014	< 500	< 500	< 500	< 5000	< 50.0
PGDW49 Dup	8/19/2014	< 500	< 500	< 500	< 5000	< 50.0

Notes
< = result was less than the Method Detection Limit
CAS# = Chemical Abstract Service Number *Dup = field duplicate sample*

Generally Recognized as Safe = American Food and Drug Administration (FDA) designation that a chemical or substance added to food is considered safe by experts, and so is exempted from the usual Federal Food, Drug, and Cosmetic Act (FFDCA) food additive tolerance requirements.

Samples analyzed by HPLC Microbac 830-MBA

Data Validation Qualifiers
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 19A

GROUNDWATER ANALYTICAL DATA, SEMI-VOLATILE ORGANIC COMPOUNDS INCLUDING ACRYLAMIDE
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1-Methylnaphthalene	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	2-Nitroaniline	2-Nitrophenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-Methylphenol	4-Bromophenyl Phenyl Ether	4-Chloro-3-Methylphenol	4-Chloroaniline	4-Chlorophenyl Phenylether	4-Methylphenol (p-Cresol)	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Acrylamide	Aniline	Anthracene	Azobenzene	Benzo(a)Anthracene	Benzo(a)Pyrene	Benzo(b)Fluoranthene
CAS #		120-82-1	95-50-1	541-73-1	106-46-7	90-12-0	58-90-2	95-95-4	88-06-2	120-83-2	105-67-9	51-28-5	121-14-2	606-20-2	95-57-8	91-57-6	95-48-7	88-74-4	88-75-5	91-94-1	99-09-2	534-52-1	101-55-3	59-50-7	106-47-8	7005-72-3	106-44-5	100-01-6	100-02-7	83-32-9	208-96-8	79-06-1	62-53-3	120-12-7	103-33-3	56-55-3	50-32-8	205-99-2
EPA MCL		**70**	**600**	NA	**75**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.2**	NA
WY CLASS I DOMESTIC		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA DWEL		**350**	**3000**	**3000**	**4000**	NA	NA	NA	**10**	**100**	NA	NA	**100**	**40**	**200**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**300**	**2000**	NA	**70**	NA	**10000**	NA	NA	NA	NA
WY DWEL		*	*	**75**	*	**3.09**	**1000**	**3333**	**8.16**	**100**	**667**	**67**	**0.29**	**0.06**	**167**	**133**	**1667**	**333**	**67**	**0.20**	**4.49**	**2.67**	**267**	**3333**	**0.45**	**17**	**167**	**4.5**	**67**	**2000**	**1000**	**0.18**	**15.7**	**10000**	**0.82**	**0.12**	*	**0.12**
LD02	6/20/2014	< 1.4	< 1.5	< 1.5	< 1.5	< 1.3	< 2.1	< 1.1	< 0.94	< 0.80	< 0.58	< 2.6	< 1.4	< 1.7	< 0.91	< 1.3	< 0.70	< 1.6	< 2.0	< 1.5	< 3.8	< 1.6	< 1.3	< 1.5	< 1.4	< 1.4	< 1.2	< 2.2	< 1.4	< 1.4	< 1.3	< 9.5	< 2.0	< 1.3	< 1.4	< 1.3	< 1.1	< 1.4
LD02	8/21/2014	< 1.4	< 1.5	< 1.5	< 1.5	< 1.3	< 2.1	< 1.1	< 0.94	< 0.80	< 0.58	< 2.6	< 1.4	< 1.7	< 0.91	< 1.3	< 0.70	< 1.6	< 2.0	< 1.5	< 3.8	< 1.6	< 1.3	< 1.5	< 1.4	< 1.4	< 1.2	< 2.2	< 1.4	< 1.4	< 1.3	< 9.5	< 2.0	< 1.3	< 1.4	< 1.3	< 1.1	< 1.4
PGDW05	6/16/2014	< 2.2	< 2.1	< 1.0	< 1.1	< 2.0	< 2.1	< 0.85	< 0.92	< 2.1	< 2.5	< 2.6	< 2.1 UJ	< 1.8 UJ	< 0.82	< 1.8	< 2.2	< 1.2	< 2.6	< 1.0	< 1.9	< 1.2	< 2.0	< 1.0	< 2.1	< 1.6	< 1.7	< 2.4	< 1.8	< 1.8	< 1.7	< 9.5	< 2.0	< 1.8	< 1.2	< 1.6	< 1.6	< 1.7
PGDW05	8/18/2014	< 1.4	< 1.7	< 1.6	< 1.6	< 1.3	< 2.1	< 0.93	< 0.96	< 1.3	< 1.2	< 2.0	< 1.4	< 1.4	< 1.6	< 1.4	< 1.4	< 1.8	< 2.5	< 0.61	< 1.0	< 1.6	< 1.2	< 1.3	< 1.2	< 1.3	< 1.5	< 1.2	< 1.2	< 1.4	< 1.5	< 9.5	< 1.6	< 1.3	< 1.6	< 1.3	< 1.1	< 1.4
PGDW14	6/12/2014	< 2.3	< 2.2	< 1.1	< 1.1	< 2.1	< 2.2	< 0.88	< 0.95	< 2.2	< 2.6	< 2.7	< 2.2	< 1.8	< 0.85	< 1.9	< 2.2	< 1.2	< 2.7	< 1.1	< 2.0	< 1.2	< 2.1	< 1.1	< 2.1	< 1.7	< 1.8	< 2.5	< 1.8	< 1.9	< 1.8	< 9.5	< 2.1	< 1.9	< 1.2	< 1.6	< 1.6	< 1.8
PGDW14	8/14/2014	< 2.2	< 2.0	< 0.99	< 1.0	< 1.9	< 2.1	< 0.82	< 0.88	< 2.0	< 2.4	< 2.5	< 2.0	< 1.7	< 0.79	< 1.8	< 2.1	< 1.1	< 2.5	< 1.0	< 1.9	< 1.1	< 1.9	< 1.0	< 2.0	< 1.6	< 1.6	< 2.3	< 1.7	< 1.7	< 1.7	< 9.5	< 1.9	< 1.8	< 1.1	< 1.5	< 1.5	< 1.7
PGDW20	6/20/2014	< 1.4	< 1.5	< 1.5	< 1.5	< 1.3	< 2.1	< 1.1	< 0.94	< 0.80	< 0.58	< 2.6	< 1.4	< 1.7	< 0.91	< 1.3	< 0.70	< 1.6	< 2.0	< 1.5	< 3.8	< 1.6	< 1.3	< 1.5	< 1.4	< 1.4	< 1.2	< 2.2	< 1.4	< 1.4	< 1.3	< 9.5	< 2.0	< 1.3	< 1.4	< 1.3	< 1.1	< 1.4
PGDW20	8/21/2014	< 1.4	< 1.5	< 1.4	< 1.5	< 1.2	< 2.1	< 1.1	< 0.91	< 0.77	< 0.56	< 2.5	< 1.3	< 1.6	< 0.88	< 1.3	< 0.67	< 1.5	< 2.0	< 1.4	< 3.7	< 1.6	< 1.3	< 1.5	< 1.3	< 1.3	< 1.1	< 2.1	< 1.4	< 1.3	< 1.3	< 9.5	< 1.9	< 1.3	< 1.3	< 1.3	< 1.0	< 1.4
PGDW23	6/13/2014	< 2.3	< 2.1	< 1.0	< 1.1	< 2.0	< 2.2	< 0.87	< 0.93	< 2.2	< 2.5	< 2.6	< 2.1	< 1.8	< 0.83	< 1.9	< 2.2	< 1.2	< 2.7	< 1.1	< 2.0	< 1.2	< 2.0	< 1.1	< 2.1	< 1.6	< 1.7	< 2.5	< 1.8	< 1.8	< 1.8	< 9.5	< 2.0	< 1.9	< 1.2	< 1.6	< 1.6	< 1.8
PGDW23	8/15/2014	< 2.2	< 2.0	< 0.99	< 1.0	< 1.9	< 2.1	< 0.82	< 0.88	< 2.0	< 2.4	< 2.5	< 2.0	< 1.7	< 0.79	< 1.8	< 2.1	< 1.1	< 2.5	< 1.0	< 1.9	< 1.1	< 1.9	< 1.0	< 2.0	< 1.6	< 1.6	< 2.3	< 1.7	< 1.7	< 1.7	< 9.5	< 1.9	< 1.8	< 1.1	< 1.5	< 1.5	< 1.7
PGDW23 Dup	8/15/2014	< 2.2	< 2.0	< 0.99	< 1.0	< 1.9	< 2.1	< 0.82	< 0.88	< 2.0	< 2.4	< 2.5	< 2.0	< 1.7	< 0.79	< 1.8	< 2.1	< 1.1	< 2.5	< 1.0	< 1.9	< 1.1	< 1.9	< 1.0	< 2.0	< 1.6	< 1.6	< 2.3	< 1.7	< 1.7	< 1.7	< 9.5	< 1.9	< 1.8	< 1.1	< 1.5	< 1.5	< 1.7
PGDW30	6/18/2014	< 2.2	< 2.0	< 0.99	< 1.0	< 1.9	< 2.1	< 0.82	< 0.88	< 2.0	< 2.4	< 2.5	< 2.0	< 1.7	< 0.79	< 1.8	< 2.1	< 1.1	< 2.5	< 1.0	< 1.9	< 1.1	< 1.9	< 1.0	< 2.0	< 1.6	< 1.6	< 2.3	< 1.7	< 1.7	< 1.7	< 9.5	< 1.9	< 1.8	< 1.1	< 1.5	< 1.5	< 1.7
PGDW30	8/12/2014	< 2.2	< 2.1	< 1.0	< 1.1	< 2.0	< 2.1	< 0.85	< 0.92	< 2.1	< 2.5	< 2.6	< 2.1	< 1.8	< 0.82	< 1.8	< 2.2	< 1.2	< 2.6	< 1.0	< 1.9	< 1.2	< 2.0	< 1.0	< 2.1	< 1.6	< 1.7	< 2.4	< 1.8	< 1.8	< 1.7	< 9.5	< 2.0	< 1.8	< 1.2	< 1.6	< 1.6	< 1.7
PGDW32	6/11/2014	< 1.4	< 1.5	< 1.5	< 1.5 UJ	< 1.3	< 2.1	< 1.1	< 0.94	< 0.80	< 0.58	< 2.6	< 1.4	< 1.7	< 0.91 UJ	< 1.3	< 0.70	< 1.6	< 2.0	< 1.5	< 3.8	< 1.6	< 1.3	< 1.5	< 1.4	< 1.4	< 1.2	< 2.2	< 1.4	< 1.4	< 1.3	< 9.5	< 2.0	< 1.3	< 1.4	< 1.3	< 1.1	< 1.4
PGDW32 Dup	6/11/2014	< 0.59	< 0.67	< 0.65	< 0.63 UJ	< 0.56	< 2.6	< 1.1	< 1.1	< 0.72	< 0.67	< 2.2	< 0.64	< 0.66	< 0.99 UJ	< 0.52	< 0.62	< 2.5	< 3.1	< 2.5	< 0.83	< 2.5	< 0.55	< 0.80	< 0.64	< 0.52	< 0.59	< 3.3	< 1.2	< 0.48	< 0.57	< 9.5	< 0.65	< 0.61	< 0.64	< 0.74	< 0.56	< 0.70
PGDW32	8/13/2014	< 2.2	< 2.1	< 1.0	< 1.1	< 2.0	< 2.1	< 0.85	< 0.92	< 2.1	< 2.5	< 2.6	< 2.1	< 1.8	< 0.82	< 1.8	< 2.2	< 1.2	< 2.6	< 1.0	< 1.9	< 1.2	< 2.0	< 1.0	< 2.1	< 1.6	< 1.7	< 2.4	< 1.8	< 1.8	< 1.7	< 9.5	< 2.0	< 1.8	< 1.2	< 1.6	< 1.6	< 1.7
PGDW33	6/10/2014	< 1.5	< 1.7	< 1.6	< 1.7 UJ	< 1.4	< 2.3	< 1.2	< 1.0	< 0.87	< 0.63	< 2.9	< 1.5	< 1.8	< 0.99 UJ	< 1.4	< 0.76	< 1.7	< 2.2	< 1.6	< 4.2	< 1.8	< 1.4	< 1.7	< 1.5	< 1.5	< 1.3	< 2.4	< 1.5	< 1.5	< 1.5	< 9.5	< 2.1	< 1.4	< 1.5	< 1.4	< 1.2	< 1.6
PGDW33	8/13/2014	< 2.2	< 2.0	< 0.99	< 1.0	< 1.9	< 2.1	< 0.82	< 0.88	< 2.0	< 2.4	< 2.5	< 2.0	< 1.7	< 0.79	< 1.8	< 2.1	< 1.1	< 2.5	< 1.0	< 1.9	< 1.1	< 1.9	< 1.0	< 2.0	< 1.6	< 1.6	< 2.3	< 1.7	< 1.7	< 1.7	< 9.5	< 1.9	< 1.8	< 1.1	< 1.5	< 1.5	< 1.7
PGDW41A	6/19/2014	< 1.4	< 1.5	< 1.4	< 1.5	< 1.2	< 2.1	< 1.1	< 0.91	< 0.77	< 0.56	< 2.5	< 1.3	< 1.6	< 0.88	< 1.3	< 0.67	< 1.5	< 2.0	< 1.4	< 3.7	< 1.6	< 1.3	< 1.5	< 1.3	< 1.3	< 1.1	< 2.1	< 1.4	< 1.3	< 1.3	< 9.5	< 1.9	< 1.3	< 1.3	< 1.3	< 1.0	< 1.4
PGDW41A	8/20/2014	< 1.4	< 1.6	< 1.6	< 1.6	< 1.3	< 2.1	< 0.91	< 0.95	< 1.3	< 1.2	< 2.0	< 1.4	< 1.3	< 1.5	< 1.4	< 1.4	< 1.7	< 2.5	< 0.60	< 1.0	< 1.6	< 1.2	< 1.3	< 1.2	< 1.3	< 1.5	< 1.1	< 1.1	< 1.3	< 1.5	< 9.5	< 1.6	< 1.3	< 1.5	< 1.3	< 1.1	< 1.3
PGDW41B	6/19/2014	< 1.4 UJ	< 1.5 UJ	< 1.4 UJ	< 1.5 UJ	< 1.2 UJ	< 2.1 UJ	< 1.1 UJ	< 0.91 UJ	< 0.77 UJ	< 0.56 UJ	< 2.5 UJ	< 1.3 UJ	< 1.6 UJ	< 0.88 UJ	< 1.3 UJ	< 0.67 UJ	< 1.5 UJ	< 2.0 UJ	< 1.4 UJ	< 3.7 UJ	< 1.6 UJ	< 1.3 UJ	< 1.5 UJ	< 1.3 UJ	< 1.3 UJ	< 1.1 UJ	< 2.1 UJ	< 1.4 UJ	< 1.3 UJ	< 1.3 UJ	< 9.5	< 1.9 UJ	< 1.3 UJ	< 1.3 UJ	< 1.3 UJ	< 1.0 UJ	< 1.4 UJ
PGDW41B	8/20/2014	< 1.4	< 1.6	< 1.5	< 1.6	< 1.3	< 2.1	< 0.90	< 0.94	< 1.3	< 1.2	< 2.0	< 1.4	< 1.3	< 1.5	< 1.4	< 1.4	< 1.7	< 2.5	< 0.60	< 0.99	< 1.6	< 1.1	< 1.3	< 1.2	< 1.3	< 1.5	< 1.1	< 1.1	< 1.3	< 1.5	< 9.5	< 1.6	< 1.3	< 1.5	< 1.3	< 1.1	< 1.3
PGDW44	6/12/2014	< 2.9	< 3.1	< 3.1	< 3.1	< 2.6	< 4.4	< 2.3	< 1.9	< 1.6	< 1.2	< 5.4	< 2.8	< 3.4	< 1.9	< 2.7	< 1.4	< 3.2	< 4.2	< 3.1	< 7.8	< 3.3	< 2.7	< 3.1	< 2.8	< 2.8	< 2.4	< 4.4	< 2.9	< 2.8	< 2.7	< 9.5	< 4.0	< 2.7	< 2.8	< 2.7	< 2.2	< 2.9
PGDW44	8/14/2014	< 2.2	< 2.0	< 0.99	< 1.0	< 1.9	< 2.1	< 0.82	< 0.88	< 2.0	< 2.4	< 2.5	< 2.0	< 1.7	< 0.79	< 1.8	< 2.1	< 1.1	< 2.5	< 1.0	< 1.9	< 1.1	< 1.9	< 1.0	< 2.0	< 1.6	< 1.6	< 2.3	< 1.7	< 1.7	< 1.7	< 9.5	< 1.9	< 1.8	< 1.1	< 1.5	< 1.5	< 1.7
PGDW45	6/16/2014	< 2.2	< 2.0	< 1.0	< 1.0	< 1.9	< 2.1	< 0.83	< 0.90	< 2.1	< 2.4	< 2.5	< 2.0	< 1.7	< 0.80	< 1.8	< 2.1	< 1.2	< 2.6	< 1.0	< 1.9	< 1.2	< 2.0	< 1.0	< 2.0	< 1.6	< 1.7	< 2.4	< 1.7	< 1.8	< 1.7	< 9.5	< 1.9	< 1.8	< 1.1	< 1.6	< 1.5	< 1.7
PGDW45 Dup	6/16/2014	< 2.3	< 2.2	< 1.1	< 1.1	< 2.1	< 2.2	< 0.88	< 0.95	< 2.2	< 2.6	< 2.7	< 2.2	< 1.8	< 0.85	< 1.9	< 2.2	< 1.2	< 2.7	< 1.1	< 2.0	< 1.2	< 2.1	< 1.1	< 2.1	< 1.7	< 1.8	< 2.5	< 1.8	< 1.9	< 1.8	< 9.5	< 2.1	< 1.9	< 1.2	< 1.6	< 1.6	< 1.8
PGDW45	8/18/2014	< 1.4	< 1.7	< 1.6	< 1.6	< 1.4	< 2.2	< 0.94	< 0.98	< 1.3	< 1.3	< 2.1	< 1.5	< 1.4	< 1.6	< 1.5	< 1.5	< 1.8	< 2.6	< 0.63	< 1.0	< 1.7	< 1.2	< 1.4	< 1.3	< 1.4	< 1.5	< 1.2	< 1.2	< 1.4	< 1.5	< 9.5	< 1.7	< 1.3	< 1.6	< 1.3	< 1.1	< 1.4
PGDW49	6/17/2014	< 1.4	< 1.5	< 1.4	< 1.5	< 1.2	< 2.1	< 1.1	< 0.91	< 0.77	< 0.56	< 2.5	< 1.3	< 1.6	< 0.88	< 1.3	< 0.67	< 1.5	< 2.0	< 1.4	< 3.7	< 1.6	< 1.3	< 1.5	< 1.3	< 1.3	< 1.1	< 2.1	< 1.4	< 1.3	< 1.3	< 9.5	< 1.9	< 1.3	< 1.3	< 1.3	< 1.0	< 1.4
PGDW49	8/19/2014	< 1.4	< 1.7	< 1.6	< 1.6	< 1.3	< 2.1	< 0.93	< 0.96	< 1.3	< 1.2	< 2.0	< 1.4	< 1.4	< 1.6	< 1.4	< 1.4	< 1.8	< 2.5	< 0.61	< 1.0	< 1.6	< 1.2	< 1.3	< 1.2	< 1.3	< 1.5	< 1.2	< 1.2	< 1.4	< 1.5	< 9.5	< 1.6	< 1.3	< 1.6	< 1.3	< 1.1	< 1.4
PGDW49 Dup	8/19/2014	< 1.4	< 1.7	< 1.6	< 1.6	< 1.3	< 2.1	< 0.93	< 0.96	< 1.3	< 1.2	< 2.0	< 1.4	< 1.4	< 1.6	< 1.4	< 1.4	< 1.8	< 2.5	< 0.61	< 1.0	< 1.6	< 1.2	< 1.3	< 1.2	< 1.3	< 1.5	< 1.2	< 1.2	< 1.4	< 1.5	< 9.5	< 1.6	< 1.3	< 1.6	< 1.3	< 1.1	< 1.4

