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October 23, 2019

Mr. Dominick Orlando
Senior Project Manager
Uranium Recovery and Materials Decommissioning Branch
Division of Decommissioning, Uranium Recovery and Waste Programs
Office of Nuclear Material Safety and Safeguards
Mail Stop T-5A10
11545 Rockville Pike
Rockville, MD 20852

Re: America Nuclear Corporation Uranium Mill Tailings Site

Dear Nick:

Enclosed for your information and file is one copy of the American Nuclear Corporation Uranium Mill Tailings Site Project Closeout Report. I have included photos from Muthu's and my site inspection and Storm Water (SWPPP) inspection in Appendix F. The site and grass establishment looks good for first year growth (in Wyoming). I have made long term recommendations in the last few paragraphs. Please let me know if you or others from the NRC have any further questions.

As we close our contract with the Wyoming DEQ/LQD, I would like to say that you (and the NRC) have been a pleasure to work with on this important project and I appreciate everyone's effort to complete this Interim Stabilization within the framework of a very limited budget. Good luck and we will speak in November.

Sincerely,
WENCK ASSOCIATES

Christopher D. Lidstone, PG
Principal and Regional Manager

CDL:rce

Enclosure

cc w/o enclosure: Muthu Kuchanur

Sent via: 2 Day Fedex

ANC URANIUM MILL TAILINGS CLOSEOUT REPORT



Prepared for:

Wyoming Department of Environmental Quality
Land Quality Division
200 West 17th Street
Cheyenne, WY 82002

Prepared by:

Lidstone & Associates, a Wenck Company
4025 Automation Way, Bldg. E
Fort Collins, CO 80525

October 2019



Lidstone and Associates - A Wenck Company

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1.0 PROJECT HISTORICAL SUMMARY

The American Nuclear Corporation (ANC) Tailings site is located within the western portion of the historic Gas Hills Uranium Mining District near Riverton, Wyoming. Uranium mining in the West Gas Hills began in the 1950's and continued through the 1980's. Reclamation efforts completed by mining companies and the State of Wyoming has included backfilling of groundwater-fed uranium mine pits, heap leaches, and regrading/revegetation of the final land surfaces. The Wyoming Department of Environmental Quality (WDEQ) Abandoned Mine Land Division (AML) began reclamation of abandoned mines in the area in 1989, and that work continues to date.

The ANC Uranium Mill Tailings Site (Tailings Pond #1: TP#1) is located within the Gas Hills Uranium Mining District in eastern Fremont County, Wyoming. The site is located approximately 45 miles east of Riverton and 70 miles west of Casper. The site occupies approximately 550 acres that were used for uranium mining and milling activities between 1959 and 1981. ANC suspended milling activities in 1981 due to poor uranium market conditions and began the decommissioning and reclamation process as required by their U.S. Nuclear Regulatory Commission (NRC) license. In 1994, before decommissioning and reclamation was completed, ANC announced that they were going out of business. They subsequently relinquished the remaining surety funds to the State of Wyoming, and WDEQ/Land Quality Division (LQD) accepted responsibility for the remaining reclamation on ANC's NRC license under a Confirmatory Order signed in 1996. LQD commenced reclamation activities in 1996 but suspended construction activities in 2009 because of the near total depletion of the reclamation surety funds. Between 1996 and 2009, LQD completed reclamation activities, including:

- 1) Reclamation of the Bullrush Heap Leach site and deposition of contaminated materials onto the surface of TP#1;
- 2) Reclamation of TP#2; and,
- 3) Limited reclamation of Campsite Draw. Work was limited by the southwestern extent of the permit boundary.

Between 2009 and 2015, site activities included:

- 1) Annual sampling of existing down gradient monitoring wells;
- 2) Operation of the TP#1 pump back system;
- 3) Monitoring of settlement monuments at TP#1; and,
- 4) Review and analysis of down gradient monitoring well data and surface water sources to determine the extent and amount of down gradient impacts on the alluvial aquifer.

In June of 2014, during a revision of the 1996 Confirmatory Order, LQD and NRC agreed that the abovementioned pump back system and monitoring of tailings pile settlement monuments could be discontinued and that ground water issues should be addressed.

2.0 DESCRIPTION OF RECLAMATION

LQD contracted with Lidstone & Associates, Inc. (LA) (now a Wenck Company) on November 6, 2014 to assist with work associated with reclamation of the ANC site. The LA contract will expire on November 6, 2019. A total of five Task Orders were issued under this contract as described and summarized below.

2.1 TASK ORDER 1 (TO1): HYDROGEOLOGIC INVESTIGATION AND GROUNDWATER CONTAMINATION DELINEATION

Task Order No. 1 was issued on November 14, 2014 with two main objectives:

- Conduct a hydrogeologic investigation at the ANC site that will delineate the extent of the groundwater contamination located down gradient to the north/northwest of the ANC permit boundary.
- Determine the hydrogeologic setting and controls associated with the movement, if any, of the contaminated groundwater.

Description of Work Completed Under Task Order 1

Prior to access on site, LA obtained a surface owner access and reclamation agreement with American Nuclear Corporation, the surface owner of the property identified as TP#1. Prior to drilling and construction of the additional monitoring wells, LA completed and submitted a Right-of-Way Grant application to the BLM for review and approval. This included submittal of cultural resource survey information and wildlife, vegetation, wetlands and endangered species survey information covering a 10-acre area around each proposed monitoring well location and surface agreements from grazing lessees. LA also obtained private landowner consent from Philp Sheep Company for wells to be installed on their property. Because one well was located on a State section, LA also applied for and received a temporary use permit from the State of Wyoming Office of State Lands. All required agreements and permits were obtained by July 2015. LA has continued to pay an annual surface rental fee to the Wyoming State Lands on behalf of the LQD and completed their last annual payment in January of 2019. Similarly, LA has executed an amendment to the Philp access agreement, which extends site access to the monitor wells on Philp private surface until April 1, 2025. Although ANC appears to remain the surface owner of the property identified as TP#1, Fremont County has been contacted by the LQD. Per discussions with the County, ANC has ceased to pay taxes on the parcel of land identified as the ANC site. Because there is a tax lien on the property, said property is subject to auction for taxes. Fremont County is aware of the environmental liability and, as of the date of this report, has not identified any willing buyers for the property. All access agreements are included in **Appendix A** of this report.

A total of 14 new monitoring wells were installed and developed during July of 2015. During the drilling of the wells, field parameters, including pH and electrical conductance and chloride ion, were analyzed to assist in identifying whether the groundwater might be impacted and perhaps provide a means of determining additional well locations. The wells were sampled in August 2015 and all of the wells and surface water sites were sampled again in September 2015. All samples were submitted to a U.S. Environmental Protection Agency (EPA) certified laboratory for analysis, and the data, summary conclusions and recommendations were presented in the TO1 deliverable: **"AMERICAN NUCLEAR GAS HILLS URANIUM MILL TAILINGS SITE: RESULTS OF 2015 HYDROGEOLOGIC INVESTIGATION"** dated April 2016, which is on file with the WDEQ/LQD and the NRC.

2.2 TASK ORDER 2 (TO2): ENGINEERING EVALUATION AND COST ANALYSIS AND PRIORITIZATION OF RECLAMATION ACTIVITIES

Task Order 2 was issued on July 8, 2015 with four main objectives:

- **Aerial Mapping** - Provide updated mapping of the project area to facilitate engineering planning and construction of required reclamation structures.
- **Soils Characterization** - Address the NRC concerns, evaluate the areas downwind of TP#1, as well as TP#2 and confirm the presence or absence of windblown contamination at the site.
- **Groundwater Impacts Updates** - Continue groundwater and surface water monitoring and sampling semi-annually during 2016 to increase the data set and validate the existing data collected during TO#1.
- **Engineering Evaluation and Cost Analysis and Prioritization of Reclamation Activities**
(1) Analyze the validity of the NRC reclamation assessment in terms of costs and actual tasks that are necessary to maintain environmental protection and public health and safety.
(2) Prioritize the tasks remaining considering the budgetary constraints within the LQD. (3) Analyze potential sources of additional funds that may be used in conjunction with the remaining LQD funds to complete the reclamation to NRC standards.

Description of Work Completed Under Task Order 2

Approximately 22 ground panels were set in advance of aerial mapping in 2015. Approximately four sections (2500 acres) were flown and analytically bridged to facilitate future mapping. An aerial map, which met National Mapping Accuracy Standards (NMAS) for 1:100 feet and 2-foot contours was completed for the immediate area of TP#1 (approximately 1000 acres) and was used for the Engineering Evaluation and Cost Analysis associated with T02. This same mapping was used for the final design of the TP#1 Interim Stabilization effort.

Characterization and reconnaissance-level survey (gamma survey) of potential windblown tailings within the site was also completed under T02 as well as the continuation of both ground and surface water sampling. Soil sample data were collected as part of the windblown tailings sampling effort. Rock quarry and clay sites were identified as part of this task order. Several reclamation design alternatives were prepared, and reclamation costs were presented. Reclamation alternatives ranged from (a) reclamation of TP#1 and TP#2 to be in compliance with NRC standards and transfer to U.S. Department of Energy as a legacy site to (b) reclamation of TP#1 to meet the goal of long term stabilization and no release of tailings via wind, surface or ground water action. The summary conclusions and recommendations were presented in a report "**ANC URANIUM MILL TAILINGS SITE REPORT OF ENGINEERING EVALUATION/COST ANALYSIS AND PRIORITIZATION OF RECLAMATION ACTIVITIES**" dated August 2016. This T02 report also made recommendations on interim reclamation plans that would make the best use of the remaining bond forfeiture funds. The findings and conclusions of the T02 report, specifically Tables 7.1 and 7.2 (**Appendix B**) served as the basis for the decision to effectively utilize the remaining funds (estimated at \$635,000) to complete a partial cap over TP#1. NRC concurrence was achieved in February 2017.

2.3 TASK ORDER 3 (TO3): FINAL DESIGN FOR TP-1 TEMPORARY STABILIZATION

Task Order 3 was issued on March 21, 2017 with two main objectives:

- **Limited On-Site Materials Suitability Investigation and Reporting** – (1) Provide updated and supplemental quality and quantity information on available suitable cover materials for TP#1. (2) Evaluate the quantity and suitability of sand material contained within Willow Springs Draw that may be used as wicking barrier material for TP#1.
- **Final Design Plans and Specifications for TP#1 Cover and Diversions** - Finalize plans, specifications and contract documents for excavation, transport and placement of suitable cover material from nearby sources to TP#1 and to complete the hydrology and hydraulics associated with a diversion plan.

Description of Work Completed Under Task Order 3

LA completed additional field work in the vicinity of TP #1 to characterize available topsoil, subsoil and wicking barrier materials. These data allowed LA to complete volumetric determination of available reclamation materials. LA also completed a baseline radiometric survey of the TP#1 area. This baseline survey was conducted in a fashion that characterized the pre-reclamation surface and determined the actual depth of surface cover overlying §11e-2 material. Although the radiometric analysis was not a gridded survey, it provided sufficient data to characterize the pre-reclamation surface and establish background conditions. Approximately 10 soil samples were collected and analyzed for U-nat and Ra-226 as part of this baseline sampling effort. Background radionuclide concentration in the area was established at 10.6 pCi/gm or an unshielded 40 µR/hr.

LA also prepared final plans and specifications for excavation, transport and placement of suitable cover material from nearby sources to TP#1 and completed the hydrology and hydraulics associated with a diversion plan. The intent of this set of plans was to allow construction bidding for a work effort that would create an interim cover plan for TP#1, which included the placement of cover soil and final revegetation of the topsoil covered surface. These plans also included additional hydrologic design for routing drainages around and/or through the reclaimed TP#1 site. The 60% design set of plans was completed and submitted to the LQD in July 2017 and the NRC in September 2017. The Health and Safety Plan and Design Memorandum was submitted to the NRC in October 2017 and are included in **Appendix B**. The final plan set was completed in December 2017 and approved for bidding purposes in February 2018. Bid opening occurred on March 6, 2018. Eight construction bids were received and ranged from a low bid of \$571,541 to a high bid of \$867,190 (**Appendix C1**).

2.4 TASK ORDER 4 (TO4): CONSTRUCTION

Task Order 4 was issued on February 21, 2018 with two main objectives:

- **Construction Administration** - Complete a final vegetated cover over TP#1, construction of necessary diversion channels, detention pond, drop structures and culverts to route surface water runoff away from TP#1 and provide erosion protection for the area.
- **Final Radiation Survey and Construction As-Built** - Perform final as-built radiation survey of the cover.

Description of Work Completed Under Task Order 4

LA provided engineering services during final negotiation with the qualified and apparent low bid contractor, Weeden Construction of Banner, Wyoming. The initial Weeden base bid was \$571,541. LA negotiated design and construction items to reduce the overall Weeden bid to include: removal

of a grade person (LA agreed to provide); redesign of the channel geometry of the two diversion channels to allow them to be completed with a scraper, rather than a dozer and excavator; removal of 100 CY of riprap for grade control; force account regrade of the existing surface to allow the placement of 2 feet of clean overburden cover rather than thicknesses which ranged from 2 to 6 feet; the use of topsoil stockpiles within a 1-mile haul rather than those which were up to 2 miles away. The alternate bids, which included a detention pond, fencing and a replacement culvert on the ore road were not awarded. LA executed a contract with Weeden for \$375,566 on March 21, 2019. The Notice to Proceed for Task 5 of T04 was approved by LQD on March 18, 2018 and is presented in **Appendix C2**. Ryan Schierman, LQD completed a site and equipment radiologic scan on April 2, 3 and 4 during and immediately following mobilization and the commencement of construction. Site safety was addressed and all parties complied with the HASP during the construction period. Change Order 1, which allowed for completion of the project and the agreed upon 1-foot cover of topsoil was approved on April 24, 2018. Change Order 1 increased the contract amount by \$95,594.00 for a total of \$471,160.00. Change Order No. 2 was issued on October 11, 2018 and allowed completion of revegetation efforts for a total addition of \$22,720.75. Final contract dollar amount paid to Weeden under T04 was \$493,880.75. Weeden contract information and Change Orders are presented in **Appendix C3**.

Construction commenced at the ANC site on April 2, 2018 and was substantially complete (earthwork and grading) by May 4, 2018. Initial revegetation and placement of a cover crop was completed by May 20, 2018. It was determined that spring seeding would only include a cover crop over most of the disturbance and the perennial seed mix and cover crop on ancillary disturbances near Willow Springs Draw. Seedbed preparation was completed by Weeden. LA completed the majority of the seeding and used broadcast seeding technique and dragged with an English Harrow. A final gamma survey was completed on May 6-8, 2018 and the interim reclamation surface was completed at or below background. Pre- and Post-reclamation radiologic surveys are presented in the Record Drawings (**Appendix D**).

2.5 TASK ORDER 5 (T05): FINAL SEEDING, FENCING, STORMWATER CONTROLS

Task Order 5 was issued on October 10, 2018 with three main objectives:

- Final pitting and seeding.
- Fencing and signage.
- Final stormwater controls including installation of rock grade controls.

Description of Work Completed Under Task Order 5

Over the course of the Spring and Summer of 2018, the freshly seeded interim cover was extensively grazed by antelope and later by cattle. Although the annual rye grass (cover crop) successfully grew, the intense grazing impacted vegetation cover and density. As noted above, the alternate scope fencing work was not awarded nor completed under the Weeden contract. Extensive rains began in late May with three successive events precipitating over 1.4 inches of rainfall in a one week period. The most significant storm occurred on June 18, 2018 which was the equivalent of a 5-year, 6-hour storm event of 1.2 inches of rainfall. Runoff from the unreclaimed waste dumps, which lie immediately upstream of the recently reclaimed TP1 stabilized site resulted in limited rill and gully erosion. This rill and gully erosion delivered sediment to the freshly seeded ANC site. Given that it was the LQD understanding that these upper basin spoils were eligible for AML reclamation, the LQD contacted the WDEQ AML Division (AML) regarding efforts to control runoff from the unreclaimed waste materials, located within the upper and contributing drainage basin to the completed TP#1 reclamation. AML chose to construct cross slope

ditches to capture runoff and deliver the water to small constructed detention basins. This AML work was completed in December 2018.

Fall seeding, which allows for seed dormancy and winter moisture was preferred and this was handled contractually with Weeden under Change Order 2. Fall seeding (ripping, disking and pitting) was completed by September 21, 2018 and included 48 acres of disturbance. Fencing and signage was completed by Huxtable Fabrication in October 2018. The AML Division assisted in the final payment for fencing at locations where eligibility for AML funding had been established. LA contracted with Patrick Construction in December 2018 to complete stormwater controls on site. These controls included the design and construction of three rock grade controls and one drop structure, totaling approximately 120 CY of riprap. Channel work and erosion control ditches were completed, and minor grading eliminated some of the 2018 gully erosion. The bid documents for the work completed by Huxtable Fabrication (fencing) and Patrick Construction (channel work and placement of riprap) are presented in **Appendix B**.

A complete As-Built (Record Drawings), which included the Weeden work between April 2018 and September 2018), the Huxtable fencing work (October 2018) and the Patrick Construction work December 2018 is presented in **Appendix D**.

2.6 FINAL INSPECTION (TO5)

As discussed above, TO5 was issued on October 10, 2018. The site holds a WDEQ Stormwater Pollution Prevention Plan (SWPPP) permit, which remains in force and can be found in **Appendix E.1**. Construction work began on April 2, 2018 and was completed on December 7, 2018.

Stormwater inspections were completed in March 2019, April 2019, June 2019 and September 2019. Stormwater inspection reports are included in **Appendix E.2**.

Muthu Kuchanur and Chris Lidstone completed a final inspection on September 10, 2019. The stormwater inspection report for this trip is in **Appendix E2**. Site photos are available in **Appendix F**. The final construction met the design intent, which was identified in the Design Memorandum dated October 2, 2017 (**Appendix B**). Background radiologic criteria (unshielded) was established at 10.6pCi/gm Radium 226 and the overall clean up criteria was established at no greater than 5pCi/gm above background. During construction, the existing surface of TP#1 was graded and radiologic control was maintained during these operations. No §11e-2 material was exposed to the surface during initial grading operations. Approximately 1.3 feet of "suitable" overburden was placed directly over the regraded TP#1 surface. Suitable overburden was defined as excavated mining waste materials, which met the suitability criteria in the October 2, 2017 Design Memorandum (i.e. no greater than 5 pCi/gm Ra226 above background). The proposed borrow area met DEQ/LQD overburden suitability criteria (WDEQ/LQD Guideline 1): Arsenic (<2.0 ppm); Selenium (<0.1 ppm); and Sodium Absorption Ratio (SAR) (0-10). Based on pre-construction data, the overburden borrow area had soils pH above 5 and Acid Base Potential greater than -10 tons/per 1000 tons. A 3-inch thick "wicking barrier" sourced from Willow Springs Draw was placed above the lower layer of suitable overburden. Above the wicking barrier a second layer of suitable overburden, which ranged from 0.5 to 0.6 feet was placed. Approximately 250 tons of lime was incorporated into this upper layer and thereby provided suitable growth medium of 18 inches above the "wicking barrier". Overlying this amended overburden layer, approximately 48,200 CY of topsoil was placed resulting in a final cover ranging from 0.6 feet to 1.2 feet and averaging across the final surface at 0.8 feet. The site was ripped, disked and seeded in May 2018 and again in September 2018. The West and East Diversion channels were completed at an average grade of 1.2% and drain directly into native channels, where slopes range from 5 to 7%. Because of this transition, the project team designed and constructed riprap grade controls or drop structures

capable of withstanding the 100-year, 24-hour event, assuming a reclaimed upper watershed. Each channel has the design conveyance capacity for the 100-year, 24-hour flood event and should remain stable under seasonal flood events, assuming a moderately grass lined channel is established. Since no detention pond was constructed, the West Channel will not convey the PMF without water overbanking on the east side over the reclaimed tailings pond. As noted in the Design Memorandum, a vegetated channel is important for flow retardance. Although each channel was seeded, excessive water and sediment yield from the unreclaimed drainage basin above the ANC reclamation site has prevented the establishment of vegetation within the stream channels.

Based on the September 2019 inspection, the site was determined to be stable and vegetation establishment was successful considering the fact that it was first year revegetation. The fencing and signage, which was completed in October 2018 remains intact and undisturbed. Since the construction of the riprap grade control and drop structures, the site had been subjected to approximately 6 inches of rainfall, including one storm event of 1.33 inches on May 28-29 (in excess of the 5-year, 6-hour storm event). The stormwater controls remained intact and there was no rilling or gullyng on the surface of TP#1. Although there was some erosion in the West Channel, the downcutting identified in the field predated the construction work, which was completed in December 2018. Since this latter work was completed, the West and East Diversion Channels have remained stable and there has been no movement of rock. Whereas the tailings cover and channel sideslopes have seen vegetation establishment (see **Appendix E**), no vegetation was established in the diversion channels. It appears that sediment and runoff originating off site from the unreclaimed upstream drainage basin has adversely affected the diversion channels. With that said, and in accordance with the Design Memorandum, downcutting and erosion of the diversion channels will not result in a release of tailings.

The upstream drainage basin has been modified by AML since the completion of TP#1 reclamation. These modifications have included routing flow around the Johnny Potatoes Pond and towards the uncontrolled drainage basin which enters the West Channel. AML had also completed several cross slope drainage ditches leading into sediment detention ponds. Both detention ponds and cross slope ditches had failed at the time of the September 10th inspection. Two large 4 to 6-foot deep gullies had delivered sediment and runoff to the north side of the ANC TP#1 fence. This is documented in the photographs in **Appendix F**. The sediment which originates from this offsite disturbance has locally impacted revegetation, and sufficient sediment has nearly buried the fence isolating the TP#1 revegetation from livestock grazing.

3.0 CONCLUSIONS AND FINAL RECOMMENDATIONS:

The American Nuclear Tailings Pond #1 site has been reclaimed in accordance with the Design Memorandum to the NRC dated October 2, 2017. Two alternate bid items were not completed: (1) the construction of a detention pond upstream of the TP#1 reclamation site and (2) a replacement culvert across the Ore Road to receive runoff from the TP#1 diversion channels. The majority of reclamation work was completed under contract to Weeden Construction of Banner, Wyoming. The construction work was contracted to and administrated by LA. Weeden completed general earthwork in May 2018 and final seeding in September 2018. Fencing and signage was completed in October 2018 (Huxtable Fabrication) and the construction of channel grade controls was completed in December 2018 by Patrick Construction. LA has completed SWPPP inspections during the spring, summer and fall of 2019. Representatives of WDEQ/LQD (Muthu Kuchanur, PE, PhD) and LA (Chris Lidstone, PG) completed a Final Inspection on September 10, 2019.

3.1 PRIORITY 1 PROJECT

Based on our knowledge of the site, the first and most critical future project must be the reclamation and stabilization of the upstream contributing watershed. At a minimum a detention pond should be constructed to temporarily mitigate the extreme sediment and runoff originating from these unreclaimed spoils. It is our understanding that these spoils and waste material, which are products of historical mining practices are eligible for reclamation under the Wyoming AML program. Perhaps other funding sources can be identified.

With this in mind, the TP#1 reclamation program left approximately 50,000 to 70,000 CY of topsoil to accomplish this reclamation. These topsoil stockpiles are located within 2 miles of the TP#1 area. Additional topsoil is available immediately above (south of) the ANC (TP#1) fence. A geomorphic design approach is recommended, which would allow stable drainage design, upstream and immediately above TP#1. The upper basin geomorphically reconstructed land surface should be delivered to a detention basin that would daylight into the West Diversion Channel. As part of this overall reclamation scheme and following stabilization of the upper basin, each channel and areas affected by upstream delivered sediment should have new topsoil placed and each impacted site reseeded.

3.2 PRIORITY 2 PROJECT

A second priority project should include the placement of additional fill on the TP#1 north dam face or slope. The current slope is a 4:1 (H:V) slope and there are rills and gullies on this slope. The current slope is comprised of overburden materials and does not contain tailings. For long term stability, LA recommends the placement of approximately 100,000 CY of additional overburden (and topsoil) to achieve an 8:1 (H:V) transition. This slope should be keyed into the native ground. All topsoil should be stripped and stockpiled before construction.

3.3 PRIORITY 3 PROJECT

A third priority project would include the replacement of the culverts under the Ore Road at TP#1 and at Willow Springs Draw. All culverts are actively failing and are likely to impact the stability of their respective drainages. Such culvert replacement work will include, but not be limited to, additional work on the drainage crossings and perhaps the introduction of additional riprap.

3.4 REMAINING OBLIGATIONS

The WDEQ/LQD contract with LA will expire on November 6, 2019. It is recommended that the Agency (WDEQ/LQD or the NRC) continue to maintain the site until final reclamation is achieved. This can be accomplished by using agency resources or contracting with LA or its successor, Wenck. The following is a partial list of remaining and ongoing obligations associated with the Interim Stabilization of TP#1.

- Stormwater Inspections (SWPPP) should be continued until site stabilization is achieved. Based on anticipated vegetation establishment, such inspections shall likely continue until 2021.
- The surface lease agreement with the State of Wyoming Division of State Lands (State Land Board) will need to be renewed by March 2020. This will require payment of an annual fee and will remain an annual obligation until the monitor well is properly abandoned and the site reclaimed.
- The Philp surface access agreement will need to be renewed prior to April 1, 2025.

- The surface ownership and long term stabilization of the American Nuclear site (Tailings Ponds 1 and 2) should be resolved with Fremont County. ANC, which is a defunct organization has not paid property taxes and there is a Fremont County Tax lien on the property. If no action is taken by the WDEQ, the NRC or their assigns, this property can be sold to any outside party at a Fremont County auction.
- All monitor wells are permitted with the Wyoming State Engineer's Office. If the intent is to discontinue monitoring, these wells should be properly abandoned, and the abandonment shall be filed with the Wyoming State Engineer.
- Inspections should be continued after the SWPPP is closed.

Appendix A



Department of Environmental Quality

*To protect, conserve and enhance the quality of Wyoming's
environment for the benefit of current and future generations.*



Matthew H. Mead, Governor

Todd Purfitt, Director

November 26, 2014

Mr. Richard Vander Voet
Field Manager, Lander Field Office
Wind River/Bighorn Basin District
United States Bureau of Land Management
1335 Main Street
Lander, WY 82520

RE: Right-of-Way Grant Application Letter of Authorization

Dear Mr. Vander Voet:

By this letter, the Wyoming Department of Environmental Quality/Land Quality Division (LQD) authorizes Lidstone and Associates to act on our behalf as Agent for obtaining a Right-of-Way Grant in LQD's name for certain public lands located in the Gas Hills District, Fremont County, Wyoming.

Sincerely,

Nancy Nuttbrock
Deputy Director, Wyoming Department of Environmental Quality
Administrator, Land Quality Division

cc.: John Erickson, Lander LQD
Muthu Kuchanur, Cheyenne LQD
Lidstone and Associates, Fort Collins, CO



**SURFACE OWNER CONSENT FOR ACCESS
TO CERTAIN LANDS FOR THE PURPOSE OF INVESTIGATING POTENTIAL GROUND WATER CONTAMINATION
AT THE WDEQ/LQD ANC TAILINGS RECLAMATION PROJECT**

SITE OR NAME: American Nuclear Corporation Gas Hills Uranium Mill Tailings Site, Gas Hills, Fremont County, Wyoming

LQD PROJECT OFFICER: Muthu Kuchanur
LQD CONSULTANT: Lidstone and Associates, Inc.

I/we, the Owner(s) [or Authorized Agent] of record of the following described property located in Fremont County, Wyoming:

E1/2, SE/NW, Section 21, Township 33N, R90W (See attached map)
(Metes and Bounds Description, Mineral Claim Name, Etc.)

Hereby grant to the Wyoming Department of Environmental Quality, Land Quality Division (LQD), its Consultants, and Contractors access to the above described property for the purpose of investigating the potential for ground water contamination due to historic mining and milling of uranium at the former ANC mill and tailings disposal site installing monitoring wells and collecting ground water samples from said wells. Approved activities include water well drill rig and support vehicle access into the site, investigation and collection of baseline data, surveying, installation of approximately two (2) monitoring wells and subsequent sampling of these wells for chemical analysis. No road construction is anticipated. However a new gate will likely be constructed to permit rig access and said gate shall be completed in a workmanlike manner and in accordance with BLM specifications.

This consent to enter and access the property and sample the monitor wells is granted by the Owner for a five (5) year period with a right to renew this easement if all parties agree. This easement shall also terminate upon transfer or sale of the property or upon abandonment of the monitor wells and/or the termination of water sampling needs, if such an event precedes the five (5) year or its renewal period. Existing two-track roads, where available, will be used for access to the well sites. Care shall be taken to prevent more than incidental, temporary impacts due to travel by vehicle, foot, ATV, etc. during access for the installation and subsequent sampling of the wells. All gates will remain closed and any damage to fences will be repaired. Renewal or termination of this agreement may be made in writing by either the Owner or LQD.

A reasonable attempt will be made to contact the Owner or designated Representative approximately one (1) week prior to accessing the property

OWNER:/s/ Philp Sheep Co DATE: 4-8-15

OWNER'S REPRESENTATIVE: Elizabeth Philp, Treas. Philp Sheep Co DATE: _____

OWNER'S REPRESENTATIVE NAME AND MAILING ADDRESS:

Ms. Elizabeth Philp, 313 S. Hidden Valley Road, Shoshoni, WY 82649-8631

TELEPHONE: 307-856-6102

LQD Consultant

BY: _____ DATE: _____

*A copy of the signing representative's authorization must be attached to this form.

STATE OF WYOMING
BOARD OF LAND COMMISSIONERS
SURFACE LESSEE NOTIFICATION AND COMMENT FORM

(Sections A & B to be completed by applicant)

A. PROJECT/ACTIVITY INFORMATION:

Type of Project:	Monitoring well to be associated with the American Nuclear Corporation site		
	(WDEQ/LQD Permit 352C) Reclamation Project		
Applicant:	WDEQ – Land Quality Division		
Address:	122 West 25 th St. / Herschler Bldg. 3W		
	Cheyenne, WY 82002	Phone:	(307) 777-7756

State Land Involved:


Section	16	Township	33N	Range	90	County	Fremont
Section		Township		Range		County	
Section		Township		Range		County	

B. SURFACE LESSEE INFORMATION:

Lease No.:	3-852J
Name:	Philp Sheep Co.
Address:	131 S. Hidden Valley Rd.
	Shoshoni, WY 82649
Phone No.:	(307) 856-6102

C. SURFACE LESSEE COMMENTS: (to be completed by surface lessee)

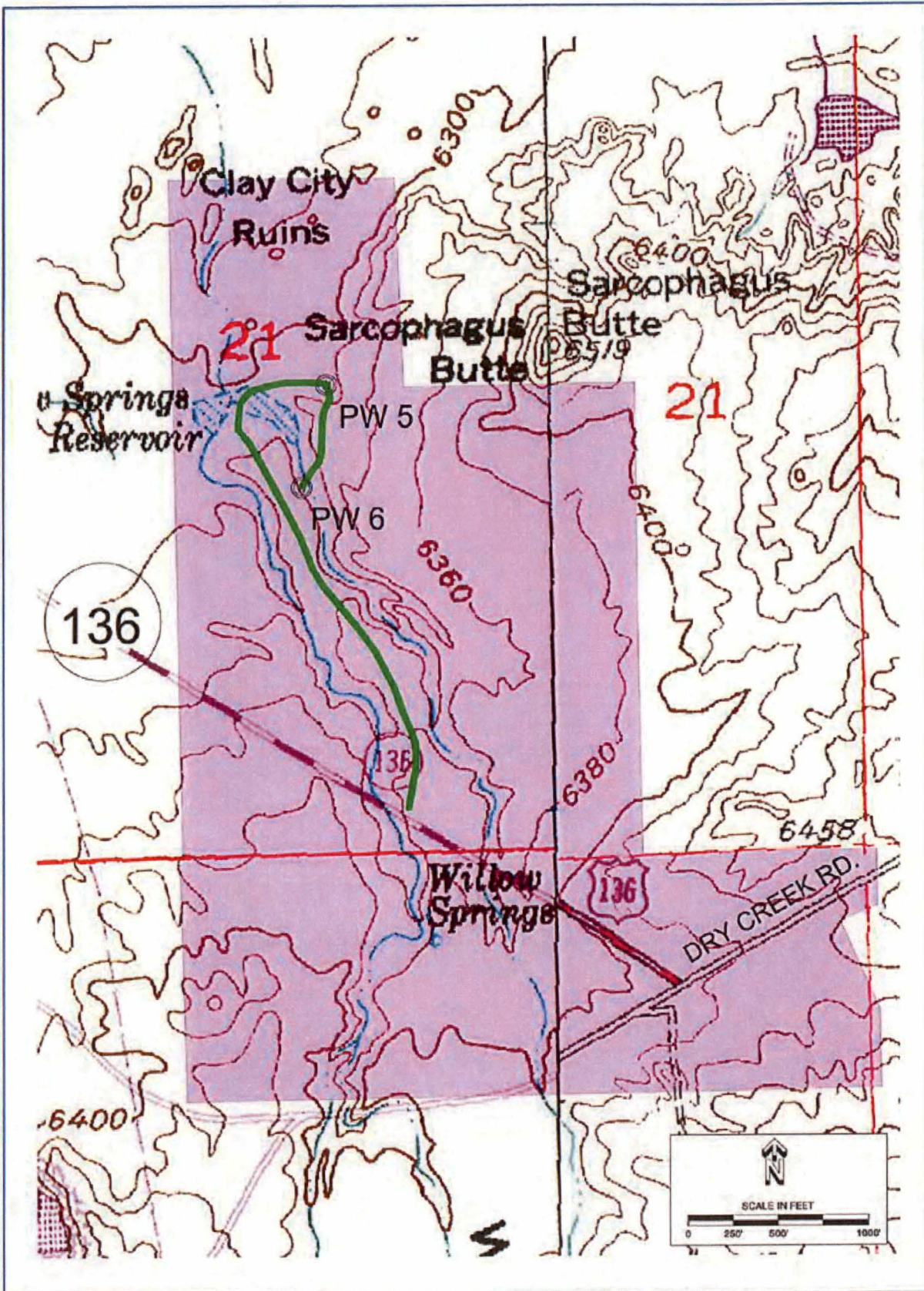
If this project will negatively affect your grazing/agricultural operation, please explain.


