

The Following is an Overview of the Pit Closure work at the Chivington remediation number location id 324761

On 4/17/2014

Work began excavating the pit. The pit was initially excavated to a 20' depth and approximately 20' radius and material was stock piled onto a liner and a berm was constructed around material. Excavation was extremely oil-saturated and dripping with oil from excavation. Chris DiMarco, with Lesair Environmental, was on-site to take initial soil samples for the waste soils characterization. Kris Neidel, with COGCC, was notified and on-site during excavation and sampling. The sample data is attached.

Chris DiMarco then worked out the approval to take the contaminated soils to Twin Enviro in Milner Colorado for disposal. Approval was given on 5/26/2014. David Epstein accepted the disposal of material on behalf of Twin Environmental. Credit billing with Twin Environmental was worked out and on **6/2/2014** the approval was given to begin hauling waste. On 6/02/2014 we began transporting waste materials to Twin Environmental. Load waste manifests are attached. The stockpiled soils were transported to the Milner disposal facility, and more of the pit was excavated loaded direct to trucks and hauled to the Milner Disposal facility. No evidence of clean soils was found in Excavation. Soils were found to be sandy and very saturated. Work was delayed throughout the project by weather or awaiting payment.

From 6/2/2014 to 7/1/2014

108.93 tons were transported. This material was very saturated with oil and water, rain and muddy conditions slowed work. Several times the disposal location personnel did not allow anything to be dumped due to conditions.

From 7/1/2014 to 8/1/2014

159.61 tons were excavated and transported. The material was sandy and not as oil saturated (not dripping with oil) but had a dark coloration and strong hydrocarbon smell. July also had many rain delays. Several times the disposal location personnel did not allow anything to be dumped due to conditions.

From 8/1/2014 to 9/1/2014

106.67 Tons were excavated and transported to the Twin Environmental disposal facility. More material was excavated and stockpiled to the extent of the reach of the excavator. The material was sandy and dark-oily colored and had a strong hydrocarbon smell. It was noticed that the excavation sides were dark oily colored when fresh excavated but would dry out and have a cleaner appearance after several days of being left untouched. But as soon as it was disturbed, a dark colored soil appeared and a strong hydrocarbon smell was noticed. Only one area of the pit side wall was dark oily stained. Chris DiMarco was notified to come out and do some testing to see what progress was being made.

On 9/9/2014 Chris DiMarco was onsite and field hydrocarbon samples were taken. The following is the text of an email from Chris regarding the account of the field samples taken.

I just wanted to let you know how things went yesterday at the Chivington Pit. We did in-field analysis of the soils in the sidewalls of the pit, as well as the bottom of the pit, and

each sample taken was still showing hydrocarbon readings much too high to be within the allowable limits of the COGCC. There is also still a black oil stain that will need to be excavated and removed; you can see this spot clearly in the attached pictures.

Using our method of analysis in the field, we can measure approximately half of the entrapped hydrocarbons in the soil. The COGCC has a limit of 500ppm of total hydrocarbons in soil (along with many other components listed in COGCC table 910-1) before it can be considered ready for closure. Our in-field samples 1-4 were from each sidewall of the pit and sample 5 was a sample taken from the bottom of the pit. Just as a summary, our results were:

1. 1,411ppm (NE wall)
2. 15,000+ ppm (NW wall - reading exceeded the capabilities of the instrument)
3. 1,810 ppm (SW wall)
4. 2,460 ppm (SE wall)
5. 4,218 ppm (Center bottom ~17')

We'll need to be getting readings in the range of 50-100 ppm before we'd be comfortable pulling samples that may indicate the pit is within closure limits. I've spoken about this to Carl and he will be working to continue excavating the walls and deepening the pit.

This was the last time Chis DiMarco was onsite or did any work. Clay Houser took over doing the portable VOC tests after this.

A portable tester was used to monitor the VOC of material excavated and transported periodic tests were made using a MiniRAE model 3000. Clay Houser with Grynberg Petroleum was onsite during several of the tests from 6/2014 to 7/2015 after 7/2015 he was no longer available.

At this point excavation was benched and widened as needed to gain equipment access to the excavation.