TABLE 19A

GROUNDWATER ANALYTICAL DATA, SEMI-VOLATILE ORGANIC COMPOUNDS INCLUDING ACRYLAMIDE
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
< = result was less than the Method Detection Limit *CAS# = Chemical Abstract Service Number* *Dup = field duplicate sample* *NA = Not Available*

EPA MCL = US EPA Maximum Contaminant Level
WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard.
EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information (exceedances are highlighted light orange).
Result was less than the Method Detection Limit (MDL), where MDL is greater than lowest cleanup level (black font and gray highlight)

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method SW846 8270C, except for acrylamide which was analyzed by EPA Method SW846 8316

Data
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 19B

GROUNDWATER ANALYTICAL DATA, SEMI-VOLATILE ORGANIC COMPOUNDS INCLUDING ACRYLAMIDE
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Benzo(g,h,i)Perylene	Benzo(k)Fluoranthene	Benzoic Acid	Benzyl Alcohol	Bis(2-Chloroethoxy) Methane	Bis(2-Chloroethyl) Ether	Bis(2-Ethylhexyl) Phthalate	Bis-Chloroisopropyl Ether	Butyl Benzyl Phthalate	Carbazole	Chrysene	Dibenzo(a,h)Anthracene	Dibenzofuran	Diethyl Phthalate	Dimethyl Phthalate	Di-n-Butyl Phthalate	Di-n-Octyl Phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)Pyrene	Isophorone	Naphthalene	Nitrobenzene	n-Nitrosodimethylamine	n-Nitroso-di-n-Propylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	Pyridine
CAS #		191-24-2	207-08-9	65-85-0	100-51-6	111-91-1	111-44-4	117-81-7	108-60-1	85-68-7	86-74-8	218-01-9	53-70-3	132-64-9	84-66-2	131-11-3	84-74-2	117-84-0	206-44-0	86-73-7	118-74-1	87-68-3	77-47-4	67-72-1	193-39-5	78-59-1	91-20-3	98-95-3	62-75-9	621-64-7	87-86-5	85-01-8	108-95-2	129-00-0	110-86-1
EPA MCL		NA	NA	NA	NA	NA	NA	**6.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.0**	NA	**50**	NA	NA	NA	NA	NA	NA	NA	**1.0**	NA	NA	NA	NA
WY CLASS I DOMESTIC		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1**	NA	NA
EPA DWEL		NA	NA	NA	NA	NA	NA	**700**	**1000**	**7000**	NA	NA	NA	NA	**30000**	NA	**4000**	NA	NA	**1000**	**30**	**10**	**200**	**40**	NA	**7000**	**700**	NA	NA	NA	**200**	NA	**11000**	NA	NA
WY DWEL		**1000**	**1.23**	**133333**	**3333**	**100**	**0.082**	*	**1333**	**47**	**33**	**12**	**0.012**	**33**	**26667**	**26667**	**3333**	**333**	**1333**	**1330**	*	**1.15**	*	**2.24**	**0.12**	**95**	**667**	**67**	**0.002**	**0.013**	*	**1000**	*	**1000**	**33**
LD02	6/20/2014	< 1.3	< 1.5	< 6.9	< 1.5	< 1.3	< 1.5	< 1.9	< 1.5	< 1.3	< 1.9	< 1.3	< 1.4	< 1.5	< 1.5	< 1.6	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.7	< 1.5	< 1.3	< 1.7	< 1.4	< 1.3	< 2.2	< 1.3	< 1.4	< 1.4	< 0.80	< 1.3	< 2.1
LD02	8/21/2014	< 1.3	< 1.5	< 6.9	< 1.5	< 1.3	< 1.5	< 1.9	< 1.5	< 1.3	< 1.9	< 1.3	< 1.4	< 1.5	< 1.5	< 1.6	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.7	< 1.5	< 1.3	< 1.7	< 1.4	< 1.3	< 2.2	< 1.3	< 1.4	< 1.4	< 0.80	< 1.3	< 2.1
PGDW05	6/16/2014	< 1.9	< 2.0	< 16	< 1.1	< 1.1	< 1.2	**17**	< 1.4	< 1.0	< 2.3	< 1.7	< 1.8	< 1.9	< 1.0	< 2.0	< 1.2	< 1.8	< 1.9	< 1.8	< 2.0	< 2.4	< 0.68	< 1.1 UJ	< 1.8	< 1.3	< 1.9	< 1.2 UJ	< 1.5	< 1.2 UJ	< 1.9	< 1.9	< 1.0	< 1.7	< 1.2
PGDW05	8/18/2014	< 1.5	< 1.5	< 10	< 1.5	< 1.2	< 1.6	4.3 J	< 2.7	18	< 2.0	< 1.4	< 1.3	< 1.4	< 1.6	< 1.5	< 1.1	< 1.3	< 1.5	< 1.5	< 1.2	< 1.3	< 1.7	< 1.7	< 1.4	< 1.8	< 1.4	< 1.6	< 2.3	< 2.0	< 1.3	< 1.3	< 1.6	< 1.2	< 1.9
PGDW14	6/12/2014	< 1.9	< 2.0	< 16	< 1.2	< 1.1	< 1.3	< 1.9	< 1.5	< 1.1	< 2.4	< 1.8	< 1.8	< 1.9	< 1.1	< 2.1	< 1.2	< 1.9	< 2.0	< 1.8	< 2.1	< 2.5	< 0.71	< 1.1	< 1.9	< 1.4	< 2.0	< 1.3	< 1.5	< 1.3	< 2.0	< 2.0	< 1.1	< 1.7	< 1.2
PGDW14	8/14/2014	< 1.8	< 1.9	< 15	< 1.1	< 1.0	< 1.2	< 1.8	< 1.4	< 0.97	< 2.2	< 1.7	< 1.7	< 1.8	< 0.98	< 1.9	< 1.1	< 1.8	< 1.9	< 1.7	< 1.9	< 2.3	< 0.65	< 1.1	< 1.7	< 1.3	< 1.8	< 1.2	< 1.4	< 1.2	< 1.9	< 1.8	< 0.98	< 1.6	< 1.1
PGDW20	6/20/2014	< 1.3	< 1.5	< 6.9	< 1.5	< 1.3	< 1.5	2.1 J	< 1.5	< 1.3	< 1.9	< 1.3	< 1.4	< 1.5	< 1.5	< 1.6	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.7	< 1.5	< 1.3	< 1.7	< 1.4	< 1.3	< 2.2	< 1.3	< 1.4	< 1.4	< 0.80	< 1.3	< 2.1
PGDW20	8/21/2014	< 1.3	< 1.5	< 6.6	< 1.4	< 1.3	< 1.5	< 1.8	< 1.5	< 1.2	< 1.9	< 1.3	< 1.3	< 1.5	< 1.5	< 1.6	< 1.3	< 1.4	< 1.3	< 1.4	< 1.3	< 1.3	< 1.6	< 1.4	< 1.3	< 1.6	< 1.3	< 1.2	< 2.1	< 1.2	< 1.3	< 1.3	< 0.77	< 1.2	< 2.0
PGDW23	6/13/2014	< 1.9	< 2.0	< 16	< 1.1	< 1.1	< 1.2	< 1.9	< 1.5	< 1.0	< 2.4	< 1.8	< 1.8	< 1.9	< 1.0	< 2.0	< 1.2	< 1.9	< 2.0	< 1.8	< 2.0	< 2.4	< 0.69	< 1.1	< 1.8	< 1.3	< 2.0	< 1.3	< 1.5	< 1.2	< 2.0	< 2.0	< 1.0	< 1.7	< 1.2
PGDW23	8/15/2014	< 1.8	< 1.9	< 15	< 1.1	< 1.0	< 1.2	**6.9 J**	< 1.4	< 0.97	< 2.2	< 1.7	< 1.7	< 1.8	< 0.98	< 1.9	< 1.1	< 1.8	< 1.9	< 1.7	< 1.9	< 2.3	< 0.65	< 1.1	< 1.7	< 1.3	< 1.8	< 1.2	< 1.4	< 1.2	< 1.9	< 1.8	< 0.98	< 1.6	< 1.1
PGDW23 Dup	8/15/2014	< 1.8	< 1.9	< 15	< 1.1	< 1.0	< 1.2	< 1.8	< 1.4	< 0.97	< 2.2	< 1.7	< 1.7	< 1.8	< 0.98	< 1.9	< 1.1	< 1.8	< 1.9	< 1.7	< 1.9	< 2.3	< 0.65	< 1.1	< 1.7	< 1.3	< 1.8	< 1.2	< 1.4	< 1.2	< 1.9	< 1.8	< 0.98	< 1.6	< 1.1
PGDW30	6/18/2014	< 1.8	< 1.9	< 15	< 1.1	< 1.0	< 1.2	< 1.8	< 1.4	< 0.97	< 2.2	< 1.7	< 1.7	< 1.8	< 0.98	< 1.9	< 1.1	< 1.8	< 1.9	< 1.7	< 1.9	< 2.3	< 0.65	< 1.1	< 1.7	< 1.3	< 1.8	< 1.2	< 1.4	< 1.2	< 1.9	< 1.8	< 0.98	< 1.6	< 1.1
PGDW30	8/12/2014	< 1.9	< 2.0	< 16	< 1.1	< 1.1	< 1.2	**6.7 J**	< 1.4	< 1.0	< 2.3	< 1.7	< 1.8	< 1.9	< 1.0	< 2.0	< 1.2	< 1.8	< 1.9	< 1.8	< 2.0	< 2.4	< 0.68	< 1.1	< 1.8	< 1.3	< 1.9	< 1.2	< 1.5	< 1.2	< 1.9	< 1.9	< 1.0	< 1.7	< 1.2
PGDW32	6/11/2014	< 1.3	< 1.5	< 6.9	< 1.5	< 1.3	< 1.5	< 1.9	< 1.5	< 1.3	< 1.9	< 1.3	< 1.4	< 1.5	< 1.5	< 1.6	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.7	< 1.5	< 1.3	< 1.7	< 1.4	< 1.3	< 2.2	< 1.3	< 1.4	< 1.4	< 0.80 UJ	< 1.3	< 2.1
PGDW32 Dup	6/11/2014	< 0.85	< 0.65	< 14	< 0.58	< 0.55	< 1.8	2.3 J	< 0.79	< 0.80	< 2.8	< 0.69	< 0.77	< 0.55	< 0.66	< 0.64	< 1.3	< 0.62	< 0.76	< 0.56	< 0.66	< 0.53	< 0.18	< 0.68	< 0.75	< 0.66	< 0.57	< 0.59	< 0.74	< 0.82	< 1.6	< 0.70	< 0.96 UJ	< 0.73	< 1.4
PGDW32	8/13/2014	< 1.9	< 2.0	< 16	< 1.1	< 1.1	< 1.2	3.4 J	< 1.4	< 1.0	< 2.3	< 1.7	< 1.8	< 1.9	< 1.0	< 2.0	< 1.2	< 1.8	< 1.9	< 1.8	< 2.0	< 2.4	< 0.68	< 1.1	< 1.8	< 1.3	< 1.9	< 1.2	< 1.5	< 1.2	< 1.9	< 1.9	< 1.0	< 1.7	< 1.2
PGDW33	6/10/2014	< 1.4	< 1.6	< 7.5	< 1.6	< 1.5	< 1.6	< 2.1	< 1.7	< 1.4	< 2.1	< 1.4	< 1.5	< 1.7	< 1.7	< 1.8	< 1.4	< 1.6	< 1.5	< 1.5	< 1.5	< 1.5	< 1.8	< 1.6	< 1.4	< 1.8	< 1.5	< 1.4	< 2.4	< 1.4	< 1.5	< 1.5	< 0.87 UJ	< 1.4	< 2.3
PGDW33	8/13/2014	< 1.8	< 1.9	< 15	< 1.1	< 1.0	< 1.2	< 1.8	< 1.4	< 0.97	< 2.2	< 1.7	< 1.7	< 1.8	< 0.98	< 1.9	< 1.1	< 1.8	< 1.9	< 1.7	< 1.9	< 2.3	< 0.65	< 1.1	< 1.7	< 1.3	< 1.8	< 1.2	< 1.4	< 1.2	< 1.9	< 1.8	< 0.98	< 1.6	< 1.1
PGDW41A	6/19/2014	< 1.3	< 1.5	< 6.6	< 1.4	< 1.3	< 1.5	**12**	< 1.5	< 1.2	< 1.9	< 1.3	< 1.3	< 1.5	< 1.5	< 1.6	< 1.3	< 1.4	< 1.3	< 1.4	< 1.3	< 1.3	< 1.6	< 1.4	< 1.3	< 1.6	< 1.3	< 1.2	< 2.1	< 1.2	< 1.3	< 1.3	< 0.77	< 1.2	< 2.0
PGDW41A	8/20/2014	< 1.4	< 1.4	< 9.8	< 1.4	< 1.2	< 1.5	< 1.6	< 2.6	< 1.3	< 2.0	< 1.4	< 1.3	< 1.4	< 1.6	< 1.5	< 1.1	< 1.2	< 1.5	< 1.5	< 1.2	< 1.3	< 1.7	< 1.7	< 1.4	< 1.8	< 1.4	< 1.6	< 2.2	< 1.9	< 1.2	< 1.3	< 1.6	< 1.2	< 1.9
PGDW41B	6/19/2014	< 1.3 UJ	< 1.5 UJ	< 6.6 UJ	< 1.4 UJ	< 1.3 UJ	< 1.5 UJ	< 1.8 UJ	< 1.5 UJ	< 1.2 UJ	< 1.9 UJ	< 1.3 UJ	< 1.3 UJ	< 1.5 UJ	< 1.5 UJ	< 1.6 UJ	< 1.3 UJ	< 1.4 UJ	< 1.3 UJ	< 1.4 UJ	< 1.3 UJ	< 1.3 UJ	< 1.6 UJ	< 1.4 UJ	< 1.3 UJ	< 1.6 UJ	< 1.3 UJ	< 1.2 UJ	< 2.1 UJ	< 1.2 UJ	< 1.3 UJ	< 1.3 UJ	< 0.77 UJ	< 1.2 UJ	< 2.0 UJ
PGDW41B	8/20/2014	< 1.4	< 1.4	< 9.7	< 1.4	< 1.2	< 1.5	4.3 J	< 2.6	< 1.3	< 2.0	< 1.4	< 1.3	< 1.4	< 1.5	< 1.5	< 1.1	< 1.2	< 1.5	< 1.5	< 1.2	< 1.3	< 1.7	< 1.7	< 1.4	< 1.8	< 1.4	< 1.5	< 2.2	< 1.9	< 1.2	< 1.2	< 1.6	< 1.2	< 1.9
PGDW44	6/12/2014	< 2.7	< 3.1	< 14	< 3.0	< 2.7	< 3.1	**6.4 J**	< 3.1	< 2.6	< 4.0	< 2.7	< 2.8	< 3.1	< 3.1	< 3.3	< 2.7	< 2.9	< 2.8	< 2.9	< 2.8	< 2.9	< 3.4	< 3.0	< 2.7	< 3.4	< 2.8	< 2.6	< 4.6	< 2.6	< 2.9	< 2.8	< 1.6	< 2.6	< 4.3
PGDW44	8/14/2014	< 1.8	< 1.9	< 15	< 1.1	< 1.0	< 1.2	**9.9**	< 1.4	< 0.97	< 2.2	< 1.7	< 1.7	< 1.8	< 0.98	< 1.9	< 1.1	< 1.8	< 1.9	< 1.7	< 1.9	< 2.3	< 0.65	< 1.1	< 1.7	< 1.3	< 1.8	< 1.2	< 1.4	< 1.2	< 1.9	< 1.8	< 0.98	< 1.6	< 1.1
PGDW45	6/16/2014	< 1.8	< 1.9	< 15	< 1.1	< 1.1	< 1.2	4.2 J	< 1.4	< 0.99	< 2.3	< 1.7	< 1.7	< 1.8	< 1.0	< 2.0	< 1.2	< 1.8	< 1.9	< 1.7	< 1.9	< 2.3	< 0.66	< 1.1	< 1.8	< 1.3	< 1.9	< 1.2	< 1.4	< 1.2	< 1.9	< 1.9	< 1.0	< 1.6	< 1.1
PGDW45 Dup	6/16/2014	< 1.9	< 2.0	< 16	< 1.2	< 1.1	< 1.3	< 1.9	< 1.5	< 1.1	< 2.4	< 1.8	< 1.8	< 1.9	< 1.1	< 2.1	< 1.2	< 1.9	< 2.0	< 1.8	< 2.1	< 2.5	< 0.71	< 1.1	< 1.9	< 1.4	< 2.0	< 1.3	< 1.5	< 1.3	< 2.0	< 2.0	< 1.1	< 1.7	< 1.2
PGDW45	8/18/2014	< 1.5	< 1.5	< 10	< 1.5	< 1.2	< 1.6	< 1.7	< 2.7	< 1.4	< 2.1	< 1.4	< 1.4	< 1.5	< 1.6	< 1.5	< 1.2	< 1.3	< 1.6	< 1.5	< 1.2	< 1.3	< 1.7	< 1.7	< 1.4	< 1.9	< 1.4	< 1.6	< 2.3	< 2.0	< 1.3	< 1.3	< 1.7	< 1.3	< 2.0

