



PDC Energy, Inc.  
4000 Burlington Avenue  
Evans, Colorado 80620

Heinze #1 Tank Battery  
MW01



Date Started : 08/23/2022  
 Detector : MiniRae 3000 PID  
 Hole Diameter : 3.25-inch  
 Drilling Method : Direct Push  
 Sampling Method : Continuous  
 Drilling Company : DrillPro  
 Latitude : 40.524885°  
 Longitude : -104.475209°  
 Project Number : 022-009  
 Logged By : Ryan Finley

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture	Structure	PID (ppm)	Staining	Lab Sample ID	Sample Run/Rec. (ft)	Well Construction:
0	SM		0-3: SILTY SAND, topsoil, dark brown, fine to medium grained, dry, Loose, no plasticity, no field-screen samples collected.	Dry	Loose	NS	N	NS	Poaholed	Grout
3-11	ML		3-11: SANDY SILT, brown with red mottling, very fine grained to fine grained, slightly moist, Medium Dense, low plasticity to no plasticity, no staining or odor	Moist	Medium	0.2	N	NS	5/5	Hydrated Bentonite
11-14	SP		11-14: SAND, Well Graded, light to medium brown, fine to medium grained, moist, Medium Dense, no plasticity, no staining or odor.	Moist	Medium	0.1	N	NS	5/5	2" Sch-40 Solid PVC Riser,
14-15	SW		14-15: SAND, Poorly Graded, fine grained wet, Loose, no plasticity, no staining or odor	Wet	Loose	0.0	N	NS	5/5	2" Sch-40 #10 Slotted PVC Screen
15-16	SP		15-16: SAND, Well Graded, brown, fine to medium grained, moist, Medium Dense, no plasticity, no staining or odor	Moist	Medium	0.1	N	NS	5/5	10-20 Silica Sand
										Fill
<p>3.25" push rods reached refusal at ~14.5ft after sampling to ~16 feet bgs. TD at ~16. Well total depth = ~14.5 feet bgs with yellow steel stickup surface completion.</p> <p>Static depth to water ~ 9.21 feet below top of casing, or appx. 6 feet below ground surface (measured 8/28/22).</p>										



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Heinze #1 Tank Battery

MW02



Date Started : 08/23/2022  
 Detector : MiniRae 3000 PID  
 Hole Diameter : 3.25-inch  
 Drilling Method : Direct Push  
 Sampling Method : Continuous  
 Drilling Company : DrillPro  
 Latitude : 40.524747°  
 Longitude : -104.475082°  
 Project Number : 022-009  
 Logged By : Ryan Finley

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture	Structure	PID (ppm)	Staining	Lab Sample ID	Sample Run/Rec. (ft)	Well Construction:
0	SM		0-3: SILTY SAND, topsoil, dark brown, fine to medium grained, dry, Loose, no plasticity, no field-screen samples collected.	Dry	Loose	NS	N	NS	Potholed	Grout
5	SC		3-6: CLAYEY SAND, medium to light brown, fine to medium grained, very minor coarse grain, moist starting at 5-6 feet, medium dense, high plasticity, no odor or staining.	Moist	Medium	0.7	N	NS	4/4	Hydrated Bentonite
10	ML		6-15: SANDY SILT, brown, very fine grained to fine grained, moist, low dense, no plasticity, minor staining (<6") at ~6, 9, 12 and 13 feet, minor odor.	Moist	Medium	6.1	Y	NS	1/4	2" Sch-40 Solid PVC Riser,
15	GW		15-20 GRAVEL, Well Graded, medium brown, fine grained to fine gravel, minor layers (<1") of poorly graded gravels at ~15.5, 17, 17.5 and 20, very moist to wet, dense, no plasticity, no odor or staining.	Wet	Loose	0.6	N	NS	4/4	2" Sch-40 #10 Slotted PVC Screen
20										10-20 Silica Sand
25										Fill

TD at ~20. Well total depth = ~19 feet bgs with 15 feet of screen. Yellow steel stickup surface completion.

Static depth to water ~ 8.51 feet below top of casing, or appx. 5.5 feet below ground surface (measured 8/28/22).



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Heinze #1 Tank Battery  
MW03



Date Started : 08/23/2022  
 Detector : MiniRae 3000 PID  
 Hole Diameter : 3.25-inch  
 Drilling Method : Direct Push  
 Sampling Method : Continuous  
 Drilling Company : DrillPro  
 Latitude : 40.524650°  
 Longitude : -104.475395°  
 Project Number : 022-009  
 Logged By : Ryan Finley

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture	Structure	PID (ppm)	Staining	Lab Sample ID	Sample Run/Rec. (ft)	Well Construction:
0	SM		0-4: SILTY SAND, topsoil, dark brown, fine to medium grained, dry, Loose, no plasticity, no field-screen samples collected.	Dry	Loose	NS	N	NS	Potholed	
5			4-10: CLAYEY SAND, grey with mottled red, very fine grained to fine grained saturated outside of core to low moist inside, very dense, high plasticity, no odor or staining	Moist	Dense	2.2	N	NS	4/4	
10	SW		10-16: SAND, Well Graded, fine to medium grained, minor lenses of silt (<3"), very moist to wet, medium dense, grades loose and higher medium grain sand 12-14 feet, then returns to medium dense and moist, no plasticity, no odor or staining.	Moist	Medium	0.1	N	NS	4/4	
15									4/4	
20										

TD at ~16. Well total depth = ~15 feet bgs with yellow steel stickup surface completion.

Static depth to water ~ 7.88 feet below top of casing, or appx. 4.88 feet below ground surface (measured 8/28/22).





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Heinze #1 Tank Battery  
MW05



Date Started : 08/23/2022  
 Detector : MiniRae 3000 PID  
 Hole Diameter : 3.25-inch  
 Drilling Method : Direct Push  
 Sampling Method : Continuous  
 Drilling Company : DrillPro  
 Latitude : 40.524763°  
 Longitude : -104.475392°  
 Project Number : 022-009  
 Logged By : Ryan Finley

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture	Structure	PID (ppm)	Staining	Lab Sample ID	Sample Run/Rec. (ft)	Well Construction:
0	SC		0-5: CLAYEY SAND, medium brown, fine to medium grained, dry grading to slightly moist, medium dense, high plasticity, some salt crystals, no odor or stain	Dry	Loose	NS	N	NS	Potholed	
5			5-8: CLAYEY SAND with gravel, medium brown, fine to coarse grained, high sand content, moist starting at 5 feet, low dense, medium plasticity, no odor or staining.	Moist	Medium	0.7	N	NS		
10	ML		8-16: SANDY SILT, brown with mottled red, very fine grained to fine grained, moist, medium dense, no plasticity, no odor or stain.	Moist	Medium	6.1	Y	NS	1/4	
15			16-20: SAND, Well Graded, light brown, minor lenses (<3") of silt, fine to medium grained, very moist, medium dense, higher medium grain sand content from 16-18 feet, no plasticity, no odor or stain.	Wet	Loose	0.6	N	NS	4/4	
20	SW									

TD at ~20. Well total depth = ~17 feet bgs with 12 feet of screen. Yellow steel stickup surface completion.

Static depth to water ~ 8.01 feet below top of casing, or appx. 5 feet below ground surface (measured 8/28/22).

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