From 9/2/2014 to 10/01/2014

171.38 Tons of material was excavated and transported to the Milner Disposal facility. Material was dark colored, sandy and had a strong hydrocarbon odor, no clean soils were yet found in excavation. Several Rain delays, a few delays awaiting payments.

Exploration digs and tests were made not finding any passable soils, 10' depth to surface soils on edge of excavation is improving but the deeper we go the worse it got. Measurements exceed limits of portable tester over 20k ppm

From 10/2/2014 to 10/30/2014

Weather was mostly good (not many rainy days). 414.57 Tons were excavated and transported to the Milner Facility. Still finding oil contaminated soils at VOC ranges above 20k ppm. Still dark in color sandy and strong smelling of hydrocarbon. Excavation is benched out and sloped as depth and size progressed, soils

excavated for benches and slopes are tested to be clean and stockpiled. Again excavation sides appears to improve (dry out and look better) if left alone for several days but still test high in VOC

From 11/01/2014 to 12/31/2014

143.24 tons were excavated and hauled to the Milner Disposal. Had several delays due to conditions (rain, snow mud) making excavation and work onsite unsafe. Several times disposal is not allowing anything to be dumped due to conditions. Some delays awaiting payments. Still finding soil nowhere close to permissible range.

From

From 1/7/2015 to 2/1/2015

102.78 Tons were excavated and hauled to the Milner Disposal facility. Conditions at the disposal site were very poor during this time. Material would stick in trucks and have to be dug out. One of our trucks overturned while dumping where directed by Twin Environmental staff, the truck tipped over because it was dumping on very soft ground and sank into the mud. Part of the cause was material sticking in truck. I wanted to transport material using belly dumps to avoid the danger of overturning trucks but Twin Environmental staff would not accept material hauled by belly dumps. They would only allow end dumps. The dump area was not stable enough to safely use end dumps. They also said they would no longer help with equipment to clean out trucks with stuck material, and would not allow us to bring in equipment to help make unloading safe. At this time I made arrangements to transport material to Lapoint in Vernal UT. The disposal rate was far less than Twin Environmental, that made up for the additional distance and still overall costs were less. Site conditions were much improved, much more stable for dumping. The Lapoint facility allowed us to bring belly dumps. Approval was given by Kris Niedel of COGCC to transport to the Lapoint disposal.

1207.18 tons total were hauled to the Twin Environmental Disposal site approximately 1005.9 cubic yards.

2/16/2015

Transport / mobilize D-9 Dozer to location. Cut and slope sides of pit and strip clean fill off and build safe access for core drill rig to drill sample hole over pit center. Western American drilling mobilized to location and drilled sample test holes, to gain an idea of the limits of the contamination. As directed by Clay Houser, one drilled in the pit center, one on the east edge of the excavation, approx. 25' from center and one to the south about 25' of center. All cuttings were field tested immediately for VOC as drilling progressed to know the depth of sample taken. Contamination was stopped by a deep layer of clay found. There was approximately 20' layer of contamination trapped between 25' and 45' depths then clean soils beyond holes were drilled to the 60' depth. Very little contamination was found on the east side test hole. Lab samples were then taken at depths below clay layer and no evidence of any contamination was found

Dozer then was used to Bench back out and slope Excavation. Clean soils were stock piled and excavator access was maintained with dozer from this point on. Contaminated soils were excavated and placed and stockpiled on a bench on top of dirty soil area excavation then progressed to the south.

From 2/2/2015 to 3/1/2015

Contaminated Soils were excavated and hauled to Lapoint disposal facility in Vernal UT. The material transported and disposed was calculated by cubic yard. The weather was warm and favorable and 240 yards of material was excavated and hauled. Much benching was needed and there is now clean soils in the surrounding area of the excavation from surface down to 15-25' deep and a very contaminated soil layer separated by clay layers at 25' deep to around 45' deep. The layer seems to be angling deeper to the north and shallower to the south. The top layers of clean soil are excavated and stockpiled to gain access to the contaminated soil layer. Contaminated soils are excavated from pit bottom and placed on constructed benches with excavator working in pit bottom then loaded directly to trucks with a loader over access road cut to pit bottom.