TABLE 19B

GROUNDWATER ANALYTICAL DATA, SEMI-VOLATILE ORGANIC COMPOUNDS INCLUDING ACRYLAMIDE
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Benzo(g,h,i)Perylene	Benzo(k)Fluoranthene	Benzoic Acid	Benzyl Alcohol	Bis(2-Chloroethoxy) Methane	Bis(2-Chloroethyl) Ether	Bis(2-Ethylhexyl) Phthalate	Bis-Chloroisopropyl Ether	Butyl Benzyl Phthalate	Carbazole	Chrysene	Dibenzo(a,h)Anthracene	Dibenzofuran	Diethyl Phthalate	Dimethyl Phthalate	Di-n-Butyl Phthalate	Di-n-Octyl Phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)Pyrene	Isophorone	Naphthalene	Nitrobenzene	n-Nitrosodimethylamine	n-Nitroso-di-n-Propylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	Pyridine
CAS #		191-24-2	207-08-9	65-85-0	100-51-6	111-91-1	111-44-4	117-81-7	108-60-1	85-68-7	86-74-8	218-01-9	53-70-3	132-64-9	84-66-2	131-11-3	84-74-2	117-84-0	206-44-0	86-73-7	118-74-1	87-68-3	77-47-4	67-72-1	193-39-5	78-59-1	91-20-3	98-95-3	62-75-9	621-64-7	87-86-5	85-01-8	108-95-2	129-00-0	110-86-1
EPA MCL		NA	NA	NA	NA	NA	NA	**6.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.0**	NA	**50**	NA	NA	NA	NA	NA	NA	NA	**1.0**	NA	NA	NA	NA
WY CLASS I DOMESTIC		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1**	NA	NA
EPA DWEL		NA	NA	NA	NA	NA	NA	**700**	**1000**	**7000**	NA	NA	NA	NA	**30000**	NA	**4000**	NA	NA	**1000**	**30**	**10**	**200**	**40**	NA	**7000**	**700**	NA	NA	NA	**200**	NA	**11000**	NA	NA
WY DWEL		**1000**	**1.23**	**133333**	**3333**	**100**	**0.082**	*	**1333**	**47**	**33**	**12**	**0.012**	**33**	**26667**	**26667**	**3333**	**333**	**1333**	**1330**	*	**1.15**	*	**2.24**	**0.12**	**95**	**667**	**67**	**0.002**	**0.013**	*	**1000**	*	**1000**	**33**
PGDW49	6/17/2014	< 1.3	< 1.5	< 6.6	< 1.4	< 1.3	< 1.5	3.1 J	< 1.5	< 1.2	< 1.9	< 1.3	< 1.3	< 1.5	< 1.5	< 1.6	< 1.3	< 1.4	< 1.3	< 1.4	< 1.3	< 1.3	< 1.6	< 1.4	< 1.3	< 1.6	< 1.3	< 1.2	< 2.1	< 1.2	< 1.3	< 1.3	< 0.77	< 1.2	< 1.1
PGDW49 Dup	8/19/2014	< 1.5	< 1.5	< 10	< 1.5	< 1.2	< 1.6	< 1.7	< 2.7	< 1.3	< 2.0	< 1.4	< 1.3	< 1.4	< 1.6	< 1.5	< 1.1	< 1.3	< 1.5	< 1.5	< 1.2	< 1.3	< 1.7	< 1.7	< 1.4	< 1.8	< 1.4	< 1.6	< 2.3	< 2.0	< 1.3	< 1.3	< 1.6	< 1.2	< 1.9
PGDW49	8/19/2014	< 1.5	< 1.5	< 10	< 1.5	< 1.2	< 1.6	< 1.7	< 2.7	< 1.3	< 2.0	< 1.4	< 1.3	< 1.4	< 1.6	< 1.5	< 1.1	< 1.3	< 1.5	< 1.5	< 1.2	< 1.3	< 1.7	< 1.7	< 1.4	< 1.8	< 1.4	< 1.6	< 2.3	< 2.0	< 1.3	< 1.3	< 1.6	< 1.2	< 1.9

Notes
< = result was less than the Method Detection Limit *CAS# = Chemical Abstract Service Number* *Dup = field duplicate sample* *NA = Not Available*

Exceedance *EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in **bold** with a yellow highlight)*
WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard.
EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information (exceedances are highlighted light orange).
Result was less than the Method Detection Limit (MDL), where MDL is greater than lowest cleanup level (black font and gray highlight)

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method SW846 8270C, except for acrylamide which was analyzed by EPA Method SW846 8316

Data
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 19C

GROUNDWATER ANALYTICAL DATA,
SEMI-VOLATILE ORGANIC COMPOUNDS INCLUDING ACRYLAMIDE
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Tentatively Identified Compound	Result
LD02	6/20/2014	None reported.	
LD02	8/21/2014	Unknown	37 J
PGDW05	6/16/2014	9-Octadecenamide, (Z)-	6.7 J
PGDW05	8/18/2014	None reported.	
PGDW14	6/12/2014	None reported.	
PGDW14	8/14/2014	None reported.	
PGDW20	6/20/2014	Unknown	4.9 J
PGDW20	8/21/2014	Ethanol, 2-[2-[4-(1,1,3,3-tetramethylbutyl)phenoxy]ethoxy]-	18 J
		Heneicosane	4 J
		Unknown 1	44 J
		Unknown 2	100 J
		Unknown 3	6 J
		Unknown 4	160 J
		Unknown 5	6.4 J
		Unknown 6	180 J
		Unknown 7	14 J
		p-tert-Amyl phenoxy ethanol	10 J
PGDW23	6/13/2014	None reported.	
PGDW23	8/15/2014	None reported.	
PGDW23 Dup	8/15/2014	None reported.	
PGDW30	6/18/2014	None reported.	
PGDW30	8/12/2014	None reported.	
PGDW32	6/11/2014	None reported.	
PGDW32 Dup	6/11/2014	None reported.	
PGDW32	8/13/2014	None reported.	
PGDW33	6/10/2014	None reported.	
PGDW33	8/13/2014	None reported.	
PGDW41A	6/19/2014	None reported.	
PGDW41A	8/20/2014	Unknown	4.4 J
PGDW41B	6/19/2014	Unknown 1	6.4 J
		Unknown 2	4.2 J
PGDW41B	8/20/2014	Unknown	9.2 J
PGDW44	6/12/2014	None reported.	
PGDW44	8/14/2014	None reported.	
PGDW45	6/16/2014	None reported.	
PGDW45 Dup	6/16/2014	None reported.	
PGDW45	8/18/2014	None reported.	
PGDW49	6/17/2014	None reported.	
PGDW49	8/19/2014	None reported.	
PGDW49 Dup	8/19/2014	None reported.	

Notes
Samples analyzed by EPA Method SW846 8270C

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

TABLE 20

GROUNDWATER ANALYTICAL DATA, NITROGEN AND PHOSPHORUS-CONTAINING PESTICIDES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Alachlor	Atrazine	Bromacil	Butachlor	Demeton (total)	Diazinon	Dimethoate	Disulfoton	Metolachlor	Metribuzin	Mevinphos	Molinate	Prometon	Prometryn	Pronamide	Simazine	Simetryn	Terbutryn	Thiobencarb
CAS #		**15972-60-8**	**1912-24-9**	**314-40-9**	**23184-66-9**	**8065-48-3**	**333-41-5**	**60-51-5**	**298-04-4**	**51218-45-2**	**21087-64-9**	**26718-65-0**	**2212-67-1**	**1610-18-0**	**7287-19-6**	**23950-58-5**	**122-34-9**	**1014-70-6**	**886-50-0**	**28249-77-6**
EPA MCL		**2**	**3**	**NA**	**NA**	**NA**	**NA**	**NA**	**20**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**4**	**NA**	**NA**	**NA**
EPA DWEL		**400**	**700**	**3500**	**NA**	**NA**	**7**	**NA**	**3.5**	**3500**	**350**	**NA**	**NA**	**2000**	**NA**	**3000**	**700**	**NA**	**NA**	**NA**
WY DWEL		*****	*****	**NA**	**NA**	**1.33**	**23**	**6.67**	*****	**5000**	**833**	**0.31**	**67**	**500**	**133**	**2500**	*****	**0.39**	**33**	**333**
LD02	6/20/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
LD02	8/21/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW05	6/16/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW05	8/18/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW14	6/12/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW14	8/14/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW20	6/20/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW20	8/21/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW23	6/13/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW23	8/15/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW23 Dup	8/15/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW30	6/18/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW30	8/12/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW32	6/11/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW32 Dup	6/11/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW32	8/13/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW33	6/10/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW33	8/13/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW41A	6/19/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW41A	8/20/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW41B	6/19/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW41B	8/20/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW44	6/12/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW44	8/14/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW45	6/16/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW45 Dup	6/16/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW45	8/18/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW49	6/17/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW49	8/19/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ
PGDW49 Dup	8/19/2014	< 0.30 UJ	< 0.06 UJ	< 0.34 UJ	< 0.282 UJ	< 0.07 UJ	< 0.160 UJ	< 0.09 UJ	< 0.04 UJ	< 0.21 UJ	< 0.14 UJ	< 0.22 UJ	< 0.13 UJ	< 0.07 UJ	< 0.06 UJ	< 0.27 UJ	< 0.07 UJ	< 0.07 UJ	< 0.07 UJ	< 0.06 UJ

Notes
< = result was less than the Method Detection Limit *CAS# = Chemical Abstract Service Number* *Dup = field duplicate sample* *NA = Not Available*

EPA MCL = US EPA Maximum Contaminant Level
EPA DWEL = US EPA Drinking Water Equivalent Level

TABLE 20

GROUNDWATER ANALYTICAL DATA, NITROGEN AND PHOSPHORUS-CONTAINING PESTICIDES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method 507

Data Validation Qualifiers
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 21

GROUNDWATER ANALYTICAL DATA, ORGANOCHLORINE PESTICIDES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-Chlordane	Beta-BHC	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Gamma-BHC (Lindane)	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
	CAS #	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	5103-71-9	319-85-7	319-86-8	60-57-1	959-98-8	33213-65-9	1031-07-8	72-20-8	7421-93-4	58-89-9	5103-74-2	76-44-8	1024-57-3	72-43-5	8001-35-2
	EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0	NA	0.2	NA	0.4	0.2	40	3
	EPA DWEL	NA	NA	NA	1	NA	NA	NA	NA	2	NA	NA	NA	10	NA	200	NA	20	0.4	200	10
	WY DWEL	0.374	0.264	0.264	0.005	0.014	2	0.050	0.2	0.006	200	200	200	*	2	*	2	0.020	*	*	*
LD02	6/20/2014	< 0.02 UJ	< 0.02 UJ	< 0.02 UJ	< 0.006	< 0.007	< 0.007	< 0.007	< 0.008	< 0.01 UJ	< 0.006	< 0.01 UJ	< 0.02	< 0.02	< 0.02	< 0.007	< 0.007	< 0.009	< 0.006	< 0.1 UJ	< 0.3
LD02	8/21/2014	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.009	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3
PGDW05	6/16/2014	< 0.02 UJ	< 0.005	< 0.02 UJ	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02 UJ	< 0.006 UJ	0.03 J	< 0.003	< 0.006	< 0.007	< 0.1 UJ	< 0.3
PGDW05	8/18/2014	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.02	< 0.008	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3
PGDW14	6/12/2014	< 0.01 UJ	< 0.005	< 0.02 UJ	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02 UJ	< 0.005 UJ	< 0.008	< 0.003	< 0.006	< 0.006	< 0.09 UJ	< 0.3
PGDW14	8/14/2014	< 0.02	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.005	< 0.008	< 0.003	< 0.006	< 0.006	< 0.1	< 0.3
PGDW20	6/20/2014	< 0.02 UJ	< 0.02 UJ	< 0.02 UJ	< 0.006	< 0.007	< 0.007	< 0.007	< 0.008	< 0.01 UJ	< 0.006	< 0.01 UJ	< 0.02	< 0.02	< 0.02	< 0.007	< 0.007	< 0.009	< 0.006	< 0.1 UJ	< 0.3
PGDW20	8/21/2014	< 0.01 UJ	< 0.01 UJ	< 0.02 UJ	< 0.01 UJ	< 0.01 UJ	< 0.01 UJ	< 0.01 UJ	< 0.01 UJ	< 0.02 UJ	< 0.01 UJ	< 0.02 UJ	< 0.01 UJ	< 0.01 UJ	< 0.02 UJ	< 0.008 U	< 0.01 UJ	< 0.01 UJ	< 0.01 UJ	< 0.05 UJ	< 0.3 UJ
PGDW23	6/13/2014	< 0.02	< 0.01	< 0.02	< 0.006	< 0.006	< 0.007	0.06 J	< 0.007 UJ	< 0.01	< 0.006	< 0.01	< 0.01	< 0.02	< 0.02 UJ	< 0.006	< 0.007	< 0.008	< 0.006	< 0.1 UJ	< 0.3
PGDW23	8/15/2014	< 0.01	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.005	< 0.008	< 0.003	< 0.006	< 0.006	< 0.09	< 0.3
PGDW23 Dup	8/15/2014	< 0.01	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.005	< 0.008	< 0.003	< 0.006	< 0.006	< 0.09	< 0.3
PGDW30	6/18/2014	< 0.02	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.005	< 0.008	< 0.003	< 0.006	< 0.006	< 0.1	< 0.3
PGDW30	8/12/2014	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.009	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3
PGDW32	6/11/2014	< 0.01 UJ	< 0.005	< 0.02 UJ	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.009	< 0.005	< 0.02 UJ	< 0.005 UJ	0.06 J	< 0.003	< 0.006	< 0.006	< 0.09 UJ	< 0.3
PGDW32 Dup	6/11/2014	< 0.01 UJ	< 0.005	< 0.02 UJ	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02 UJ	< 0.005 UJ	0.08 J	< 0.003	< 0.006	< 0.006	< 0.09 UJ	< 0.3
PGDW32	8/13/2014	< 0.02 UJ	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.006 UJ	< 0.008	< 0.003	< 0.006	< 0.007	< 0.1	< 0.3
PGDW33	6/10/2014	< 0.02 UJ	< 0.005 U	< 0.02 UJ	< 0.004 UJ	< 0.006 UJ	< 0.004 UJ	< 0.02 UJ	< 0.006 UJ	< 0.007 U	< 0.004 UJ	0.1 J+	< 0.005 UJ	< 0.02 UJ	< 0.006 UJ	0.1 J+	< 0.003 UJ	< 0.006 U	< 0.007 UJ	< 0.1 UJ	< 0.3 UJ
PGDW33	8/13/2014	< 0.02 UJ	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.006 UJ	< 0.008	< 0.003	< 0.006	< 0.007	< 0.1	< 0.3
PGDW41A	6/19/2014	< 0.02	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.005	< 0.008	< 0.003	< 0.006	< 0.006	< 0.1	< 0.3
PGDW41A	8/20/2014	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.02	< 0.008	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3
PGDW41B	6/19/2014	< 0.02	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.006	< 0.008	< 0.003	< 0.006	< 0.007	< 0.1	< 0.3
PGDW41B	8/20/2014	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.02	< 0.008	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3
PGDW44	6/12/2014	< 0.01 UJ	< 0.005	< 0.02 UJ	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02 UJ	< 0.005 UJ	0.02 J	< 0.003	< 0.006	< 0.006	< 0.09 UJ	< 0.3
PGDW44	8/14/2014	< 0.02	< 0.005	< 0.02	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02	< 0.005	< 0.008	< 0.003	< 0.006	< 0.006	< 0.1	< 0.3
PGDW45	6/16/2014	< 0.02 UJ	< 0.005	< 0.02 UJ	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02 UJ	< 0.006 UJ	< 0.008	< 0.003	< 0.006	< 0.007	< 0.1 UJ	< 0.3
PGDW45 Dup	6/16/2014	< 0.02 UJ	< 0.005	< 0.02 UJ	< 0.004	< 0.006	< 0.004	< 0.02	< 0.006	< 0.007	< 0.004	< 0.01	< 0.005	< 0.02 UJ	< 0.006 UJ	0.06 J	< 0.003	< 0.006	< 0.007	< 0.1 UJ	< 0.3
PGDW45	8/18/2014	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.02	< 0.008	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3
PGDW49	6/17/2014	< 0.02	< 0.02	< 0.02 UJ	< 0.006	< 0.007	< 0.007	< 0.007	< 0.008	< 0.01	< 0.006	0.07 J+	< 0.02	< 0.02	< 0.02	< 0.007	< 0.007	< 0.009	< 0.006	< 0.1 UJ	< 0.3
PGDW49 Dup	8/19/2014	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.02	< 0.008	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3
PGDW49	8/19/2014	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.009	< 0.01	< 0.01	< 0.01	< 0.05	< 0.3