(Signature of Surface Lessee)
Elizabeth Philp

(Please type or print name)

April 8, 2015

(Date)



WYOMING DEQ American Nuclear Corporation Tailings			LEGEND	
PHILP PROPERTY PROPOSED MONITORING WELL LOCATION MAP SHEET 0001			PHILP OWNERSHIP	2-TRACK ACCESS ROUTE
		PROPOSED MONITORING WELL		

SURFACE OWNER CONSENT FOR RECLAMATION
TO CERTAIN LANDS
ANC TAILINGS RECLAMATION PROJECT

SITE OR NAME: American Nuclear Corporation Gas Hills Uranium Mill Tailings Site, Gas Hills, Fremont County, Wyoming

LQD PROJECT OFFICER: Muthu Kuchanur

LQD CONSULTANT: Lidstone and Associates - A Wenck Company

I/we, the Owner(s) [or Authorized Agent] of record of the following described property located in Fremont County, Wyoming:

Sections 28, 29, and 33; Township 33 North, Range 90 West
(Metes and Bounds Description, Mineral Claim Name, Etc.)

Hereby grant to the Wyoming Department of Environmental Quality, Land Quality Division (LQD), its Consultants, and Contractors access to the above described property for the purpose of site reclamation efforts and monitoring. Such reclamation may include but is not limited to Tailings Pond Nos. 1 and 2, construction of surface diversions, reclamation and regrading of spoils and waste materials, construction of stormwater ponds, reclamation and removal of monitor wells, windblown tailings, site revegetation, among other items. Reclamation efforts may be temporary in nature and may include placement of additional fill over tailings ponds. Following reclamation it is anticipated that the LQD will monitor reclamation success.

This consent to enter and access the property and perform reclamation is granted by the Owner until such day as the Owner transfers or sells the property or otherwise ceases to be the property owner.

OWNER: American Nuclear Corporation

SIGNATURE Owners Representative: William C. Salisbury

DATE: 3-22-16

NAME AND TITLE William C. Salisbury President

DATE: _____

OWNER'S REPRESENTATIVE NAME AND MAILING ADDRESS:

American Nuclear Corporation
c/o William Salisbury
1761 Blue Spruce
Casper, WY 82609

TELEPHONE: (307) 277-4866 (cell)

LQD Consultant

BY: [Signature]

DATE: 3/20/16

*A copy of the signing representative's authorization must be attached to this form.

SURFACE OWNER CONSENT FOR ACCESS
TO CERTAIN LANDS FOR THE PURPOSE OF DATA COLLECTION
AND TAILINGS RECLAMATION PROJECT

SITE OR NAME: American Nuclear Corporation Gas Hills Uranium Mill Tailings Site, Gas Hills, Fremont County, Wyoming

LQD PROJECT OFFICER: Muthu Kuchanur

LQD CONSULTANT: Lidstone and Associates - A Wenck Company

I/we, the Owner(s) [or Authorized Agent] of record of the following described property located in Fremont County, Wyoming:

Sections 28, 29, and 33; Township 33 North, Range 90 West
(Metes and Bounds Description, Mineral Claim Name, Etc.)

Hereby grant to the Wyoming Department of Environmental Quality, Land Quality Division (LQD), its Consultants, and Contractors access to the above described property for the purpose of data collection including but not limited to gamma and other radiologic surveys; cadastral surveys; photography; soil and spoil sampling; vegetation, wildlife and wetland delineations and monitoring; the installation of monitoring wells; collection of both ground water, surface water and air samples; and other types of data collection.

This consent to enter and access the property and collect environmental data and make observations is granted by the Owner until such day as the Owner transfers or sells the property or otherwise ceases to be the property owner.

OWNER: American Nuclear Corporation

SIGNATURE Owners Representative: William C. Salisbury DATE: 3-22-16

NAME AND TITLE William C. Salisbury, President DATE: _____

OWNER'S REPRESENTATIVE NAME AND MAILING ADDRESS:

American Nuclear Corporation
c/o William Salisbury
1761 Blue Spruce
Casper, WY 82609

TELEPHONE: (307) 277 4866 (cell)

LQD Consultant

BY: [Signature] DATE: 3/20/16

*A copy of the signing representative's authorization must be attached to this form.

**SURFACE OWNER CONSENT FOR ACCESS
TO CERTAIN LANDS FOR THE PURPOSE OF INVESTIGATING POTENTIAL GROUND WATER CONTAMINATION
AT THE WDEQ/LQD ANC TAILINGS RECLAMATION PROJECT**

SITE OR NAME: American Nuclear Corporation Gas Hills Uranium Mill Tailings Site, Gas Hills, Fremont County, Wyoming

LQD PROJECT OFFICER: Muthu Kuchanur
LQD CONSULTANT: Lidstone and Associates, Inc.

I/we, the Owner(s) [or Authorized Agent] of record of the following described property located in Fremont County, Wyoming:

E1/2, SE/NW, Section 21, Township 33N, R90W (See attached map)
(Metes and Bounds Description, Mineral Claim Name, Etc.)

Hereby grant to the Wyoming Department of Environmental Quality, Land Quality Division (LQD), US Nuclear Regulatory Commission (NRC), collectively the Agency and their Consultants access to the above described property for the purpose of collection of ground water samples from said wells. The location of the wells and access is presented in an attachment to this consent form. The purpose of these wells remains to investigate the potential for ground water contamination due to historic mining and milling of uranium at the former ANC mill and tailings disposal site. The monitoring wells were constructed in 2015 and the Agency desires the ability to continue this study. Approved activities include surveying, investigation and subsequent sampling of these wells for chemical analysis. No road construction is anticipated.

This consent to enter and access the property and sample the monitor wells is granted by the Owner for a six year period of time or five years beyond the termination of the previous Surface Owner Consent. This Access Agreement will terminate on April 1, 2025 or until such day as the Owner transfers or sells the property to another person or upon abandonment of the monitor wells and the termination of water sampling needs. Existing two-track roads, where available, will be used for access to the well sites. Care shall be taken to prevent more than incidental, temporary impacts due to travel by vehicle, foot, ATV, etc. All gates will remain closed and any damage to fences will be repaired. Renewal or termination of this agreement may be made in writing by either the Owner or the Agency.

A reasonable attempt will be made to contact the Owner or designated Representative approximately one (1) week prior to accessing the property

OWNER: Philp Sheep Co.

OWNER'S REPRESENTATIVE: Elizabeth Philp **DATE:** 03/13/2019

WITNESS: [Signature] **DATE:** 03/13/2019

OWNER'S REPRESENTATIVE NAME AND MAILING ADDRESS:

Ms. Elizabeth Philp, 313 S. Hidden Valley Road, Shoshoni, WY 82649-8631

TELEPHONE: 307-856-6102

LQD Consultant

BY: [Signature] **DATE:** 3-12-19

*A copy of the signing representative's authorization must be attached to this form.

Appendix B

APPENDIX B1

RECLAMATION RECOMMENDATIONS FROM TASK ORDER 2 REPORT

ANC URANIUM MILL TAILINGS SITE REPORT OF ENGINEERING EVALUATION / COST ANALYSIS AND
PRIORITIZATION OF RECLAMATION ACTIVITIES

Table 7.1 Reclamation Tasks in Order of Priority

Priority 1	Place 3 feet of Fill on TP-1 and Seed (Base Case)
Priority 2	Place 5 feet of Fill on TP-1 and Seed (Alternate Bid)
Priority 3	Cut Northwest Diversion
Priority 4	Cut Northeast Diversion
Priority 5	Willow Springs Draw Repair
Priority 6	Cut South Diversion
Priority 7	Campsite Draw Repair
Priority 8	Complete 1 through 7
Priority 9	Complete NRC Reclamation (clay cap and total of 10 feet of cover)
Priority 10	Windblown Tailings Delineation and Cleanup
Priority 11	Rebuild Tailings Cover at TP-2

Table 7.2 What Could be Accomplished with Remaining Funds (Approximately \$635,000)*

1	Limited Cover Material Suitability Investigation and Reporting (\$45,000)
2	Address Permit Boundary Issue (BLM, Fremont County) (\$10,000)
3	Design (Plans and Specifications) TP-1 cover (\$60,000)
4	Geotechnical Investigations (Compaction Testing) (\$10,000)
5a	Construction Management (\$60,000)
5b	Surveying (\$10,000)
6	Placement of 3 feet (Base Option) of Cover on Top of TP-1 and Seed the Cover (\$427,350)
	<ul style="list-style-type: none"> i. Mob/Demob \$30,000 ii. 135,000 CY fill at \$2.30 per CY = \$310,500 (Base Case) iii. Drainage improvements (Force Account) \$30,000 iv. Fertilization (27 acres) @ \$1,000 per acre \$27,000 v. Seeding (27 acres) @ \$550 per acre \$14,850 vi. Fencing at \$15,000
6a	Placement of 5 feet (Alternate Bid) of Cover on Top of TP-1 and Seed the Cover (\$427,350)
	<ul style="list-style-type: none"> i. Mob/Demob \$30,000 ii. 225,000 CY fill at \$1.50 per CY = \$337,500 (Alternative Bid) iii. Drainage improvements (Force Account) \$30,000 iv. Seeding (27 acres) @ \$550 per acre \$14,850 v. Fencing at \$15,000
7	Willow Springs Draw Repair (Available funds)
	<ul style="list-style-type: none"> i. Further evaluate rock source (WNI meetings) ii. Address repair options iii. Construction to the extent possible
8	Groundwater Sampling and Investigations as Budget Allows
<p>* Does not include unspent monies from Task Order 001 and 002 or future Title X reimbursements. ** The total cost of the first six tasks is \$622,350. In the next Task Order to LA, these estimates will be refined to account for any uncertainties in the field. The remainder of the available funds after accomplishing Tasks 1 through 6 will be used for Tasks 7 and 8.</p>	

APPENDIX B2
HEALTH AND SAFETY PLAN

ANC URANIUM MILL TAILINGS SITE HEALTH AND SAFETY PLAN – TP-1 INTERIM STABILIZATION



Prepared for:

Wyoming Department of Environmental Quality
Land Quality Division
200 West 17th Street
Cheyenne, WY 82002

Prepared by:

Lidstone & Associates, a Wenck Company
4025 Automation Way, Bldg. E
Fort Collins, CO 80525

October 2017



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B	SAFETY EQUIPMENT CHECKLIST
C	SAFETY MEETING REPORT
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1.0 INTRODUCTION

This document provides the Site Health and Safety Plan (HASP) prepared by Lidstone & Associates, a Wenck Company (LA) for the American Nuclear Corporation (ANC) Uranium Mill Tailings Pond No. 1 (TP-1) interim Stabilization Project, Wyoming Department of Environmental Quality/Land Quality Division (LQD) Contract PS 0694. This HASP is designed to comply with the industrial health and safety standards and requirements of applicable federal and state regulatory agencies. The objective of this HASP is to provide a mechanism for establishing safe working conditions for LA and subcontractor personnel working at the ANC site. The safety organization, procedures and protective equipment have been established based upon an analysis of potential physical, biological, and radiological hazards. Specific hazard control methodologies have been evaluated and selected to minimize the potential of accident, injury, and exposure to any potentially hazardous situation.

For the purposes of this document and the related construction plans and specifications, the Owner is Wyoming Department of Environmental Quality, Land Quality Division (DEQ/LQD). The Engineer is Lidstone & Associates, a Wenck Company (LA) and/or Wenck. The Contractor is the corporate entity, his employees and his subcontractors who complete the Work associated with the ANC project. The Work will include the excavation, haul and placement (collectively known as the Material Movement) of all cover materials as well as ancillary work such as revegetation, fencing, and construction of ancillary drainage features. The Contractor will be under direct contract to the Engineer. The Engineer will be under direct contract to the Owner (Wyoming Department of Environmental Quality).

Anticipated field activities covered by this HASP include excavation of mine overburden, Willow Springs Draw sediment (wicking barrier material), and topsoil from various existing topsoil piles for placement onto TP-1. As part of this interim stabilization project, surface water diversion channels and a retention dam/reservoir will also be constructed. Training and safety procedures will be specific to hazards involved with these types of activities being performed at a uranium mine site. This HASP is subject to change if site conditions change and additional hazards are identified. The Project Manager and Project Health and Safety Officer are authorized to modify the contents of this HASP to respond to changing site conditions to ensure continued health and safety protection of project personnel.

1.1 Site Location and Description

The ANC Uranium Mill Tailings Site is located in the Gas Hills Uranium Mining District, eastern Fremont County, Wyoming. The Site is approximately 45 miles east of Riverton and 70 miles west of Casper. The site is licensed by the U.S. Nuclear Regulatory Commission (NRC) and encompasses approximately 550 acres of land. Of this total acreage, less than half was used for uranium mining and milling activities between 1959 and 1981. Of the 550 total acres within the licensed area, approximately 140 acres includes the decommissioned mill site and two tailings ponds that are in different stages of reclamation. TP-1 encompasses approximately 40 acres, and Tailings Pond No. 2 (TP-2) encompasses approximately 120 acres. The mill was decommissioned, and the mill site reclaimed in 1989. TP-2 was reclaimed in the late 1990's. TP-1 was partially reclaimed in the late 1980's and early 1990's. The purpose of this project is to provide interim stabilization and further reclamation of TP-1 by providing additional cover, which will originate from nearby mine waste or overburden material, sand wicking barrier excavated from Willow Springs draw and topsoil obtained from several nearby topsoil piles. The primary constituents of concern from a health and safety standpoint are the low concentrations of natural uranium, radium-226 and its daughter product radon-222 and thorium-230 which may be present within the overburden material.

2.0 RESPONSIBLE PERSONNEL

<u>Position</u>	<u>Name</u>
Project Manager	Chris Lidstone
Project Health and Safety Officer	Greg Steed
Field Supervisor	Varies
Project Support Personnel	Varies

All LA personnel must comply with this HASP during the performance of their work. LA will require the contractor(s) to read and acknowledge (**Appendix E.2**) understanding of this HASP and incorporate it into their health and safety plan. Each person is responsible for completing tasks safely and reporting any unsafe acts or conditions to his/her supervisor and/or the Project Manager. No person may work in a manner which conflicts with these HASP procedures. Any person who continues to violate safety procedures after being duly warned and informed will be dismissed from the project.

The Project Manager and Field Supervisor, together with the construction contractor project supervisor(s), will be responsible for monitoring the execution of safe work practices and the provisions of this Plan. These personnel are also responsible for knowing the provisions of the plan, communicating plan requirements to workers under their supervision and to site visitors, and for enforcing the plan.

The LA Project Manager or designee is responsible for:

- Conducting on-site safety orientation for subcontractors, including the procedures within this HASP.
- Conducting safety inspections of work activities to ensure compliance with this HASP.
- Maintaining required health and safety documents and records.

In Case of an On-Site Visit by any Regulatory Agency (eg., OSHA, BLM or the State Mine Inspector), the Project Manager and Health and Safety Officer must be notified as soon as possible. The Field Supervisor will notify the Project Manager that an agency inspector is on the jobsite. It is the responsibility of all site personnel to be informed of all pertinent regulations, employees' rights and responsibilities under the law, and to make the inspector's visit on the jobsite as pleasant and productive as possible.

Since cell phone coverage is limited in the Gas Hills, LA requires that the Field Supervisor contact the Project Manager or designee each evening to ensure that all field personnel have safely returned from the field. A similar protocol requires that all subcontractors inform LA of their proposed field schedule in advance of their work. Contact can be by cell phone, text message or email. If contact is not made, a search and rescue effort will be deployed. Emergency contact numbers are provided in Section 4.1 and **Attachment F** of this HASP.

3.0 PREPARATION FOR TRAVEL

Prior to embarking on any field work, the Project Manager shall ensure that all field personnel and subcontractors are aware of current weather and road conditions. LA endeavors to ensure that all company vehicles are equipped with emergency equipment including, but not limited to, jacks, spare tires, shovel, flashlights, extra batteries, matches, emergency flares, rope, garbage bags, first aid kit, and sand bag(s). Kits containing these items will also be provided for use in rental vehicles. If using a rental car, or if your company vehicle is missing any of the above equipment, contact Pam Sanders or any other administrative personnel to ensure that adequate safety equipment is obtained before departing for the

field. Items should not be removed from company vehicles for use in rental vehicles. While in the field, if there is concern about the adequacy or the type of emergency equipment in the field vehicle, each LA employee is responsible for, and is authorized to, purchase said emergency equipment at any local store. Given the personal nature of certain types of equipment, each employee shall provide their own sleeping bag, spare blanket, water, extra food, and/or similar personal emergency equipment prior to embarking to the field. Be aware that hypothermia (lowering of body temperature) or hyperthermia (heat exhaustion) is the greatest danger faced by most of our employees during field work in remote areas. Always stay calm in an emergency situation and stay warm (or cool) and well hydrated. Never go into remote areas without a full fuel tank and investigate all stream or drainage "crossings" on foot before you travel forward with the vehicle. Appropriate clothing for anticipated field conditions and a change of clothing should always accompany each person to a remote field location. Always take adequate maps that cover or address the field area location and all travel routes.

Should it be determined that the vehicle tires, windshield wipers, fluids, etc. are inadequate for the conditions to which the vehicle and employee will encounter, the employee is responsible for upgrading or replacing said equipment. Employees will be reimbursed for such upgrades or replacements. Upon returning all vehicles, company or rental, the employee must (1) fill the fuel tank and (2) report all problems or missing safety equipment, etc. to Pam Sanders or any other administrative personnel. Administrative personnel are responsible for making sure that Pam Sanders and, if necessary, Chris Lidstone are notified.

4.0 EMERGENCY PROCEDURES

4.1 Emergency Contact Information

Police/Fire/Ambulance: 911; other contact numbers include:

- Fremont County Sheriff's Office: 307-857-3600
- Fremont County Fire District: 307-857-3030 or 307-856-5410
- US BLM Cody Interagency Dispatch Center: 307-578-5740
- Fremont County Ambulance: 307-857-3669
- Air Ambulance: 941-639-7855

Hospital: Sage West Health Care – Riverton (Formerly Riverton Memorial Hospital)

2100 W. Sunset Drive, Riverton, WY 82501
307-856-4161 (General) 307-857-3420 (ER)

A map showing the hospital location is provided in **Attachment F**.

Project Manager: Chris Lidstone - 970-420-5257 (cell)

Health and Safety Officer: Greg Steed 970-819-1783 (cell)

LA Office: 970-223-4705

4.2 Reporting of Injuries/Illnesses

Any person who becomes ill or injured on site should be assessed for severity, and administered first aid, as necessary, prior to transport to any medical facility. All injuries and illnesses must be immediately reported to the Project Manager and/or the Health and Safety Officer at the phone numbers provided in Section 4.1 above. A "Notice of Injury Report" is required to be written as soon as possible after an injury or illness occurs, even if medical treatment is not required. The report should be made at or near the

time of the injury/illness but at a minimum on the same day of the injury/illness. Relevant information pertaining to the injury/illness should be provided to the Project Manager and the Health and Safety Officer who will make the report to company management. The report should include, but not be limited to, the following information:

- How the injury/illness occurred.
- What they were doing at the time.
- Who they were working with at the time.
- When and where it occurred.
- Other pertinent information that will aid in the investigation of the injury/illness.

Failure to report an injury/illness immediately (meaning at or near the time of the injury/illness and on the same day of occurrence) is a violation of this HASP.

If the injured individual has been taken to the hospital, the Field Supervisor or the Health and Safety Officer shall notify the Project Manager as soon as possible. Statements from witnesses shall be taken. Statements are to be signed by witnesses and should include the time and date. Photographs should be taken of the area where the incident occurred and any other areas or equipment relevant to the injury/illness. Management will assist in the investigation. The completed "Notice of Injury Report" will be sent to the Project Manager.

4.3 Fire or Explosion

In the event of a fire or explosion, the local fire department should be notified immediately. Since most of the Project lands are public lands administered by the BLM, the BLM fire dispatcher located in the Cody Field Office should also be notified at the number provided in Section 4.1 and in **Attachment F**. If it is safe to do so, site personnel may use available firefighting equipment to control or extinguish the fire and remove or isolate any flammable materials that may contribute to the fire. If fighting the fire is not safe, all personnel should move upwind to a safe distance away from the fire and await arrival of the firefighting team.

4.4 Spills or Leaks

During the site work, the most likely spills or leaks will be oil, grease or other petrochemicals leaking or spilling from construction equipment, and associated light duty trucks. To minimize the impact of potential spills and leaks, at least the following shall be performed at the site:

- Construction equipment and other site vehicles shall be inspected daily, and any oil leaks shall be identified and repaired immediately.
- Spill containment and cleanup materials, such as drip pans, absorbent cloths, dams, etc., will be readily available at the site.
- All petrochemicals shall be stored in approved containers.

In the event of a leak or spill, construction activities will be suspended until the spill has been cleaned up and the leaking equipment repaired. The Project Manager or Health and Safety Officer will be notified of the spill and any containment and recovery actions that were necessary to effect cleanup of the area. The Project Manager and/or the Health and Safety Officer will determine if the spill needs to be reported as a hazardous materials release.

4.5 Emergency Equipment

Each LA field or rental vehicle will contain, at a minimum, the following emergency equipment:

- First aid kit, including a snake bite kit;
- Shovel; and
- Fire extinguisher.

Other safety equipment may be required as determined by site conditions and described in section 3.0 of this HASP.

4.6 Basic First Aid Procedures

4.6.1 Shock

Symptoms can include cold sweat, weakness, irregular breathing, chills, pale or bluish lips and finger nails, rapid weak pulse, and nausea.

First aid consists of the following:

- Call 911 or seek medical help immediately;
- While waiting for medical help:
 - Do not give victim anything to eat or drink.
 - Lay victim on back, but do not move if a neck or back injury is suspected.
 - If vomiting or severe injury to the lower jaw or face is present, move person to their side and be sure person is getting adequate air.
 - Keep person warm using blankets or clothes, but do not over heat.
 - Raise person's feet and legs with a pillow if it does not cause pain.

4.6.2 Bleeding and Wounds

First aid consists of the following:

- Place a clean cloth or gauze and gloved hand over the wound; apply firm, steady pressure for at least 5 minutes.
- Call 911 or other emergency personnel if bleeding is severe.
- Elevate an injured arm or leg above the level of the victim's heart if practical.
- When bleeding stops, secure the cloth with a bandage. Do not lift the cloth from the wound to check if bleeding has stopped. Be sure the bandage is not too tight—it may cut off circulation.
- Check the victim for shock.

Never use a tourniquet unless you cannot control the bleeding. Tourniquets may result in subsequent medical amputation.

4.6.3 Burns

Chemical or compressed gas burns

- Use a drench hose, emergency shower or eyewash, or bottled water for at least 15 minutes to rinse away all traces of chemicals while removing any contaminated clothing from the victim.
- Cover the burn loosely with a clean, dry cloth or special burn dressing.

- Check the victim for shock.
- Call 911 or seek medical attention as soon as possible.

Heat or electrical burns

- If necessary, use water to stop actual burning of skin.
- If the skin is not broken, submerge the burned area under cool running water, or gently apply a cool compress until pain is relieved. Bandage with a clean, dry cloth.
- Do not break a blister if one forms.
- Do not apply ointments or creams.
- If skin is broken, or if burns are severe:
 - Call 911 or other emergency personnel;
 - Do not clean the wound or remove embedded clothing;
 - Cover the burn loosely with a clean, dry cloth; and
 - Expect shock and treat accordingly.

4.6.4 Choking (Persons over one year of age)

If the victim can speak or cough forcibly and is getting sufficient air, do not interfere with his/her attempts to cough the obstruction from the throat. If the victim cannot speak or is not getting sufficient air, have someone call 911 while you perform abdominal thrusts.

- Stand directly behind the victim and wrap your arms around the stomach.
- Make a fist with one hand and place that fist just above the navel and well below the ribs, with the thumb and forefinger side toward you.
- Grasp this fist with the other hand and pull it quickly toward you with an inward and slightly upward thrust. Repeat if necessary.

If the victim becomes unconscious:

- Lay the victim on their back.
- If the object that is blocking the airway is visible, reach a finger into the victim's mouth (along the inside of the cheek) and try to sweep the obstruction out of the victim's throat, being careful not to push the object deeper into the victim's airway.
- Even if this is not successful, attempt rescue breathing.
- If the victim is still not breathing or moving, begin chest compressions (CPR).

4.6.5 Electrical Shock

The danger from an electrical shock depends on the type of current, how high the voltage is, how the current passed through the body, the person's overall health and how quickly medical treatment is provided. An electrical shock may cause burns, or it may leave no visible mark on the skin. In either case, an electrical current passing through the body can cause internal damage, cardiac arrest, or other injury. Under certain circumstances, even a small amount of electricity can be fatal.

- Do not touch the victim until electrical contact is broken.
- If possible, unplug or switch off the source of electricity.

- Any person who has been injured by contact with electricity should be seen by a doctor as soon as possible.
- Do not move a person with an electrical injury unless the person is in immediate danger.
- Call 911 or seek medical attention immediately if the victim experiences any of the following:
 - Severe burns
 - Confusion
 - Difficulty breathing
 - Heart rhythm problems
 - Cardiac arrest
 - Muscle pain and contraction
 - Seizures
 - Loss of consciousness
- Begin CPR if the victim shows no signs of circulation, such as breathing, coughing or movement.
- Keep the victim warm
- Cover any burned areas with sterile gauze bandage, or a clean lintless cloth.

4.6.6 Eye Injury

Chemical

- Call 911
- Hold the eyelids apart and flush the eyeball with lukewarm water for at least 15-30 minutes. Be careful not to let runoff water flow into the other eye.
- Do not bandage the eye.

Blow to the Eye

- Apply a cold compress to the eye, but do not put pressure on the eye.
- Provide Tylenol or ibuprofen for pain.
- If there is bruising, bleeding, change in vision, or pain when the eye moves, seek immediate medical assistance.

Cut, scratch or embedded object

- Do not rub the eye.
- Pull the upper lid down and blink repeatedly.
- If particle is still there, flush with clean water.
- If flushing does not help, close eye, bandage it lightly.
- Seek medical assistance.

4.6.7 Fainting

- Lay the victim down on their back and make sure they have plenty of fresh air.
- Reassure the victim and apply a cold compress to the forehead.
- If the victim vomits, roll the victim on his/her side and keep the windpipe clear.

- Transport victim to a medical facility emergency room. Note that fainting victims typically regain consciousness almost immediately. If this does not happen, the victim could be in serious danger and you should call 911 as soon as possible.

4.6.8 Dehydration

- For mild dehydration, replace lost body fluids with water, juice or sports drinks; for severe dehydration, encourage fluid intake and transport to medical facility emergency room.

4.6.9 Heat Exhaustion

- Move the victim to a cool or shady area, provide cool water or other non-alcoholic or non-caffeinated fluids, cool skin with wet compresses or spray with water, and have the person rest for the remainder of the day; if symptoms get worse or nausea and/or vomiting occurs, call 911 and transport the victim to a medical facility emergency room.

4.6.10 Heat Stroke

Heat stroke can be life threatening. Symptoms can include a body temperature of 105°F or higher; dry, hot, flushed skin; rapid pulse; unconsciousness; and lack of perspiration.

- Call 911.
- Get the victim out of the heat and into a cooler place.
- Place the victim in the shock position, lying on the back with feet up.
- Remove or loosen the victim's clothing.
- Cool the victim by fanning and applying cloth-wrapped cold packs or wet towels.
- Treat for shock.

4.6.11 Hypothermia

Hypothermia can be life threatening. Symptoms include lower than normal body temperature, shivering, apathy, disorientation, drowsiness, and eventually, unconsciousness.

- Call 911.
- Immediately move the victim into the best available nearby shelter.
- Get the victim out of wet clothes and replace with dry clothes, sleeping bag or blankets.
- Have the victim drink a warm, sweet, non-alcoholic beverage, if possible.

4.6.12 Unconsciousness

- Determine responsiveness by gently tapping the victim's shoulder and asking, "Are you okay?"
- If there is no response, shout "Help!" and look for a medical alert tag on the victim's neck or wrist.
- If the victim is not breathing and has no pulse, begin CPR.
- Call 911 and transport to medical facility as soon as possible.

4.7 Work Limitations

- In high ambient temperatures, follow heat exhaustion precautions including: Provide plenty of cool water and electrolytes; remove protective clothing during breaks; check resting pulse and increase number of breaks if pulse does not return to normal during work breaks.
- Sun and wind exposure may result in dehydration; apply sunscreen to exposed skin and drink adequate non-caffeinated fluids throughout the work day.

- In low ambient temperatures (<32°F), follow hypothermia precautions.
- Work may progress only during daylight hours or under conditions of adequate lighting. Where night work or remote work is required, adequate personal protection, including “Buddy Notification” is required. Never leave a remote site without first notifying your “buddy”. Before leaving any site after dark, ensure that all personnel are accounted for.

4.8 Basic Safety Rules

- Compliance with applicable federal, state, county and city regulations, and client and company safety rules is mandatory.
- Clothing must provide adequate protection to the body. Shorts and sandals are not allowed in the field. Professional clothing will be required at all times on an LA job.
- All personnel will be required to attend safety meetings as stipulated by project requirements to meet OSHA safety standards.
- Firearms, alcoholic beverages or illegal drugs are not allowed on project sites or in company vehicles at any time.
- Housekeeping shall be an integral part of every job. Subcontractor supervisors and LA employees are responsible for keeping the project site clean and hazard-free.
- Drinking water containers are to be used for drinking water and ice only.
- “Horseplay” on the jobsite is strictly prohibited.
- The jobsite speed limit, where posted, shall be adhered to with no exceptions. Employees must be sitting down inside the truck when the vehicle is in motion with seatbelts securely fastened. Riding in the bed or on the tailgate of a moving truck or SUV is not allowed.
- Report all unsafe conditions to your supervisor, the Project Manager and/or the Health and Safety officer.
- All floor openings or excavations must be barricaded on all sides to ensure employees are aware of the hazards.
- Warning signs, barricades, and tags will be used to the fullest extent possible and shall be obeyed.
- All waste materials recovered during the stabilization project will be disposed of onsite, except trash items brought onsite by workers, such as food containers, paper, etc.

5.0 HAZARDS

The types of hazards that may be encountered at the site during the project include biological and physical hazards, including radiological hazards. Common physical hazards associated with large earth moving construction projects include, but are not limited to, those related to light construction, such as slip-trip-fall hazards associated with the field environment, hot or cold weather, sun and wind exposure, and noise and dust from heavy equipment. Mechanical hazards include, but are not limited to, sudden equipment movement, swinging backhoe booms, snapping cables and loss of hydraulics. Biological hazards include biting insects, ticks, spiders, and poisonous snakes. Radiological hazards include the potential for low concentrations of natural uranium, radium-226 and associated daughter products, in soils.

5.1 Hazard Protection

5.1.1 Physical Hazards

Temperature Extremes: Construction workers may be exposed to heat, cold and the sun. Too much heat or cold, especially if combined with high humidity or high winds, can harm a worker's health and interfere with work productivity. Hot, humid conditions can cause heat exhaustion, cramps and fainting. Working in very cold conditions can result in chapped skin, hypothermia and frost-bite.