From 3/2/2015 to 4/1/2015

Weather was very favorable. Contaminated Soils were excavated and Hauled to Lapoint disposal facility in Vernal UT. 52 truck-loads, 1040 yards of material was excavated and hauled. Material is sandy dark colored and smells strongly of hydrocarbons. The contaminated soil layer is worked to the south and VOC ranges over 12kppm in the layer.

3/15/2015

Work began at tank battery area. Clean out work to clean out sediment and junk in tank bottoms to remove tanks. We hot oiled the tanks and sucked out what could be pulled out and hauled to Vernal UT disposal. Removed tank manway and tank stack and burner tube. Scraped and shoveled out solids, washed out tank bottoms and mix into dirt to be hauled to Vernal disposal. Removed tank landings, stairs and piping load and hauled off to dispose. Tore down tank fencing and removed posts and hauled off. Moved tanks off and out of the way. Began excavating under tanks. VOC tests are over 20,000 ppm at the beginning of excavation. Contamination was found to be not have spread out nearly as bad as the pit excavation. Soils were excavated and hauled out until VOC readings were in the 100ppm range.

Transported materials to Lapoint disposal. Tank bottoms were rusted out and inside was a layer of concrete apparently to try to stop them from leaking it is believed much of the contamination in that area may have been cause by that as it was apparent the tanks had been leaking for quite some time.

From 4/2/2015 to 5/1/2015

Weather was very favorable and 51 truck-loads of contaminated soils were excavated and hauled to Lapoint disposal facility in Vernal UT, totaling 1020 cubic yards. Still material is sandy and dark oily color. VOC ranges in 8-10k PPM in trapped layers

From 5/2/2015 to 6/1/2015

Excavated and hauled 51 loads to Lapoint Disposal facility in Vernal UT totaling 1020 cubic yards. Still material is sandy and dark oily color. VOC Ranges in 8-10k PPM in trapped layers. Most all is removed to the south and clay layer came up near the surface and contamination ran out. One pocket of contamination was found near the surface to the south west during excavation that appeared to have been buried from a clean- up as trash was found mixed in it. This was excavated and hauled to the Lapoint disposal as well.

Unable to haul due to weather, stuck trucks on location May 5 thru May 7.

5/7/2015 loaded and transported 627 scraper to location and unloaded. Worked on digging around pit and moving spoil piles. Scraper was used to bench and move clean soils to speed up time and reduce cost.

From 6/2/2015 to 7/1/2015

Excavated and hauled 34 loads to Lapoint Disposal facility in Vernal UT totaling 680 cubic yards. Material is still sandy and dark oily color. VOC Ranges in 6-10k PPM with a few areas over 20k ppm. Excavation was progressing to the North and West. Had several Rain Delays in June.

6/5/2015 Transported 2nd 627 scraper to location for push-pull. Work on excavating out north and west side of pit to clear clean soils off of contaminated soil and stock-pile. Dozer worked to push load and dig sidewalls and rip.

6/25/2015

Major rain event ran a good amount of storm water down into pit bottom and delayed work. Loaded storm water out of pit bottom with vac truck and hauled to Great Divide Water Disposal. 2 loads 70bbls and 40 bbls.

7/2/2015 thru 8/23/2015

Work was delayed from weather and awaiting delayed payment of services. Clay Houser was no longer managing the project

8-1-2015 thru 9-1-2015 Pit cleanout and closure work. Dig and remove clean soils overburden on contaminated soils and stockpile on north west corner. Ripped with dozer and pushed load scrapers. Dug out contaminated soil stockpile on benches, working from pit bottom, and loaded to trucks and hauled to Lapoint disposal site. Hauled 3 truck-loads totaling 60 cubic yards.

8/28/2015 Load wood, junk cables, and trash, scrap, junk pipe, old junk separator and treater and cleaned up location. Hauled to disposal at scrap yard.

From 9/2/2015 – 10/1/2015

Work delayed awaiting payments. 9 truck-loads were excavated and hauled to Lapoint disposal facility in Vernal UT totaling 180 cubic yards. Dug and removed clean soils overburden on contaminated soils and stockpiled on northwest corner with excavator, scraper, and dozer. Exposed contaminated soil layer and dug out with excavator and stockpiled in bottom of pit. Made access road to pile with dozer. Moved stock pile with loader to surface access for trucks.