TABLE 21

GROUNDWATER ANALYTICAL DATA, ORGANOCHLORINE PESTICIDES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
< = result was less than the Method Detection Limit *CAS# = Chemical Abstract Service Number* *Dup = field duplicate sample* *NA = Not Available*

EPA MCL = US EPA Maximum Contaminant Level
WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard.
EPA DWEL = US EPA Drinking Water Equivalent Level

Exceedance	*WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information (exceedances are highlighted light orange).*
	Result was less than the Method Detection Limit (MDL), where MDL is greater than lowest cleanup level (black font and gray highlight)

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method SW846 8081A

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
J+ = high bias
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 22

GROUNDWATER ANALYTICAL DATA, ORGANOPHOSPHORUS PESTICIDES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Azinphos-methyl	Bolstar (Sulprofos)	Chlorpyrifos (Dursban)	Coumaphos	DEF (Tribufos)	Demeton (total)	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	EPTC	Ethion	Ethoprop	Fensulfothion	Fenthion	Malathion	Merphos	Mevinphos	Naled	Parathion, ethyl	Parathion, methyl	Pendimethalin (Prowl)	Phorate	Ronnel	Stirophos	Sulfotep	Tokuthion (Prothiofos)	Trichloronate	Trifluralin
	CAS #	86-50-0	35400-43-2	2921-88-2	56-72-4	78-48-8	8065-48-3	333-41-5	62-73-7	60-51-5	298-04-4	2104-64-5	759-94-4	563-12-2	13194-48-4	115-90-2	55-38-9	121-75-5	150-50-5	26718-65-0	300-76-5	56-38-2	298-00-0	40487-42-1	298-02-2	299-84-3	961-11-5	3689-24-5	34643-46-4	327-98-0	1582-09-8
	EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	**20**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA DWEL	NA	NA	**10**	NA	NA	NA	**7**	NA	NA	**3.5**	NA	NA	NA	NA	NA	NA	**2000**	NA	NA	NA	NA	**7**	NA	NA	NA	NA	NA	NA	NA	**700**
	WY DWEL	**100**	**3567**	**33**	**4667**	**1**	**1.33**	**23**	**0.309**	**6.67**	*	**0.333**	**833**	**16.7**	**0.5**	**3.13**	**3.13**	**667**	**1**	**0.31**	**67**	**200**	**8**	**1333**	**6.67**	**1667**	**3.74**	**16.67**	**3.33**	**100**	**12**
LD02	6/20/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
LD02	8/21/2014	< 0.02 UJ	< 0.072 UJ	< 0.003	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020	< 0.030 UJ	< 0.030	< 0.030	< 0.024	< 0.160 UJ	< 0.020	< 0.030 UJ	< 0.060 UJ	< 0.072	< 0.200 UJ	< 0.020	< 0.075	< 0.041 UJ	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036 UJ
PGDW05	6/16/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW05	8/18/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060	< 0.020	< 0.022	< 0.050	< 0.036
PGDW14	6/12/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160 UJ	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036 UJ
PGDW14	8/14/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030 UJ	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036
PGDW20	6/20/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW20	8/21/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW23	6/13/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW23	8/15/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030 UJ	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036
PGDW23 Dup	8/15/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030 UJ	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036
PGDW30	6/18/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW30	8/12/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030 UJ	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036
PGDW32	6/11/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160 UJ	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036 UJ
PGDW32 Dup	6/11/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160 UJ	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036 UJ

TABLE 22

GROUNDWATER ANALYTICAL DATA, ORGANOPHOSPHORUS PESTICIDES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Azinphos-methyl	Bolstar (Sulprofos)	Chlorpyrifos (Dursban)	Coumaphos	DEF (Tribufos)	Demeton (total)	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	EPTC	Ethion	Ethoprop	Fensulfothion	Fenthion	Malathion	Merphos	Mevinphos	Naled	Parathion, ethyl	Parathion, methyl	Pendimethalin (Prowl)	Phorate	Ronnel	Stirophos	Sulfotep	Tokuthion (Prothiofos)	Trichloronate	Trifluralin
	CAS #	86-50-0	35400-43-2	2921-88-2	56-72-4	78-48-8	8065-48-3	333-41-5	62-73-7	60-51-5	298-04-4	2104-64-5	759-94-4	563-12-2	13194-48-4	115-90-2	55-38-9	121-75-5	150-50-5	26718-65-0	300-76-5	56-38-2	298-00-0	40487-42-1	298-02-2	299-84-3	961-11-5	3689-24-5	34643-46-4	327-98-0	1582-09-8
	EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	**20**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA DWEL	NA	NA	**10**	NA	NA	NA	**7**	NA	NA	**3.5**	NA	NA	NA	NA	NA	NA	**2000**	NA	NA	NA	NA	**7**	NA	NA	NA	NA	NA	NA	NA	**700**
	WY DWEL	**100**	**3567**	**33**	**4667**	**1**	**1.33**	**23**	**0.309**	**6.67**	*	**0.333**	**833**	**16.7**	**0.5**	**3.13**	**3.13**	**667**	**1**	**0.31**	**67**	**200**	**8**	**1333**	**6.67**	**1667**	**3.74**	**16.67**	**3.33**	**100**	**12**
PGDW32	8/13/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030 UJ	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036
PGDW33	6/10/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160 UJ	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036 UJ
PGDW33	8/13/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030 UJ	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036
PGDW41A	6/19/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW41A	8/20/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060	< 0.020	< 0.022	< 0.050	< 0.036
PGDW41B	6/19/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW41B	8/20/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060	< 0.020	< 0.022	< 0.050	< 0.036
PGDW44	6/12/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160 UJ	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036 UJ
PGDW44	8/14/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080 UJ	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030 UJ	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060 UJ	< 0.020	< 0.022	< 0.050	< 0.036
PGDW45	6/16/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW45 Dup	6/16/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW45	8/18/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060	< 0.020	< 0.022	< 0.050	< 0.036
PGDW49	6/17/2014	< 0.02 UJ	< 0.072 UJ	< 0.003 UJ	< 0.130 UJ	< 0.084 UJ	< 0.080 UJ	< 0.004 UJ	< 0.020 UJ	< 0.080 UJ	< 0.020 UJ	< 0.030 UJ	< 0.030 UJ	< 0.030 UJ	< 0.024 UJ	< 0.160 UJ	< 0.020 UJ	< 0.030 UJ	< 0.060 UJ	< 0.072 UJ	< 0.200 UJ	< 0.020 UJ	< 0.075 UJ	< 0.041 UJ	< 0.072 UJ	< 0.030 UJ	< 0.060 UJ	< 0.020 UJ	< 0.022 UJ	< 0.050 UJ	< 0.036 UJ
PGDW49	8/19/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060	< 0.020	< 0.022	< 0.050	< 0.036
PGDW49 Dup	8/19/2014	< 0.02 UJ	< 0.072	< 0.003	< 0.130	< 0.084 UJ	< 0.080	< 0.004	< 0.020 UJ	< 0.080	< 0.020	< 0.030	< 0.030	< 0.030	< 0.024	< 0.160	< 0.020	< 0.030	< 0.060 UJ	< 0.072	< 0.200 UJ	< 0.020	< 0.075	< 0.041	< 0.072	< 0.030	< 0.060	< 0.020	< 0.022	< 0.050	< 0.036

TABLE 22

GROUNDWATER ANALYTICAL DATA, ORGANOPHOSPHORUS PESTICIDES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Azinphos-methyl	Bolstar (Sulprofos)	Chlorpyrifos (Dursban)	Coumaphos	DEF (Tribufos)	Demeton (total)	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	EPTC	Ethion	Ethoprop	Fensulfothion	Fenthion	Malathion	Merphos	Mevinphos	Naled	Parathion, ethyl	Parathion, methyl	Pendimethalin (Prowl)	Phorate	Ronnel	Stirophos	Sulfotep	Tokuthion (Prothiofos)	Trichloronate	Trifluralin
	CAS #	86-50-0	35400-43-2	2921-88-2	56-72-4	78-48-8	8065-48-3	333-41-5	62-73-7	60-51-5	298-04-4	2104-64-5	759-94-4	563-12-2	13194-48-4	115-90-2	55-38-9	121-75-5	150-50-5	26718-65-0	300-76-5	56-38-2	298-00-0	40487-42-1	298-02-2	299-84-3	961-11-5	3689-24-5	34643-46-4	327-98-0	1582-09-8
	EPA MCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA DWEL	NA	NA	10	NA	NA	NA	7	NA	NA	3.5	NA	NA	NA	NA	NA	NA	2000	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	700
	WY DWEL	100	3567	33	4667	1	1.33	23	0.309	6.67	*	0.333	833	16.7	0.5	3.13	3.13	667	1	0.31	67	200	8	1333	6.67	1667	3.74	16.67	3.33	100	12

Notes
< = result was less than the Method Detection Limit *CAS# = Chemical Abstract Service Number* *Dup = field duplicate sample* *NA = Not Available*

EPA MCL = US EPA Maximum Contaminant Level
EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Samples analyzed by EPA Method SW846 8141A

Data Validation Qualifiers
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 23A

GROUNDWATER ANALYTICAL DATA, DISSOLVED GASES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Ethane GC-NOS	Ethane RSK-175	Ethene RSK-175	Methane GC-NOS	RSK-175[1] RSK-175*	Propane GC-NOS
LD02	6/20/2014	0.2 JP	< 1	< 1	13 JP	18	< 0.3 UP
LD02	8/21/2014	0.43 JP	< 1 UJ	< 1 UJ	21 JP	12 J-	< 0.3 UP
PGDW05	6/16/2014	< 0.2 UP	< 1	< 1	58 JP	33	< 0.3 UP
PGDW05	8/18/2014	< 0.2 UP	< 1	< 1	61 JP	72	< 0.3 UP
PGDW14	6/12/2014	< 0.2 UP	< 1	< 1	0.54 JP	< 5 U	< 0.3 UP
PGDW14	8/14/2014	< 0.2 UP	< 1	< 1	0.2 JP	< 5 U	< 0.3 UP
PGDW20	6/20/2014	6.6 JP	7	< 1	110 JP	110	0.59 JP
PGDW20	8/21/2014	7.0 JP	8 J-	< 1 UJ	120 JP	130 J-	0.49 JP
PGDW23	6/13/2014	0.76 JP	< 1	< 1	200 JP	98	< 0.3 UP
PGDW23	8/15/2014	0.77 JP	< 1	< 1	200 JP	210	< 0.3 UP
PGDW23 Dup	8/15/2014	0.76 JP	< 1	< 1	210 JP	200	< 0.3 UP
PGDW30	6/18/2014	0.39 JP	< 1	< 1	1100 JP	720	< 0.3 UP
PGDW30	8/12/2014	0.61 JP	< 1	< 1	1300 JP	1100	< 0.3 UP
PGDW32	6/11/2014	0.2 JP	< 1	< 1	54 JP	33	0.2 JP
PGDW32 Dup	6/11/2014	< 0.2 UP	< 1	< 1	58 JP	40	< 0.3 UP
PGDW32	8/13/2014	< 0.2 UP	< 1	< 1	58 JP	68	< 0.3 UP
PGDW33	6/10/2014	< 0.2 UP	< 1	< 1	0.44 JP	< 1	< 0.3 UP
PGDW33	8/13/2014	< 0.2 UP	< 1	< 1	0.3 JP	< 5 U	< 0.3 UP
PGDW41A	6/19/2014	< 0.2 UP	< 1	< 1	< 0.2 UP	< 5 U	< 0.3 UP
PGDW41A	8/20/2014	< 0.2 UP	< 1	< 1	< 0.2 UP	< 5 U	< 0.3 UP
PGDW41B	6/19/2014	0.2 JP	< 1	< 1	1.6 JP	< 5 U	< 0.3 UP
PGDW41B	8/20/2014	< 0.2 UP	< 1	< 1	2.0 JP	< 5 U	< 0.3 UP
PGDW44	6/12/2014	0.37 JP	< 1	< 1	1.3 JP	< 5 U	0.51 JP
PGDW44	8/14/2014	0.43 JP	< 1	< 1	1.4 JP	< 5 U	0.59 JP
PGDW45	6/16/2014	< 0.2 UP	< 1	< 1	0.3 JP	1 J	< 0.3 UP
PGDW45 Dup	6/16/2014	< 0.2 UP	< 1	< 1	< 0.2 UP	< 1	< 0.3 UP
PGDW45	8/18/2014	< 0.2 UP	< 1	< 1	< 0.2 UP	< 1	< 0.3 UP
PGDW49	6/17/2014	< 0.2 UP	< 1	< 1	0.2 JP	< 5 U	< 0.2 UP
PGDW49	8/19/2014	< 0.2 UP	< 1	< 1	0.3 JP	< 1	< 0.3 UP
PGDW49 Dup	8/19/2014	< 0.2 UP	< 1	< 1	0.2 JP	< 5 U	< 0.3 UP

Notes
< = result was less than the Reporting Limit (GC-NOS) or Method Detection Limit (RSK-175)
Dup = field duplicate sample

Methods
RSK-175 = samples analyzed by Method RSK-175
GC-NOS = samples analyzed by gas chromatography, not otherwise specified

TABLE 23A

GROUNDWATER ANALYTICAL DATA, DISSOLVED GASES
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Data Validation Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = high bias *J- = low bias*

JP = J/PM in validation report. Estimated value. Project management decision on use of data based on additional information. See text.

U = The analyte was analyzed for but was not detected at or above the reported sample quantitation limit.

UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

UP = UJ/PM in validation report. Compound was analyzed but not detected above the reported sample quantitation limit. Project management decision on use of data based on additional information. See text.