To protect against heat related illnesses, drink small amounts of water frequently, wear light colored, loose fitting clothing, take frequent short breaks in cool shade, and avoid caffeine or large quantities of sugar.

To protect against cold related illnesses, wear several layers of clothing rather than one thick layer, wear gloves and a warm hat or a warm liner under the hard hat, wear warm footwear with one or two pairs of warm socks, wear a scarf or face mask in cold, windy weather, and take frequent short breaks in a warm shelter.

Sun/Wind Exposure: To avoid over exposure to the sun and wind, use sun screen with a protection factor of at least 30 and long-sleeved shirts and long pants. When not in a hard hat area, wearing a large brimmed hat will help protect the neck, ears, eyes, forehead, nose, and scalp from sun exposure. Wear UV-absorbent eye protection.

Slips, Trips and Falls: Keep the construction staging area(s) and associated work and storage areas as clean and free of tripping hazards as possible. Sturdy water-resistant boots should be worn when working under wet or muddy conditions. While walking, be alert and observe terrain and tripping hazards, such as hoses, sagebrush, etc. to minimize slips, trips, and falls. Wearing long pants and long-sleeved shirts will prevent abrasion in the event of a slip, trip or fall.

Lifting: Always use proper lifting techniques when lifting objects from the ground, back of a vehicle, etc. Lifting of heavy items should be performed by more than one person. Proper gloves should be used to avoid hand injuries. Where the risk of handling sharp items occurs, cut resistant gloves shall be worn.

Noise: Exposure to continuous high noise levels or short-duration, impact type noise can lead to temporary or permanent hearing loss. Staying away from noise sources and wearing proper hearing protection can control the effects of noise exposure. Ear protection (ear plugs or ear muffs) is required for all site personnel when working in close proximity to operating heavy equipment (eg., scrapers, dozers, etc.) or other loud operating equipment for extended periods of time.

Heavy Equipment: Work in or around heavy equipment presents several hazards, including the potential for being struck by the equipment or falling materials. Prior to entering the work area, all personnel shall review the work plan, including the equipment being used, and the operating sequence. The risk of injury is reduced by staying clear of operating equipment, being observant of work activities, wearing appropriate protective equipment (eg., hard hat, hard toed boots, eye, and ear protection) and making the equipment operator aware of your presence before approaching. All site personnel shall wear high visibility vests at all times.

Summer Storms: If thunder or lightning is heard or seen, construction equipment should be shut down, and all personnel seek shelter until the threat of lightning strikes passes.

Radiological Hazards: The proposed TP-1 stabilization activities will not involve the movement of any tailings within the existing pile and, as such, will be more akin to a mine reclamation project than a mill decommissioning project. The only material moved at the site will consist of mine overburden or soils containing mine spoil and perhaps some windblown 11e2 byproduct material. It should be noted that the

majority of the proposed borrow area is upwind of TP-1 and TP-2 and significant amounts of windblown 11e2 material are not anticipated. Therefore, LA will be managing the stabilization activities as a mine reclamation project. The mine overburden spoils that will be used and those that currently overlie the tailings within TP-1 (specifically the existing TP-1 cover material) may contain low concentrations of natural uranium and radium-226. Although the hazard is considered low, appropriate cautionary measures will be employed when working around the overburden material. Dust suppression using adequate quantities of water or other approved dust suppression materials and methods, will be required of the Contractor during the excavation, transportation and placement of material. The Engineer will monitor dust and dust control measures to ensure that airborne dust emissions will be minimized. Dust suppression will be required on all access and haul roads, on the overburden stockpile and on TP-1 during all earth moving activities. If dusty conditions occur, the Contractor will be required to use dust masks to prevent inhalation of dust or will be required to shut down operations. Protective eyewear, long-sleeved shirts and long pants will be required to prevent excessive contact of material on exposed skin. Kevlar coveralls, respirators and latex, rubber or nitrile gloves may be required as an additional layer of protection. All field personnel will be required to clean hands and face with soap and water or waterless cleaner prior to eating, drinking or tobacco use and prior to leaving the site each day. The Contractor will be required to wash all equipment prior to entering the site at the beginning of the project and at the end of the project or prior to any equipment leaving the site. The equipment washing prior to leaving the site will be performed at a dedicated area at the site. Additionally, the Owner (DEQ/LQD) will scan all equipment for radioactive contamination prior to use at the site and prior to leaving the site. Equipment used for this purpose will include: a Ludlum Model 2224-1 alpha/beta ratemeter/scaler attached to a Ludlum Model 43-93 alpha/beta detector, or equivalent equipment; and a Model 19 MicroR Ratemeter, or equivalent equipment.

During the first two days of construction activities and during the time period that open areas of tailings material are being covered, LQD will monitor personnel skin and clothing for alpha contamination using a Ludlum Model 2224-1 alpha/beta ratemeter/scaler attached to a Ludlum Model 43-93 alpha/beta detector, or equivalent equipment.

5.1.2 Biological Hazards

Snakes and Stinging Insects: Rattlesnakes are commonly found in the Gas Hills during the spring and summer months. Personnel should be constantly vigilant in the field to avoid contact with snakes. A snake bite kit should be maintained in each field vehicle first aid kit. Heavy long pants and boot extenders will help in prevention of snake bites. Long-sleeved shirts and long pants that fit tightly around the boots will help prevent stings from insects. Use of insect repellent will also be helpful. Personnel should check exposed skin for ticks prior to leaving the site each day. Personnel with allergies to insects should be identified and ensure that appropriate emergency treatment is available.

Poisonous Plants: Poisonous plants, such as poison ivy, stinging nettle, etc. are not common in the Gas Hills. However, use of long-sleeved shirts and long pants will minimize contact with brush and other plant material that could cause abrasion or allergic reaction. Personnel with allergies to certain plants should be identified and ensure that appropriate emergency treatment is available.

Noxious Weeds: Noxious weeds, such as Russian thistle, are common in Wyoming and are invasive in areas where the surface soils have been disturbed. To prevent the introduction of noxious or other varieties of invasive weeds, the Contractor will be required to steam clean all field equipment prior to entering the site.

Attachments

ATTACHMENT A JOB SAFETY CHECKLIST

The following Job Safety Checklist has been condensed and edited from the Occupational Safety and Health Act, Part 1926, Construction Safety and Health Regulations.

A. Safety Rules

- ☐ Adequate clothing for site and field conditions. Spare clothing and water available.
- ☐ Hard toed work shoes worn. Sunscreen, hard hats and eye/ear protection as required.
- ☐ Contractor's personnel hold safety meetings as indicated by project requirements in accordance with OSHA Safety standards.
- ☐ Work areas safe and clean.
- ☐ No use of alcoholic beverages or controlled substances.

B. Recordkeeping

- ☐ Safety meeting sign-in logs maintained in a folder.
- ☐ Report all problems with LA vehicle safety equipment or vehicle to LA office.

C. Housekeeping and Sanitation

- ☐ General neatness.
- ☐ Regular disposal of trash.
- ☐ Passageways, driveways, and walkways clear.
- ☐ Adequate lighting.
- ☐ Oil and grease removed.
- ☐ Waste containers provided and used.
- ☐ Adequate supply of drinking water.

D. First Aid

- ☐ First aid kits with supplies and equipment.
- ☐ Injuries promptly and properly treated and reported.

E. Personal Protective Equipment

- ☐ Hard hats, safety glasses, and steel toed boots.
- ☐ Hearing protection, when warranted.
- ☐ Safety vests, when warranted.

F. Motor Vehicles

- ☐ Fully equipped as discussed in Section 3.0.
- ☐ Seat belts worn at all times.

G. Material Storage and Handling

- ☐ Material at least 2 feet from edge of excavation site.
- ☐ Proper temperature and moisture levels for safe storage of materials to prevent deterioration or volatile hazards within the storage area.
- ☐ Inventory maintained and inspected frequently.
- ☐ Proper protective gear worn when handling chemicals.

ATTACHMENT B SAFETY EQUIPMENT CHECKLIST

The following is a list of Safety Equipment that should be available at the job site, if required, or available from the Project Manager or Health and Safety Officer at all times. Equipment should be checked at intervals in accordance with the applicable OSHA Safety Standards to ensure that all required equipment is present and in good condition.

- _____ Safety goggles, shields, and glasses.
- _____ Hearing protection.
- _____ Shovel.
- _____ Hard hats and steel toed boots.
- _____ Fire extinguishers (properly charged).
- _____ First aid kit (check list inside kit).
- _____ Trash bags.
- _____ Site HASP provided to and reviewed with all site personnel.
- _____ Adequate maps of area and navigation devices as necessary.
- _____ Personal equipment: sleeping bag, spare clothing, head protection, food, water, etc.

ATTACHMENT C SAFETY MEETING REPORT

A Safety Meeting Report is signed to indicate attendance and understanding. The form has room for employees of the Engineer, the Contractor, the Owner and all subcontractor personnel to sign after attending the scheduled safety meetings. This form shall be filled out for each jobsite safety meeting that is held. After completion of the form, make a copy to maintain at the jobsite and return the signed original copy to the Engineer.

Safety Meeting Date: _____

Topic: _____

Safety Meeting Conducted By: _____

Employee Name (PRINTED)	Employee Signature	Job Title

Employee Name (PRINTED)	Employee Signature	Job Title

ATTACHMENT D DRUG AND ALCOHOL POLICY

Engineer is committed to providing a workplace which is free from drug and alcohol abuse. We are concerned about the wellbeing of our employees whose drug or alcohol dependency may affect their job performance, job safety, the safety and the wellbeing of their co-workers and the expectations of our clients. To ensure the fulfillment of these goals, Engineer has adopted the following policy:

Engineer prohibits drug and alcohol abuse on the part of all employees. Reporting to the work place, driving a company vehicle or reporting to the premises of any client under the influence of alcohol or any controlled substance is strictly prohibited. The only exception will be for a controlled substance prescribed for the employee by the employee's physician. In order to meet specific rules and requirements by some of our clients we have enacted a specific drug testing policy. It will apply directly to all employees who work or anticipate working with a client that requires testing for illegal drugs and controlled substances in advance of working on the job site. It will also be required should an accident occur at a job site or in transit to or from a job site as determined by Management or on a "cause" basis.

The drug testing can be carried out at CONCENTRA Medical Center located at 2620 E. Prospect Road, Suite 160, Fort Collins, CO 80520, Phone- 970-221-5811.

**ATTACHMENT E.1
EMPLOYEE ACKNOWLEDGMENT**

I state that I have attended the safety orientation and have received and read a copy of the Lidstone & Associates, a Wenck Company (the Engineer) site specific HASP for the ANC Tailings Site Soils Investigation Project. I understand the hazards and controls associated with this work and will implement the controls as indicated. I will inform my supervisor and the Project Manager if there are changes to the hazards or if controls appear to be inadequate.

I further state that I understand the requirements contained in this HASP and acknowledge that compliance with this HASP is a condition of employment. If I violate the HASP or fail to report an accident or injury to my supervisor immediately, I understand that I am subject to termination, in accordance with company policy.

EMPLOYEE SIGNATURE

DATE

SIGNATURE (Responsible Person)

DATE

cc: Supervisor

ATTACHMENT E.2
CONTRACTOR ACKNOWLEDGMENT

I state that I have attended the safety orientation and have received and read a copy of the Engineer's (Lidstone & Associates, a Wenck Company) site specific HASP for the ANC Tailings Site Soils Investigation Project. I understand the hazards and controls associated with this work and will implement the controls as indicated. I will inform my supervisor and the Project Manager if there are changes to the hazards or if controls appear to be inadequate.

I further state that I understand the requirements contained in this HASP and the site-specific HASP of the Contractor. I acknowledge that compliance with this HASP and any other HASP is a condition of working on this site. If I violate this HASP, my employer's HASP or fail to report an accident or injury to my supervisor immediately, I understand that I am subject to termination, in accordance with the Engineer's or the Contractor's policy.

CONTRACTOR SIGNATURE

DATE

SIGNATURE (Responsible Person)

DATE

cc: Supervisor

**ATTACHMENT F
EMERGENCY CONTACT INFORMATION
AND
NEAREST HOSPITAL LOCATION AND DIRECTIONS**

Emergency Contact Information

Police/Fire/Ambulance: 911; other contact numbers include:

Fremont County Sheriff's Office: 307-857-3600

Fremont County Fire District: 307-857-3030 or 307-856-5410

US BLM Cody Interagency Dispatch Center: 307-578-5740

Fremont County Ambulance: 307-857-3669

Air Ambulance: 941-639-7855

Hospital: Sage West Health Care – Riverton (Formerly Riverton Memorial Hospital)

2100 W. Sunset Drive

Riverton, WY 82501

307-856-4161 (General) 307-857-3420 (ER)

Map (see next page) and Driving Directions to Sage West Health Care: WY Hwy 136 west to WY Hwy 789, turn right onto Hwy 789 N, turn left onto E Main St., turn right onto College View Dr., take the 3rd right onto W Sunset Dr., Sage West Health Care facility is on the left.

Project Manager: Chris Lidstone 970-420-5257 (cell)

Health and Safety Officer: Greg Steed 970-819-1783 (cell)

LA Office: 970-223-4705

APPENDIX B3
DESIGN MEMORANDUM

Technical Memo



To: Dominick Orlando, USNRC
Muthu Kuchanur, PE, PhD, Wyoming DEQ

From: Chris Lidstone, Marty Jones, Zack Billingsley, Paul Hildenbrand

Date: October 2, 2017

Subject: ANC Tailings Pond #1 Interim Stabilization Plan Design Memorandum

1.0 Introduction

The results of the Task Order# 002 (TO-2) report was submitted to the Nuclear Regulatory Commission (NRC) in August 2016. The NRC staff has reviewed the Task Order # 002 engineering evaluation/cost analysis reports. Based on the recommendations of the Task Order # 002 report and the Wyoming Department of Environmental Quality, Land Quality Division's (WDEQ) request to revise the Confirmatory Order, the Confirmatory Order was modified to state, "Using the funds remaining from the forfeited reclamation bond, the WDEQ shall perform engineering and reclamation activities to temporarily stabilize the tailings ponds and provide surface diversions.". In a letter dated November 4, 2016, the WDEQ/LQD has accepted this modified Confirmatory Order. With concurrence from the NRC, the WDEQ/LQD issued Task Order # 003 (TO-3) dated March 21, 2017.

The primary purpose of (TO-3) was to complete the engineering design work for covering TP-1 and for the construction of diversion channels around TP-1. The work included sampling of the overburden stockpile, sampling and suitability evaluation of the material within Willow Springs Draw (Wicking Barrier) and identification, surveying and review of various topsoil stockpiles to determine their radiological and chemical suitability for use as cover material. Based on site investigations, suitable material quality and quantity analysis, and estimated construction costs, the proposed design calls for an average cover thickness of 3.25 feet to be placed on TP-1. The engineering analysis shows that this cover will allow successful revegetation and as such will address geomorphic stability and provide an interim cover until additional funding is available for permanent closure of the site. The proposed design will address long term stabilization of TP-1 and minimize adverse impacts to the environment and public health and safety. The remainder of this memorandum provides a summary of TO-3 activities that resulted in the current proposed interim stabilization plan.

2.0 Material Suitability

2.1 Topsoil

The materials suitability investigation included identification and sampling of topsoil stockpiles, overburden spoils material and the sandy channel material in Willow Springs Draw. Additionally, the existing TP-1 cover and the surface of the overburden borrow area was surveyed for radioactivity using a handheld gamma scintillation instrument (MicroR meter).

A total of 11 topsoil stockpiles were identified during site investigations, of which 9 will be used for the TP-1 Cover (**Figure 1**). These stockpiles were surveyed to provide accurate volumes, with the total volume of the available topsoil for the TP-1 cover equaling approximately 50,700 cubic yards (CY). This should provide approximately 12 inches of topsoil over the entire TP-1 area (approximately 36 acres). An additional 12 inches of

growth medium of suitable material will underlie the topsoil. The results of the topsoil sample analyses are provided in **Table 1**. The topsoil was compared to WDEQ Guideline 1 Criteria for topsoil suitability and was determined to meet the suitability criteria.

Table 1: Topsoil Results

Property/Constituent	Result
Texture	Sandy Loam
Sand	64%
Silt	23%
Clay	13%
pH	7.2
Organic Matter	1.30%
Available Potassium	162 ppm
Electrical Conductivity	0.42 dS/m
Nitrogen-Nitrate	5.9 ppm
Radium 226	5.8 ± 0.3 pCi/g
Sodium Bicarbonate Phosphorus	17 ppm
Total 3050 Uranium	9 mg/Kg

An additional 34,000 CY of topsoil is available and can be used for future reclamation activities, as needed, including reclamation of the borrow area.

2.2 Overburden

During the material suitability investigations, test pits ranging in depth from 8 to 13 feet were excavated in the overburden material located to the south and west of TP-1. Each test pit was logged to address lithology, mineralogy, radiometrics, and texture. Logging and evaluation of material suitability was overseen by a licensed geologist. Overburden samples were composited across the following intervals: 0-5 feet and 5-14 feet to compare the differences in material suitability at variable depths. The samples were sent to an EPA approved analytical laboratory and were analyzed for Radium-226, ABP, As, Se, and SAR.

Based on the WDEQ/LQD Guideline 1 suitability criteria, the majority of all samples met Arsenic (<2.0 ppm), Selenium (<0.1 ppm), and Sodium Absorption Ratio (SAR) (0-10) suitability. The pH (5.5 – 8.5) and Acid-Base Potential (>-5 t/1000t) criteria were typically not met. The overburden material had an average acid-base potential (ABP) of -15.2 t/1000t and an average pH of 4.5, indicating highly acidic material and/or material which will become acidic over time. **Figure 2** and **Figure 3** provide the results of the analysis for pH and ABP at the variable depths. As shown in the figures, the deeper material proved to be more suitable in terms of ABP and pH. Radium-226 analyses averaged 9.2 pCi/g, well below the determined suitability limit of 20 pCi/g. Only three samples exceeded 20 pCi/g: TP2-1, TP3-2, and TP4-1. Field mixing and/or separation during excavation should be adequate to maintain soil concentrations at less than 20 pCi/g.

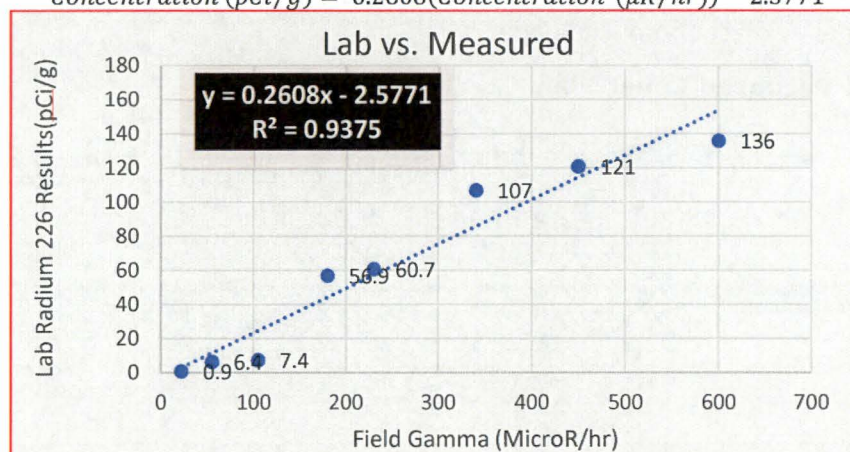
2.3 Radiological Survey

The surface of the existing TP-1 cover and the proposed overburden borrow area were surveyed during the site investigations using a handheld microR meter (**Figure 4**). The existing TP-1 cover consists of approximately 1 to 2.5 feet of cover material, placed on top of the tailings in 1988 by ANC. Since 1988, the existing cover has proven inadequate in reducing the radon emanation to less than the acceptable level of 20 pCi/m²S, as discussed further in Section 3.0. The average background radiometric measurements recorded in native material at a distance of approximately 2000 feet from TP-1, for shielded and unshielded was 38 µR/hr and 50 µR/hr, respectively, which translates as a calculated range

from 7.3 to 10.4 pCi/gm. Data provided by ANC in 1988 indicated an average background (unshielded) gamma exposure reading at one meter from the surface of 40 μ R/hr and an average background Radium-226 concentration of 4.27 pCi/g. Similar studies performed in West and Central Gas Hills areas for Abandoned Mine Lands projects have resulted in similar average background gamma exposure rates ranging from 8 to 11 pCi/gm. Therefore, the unshielded exposure rate determined above appears to be consistent with other historic studies performed at the site and within the Gas Hills area.

Surface gamma measurements were taken at each of the overburden borrow area soil sampling locations. These field measurements were compared to the Radium-226 concentrations measured by the laboratory to create the regression equation below:

$$\text{Concentration (pCi/g)} = 0.2608(\text{Concentration } (\mu\text{R/hr})) - 2.5771$$



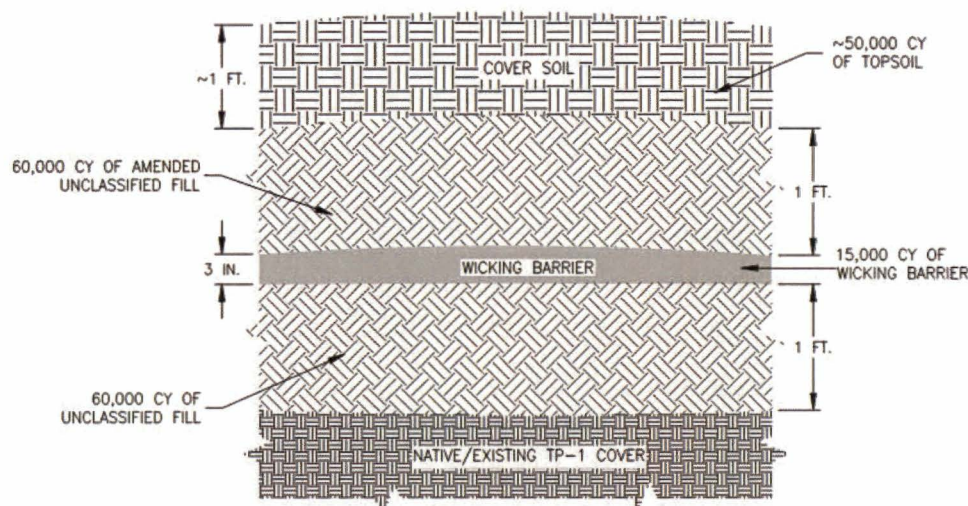
Using this regression equation, surface gamma readings measured in the overburden borrow area and at TP-1 were converted to Radium-226 concentrations in pCi/g. **Figure 4** shows the locations and results of the unshielded field gamma survey, while **Figure 5** shows the calculated Radium-226 concentrations at each location. The average calculated Radium-226 concentration for the overburden material using the regression equation are 7.3 pCi/g and 10.4 pCi/g for shielded and unshielded, respectively. It should be noted that the average Radium-226 content reported by the laboratory was 9.6 pCi/g, which agrees closely with the regression curve calculations. The calculated concentrations were used to establish the suitability of overburden from the proposed borrow area and to characterize the surficial radium content of existing cover material at TP-1. The NRC standards for establishing the suitability of cover material with respect to Radium-226 are based on the background concentration at the site + 5 pCi/g for the first 15 cm depth below surface and background plus 15 pCi/g for each subsequent 15 cm depth. Using the unshielded value above of 10.6 pCi/g, the near surface target for cover Radium-226 concentration is 15.6 pCi/g.

Based on the above, the surface gamma survey data supports the laboratory analytical data used to determine that most of the overburden material is of suitable quality in terms of Radium-226, particularly the material located in the northern half of the borrow area. The surface gamma measurements collected from TP-1 were used in the development of design plans for covering and revegetating TP-1.

3.0 Reclamation Conceptual Plan

Initially, the cover design goal for TP-1 included a 5-foot thick cover including layers of clean spoil material, wicking material, and topsoil. However, as earthwork unit prices and required quantities were developed, it was determined that the remaining funding would allow for only an additional 3.25 feet of cover. The current proposed cover plan, shown in **Detail 1**, includes a 1-foot thick layer of unclassified fill (overburden) over the existing 2.0+/- feet of existing cover, followed by a 3-inch thick layer of wicking material, followed by another 1-foot thick layer of unclassified material amended with lime to buffer the potential for soil acidity. Finally, an approximate 1-foot thick layer of suitable topsoil will be placed over the cover material, and the entire affected surface will be revegetated. The purpose of the wicking layer (coarse textured imported layer) is to ensure vertical drainage from the growth media layers (topsoil and amended overburden), while preventing capillary rise and potential acidification of the upper layers.

Detail 1: TP-1 Proposed Cover Plan



The bottom layer of unclassified material will provide additional protection to the cover material from radon emanation. A 2014 radon emanation study at TP-1, conducted by Oak Ridge Associated universities for the NRC, indicated that with the existing cover (~2-3 feet thick) the radon emanation from TP-1 averaged 32.3 pCi/m²S, with a low of 2.1 pCi/m²S and a high of 189.8 pCi/m²S. It is anticipated that the additional 3.25 feet of cover thickness will reduce the average TP-1 radon emanation rate to less than 20 pCi/m²S. The sand moisture layer (wicking barrier) will provide protection for the bottom fill layer from potential surface seepage that could cause mobilization of water through the tailings. The wicking barrier, in combination with the unclassified fill layer above it, will allow a capillary break to form due to the different hydraulic conductivities of the different materials. This will restrict the flow of water, thereby minimizing the potential of water seepage into the tailings. The top layer of unclassified fill has an average ABP of -7 t/1000 t, which will require an amendment of lime to meet WDEQ Guideline 1 suitability standards. The lime will be imported from Worland, Wyoming (waste product from the sugar beet processing industry) and will be disked into the soil to provide a long-term buffer to future acidification. The lime will be applied at the recommended ABP rate to ensure that there is sufficient CaCO₃ to address future acid-turning potential. This will not only provide immediate support (organic matter and porosity), but will ensure the long-term survival of the surface

revegetation cover. Although approximately 1 foot of topsoil will be placed over the unclassified fill layer, root depths for native vegetation in the Gas Hills can reach to 18-inches below surface, meaning the layer below the topsoil must also be suitable for vegetation growth.

4.0 Design Hydrology

The site hydrology was determined using the precipitation events from TO # 002 (**Table 2**) and delineating the watersheds for the project area. A drainage plan was developed to convey runoff around TP-1. This assumes not only existing topography but also the removal of all blockages to ensure through drainage. Each diversion channel will collect runoff from the surrounding areas, minimizing erosion of the proposed TP-1 Cover. The Rational Method was used to estimate the design discharge from each basin. A Curve Number (CN)= 76 was assumed for the landscape, the hydrologic soil group, and vegetative cover of the project area. Converting the CN to a runoff coefficient (C) allowed the runoff during each event for the western basin (72.6 acres) and the eastern basin (30.2 acres) to be determined. Geomorphic stability of each drainage was a design consideration-given their proximity and purpose to rout flows around the mill tailings (TP-1). Although direct erosion and overtopping flows needed to be addressed, it was important to consider sediment yield and channel aggradation as design considerations.

Table 2: Gas Hills Storm Events

Event	Precipitation (in)
PMP (1 hour)	9.2
100-year, 24-hour	3.3
50-year, 24-hour	2.6
25-year, 24-hour	2.3
10-year, 24-hour	1.9
2-year, 24-hour	1.1

Soil samples were collected in locations that would drain directly into the drainage channels and a Shield's Analysis was conducted to determine the threshold for sediment motion. The analysis concluded that the material was highly mobile and would be entrained during the rising limb of the hydrograph and would be deposited during the recessional limb of the hydrograph. To address this concern, a detention basin that would collect 80% of the western basin runoff was incorporated into the design. With this detention basin, the western basin can be reduced to 14.6 acres, significantly reducing the runoff into the diversion channel. Sized to contain the 100-year event (2.13 acre-feet (AF)) with extra contingency, the basin's capacity is approximately 3.48 AF of water, or 5620 CY of sediment. A Universal Soil Loss Equation (USLE) analysis was conducted on the western basin to determine the approximate amount of time it would take to fill the proposed basin with sediment. Using three different methods (Modified USLE, Julien, and McCool) and assuming a portion of each basin would remain unreclaimed, it was determined that it would take between 37 and 69 years to fill the basin completely, and 14-27 years to reduce the capacity of the basin to below the 100-year event. The capacity of each proposed diversion channel and the detention basin is presented in **Table 3**.

Table 3: Site Design Hydrology

	West Channel (No Detention)	West Channel (With Detention)	East Channel	Total Discharge- Both Drainages with Detention (cfs)	Maximum Total Discharge-Both Drainages (cfs)
Area (acres)	72.6	72.6	30.2	44.8	130.7
PMP (1 hour)	743	149	289	439	1337
100-year, 24-hour	150	30	57	88	269
50-year, 24-hour	91	18	35	53	163
25-year, 24-hour	68	14	26	39	122
10-year, 24-hour	40	8	15	23	72
2-year, 24-hour	2	0	1	1	3

While the diversion channels could be designed to convey the 100-year or greater event in an erosionally stable fashion, such a design approach would result in excessive aggradation under more frequently occurring and lesser return period events. Sediment deposition in the channels could create a backwater or damming effect, causing potential erosion of the TP-1 cover by redirecting flows into the covered tailings. Overall aggradation could result in the loss of channel capacity and allow meandering flow adjacent to the cover. With the approximate discharges for the channels determined, the channels were sized as shown in **Detail 2**. With the highly mobile material, the goal was to ensure that sediment would be conveyed through the channels in a hydraulically efficient fashion. The channel was sized to ensure the velocities remain non-erosive (less than 3.5 ft/s) for events less than the 10-year event. During the 10-year event, the expected velocities for the west and east channels are 2.8 ft/s and 3.2 ft/s, respectively, meeting the 3.5 ft/s criteria. The west channel velocities assume the detention basin is constructed. If there is no detention basin, the velocity increases to 4.2 ft/s in the west channel for the 10-year event. Channel hydraulics for the west and east diversion channels are shown in **Table 4**.

Detail 2: TP-1 Diversion Channel Typical Section

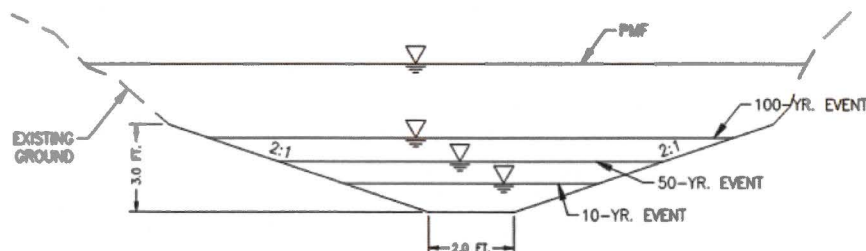


Table 4: TP-1 Diversion Channel Hydraulics

		Flow Event					
		PMF	100-Year	50-Year	25-Year	10-Year	2-Year
Western Channel w/o Detention	Flow (cfs)	743	150	91	68	40	2
	Depth (ft)	6.1	3.1	2.5	2.2	1.7	0.4
	Velocity (ft/s)	8.7	5.8	5.1	4.8	4.2	1.8
West Channel w/Detention	Flow (cfs)	149	30	18	14	8	1
	Depth (ft)	3.1	1.5	1.2	1.1	0.8	0.2
	Velocity (ft/s)	5.8	3.9	3.4	3.2	2.8	1.1
East Channel	Flow (cfs)	289	57	34	26	15	1
	Depth (ft)	4.1	2.1	1.6	1.4	1.1	0.2
	Velocity (ft/s)	6.9	4.6	4.0	3.7	3.2	1.3

1. Manning's n = 0.035

5.0 Grading Plan

5.1 Grading Plan

Prior to commencement of material borrow, high spots upon the existing TP-1 will be regraded to develop a relatively even surface and allow direct placement of the final cover. The overall grading plan will create a uniform and gently sloping surface that will provide support and stability for the additional approximately 3.25 feet of cover. Given the presence of the existing cover (estimated at 2.0 feet) and the addition of 3.25 feet of clean (low radium levels) cover, radon emanations are anticipated to be less than the 20 pCi/m²S background. The final cover will consist of approximately 12 inches of topsoil and 12 inches of suitable subsoil, which will provide adequate growth medium for a revegetated surface. Below the growth medium layer of 24 inches, a 3-inch wicking barrier will protect the subsoil from capillary rise of salts and acidification due to the oxidation of sulfides in the lower layers flux.

Geomorphically the final cover (**Figure 7**) will be slightly domed with an overall grading of 40:1 (H:V) across the regraded and covered tailings and side slopes that tie into the existing topography at a gradient no steeper than 8:1 (H:V). With a well-established vegetated cover, this slightly mounded cover within a protected natural valley will be resistant to wind and water erosion. The adjacent diversion channels will be sized to convey the PMF and will be erosionally stable up to the 10-year event. Lateral erosion into the tailings is unlikely given the thickness of the barrier (ranging from 50 to 150 feet) between the newly constructed diversion and the actual buried tailings. The presence of a grade control (buried rock riprap-see Section 7.1) where each channel outlets to the native channel on the north side of the reclaimed TP-1, will prevent headcutting from the native channel into the diversion channel adjacent to the reclamation (closure) area.