From 10/2/2015 thru 11/1/2015

Excavated and progressed to the northwest. A deep layer of contamination to the northwest was excavated. All other areas are clean. One more pocket of buried oil was found to the north east near the surface and was excavated and hauled. 21 truck-loads were hauled to the Lapoint disposal in Vernal UT totaling 420 cubic yards. Rain-snow mud delay 11-2 thru 11-18.

From 11/2/2015 thru 12/5/2015

Work was halted due to snow and unsafe conditions making excavation sides very slick. Made arrangements to take samples and close pit to the north east and sample the other areas to determine if the north pit is ready to close or if more work is needed.

12/5/2015

Dug and collected soil samples on pit to the southeast. Used excavator expose some sampling areas. Kris Neidel was onsite and witnessed soil sampling

8 samples were taken. We attempted to take samples in the north (deep pit) but snow on area made moving the excavator to pit bottom too hazardous and it was decided to push off further work on the pit for safety reasons until conditions improved.

Sample data and sample area pictures of the North East area are attached.

12/5/2015 1/20/2015

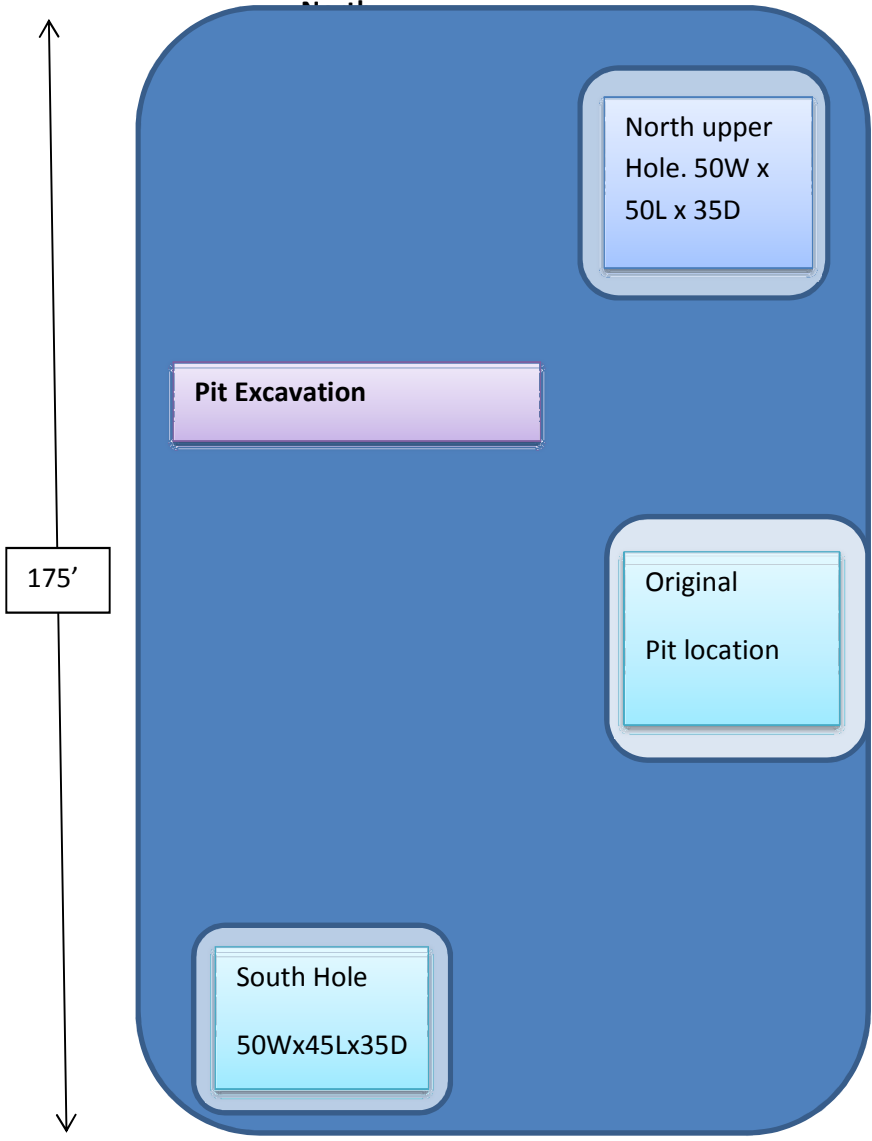
Frequent snow storms hit the area making conditions unsafe.