TABLE 23B

GROUNDWATER ANALYTICAL DATA, DISSOLVED GAS COMPOSITION
(mole percent)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Argon	Carbon Dioxide	Carbon Monoxide	Ethane	Ethene	Helium	Hexanes +	Hydrogen	Isobutane	Isopentane	Methane	n-Butane	Nitrogen	n-Pentane	Oxygen	Propane	Propene (Propylene)
LD02	6/20/2014	1.36 JP	0.50 JP	ND UP	0.0004 JP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0420 JP	ND UP	84.80 JP	ND UP	13.30 JP	ND UP	ND UP
LD02	8/21/2014	1.17 JP	0.16 JP	ND UP	0.0004 JP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0377 JP	ND UP	83.41 JP	ND UP	15.22 JP	ND UP	ND UP
PGDW05	6/16/2014	1.62 JP	0.044 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.246 JP	ND UP	88.41 JP	ND UP	9.68 JP	ND UP	ND UP
PGDW05	8/18/2014	1.61 JP	0.033 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.236 JP	ND UP	90.47 JP	ND UP	7.65 JP	ND UP	-
PGDW14	6/12/2014	1.23 JP	0.72 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0012 JP	ND UP	88.27 JP	ND UP	9.78 JP	ND UP	ND UP
PGDW14	8/14/2014	1.18 JP	0.71 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0004 JP	ND UP	86.43 JP	ND UP	11.68 JP	ND UP	ND UP
PGDW20	6/20/2014	1.44 JP	0.11 JP	ND UP	0.0145 JP	ND UP	-	ND UP	ND UP	ND UP	0.0014 JP	0.497 JP	ND UP	87.42 JP	ND UP	10.52 JP	0.0009 JP	ND UP
PGDW20	8/21/2014	1.46 JP	0.074 JP	ND UP	0.0132 JP	ND UP	-	ND UP	ND UP	0.0003 JP	ND UP	0.454 JP	ND UP	88.30 JP	ND UP	9.70 JP	0.0007 JP	ND UP
PGDW23	6/13/2014	1.42 JP	0.018 JP	ND UP	0.0011 JP	ND UP	-	0.0006 JP	ND UP	0.0037 JP	ND UP	0.606 JP	ND UP	87.02 JP	ND UP	10.93 JP	ND UP	ND UP
PGDW23 Dup	8/15/2014	1.51 JP	0.019 JP	ND UP	0.0012 JP	ND UP	-	0.0009 JP	ND UP	0.0040 JP	ND UP	0.681 JP	ND UP	89.58 JP	ND UP	8.20 JP	ND UP	ND UP
PGDW23	8/15/2014	1.42 JP	0.017 JP	ND UP	0.0011 JP	ND UP	-	0.0006 JP	ND UP	0.0034 JP	ND UP	0.611 JP	ND UP	88.51 JP	ND UP	9.44 JP	ND UP	ND UP
PGDW30	6/18/2014	1.45 JP	0.051 JP	ND UP	0.0007 JP	ND UP	-	ND UP	ND UP	ND UP	ND UP	4.09 JP	ND UP	84.12 JP	ND UP	10.29 JP	ND UP	ND UP
PGDW30	8/12/2014	1.28 JP	0.030 JP	ND UP	0.0007 JP	ND UP	-	ND UP	ND UP	ND UP	ND UP	2.99 JP	ND UP	84.05 JP	ND UP	11.65 JP	ND UP	ND UP
PGDW32	6/11/2014	1.26 JP	ND UP	ND UP	0.0002 JP	ND UP	-	0.0017 JP	ND UP	0.0004 JP	ND UP	0.133 JP	0.0002 JP	86.48 JP	ND UP	12.12 JP	0.0002 JP	ND UP
PGDW32 Dup	6/11/2014	1.17 JP	ND UP	ND UP	ND UP	ND UP	-	0.0013 JP	ND UP	0.0004 JP	ND UP	0.0982 JP	ND UP	84.76 JP	ND UP	13.97 JP	ND UP	ND UP
PGDW32	8/13/2014	1.49 JP	ND UP	ND UP	ND UP	ND UP	-	0.0009 JP	ND UP	0.0006 JP	ND UP	0.194 JP	ND UP	90.19 JP	ND UP	8.12 JP	ND UP	ND UP
PGDW33	6/10/2014	0.96 JP	2.33 JP	ND UP	ND UP	ND UP	ND UP	0.0004 JP	ND UP	ND UP	ND UP	0.0004 JP	ND UP	79.38 JP	ND UP	17.33 JP	ND UP	ND UP
PGDW33	8/13/2014	1.14 JP	2.72 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0007 JP	ND UP	79.04 JP	ND UP	17.10 JP	ND UP	ND UP
PGDW41A	6/19/2014	1.04 JP	5.96 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	ND UP	ND UP	73.96 JP	ND UP	19.04 JP	ND UP	ND UP
PGDW41A	8/20/2014	1.28 JP	7.24 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	ND UP	ND UP	81.83 JP	ND UP	9.65 JP	ND UP	ND UP
PGDW41B	6/19/2014	1.49 JP	1.04 JP	ND UP	0.0004 JP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0079 JP	ND UP	86.90 JP	ND UP	10.56 JP	ND UP	ND UP
PGDW41B	8/20/2014	1.30 JP	0.61 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	0.0006 JP	0.0059 JP	ND UP	86.51 JP	ND UP	11.57 JP	ND UP	ND UP
PGDW44	6/12/2014	1.42 JP	0.44 JP	ND UP	0.0004 JP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0029 JP	ND UP	88.80 JP	ND UP	9.34 JP	0.0004 JP	ND UP
PGDW44	8/14/2014	1.45 JP	0.47 JP	ND UP	0.0005 JP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0030 JP	ND UP	89.28 JP	ND UP	8.80 JP	0.0005 JP	ND UP
PGDW45	6/16/2014	1.30 JP	6.65 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0010 JP	ND UP	78.91 JP	ND UP	13.14 JP	ND UP	ND UP
PGDW45 Dup	6/16/2014	1.38 JP	7.58 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	ND UP	ND UP	77.69 JP	ND UP	13.35 JP	ND UP	ND UP
PGDW45	8/18/2014	1.24 JP	5.52 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	ND UP	ND UP	79.46 JP	ND UP	13.78 JP	ND UP	ND UP

TABLE 23B

GROUNDWATER ANALYTICAL DATA, DISSOLVED GAS COMPOSITION
(mole percent)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Argon	Carbon Dioxide	Carbon Monoxide	Ethane	Ethene	Helium	Hexanes +	Hydrogen	Isobutane	Isopentane	Methane	n-Butane	Nitrogen	n-Pentane	Oxygen	Propane	Propene (Propylene)
PGDW49	6/17/2014	0.954 JP	1.40 JP	ND UP	ND UP	ND UP	0.0164 JP	ND UP	ND UP	ND UP	ND UP	0.0003 JP	ND UP	83.18 JP	ND UP	14.45 JP	ND UP	ND UP
PGDW49 Dup	8/19/2014	1.12 JP	3.77 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0005 JP	ND UP	81.89 JP	ND UP	13.22 JP	ND UP	ND UP
PGDW49	8/19/2014	1.27 JP	5.22 JP	ND UP	ND UP	ND UP	-	ND UP	ND UP	ND UP	ND UP	0.0011 JP	ND UP	83.82 JP	ND UP	9.69 JP	ND UP	ND UP

Notes
- = Not Analyzed *ND = Not Detected* *Dup = field duplicate sample*

Samples analyzed by gas chromatography headspace

Data Validation Qualifiers
JP = J/PM in validation report. Estimated value. Project management decision on use of data based on additional information. See text.
UP = UJ/PM in validation report. Compound was analyzed but not detected above the reported sample quantitation limit. Project management decision on use of data based on additional information. See text.

TABLE 24A

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES SUMMARY OF DETECTIONS, 2014
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
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Location	Sample Date	Diesel C10-C24	Diesel C10-C24 (SGCU)	Gasoline C7-C12	2-Propanol	Acetone	Carbon Disulfide	Isopropylbenzene	Methylene Chloride	Naphthalene	tert-Butyl Alcohol (TBA)	2-Butoxyethanol	Pyruvic Acid	Bis(2-Ethylhexyl) Phthalate	Butyl Benzyl Phthalate	Beta-BHC	Endosulfan II	Gamma-BHC (Lindane)	Ethane	Ethane	Methane	Methane	Propane
Parameter Group		**Petroleum Hydrocarbons**			**Volatile Organic Compounds**							**Glycols**	**Volatile Organic Acids**	**Semivolatile Organic Compounds**		**Organochlorine Pesticides**			**Dissolved Gases**				
Analysis Method		**SW8015B**			**SW8260B**							**SW8015B**	**830-MBA**	**SW8270C**		**SW8081A**			**GC-NOS**	**RSK-175**	**GC-NOS**	**RSK-175**	**GC-NOS**
CAS #		NA	NA	NA	67-63-0	67-64-1	75-15-0	98-82-8	75-09-2	91-20-3	75-65-0	111-76-2	127-17-3	117-81-7	85-68-7	319-85-7	33213-65-9	58-89-9	74-84-0	74-84-0	74-82-8	74-82-8	74-98-6
EPA MCL		NA	NA	NA	NA	NA	NA	NA	**5**	NA	NA	NA	NA	**6.0**	NA	NA	NA	**0.2**	NA	NA	NA	NA	NA
EPA DWEL		NA	NA	NA	NA	NA	NA	**4000**	**2000**	**700**	NA	NA	NA	**700**	**7000**	NA	NA	**200**	NA	NA	NA	NA	NA
WY DWEL		NA	NA	NA	**66667**	**30000**	**3333**	**3333**	*	**667**	**66667**	**3333**	NA	*	**47**	**0.05**	**200**	NA	NA	NA	NA	NA	NA
Wyoming Action Level		**10000**	**10000**	**6600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LD02	6/20/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2 JP	-	13 JP	18	-
LD02	8/21/2014	77 J	-	-	-	-	0.2 J-	-	-	-	-	-	2060	-	-	-	-	-	0.43 JP	-	21 JP	12 J-	-
PGDW05	6/16/2014	-	26 J	150 J	8.1 J	-	-	-	-	-	-	-	-	**17**	-	-	-	0.03 J	-	-	58 JP	33	-
PGDW05	8/18/2014	93 J	31 J	-	-	-	-	-	-	-	-	-	-	4.3 J	18	-	-	-	-	-	61 JP	72	-
PGDW14	6/12/2014	29 J	-	-	6.0 J	-	-	-	-	0.6 J	-	-	-	-	-	-	-	-	-	-	0.54 JP	-	-
PGDW14	8/14/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2 JP	-	-
PGDW20	6/20/2014	-	-	-	-	1.8 J	-	-	-	-	-	-	-	2.1 J	-	-	-	-	6.6 JP	7	110 JP	110	0.59 JP
PGDW20	8/21/2014	43 J	-	-	-	-	0.3 J-	-	-	-	-	-	-	-	-	-	-	-	7.0 JP	8 J-	120 JP	130 J-	0.49 JP
PGDW23	6/13/2014	21 J	-	-	-	-	-	-	-	-	-	-	-	-	-	0.06 J	-	-	0.76 JP	-	200 JP	98	-
PGDW23	8/15/2014	-	-	-	-	-	-	-	-	-	-	-	-	**6.9 J**	-	-	-	-	0.77 JP	-	200 JP	210	-
PGDW23 Dup	8/15/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.76 JP	-	210 JP	200	-
PGDW30	6/18/2014	34 J	21 J	-	-	-	0.1 J	-	-	-	-	-	-	-	-	-	-	-	0.39 JP	-	1100 JP	720	-
PGDW30	8/12/2014	74 J	-	-	-	-	-	-	-	-	-	-	-	**6.7 J**	-	-	-	-	0.61 JP	-	1300 JP	1100	-
PGDW32	6/11/2014	-	-	-	-	-	-	0.1 J	-	-	-	-	-	-	-	-	-	0.06 J	0.2 JP	-	54 JP	33	0.2 JP
PGDW32 Dup	6/11/2014	-	-	-	24 J	-	-	0.1 J	-	-	2.0 J	-	-	2.3 J	-	-	-	0.08 J	-	-	58 JP	40	-
PGDW32	8/13/2014	-	-	-	-	-	-	0.1 J	-	-	-	-	-	3.4 J	-	-	-	-	-	-	58 JP	68	-
PGDW33	6/10/2014	-	-	-	3.5 J	-	-	-	-	-	-	3100 J	-	-	-	-	0.1 J+	0.1 J+	-	-	0.44 JP	-	-
PGDW33	8/13/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3 JP	-	-
PGDW41A	6/19/2014	150 J	-	-	-	-	-	-	0.2 J	-	-	-	-	**12**	-	-	-	-	-	-	-	-	-
PGDW41B	6/19/2014	170 J	180 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2 JP	-	1.6 JP	-	-
PGDW41B	8/20/2014	250 J	230 J	-	-	-	-	-	-	-	-	-	-	4.3 J	-	-	-	-	-	-	2.0 JP	-	-
PGDW44	6/12/2014	31 J	-	-	11 J-	-	-	-	-	0.2 J-	-	-	-	**6.4 J**	-	-	-	0.02 J	0.37 JP	-	1.3 JP	-	0.51 JP
PGDW44	8/14/2014	-	-	-	-	-	-	-	-	-	-	-	-	**9.9**	-	-	-	-	0.43 JP	-	1.4 JP	-	0.59 JP
PGDW45	6/16/2014	-	33 J	18 J	-	-	-	-	-	-	-	-	-	4.2 J	-	-	-	-	-	-	0.3 JP	1 J	-
PGDW45 Dup	6/16/2014	-	-	25 J	15 J	-	-	-	-	-	-	-	-	-	-	-	-	0.06 J	-	-	-	-	-
PGDW49	6/17/2014	110 J	-	-	-	-	-	-	-	-	-	-	-	3.1 J	-	-	0.07 J+	-	-	-	0.2 JP	-	-
PGDW49	8/19/2014	22 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3 JP	-	-
PGDW49 Dup	8/19/2014	38 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2 JP	-	-

TABLE 24A

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES SUMMARY OF DETECTIONS, 2014
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
1. Results are shown only where the reported concentration was greater than the method detection limit.
2. Tentatively identified compounds not included.
3. Diesel C10-C24 is equivalent to DRO analysis.
4. Gasoline C7-C12 is equivalent to GRO analysis.
5. Reported DRO and GRO concentrations greater than the Reporting Limit were qualified by the laboratory as exhibiting a chromatographic pattern which did not resemble diesel or gasoline standards (Y).

CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available* *SGCU = silica gel cleanup*

Exceedance *EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in **bold** with a yellow highlight)*
EPA DWEL = US EPA Drinking Water Equivalent Level
Exceedance *WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information (exceedances are highlighted light orange).*
Wyoming Action Level = State of Wyoming Action Level, Storage Tank Program

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
GC-NOS = samples analyzed by gas chromatography, not otherwise specified
RSK-175 = samples analyzed by Method RSK-175
SW8015B = samples analyzed by EPA Method SW846 8015B
SW8081A = samples analyzed by EPA Method SW846 8081A
SW8260B = samples analyzed by EPA Method SW846 8260B
SW8270C = samples analyzed by EPA Method SW846 8270C

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
J+ = high bias
J- = low bias
JP = J/PM in validation report. Estimated value. Project management decision on use of data based on additional information. See text.

TABLE 24B

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES SUMMARY OF DETECTIONS, 1979-2008
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Diesel Range Organics (DRO)	Total Extractable Hydrocarbons	Total Purgeable Hydrocarbons	Acetone	Methylene Chloride	Diethylene Glycol	Triethylene Glycol	Bis(2-Ethylhexyl) Phthalate	Butyl benzyl phthalate	Methane
Parameter Group		**Petroleum Hydrocarbons**			**Volatile Organic Compounds**		**Glycols**		**Semivolatile Organic Compounds**		**Dissolved Gases**
Analysis Method		**SW8015B**			**SW8260B**		**SW8463**		**SW8270C**		**RSK-175**
CAS #		NA	NA	NA	67-64-1	75-09-2	111-46-6	112-27-6	117-81-7	85-68-7	74-82-8
EPA MCL		NA	NA	NA	NA	**5**	NA	NA	**6.0**	NA	NA
EPA DWEL		NA	NA	NA	NA	**2000**	NA	NA	**700**	**7000**	NA
Wyoming Action Level		**10000**	**10000**	**6600**	**30000**	*	NA	**66667**	*	**47**	NA
LD02	7/13/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW05	9/30/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW05	4/5/2005	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
PGDW05	4/7/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW05 Inside	4/25/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW05 Outside	4/25/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW05	6/22/2005	-	NA	NA	-	-	NA	NA	**36**	-	NA
PGDW05	7/4/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	-
PGDW05	12/6/2006	NA	NA	NA	NA	NA	NA	NA	-	NA	NA
PGDW05	7/18/2007	-	NA	NA	NA	NA	NA	NA	-	-	NA
PGDW05 Dup	7/18/2007	-	NA	NA	NA	NA	NA	NA	-	-	NA
PGDW05	8/13/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW05 Dup	8/13/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW05	10/2/2007	-	NA	NA	-	-	2600 J	4300 BJ	-	3 BJ	24
PGDW05	11/1/2007	1600	3300	25	NA	-	-	-	-	-	28
PGDW05 Deep	10/7/2008	-	NA	NA	2.3	-	NA	NA	-	-	41
PGDW05 Deep Dup	10/7/2008	NA	NA	NA	2.4	0.22	NA	NA	NA	NA	NA
PGDW05 Shallow	10/7/2008	-	NA	NA	2.3	-	NA	NA	-	-	35
PGDW20	1/11/1988	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW20	5/26/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW20	10/11/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW20	1/7/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW20	3/21/2006	-	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW23	9/9/2004	NA	NA	NA	NA	-	NA	NA	NA	NA	NA
PGDW41B	10/26/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW44	7/11/1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW44 Dup	7/11/1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW44	7/16/1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PGDW44 Dup	7/16/1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes
Results are shown only where the reported concentration was greater than the method detection limit.