5.2 Borrow Sources and Placement

Using the results of the material suitability investigation, the best quality overburden material was selected for placement on TP-1. **Figure 6** shows that the material is considered suitable for use with respect to ABP and pH. The majority of the samples were collected using a track excavator from the near surface to a maximum depth of 10-14 feet. Due to the unknown material quality below this depth and final borrow area regrading (reclamation) costs, the maximum excavation within the borrow area was established at approximately 13 feet. As shown in **Figures 2 and 3**, the overburden material within the proposed borrow area is more suitable at the lower depths (5-14 feet) and exhibit an

average ABP of -3.3 t/1000t. The upper zone (0-5 feet) exhibits an average ABP of -11.4 t/1000t. Therefore, the excavation will occur in two phases. The first 5 feet of material, or the depth of cut that will generate 60,000 CY will be used for the lower (unamended) layer and will be placed directly on the TP-1 existing surface. After the first 60,000 CY of material is excavated from the borrow area, the remaining approximate 60,000 CY of material will be placed above the wicking barrier and amended with imported lime as part of phase two. The borrow area will be regraded to a concave landform, with slopes from 4:1 (H:V) to 8:1 (H:V) draining into the proposed detention basin. This borrow area will be left unreclaimed under this project.

The topsoil stockpiles that will be used for the TP-1 cover will be loaded and hauled to TP-1. Upon excavation of the topsoil, a minimum of 1 foot of topsoil shall remain at each topsoil stockpile location. The disturbed location will be ripped, disked, and seeded.

6.0 Willow Springs Draw

6.1 Design Considerations

It was initially anticipated that 12 inches of wicking material would be placed on TP-1. After evaluating haul distances and unit price estimates, it was determined that the remaining funds and available field quantities would allow only for a wicking barrier 3 inches in thickness over the approximately 36 acres of TP-1 cover surface. The required material volume is 15,000 CY. During the site investigation in April 2017, a profile and cross sections of Willow Springs Draw were stationed and field textures were established at depths ranging from the surface to 2 feet. A review of pre-1987 mapping indicate that the Willow Springs Draw channel has been subjected to between 4-7 feet of aggradation since its construction circa 1982. The sedimentologic characterization of the upper 2 feet is anticipated to remain consistent to a depth of 3-5 feet. Based on the analysis, it was determined that the material is suitable and will provide an adequate wicking barrier in the TP-1 cover.

6.2 Channel Profile

The existing slope of Willow Springs Draw, on average, is approximately 1.20%. Without creating a large knickpoint, an average depth of 5 feet needs to be excavated out of the channel to generate the required volume of wicking material. **Figure 8** presents the proposed channel profile that will incorporate a new channel cross section to assist in the geomorphic stability of Willow Springs Draw. A narrow pilot channel (20-foot bottom width), with a high flow floodplain will transport the sediment through the reach more efficiently than current conditions allow.

While no modifications to the existing Willow Springs Draw culverts are proposed, adjustments to the channel gradient will provide better transport capacity. The gradient immediately upstream of the culverts will be flattened to approximately 0.80%, while approximately 500 feet upstream, the gradient will be approximately 1.62%. This steepening will increase channel velocities through this section and will convey the sediment through the channel much more efficiently than current conditions. It is anticipated that deposition will continue to occur within the flattened section, where the channel approaches the haul road culvert.

7.0 Miscellaneous Considerations

7.1 Grade Control

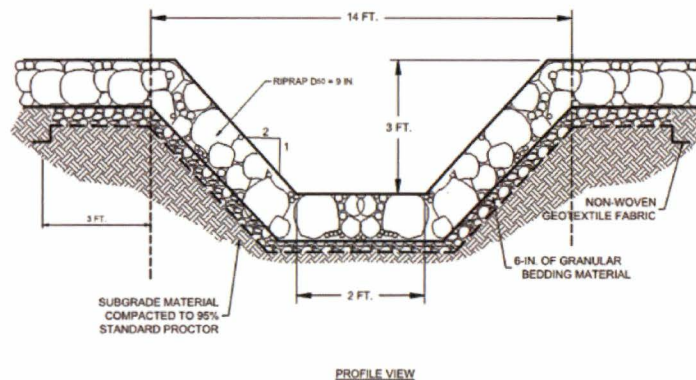
As discussed in Section 4.0, diversion channels on each side of TP-1 will be constructed to prevent erosion of the proposed cover. These channels will extend toward the northernmost

section of TP-1 where they will transition into existing, but steeper native channels. The existing drainages are well vegetated and the presence of this vegetation (grass and shrub) will yield a much more stable system immediately than if one were to construct a new channel. Given slope considerations (averaging 5-7%) a newly constructed channel would require riprap to ensure some degree of stability. For this reason, the design daylights the newly constructed diversion channel into a well vegetated existing channel north of the TP-1 Tailings Dam.

Once vegetation is developed in the constructed channels and throughout the entire site, the system will be much more stable and there will be retardance for both stream and overland flow. During large storm events, there will be potential for channel erosion originating from the steeper downstream native drainages and without correction this could result in a progressive headcut migrating upstream towards TP-1. To prevent any adverse impacts to the TP-1 cover or its adjacent diversion channels, grade control structures will be constructed at the transition from the constructed channels to the native drainages. These structures are designed to ensure that a headcut will not migrate upstream into the constructed channels and threaten the integrity of the TP-1 cover.

The riprap of the proposed grade controls (**Detail 3**) was sized to withstand the 100-year, 24-hour event. Using the Riprap Design Software, RDS3, various methods were used to analyze the hydraulic conditions during this type of event. Using the method by the Army Corps of Engineers (USACE), a D50=9 inches was determined to be of sufficient size to withstand events exceeding the 100-year event in both the east and west drainage channels.

Detail 3: Grade Control Structure Detail



Figures

Figure 1: Site Overview

Figure 2: Cover Material Suitability - pH

Figure 3: Cover Material Suitability (ABP)

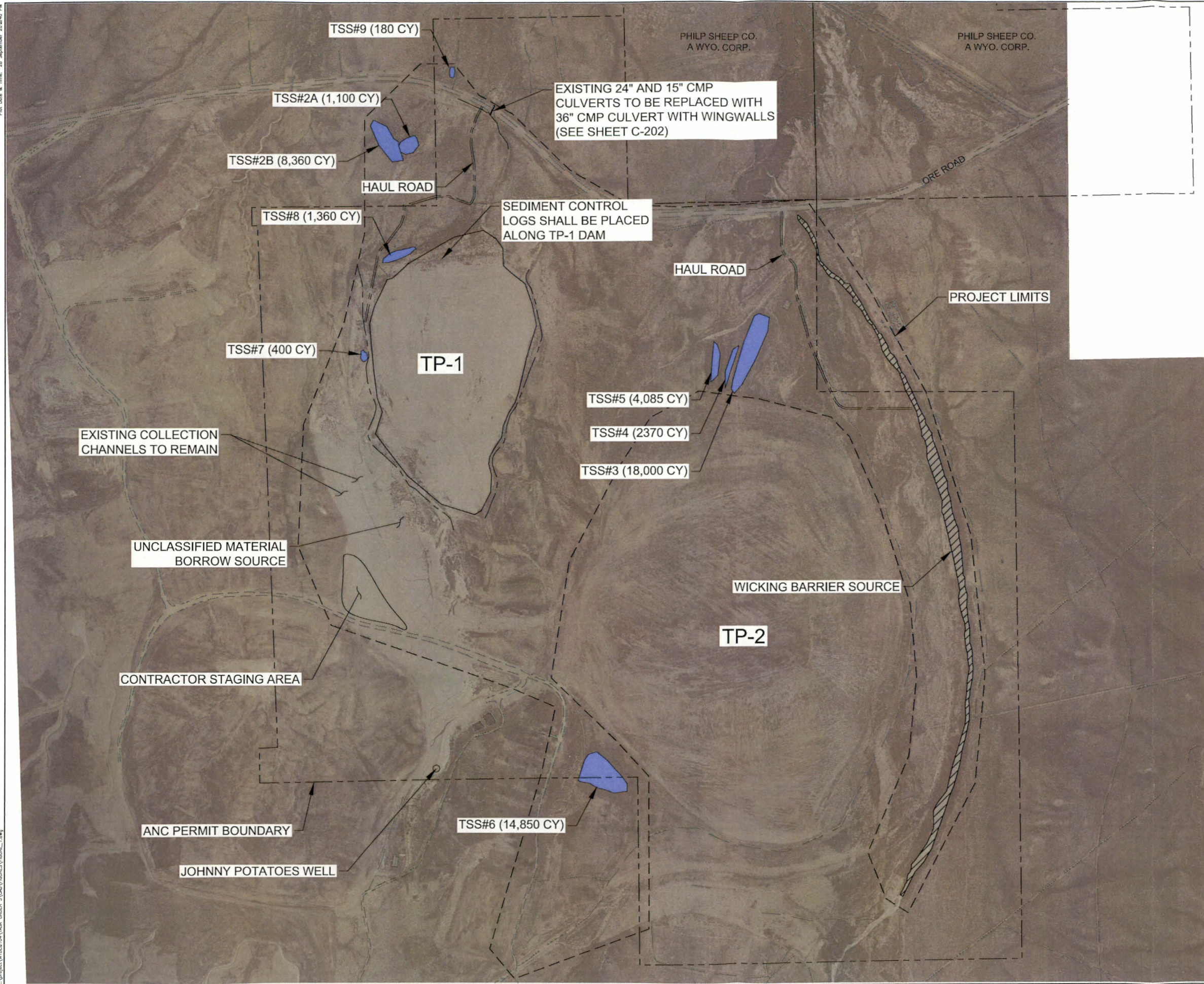
Figure 4: Surface Radiological Measurements (microR)

Figure 5: Surface Radiological Measurements (pCi/g)

Figure 6: Material Borrow Plan

Figure 7: TP-1 Cover Plan

Figure 8: Willow Springs Draw Plan and Profile



LEGEND

- HAUL ROAD
- PROPERTY BOUNDARY
- WICKING BARRIER SOURCE
- TOPSOIL SOURCE PILE

NOTES:

- ALL TOPSOIL STOCKPILES USED FOR TP-1 SHALL BE RECLAIMED AND TIED INTO EXISTING GROUND AND REVEGETATED.
- WATTLES TO BE PLACED IN THE COLLECTION CHANNELS, AND WITHIN THE DISTURBANCE AREA AT THE DIRECTION OF THE ENGINEER.
- CONTRACTOR SHALL CONDUCT RECLAMATION OPERATIONS WITHIN THE PROJECT LIMITS.

REV	REVISION	DESCRIPTION	DWN	APP	REV DATE

CLIENT
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND QUALITY DIVISION

PRIME CONSULTANT

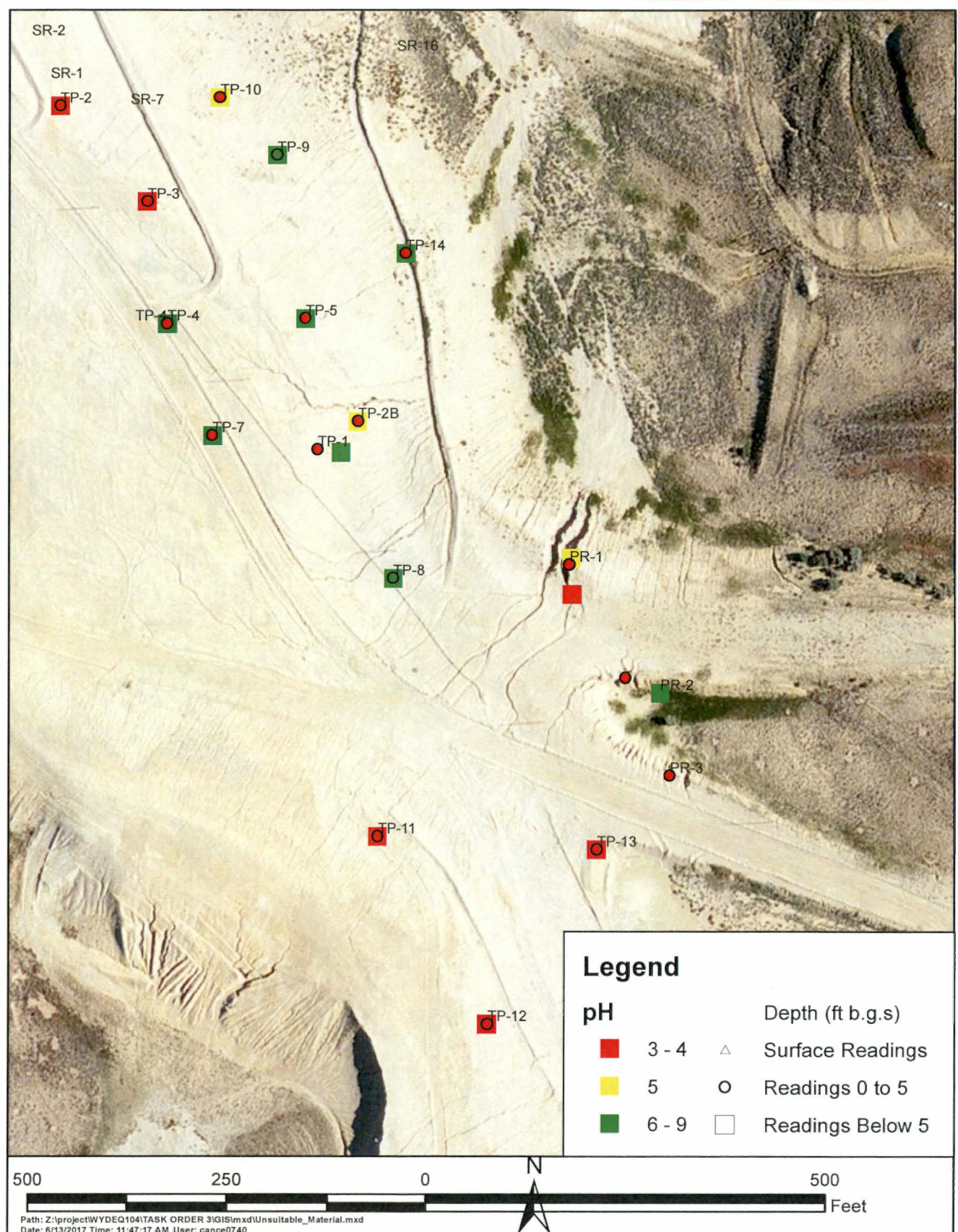
Responsive partner, Exceptional outcomes

SUB CONSULTANT

PROJECT TITLE
AMERICAN NUCLEAR CORPORATION
TP-1 INTERIM STABILIZATION PLAN

SHEET TITLE
SITE OVERVIEW

DWN BY DJW	CHK'D CMJ	APP'D CDL	DWG DATE 9/28/17
PROJECT NO. WYDEQ104	SHEET NO. FIGURE 1	SCALE	REV NO.



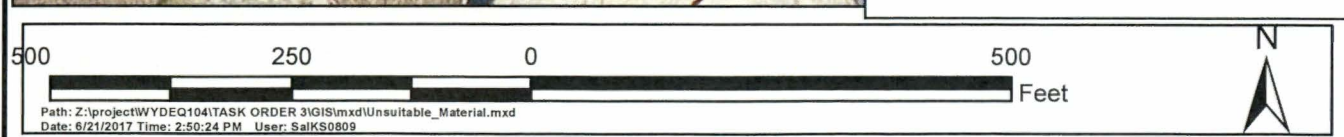
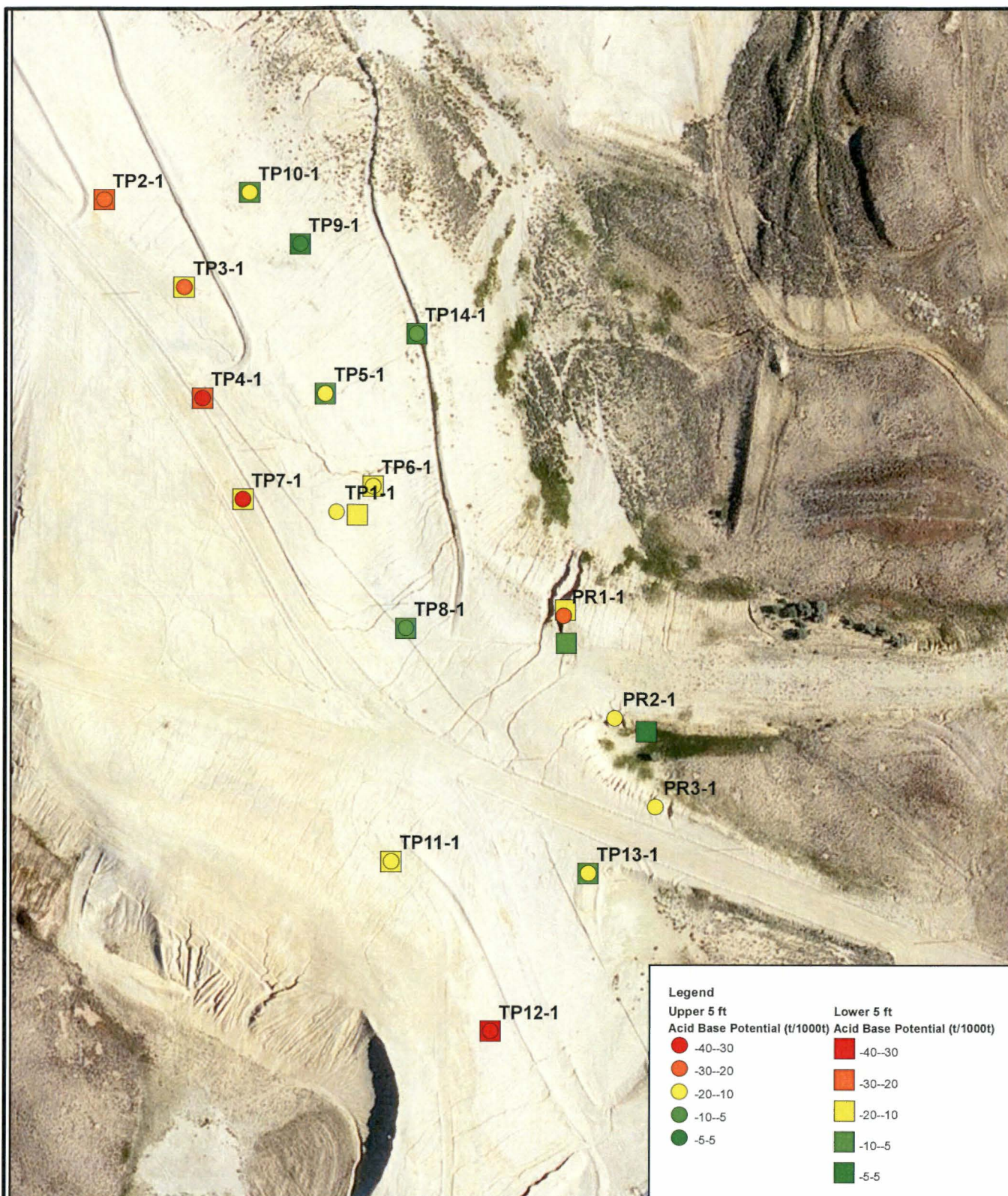
ANC TASK ORDER 3- DATA COLLECTION

Cover Material Suitability - pH



JUNE 2017

Figure 2



ANC TASK ORDER 3- DATA COLLECTION

Cover Material Suitability



JUNE 2017

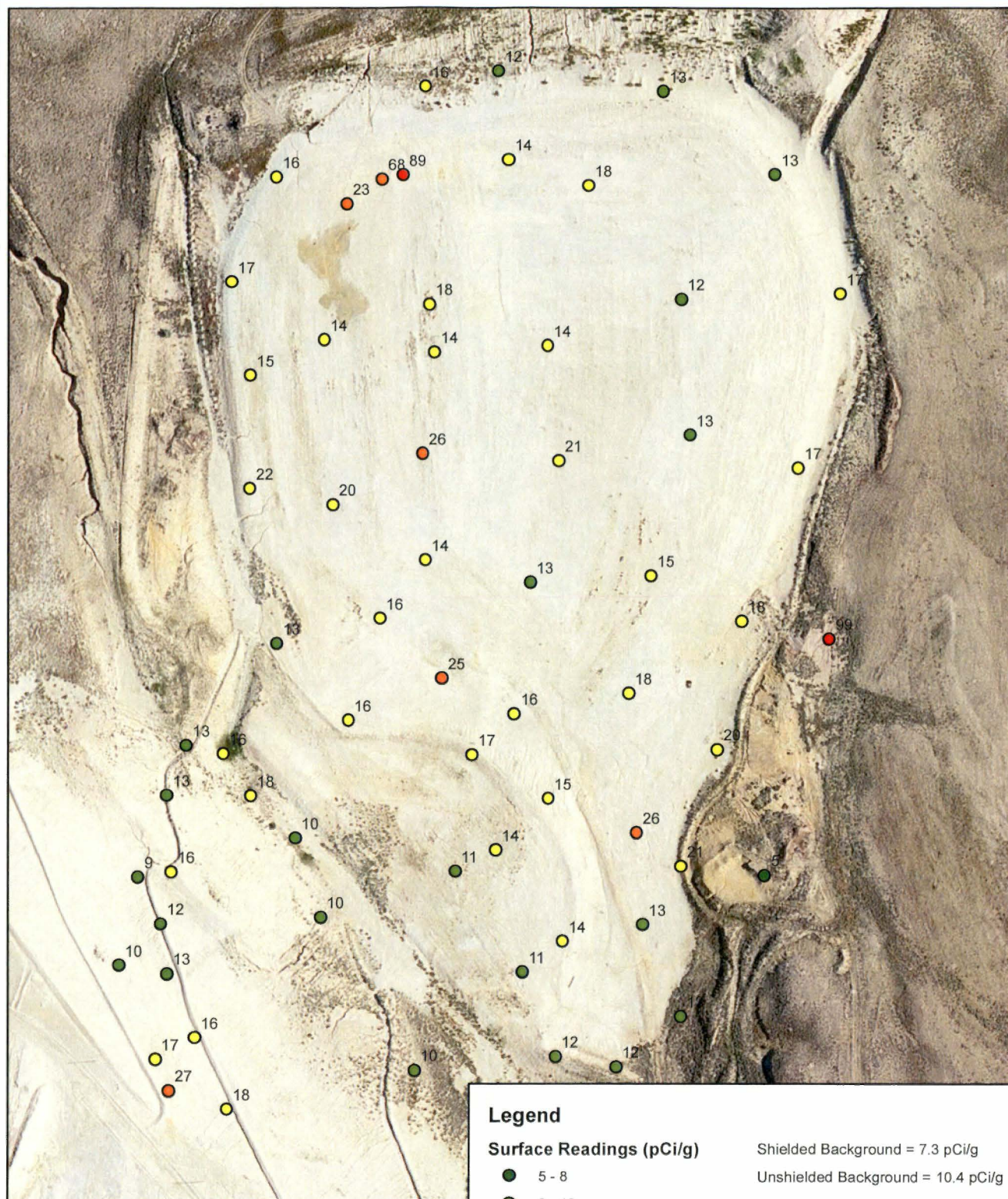
Figure 3



ANC TASK ORDER 3- DATA COLLECTION
 SURFACE RADIOLOGIC MEASUREMENTS



AUG 2017
 Figure 4



250 125 0 250
Feet

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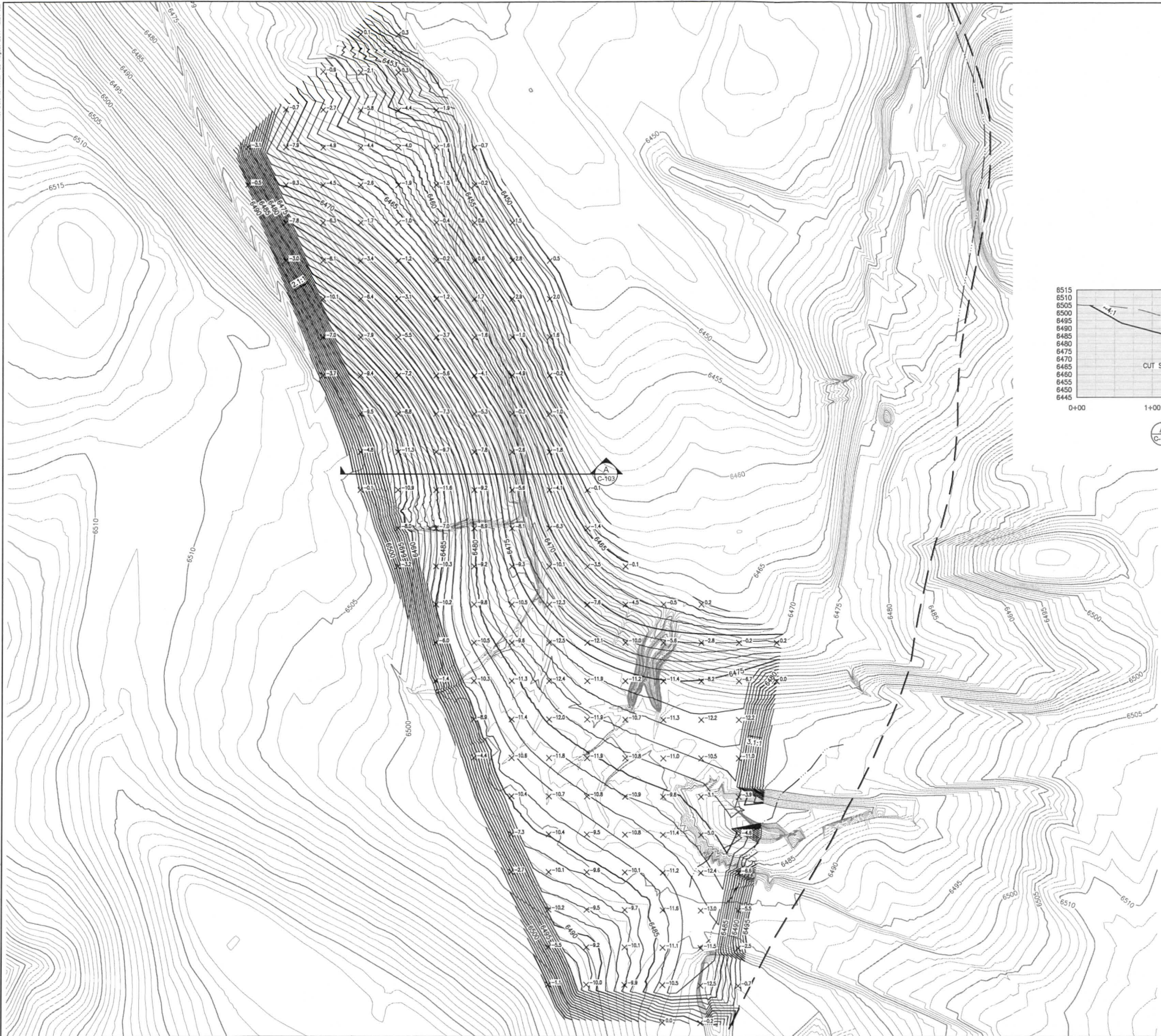
ANC TASK ORDER 3- DATA COLLECTION

Surface Radiological Measurements



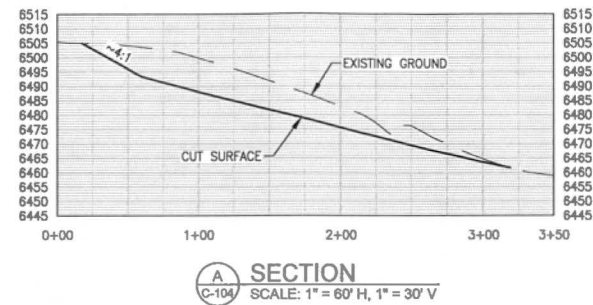
AUG 2017

Figure 5

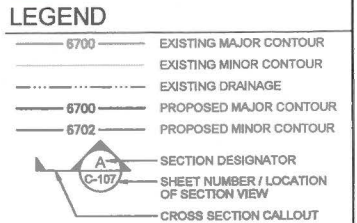


LEGEND	
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6700	EXISTING MINOR CONTOUR
6700	EXISTING DRAINAGE
6700	PROPOSED MAJOR CONTOUR
6702	PROPOSED MINOR CONTOUR
X-11.00	CUT/FILL TICK
A	SECTION DESIGNATOR
C-104	SHEET NUMBER / LOCATION OF SECTION VIEW
	CROSS SECTION CALLOUT

- NOTES:
- VOLUME OF BORROW MATERIAL: 100,000 Cu. Yds. (CUT)
 - BORROW MATERIAL TO BE EXCAVATED AND HAULED TO TP-1.

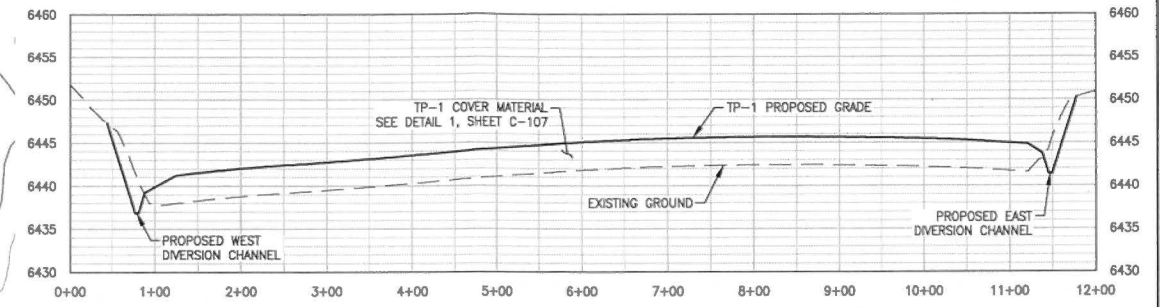


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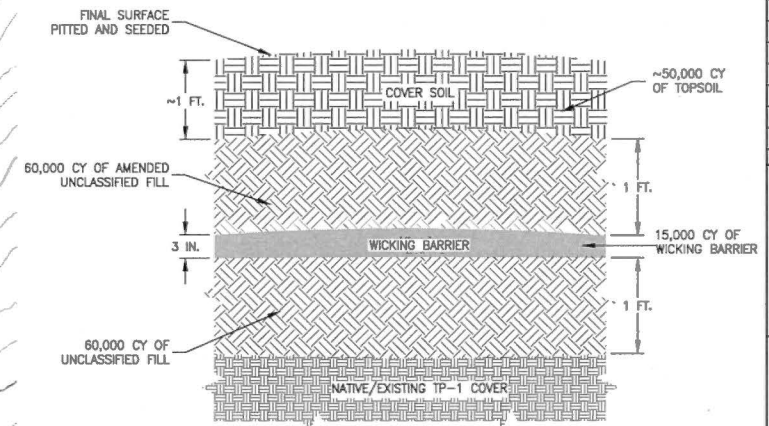


NOTES.

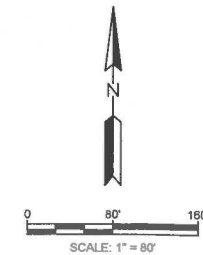
1. TOTAL VOLUME PLACED ON TP-1: 191,700 Cu. Yds.
2. UNCLASSIFIED EXCAVATION VOLUME: 126,000 Cu. Yds.
3. WICKING BARRIER VOLUME: 15,000 Cu. Yds.
4. TOPSOIL VOLUME: 50,700 Cu. Yds.
5. CONSTRUCT GRADE CONTROL STRUCTURES AT TRANSITIONS FROM GRADED CHANNELS TO NATIVE CHANNELS. SEE DETAIL 1, SHEET C-501.