Total Yards of contaminated soils moved to Disposal to date are

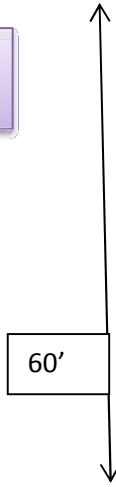
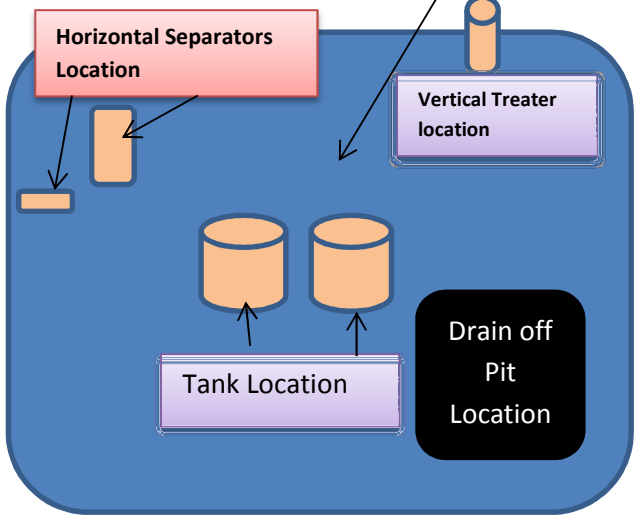
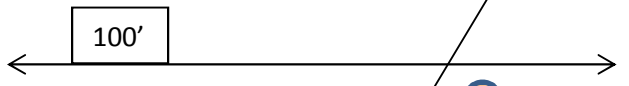
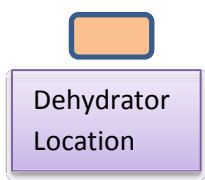
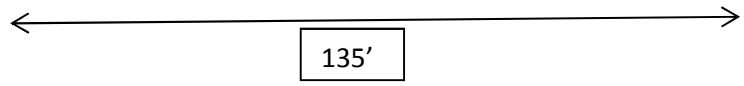
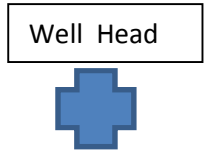
1207.18 Tons to Twin Environmental (1005.98) cubic yards

4660 total cubic yards to Lapoint in Vernal UT

All totaling **5665.98**



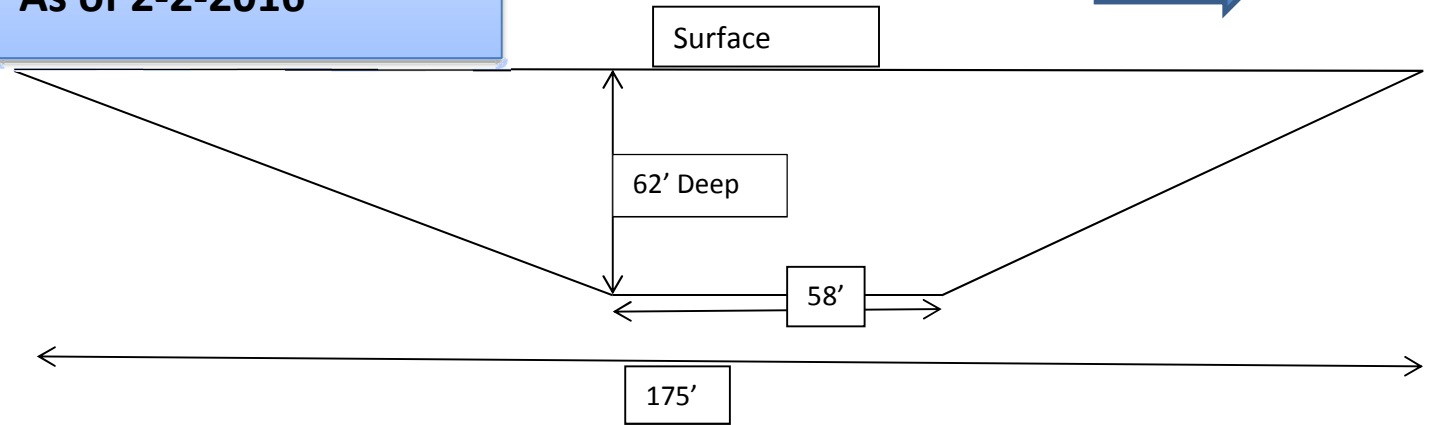
Chivington Excavation
Dimensions as of 2-2-2016
(Approximate)