CAS# = Chemical Abstract Service Number *Dup = field duplicate sample*
NA = Not Available (standard or comparison value) or Not Analyzed (analytical result)

TABLE 24B

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES SUMMARY OF DETECTIONS, 1979-2008
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Exceedance

*EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in **bold** with a yellow highlight)*
EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with VRP Factsheet 13 and using May 2016 EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.
Wyoming Action Level = State of Wyoming Action Level, Storage Tank Program

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
RSK-175 = samples analyzed by Method RSKSOP175M, except for July 4, 2006 and November 1, 2007 (EPA Method SW846 8015B)

SW8015B = samples analyzed by EPA Method SW846 8015B
SW8260B = samples analyzed by EPA Method SW8463 8260B except September 9, 2004 (EPA Method 524.2)
SW8270C = samples analyzed by EPA Method SW8463 8270C except December 6, 2006 (EPA Method 525.2)
SW8463 = samples analyzed by EPA Method SW8463 8015B

Laboratory analytical report was not provided for PGDW05 sample on June 22, 2005

Data Validation Qualifiers
BJ = The analyte was detected at a concentration below the reporting limit, but above the Method Detection Limit (MDL); the associated result is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

TABLE 24C

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES SUMMARY OF DETECTIONS, 2009-2010
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Diesel C10-C24 (CLP)	Diesel C10-C24 (EPA Region 8)	Gasoline C7-C12 (EPA Region 8)	Total Extractable Hydrocarbons	Total Purgeable Hydrocarbons	1,3-Dimethyl adamantane	Adamantane	Chloroform	Chloromethane	Methylene Chloride	Toluene	2,4,5-Trichlorophenol	2-Chlorophenol	2-Methylnaphthalene (CLP)	2-Methylnaphthalene (EPA Region 8)	4-Chloro-3-methylphenol	Acenaphthene	Bis(2-Ethylhexyl) Phthalate (CLP)	Bis(2-Ethylhexyl) Phthalate (EPA Region 8)	Butyl benzyl phthalate (EPA Region 8)	Caprolactam	Dimethyl phthalate	Di-n-Butyl Phthalate	Di-n-Octyl Phthalate	Fluorene (CLP)	Fluorene (EPA Region 8)	Phenol	Tris (2-butoxyethyl) phosphate	Aroclor-1016	Beta-BHC	Endosulfan I	Heptachlor	Ethane	Methane
Parameter Group		**Petroleum Hydrocarbons**					**Volatile Organic Compounds**						**Semivolatile Organic Compounds**																		**Organochlorine Pesticides and PCBs**				**Dissolved Gases**	
Analysis Method		**SW8015D**					**SW8260B**						**SW8270D**																		**CLP**				**524.2**	
CAS #		NA	NA	NA	NA	NA	702-79-4	281-23-2	67-66-3	74-87-3	75-09-2	108-88-3	95-95-4	95-57-8	91-57-6	91-57-6	59-50-7	83-32-9	117-81-7	117-81-7	85-68-7	105-60-2	131-11-3	84-74-2	117-84-0	86-73-7	86-73-7	108-95-2	78-51-3	12674-11-2	319-85-7	959-98-8	76-44-8	74-84-0	74-82-8
EPA MCL		NA	NA	NA	NA	NA	NA	NA	**81**	NA	**5**	**1000**	NA	NA	NA	NA	NA	NA	**6.0**	**6.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.5**	NA	NA	**0.4**	NA	NA
WY CLASS I DOMESTIC		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1**	NA	NA	NA	NA	NA	NA	NA	NA
EPA DWEL		NA	NA	NA	NA	NA	NA	NA	**350**	NA	**2000**	**3000**	NA	**200**	NA	NA	NA	**2000**	**700**	**700**	**7000**	**7000**	NA	**4000**	NA	**1000**	**1000**	**11000**	NA	NA	NA	NA	**20**	NA	NA
WY DWEL		NA	NA	NA	NA	NA	**26000**	**26000**	*	NA	*	*	**3333**	**166**	**133**	**133**	**3333**	**2000**	*	*	**47**	**16667**	**26667**	**3333**	**333**	**1330**	**1333**	**10000**	**26000**	**1.28**	**0.050**	**200**	**0.02**	NA	NA
Wyoming Action Level		**10000**	**10000**	**6600**	**10000**	**6600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA Phase II CRDL		**-**	**-**	**-**	**310**	**20**	**0.2**	**0.2**	**-**	**0.5**	**-**	**0.5**	**5**	**5**	**5**	**0.5**	**5**	**5**	**5**	**0.5**	**0.5**	**5**	**-**	**5**	**0.5**	**5**	**0.5**	**5**	**0.3**	**1**	**0.05**	**0.05**	**0.05**	**-**	**5**
PGDW05	3/3/2009	-	NR	NR	NR	26	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	16.6
PGDW05 Dup	3/3/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.3 J	NR	NR	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
PGDW05	1/18/2010	-	75.3	26.3	-	49	1.74 J	0.21 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NR	-	-	-	-	-	-	-	-	-	-	-	5.44 J
PGDW05 Dup	1/18/2010	-	76.4	31.1	-	47	1.71 J	0.21 J	-	-	-	-	-	-	-	-	-	-	-	-	-	0.95 J	NR	-	-	-	-	-	0.56 J	-	-	-	-	-	-
PGDW14	Mar-09	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	**12**	NR	NR	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA
PGDW20	3/4/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	**6.4**	NR	NR	1.4 J	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	137
PGDW20	Jan-10	-	21.7	-	-	-	-	-	-	-	-	-	0.19 J	-	-	-	0.19 J	-	-	-	-	-	NR	-	-	-	-	-	0.63 J	-	-	0.0015 J	-	10.9	172
PGDW23	3/4/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.1 J	NR	NR	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	146
PGDW23	1/18/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18 J	0.63 J	NR	-	-	-	-	-	-	-	-	-	-	-	149 J
PGDW30	3/5/2009	NA	NA	NA	NA	25	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	558
PGDW30	1/19/2010	-	35	-	-	36	1.81 J	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13 J	-	NR	0.18 J	-	-	-	-	-	-	-	-	-	-	808 J
PGDW32	3/5/2009	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	21.4
PGDW32	1/20/2010	-	-	22.6	-	-	-	0.3 J	-	-	-	-	-	-	-	-	-	-	-	-	0.14 J	0.54 J	NR	-	-	-	-	-	-	-	-	-	-	-	36.3
PGDW33	Mar-09	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	NR	NR	-	1.3 J	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA
PGDW41B	1/21/2010	850	479	-	1300	-	-	-	0.24 J	0.27 J	-	0.51	-	-	-	-	-	-	**11**	**7.4 J**	-	-	NR	-	6 J	-	-	-	-	-	-	-	-	-	-
PGDW42	1/19/2010	-	21.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19 J	0.92 J	NR	-	-	-	-	-	0.55 J	-	-	-	-	-	60
PGDW44	1/18/2010	-	44.3	-	-	-	-	-	-	-	-	-	-	0.34 J	0.31 J	0.37 J	0.27 J	0.43 J	-	-	0.13 J	0.49 J	NR	-	-	0.18 J	0.15 J	0.3 J	1.16 J	0.29 J	-	-	0.0072 J	-	-
PGDW45	1/18/2010	-	41.3	-	-	-	-	-	-	-	-	-	-	0.61 J	-	-	0.42 J	0.24 J	-	-	-	-	NR	-	-	-	-	0.55 J	-	-	-	-	-	-	-
PGDW49	1/20/2010	-	130	-	400	-	-	-	-	-	0.33	-	-	-	-	-	-	-	-	-	-	-	NR	-	-	-	-	0.68 J	0.57 J	-	0.00081 J	-	-	-	-

Notes

1. Results are shown only where the reported concentration was greater than the method detection limit.
2. Diesel C10-C24 is equivalent to DRO analysis.
3. Gasoline C7-C12 is equivalent to GRO analysis.
4. Arochlor-1016 is a trade name for a mixture of polychlorinated biphenyl congeners; the EPA MCL is for total polychlorinated biphenyls.
5. No specific sample date listed for Phase I analysis of PGDW14 and PGDW33 and Phase II analysis of PGDW20.
6. Some analytical results reported as "u" (not detected) in EPA summary tables; associated footnote interpreted to indicate reporting limit was equal to ten times the analyte concentration in the blank sample.

TABLE 24C

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES SUMMARY OF DETECTIONS, 2009-2010
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

CAS# = Chemical Abstract Service Number *Dup = field duplicate sample* *NA = Not Available*
NR = Not Reported. Analyte not listed in summary table in report. Unknown whether analyte was not analyzed or was reported at a concentration less than the MDL

Exceedance *EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in **bold** with a yellow highlight)*
WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard
EPA DWEL = US EPA Drinking Water Equivalent Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with WDEQ WQD Rules and Regulations Chapter 17:Storage Tanks and using May 2016 US EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.
Wyoming Action Level = State of Wyoming Action Level,

EPA CRDL = US EPA Contract Required Detection Limit

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
SW8015D = GRO samples analyzed using ORGM-506 r1.0 and EPA Method 8015D or CLP. DRO samples analyzed using ORGM-508 r1.0 and EPA Method 8015D or CLP.
SW8260B = SVOCs determined using ORGM-515 r1.1 and EPA Method 8270D or RSKSOP-259v1 for CLP analyses.
SW8270D = samples analyzed by methods ORGM-515 r1.1 and EPA Method 8270D or under CLP contract
CLP = Pesticides analyzed by ALS Laboratory Group using methods specified under the CLP
524.2 = samples analyzed by EPA Method 524.2

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

TABLE 25

GROUNDWATER ANALYTICAL DATA, RADIOCHEMISTRY
(picocuries per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Gross Alpha	Radium-226	Radium-228	Total Radium-226 plus Radium-228 (Note 1)	Radon-222	Strontium-90	Uranium (µg/L, Note 2)	Adjusted Gross Alpha (Including Ra-226 but Excluding Uranium and Radon), Estimated (Note 3)
CAS #		12587-46-1	13982-63-3	15262-20-1	NA	14859-67-7	10098-97-2	7440-61-1	NA
EPA MCL		NA	NA	NA	5	300	NA	30 µg/L	15
WY CLASS I DOMESTIC		NA	NA	NA	5	NA	8.0	NA	15
LD02	6/20/2014	< 8.03 UP	0.930	1.64	2.57	< 63.4 UJ	< 1.63 UP	0.327	ND
LD02	8/21/2014	< 9.55 UP	0.422	< 1.79	0.422	< 124 UJ	< 1.88 UP	0.316	ND
PGDW05	6/16/2014	< 2.74 UP	0.899	2.88	3.779	173	< 1.79 UP	< 0.067	ND
PGDW05	8/18/2014	< 4.87 UP	1.02	< 2.00	1.02	< 107 UJ	< 1.99 UP	< 0.067	ND
PGDW14	6/12/2014	20.7 JP	3.33	< 1.75	3.33	**687**	< 1.97 UP	17.8	8.42
PGDW14	8/14/2014	17.0 JP	1.48	< 2.00	1.48	**562 J**	< 1.83 UP	19	3.89
PGDW20	6/20/2014	< 6.37 UP	1.47	< 1.04	1.47	152 J	< 1.60 UP	0.087 J	ND
PGDW20	8/21/2014	< 8.07 UP	1.35	< 1.42	1.35	226 J-	< 1.89 UP	< 0.067	ND
PGDW23	6/13/2014	< 3.36 UP	< 0.428	< 1.74	0	**487 J**	< 1.76 UP	< 0.067	ND
PGDW23	8/15/2014	< 4.89 UP	0.923	< 2.28	0.923	**562 J**	< 1.88 UP	< 0.067	ND
PGDW23 Dup	8/15/2014	< 4.85 UP	1.09	< 1.65	1.09	**449 J**	< 1.57 UP	< 0.067	ND
PGDW30	6/18/2014	< 2.58 UP	< 0.620	< 1.22	0	130 J	< 1.91 UP	< 0.067	ND
PGDW30	8/12/2014	< 4.99 UP	1.51	< 2.72	1.51	244 J	< 1.69 UP	< 0.067	ND
PGDW32	6/11/2014	< 2.96 UP	0.806	< 1.75	0.806	**482**	< 1.91 UP	< 0.067	ND
PGDW32 Dup	6/11/2014	< 2.68 UP	1.15	< 1.99	1.15	**643 J**	< 1.97 UP	< 0.067	ND
PGDW32	8/13/2014	< 4.94 UP	3.50	< 1.78	3.50	**556 J**	< 1.87 UP	< 0.067	ND
PGDW33	6/10/2014	24.7 JP	2.32	< 1.82	2.32	**936**	< 1.29 UP	**105**	ND
PGDW33	8/13/2014	49.8 JP	2.63	< 2.26	2.63	< 174 UJ	< 1.95 UP	**80.6**	ND
PGDW41A	6/19/2014	156 JP	< 0.389	< 1.09	0	**1350 J**	< 1.60 UP	**236**	ND
PGDW41A	8/20/2014	168 JP	3.31	< 1.43	3.31	**1060**	< 1.96 UP	**260**	ND
PGDW41B	6/19/2014	< 21.2 UP	2.75	2.87	**5.62**	228 J	< 1.84 UP	0.176 J	ND
PGDW41B	8/20/2014	< 23.4 UP	2.7	3.47	**6.17**	226	< 1.96 UP	< 0.2 U	ND

TABLE 25

GROUNDWATER ANALYTICAL DATA, RADIOCHEMISTRY
(picocuries per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	Gross Alpha	Radium-226	Radium-228	Total Radium-226 plus Radium-228 (Note 1)	Radon-222	Strontium-90	Uranium (µg/L, Note 2)	Adjusted Gross Alpha (Including Ra-226 but Excluding Uranium and Radon), Estimated (Note 3)
CAS #		12587-46-1	13982-63-3	15262-20-1	NA	14859-67-7	10098-97-2	7440-61-1	NA
EPA MCL		NA	NA	NA	5	300	NA	30 µg/L	15
WY CLASS I DOMESTIC		NA	NA	NA	5	NA	8.0	NA	15
PGDW44	6/12/2014	< 16.2 UP	3.65	< 1.70	3.65	**512**	< 1.98 UP	< 0.067	ND
PGDW44	8/14/2014	< 18.8 UP	4.11	< 2.17	4.11	**439 J**	< 1.91 UP	< 0.067	ND
PGDW45	6/16/2014	9.03 R	1.79	< 2.01	1.79	**1040**	< 1.87 UP	**30.2**	-
PGDW45 Dup	6/16/2014	313 R	1.35	< 2.26	1.35	**1020 J**	< 1.66 UP	**29.8**	-
PGDW45	8/18/2014	12.1 JP	1.98	< 2.31	1.98	**687 J**	< 1.83 UP	**23.1 J**	ND
PGDW49	6/17/2014	44.4 JP	0.614	< 2.03	0.614	**785**	< 1.94 UP	**51.1 J**	9.14
PGDW49	8/19/2014	< 32.2 R	3.05 J	1.90 J	4.95	**627**	< 1.94 UP	**60.3**	ND
PGDW49 Dup	8/19/2014	53.5 R	1.75 J	< 1.32 UJ	1.75	**764**	< 1.89 UP	**64.4**	-

Notes

1. The sum of Ra 226 and Ra228 cannot exceed 5 pCi/L; therefore the cleanup levels for individual constituents must be less than 5 pCi/L (< 5). For calculating the sum of Radum-226 and Radium-228, non-detects (values less than the Method Detection Limit) were assumed to be zero.

2. Uranium concentrations for total sample fraction, except dissolved fraction for samples from well PGDW41B; see Table 14A.