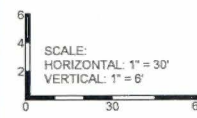


SECTION
SCALE: 1" = 100' H, 1" = 10' V



1 TP-1 COVER MATERIAL
C-107 NOT TO SCALE

[illegible]



REV	REVISION DESCRIPTION	DWN	APP	REV DATE
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CLIENT _____

WYOMING DEPARTMENT OF
ENVIRONMENTAL QUALITY
LAND QUALITY DIVISION

PRIME CONSULTANT



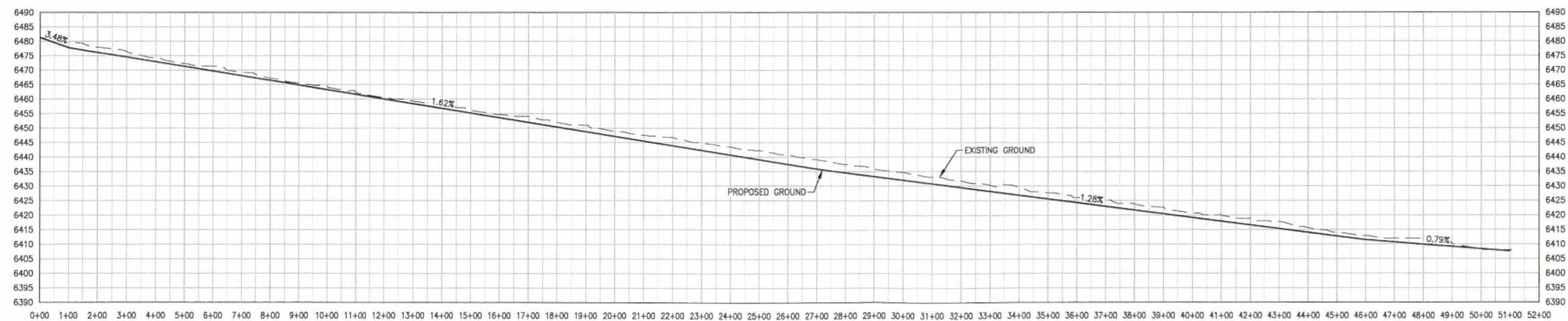
CLUB CONSULTANT

PROJECT TITLE
AMERICAN NUCLEAR CORPORATION
TP-1 INTERIM STABILIZATION PLAN

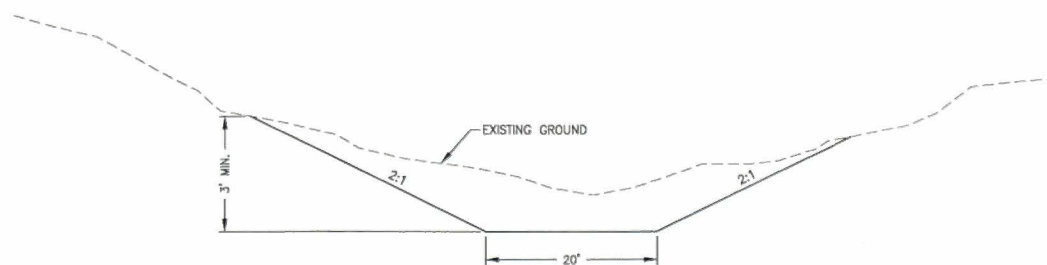
SHEET TITLE
WILLOW SPRINGS DRAW PLAN AND PROFILE

DWN BY DJW	CHK'D CMJ	APP'D CDL	DWG DATE 8/30/17
			SCALE
PROJECT NO. WYDEQ104			REV NO.

Figure 8



WILLOW SPRINGS DRAW PROFILE
SCALE: 1" = 200' H, 1" = 20' V



WILLOW SPRINGS DRAW TYPICAL SECTION
SCALE: 1" = 10' H, 1" = 10' V

Specifications

Section J – Earthwork

Section L – Drainage Construction and Control

Section N – Revegetation

SECTION K
EARTHWORK
ANC TP-1 INTERIM STABLIZATION PROJECT

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EARTHWORK

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SECTION K EARTHWORK

1.0 GENERAL

- a. This section applies to all earthwork activities associated with this project including excavation and backfill with on-site unclassified and/or unsuitable soil materials, excavation and placement of the wicking material, and salvaging and handling topsoil, as well as clay for a pond liner.
- b. Construction activities at the site may include the following.
 - (1) The regrading and/or partial backfill of mining areas, and regrading of borrow material, which include:
 - Interim grading of the existing TP-1 surface;
 - Selective handling and disposal of Unsuitable materials and placement of the materials at designated locations;
 - Excavation and placement of Unclassified materials; and,
 - Placement of a cover and preparation of the final regraded slope.
 - (2) Excavation and placement of wicking material, which includes:
 - Excavation of the wicking material from Willow Springs Draw and haul to TP-1 site;
 - Direct placement of the wicking material on the TP-1 Cover as designated on the Drawings.
 - (3) Salvage of Topsoil from existing stockpiles, which includes:
 - Excavation, haul, and direct placement of topsoil on finished slopes as designated on the Drawings.
 - (4) Salvage of Topsoil from excavation areas and drainages, which includes:
 - Excavation, stockpiling and/or direct placement of salvaged topsoil and/or cover soil material on finished slopes or at stockpile locations as designated on the Drawings. The intent of this specification is to utilize direct placement methodologies to the maximum extent possible.
 - (5) Establishment of diversion channels and/or drainages and installation of drainage control structures, which include:
 - Construction of drainage channels, rock structures, erosion control ditches and storm water control facilities.

- (6) Construction of a Detention Pond and placement of compacted low permeability material within the floor of the Detention Pond, which includes:

- Excavation of overburden material and placement onto the surface of TP-1;
- Compaction of imported low permeability overburden and/or clay, placement, and liner compaction.

- (7) Revegetation of the site (see Section N):

- c. All construction equipment that is mobilized to the construction area during this project shall be pressure washed prior to transporting the equipment to the project site. The equipment will be inspected by the Engineer to ensure that the equipment has been properly cleaned.
- d. Contractor shall be responsible for grade staking and compliance testing where compaction is required.
- e. The Contractor shall ensure that no activity or disturbance occurs outside of the Project Limits.
- f. Contractor shall be on notice that Unsuitable material excavation will be closely controlled by the Engineer. The Drawings define select locations where excavation is anticipated and material is unclassified. If Unsuitable material is encountered, such material will be set aside and regraded onto an adjacent spoils surface. Additional sites may be identified by the Engineer during field construction observation and the Contractor will be required to avoid those additional sites and areas.
- g. The Contractor shall prepare his bid and work schedule such that he will complete the project during the scheduled time period. Discontinuance of Work due to adverse weather conditions is described in Section G, 2.I of the Specifications.

1.1 Scope of Work

- a. The Contractor shall furnish all labor, tools, supplies and equipment necessary to perform the site preparation, excavation, backfilling, compaction, and grading as described herein and as requested by the Engineer.
- b. All excavation, backfilling, disposal of Unclassified materials and material hauls shall be conducted at the locations shown on the Drawings and to the lines and grades shown on the Drawings. The Contractor shall be solely responsible to determine the method(s) necessary to excavate and backfill all designated grading and disturbed areas according to the Drawings and/or as established in the field by the Engineer.
- c. The Engineer will identify the various material types and boundaries. The Contractor is responsible for the segregation and handling of the materials according to the material classification. The presence or absence of the Engineer shall not relieve the Contractor of this responsibility.

- d. Selective handling of Unsuitable material and Topsoil during excavation and backfill activities may be required.
- e. Construction of a soil liner system for a Detention Pond may be required. The placement of the soil liner shall consist of placement of two lifts of selectively handled site materials conditioned and compacted to specified requirements.
- f. Construction of two channels, including riprap grade control structures.
- g. The Contractor should be aware that old mining debris such as tires, old pieces of equipment, pipe, concrete, wood, domestic solid waste, etc., may be encountered. If encountered, they will be disposed of as requested by the Engineer.

1.2 Site Conditions

- a. It is the responsibility of the Contractor to examine the site personally and to conduct such additional investigations as he/she may deem necessary for the planning and execution of the work.
- b. The Contractor shall be aware that uranium and uranium dust are hazardous materials. The Contractor shall be responsible for using extreme caution when performing the work and take appropriate measures that will reduce the possibilities of inhalation of uranium dust. The Contractor shall provide water for dust control as specified herein, described in the Storm Water Pollution Prevention Plan, and as requested by the Engineer.
- c. The Contractor is responsible for the health and safety of personnel, subcontractors, and suppliers. Special precautions shall be taken to protect operators and equipment from hazards. The Contractor, personnel, subcontractors, and suppliers may be exposed to uranium dust, fumes, and carbon monoxide during performance of the work.

1.3 Clearing and Grubbing

The Contractor shall clear, grub, remove, and dispose of all encountered debris within the excavation and fill areas shown on the Drawings, or as requested by the Engineer prior to commencing excavation activities.

1.4 Construction Sequence

The general earthwork construction sequence described herein is recommended to achieve the overall reclamation goals for the project. Mobilization, storm water controls, project limit controls, and other pre-construction efforts shall be completed prior to the initiation of earthwork activities. This subsection is not intended to release the Contractor of any obligation to provide a comprehensive sequence of construction, definition of ways and means, and/or a schedule of work. The following section is provided to increase the Contractor's understanding of the project. The Contractor shall schedule his activities in one or more areas considering potential delays and encumbrances including, but not limited to, potential weather conditions, delays for testing and sampling and interim surveys.

- a. Prior to mobilizing equipment, the Contractor shall salvage Topsoil from the staging and borrow areas and place into a stockpile.
- b. The Contractor shall sequence construction activities to minimize double handling of Topsoil or Coversoil. Topsoil shall be stripped from areas noted on the Drawings or identified in the field by the Engineer. The approximate depth of Topsoil to be removed at all locations shall be 12 inches. Stripping depth will be field verified by the Engineer. Where necessary Topsoil shall be stockpiled in a neat, well-dressed pile for future handle and placement. The Contractor shall work around these Topsoil stockpiles until the project is complete.
- c. The Contractor shall complete all temporary erosion control features and hydrologic control structures for storm water control.
- d. Following development of the staging area, the interim grading plan of TP-1 shall be completed as noted in the Project Drawings. Existing high spots shall be moved to fill low spots to create a more uniform surface.
- e. Following removal of Topsoil, the Contractor shall excavate the Unclassified material consistent with the Project Drawings. Placement of the Unclassified material shall occur as noted on the Drawings. It is anticipated that the upper lift (5-6 feet) of Unclassified material as noted on the Drawings shall be directly placed on the regraded TP-1 cover as the first 1-foot overburden lift.
- f. The wicking material from Willow Springs Draw will be excavated as shown on the Drawings and directly placed on TP-1 above the first layer of Unclassified material.
- g. The second lift of unclassified material, ranging from depths of 6-12 feet more or less will be placed on TP-1 after the placement of the wicking material, as identified in the Drawings. Final slopes of the borrow area shall be reduced to a 4H:1V minimum slope, as detailed in the Drawings. This lift of Unclassified material will be amended using imported lime.
- h. The proposed channels and detention pond shall be constructed according to the grading plan, along with riprap grade control structures and side slopes as noted on the Drawings.
- i. A liner of salvaged low permeability materials will be constructed in the pond footprint, as shown in the Drawings and as outlined in these Specifications.
- j. Following completion of rough grading on TP-1, the Contractor shall excavate the topsoil stockpiles and place directly on TP-1 and other designated Topsoil placement locations. All disturbed areas identified for seeding on the Drawings shall be revegetated according to these Specifications, see Section N.
- k. The Contractor shall install final Storm Water Control features to ensure compliance with the Storm Water Control Plan.

2.0 MATERIAL CATEGORIZATION

- a. The Contractor shall be responsible for the selective excavation of Classified materials as defined in Section I, identification in the field, and placement of those materials in the proper sequence. The presence or absence of the Engineer does not relieve the Contractor of the responsibility to excavate, haul, and place the various categories of materials to the lines and grades shown on the Drawings or as established in the field by the Engineer. Materials to be excavated, hauled, and placed are as follows:
 - (1) Unclassified Material
 - (2) Wicking Material
 - (3) Topsoil
 - (4) Channel Excavation
- b. Unclassified material includes subsoil, underburden, spoils and weathered rock. Such material shall be suitable for near surface placement as defined by the Engineer or as presented on the Drawings. Suitable material includes low radioactivity, non-acidic and non-deleterious material. Weathered rock (sandstone, siltstone) includes all rippable substrate assuming a ripping tooth for a D6H Caterpillar (flywheel HP of 165) or an equivalent. Unclassified excavation and placement includes excavation, ripping, loading, and hauling to a designated fill area, placement, and final grading.
- c. Wicking material includes sandy material taken from Willow Springs Draw. Wicking material excavation and placement includes excavation, ripping, loading, and hauling to a designated fill area, placement, and final grading.
- d. Topsoil and Coversoil material includes all suitable surface soil material, generally comprised of the A, B and C-horizons or overburden material that has an existing stand of desirable vegetation that are suitable for plant growth. It includes soil, roots, organic materials, and vegetation. Topsoil excavation includes excavation, loading, and hauling to a designated fill area or stockpile. Topsoil excavation also includes excavation and hauling from a stockpile location to the final placement area.
- e. Unsuitable material includes uranium mining spoils, uranium waste, highly acidic and/or radioactive or other deleterious materials and shall be placed at an approved fill location. It does not include metal objects, concrete, wood materials, or other man-made materials or domestic debris. Such materials shall be removed from the site and disposed of properly.
- f. Classification of materials will be at the discretion of the Engineer.

3.0 EXECUTION

3.1 Clearing and Grubbing

- a. Existing vegetation, including brush, grass, and other suitable material, that can be used as mulch shall be cleared from the excavation areas and stockpiled in a location

designated by the Engineer. The Contractor shall selectively place woody vegetation and mulch on final surface as requested by the Engineer. This work shall be incidental.

- b. The Contractor may dispose of the remaining refuse generated from clearing and grubbing at an available waste site, reviewed by the Engineer. The Contractor shall dispose of these materials in such a manner to meet all requirements of state, county, and municipal regulations regarding health, safety, and public welfare. The Contractor shall obtain necessary permits and/or pay the necessary fees to DEQ or the County for material disposal.

3.2 Salvage and Stockpiling of Topsoil and/or Coversoil

- a. Prior to Topsoil salvage, all old mining debris, tires, equipment, wood, domestic solid waste, etc., that may interfere with grading activities shall be removed from the site and disposed of as requested by the Engineer.
- b. Potential Topsoil locations include all areas where plant growth currently exists. The actual locations of Topsoil or Topsoil Stockpiles will be defined in the field by the Engineer or are identified on the Drawings.
- c. Stripping of Topsoil material shall be conducted in all excavation and embankment areas where the Topsoil material has been determined as suitable. Topsoil shall only be stripped when the ground is free of frost to allow proper excavation, removal, and stockpiling. Topsoil shall be stripped to a minimum depth of 12 inches, or as requested by the Engineer and stockpiled at locations designated by the Engineer. Topsoil stockpiles shall be constructed in a manner to minimize wind and water erosion. Temporary measures to protect topsoil stockpile may be required.
- d. Removal, excavation, haul, and placement of topsoil from Topsoil Stockpiles will occur following placement of TP-1 cover. To the extent possible, the Contractor shall limit road construction and utilize existing roads. The Contractor shall strip topsoil from existing land surface prior to construction of roads and/or staging. At the end of topsoil excavation and haul operations, stripped topsoil shall be replaced or a minimum of 12 inches shall remain along the stockpile footprint and all disturbance shall be revegetated.

3.3 Interim Grading Plan

- a. The existing TP-1 cover shall be leveled to create a more uniform surface by dozing existing high spots. The material shall be pushed to low spots to the satisfaction of the Engineer or as shown on the Drawings.
- b. The leveling of the existing cover land surface shall be within 0.1 feet to the lines and grades shown on the Drawings or to the satisfaction of the Engineer.

3.4 Finish Grade Control

- a. The Contractor shall provide a qualified grade control person whose duties will include off setting construction staking and coordination with the Engineer as

required to ensure the desired cuts and fills are achieved. All areas will be graded at the completion of earthwork activities to achieve the design elevations and contours to provide continuity of slopes and to provide smooth transitions between different slopes.

- b. Accurate trimming of the slopes will not be required except where specifically stated or in drainage ways, channels, ditches, safety berms and roads. All slopes will be blended evenly to provide continuity of slopes and to provide smooth transitions between different slopes.
- c. Excavation of the pre-mining land surface, Unsuitable materials, Topsoil, and Unclassified materials shall be within + 0.5 feet and backfill shall be constructed to within 0.1 feet the established lines and grades as shown on the Drawings or staked by the Engineer. Ditches and channels shall be constructed to within + 0.1 feet of design grade.

3.5 Excavation and Placement

- a. Unclassified material shall be excavated, hauled, and placed from areas within the designated Project Limits to the locations shown on the Drawings and to the lines and grades shown on the Drawings.
- c. Each lift of excavated material shall be placed in approximately horizontal layers. With the exception of lifts underlying the channels or within the Detention Pond floor, no density requirements will be applied. However, the Contractor shall conduct the placement in such a manner to obtain the maximum compaction by equipment traffic.
- d. Accurate trimming of fill slopes will not be required but the slopes shall be constructed reasonably close to the established lines and grades as shown on the Drawings or staked by the Engineer.
- e. The Contractor shall apply dust control water when needed or as requested by the Engineer.
- f. All drainage way transitions from existing channels to constructed channels in the Project Limits, or vice-a-versa, shall be uniform and gradual as requested and reviewed by the Engineer.
- g. After fill placement has been completed, all excavation and embankment areas shall be final graded to the satisfaction of the Engineer. All mining debris, from past or current operations, shall be removed from the final graded surface and disposed at suitable locations identified by the Engineer. Cut slopes shall be blended with adjacent terrain by rounding the top of slopes, and inslopes and backslopes shall be trimmed to eliminate any windrows or abrupt grade changes. The final graded surface shall be free from all deleterious materials that may be detrimental to revegetation activities, as determined by the Engineer.
- h. Excavation of Unsuitable material shall be completed in a selective manner and at the Direction of the Engineer. Unsuitable material will be excavated with minimal

disruption to surrounding or underlying Unclassified material and set aside for ultimate placement in a nearby fill. Excavation equipment that is utilized to haul Unsuitable material, if such haul is necessary shall be loaded to an appropriate capacity to ensure that there will be no spillage of Unsuitable material from the haulage equipment.

- i. Unsuitable material can be encountered during excavation operations at any area within the project. The presence of Unsuitable material shall be determined and its location defined in the field by the Engineer. The Contractor shall not at any time make claim for additional payments or consideration because of any misunderstanding regarding (1) the nature of the materials, (2) variation in quantities encountered in the excavations.
- j. Unsuitable material shall be placed at the disposal locations identified by the Engineer in such a manner as to isolate these materials from natural dispersive forces (wind and water erosion).
- k. The location of Topsoil and/or Coversoil materials has been tentatively identified and shown on the Drawings. However, Topsoil material can be encountered during excavation operations at any area within the project. Past mining operations tended to place material of variable quality in the same area. The presence and concentrations of Topsoil materials shall be determined and its location defined in the field by the Engineer.
- l. During excavation, Topsoil material may be encountered within areas of Unclassified material. The Engineer may survey and sample Topsoil material within the Unclassified material excavation. Topsoil or subsoil that is deemed adequate for a growth medium by the Engineer will be placed into a stockpile or directly placed onto slopes that are at final design grade. Contractor shall make every effort to minimize the amount of material placed in stockpile and maximize direct placement.
- m. After final grading and the suitable overburden lift has been completed, lime shall be incorporated into the upper lift of overburden. This lime shall be ripped or scarified into the upper lift of suitable overburden. Topsoil shall be removed from existing stockpiles, hauled, and placed in approximately horizontal layers over the final grade. Topsoil shall typically be placed to a 12-inch consolidated depth or as defined by the Engineer. Following placement of Topsoil, it will be bladed to a uniform grade as defined by the Engineer.

- (1) All Topsoil which is placed in stockpiles, shall be approved in advance by the Engineer.

3.6 Detention Pond Construction and Placement of Liner

- a. The Contractor shall excavate the Detention Pond to the lines and grades presented on the Drawings.
- b. Excavated materials shall be placed in compacted 6-inch lifts into the Detention Pond dam and/or placed within the upper overburden lift (not compacted) of TP-1. Each lift shall be compacted to 95% Standard Proctor Compaction Density and within 3% of

Optimum Moisture. The Contractor shall anticipate that water may need to be added to the material to achieve optimum moisture content.

- c. Low permeability overburden or stockpiled clay material will be placed within the pond bottom. Placement shall occur in 6-inch lifts for a total depth of 12 inches. Each lift shall be compacted to 95% Standard Proctor Compaction Density and within 3% of Optimum Moisture. The Contractor shall anticipate that water may need to be added to the material to achieve optimum moisture content.
- d. Low permeability overburden can be obtained on site at locations identified by the Engineer. If clay material is required, such material shall also be obtained on site and shall be selectively handled from existing excavations and stockpiled until placement within the floor of the Detention Pond.

4.0 BRACING, SHORING, AND BENCHING

- a. Excavated surfaces too steep to be safe and stable if unsupported shall be supported as necessary to safeguard personnel, equipment, and work and to prevent adjacent ground from sliding.
- b. It is the Contractor's responsibility and liability to determine if bracing, shoring, or benching is necessary in order to ensure safety and to comply with all applicable Wyoming Occupational Health and Safety and Federal Occupational Safety and Health Administration Regulations. All shoring, bracing, or benching required shall be constructed in accordance with the regulations for construction as set forth by each of these entities.

5.0 DUST CONTROL

The Contractor shall provide dust control measures for health, safety, and the reduction of a dust nuisance at the construction site. These measures shall consist of the application of water to the disturbed surfaces, access roads, stockpiles, and haul roads. Water shall be uniformly applied in a fine spray by means of controllable pressure and spray bars or nozzles and in such a manner that will avoid ponding or over wetting. The water truck described in this section shall be properly fitted with such equipment.

6.0 CONSTRUCTION WATER

The Engineer has received permission from Wyoming AML to obtain water for dust control purposes from the Johnny Potatoes well, located approximately 0.25 mile south of TP-1, as discussed in Section J of these Specifications.

7.0 MEASUREMENT AND PAYMENT

7.1 Method of Measurement

- a. Prior to commencement of work, the Contractor shall verify to the extent necessary and approve in writing the Engineer's existing ground and stockpile surveys. These existing ground and stockpile surveys shall be the determination of Initial Ground. Final ground will be surveyed at the end of the Work.

- b. The Contractor and Engineer shall agree prior to any earthwork being performed on the methodology that will be utilized to determine the volumetric quantities of Earthwork including unclassified excavation, wicking material excavation, and topsoil excavation. Methods that may be utilized include survey quantity determination based on the difference in the Existing Grade and the Final Grade (determined by survey) for excavated and stockpiled areas or Load Count with swell and consolidation factors. Interim surveys may be required to address stockpiled quantities or overexcavation.
- c. The interim grading of the existing TP-1 cover shall be paid using the loaded equipment hour rates agreed upon before initiation of construction and as identified under Section O Force Account.
- d. Interim surveys may be required to determine excavation quantities for materials excavated from the Borrow material sites. Contractor shall take the need to complete the quantity surveys into account for planning of Work sequencing.
- e. Volume of Topsoil that has been placed in stockpiles has been surveyed and such data shall be presented to the Contractor. Stockpiled volume for payment for Topsoil shall be by bank cubic yard (BCY), accounting for swell factor when placed into stockpile. Sub-excavation shall be measured by interim survey.
- f. The Contractor shall review and approve the topsoil stockpile surveys prior to re-disturbance of stockpiles. Topsoil stockpiles, where double handle of material is required will be approved by the Engineer and measured. Topsoil stockpiles, for the Contractor's convenience, shall not be measured for payment.
- g. The sum of quantities for individual materials within a given excavation area will not exceed the total volume of material excavated as determined from initial and final surveys. Interim and final surveying to establish interim and final grades for measurement of excavation and stockpiled material for payment will be performed by the Engineer.
- h. Overexcavation, as requested by the Engineer, to remove Unclassified material, Topsoil material, and/or Unsuitable material will be included in the measurements for payment. In some cases, overexcavation will be paid on an hourly basis. Overexcavation not requested by the Engineer will not be measured for payment.
- i. The Engineer and Contractor shall compare records daily for the number of loads of each type of material that were hauled and placed. Equipment capacities used to estimate the monthly quantities will be determined and mutually agreed upon prior to any material hauling. These load count measurements will be adjusted to reflect BCY. The Engineer and Contractor shall determine and agree on swell and consolidation factors used on load quantities to determine the BCY hauled by each size and piece of equipment and for all classification of materials prior to construction activities. While load counts may be used for progress payments, the final quantities for final payment shall be calculated from closeout surveys.

- j. Measurement for payment for Dust Control will be incidental to Mobilization (Section J). Payment shall be incidental to the Work.
- k. Measurement for payment for Clay Pond Material (Item A-3) shall be based on the cubic yard of the clay material excavated, hauled and placed in the pond area identified on the Drawings. Measurement shall be made in place and shall include a measurement in area (square feet) and depth (feet).

7.2 Special Considerations

- a. The final quantities for the major categorizations of excavation materials may vary from the quantities shown on the Drawings. The 30 percent quantity variance shall not apply to material quantities. Such quantities as shown on the Bid Schedule may vary and unit prices will not be renegotiated.
- b. Quantities for the monthly progress payment estimate shall utilize the reports that the Contractor is required to submit to the Engineer on a daily basis. The reviewed quantities of excavation will be paid at the contract unit price. Payment at the unit price shall be full compensation for excavating, hauling, placing, grading, shaping, trimming, scarifying, compacting materials as specified, including all labor, equipment, tools, and incidentals necessary to complete the work.
- c. All stockpiles shall be authorized by the Engineer. Stockpiles for the Contractor's convenience shall not be measured or paid. Materials placed in Engineer-authorized temporary stockpiles shall be paid by the BCY as determined by stockpile volume corrected with an agreed upon swell factor or based on stockpile interim surveys.
- d. Unit quantities for payment of Unclassified and Topsoil materials are intended to reflect BCY.
- e. Estimated quantities for excavated materials reflect single handling and direct placement to backfill locations. Where unsuitable materials are encountered, removed and added to a fill location, the Engineer and Contractor shall determine a mutually acceptable means of measurement and payment. It is anticipated that Unsuitable Material handling shall be paid as Hourly Work under Section O. The Contractor will make every effort to sequence operations to minimize stockpiling and double handling of Topsoil or Unsuitable material. Topsoil payment will be made per handle.
- f. The sum of quantities for individual materials within a given excavation area will not exceed the total volume of material excavated as determined from initial and final surveys.

7.3 Pay Items

- a. The pay item Wicking Material Excavation and Placement (K-1) shall be paid by the BCY. Wicking Material shall be paid when it is moved from the place of excavation to final placement and graded to create the 3-inch Wicking Barrier. The pay item Wicking Material shall include all work performed during excavating, hauling, and placement of Wicking Material as required by these Specifications. Final grading and

smoothing of Willow Springs Draw shall be incidental to payment. Monthly progress payments will be estimated.

- b. The pay item Unclassified Excavation (K-2) shall be paid by the BCY. Payment for handling rocks, boulders, and mine debris is included. Loading, hauling, handling, and controlled backfill of Unclassified material as part of the fill shall be incidental to payment. Identifying and use of select fine-grained Unclassified material for use in pond construction and lining lifts shall be paid. Monthly progress payments will be estimated.
- c. The pay item Topsoil (K-3) shall be paid by the BCY and includes generated Topsoil and/or Coversoil excavated from identified stockpiles or identified by the Engineer from borrow areas. Topsoil shall be paid when it is moved from (1) place of excavation to a final cover, (2) or from place of excavation to a stockpile and/or, (3) a place of excavation and direct hauled to a final placement area to create a final fill. Topsoil placement depth at TP-1 is estimated at 12 inches. The pay item Topsoil shall include all work performed during site preparation, road improvements, excavation, hauling, stockpiling, pre-ripping of the regraded surface and placement of topsoil material as required by these Specifications. Monthly progress payments will be estimated.
- d. The Pay Item Unsuitable Material will be paid on an hourly basis out of Force Account or as mutually determined by the Engineer and Contractor. The pay item shall include the identification, loading, hauling, handling, and controlled placement of Unsuitable material. Monthly progress payments will be estimated.
- e. The pay item Dust Control shall be paid under Mobilization and is incidental to payment. Dust Control shall include equipment (water truck), fuel, operator, equipment maintenance, haulage from the water source to the project area, and incidentals necessary for the Contractor to provide a water supply and apply the water to the project site.
- f. Payment for the Clay Pond Liner shall include placement, compaction and cost of all materials including labor, equipment and incidentals necessary to complete the work to design specification and plan. The pay item (A-3) clay material placement shall be paid by the cubic yard.
- g. The following pay items apply to Earthwork and Dust Control as defined in this Section K of the Contract Documents:

<u>Pay Item</u>	<u>Pay Unit</u>
K-1 Wicking Material Excavation and Placement	CY
K-2 Unclassified Excavation and Placement	CY
K-3 Topsoil Excavation and Placement	CY
K-4 Channel Excavation and Construction	CY
A-3 Clay Pond Liner	CY

END OF SECTION K

SECTION L
DRAINAGE CONSTRUCTION AND CONTROL
ANC TP-1 INTERIM STABLIZATION PROJECT

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SECTION L

DRAINAGE CONSTRUCTION AND CONTROL

1.0 GENERAL

- a. This section of these Specifications covers all work and materials required to complete the temporary and permanent drainage control structures in the configurations shown and in the locations specified in the Drawings, and incidental work associated with the Storm Water Pollution Prevention Plan (SWPPP). These include, but are not limited to erosion control ditches, drainage channels, riprap structures, earthen berms, road stability, run-on controls, surficial controls, and other temporary erosion control structures. All drainage controls required under the SWPPP shall be installed prior to the start of excavation.
- b. The work consists of supplying and placing all materials in the areas and to the dimensions shown on the Drawings and described in these Specifications.
- c. Shop Drawings
 - (1) The Contractor shall prepare and submit Shop Drawings, list of materials, manufacturer's specifications and testing data, installation plans and procedures for erosion control geotextile materials as required by these Specifications.
 - (2) All Shop Drawings shall be submitted by or no later than the Pre-commencement Meeting. The Engineer may require delivery of samples of each of the various materials in advance of project commencement and no later than two weeks prior to installation.

2.0 PRODUCTS

2.1 Riprap Material

- a. The riprap material to be used for all rock riprap structures shall consist of a well-graded, durable, angular rock material. Angular rock is defined as having a minimum of three major flat surfaces with sharp angles between the surfaces. Riprap shall be free from organic material, clay or shale seams, cracks, or other structural defects.
- b. The rocks should be roughly cubical with the maximum dimension not more than three times the least dimension.
- c. Rounded stone, cobbles, boulders, or broken concrete shall not be acceptable for rock riprap or hydrologic control structures. Suitable rock types generally include, but are not limited to granite and similar crystalline rock types, limestone and dolomite. Unsuitable rock types are generally shale, slates, certain vesicular or porphyritic volcanic rocks, schists, and most sandstones.
- d. Rock brought from an off-site source must be obtained from a source which is legally procured with a DEQ/LQD Mine Permit, if the source is from within the State of Wyoming. The Contractor shall identify the rock source, the subcontractor providing

the rock, and furnish the Engineer with a copy of this permit prior to delivery and riprap placement. Riprap shall be obtained from a location free of noxious weeds.

- e. Rock suitability shall be based upon previously stated general criteria and the results of testing for the following criteria:

Test	Test Method	Requirements
Specific Gravity (Bulk SSD)	ASTM C127	2.50 (minimum)
Absorption	ASTM C127	2.0% (maximum)
Sulfate Soundness	ASTM C88	10% Loss (maximum)
Abrasion	ASTM C535	30% Loss (maximum)

The cost of the required testing shall be borne solely by the Contractor. Certified laboratory results of rock testing must be submitted to the Engineer. At any time, the Engineer may require additional testing of delivered riprap material. Alternative riprap sources that do not meet these criteria may only be accepted following a review of the testing results by the Engineer.

- f. The median diameter of the riprap material shall approximate the median diameter or D50 of the riprap class and generally conform to the following gradation envelope: percent of material measured by weight, based on material with a specific gravity of 2.5. Material with a different specific gravity may have a slightly different size distribution.

RIPRAP GRADATIONS -- RIPRAP CLASS

CLASS 6	
Corres. Min. Weight	Intermediate Orthogonal Dimension
20% finer than 2 pounds	less than 2 inches
50% finer than 10 pounds	less than 6 inches
100% finer than 82 pounds	less than 12 inches
CLASS 9	
Corres. Min. Weight	Intermediate Orthogonal Dimension
10%	less than 2 inches
20% finer than 4.5 pounds	less than 4.5 inches
50% finer than 36 pounds	less than 9 inches
100% finer than 291 pounds	less than 18 inches
CLASS 12	
10%	less than 2 inches
20% finer than 4.5 pounds	less than 6 inches
50% finer than 36 pounds	less than 12 inches
100% finer than 291 pounds	less than 24 inches

- g. The Intermediate Orthogonal Dimension is defined as the average of the measurement of the three mutually perpendicular axes of any specimen. For example, if the three measured axes are 4, 8, and 12 inches in length, the intermediate orthogonal (average) dimension of the specimen is $4 + 8 + 12 = 24 \div 3$ or 8 inches.