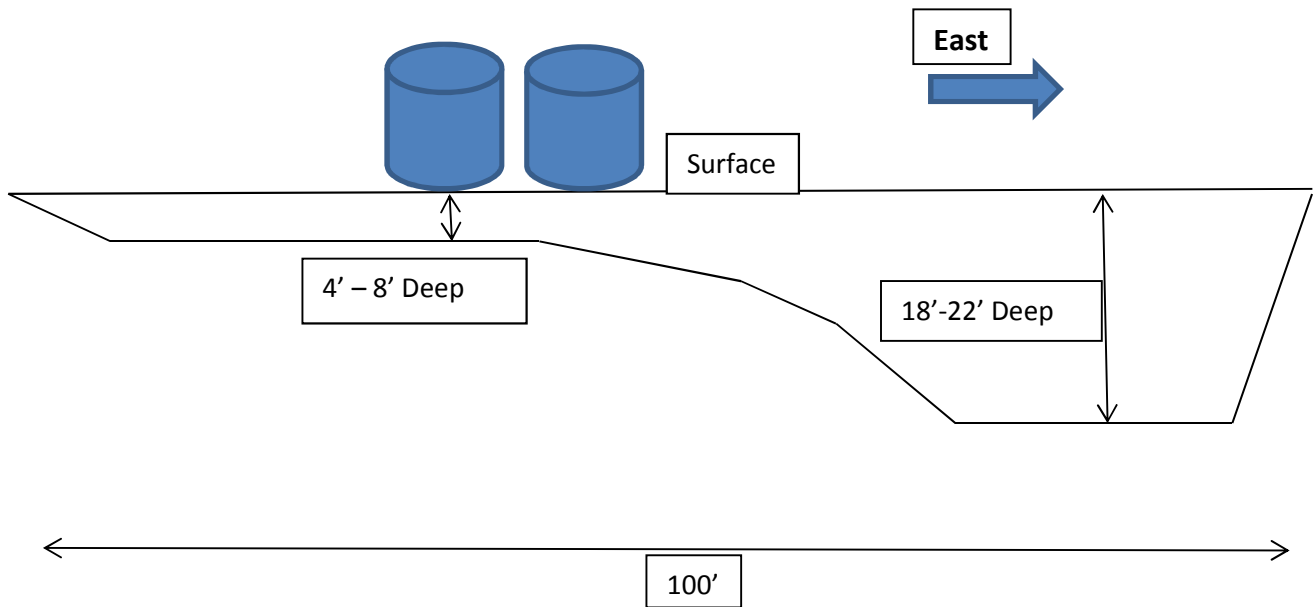
Pit Excavation Profile

Cross section

As of 2-2-2016



Tank Battery Excavation Profile

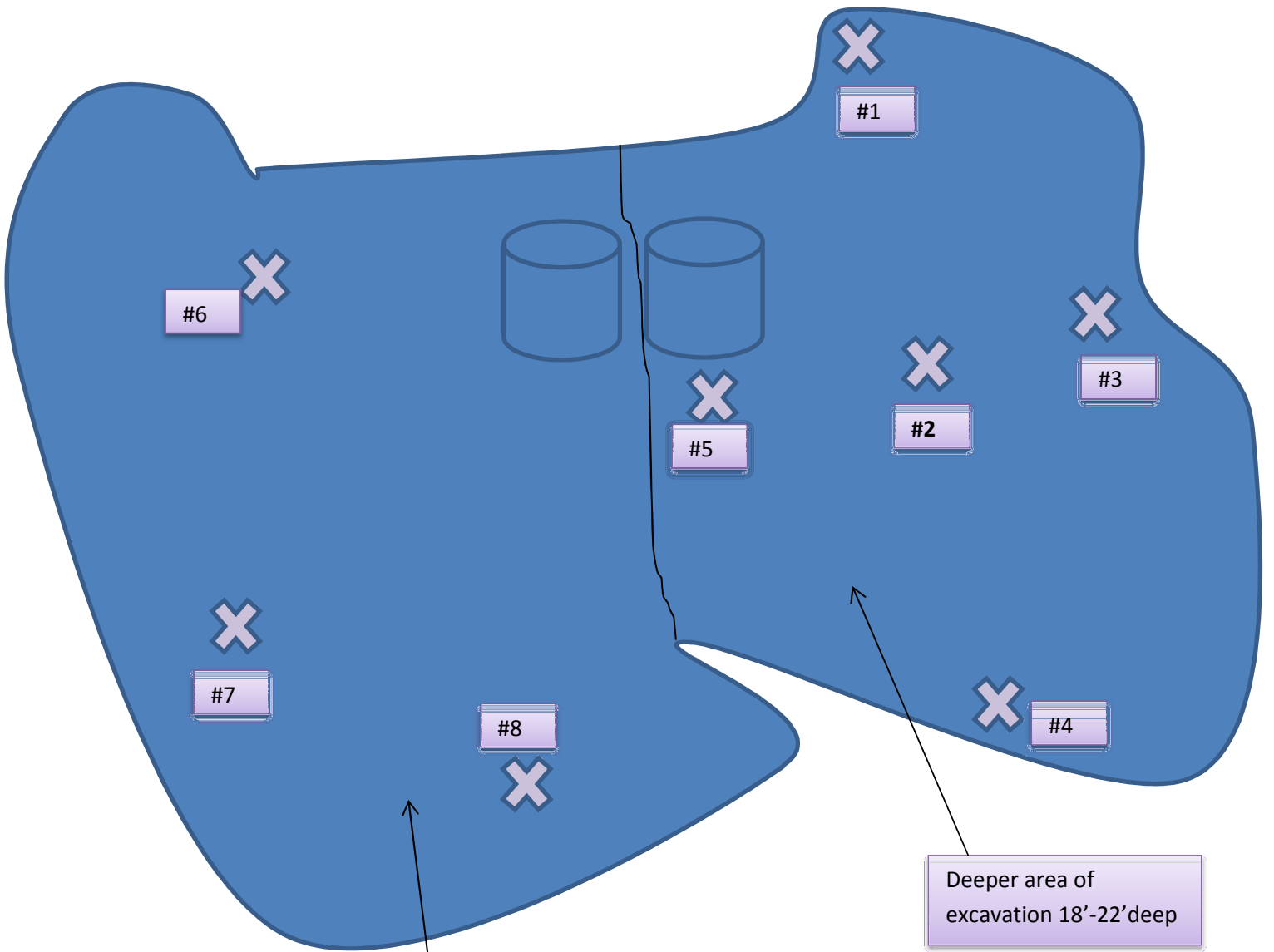


Soil Sample Locations of Tank Battery Excavation

On 12/5/2015



North



Shallow side of excavation 4-8' deep

Deeper area of excavation 18'-22' deep



Sample #1

12/5/2015