*3. Adjusted gross alpha excluding uranium estimated using the relationship: Gross alpha (less U) = Gross alpha - 0.69*Uranium concentration (µg/L); see data validation reports. Values less than the Method Detection Limit were assumed to be zero.*

< = result was less than the Method Detection Limit
Dup = field duplicate sample
ND = Estimated gross alpha concentration is less than the detection limit.
NA = Not Available
- = Not calculated; gross alpha data qualified R

TABLE 25

GROUNDWATER ANALYTICAL DATA, RADIOCHEMISTRY
(picocuries per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Exceedance *EPA MCL = US EPA Maximum Contaminant Level (Exceedances are in* ***bold*** *with a yellow highlight)*
Exceedance *WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard (exceedances are underlined with a yellow highlight)*

Methods
Gross Alpha analyzed by EPA Method 900.0
Radium-226 analyzed by EPA Method 903.1
Radium-228 analyzed by EPA Method 904.0
Radon-222 analyzed by Standard Method 7500-RN-B
Strontium-90 analyzed by EPA Method 905.0

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = low bias
JP = J/PM in validation report. Estimated value. Project management decision on use of data based on additional information. See text.
R = The sample results and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality-control criteria. The presence or absence of the analyte cannot be verified.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
UP = UJ/PM in validation report. Compound was analyzed but not detected above the reported sample quantitation limit. Project management decision on use of data based on additional information. See text.

TABLE 26A

GROUNDWATER ANALYTICAL DATA, MICROORGANISMS, 2014
(colony-forming units per 100 milliliters)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	E. coli	Total Coliform	Iron Related Bacteria	Sulfate Reducing Bacteria
LD02	6/20/2014	**1**	370	50000 J	Not Aggressive
LD02	8/21/2014	< 1	< 1	2500	Not Aggressive
PGDW05	6/16/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW05	8/18/2014	< 1	< 1	2500	Not Aggressive
PGDW14	6/12/2014	< 1	< 1	50000 J	Not Aggressive
PGDW14	8/14/2014	< 1	< 1	50000	Not Aggressive
PGDW20	6/20/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW20	8/21/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW23	6/13/2014	< 1	< 1	Not Aggressive UJ	Not Aggressive UJ
PGDW23	8/15/2014	< 1	3	Not Aggressive UJ	Not Aggressive UJ
PGDW23 Dup	8/15/2014	< 1	5	Not Aggressive UJ	Not Aggressive UJ
PGDW23 Confirmation	9/26/2014	<1	35	-	-
PGDW30	6/18/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW30	8/12/2014	< 1	< 1	Not Aggressive	20000 J
PGDW32	6/11/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW32 Dup	6/11/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW32	8/13/2014	< 1	32	2500	20000
PGDW32 Confirmation	9/26/2014	<1	<1	-	-
PGDW33	6/10/2014	< 1	14	50000 J	120000 J
PGDW33	8/13/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW41A	6/19/2014	< 1	< 1	Not Aggressive	Not Aggressive
PGDW41A	8/20/2014	< 1	< 1	230000	500000
PGDW41B	6/19/2014	< 1	< 1	2500	120000 J
PGDW41B	8/20/2014	< 1	< 1	230000	Not Aggressive
PGDW44	6/12/2014	< 1	5	50000 J	120000 J
PGDW44	8/14/2014	< 1	3 J	50000	20000
PGDW45	6/16/2014	< 1	1 J	Not Aggressive UJ	Not Aggressive
PGDW45 Dup	6/16/2014	< 1	3 J	2500 J	Not Aggressive
PGDW45	8/18/2014	< 1	5	Not Aggressive	Not Aggressive
PGDW49	6/17/2014	< 1	< 1	50000 J	Not Aggressive UJ
PGDW49	8/19/2014	< 1	< 1	50000 J	20000 J
PGDW49 Dup	8/19/2014	< 1	< 1	Not Aggressive UJ	Not Aggressive UJ

Notes
The 9/26/2014 confirmation sampling in wells PGDW23 and 32 was conducted by the WDEQ, separate from the 2014 Groundwater Investigation scope of work. Fecal Coliform by SM 9222D were <1 cfu/100 ml in both samples.

< = result was less than the Reporting Limit *- = Not Analyzed*
Dup = field duplicate sample

TABLE 26A

GROUNDWATER ANALYTICAL DATA, MICROORGANISMS, 2014
(colony-forming units per 100 milliliters)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Not Aggressive = no visible bacterial growth present in test tube

Exceedance	*The EPA drinking water standard for total coliform is no more than 5 percent positive samples in a month. (Exceedances are in* ***bold*** *with a yellow highlight)*
	The EPA drinking water standard for fecal coliform, including E. coli, is none allowed.

Methods
Iron-related bacteria and sulfate-reducing bacteria analyzed by Hach BART System
E. coli and total coliform analyzed by Standard Method SM 9223B.

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected at or above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

TABLE 26B

GROUNDWATER ANALYTICAL DATA SUMMARY, MICROORGANISMS, 1979-2008

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Location	Sample Date	E. coli	Total Coliform	Iron Related Bacteria	Slime Forming Bacteria	Sulfate Reducing Bacteria	Bacteria, Heterotrophic
	Units	MPN/100 mL	MPN/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL
LD02	7/13/1994	-	< 1	-	-	-	-
PGDW05	9/30/2004	-	-	-	-	-	-
PGDW05	4/5/2005	-	-	-	-	-	-
PGDW05	4/7/2005	-	-	-	-	-	-
PGDW05 Inside	4/25/2005	< 1	< 1	< 100	-	-	140000
PGDW05 Outside	4/25/2005	< 1	< 1	260000	-	-	39000
PGDW05	6/22/2005	-	-	-	-	-	-
PGDW05	7/4/2006	-	-	-	-	100000	-
PGDW05	12/6/2006	-	-	140000	-	70000	-
PGDW05	7/18/2007	-	-	-	-	-	-
PGDW05 Dup	7/18/2007	-	-	-	-	-	-
PGDW05	8/13/2007	-	-	230000	-	500000	-
PGDW05 Dup	8/13/2007	-	-	-	-	-	-
PGDW05	10/2/2007	-	-	-	-	-	-
PGDW05	11/1/2007	-	-	230000	-	1000-10000	-
PGDW05 Interface	10/6/2008	-	-	14000000	1250000	120000	-
PGDW05 Purge	10/6/2008	-	Present	14000000	1250000	120000	-
PGDW05 Deep	10/7/2008	-	-	14000000	1250000	120000	-
PGDW20	1/11/1988	-	< 1	-	-	-	-
PGDW20	5/26/1992	-	0	-	-	-	-
PGDW20	10/11/1993	-	Absent	-	-	-	-
PGDW20	1/7/1997	-	< 1	-	-	-	-
PGDW20	3/21/2006	-	-	-	-	-	-
PGDW23	9/9/2004	-	Absent	-	-	-	-
PGDW41B	10/26/2004	-	-	-	-	-	-
PGDW44	7/11/1979	-	-	-	-	-	-
PGDW44 Dup	7/11/1979	-	-	-	-	-	-
PGDW44	7/16/1979	-	-	-	-	-	-
PGDW44 Dup	7/16/1979	-	-	-	-	-	-

Notes

The EPA drinking water standard for total coliform is no more than 5 percent positive samples in a month.

< = result was less than the Reporting Limit

- = Not Analyzed

CFU/100 ml = colony forming units per 100 milliliters

Dup = field duplicate sample

MPN/100 ml = maximum probable number per 100 milliliters

Methods

E. coli analyzed by Standard Method 9223B.

Heterotrophic bacteria analyzed by Method A9215B.

Iron-related bacteria, slime forming, and sulfate-reducing bacteria analyzed by Biological Activity Reaction Test (BART) System except for sulfate-reducing bacteria on November 1, 2007 (indicator method).

Total coliform analyzed by Standard Method SM 9223 except for July 13, 1994 and January 11, 1998 (SM 9221B).

Analytical methods for LD02, PGDW20, and PGDW44 not reported.

TABLE 26C

GROUNDWATER ANALYTICAL DATA SUMMARY, MICROORGANISMS, 2009-2010

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Location	Sample Date	Bacteria, Heterotrophic	Iron Related Bacteria	Sulfate Reducing Bacteria
	Units	**MPN/100 ml**	**CFU/100 ml**	**CFU/100 ml**
	EPA Phase II CRDL	**-**	**100**	**Present/Absent**
PGDW05	3/3/2009	13000	Present	Present
PGDW05	1/18/2010	4500	900000	1000 - 10000
PGDW05 Dup	1/18/2010	Not analyzed	Not analyzed	Not analyzed
PGDW20	3/4/2009	< 200	Absent	Not Aggressive
PGDW20	Jan-2010	< 200	Absent	Not Aggressive
PGDW23	3/4/2009	< 200	Absent	Not Aggressive
PGDW23	1/18/2010	51000	230000	Not Aggressive
PGDW30	1/19/2010	< 200	Absent	1000 - 10000
PGDW32	1/20/2010	< 200	Absent	Not Aggressive
PGDW41B	1/21/2010	7400	15000	100 - 1000
PGDW42	1/19/2010	200	15000	Not Aggressive
PGDW44	1/18/2010	400	50000	100 - 1000
PGDW45	1/18/2010	< 200	900000	100 - 1000
PGDW49	1/20/2010	24000	3600000	10000000 - 100000000

Notes

No specific sample date listed for Phase II analysis of PGDW20

< = result was less than the Reporting Limit
CFU/100 ml = colony forming units per 100 milliliters
Dup = field duplicate sample
MPN/100 ml = maximum probable number per 100 milliliters
Not Aggressive = no visible bacterial growth present in test tube

EPA CRDL = US EPA Contract Required Detection Limit

Methods

Heterotrophic plate count, iron-related bacteria, and sulfate-reducing bacteria analyzed by Energy Laboratories, Inc., Billings, Montana.

Data Validation Qualifiers

Data qualifiers were not assigned by EPA.

TABLE 27

GROUNDWATER ANALYTICAL DATA, STABLE ISOTOPES
(parts per thousand)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Location	Sample Date	δ13C DIC	δ13C1	δ15N NO3-	δ18O NO3 VSMOW	δDC1 VSMOW
LD02	6/20/2014	-10.9 JP	-	-	-	-
LD02	8/21/2014	-10.7 UP	-	-	-	-
PGDW05	6/16/2014	-14.8 JP	-	-	-	-
PGDW05	8/18/2014	-14.8 JP	-	-	-	-
PGDW14	6/12/2014	-11.4 JP	-	-	-	-
PGDW14	8/14/2014	-11.5 JP	-	-	-	-
PGDW20	6/20/2014	-15.3 JP	-31.8 JP	-	-	-
PGDW20	8/21/2014	-15.1 JP	-	-	-	-
PGDW23	6/13/2014	-12.8 JP	-	-	-	-
PGDW23 Dup	8/15/2014	-12.8 JP	9.1 JP	-	-	146.9 JP
PGDW23	8/15/2014	-12.8 JP	9.0 JP	-	-	146.2 JP
PGDW30	6/18/2014	-11.1 JP	-26.37 JP	-	-	-129.4 JP
PGDW30	8/12/2014	-11.3 JP	-27.40 JP	-	-	-
PGDW32	6/11/2014	-	-	-	-	-
PGDW32 Dup	6/11/2014	-	-	-	-	-
PGDW32	8/13/2014	-10.0 JP	-	-	-	-
PGDW33	6/10/2014	-13.0 JP	-	11.9 JP	6.3 JP	-
PGDW33	8/13/2014	-13.1 JP	-	11.5 JP	4.0 JP	-
PGDW41A	6/19/2014	-11.9 JP	-	29.8 JP	10.6 JP	-
PGDW41A	8/20/2014	-12.0 JP	-	29.0 JP	10.0 JP	-
PGDW41B	6/19/2014	-7.7 JP	-	-	-	-
PGDW41B	8/20/2014	-7.6 JP	-	-	-	-
PGDW44	6/12/2014	-9.6 JP	-	-	-	-
PGDW44	8/14/2014	-9.6 JP	-	-	-	-
PGDW45	6/16/2014	-13.1 JP	-	10.5 JP	3.9 JP	-
PGDW45 Dup	6/16/2014	-13.0 JP	-	10.9 JP	-	-
PGDW45	8/18/2014	-13.4 JP	-	-	7.1 JP	-
PGDW49	6/17/2014	-11.2 JP	-	41.3 JP	-	-
PGDW49 Dup	8/19/2014	-11.1 JP	-	43.2 JP	15.3 JP	-
PGDW49	8/19/2014	-11.1 JP	-	43.3 JP	14.6 JP	-

Notes
δ13C DIC = del carbon-13 in dissolved inorganic carbon
δ13C1 = del carbon-13 in methane
δ15N NO3-= del nitrogen-15 in nitrate
δ180 NO3 VSMOW = del oxygen-18 in nitrate versus Vienna Standard Mean Ocean Water
δDC1 VSMOW = del deuterium in methane versus Vienna Standard Mean Ocean Water

Dup = field duplicate sample
- = Not Analyzed

Samples analyzed by GC/Dual Inlet MS

Data Validation Qualifiers
JP = J/PM in validation report. Estimated value. Project management decision on use of data based on additional information. See text.

TABLE 28

QUALITY ASSURANCE/ QUALITY CONTROL SAMPLE ANALYTICAL DATA, SUMMARY OF DETECTIONS

(micrograms per liter)

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Location	Sample Date	Sample Type	Analytical Method	RSK-175	SW8015B	SW8260B									SW8270C
			Sample ID	Methane	Gasoline C7-C12	2-Butanone (Methyl ethyl ketone)	2-Propanol	Acetone	Chloroform	Ethanol	Methylene Chloride	tert-Butyl Alcohol (TBA)	Toluene	Xylenes (total)	Bis(2-Ethylhexyl) Phthalate
			CAS#	74-82-8	NA	78-93-3	67-63-0	67-64-1	67-66-3	64-17-5	75-09-2	75-65-0	108-88-3	1330-20-7	117-81-7
			EPA MCL	NA	NA	NA	NA	NA	80	NA	5	NA	1000	10000	6
			WY DWEL	NA	6600	20000	66667	30000	*	NA	*	66667	*	*	*
PGDW30	6/18/2014	Field Blank	FB-1-06182014	-	-	-	-	-	-	-	0.4 J	-	-	-	2.5 J
PGDW33	8/13/2014	Field Blank	FB-1-08132014	-	-	-	-	-	0.3 J	-	0.5 J	-	-	-	-
QCTB	6/10/2014	Trip Blank	TB-1-06102014	-	-	-	-	8.7 J-	-	-	91 J-	-	0.1 J-	-	-
QCTB	6/11/2014	Trip Blank	TB-1-06112014	1 J	-	-	5.8 J	-	-	-	-	-	-	-	-
QCTB	6/11/2014	Trip Blank	TB-2-06112014	1 J	-	-	-	-	-	-	-	-	-	-	-
QCTB	6/12/2014	Trip Blank	TB-1-06122014	1 J	-	-	-	-	0.1 J	-	-	-	-	-	-
QCTB	6/13/2014	Trip Blank	TB-1-06132014	1 J	-	-	20 J	-	-	-	-	-	-	-	-
QCTB	6/16/2014	Trip Blank	TB-1-06162014	-	-	-	-	0.6 J	-	-	-	-	-	-	-
QCTB	6/17/2014	Trip Blank	TB-1-06172014	-	-	-	7.9 J	-	0.1 J	-	0.2 J	-	-	-	-
QCTB	6/18/2014	Trip Blank	TB-1-06182014	-	-	-	19 J	-	0.2 J	-	-	-	-	-	-
QCTB	6/19/2014	Trip Blank	TB-1-06192014	-	-	-	12 J	-	0.1 J	-	-	-	-	-	-
QCTB	6/20/2014	Trip Blank	TB-1-06202014	-	-	-	13 J	-	0.2 J	-	-	-	-	-	-
QCTB	8/12/2014	Trip Blank	TB-1-08122014	-	-	-	37 J	-	-	-	-	-	-	-	-
QCTB	8/13/2014	Trip Blank	TB-1-08132014	-	-	-	18 J	-	-	-	-	-	-	-	-
QCTB	8/14/2014	Trip Blank	TB-1-08142014	-	37 J	-	-	-	-	-	-	-	-	-	-
QCTB	8/15/2014	Trip Blank	TB-1-08152014	-	15 J	-	62	2.1 J	-	-	-	2.3 J	-	-	-
QCTB	8/15/2014	Trip Blank	TB-2-08152014	-	16 J	-	17 J	-	-	-	-	-	-	-	-
QCTB	8/18/2014	Trip Blank	TB-1-08182014	-	14 J	0.5 J	44 J	2.2 J	-	32 J	-	2.9 J	0.2 J	-	-
QCTB	8/19/2014	Trip Blank	TB-1-08192014	1 J	-	0.8 J	120	3.9 J	-	35 J	0.5 J	6.3 J	0.2 J	-	-
QCTB	8/19/2014	Trip Blank	TB-2-08192014	2 J	17 J	1.3 J	120	3.7 J	-	-	-	8.5 J	0.3 J	-	-
QCTB	8/20/2014	Trip Blank	TB-1-08202014	1 J	-	-	320	5.3 J	-	-	-	7.2 J	0.3 J	0.2 J	-
QCTB	8/21/2014	Trip Blank	TB-1-08212014	1 J-	14 J-	-	85 J-	2.8 J-	-	-	-	2.4 J-	0.1 J-	-	-

TABLE 28

QUALITY ASSURANCE/ QUALITY CONTROL SAMPLE ANALYTICAL DATA, SUMMARY OF DETECTIONS
(micrograms per liter)
Pavillion, Wyoming Area Domestic Water Wells
Final Report and Palatability Study

Notes
Results are shown only where the reported concentration was greater than the method detection limit.
No tentatively identified compounds reported in field blank or trip blank samples.