- h. Dirt and fines of less than 1-inch maximum cross section accumulated from interledge layers or from blasting, salvage or handling operations or breaking shall not exceed 5% by weight.
- i. Control of gradation will be by visual review. The Contractor shall provide a sample of each size of riprap at the construction site of at least 5 cubic yards, which meets the specific gradation and is typical of that material. The sample shall be used as a reference for judging the gradation of all riprap supplied. Any difference of opinion between the Engineer and the Contractor shall be resolved by dumping and checking the gradation of random truckloads of riprap material. If a gradation examination is required, any mechanical equipment necessary, a sorting site, and a Contractor's representative shall be provided by the Contractor at no cost to the Agency or the Engineer.
- j. The equivalent spherical diameter of rock may be used to grade an alternate rock source once the specific gravity has been determined. The equivalent spherical diameter of the alternate rock source may be determined from the design weight and specific gravity by the following formula:
$$\text{Diameter} = [\text{weight}/(\text{specific gravity} \times 261.4)]^{33} \times (2.0)$$

Where diameter is in feet and weight is in pounds.

For example, the riprap needs to be 1.25 feet in diameter for a 160-pound rock with a specific gravity of 2.50.
- k. The specific gravity of riprap shall not be less than 2.5.
- l. Alternative gradations or suitability criteria may be allowed with the Engineer's review and recommendation.

2.2 Filter Fabric

- a. The filter fabric in riprap structures shall be a pervious sheet composed of plastic yarn fabricated into a pattern with distinct pores or openings. Geotextile fabric, sediment fence and filter cloth as used in these Specifications are equivalent terms.
- b. The plastic yarn shall consist of a long-chain synthetic polymer composed of at least 85% by weight of propylene, ethylene, or vinylidene-chloride and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet radiation and heat exposure.
- c. The filter cloth should be calendared or otherwise finished so that the yarns will retain their relative position with respect to each other. The edges of the cloth shall be selvaged or otherwise finished to prevent the outer yarn from pulling away from the cloth.
- d. The filter cloth shall be non-woven and shall conform to the physical requirements listed in Table 1.
- e. Prior to installation, the Contractor shall provide the Engineer with certification/documentation that the filter cloth furnished meets the chemical, physical

and manufacturing requirements of this section. Each roll installed must correspond to the lot or lots specified in the manufacturer's certification.

Table 1 Physical Requirements – Filter Cloth/Erosion Control Geotextiles^{1, 2}

Erosion Control³			
Property	Unprotected⁴	Protected⁵	Test Method
Tensile Strength, lbs	200	100	ASTM D 4632
Elongation, %	15	15	ASTM D 4632
Seam Strength, lbs	180	100	ASTM D 4632
Puncture Strength, lbs	80	50	ASTM D 4833
Burst Strength, psi	320	170	ASTM D 3786
Trapezoid Tear, lbs	50	40	ASTM D 4533
Permittivity, sec ⁻¹	0.5	0.5	ASTM D 4491
UV Degradation, % ⁶	70	70	ASTM D 4355
Apparent Opening Size: a. Soil with 50% or less particles by weight passing US No. 200 Sieve, AOS less than 0.6 mm (greater than #30 US Std. Sieve). b. Soil with more than 50% particles by weight passing US No. 200 Sieve, AOS less than 0.210 mm (greater than #70 US Std. Sieve).			

Notes:

1. Acceptance of geotextile material is to be determined according to ASTM D 4759.
2. Agency will require a letter from the manufacturer certifying that its geotextile meets specification requirements.
3. Minimum – Use value in weaker principal direction. All numerical values represent minimum average roll values (i.e., test results from any sampled roll in a lot shall meet or exceed the minimum values in the table). Stated values are for non-critical, non-severe conditions. Lot sampled according to ASTM D 4354.
4. Unprotected erosion control applications are those where fabrics are used under conditions where installation stresses are strictly controlled (i.e., stone placement height should be less than 3 feet and stone weights should not exceed 250 pounds). Unprotected applications must be reviewed in advance by the Engineer.
5. Protected erosion control applications are those where fabrics are used in structures or under conditions where the fabric is protected by a sand cushion or by “zero-drop height” placement of stone.
6. Percent of minimum tensile strength (ASTM D 4632) retained after weathering per ASTM D 4355 for 500 hours.

2.3 Granular Bedding

- a. The granular bedding for all rock riprap structures shall consist of a well-graded, durable aggregate.
- b. The granular bedding shall consist of free draining sand, gravel, or crushed stone meeting the following gradations requirements.

<u>Sieve Designation</u>	<u>Percent Passing Sieve</u>
3 inch (75 mm)	100
1.5 inch (37.5 mm)	75-100
No. 4 (5.0 mm)	40-70
No. 50 (0.30 mm)	0-30
No. 200 (0.07 mm)	0-20

- c. Granular bedding shall be non-plastic granular material consisting of excavated and screened native materials or imported materials which are classified (ASTM method D 2487) as GW-GC or SP-SM. Granular bedding shall not contain more than 20% minus 200 sieve material.

2.4 Culverts

- a. Pipe shall be of the size indicated on the Drawings and meet AASHTO Standard Highway Live Load requirements for the diameter of pipe specified.
- b. Culvert pipe sections shall be polymeric-precoated, galvanized steel pipe. The polymeric-precoated, galvanized steel pipe shall meet the requirements of AASHTO M36, M218, M245 and M246. The corrugated pipe shall have a minimum uncoated wall thickness of 0.064 inches.
- c. The inside and outside of all precoated pipe shall have a polymeric coating with a minimum thickness of 10 mils (0.27 mm) per side. The pipe shall be fabricated with helical lock seams. No riveted or welded seams will be permitted. Units on which the spelter coating or polymeric coating has been damaged in fabrication or in handling and placement shall be repaired as follows:
 - (1) Damaged areas of spelter coating including all saw cut ends, shall be painted after all burrs are removed with a zinc dust-zinc oxide paint conforming to Federal Specification TT-P-641 and coated with a polymeric coating similar and compatible with the polymeric coating on the pipe.
 - (2) Areas of damaged polymeric coating only shall be repaired by the application of a polymeric coating similar and compatible with the polymeric coating on the pipe.
 - (3) All damage incurred in fabrication will be repaired at that location. Damage incurred during handling and placement will be repaired, inspected, and approved prior to backfilling the pipe.
- d. Where flared end sections are used they shall be bituminous coated galvanized steel. The bituminous material shall meet the requirements of AASHTO M-190, Type A coating, except that the minimum coating thickness shall be 0.03 inch. Coupling bands shall be fully coated.
- e. Joints shall be made with outside bands; each band consisting of one or two pieces and shall be as specified in the applicable manufacturer's standards. Space between the pipe and connecting bands shall be kept free from dirt and debris so that the

corrugations fit snugly. The connecting band, while being tightened shall be tapped with a soft-headed mallet of wood, rubber or plastic to take up slack and insure a tight joint.

2.5 Berms and Erosion Control Ditches

- a. Earthen berms and erosion control ditches shall be constructed of native suitable material as shown on the Drawings or defined by the Engineer. In this case, earthen berms and erosion control ditches are complementary parts of the same structure constructed by an up gradient cut creating a ditch and a down gradient fill deepening the erosion control ditch.
- b. Erosion control ditches will be temporary features, which are constructed as part of the storm water control requirements for the purposes of interim stabilization of the site. Erosion control berms and ditches shall be incidental to the Contractors' responsibility for construction, maintenance, replacement, and removal of temporary erosion control devices as discussed in Section J, 1.7. Where slopes are excessive, erosion control cloth may be required.
- c. Erosion control ditches can be permanent features, which are constructed as part of the overall grading plan. In this case, erosion control ditches will capture surface water runoff from a long, undrained slope. The purpose of these features is to provide drainage density and prevent rill and gully erosion.
- d. Erosion control ditches are typically v-shaped or trapezoidal channels cut into (1) the hillslope; (2) the top of a hillslope; (3) the constructed "terrace landform," and/or (4) the toe of the slope.
- e. Berms and erosion control ditches constructed such that drainage is routed to a collection area shall include a sediment control BMP at the collection point such as sediment control logs, sediment basin or trap, and/or silt fencing.
- f. If construction traffic must cross an erosion control berm/ditch, a temporary culvert shall be placed for drainage continuity.

2.6 Sediment Control Logs/Wattles

- a. Sediment control logs or wattles are used as a sediment barrier to intercept sheet flow runoff from disturbed areas. Sediment control logs shall consist of natural materials as described in the storm water control details.
- b. Sediment control logs shall be installed per the manufacturer's installation instructions in the locations shown on the Drawings.

2.7 Sediment Control Fence

- a. Sediment Control Fence shall consist of the filter fabric as described in Section 2.2.
- b. Fence posts shall either be 1 inch by 1-inch wooden posts 4 feet in length or steel posts of equivalent height and strength. Appropriate staples and/or clips shall be used to fasten the fabric to the fence post.

- c. The wire mesh fabric backing shall be 32 inches tall and meet DOT 12.5 field wire.

2.8 Riprap Grade Control

- a. Riprap grade control shall be constructed of rock as specified in Section 2.1, filter fabric (Section 2.2) and granular bedding (Section 2.3).
- b. Each structure shall be keyed in and shall be built to the dimensions staked in the field and as defined on the Drawings.
- c. Rock shall be placed in well-graded lifts. The Contractor shall maintain the gradation as specified in the riprap gradation table in accordance with the Class of Rock. All care shall be taken to ensure no segregation of rock.

2.9 Rock Check Dam

- a. Rock check dams shall be constructed of rock as specified in Section 2.1, filter fabric (Section 2.2) and granular bedding (Section 2.3).
- b. Each structure shall be keyed in and shall be built to the dimensions staked in the field and as defined in the Drawings.
- c. Rock shall be placed in well-graded lifts. The Contractor shall maintain the gradation as specified in the riprap gradation table in accordance with the Class of Rock. All care shall be taken to ensure no segregation of rock.

3.0 EXECUTION

3.1 General

All trenching and excavation required, as part of this project, shall be executed in strict compliance with all applicable local, state, and federal requirements and regulations.

3.2 Drainage Channels

- a. The Contractor shall install drainage channels as detailed on the Drawings and in the locations shown on the Drawings.
- b. Channel transitions shall be constructed at locations identified on the Drawings or as staked by the Engineer. Channel transitions shall occur where two channels of variable cross-sectional areas meet. Channel depth, sideslope angle and width shall smoothly transition into the downstream section over the course of 100 feet, or as directed by the Engineer. Channel transitions shall be incidental to drainage channel construction and shall not be measured or paid.
- c. Drainage channels shall be compacted in accordance with the Specifications.
 - (1) Where fill materials are needed to provide a trapezoidal shaped channel section for channel construction, these materials shall be constructed in 12-inch maximum lifts at 95% Modified Proctor Compaction and within 3% of Optimum Moisture Content or as approved in the field by the Engineer. The cover material will then be placed (as specified or as shown

on the Drawings) over the suitable surface material to obtain this final channel geometry.

- (2) Where channels will be excavated to obtain the desired channel cross section, all available topsoil shall be stripped and the site shall be over excavated to accommodate the specified replacement depth of topsoil and subsoil.
- d. Drainage channels shall neither be pitted nor the surface roughened in a manner which would obscure the definition of the channel cross section.
- e. The channel and floodplain surface shall be constructed ± 0.1 feet to that shown on the Drawings, or as staked by the Engineer. Final grade elevations shall include replacement depth of topsoil or suitable coversoil material.
- f. Drainage channels shall be broadcast seeded in accordance with the Revegetation Specifications, Section N. Drainage channels shall not be pitted.

3.3 Storage of Materials

- a. Delivery of geotextile fabrics must be made in original wrapping showing name of manufacturer and product weight.
- b. Storage of geotextile fabric must be in accordance with manufacturer's recommendations and in a location that will keep them from damage.
- c. On-site stockpiles of riprap conforming to Section L, 2.1 shall be constructed in lifts no higher than 8 feet to minimize segregation.

3.4 Installation of Culverts

- a. Width of trenches at any point below the top of the pipe shall not be greater than the outside diameter of the pipe plus 36 inches. Where wet or otherwise unstable soil incapable of properly supporting the pipe as determined by the Engineer is encountered in the bottom of the trench, such material shall be removed to a depth of at least one and one-half times the diameter of the pipe and replaced with selected on-site material as approved by the Engineer. The replacement material shall be placed in 6-inch lifts and compacted to 95% maximum dry unit weight of the Standard Proctor Curve, ASTM D-698 and within 3% of Optimum Moisture Content or as approved by the Engineer. The methods of obtaining compaction for any portion of culvert installation shall be approved by the Engineer prior to use. Unstable material removal and replacement will be paid for under the Unclassified Excavation Section of these Specifications.
- b. Each pipe shall be carefully examined before being laid, and defective or damaged pipe shall not be used. Prior to laying the pipe, the subgrade below the pipe to a depth of 6 inches shall be inspected and all rocks greater than 2 inches shall be removed. Pipe shall be laid to the grade and alignment as directed by the Engineer in the field. Pipe shall not be laid in water nor when trench conditions or weather are unsuitable for such work as determined by the Engineer. Diversion

of drainage or dewatering of trenches during construction shall be provided as necessary. All pipe in place shall be inspected by the Engineer prior to backfilling. Any pipe damaged during replacement shall be removed and replaced at no additional cost to the Owner.

- c. Selected bedding material as approved by the Engineer at a moisture content that will facilitate compaction shall be placed along both sides of the pipe in layers not exceeding 6 inches in compacted depth. The layers shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to insure thorough compaction of the fill on the bottom sides or haunches of the pipe. All compactions shall be to 95% of Standard Proctor density as above. Backfilling and compaction shall continue to 18 inches above the pipe, thereby achieving finished grade.
- d. Field density tests of the compacted fill may be run at all levels. When test results indicate that compaction is not as specified, the material shall be removed and replaced or recompacted to meet Specification requirements at no expense to the Owner. Recompacted areas shall be tested by the Engineer, at the Contractor's expense to insure that the specified density is being obtained.
- e. The maximum dry density and optimum moisture shall be as determined by the Engineer and shall be representative of the materials to be placed.
- f. The Contractor shall be responsible for enforcing safety and maintaining safe working conditions in all trenches according to OSHA regulations.

3.5 Berms and Erosion Control Ditches

- a. The Contractor shall install erosion control ditches as detailed on the Drawings and in accordance with these Specifications and at the Contractor's discretion as necessitated by adherence to the SWPPP or as requested by the Engineer.
- b. Ditch transitions shall occur at the upstream and downstream ends. Channel depth, sideslope angle and width shall smoothly transition into the downstream section in accordance with the actual pitch of the reclaimed slope, or as defined by the Engineer.
- c. Berms shall be constructed so that they conduct water safely to areas of low slope.

3.6 Riprap Structures

- a. Riprap structures shall be built to the lines and grades as defined on the Drawings. The riprap structures shall be constructed as shown on the Drawings or as modified by the Engineer.
- b. The subgrade under any drop, rock apron, or grade control shall be well compacted prior to placement. The subgrade material shall be void of vegetation, large stones or boulders, clods, topsoil, frozen soil, standing water and debris. When constructed on fill, the subgrade shall be placed in no greater than 6-inch lifts.

- c. Compaction for drop structure, bank protection or grade control subgrades shall be to 95% Modified Proctor Compaction and within 3% of Optimum Moisture Content or as requested in the field by the Engineer.
- d. A key trench for installation of the filter cloth shall be constructed in accordance with the Drawings.
- e. The Contractor shall obtain from the Engineer, review documentation of the grading compaction of subgrade or bank prior to placement of the granular bedding and/or filter cloth material and riprap. The Contractor shall schedule time to allow the Engineer to survey the prepared subgrade for the determination of riprap quantities.
- f. The granular bedding and filter cloth shall be placed in all riprap structures in the manner and at the locations shown on the Drawings or as acceptable to the Engineer. The Contractor shall notify the Engineer of the schedule for placement of the filter cloth and granular bedding.
- g. At the time of installation, fabric shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation or storage. Fabric damaged before or during the installation of aggregate and/or riprap shall be replaced at the Contractor's expense.
- h. The area upon which the fabric is to be placed shall be smooth and free of projections or depressions that may cause the fabric to be punctured and care shall be taken to remove all sharp rocks, stones, roots, and other sharp objects.
- i. The fabric shall be placed without stretching and shall lie smoothly in contact with the soil or wall surface. Each strip shall be continuous in width with no joints. The fabric shall be placed with overlapping seams transverse to the centerline of the channel. When end overlapping of strips is necessary, the joints shall be overlapped a minimum of 2 feet. End overlaps shall be made in the direction of flow with the upstream section of fabric lapped over the downstream section. Sand shall be spread lightly between end overlaps to promote frictional contact. The work shall be scheduled so that not more than three days elapse between the placement of the fabric and the time it is covered with the specified material.
- j. Insure that all edges of the fabric are well anchored either mechanically with staples and/or pins at a minimum of 1-foot intervals or covered with native or filter material. The fabric must be keyed at the locations and to the specifications shown on the Drawings. The anchor system should not be affected by contact with water.
- k. Placement of the riprap and granular bedding shall begin at the downstream end of the riprap structure and proceed in an upstream direction.
- l. The Contractor shall install riprap with a minimum of re-handling, and using a method to ensure the specified gradation is met. Size segregation of the riprap will not be permitted.
 - (1) Riprap shall be spread in one or two lifts in a manner to avoid displacing the underlying material. After placement, the surface of the drop structure

shall be worked to ensure that it is well graded, with any void choked with smaller cobbles and stones. Hand placement of riprap may be necessary to achieve the designed flow line surface of the structure. Placing of riprap materials by end dumping on the slope or by other methods likely to cause segregation of the rock or damage to the slope will not be permitted.

3.7 Riprap Grade Controls and Check Dams

- a. Riprap grade controls and check dams shall be constructed by the Contractor at the location shown on the Drawings or at the location identified in the field by the Engineer prior to achievement of final channel grades and prior to placement of the final topsoil.
- b. The grade control or check dam shall be "field fitted" into the drainage. The dimensions and locations may be adjusted at the request of the Engineer.
- c. The grade controls or check dam shall conform to the final channel surface as shown on the Drawings.

3.8 Channel Reconstruction Grading

- a. Channel reconstruction grading shall be completed per the Drawings and as requested by the Engineer. Channels damaged due to reclamation activities shall be reconstructed with 3H:1V side slopes extending from a channel bottom of width similar to pre-reclamation conditions. Side slope shall extend to intersect with native ground. Revegetation of the reconstructed channel shall be in accordance with these Specifications.

3.9 Sediment Control Logs/Wattles

- a. Sediment Control Logs shall be constructed as described and in the locations identified on the Drawings. Logs shall be placed atop the surface of the disposal area following coversoil replacement.
- b. Each log or wattle shall be keyed into the ground surface and staked into place. Hand placed rock can be used to ensure that the sediment control log is not undermined.

3.10 Sediment Control Fence

- a. Sediment Control Fence shall be constructed as described and in the locations identified on the Drawings. Fence posts shall be required with no more than 8 feet maximum spacing.

4.0 MEASUREMENT AND PAYMENT

- a. Riprap will be measured for payment by the cubic yard (CY) as a completed in place structure. All class rock (riprap) shall be measured in the same manner. The pay item will include all material and work necessary to construct the completed and reviewed structure. Granular bedding material, filter cloth, excavation, grading, and grade control construction incidentals will be considered subsidiary to riprap and will not be measured for payment.

- b. Measurement for payment of erosion control ditches and berms will be paid on an hourly basis at rates established under Force Account Section O of these Specifications.
- c. Measurement for payment for the Storm Water Control plan including the placement of Sediment Control Logs and Erosion Control Techniques will not be measured for payment and are incidental to Mobilization detailed in Section J of these Specifications. The item shall include all material, trenching, staking, equipment, and installation for the completed and reviewed erosion control feature. Maintenance, replacement, and removal necessitated under requirements of the Storm Water Permit shall be incidental to payment for Sediment Control Logs.
- d. Payment for culverts shall include the cost of all materials, transport, excavation, trenching, bedding, installation of the culvert, backfilling, compaction, and road repair. Additional V-ditch or other ditch work and riprap as required to drain the culvert to a receiving stream or prevent erosion will be incidental and will not be measured for payment.

4.1 Pay Items

- a. Payment for the riprap material shall be at the unit price bid per CY of the installed and reviewed riprap structure. All riprap classes shall be paid at the same rate.
- b. Payment for erosion control ditches and berms shall be paid on an hourly basis and shall include fully loaded equipment time and labor as defined under Force Account.
- c. Payment for the completed and reviewed work or materials will be made at the contract unit price installed. Payment at the unit price shall be full compensation for furnishing and placing all materials, including all labor, equipment, tools and incidentals necessary to complete the work to design specification including excavation, backfilling, compaction, trenching, hand tamping, slope shaping, and cleanup. Any materials damaged, wasted or deemed unsuitable for installation by the engineer will not be paid.
- d. The following pay items apply to Drainage Construction and Control as defined in this Section L of the Contract Documents.

<u>Pay Item</u>	<u>Pay Unit</u>
L-1 Riprap	CY
O-1 Erosion Control Ditches	HR
A-2 36-IN. CMP Culvert	LS

END OF SECTION L

SECTION N

REVEGETATION

ANC TP-1 INTERIM STABLIZATION PROJECT

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REVEGETATION

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SECTION N REVEGETATION

1.0 GENERAL

1.1 Description of Work

- a. This work shall consist of furnishing all labor, equipment, and materials necessary to complete the agricultural ripping, disking, fertilizing, application and incorporation of lime, seeding, and all other associated agronomic activities as required by these Specifications. It shall be the responsibility of the Contractor to comply with all applicable requirements and regulations of the General Safety and Health Regulation of the Wyoming Occupational Health and Safety Administration and all applicable state and local Boards of Health during application of these materials.
- b. Areas which are disturbed during construction, including cut and fill areas, will be revegetated in accordance with the Drawings and Specifications.
- c. Lime, which is a by-product of sugar beet processing, shall be imported for use on this Project. Alternative sources and materials other than sugar beet lime can be considered but application rates must be adjusted to account for Lime Purity. The Contractor shall use this material to neutralize the acid producing soils. Lime application rates may range from none to several tons. If required by the Engineer, collection of additional soil samples for lab analysis, and calculation of pure amendment rates may require 14 days or more to complete.
- d. The agricultural lime shall be applied after the area has been rough graded in conformity with the lines and grades as shown on the Drawings and after the surface has been tested and approved by the Engineer. Not all project areas will require lime. Agricultural lime shall be incorporated into the upper overburden lift and above the wicking barrier and prior to placement of topsoil by disking. Disking for lime incorporation is subsidiary to lime application.
- e. The agricultural lime shall not be applied to the surface more than 12 hours before disking. The purpose of this time limitation between the application of the agricultural lime and completion of site preparation for topsoil is to protect the lime from wind and water erosion.
- f. Disking shall be done in conformance with these Specifications after agricultural ripping has been completed on the topsoil surface and accepted by the Engineer.
- g. Seeding and fertilizing shall be done in conformance with these Specifications after the disking has been accepted by the Engineer.
- h. The Owner and Engineer reserve the right to sample any and all materials delivered to the project for any applicable tests of purity, particle size, germination as well as any other test deemed necessary by either the Owner or Engineer. Samples shall be collected by the Engineer in the presence of the Contractor and submitted for analysis at a laboratory selected by the Engineer.

- i. The Contractor shall be responsible for protecting the ripped and disked areas from damage prior to seeding. Construction equipment shall not be allowed on ripped and disked areas except for the purpose of completing other agronomic activities. Damage of any ripped or disked areas shall be repaired at the Contractor's expense.
- j. No payment will be made for purchased seed prior to completion of seeding and acceptance by the Engineer.
- k. Shop drawings:

- (1) The Contractor shall submit a plan for the revegetation work at the pre-construction meeting detailing how the items in this section are to be completed. This plan should include a list of equipment, vendors supply materials (seed), and estimated schedule of work for completing the revegetation operations. This plan of work should also contain signed letters of commitment from each vendor that they will be able to supply the bid quantities of material when each is needed and to mobilize equipment to the site and in sufficient time to complete all agricultural activities within the allotted contract time.
- (2) The Contractor shall submit a written statement from the individual, company, and/or agricultural subcontractor that they fully understand the scope of work and the specifications. The Contractor and his subcontractor if applicable, shall commit that unless excepted by the Engineer for reasons discussed below, they shall incur a \$200/day penalty for failure to mobilize equipment to the site in accordance with the plan of work, Section N, 1.1(k)(1) or within 10 days of notification by the Engineer that lands have been completed and determined ready for agronomic work.

The Engineer shall postpone the start date only if adverse weather or soil conditions so dictate. Such conditions could include overly dry, frozen, or wet soils, where the water content exceeds field capacity by greater than 5%. The Engineer, in consultation with the Contractor, shall determine if agricultural operations are not possible and shall determine when the next allowable seeding period should occur. On that basis, the penalty clause will be waived or contractually tied to the next available seeding period. The Spring seeding window is anticipated to begin on March 15 and will likely expire on May 15. The Fall seeding window will begin after September 15 and will likely continue until frozen conditions terminate the window.

- (3) The Contractor shall present Shop Drawings to the Engineer at the Pre-Construction conference prior to hauling lime material to the site. Such Shops shall identify the source, texture, moisture content and purity of the lime. The Contractor shall submit a plan for monitoring and controlling the application rate for lime that is applied to this Work.

1.2 References

- a. Wyoming Seed Law.
- b. Federal Seed Law.

2.0 PRODUCTS

2.1 Agricultural Lime

- a. Agricultural lime shall be spread evenly on the soil surface at a rate of five tons per acre for bidding purposes, based on 100% pure calcium carbonate (CaCO_3) equivalent approved by the Engineer. The Contractor is advised that the overall intent of this project is to create a suitable subsoil and isolate this layer from contamination from more acidic layers which exist below.
- b. Agricultural lime may be rejected if it has become caked or sticky in the stockpiles, if the material contains particle sizes greater than 1/10 inch, if it contains large quantities of soil, or if it is found to be unacceptable for reasons determined by the Engineer. Some selective handling, sorting and wastage of the stockpiled material shall be anticipated.
- c. The Engineer has not conducted testing of the lime material and it is the responsibility of the Contractor to provide such data to the Engineer at the Pre-Construction Conference. The results of the previous testing of Worland sourced sugar beet lime are tabulated below:

Percent CaCO_3 (Purity)	64%
Moisture Content	10%

The Engineer will conduct tests of the imported lime material and/or additional tests of the soil material requiring amendment to determine final lime application rate.

- d. Application rates for agricultural lime are based on the use of materials which are 100% pure. The following equation will be used to take into account percent purity in the calculation of the bulk application rate for agricultural lime:

PAR = Pure Amendment Rate (as designated by these Specifications)

BAR = Bulk Amendment Rate (amount of supplied material to be applied)

$\text{BAR} = \text{PAR} / \text{Factor}$

MC = Moisture Content

$\text{Factor} = (\text{Percent Purity} \times \text{Moisture Content})$

Example:

PAR = 5.0 tons per acre of 100% pure agricultural lime (passing 100 mesh)

Purity = 64%

Moisture Content = 10% (dry basis $100 - 10 = 90\%$)

$\text{Factor} = (0.64 \times 0.90) = 0.576$

$\text{BAR} = (5.0 \text{ tons per acre}) / 0.576 = 8.7 \text{ tons per acre of lime material}$

2.2 Seed – General Care and Certification Requirements

- a. All seed shall be delivered in the vendor's original containers clearly marked to show analysis of seed mixture as detailed in 2.2(e) and 2.2(i) of this section. Wet or otherwise damaged packages will be rejected by the Engineer.
- b. The Contractor shall collect all seed container tags. The Contractor shall write the seeding date on each tag and submit all tags to the Engineer on a daily basis.
- c. The Contractor shall be responsible for monitoring and ensuring that seed is applied at the rate stipulated in these Specifications.
- d. All seed used on this project shall be purchased through a dealer licensed with the Wyoming Department of Agriculture.
- e. All seed shall be furnished in sealed, undamaged containers with labels plainly detailing:
 - (1) The commonly accepted name of the species and variety of seed.
 - (2) Lot number.
 - (3) The percentage of pure seed, crop seed, inert matter, weed seeds by weight, germination, and hard seed.
 - (4) The month and year of the germination test.
 - (5) Origin of the seed.
 - (6) Full name and address of the supplier.
 - (7) Name and number of each kind of secondary noxious weed seed as listed in the Wyoming Seed Law. Seed shall not contain any of the primary noxious weed seeds as designated in the Wyoming Seed Law.
 - (8) Net weight of seed in each container.
 - (9) The words "POISONOUS TREATED" shall appear in bold print on the label of seeds treated with chemicals which are toxic to either humans or livestock.
- f. The Contractor shall furnish to the Engineer, one original copy of a materials certification signed by the vendor prior to initiating seeding operations. This document shall certify that each lot of seed has been tested by a recognized State Seed Testing Laboratory or by a commercial laboratory employing a certified seed analysis technician(s). The seed must have been tested not more than 9 months prior to the date of seeding on the project.
- g. The 9-month limitation on the date of test may be waived if the seed is hermetically sealed and the following conditions have been met:
 - (1) The seed was packaged within 9 months after harvest.

- (2) The container used does not allow water vapor penetration (WVP) through any wall, including the seals, greater than 0.05 grams of water per 24 hours per 100 square inches of surface at 100°F with relative humidity on one side of 90% and 0% on the other side. WVP is measured by the standards adopted by the U.S. Bureau of Standards as:

$$\text{WVP} = \text{g of H}_2\text{O} / 24 \text{ hr} / 100 \text{ sq in} / 100^\circ\text{F} / 90\% \text{ RH} \% \text{ RH}$$

- (3) Seed does not exceed 8% moisture on a wet weight basis.
- (4) The container is conspicuously labeled to indicate: (1) that the container is hermetically sealed; (2) that the seed has been preconditioned as to moisture content; and (3) the calendar month and year in which the germination test was completed.
- h. Hermetically sealed seed must have been tested not more than 36 months prior to the date of seeding on the project.
- i. The Contractor shall also furnish to the Engineer, one certified copy of the seed analysis reports as prepared by the respective Seed Testing Laboratory. A tetrazolium viability test will be accepted in lieu of the germination portion of the sample seed analysis report as prepared by the respective testing laboratory. The Wyoming Department of Agriculture reserves the right to random sample all seed entering the State of Wyoming. The table of tolerances acceptable to the State of Wyoming Department of Agriculture is as follows:

<u>Offered % PLS</u>	<u>Allowed PLS Deviation (in percentage points)</u>
96% or over	-5
90% or over but less than 96%	-6
80% or over but less than 90%	-7
70% or over but less than 80%	-8
60% or over but less than 70%	-9
60% or less	-10

- j. If the percent Pure Live Seed (PLS) of the delivered seed is below the accepted tolerance, and if tested by the Wyoming State Seed Laboratory, the Wyoming State Seed Laboratory test results shall govern and the seed shall be rejected. The Contractor shall be required to replace the lot(s) of seed rejected with seed meeting the offered percent PLS. This may mean completely repeating any or all of the amendment, ripping, disking, pitting, and seeding as determined necessary by the Engineer.
- k. The total percentage of crop seed shall not exceed 3% by weight. The species and varieties of seed, or blends of seeds, shall furnish the PLS at the rates as called for in the above seed mixture. No seed which has less than 85% pure seed or less than 80% live seed shall be used unless otherwise approved by the Engineer.

2.3 Upland Seed Mixture

The following seed mixture shall be applied to all areas to be reclaimed within the project area by broadcasting or by other methods approved by the Engineer. Material substitutions will not be allowed unless the Contractor can demonstrate to the satisfaction of the Engineer that the specified species or variety is not obtainable. All substitutions must be approved by the Engineer prior to mixing of the seed.

<u>Upland Seed Mixture Species</u>	<u>PLS Pounds/Acre</u>
Thickspike wheatgrass (<i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i>) "Critana"	7.0
Bluebunch wheatgrass (<i>Pseudoroegneria spicata</i> spp. <i>Spicata</i>) "Secar"	5.0
Western wheatgrass (<i>Pascopyrum smithii</i>) "Rosana"	5.0
Slender wheatgrass (<i>Elymus trachycaulus</i> spp. <i>trachycaulus</i>) "Pryor"	5.0
Indian ricegrass (<i>Achnatherum hymenoides</i>) "Nezpar"	2.5
Needle and thread grass (ssp. <i>Stipa comata</i>)	2.5
White prairie clover (<i>Dalea candida</i>) or	0.7
Wyoming big sagebrush (<i>Artemisia tridentata wyomingensis</i>)	<u>0.1</u>
Total Upland PLS Pounds per Acre	27.8

All seed with a named variety should be blue tag certified.