11' deep from surface

From toe of wall and bottom of the
hole



Sample #2

12/5/2015

19' deep from surface

Center of deeper area this is a 910-1 sample



Sample #3 Location

12/5/2015

8' deep from surface

East edge wall toe

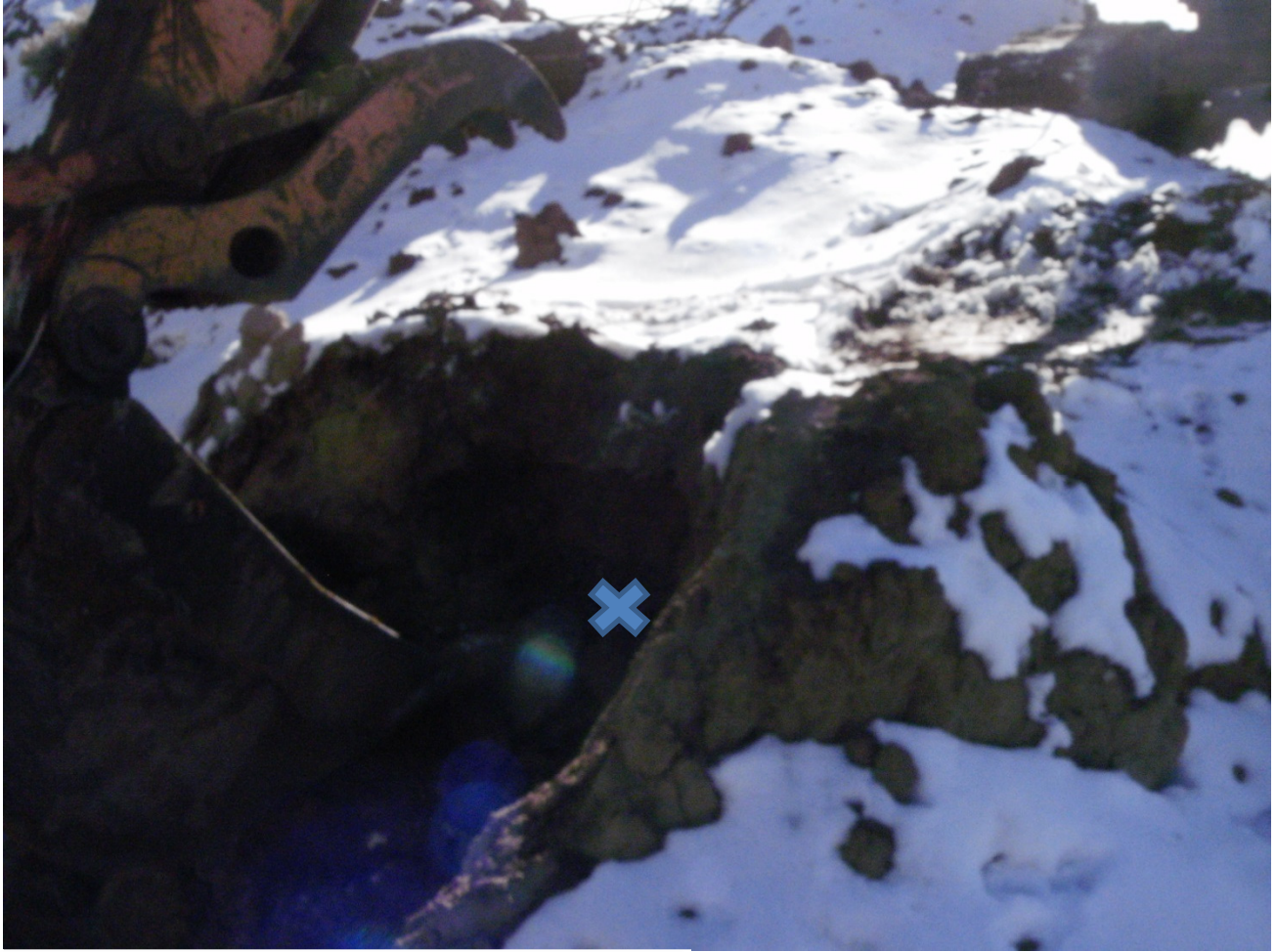


Sample #4 Location

12/5/2015

5' deep from surface taken from wall side midway in excavation

Wall mid-point south-east



Sample #5 Location

12/5/2015

6' deep from surface

West wall of deeper section out of wall mid-point in excavation



Sample #6 Location

12/5/2015

4' deep from surface

North west end



Sample #7 Location

12/5/2015

4' deep from surface

West end



Sample #8 Location

12/5/2015

4' deep from surface

South West