- = Not Analyzed CAS# = Chemical Abstract Service Number NA = Not Available
QCTB = Quality Control Trip Blank sample; not associated with a particular sample location.

EPA MCL = US EPA Maximum Contaminant Level
WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals are calculated in accordance with VRP Factsheet 13 and using May 2016 EPA Regional Screening Levels (RSLs). For chemicals not on EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.

** Wyoming defers to the EPA MCL (first) or WY Class I Domestic (second) instead of a DWEL when a compound has an EPA MCL or WY Class I Domestic value.*

Methods
RSK-175 = Method RSK-175
SW8260B = EPA Method SW846 8260B
SW8270C = EPA Method SW846 8270C

Data Validation Qualifiers
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = low bias

TABLE 29

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES, SUMMARY OF METHOD DETECTION LIMITS GREATER THAN DRINKING WATER STANDARDS OR COMPARISON VALUES, 2014

(micrograms per liter)

Pavillion, Wyoming Area Domestic Water Wells

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Group	Analyte	CAS #	Drinking Water Standard or Comparison Value	Concen-tration Limit (µg/L)	Method Detection Limit (µg/L)	Number of Detect-ions	Note	Chemical Uses/ Sources
Volatile Organic Compounds by SW8260B								
	1,2-Dibromo-3-chloropropane	96-12-8	EPA MCL	0.2	0.2-0.3	0	MDL greater than EPA MCL in 1 sample	1,2-Dibromo-3-chloropropane is a manufactured chemical and is not found naturally in the environment. Some industries use it to make another chemical that is used to make materials that resist burning (fumigant). Large amounts of 1,2-dibromo-3-chloropropane were used in the past on certain farms to kill pests (nematocide) that harmed crops. Farmers in all states other than Hawaii stopped using this chemical in 1979. Hawaii stopped using it in 1985. ATSDR ToxFAQS, 1992
	1,2-Dibromoethane (EDB)	106-93-4	EPA MCL	0.05	0.1	0		1,2-Dibromoethane is a manufactured chemical. It also occurs naturally in small amounts in the ocean where it is formed, probably by algae and kelp. 1,2-Dibromoethane has been used as a pesticide in soil, and on citrus, vegetable, and grain crops. Most of these uses have been stopped by the Environmental Protection Agency (EPA) since 1984. Another major use was as an additive in leaded gasoline; however, since leaded gasoline is now banned, it is no longer used for this purpose. Uses today include treatment of logs for termites and beetles, control of moths in beehives, and as a preparation for dyes and waxes. ATSDR ToxFAQS, 1995
	1,2,3-Trichloropropane	96-18-4	WY DWEL	0.003	0.1 - 0.2	0	EPA DWEL 100	1,2,3-Trichloropropane is a synthetic chemical that is mainly used to make other chemicals. Former uses include in paint and varnish removers, as an industrial solvent, and a degreasing agent. Its occurrence as an impurity in nematocides and soil fumigants (DD ((EZ)-1,3-dichloropropene)) will result in its direct release to the environment. In a FDA Total Diet Study, 1,2,3-trichloropropane was detected 9 times in 234 table-ready food items, with an average concentration of 4.21 ppb (range from 3.53 to 6.12 ppb) following US market basket surveys conducted from 1991-93 and 2003-04. TOXNET; ATSDR TOXFAQs, 1995

TABLE 29

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES, SUMMARY OF METHOD DETECTION LIMITS GREATER THAN DRINKING WATER STANDARDS OR COMPARISON VALUES, 2014

(micrograms per liter)

Pavillion, Wyoming Area Domestic Water Wells

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Group	Analyte	CAS #	Drinking Water Standard or Comparison Value	Concen-tration Limit (µg/L)	Method Detection Limit (µg/L)	Number of Detect-ions	Note	Chemical Uses/ Sources
Organochlorine Pesticides SW8081A								
	Aldrin	309-00-2	WY DWEL	0.005	0.006-0.01	0	EPA DWEL 1	From the 1950s until 1970, aldrin and dieldrin were widely used pesticides for crops like corn and cotton. Because of concerns about damage to the environment and potentially to human health, EPA banned all uses of aldrin and dieldrin in 1974, except to control termites. In 1987, EPA banned all uses. Exposure to aldrin and dieldrin happens mostly from eating contaminated foods, such as root crops, fish, or seafood. ATSDR TOXFAQs, 2002
	Dieldrin	60-57-1	WY DWEL	0.006	0.007-0.02	0		From the 1950s until 1970, aldrin and dieldrin were widely used pesticides for crops like corn and cotton. Because of concerns about damage to the environment and potentially to human health, EPA banned all uses of aldrin and dieldrin in 1974, except to control termites. In 1987, EPA banned all uses. Exposure to aldrin and dieldrin happens mostly from eating contaminated foods, such as root crops, fish, or seafood. ATSDR TOXFAQs, 2002

TABLE 29

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES, SUMMARY OF METHOD DETECTION LIMITS GREATER THAN DRINKING WATER STANDARDS OR COMPARISON VALUES, 2014

(micrograms per liter)

Pavillion, Wyoming Area Domestic Water Wells

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Group	Analyte	CAS #	Drinking Water Standard or Comparison Value	Concen-tration Limit (µg/L)	Method Detection Limit (µg/L)	Number of Detect-ions	Note	Chemical Uses/ Sources
Semi-Volatile Organic Compounds by SW8270C - Pesticides, wood treatments, commercial products								
	Acrylamide	79-06-1	WY DWEL	0.18	9.5	0	EPA DWEL 70	Acrylamide is mainly used in the production of polymers and copolymers for various purposes. All acrylamide in the environment is man-made, the main source being the release of the monomer residues from polyacrylamide used in water treatment or in industry. In addition, acrylamide and polyacrylamides are used in the production of dyes and organic chemicals, contact lenses, cosmetics and toiletries, permanent-press fabrics, paper and textile production, pulp and paper production, ore processing, sugar refining, additives for water treatment, enhanced oil recovery, and as a chemical grouting agent and soil stabilizer for the construction of tunnels, sewers, wells and reservoirs. The general population is exposed to acrylamide by eating contaminated food. Acrylamide has been found in carbohydrate-rich foods when they are fried, grilled, or baked at high temperatures. Tobacco smoke is a substantial non-food source of exposure to acrylamide for people without occupational exposure. TOXNET; ATSDR TOXFAQs, 2012
	Hexachlorobenzene	118-74-1	EPA MCL	1	1.2-2.1	0		Hexachlorobenzene is a manufactured and is formed as a waste product. Hexachlorobenzene was manufactured as a fungicide that was used in the United States until 1984; however, it has not been commercially produced in the United States since the late 1970s. Hexachlorobenzene is formed as a waste product during the manufacture of other chemicals (e.g., trichloroethylene and tetrachloroethylene), and is a contaminant in some pesticides (e.g., entachloronitrobenzene and pentachlorophenol). Small amounts of hexachlorobenzene can also be produced during combustion of municipal waste. ATSDR ToxFAQS, 2015
	Pentachlorophenol	87-86-5	EPA MCL	1	1.2-2.0	0		Pentachlorophenol is a manufactured chemical that does not occur naturally. Pentachlorophenol was widely used as a pesticide and wood preservative. Since 1984, the purchase and use of pentachlorophenol has been restricted to certified applicators. It is no longer available to the general public. It is still used industrially as a wood preservative for utility poles, railroad ties, and wharf pilings. ATSDR ToxFAQS, 2001.

TABLE 29

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES, SUMMARY OF METHOD DETECTION LIMITS GREATER THAN DRINKING WATER STANDARDS OR COMPARISON VALUES, 2014

(micrograms per liter)

Pavillion, Wyoming Area Domestic Water Wells

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Group	Analyte	CAS #	Drinking Water Standard or Comparison Value	Concen-tration Limit (µg/L)	Method Detection Limit (µg/L)	Number of Detect-ions	Note	Chemical Uses/ Sources
	Phenol	108-95-2	WY Class 1	1	0.77-1.7	0	MDL > WY Class 1 in 7 samples	Phenol is both a manufactured chemical and a natural substance. Phenol is used primarily in the production of phenolic resins and in the manufacture of nylon and other synthetic fibers. It is also used in slimicides (chemicals that kill bacteria and fungi in slimes), as a disinfectant and antiseptic, and in medicinal preparations such as mouthwash and sore throat lozenges. ATSDR ToxFAQS, 2008

TABLE 29

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES, SUMMARY OF METHOD DETECTION LIMITS GREATER THAN DRINKING WATER STANDARDS OR COMPARISON VALUES, 2014

(micrograms per liter)

Pavillion, Wyoming Area Domestic Water Wells

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Group	Analyte	CAS #	Drinking Water Standard or Comparison Value	Concen-tration Limit (µg/L)	Method Detection Limit (µg/L)	Number of Detect-ions	Note	Chemical Uses/ Sources
Semi-Volatile Organic Compounds by SW8270C - Polynuclear Aromatic Hydrocarbons (PAHs)								
	Benzo(a)Anthracene	56-55-3	WY DWEL	0.12	1.3-1.6	0		There is no commercial production of benzo(a)anthracene; however, it is produced through incomplete combustion of organic matter. It occurs primarily in products of incomplete combustion. This includes wood and other vegetation, as well as food products such as charbroiled hamburger, charbroiled chicken, cereals and seafood. Benz(a)anthracene has also been found in emissions from automobiles, gas heaters, kerosene heaters, and wood-burning saunas, as well as a coking plant and other industrial plants. TOXNET, 2005
	Benzo(a)Pyrene	50-32-8	EPA MCL	0.2	1.1-1.6	0		There is no commercial production or known use for benzo(a)pyrene; it is released to the environment as a product of incomplete combustion. Benzo(a)pyrene is found in fossil fuels, crude oils, shale oils, and coal tars, and is emitted with gases and fly ash from active volcanoes. TOXNET, 2010
	Benzo(b)Fluoranthene	205-99-2	WY DWEL	0.12	1.3-1.8	0		There is no commercial production or known use for benzo(b)fluoranthene; it is released to the environment as a product of incomplete combustion. Benzo(b)fluoranthene is an ubiquitous substance that occurs as a consequence of the incomplete combustion of hydrocarbons, coal, biomass and from vehicle emissions. This compound has also been identified as a constituent of cigarette smoke. TOXNET, 2005
	Benzo(k)Fluoranthene	207-08-9	WY DWEL	1.23	0.65-3.1	0		There is no commercial production or known use of this compound. Benzo(k)fluoranthene occurs in fossil fuels and is released to the environment as a product of incomplete combustion. TOXNET, 2005
	Dibenzo(a,h)Anthracene	53-70-3	WY DWEL	0.012	0.77-1.8	0		There is no commercial production or known use of this compound. Dibenzo(a,h)Anthracene occurs in fossil fuels and is released to the environment as a product of incomplete combustion. TOXNET, 2010
	Indeno(1,2,3-cd)Pyrene	193-39-5	WY DWEL	0.12	0.75-1.9	0		There is no commercial production or known use of this compound. Indeno(1,2,3-cd)Pyrene occurs in fossil fuels and is released to the environment as a product of incomplete combustion. TOXNET, 2003

TABLE 29

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES, SUMMARY OF METHOD DETECTION LIMITS GREATER THAN DRINKING WATER STANDARDS OR COMPARISON VALUES, 2014

(micrograms per liter)

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Group	Analyte	CAS #	Drinking Water Standard or Comparison Value	Concen-tration Limit (µg/L)	Method Detection Limit (µg/L)	Number of Detect-ions	Note	Chemical Uses/ Sources
Semi-Volatile Organic Compounds by SW8270C - Industrial chemicals used in manufacturing or a manufacturing by-product.								
	Azobenzene	103-33-3	WY DWEL	0.82	0.64 - 2.8	0		Azobenzene is not known to occur in nature and is no longer produced or used in the US. Azobenzene's former production and use as an intermediate in the production of dyes and rubber accelerators, benzidine and its salts, insecticides and pyrazolone derivatives may have resulted in its release to the environment through various waste streams. Its former use as a greenhouse fumigant and arcaricide (a substance poisonous to mites or ticks) resulted in its direct release to the environment. TOXNET
	Bis(2-Chloroethyl) Ether	111-44-4	WY DWEL	0.082	1.2-3.1	0		Bis(2-chloroethyl) ether is made in factories, and most of it is used to make pesticides. Some of it is used as a solvent, cleaner, component of paint and varnish, rust inhibitor, or as a chemical intermediate to make other chemicals. ATSDR ToxFAQS, 1999
	4-Chloroaniline	106-47-8	WY DWEL	0.45	0.64-2.8	0		4-chloroaniline is synthetic chemical used primarily to make polyurethane products. It is also used as an intermediate for the synthesis of dyes, pharmaceuticals, and agricultural chemicals. 4-chloroaniline is a widespread soil contaminant resulting from the use of phenylurea herbicide of which it is a degradation product. Toxnet, ASTDR Sept 1995.
	3,3`-Dichlorobenzidine	91-94-1	WY DWEL	0.20	0.60-2.5	0		3,3'-Dichlorobenzidine is a manufactured chemical and is not found naturally in the environment. 3,3'-Dichlorobenzidineis manufactured for pigments for printing inks, textiles, plastics and enamels, paint, leather, and rubber. ATSDR ToxFAQS, 1999
	2,6-Dinitrotoluene	606-20-2	WY DWEL	0.06	0.66 - 3.4	0	EPA DWEL 40	2,6-Dinitrotoluene (DNT) is a synthetic chemical not found naturally in the environment. DNT is usually used to make flexible polyurethane foams used in the bedding and furniture industries. DNT is also used to produce explosives, ammunition, and dyes. It is also used in the air bags of automobiles. Most people will not be exposed to significant levels of DNTs. ATSDR TOXFAQs, 2016

TABLE 29

GROUNDWATER ANALYTICAL DATA, ORGANIC ANALYTES, SUMMARY OF METHOD DETECTION LIMITS GREATER THAN DRINKING WATER STANDARDS OR COMPARISON VALUES, 2014

(micrograms per liter)

Pavillion, Wyoming Area Domestic Water Wells

Final Report and Palatability Study

Group	Analyte	CAS #	Drinking Water Standard or Comparison Value	Concen-tration Limit (µg/L)	Method Detection Limit (µg/L)	Number of Detect-ions	Note	Chemical Uses/ Sources
	Hexachlorobutadiene	87-68-3	WY DWEL	1.15	0.53-2.9	0	EPA DWEL 10	Most hexachlorobutadiene used commercially in the United States is imported from Germany. It is mainly used to make rubber compounds. It is also used as a solvent, and to make lubricants, in gyroscopes, as a heat transfer liquid, and as a hydraulic fluid. Most exposure to hexachlorobutadiene comes from breathing it in workplace air. ATSDR TOXFAQs, 1995
	n-Nitrosodimethylamine	62-75-9	WY DWEL	0.002	0.74 - 4.6	0		n-Nitrosodimethylamine is produced by industry only in small amounts for research, and is not produced commercially in the US. It is used in some cosmetic and toiletry products and in cleansers. It was formerly used as an industrial solvent, antioxidant, an additive in lubricants, and a nematocide. n-Nitrosodimethylamine can also found in some foods, cigarette smoke, and may be formed in the body. TOXNET; ATSDR TOXFAQs, 1999
	n-Nitroso-di-n-Propylamine	621-64-7	WY DWEL	0.013	0.82-2.0	0		n-Nitrosodi-n-propylamine is a chemical produced by industry in small amounts for research. Small amounts of n-nitrosodi-n-propylamine are produced as a side reaction during some manufacturing processes, as a contaminant in some weed killers, and during the manufacture of some rubber products. ATSDR ToxFAQS, 1999

Notes

MDL = Method Detection Limit

Drinking Water Standard or Comparison Value (applied in the order listed : first use EPA MCL, if none then use WY Class I Domestic, then if none use EPA DWEL, then if none use WY

EPA MCL = US EPA Maximum Contaminant Level

WY Class I Domestic = State of Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1, Class I Groundwater Quality Standard

EPA DWEL = US EPA Drinking Water Equivalent Level

WY DWEL = State of Wyoming Drinking Water Equivalent Level (DWEL) for non-carcinogenic chemicals and Acceptable Drinking Water Levels (ADWL) for suspected and known carcinogenic chemicals, Voluntary Remediation Program (VRP) published in Wyoming DEQ Factsheet 12E, Table, December 2014 (VRP Table). Where a chemical was not listed on the VRP Table, the DWEL/ADWL was calculated using May 2016 EPA Regional Screening Limits (RSLs) in accordance with VRP Factsheet 13. For chemicals not on either the VRP or EPA May 2016 RSL tables, values were obtained from RSLs of closely related chemicals, or from other published information.