2.4 Bulk Seed Calculation

The following method shall be used to calculate the amount of bulk delivered seed to be planted which takes into account the variation of seed germination and purity of the seed source.

Pure Live Seed Factor = Germination % x Purity %

Pure Live Seed to be Planted = Bulk Seed to be Planted
PLS Factor

Example: A seed mixture requires planting of 7.0 lbs of Thickspike wheatgrass

Thickspike wheatgrass germination = 80%

Thickspike wheatgrass purity = 90%

PLS factor = $0.80 \times 0.90 = 0.72$

Bulk planting rate = (Plant PLS 7.0 lbs) / 0.72 = 9.7 lbs of bagged seed should be included in the mix, so that 7.0 lbs of PLS is planted.

2.5 Fertilizer (NOT REQUIRED)

- Commercial grade fertilizer may be applied to all areas to be seeded. If required, the application rate shall be 80 lbs/acre for a fertilizer nutrient ratio of 18 pounds of available nitrogen, 40 pounds of available phosphate and 6 pounds of available potassium per acre.
- Commercial grade fertilizer shall be obtained from an authorized vendor.

3.0 EXECUTION

3.1 General

- a. Agricultural lime application, ripping, fertilizer application, disking, pitting, and seeding shall only be done when the soil and environmental conditions provide an acceptable seed bed for plant growth.
- b. It is the responsibility of the Contractor to ensure that these or similar conditions do not prevent proper formation of pits. This may necessitate delaying seeding until the next allowable seeding period.
- c. The Contractor shall be responsible for measuring the depth of ripping and disking to ensure that each operation is being performed on a consistent basis and meets the requirements of these Specifications.
- d. Agricultural lime which is lost from the soil surface by wind or water erosion or by any other means, prior to incorporation shall be replaced at the Contractor's expense. The replacement rate for agricultural lime and fertilizer shall be as determined by the Engineer.
- e. The Contractor shall be responsible for monitoring and ensuring that seed is broadcast evenly on the pitted surface at the rate stipulated in these Specifications.
- f. Prior to the replacement of topsoil on the regraded surface, the compacted subgrade surface shall be scarified. The Contractor shall reference Topsoil, Section K-3.2 of the Specifications.

3.2 Agricultural Lime Application

- a. The Engineer will determine the actual application rates of lime to be applied after sampling and analysis of the rough graded subgrade surface. The area where lime will be applied will be approximately 36 acres. The Contractor shall be responsible for determining bulk amendment rates for each designated area based on the method defined in these Specifications.
- b. Agricultural lime shall only be applied during daylight hours when soil and environmental conditions are suitable. Daylight hours shall be defined for the purpose of the contract as being the period of time between sunrise and sunset on the day of application.
- c. Agricultural lime shall only be applied when weather conditions are acceptable. The Engineer will evaluate wind conditions to ensure that wind gusts are not affecting the application of the lime. If excessive wind conditions are present, application of the lime will be delayed until more favorable conditions occur.
- d. The sequence of operations for applying agricultural lime shall be as follows:
 - (1) Apply agricultural lime to the soil surface on the areas designated by Engineer at the rates designated by the Engineer for each area. Lime may need to be applied in lifts to ensure uniform incorporation across the 1-

foot overburden lift. Application equipment shall be specifically designed for such work and operated by personnel experienced in such work. If ordered by the Engineer, a test area shall be staked off by the Contractor and amendments applied thereto to determine the application rate for a given speed of the application equipment. This work shall be performed in a timely manner, as determined by the Engineer so that amendments are not lost from the site by wind or water erosion or by any other means.

- (2) Incorporate applied agricultural lime in conjunction with topsoil preparation by disking as outlined in these Specifications within 12 hours after application to the soil surface. The Contractor is advised not to apply more lime than can be incorporated within 12 hours.

3.3 Agricultural Ripping

- a. Agricultural ripping shall be done after topsoil has been properly placed on the soil surface and accepted by the Engineer. Agricultural ripping shall not be done more than 48 hours prior to completion of the seeding. The Contractor shall not agricultural rip more acres than can be seeded within 48 hours of the commencement of agricultural ripping.
- b. Agricultural ripping shall be done to a depth of 12 inches and parallel to the contour at intervals sufficient to "shatter" compacted materials between rip lines on a single pass of the ripping equipment. The term "shatter" shall be defined for the purpose of these Specifications as sufficient breaking and/or bursting of the compacted soil/overburden such that a shovel can easily penetrate to a depth of 12 inches between rip lines. The depth of the ripping shall be sufficient to pass through the placed topsoil and penetrate the final graded surface to create a sufficient "interface" between the regraded surface and the placed topsoil. The depth shall not be deep enough to cause a large amount of mixing of the regraded surface soil into the placed topsoil.
- c. The Contractor is advised that multiple passes of the ripping equipment will not be allowed. The Contractor should test the agricultural ripper on a small area to ensure that ripping done by the implement will adequately meet these Specifications.

3.4 Disking

- a. Disking shall be done after agricultural ripping of topsoil has been completed and accepted by the Engineer.
- b. Disking shall be done to a minimum depth of 6 inches parallel with the contour using a heavy duty mechanical double gang disk with a minimum diameter of 24 inches, or any other implement which is suitable for completion of this task and is approved by the Engineer. The disking operation shall produce soil conditions which provide suitable seed bed that is acceptable to the Engineer for plant growth.
- c. The Contractor is advised that multiple passes by the disk may be necessary in order to achieve an acceptable seed bed as required by these Specifications. Multiple passes will be considered subsidiary to Disking.

3.5 Fertilizing (NOT REQUIRED)

- a. Fertilizer application shall be done after the disking of the topsoil has been completed and accepted by the Engineer.
- b. Commercial grade fertilizer will be applied to all areas to be seeded at the rate of 30 pounds of available nitrogen, 20 pounds of available phosphate and 10 pounds of available potassium per acre.
- c. The fertilizer shall be applied with a commercial agriculture spreader cart or spreader truck. Prior to applying the fertilizer, the Contractor shall furnish the Engineer a copy of the delivery ticket from the vendor.

3.6 Pitting and Seeding

- a. Pitting and seeding shall be completed in accordance with these Specifications after disking and fertilizing has been completed by the Contractor and accepted by the Engineer. Pitting and seeding shall be completed within 48 hours after commencement of agricultural ripping.
- b. Final surface tillage operations shall consist of digging approximately 8,000 to 10,000 pits per acre as shown on the Drawings. Pits shall range in width from 8 to 18 inches parallel to the slope and in length of 8 to 24 inches parallel to the contour. Completed basins shall have a minimum depth of 6 inches and a maximum depth of 8 inches when measured by the method shown on the Drawings. Pit forming devices shall be preceded by ripper teeth sufficient to reach below the bottom of the pits.
- c. Pit shall be constructed in rows parallel to the contour, so that the downslope flow of water is entrapped by the next row of pits. The pitted surface shall have a staggered pattern between adjacent rows of pits. The berm constructed between adjacent pits in the same row shall be sufficient to eliminate any flow of water parallel to the contour.
- d. Pits shall be constructed prior to seeding and seed shall be broadcast immediately thereafter with a broadcast seeder, or other special equipment approved by the Engineer, as part of the pitting process.
- e. Prior to general seeding activities, test plots shall be established for the initial seeding in order to calibrate the mechanical seeder and ensure proper seed application rate. Initial calibration is the responsibility of the Contractor and shall be done in the presence of the Engineer. Maintaining the proper seed application rate shall be the responsibility of the Contractor. Periodic calibration tests of the seeding equipment may be required as determined necessary by the Engineer.
- f. Fall seeding shall be done between September 15 and the time that frost prevents preparation of a proper seed bed as determined by the Engineer. Spring seeding shall be done after the frost leaves the ground and until May 15.
- g. Pitting and seeding shall only be done during daylight hours, which shall be defined for the purpose of this contract as being the period of time between sunrise and sunset on the day of pitting and seeding.

- h. Construction of pits shall not destroy or cause blockage of erosion control ditches. Any damage shall be repaired at the Contractor's expense.

3.7 Broadcasting Seeding

Small areas that cannot be pitted as determined by the Engineer, may be ripped, disked, and broadcast seeded. Broadcast seeding shall occur at all topsoil stockpile locations after the stockpiles have been excavated. The specified seed mix shall be uniformly distributed with a mechanical seeder specifically designed for such work and the ground thoroughly raked or dragged *immediately* after seeding to cover the seed with approximately 0.25 inch of soil. Raking or dragging will be done parallel to the contour with suitable equipment approved by the Engineer.

4.0 MEASUREMENT AND PAYMENT

4.1 Special Considerations

- a. All revegetation pay items including agricultural ripping, disking, agricultural lime, fertilizer, and pitting and seeding are not included in the 30% variance of quantities as shown in the construction cost estimate and the unit price will not be negotiated.
- b. Accepted agricultural ripping, disking and pitting, and seeding operations on authorized areas will be measured on a *per plane acre* basis to the nearest 0.1 (one tenth) of an acre. Areas to be included for measurement shall be those areas authorized for and containing accepted agricultural ripping and disking. Areas disturbed or caused to be disturbed by the Contractor for his convenience or by his negligence shall be ripped, disked, pitted and seeded as directed by the Engineer at the Contractor's expense.
- c. Mobilization for revegetation equipment and materials will be paid under Section J of these Specifications. Multiple mobilizations and demobilizations of agricultural equipment for the Contractor or his subcontractor's convenience will not be measured for payment. Multiple mobilizations may be required if specifically directed by the Engineer due to soil conditions as discussed in 1.1(k) above.

4.2 Agricultural Lime

- a. Application of agricultural lime to the soil surface will be measured for "Agricultural Lime" on the ton basis to the nearest 0.5 ton on the quantity of material meeting these Specifications placed evenly on the soil surface and accepted by the Engineer. The method by which the tons of lime will be determined shall be mutually agreed to by the Contractor and the Engineer. Any additional agricultural lime which is placed on the soil surface in excess of that designated by the Engineer will not be measured for payment, without prior approval of the Engineer.
- b. Any plant nutrients which may be present in the agricultural lime will be considered subsidiary to "Agricultural Lime" and not measured for payment.
- c. Purchase, loading, hauling, and surface application of the agricultural lime will not be measured for payment and will be considered subsidiary to "Agricultural Lime."

- d. Multiple mobilizations and demobilizations of agricultural lime loading, hauling and application equipment as well as labor and any other items required to complete agricultural lime application will not be measured for payment and will be considered subsidiary to "Agricultural Lime."

4.3 Revegetation

- a. Payment for agricultural ripping, disking, fertilizing, and pitting and seeding will be made when each item has been completed and accepted by the Engineer. Each item will be considered incidental to Revegetation. The accepted quantities of revegetation will be paid for at the contract unit price per acre.
- b. The Contractor's attention is specifically called to the fact that the method of measurement is on a plane acre basis.
- c. The accepted quantities will be paid for at the contract unit price per acre to the nearest 0.1 acre.
- d. No payment will be made for purchased seed prior to completion of seeding and acceptance by the Engineer.

4.4 Pay Items

- a. The following pay items apply to Revegetation as defined in this Section of the Contract Documents:

<u>Pay Item</u>	<u>Pay Unit</u>
N-1 Agricultural Lime	Ton
N-2 Revegetation	Acre

END OF SECTION N

Health and Safety Plan

ANC URANIUM MILL TAILINGS SITE HEALTH AND SAFETY PLAN – TP-1 INTERIM STABILIZATION



Prepared for:

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Land Quality Division
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1.0 INTRODUCTION

This document provides the Site Health and Safety Plan (HASP) prepared by Lidstone & Associates, a Wenck Company (LA) for the American Nuclear Corporation (ANC) Uranium Mill Tailings Pond No. 1 (TP-1) interim Stabilization Project, Wyoming Department of Environmental Quality/Land Quality Division (LQD) Contract PS 0694. This HASP is designed to comply with the industrial health and safety standards and requirements of applicable federal and state regulatory agencies. The objective of this HASP is to provide a mechanism for establishing safe working conditions for LA and subcontractor personnel working at the ANC site. The safety organization, procedures and protective equipment have been established based upon an analysis of potential physical, biological, and radiological hazards. Specific hazard control methodologies have been evaluated and selected to minimize the potential of accident, injury, and exposure to any potentially hazardous situation.

Anticipated field activities covered by this HASP include excavation of mine overburden, Willow Springs Draw sediment (wicking barrier material), and topsoil from various existing topsoil piles for placement onto TP-1. As part of this interim stabilization project, surface water diversion channels and a retention dam/reservoir will also be constructed. Training and safety procedures will be specific to hazards involved with these types of activities being performed at a uranium mill tailings site. This HASP is subject to change if site conditions change and additional hazards are identified. The Project Manager and Project Health and Safety Officer are authorized to modify the contents of this HASP to respond to changing site conditions to ensure continued health and safety protection of project personnel.

1.1 Site Location and Description

The ANC Uranium Mill Tailings Site is located in the Gas Hills Uranium Mining District, eastern Fremont County, Wyoming. The Site is approximately 45 miles east of Riverton and 70 miles west of Casper. The site is licensed by the U.S. Nuclear Regulatory Commission (NRC) and encompasses approximately 550 acres of land. Of this total acreage, less than half was used for uranium mining and milling activities between 1959 and 1981. Of the 550 total acres within the licensed area, approximately 140 acres includes the decommissioned mill site and two tailings ponds that are in different stages of reclamation. TP-1 encompasses approximately 40 acres, and Tailings Pond No. 2 (TP-2) encompasses approximately 120 acres. The mill was decommissioned and the mill site reclaimed in 1989. TP-2 has been completely reclaimed but TP-1 has been partially reclaimed. The purpose of this project is to provide interim stabilization of TP-1 by covering it with nearby uranium overburden material, sand wicking barrier excavated from Willow Springs draw and topsoil obtained from several nearby piles. The primary constituents of concern from a health and safety standpoint are the low concentrations of natural uranium, radium-226 and its daughter product radon-222 and thorium-230 that may be present within the overburden material.

2.0 RESPONSIBLE PERSONNEL

<u>Position</u>	<u>Name</u>
Project Manager	Chris Lidstone
Project Health and Safety Officer	Greg Steed
Field Supervisor	Varies
Project Support Personnel	Varies

All LA personnel must comply with this HASP during the performance of their work. LA does not assume responsibility for the health, safety and working conditions of their subcontractors, but will require subcontractors to acknowledge (Appendix E.2) the following health and safety plan and adopt one similar

to this HASP. Each person is responsible for completing tasks safely and reporting any unsafe acts or conditions to his/her supervisor and/or the Project Manager. No person may work in a manner which conflicts with these HASP procedures. Any person who continues to violate safety procedures after being duly warned and informed will be dismissed from the project.

The Project Manager and Field Supervisor, together with the subcontractor project supervisor(s), will be responsible for monitoring the execution of safe work practices and the provisions of this Plan. These personnel are also responsible for knowing the provisions of the plan, communicating plan requirements to workers under their supervision and to site visitors, and for enforcing the plan.

The Project Manager or designee is responsible for:

- Conducting on-site safety orientation for subcontractors, including the procedures within this HASP.
- Conducting safety inspections of work activities to ensure compliance with this HASP.
- Maintaining required health and safety documents and records.

In Case of an On-Site Visit by any Regulatory Agency (eg., OSHA, BLM or the State Mine Inspector), the Project Manager and Health and Safety Officer must be notified as soon as possible. The Field Supervisor will notify the Project Manager that an agency inspector is on the jobsite. It is the responsibility of all site personnel to be informed of all pertinent regulations, employees' rights and responsibilities under the law, and to make the inspector's visit on the jobsite as pleasant and productive as possible.

Since cell phone coverage is limited in the Gas Hills, LA requires that the Field Supervisor contact the Project Manager or designee each evening to ensure that all field personnel have safely returned from the field. A similar protocol requires that all subcontractors inform LA of their proposed field schedule in advance of their work. Contact can be by cell phone, text message or email. If contact is not made, a search and rescue effort will be deployed. Emergency contact numbers are provided in Section 4.1 and Attachment F of this HASP.

3.0 PREPARATION FOR TRAVEL

Prior to embarking on any field work, the Project Manager shall ensure that all field personnel and subcontractors are aware of current weather and road conditions. LA endeavors to ensure that all company vehicles are equipped with emergency equipment including, but not limited to, jacks, spare tires, shovel, flashlights, extra batteries, matches, emergency flares, rope, garbage bags, first aid kit, and sand bag(s). Kits containing these items will also be provided for use in rental vehicles. If using a rental car, or if your company vehicle is missing any of the above equipment, contact Pam Sanders or any other administrative personnel to ensure that adequate safety equipment is obtained before departing for the field. Items should not be removed from company vehicles for use in rental vehicles. While in the field, if there is concern about the adequacy or the type of emergency equipment in the field vehicle, each LA employee is responsible for, and is authorized to, purchase said emergency equipment at any local store. Given the personal nature of certain types of equipment, each employee shall provide their own sleeping bag, spare blanket, water, extra food, and/or similar personal emergency equipment prior to embarking to the field. Be aware that hypothermia (lowering of body temperature) or hyperthermia (heat exhaustion) is the greatest danger faced by most of our employees during field work in remote areas. Always stay calm in an emergency situation and stay warm (or cool) and well hydrated. Never go into remote areas without a full fuel tank and investigate all stream or drainage "crossings" on foot before you

travel forward with the vehicle. Appropriate clothing for anticipated field conditions and a change of clothing should always accompany each person to a remote field location. Always take adequate maps that cover or address the field area location and all travel routes.

Should it be determined that the vehicle tires, windshield wipers, fluids, etc. are inadequate for the conditions to which the vehicle and employee will encounter, the employee is responsible for upgrading or replacing said equipment. Employees will be reimbursed for such upgrades or replacements. Upon returning all vehicles, company or rental, the employee must (1) fill the fuel tank and (2) report all problems or missing safety equipment, etc. to Pam Sanders or any other administrative personnel. Administrative personnel are responsible for making sure that Pam Sanders and, if necessary, Chris Lidstone are notified.

4.0 EMERGENCY PROCEDURES

4.1 Emergency Contact Information

Police/Fire/Ambulance: 911; other contact numbers include:

- Fremont County Sheriff's Office: 307-857-3600
- Fremont County Fire District: 307-857-3030 or 307-856-5410
- US BLM Cody Interagency Dispatch Center: 307-578-5740
- Fremont County Ambulance: 307-857-3669
- Air Ambulance: 941-639-7855

Hospital: Sage West Health Care – Riverton (Formerly Riverton Memorial Hospital)

2100 W. Sunset Drive, Riverton, WY 82501
307-856-4161 (General) 307-857-3420 (ER)

A map showing the hospital location is provided in **Attachment F**.

Project Manager: Chris Lidstone - 970-420-5257 (cell)

Health and Safety Officer: Greg Steed 970-819-1783 (cell)

LA Office: 970-223-4705

4.2 Reporting of Injuries/Illnesses

Any person who becomes ill or injured on site should be assessed for severity, and administered first aid, as necessary, prior to transport to any medical facility. All injuries and illnesses must be immediately reported to the Project Manager and/or the Health and Safety Officer at the phone numbers provided in Section 4.1 above. A "Notice of Injury Report" is required to be written as soon as possible after an injury or illness occurs, even if medical treatment is not required. The report should be made at or near the time of the injury/illness but at a minimum on the same day of the injury/illness. Relevant information pertaining to the injury/illness should be provided to the Project Manager and the Health and Safety Officer who will make the report to company management. The report should include, but not be limited to, the following information:

- How the injury/illness occurred.
- What they were doing at the time.
- Who they were working with at the time.
- When and where it occurred.

- Other pertinent information that will aid in the investigation of the injury/illness.

Failure to report an injury/illness immediately (meaning at or near the time of the injury/illness and on the same day of occurrence) is a violation of this HASP.

If the injured individual has been taken to the hospital, the Field Supervisor or the Health and Safety Officer shall notify the Project Manager as soon as possible. Statements from witnesses shall be taken. Statements are to be signed by witnesses and should include the time and date. Photographs should be taken of the area where the incident occurred and any other areas or equipment relevant to the injury/illness. Management will assist in the investigation. The completed "Notice of Injury Report" will be sent to the Project Manager.

4.3 Fire or Explosion

In the event of a fire or explosion, the local fire department should be notified immediately. Since most of the Project lands are public lands administered by the BLM, the BLM fire dispatcher located in the Cody Field Office should also be notified at the number provided in Section 4.1 and in **Attachment F**. If it is safe to do so, site personnel may use available firefighting equipment to control or extinguish the fire and remove or isolate any flammable materials that may contribute to the fire. If fighting the fire is not safe, all personnel should move upwind to a safe distance away from the fire and await arrival of the firefighting team.

4.4 Spills or Leaks

During the site work, the most likely spills or leaks will be oil, grease or other petrochemicals leaking or spilling from construction equipment, and associated light duty trucks. To minimize the impact of potential spills and leaks, at least the following shall be performed at the site:

- Construction equipment and other site vehicles shall be inspected daily, and any oil leaks shall be identified and repaired immediately.
- Spill containment and cleanup materials, such as drip pans, absorbent cloths, dams, etc., will be readily available at the site.
- All petrochemicals shall be stored in approved containers.

In the event of a leak or spill, construction activities will be suspended until the spill has been cleaned up and the leaking equipment repaired. The Project Manager or Health and Safety Officer will be notified of the spill and any containment and recovery actions that were necessary to effect cleanup of the area. The Project Manager and/or the Health and Safety Officer will determine if the spill needs to be reported as a hazardous materials release.

4.5 Emergency Equipment

Each LA field or rental vehicle will contain, at a minimum, the following emergency equipment:

- First aid kit, including a snake bite kit;
- Shovel; and
- Fire extinguisher.

Other safety equipment may be required as determined by site conditions and described in section 3.0 of this HASP.

4.6 Basic First Aid Procedures

4.6.1 Shock

Symptoms can include cold sweat, weakness, irregular breathing, chills, pale or bluish lips and finger nails, rapid weak pulse, and nausea.

First aid consists of the following:

- Call 911 or seek medical help immediately;
- While waiting for medical help:
 - Do not give victim anything to eat or drink.
 - Lay victim on back, but do not move if a neck or back injury is suspected.
 - If vomiting or severe injury to the lower jaw or face is present, move person to their side and be sure person is getting adequate air.
 - Keep person warm using blankets or clothes, but do not over heat.
 - Raise person's feet and legs with a pillow if it does not cause pain.

4.6.2 Bleeding and Wounds

First aid consists of the following:

- Place a clean cloth or gauze and gloved hand over the wound; apply firm, steady pressure for at least 5 minutes.
- Call 911 or other emergency personnel if bleeding is severe.
- Elevate an injured arm or leg above the level of the victim's heart if practical.
- When bleeding stops, secure the cloth with a bandage. Do not lift the cloth from the wound to check if bleeding has stopped. Be sure the bandage is not too tight—it may cut off circulation.
- Check the victim for shock.

Never use a tourniquet unless you cannot control the bleeding. Tourniquets may result in subsequent medical amputation.

4.6.3 Burns

Chemical or compressed gas burns

- Use a drench hose, emergency shower or eyewash, or bottled water for at least 15 minutes to rinse away all traces of chemicals while removing any contaminated clothing from the victim.
- Cover the burn loosely with a clean, dry cloth or special burn dressing.
- Check the victim for shock.
- Call 911 or seek medical attention as soon as possible.

Heat or electrical burns

- If necessary, use water to stop actual burning of skin.
- If the skin is not broken, submerge the burned area under cool running water, or gently apply a cool compress until pain is relieved. Bandage with a clean, dry cloth.
- Do not break a blister if one forms.

- Do not apply ointments or creams.
- If skin is broken, or if burns are severe:
 - Call 911 or other emergency personnel;
 - Do not clean the wound or remove embedded clothing;
 - Cover the burn loosely with a clean, dry cloth; and
 - Expect shock and treat accordingly.

4.6.4 Choking (Persons over one year of age)

If the victim can speak or cough forcibly and is getting sufficient air, do not interfere with his/her attempts to cough the obstruction from the throat. If the victim cannot speak or is not getting sufficient air, have someone call 911 while you perform abdominal thrusts.

- Stand directly behind the victim and wrap your arms around the stomach.
- Make a fist with one hand and place that fist just above the navel and well below the ribs, with the thumb and forefinger side toward you.
- Grasp this fist with the other hand and pull it quickly toward you with an inward and slightly upward thrust. Repeat if necessary.

If the victim becomes unconscious:

- Lay the victim on their back.
- If the object that is blocking the airway is visible, reach a finger into the victim's mouth (along the inside of the cheek) and try to sweep the obstruction out of the victim's throat, being careful not to push the object deeper into the victim's airway.
- Even if this is not successful, attempt rescue breathing.
- If the victim is still not breathing or moving, begin chest compressions (CPR).

4.6.5 Electrical Shock

The danger from an electrical shock depends on the type of current, how high the voltage is, how the current passed through the body, the person's overall health and how quickly medical treatment is provided. An electrical shock may cause burns, or it may leave no visible mark on the skin. In either case, an electrical current passing through the body can cause internal damage, cardiac arrest, or other injury. Under certain circumstances, even a small amount of electricity can be fatal.

- Do not touch the victim until electrical contact is broken.
- If possible, unplug or switch off the source of electricity.
- Any person who has been injured by contact with electricity should be seen by a doctor as soon as possible.
- Do not move a person with an electrical injury unless the person is in immediate danger.
- Call 911 or seek medical attention immediately if the victim experiences any of the following:
 - Severe burns
 - Confusion
 - Difficulty breathing
 - Heart rhythm problems

- Cardiac arrest
- Muscle pain and contraction
- Seizures
- Loss of consciousness
- Begin CPR if the victim shows no signs of circulation, such as breathing, coughing or movement.
- Keep the victim warm
- Cover any burned areas with sterile gauze bandage, or a clean lintless cloth.

4.6.6 Eye Injury

Chemical

- Call 911
- Hold the eyelids apart and flush the eyeball with lukewarm water for at least 15-30 minutes. Be careful not to let runoff water flow into the other eye.
- Do not bandage the eye.

Blow to the Eye

- Apply a cold compress to the eye, but do not put pressure on the eye.
- Provide Tylenol or ibuprofen for pain.
- If there is bruising, bleeding, change in vision, or pain when the eye moves, seek immediate medical assistance.

Cut, scratch or embedded object

- Do not rub the eye.
- Pull the upper lid down and blink repeatedly.
- If particle is still there, flush with clean water.
- If flushing does not help, close eye, bandage it lightly.
- Seek medical assistance.

4.6.7 Fainting

- Lay the victim down on their back and make sure they have plenty of fresh air.
- Reassure the victim and apply a cold compress to the forehead.
- If the victim vomits, roll the victim on his/her side and keep the windpipe clear.
- Transport victim to a medical facility emergency room. Note that fainting victims typically regain consciousness almost immediately. If this does not happen, the victim could be in serious danger and you should call 911 as soon as possible.

4.6.8 Dehydration

- For mild dehydration, replace lost body fluids with water, juice or sports drinks; for severe dehydration, encourage fluid intake and transport to medical facility emergency room.

4.6.9 Heat Exhaustion

- Move the victim to a cool or shady area, provide cool water or other non-alcoholic or non-caffeinated fluids, cool skin with wet compresses or spray with water, and have the person rest

for the remainder of the day; if symptoms get worse or nausea and/or vomiting occurs, call 911 and transport the victim to a medical facility emergency room.

4.6.10 Heat Stroke

Heat stroke can be life threatening. Symptoms can include a body temperature of 105°F or higher; dry, hot, flushed skin; rapid pulse; unconsciousness; and lack of perspiration.

- Call 911.
- Get the victim out of the heat and into a cooler place.
- Place the victim in the shock position, lying on the back with feet up.
- Remove or loosen the victim's clothing.
- Cool the victim by fanning and applying cloth-wrapped cold packs or wet towels.
- Treat for shock.

4.6.11 Hypothermia

Hypothermia can be life threatening. Symptoms include lower than normal body temperature, shivering, apathy, disorientation, drowsiness, and eventually, unconsciousness.

- Call 911.
- Immediately move the victim into the best available nearby shelter.
- Get the victim out of wet clothes and replace with dry clothes, sleeping bag or blankets.
- Have the victim drink a warm, sweet, non-alcoholic beverage, if possible.

4.6.12 Unconsciousness

- Determine responsiveness by gently tapping the victim's shoulder and asking, "Are you okay?"
- If there is no response, shout "Help!" and look for a medical alert tag on the victim's neck or wrist.
- If the victim is not breathing and has no pulse, begin CPR.
- Call 911 and transport to medical facility as soon as possible.

4.7 Work Limitations

- In high ambient temperatures, follow heat exhaustion precautions including: Provide plenty of cool water and electrolytes; remove protective clothing during breaks; check resting pulse and increase number of breaks if pulse does not return to normal during work breaks.
- Sun and wind exposure may result in dehydration; apply sunscreen to exposed skin and drink adequate non-caffeinated fluids throughout the work day.
- In low ambient temperatures (<32°F), follow hypothermia precautions.
- Work may progress only during daylight hours or under conditions of adequate lighting. Where night work or remote work is required, adequate personal protection, including "Buddy Notification" is required. Never leave a remote site without first notifying your "buddy". Before leaving any site after dark, ensure that all personnel are accounted for.

4.8 Basic Safety Rules

- Compliance with applicable federal, state, county and city regulations, and client and company safety rules is mandatory.

- Clothing must provide adequate protection to the body. Shorts and sandals are not allowed in the field. Professional clothing will be required at all times on an LA job.
- All personnel will be required to attend safety meetings as stipulated by project requirements to meet OSHA safety standards.
- Firearms, alcoholic beverages or illegal drugs are not allowed on project sites or in company vehicles at any time.
- Housekeeping shall be an integral part of every job. Subcontractor supervisors and LA employees are responsible for keeping the project site clean and hazard-free.
- Drinking water containers are to be used for drinking water and ice only.
- "Horseplay" on the jobsite is strictly prohibited.
- The jobsite speed limit, where posted, shall be adhered to with no exceptions. Employees must be sitting down inside the truck when the vehicle is in motion with seatbelts securely fastened. Riding in the bed or on the tailgate of a moving truck or SUV is not allowed.
- Report all unsafe conditions to your supervisor, the Project Manager and/or the Health and Safety officer.
- All floor openings or excavations must be barricaded on all sides to ensure employees are aware of the hazards.
- Warning signs, barricades, and tags will be used to the fullest extent possible and shall be obeyed.

5.0 HAZARDS

The types of hazards that may be encountered at the site during the project include biological and physical hazards, including radiological hazards. Common physical hazards associated with large earth moving construction projects include, but are not limited to, those related to light construction, such as slip-trip-fall hazards associated with the field environment, hot or cold weather, sun and wind exposure, and noise and dust from heavy equipment. Mechanical hazards include, but are not limited to, sudden equipment movement, swinging backhoe booms, snapping cables and loss of hydraulics. Biological hazards include biting insects, ticks, spiders, and poisonous snakes. Radiological hazards include the potential for low concentrations of natural uranium, radium-226 and associated daughter products, in soils.

5.1 Hazard Protection

5.1.1 Physical Hazards

Temperature Extremes: Construction workers may be exposed to heat, cold and the sun. Too much heat or cold, especially if combined with high humidity or high winds, can harm a worker's health and interfere with work productivity. Hot, humid conditions can cause heat exhaustion, cramps and fainting. Working in very cold conditions can result in chapped skin, hypothermia and frost-bite.

To protect against heat related illnesses, drink small amounts of water frequently, wear light colored, loose fitting clothing, take frequent short breaks in cool shade, and avoid caffeine or large quantities of sugar.

To protect against cold related illnesses, wear several layers of clothing rather than one thick layer, wear gloves and a warm hat or a warm liner under the hard hat, wear warm footwear with one or two pairs of warm socks, wear a scarf or face mask in cold, windy weather, and take frequent short breaks in a warm shelter.

Sun/Wind Exposure: To avoid over exposure to the sun and wind, use sun screen with a protection factor of at least 30 and long-sleeved shirts and long pants. When not in a hard hat area, wearing a large brimmed hat will help protect the neck, ears, eyes, forehead, nose, and scalp from sun exposure. Wear UV-absorbent eye protection.

Slips, Trips and Falls: Keep the construction staging area(s) and associated work and storage areas as clean and free of tripping hazards as possible. Sturdy water-resistant boots should be worn when working under wet or muddy conditions. While walking, be alert and observe terrain and tripping hazards, such as hoses, sagebrush, etc. to minimize slips, trips, and falls. Wearing long pants and long-sleeved shirts will prevent abrasion in the event of a slip, trip or fall.

Lifting: Always use proper lifting techniques when lifting objects from the ground, back of a vehicle, etc. Lifting of heavy items should be performed by more than one person. Proper gloves should be used to avoid hand injuries. Where the risk of handling sharp items occurs, cut resistant gloves shall be worn.

Noise: Exposure to continuous high noise levels or short-duration, impact type noise can lead to temporary or permanent hearing loss. Staying away from noise sources and wearing proper hearing protection can control the effects of noise exposure. Ear protection (ear plugs or ear muffs) is required for all site personnel when working in close proximity to operating heavy equipment (eg., scrapers, dozers, etc.) or other loud operating equipment for extended periods of time.

Heavy Equipment: Work in or around heavy equipment presents several hazards, including the potential for being struck by the equipment or falling materials. Prior to entering the work area, all personnel shall review the work plan, including the equipment being used, and the operating sequence. The risk of injury is reduced by staying clear of operating equipment, being observant of work activities, wearing appropriate protective equipment (eg., hard hat, hard toed boots, eye, and ear protection) and making the equipment operator aware of your presence before approaching. All site personnel shall wear high visibility vests at all times.

Summer Storms: If thunder or lightning is heard or seen, construction equipment should be shut down, and all personnel seek shelter until the threat of lightning strikes passes.

Radiological Hazards: The mine overburden spoils that will be used and are currently present as cover over TP-1 may contain low concentrations of natural uranium and radium-226. Although the hazard is considered low, appropriate cautionary measures should be employed when working around the overburden material. Dust suppression using adequate quantities of water or other approved dust suppression methods, shall be required of the contractor during the transportation of material to ensure that airborne dust emissions will be minimized. Dust suppression will be required on all access and haul roads, on the overburden stockpile and on TP-1 during all earth moving activities. If dusty conditions occur, the Contractor will be required to use dust masks to prevent inhalation of dust or will be required to shut down operations. Protective eyewear, long-sleeved shirts and long pants should be worn to prevent excessive material on exposed skin. Kevlar coveralls, respirators and latex, rubber or nitrile gloves may be required as an additional layer of protection. All field personnel shall clean hands and face with soap and water or waterless cleaner prior to eating, drinking or tobacco use and prior to leaving the site each day. The Contractor will be required to clean all field equipment at the end of the project and/or prior to any equipment leaving the site.

5.1.2 Biological Hazards

Snakes and Stinging Insects: Rattlesnakes are commonly found in the Gas Hills during the spring and summer months. Personnel should be constantly vigilant in the field to avoid contact with snakes. A snake bite kit should be maintained in each field vehicle first aid kit. Heavy long pants and boot extenders will help in prevention of snake bites. Long-sleeved shirts and long pants that fit tightly around the boots will help prevent stings from insects. Use of insect repellent will also be helpful. Personnel should check exposed skin for ticks prior to leaving the site each day. Personnel with allergies to insects should be identified and ensure that appropriate emergency treatment is available.

Poisonous Plants: Poisonous plants, such as poison ivy, stinging nettle, etc. are not common in the Gas Hills. However, use of long-sleeved shirts and long pants will minimize contact with brush and other plant material that could cause abrasion or allergic reaction. Personnel with allergies to certain plants should be identified and ensure that appropriate emergency treatment is available.

Noxious Weeds: Noxious weeds, such as Russian thistle, are common in Wyoming and are invasive in areas where the surface soils have been disturbed. To prevent the introduction of noxious or other varieties of invasive weeds, the Contractor will be required to steam clean all field equipment prior to entering the site.

Attachments

ATTACHMENT A JOB SAFETY CHECKLIST

The following Job Safety Checklist has been condensed and edited from the Occupational Safety and Health Act, Part 1926, Construction Safety and Health Regulations.

A. Safety Rules

- ☐ Adequate clothing for site and field conditions. Spare clothing and water available.
- ☐ Hard toed work shoes worn. Sunscreen, hard hats and eye/ear protection as required.
- ☐ Contractor's personnel hold safety meetings as indicated by project requirements in accordance with OSHA Safety standards.
- ☐ Work areas safe and clean.
- ☐ No use of alcoholic beverages or controlled substances.

B. Recordkeeping

- ☐ Safety meeting sign-in logs maintained in a folder.
- ☐ Report all problems with LA vehicle safety equipment or vehicle to LA office.

C. Housekeeping and Sanitation

- ☐ General neatness.
- ☐ Regular disposal of trash.
- ☐ Passageways, driveways, and walkways clear.
- ☐ Adequate lighting.
- ☐ Oil and grease removed.
- ☐ Waste containers provided and used.
- ☐ Adequate supply of drinking water.

D. First Aid

- ☐ First aid kits with supplies and equipment.
- ☐ Injuries promptly and properly treated and reported.

E. Personal Protective Equipment

- ☐ Hard hats, safety glasses, and steel toed boots.
- ☐ Hearing protection, when warranted.
- ☐ Safety vests, when warranted.

F. Motor Vehicles

- ☐ Fully equipped as discussed in Section 3.0.
- ☐ Seat belts worn at all times.

G. Material Storage and Handling

- ☐ Material at least 2 feet from edge of excavation site.
- ☐ Proper temperature and moisture levels for safe storage of materials to prevent deterioration or volatile hazards within the storage area.
- ☐ Inventory maintained and inspected frequently.
- ☐ Proper protective gear worn when handling chemicals.

ATTACHMENT B
SAFETY EQUIPMENT CHECKLIST

The following is a list of Safety Equipment that should be available at the job site, if required, or available from the Project Manager or Health and Safety Officer at all times. Equipment should be checked at intervals in accordance with the applicable OSHA Safety Standards to ensure that all required equipment is present and in good condition.

- _____ Safety goggles, shields, and glasses.
- _____ Hearing protection.
- _____ Shovel.
- _____ Hard hats and steel toed boots.
- _____ Fire extinguishers (properly charged).
- _____ First aid kit (check list inside kit).
- _____ Trash bags.
- _____ Site HASP provided to and reviewed with all site personnel.
- _____ Adequate maps of area and navigation devices as necessary.
- _____ Personal equipment: sleeping bag, spare clothing, head protection, food, water, etc.

ATTACHMENT C SAFETY MEETING REPORT

A Safety Meeting Report is signed to indicate attendance and understanding. The form has room for all employees and subcontractor personnel to sign after attending the scheduled safety meeting. This form shall be filled out for each jobsite safety meeting that is held. After completion of the form, make a copy to maintain at the jobsite and return the signed original copy to the Engineer.

Safety Meeting Date: _____

Topic: _____

Safety Meeting Conducted By: _____

Employee Name (PRINTED)	Employee Signature	Job Title

Employee Name (PRINTED)	Employee Signature	Job Title

ATTACHMENT D DRUG AND ALCOHOL POLICY

Engineer is committed to providing a workplace which is free from drug and alcohol abuse. We are concerned about the wellbeing of our employees whose drug or alcohol dependency may affect their job performance, job safety, the safety and the wellbeing of their co-workers and the expectations of our clients. To ensure the fulfillment of these goals, Engineer has adopted the following policy:

Engineer prohibits drug and alcohol abuse on the part of all employees. Reporting to the work place, driving a company vehicle or reporting to the premises of any client under the influence of alcohol or any controlled substance is strictly prohibited. The only exception will be for a controlled substance prescribed for the employee by the employee's physician. In order to meet specific rules and requirements by some of our clients we have enacted a specific drug testing policy. It will apply directly to all employees who work or anticipate working with a client that requires testing for illegal drugs and controlled substances in advance of working on the job site. It will also be required should an accident occur at a job site or in transit to or from a job site as determined by Management or on a "cause" basis.

The drug testing can be carried out at CONCENTRA Medical Center located at 2620 E. Prospect Road, Suite 160, Fort Collins, CO 80520, Phone- 970-221-5811.

**ATTACHMENT E.1
EMPLOYEE ACKNOWLEDGMENT**

I state that I have attended the safety orientation and have received and read a copy of the Lidstone & Associates, a Wenck Company site specific HASP for the ANC Tailings Site Soils Investigation Project. I understand the hazards and controls associated with this work and will implement the controls as indicated. I will inform my supervisor and the Project Manager if there are changes to the hazards or if controls appear to be inadequate.

I further state that I understand the requirements contained in this HASP and acknowledge that compliance with this HASP is a condition of employment. If I violate the HASP or fail to report an accident or injury to my supervisor immediately, I understand that I am subject to termination, in accordance with company policy.

EMPLOYEE SIGNATURE

DATE

SIGNATURE (Responsible Person)

DATE

cc: Supervisor

**ATTACHMENT E.2
SUBCONTRACTOR ACKNOWLEDGMENT**

I state that I have attended the safety orientation and have received and read a copy of the Lidstone & Associates, a Wenck Company site specific HASP for the ANC Tailings Site Soils Investigation Project. I understand the hazards and controls associated with this work and will implement the controls as indicated. I will inform my supervisor and the Project Manager if there are changes to the hazards or if controls appear to be inadequate.

I further state that I understand the requirements contained in this HASP and acknowledge that compliance with this HASP is a condition of working on this site. If I violate the HASP or fail to report an accident or injury to my supervisor immediately, I understand that I am subject to termination, in accordance with LA and Subcontractor policy.

SUBCONTRACTOR SIGNATURE

DATE

SIGNATURE (Responsible Person)

DATE

cc: Supervisor

**ATTACHMENT F
EMERGENCY CONTACT INFORMATION
AND
NEAREST HOSPITAL LOCATION AND DIRECTIONS**

Emergency Contact Information

Police/Fire/Ambulance: 911; other contact numbers include:

Fremont County Sheriff's Office: 307-857-3600
Fremont County Fire District: 307-857-3030 or 307-856-5410
US BLM Cody Interagency Dispatch Center: 307-578-5740
Fremont County Ambulance: 307-857-3669
Air Ambulance: 941-639-7855

Hospital: Sage West Health Care – Riverton (Formerly Riverton Memorial Hospital)

2100 W. Sunset Drive
Riverton, WY 82501
307-856-4161 (General) 307-857-3420 (ER)

Map (see next page) and Driving Directions to Sage West Health Care: WY Hwy 136 west to WY Hwy 789, turn right onto Hwy 789 N, turn left onto E Main St., turn right onto College View Dr., take the 3rd right onto W Sunset Dr., Sage West Health Care facility is on the left.

Project Manager: Chris Lidstone 970-420-5257 (cell)

Health and Safety Officer: Greg Steed 970-819-1783 (cell)

LA Office: 970-223-4705

APPENDIX B4
FENCING AND CHANNEL REPAIR COSTS

Patrick Construction, Inc.

PO Box 926
Lander, WY 82520

Invoice

Date	Invoice #
12/11/2018	92768

Bill To
Lidstone & Associates, a Wenck Company 4025 Automation Way, Bldg. E Fort Collins, CO 80525

P.O. No.	Terms	Project
Marty/Chris	Net 30	

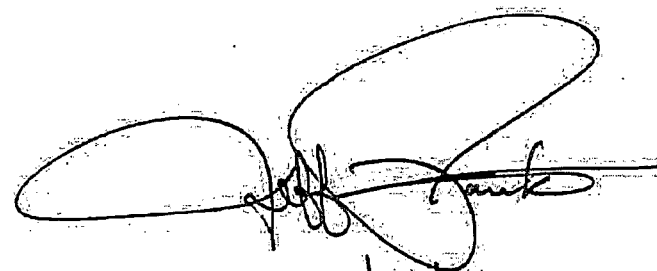
Quantity	Description	Rate	Amount
	ANC Channel Repair per attached	41,980.98	41,980.98
It's been a pleasure working with you!		Total	\$41,980.98

ANC Channel Repair - Patrick

	Mon 3-Dec	Tues 4-Dec	Wed 5-Dec	Thur 6-Dec	Fri 7-Dec	Total Hrs.	\$/Hr.	Total \$	Original Budget \$
Superintendent	4.0	2.0	1.5	6.5	7.0	21.0	\$95.00	\$1,995.00	\$3,800.00
Laborer	0.0	11.0	12.5	14.0	7.0	44.5	\$55.00	\$2,447.50	\$1,100.00
Supervisor Pickup Truck	4.0	8.0	9.5	9.5	7.0	38.0	\$45.00	\$1,710.00	\$1,800.00
Side Dump Truck	0.0	6.0	9.5	0.0	0.0	15.5	\$135.00	\$2,092.50	\$3,510.00
Excavator	0.0	7.0	9.5	9.5	7.0	33.0	\$210.00	\$6,930.00	\$7,350.00
Wheel Loader	0.0	5.0	6.5	5.0	7.0	23.5	\$160.00	\$3,760.00	\$5,600.00
Articulated Truck	0.0	0.0	0.0	0.0	0.0	0.0	\$170.00	\$0.00	\$2,550.00
Mini Excavator	0.0	6.0	8.0	3.0	0.0	17.0	\$90.00	\$1,530.00	\$720.00
Hydraulic Plate Compactor	0.0	0.0	0.0	0.0	0.0	0.0	\$350.00	\$0.00	\$350.00
Total Hrs.	8.0	45.0	57.0	47.5	35.0	192.5		\$20,465.00	\$26,780.00

Total to Date

Mobilization	\$	15,946.00	Revised from \$17,446.00
Materials Riprap	\$	5,187.50	Reduced in quantity/price from \$6,250.00
Materials Road Base	\$	-	Deleted
Materials Sediment Fabric	\$	200.00	
Materials Chains - Locks	\$	182.48	Ace Hardware Invoice 252871 (no mark-up)
Labor and Equipment	\$	20,465.00	
FINAL TOTAL	\$	41,980.98	
TASK ORDER AMOUNT - REVISED	\$	41,000.00	
UNDERRUN / OVERRUN	\$	(980.98)	


12/11/2018

June 11, 2018

Cut Across Fence and Repair

The fence would be constructed along the drain way on the south end of the recently covered tailings pond. It would tie into the existing fence near the old man camp and go to the north west and connect with existing fence on the west side of the tailings pond. The overall length of the fence would be 1,885' with 4 double H braces and 3 single H braces as discussed with Cal. There will be one 16' wire access gate. All H braces will be made with 5" x 6 1/2' treated wood posts and wooden cross braces. The fence will be 4 barb wires, with posts on 15' centers and every 10th post will be a 4" x 6 1/2' wooden posts with all other line posts being metal T posts 5 1/2' tall. We will build this fence at a price of \$5.00/ft., materials include.

Repair to the existing fence will be done on a time and material basis. Our prices are as follows:

Laborer - \$35.00/hour (only hours on the job site will be billed)

Pick-up - \$200.00/day

4-wheeler - \$125.00/day

Loader and attachments - \$115.00/hour

After looking at the existing fence and the repairs needed I would estimate 3 days with a 3 man crew.

If the other option is used, which is a new fence around the tailings pond, the price would be \$4.50/ft. This would include 4 double H braces and 2 single H braces. Any additional H braces would add \$250.00 per H brace.

If you have any questions, feel free to give me a call.

Gary Huxtable
Huxtable Fabrication LLC
397 N Muddy Rd
Riverton, WY 82501
307 856-9511

Appendix C

APPENDIX C1
CONTRACTOR BIDS

Item #	Description	Unit	Units	Engineer's Estimate		Weeden Const		H-2 Enterprises		Montana Civil Contractors		Ofedal Construction		Rocky Mtn. Sand & Gravel		Wayne Coleman Construction		Carr Construction		Dan Hart Patrol Service		Average	High	Low
				Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total			
J-1	Mobilization (Including haul road development)	LS	1	\$45,000.00	\$45,000	\$176,000.00	\$176,000.00	\$141,459.22	\$141,459.22	\$75,000.00	\$75,000.00	\$221,000.00	\$221,000.00	\$50,000.00	\$50,000.00	\$136,607.00	\$136,607.00	\$100,000.00	\$100,000.00	\$222,000.00	\$222,000.00	140258.3	\$222,000.00	\$50,000.00
K-1	Wicking Barrier Excavation and Placement on TP-1	CY	15,000	\$3.00	\$45,000	\$1.78	\$26,700.00	\$2.23	\$33,450.00	\$6.25	\$93,750.00	\$5.00	\$75,000.00	\$4.50	\$67,500.00	\$1.80	\$27,000.00	\$3.28	\$49,200.00	\$5.00	\$75,000.00	3.73	\$6.25	\$1.78
K-2	Unclassified Excavation and Placement on TP-1	CY	111,000	\$1.20	\$133,200	\$1.27	\$140,970.00	\$1.78	\$197,580.00	\$2.60	\$288,600.00	\$2.00	\$222,000.00	\$3.50	\$388,500.00	\$1.80	\$199,800.00	\$2.62	\$290,820.00	\$1.78	\$197,580.00	2.16875	\$3.50	\$1.27
K-3	Topsoil Excavation and Placement on TP-1	CY	50,000	\$2.00	\$100,000	\$2.23	\$111,500.00	\$1.78	\$89,000.00	\$2.85	\$142,500.00	\$2.10	\$105,000.00	\$3.80	\$190,000.00	\$1.80	\$90,000.00	\$1.79	\$89,500.00	\$2.36	\$118,000.00	2.33875	\$3.80	\$1.78
K-4	Channel Excavation and Placement	CY	13,000	\$2.00	\$26,000	\$1.87	\$24,310.00	\$1.78	\$23,140.00	\$1.75	\$22,750.00	\$4.00	\$52,000.00	\$4.20	\$54,600.00	\$1.80	\$23,400.00	\$3.50	\$45,500.00	\$1.78	\$23,140.00	2.585	\$4.20	\$1.75
L-1	Imported 8" Rock (Grade Control Structures)	CY	100	\$75.00	\$7,500	\$212.61	\$21,261.00	\$175.75	\$17,575.00	\$115.00	\$11,500.00	\$270.00	\$27,000.00	\$65.00	\$6,500.00	\$100.00	\$10,000.00	\$250.00	\$25,000.00	\$250.00	\$25,000.00	179.795	\$270.00	\$65.00
N-1	Soil Amendment - Lime	TON	250	\$65.00	\$16,250	\$44.00	\$11,000.00	\$74.36	\$18,590.00	\$85.00	\$21,250.00	\$120.00	\$30,000.00	\$145.00	\$36,250.00	\$150.00	\$37,500.00	\$123.95	\$30,987.50	\$77.00	\$19,250.00	102.4138	\$150.00	\$44.00
N-2	Revegetation	AC	36	\$750.00	\$27,000	\$550.00	\$19,800.00	\$1,344.51	\$48,402.36	\$925.00	\$33,300.00	\$700.00	\$25,200.00	\$940.00	\$33,840.00	\$1,500.00	\$54,000.00	\$800.00	\$28,800.00	\$675.00	\$24,300.00	929.3138	\$1,500.00	\$550.00
O-1	Force Account	LS	1	\$40,000.00	\$40,000	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	40000	\$40,000.00	\$40,000.00
Total Base Bid					\$439,950		\$571,541.00		\$609,196.58		\$728,650.00		\$797,200.00		\$867,190.00		\$618,307.00		\$699,807.50		\$744,270.00			
Alternate Bid Items																								
A-1	Fencing and signage	LF	6000	\$4.50	\$27,000	\$6.13	\$36,780.00	\$7.22	\$43,320.00	\$7.75	\$46,500.00	\$3.05	\$18,300.00	\$3.90	\$23,400.00	\$9.00	\$54,000.00	\$5.27	\$31,620.00	\$4.00	\$24,000.00			
A-2	36" CMP Culvert (60 FT)	LS	1	\$6,000.00	\$6,000	\$5,500.00	\$5,500.00	\$5,047.47	\$5,047.47	\$6,000.00	\$6,000.00	\$9,600.00	\$9,600.00	\$7,920.00	\$7,920.00	\$4,207.00	\$4,207.00	\$6,940.00	\$6,940.00	\$5,880.00	\$5,880.00			
A-3	Detention Pond - Compacted Fill	CY	3000	\$2.00	\$6,000	\$1.28	\$3,840.00	\$5.96	\$17,880.00	\$3.50	\$10,500.00	\$4.25	\$12,750.00	\$10.00	\$30,000.00	\$2.10	\$6,300.00	\$3.28	\$9,840.00	\$4.00	\$12,000.00			
	Detention Pond - Unclassified Excavation	CY	12000	\$1.10	\$13,200	\$1.27	\$15,240.00	\$1.78	\$21,360.00	\$2.00	\$24,000.00	\$2.00	\$24,000.00	\$7.00	\$84,000.00	\$1.90	\$22,800.00	\$2.00	\$24,000.00	\$2.00	\$24,000.00			
Alternates Total					\$52,200		\$61,360.00		\$87,607.47		\$87,000.00		\$64,650.00		\$145,320.00		\$87,307.00		\$72,400.00		\$65,880.00			
Proposed Start Date						1-Apr		2-Apr		4-Jun		1-May		15-May		One day after NTP		1-May		Contract Execution				
Acknowledge Addendum						Y		Y		Y		Y (not dated)		Y		Y		Y		Y				
Bid Bond Included						Y		Y		Y		Y		Y		Y		Y		Y				
Wyoming Residency						Y		N		N		Y		Y		Y		N		Y				
Bid Signed						Y		Y		Y		Y		Y		Y		Y		Y				

APPENDIX C2
NOTICE TO PROCEED



Department of Environmental Quality

*To protect, conserve and enhance the quality of Wyoming's
environment for the benefit of current and future generations.*



Matthew H. Mead, Governor

Todd Parfitt, Director

March 16, 2018

PROFESSIONAL SERVICES CONTRACT MSA NUMBER 05SC0206036

AMERICAN NUCLEAR CORPORATION SITE (ANC)

Notice to Proceed Task 5 (Construction) under Task Order # 4

Task Order # 4 was issued by Wyoming Department of Environmental Quality, Land Quality Division (DEQ/LQD) on February 21, 2018. Under this Task Order, Lidstone and Associates- a Wenck Company (Lidstone) has completed a public bidding process and has recommended Weeden Construction as the responsible, responsive contractor. Based on the review of the bids and the recommendation from Lidstone, DEQ/LQD concurs with the selection of Weeden Construction and subsequent negotiations with Weeden.

Please consider this a Notice to Proceed within the Lidstone Contract to commence work on Task 5 (Construction) under Task Order# 4. The dollar amount, which funds Task 5 is \$375,566 and this dollar amount shall allow final negotiation and project commencement with Weeden Construction. Should subsequent amendments to the Contract be approved by the DEQ/LQD, Lidstone shall amend the Weeden Construction Contract to complete the ANC temporary reclamation. Signature of the DEQ/LQD Administrator is required on the Change Order to complete this additional Work.

Sincerely,

Kyle Wendtland
Administrator, Land Quality Division

cc: Muthu Kuchanur
Carol Billbrough
Ryan Schierman
PT 352C

APPENDIX C3

WEEDEN CONSTRUCTION CONTRACT AND CHANGE ORDERS



Muthu Kuchanur <muthu.kuchanur@wyo.gov>

Detailed ANC Bid Negotiation 3-13-18.xlsx

Chris D. Lidstone <clidstone@wenck.com>

Tue, Mar 13, 2018 at 9:31 PM

To: Muthu Kuchanur <muthu.kuchanur@wyo.gov>, Kyle Wendtland <kyle.wendtland@wyo.gov>

Cc: "Paul R. Hildenbrand" <phildenbrand@wenck.com>, "Cal R. Demler" <cdemler@wenck.com>, "Greg H. Steed" <gsteed@wenck.com>, "Chester A. Hitchens" <chitchens@wenck.com>

Muthu and Kyle:

This reflects my bid negotiation for your review and concurrence. Weeden has agreed to complete the job with the following modifications for \$444,460. I feel that this is the right decision and recommend that we go forward. I have worked with Monte Weeden and feel that he is a responsible, responsive contractor and this award is in the best interests of the State of Wyoming (DEQ/LQD). Maintenance and compliance with the Health and Safety Plan is part of the work effort. Monte is aware that Ryan Schiermann and DEQ/LQD staff will be on site at the start of the job. Working hours will be 7AM to 6PM. Specifically as part of this negotiation we have eliminated Weeden's grade control person. My office will stake the site. Cal will determine fills based on staking. Weeden wants to start on April 1. We will complete the fill of the existing gullies and construct the ramp from the south. We will then regrade the TP 1 to ensure starting surface for two foot cover. We will construct ramp from the north for movement of topsoil piles. We will excavate and place (from the borrow area to TP 1) 111,000 CY of overburden or 2 feet of clean overburden cover. The upper fill lift will be the better material and will be amended with lime. Excavation from the channels (assuming suitable) will then be used for the initial cover over the overburden. Topsoil segregated and placed on top. Topsoil will then be hauled from TSS 2A, TSS2B, TSS6, TSS7, TSS 9, TSS 8, TSS 9, New Pile southeast of proposed detention pond, and TSS 6 and placed for final cover on TP1 for a total depth of one foot. The site will be pittd and seeded.

As part of this negotiation I intend to write an initial contract for \$375,266 and will Change Order an additional \$70K upon receipt of an approved amendment from LQD. The fall back will be topsoil. There will only be 895CY of topsoil @\$1.42/CY for the initial contract and I will add the remaining +/-49,000CY with the Change Order. Weeden will work on his bonding etc. and contract requirements next two weeks. Amber needs to go to the site and finalize the raptor survey and confirm that we can start.

I have agreed to pay Mobilization upon Notice to Proceed (and following Mobilization to the site). I will not take retainage out of the contract. He will pay subs and suppliers and sign the affidavit. We will still have to advertise. I have adjusted the design of the diversion channel so that it will be built with scrapers to near final grade. The invert of each diversion channel will be triangular and 2 foot deep and each will overtop into a 16 foot wide (more or less) trapezoidal channel. Both diversion channels will be seeded. To save costs, Weeden will haul the unclassified excavation with 777 trucks and load with a 1250 excavator. Only topsoil will be moved with scrapers.

I have not discussed this with AML but intend to ask them to allow us to finalize the Alternate Scope items including fencing, detention ponds and culvert across the county road. I will also add back in the riprap with AML dollars if agreeable. All of these items are outside of the restricted area and should be eligible for AML funding.

Anyhow these are my thoughts for your review and concurrence. I will call you when I arrive back in Denver.

Chris

Christopher D. Lidstone

Principal and Regional Manager



Lidstone and Associates - A Wenck Company

clidstone@wenck.com | D 970.223.4705 | C 970.420.5257

4025 Automation Way | Bldg. E | Fort Collins, CO 80525

2 attachments

 **Detailed ANC Bid Negotiation 3-13-18.xlsx**
17K

 **ANC Sht C-101_supplemental TSS.pdf**
1735K

Weeden Revised Estimate

Item #	Description	Unit	Units	Engineer's Estimate		Weeden Const		Weeden Revised (3/13/18)	
				Unit Cost	Total	Unit Cost	Total	UnitCost	Total
J-1	Mobilization (Including haul road development)	LS	1	\$45,000.00	\$45,000	\$176,000.00	\$176,000.00	\$176,000.00	\$176,000.00
K-1	Wicking Barrier Excavation and Placement on TP-1	CY	15,000	\$3.00	\$45,000	\$1.78	\$26,700.00	\$0.00	\$0.00
K-2	Unclassified Excavation and Placement on TP-1	CY	111,000	\$1.20	\$133,200	\$1.27	\$140,970.00	\$1.20	\$133,200.00
K-3	Topsoil Excavation and Placement on TP-1	CY	50,000	\$2.00	\$100,000	\$2.23	\$111,500.00	\$1.42	\$71,000.00
K-4	Channel Excavation and Placement	CY	13,000	\$2.00	\$26,000	\$1.87	\$24,310.00	\$1.42	\$18,460.00
L-1	Imported 8" Rock (Grade Control Structures)	CY	100	\$75.00	\$7,500	\$212.61	\$21,261.00	\$0.00	\$0.00
N-1	Soil Amendment - Lime	TON	250	\$65.00	\$16,250	\$44.00	\$11,000.00	\$44.00	\$11,000.00
N-2	Revegetation	AC	36	\$750.00	\$27,000	\$550.00	\$19,800.00	\$550.00	\$19,800.00
O-1	Force Account	LS	1	\$40,000.00	\$40,000	\$40,000.00	\$40,000.00	1	\$15,000.00
Total Base Bid					\$439,950.00		\$571,541.00		\$444,460.00

Notice of Award

Date: March 20, 2018

Project: American Nuclear Corporation Tailings Pond #1 Interim Site Stabilization	
Owner: Wyoming Department of Environmental Quality, Land Quality Division	Owner's Contract No.:
Contract: ANC Tailings Pond 1, Interim Site Stabilization Plan	Engineer's Project No.: WYDEQ104
Bidder: Weeden Construction, LLC	
Bidder's Address: 402 Murphy Gulch Road Banner, WY 82832	

You are notified that your Bid dated March 1, 2018 as negotiated on March 20, 2018 for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for the interim stabilization and closure of the American Nuclear Tailings Pond #1.

The Contract Price of your Contract is Three Hundred Seventy-Five Thousand, Five Hundred Sixty-Six Dollars (\$375,566)

3 copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

3 copies of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within 30 days of the date you receive this Notice of Award.

1. Deliver to the Owner 2 fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph Sc-5.01).
3. Other conditions precedent: NONE

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Christopher D. Lidstone

Engineer

By: 

Authorized Signature

Principal and Regional Manager

Title

Copy to Owner

SECTION D
CONSTRUCTION CONTRACT
ANC TP-1 INTERIM STABILIZATION PROJECT

TABLE OF CONTENTS
SECTION D
CONSTRUCTION CONTRACT

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**Construction Contract Between Wenck Associates, Inc. dba Lidstone & Associates, a
Wenck Company and Contractor for the American Nuclear Corporation (ANC) Tailings
Pond 1, Interim Site Stabilization Plan**

1. Parties. This Contract is entered into by and between Wenck dba Lidstone & Associates, a Wenck Company (LA), a Minnesota Corporation, hereinafter called "Engineer," and Weeden Construction, LLC hereinafter called the "Contractor." This Work is being conducted for and on behalf of the Wyoming Department of Environmental Quality Land Quality Division (LQD) (hereinafter referred to as Agency/Owner), whose address is 200 West 17th Street, Suite 10, Cheyenne, WY 82002, and Weeden Construction, LLC (Contractor), whose address, for the purpose of this Contract, is 402 Murphy Gulch Road, Banner, WY 82832.

2. Purpose of Contract. The Contractor shall provide construction services to the Engineer on behalf of the Agency as described in the Contract Documents. This is a Contract for construction work in Fremont County, Wyoming. The work shall include mine reclamation and the interim site stabilization of the American Nuclear Tailings Pond #1. Specifically, the work shall include site grading, excavation of unclassified overburden and placement on the existing tailings pond cover to ultimately increase the thickness of the cap. Additional work shall include the excavation and placement of a wicking barrier and topsoil. Final work shall include construction of diversions and, revegetation. Alternative work may include construction of a detention pond and road culvert.

All Work will be performed under the direction of the Engineer and/or the LQD Project Manager. All work shall be conducted in compliance with an acceptable Health and Safety Plan (HASP).

3. Term of Contract.

A. Contract Term. The Contract Term is one hundred ten (110) days, subject to any extensions authorized in writing. The calculation of Contract calendar days will begin at the start date specified in the Notice to Proceed. All work must be completed within the specified time or liquidated damages will be assessed as set out in this Contract in Section 5. All services shall be completed during the Contract Term. This Contract will remain in effect for ninety (90) days after all work has been completed and the Contract Term has expired. This time period will be used by the Agency for administrative purposes only and shall not be construed by the Contractor as additional Contract time.

B. Commencement of Contract Work. The Work to be done under this Contract (hereinafter referred to as the Work) shall commence within ten (10) calendar days after the starting date of the Notice to Proceed and shall be fully completed and ready for final inspection in accordance with Section G.

C. Computation of Contract Time. When any period of time is referred to in the Contract Documents by days or calendar days, it shall be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a legal holiday for the State of Wyoming, such day shall be omitted from the computation.

D. Contract Effective Date. This Contract is effective when all parties have executed it and all required approvals have been obtained. This Contract is not binding until all parties have executed it. There is no right or expectation of renewal and any renewal will be determined at the discretion of the Agency or the Engineer.

E. Extensions. Nothing in this Contract shall be interpreted or deemed to create an expectation that this Contract will be extended beyond the Contract Term described herein. Any extension of this Contract shall be initiated by the Agency and/or the Engineer and shall be effective only after it is reduced to writing and executed by all parties to the Contract. Any agreement to extend this Contract shall include, but not necessarily be limited to, an unambiguous identification of the Contract being extended; the term of the extension; the amount of any payment to be made during the extension, or a statement that no payment will be made during the extension; a statement that all terms and conditions of the original Contract shall, unless explicitly delineated in the extension, remain as they were in the original Contract absent specific revisions in an Amendment and, if the duties of a party will be different during the extension than they were under the original Contract, a detailed description of those duties.

4. Payment

A. Total Contract Payment and Funding Sources. The total payment under this Contract shall not exceed Three Hundred and Seventy-Five Thousand Five Hundred and Sixty Dollars and No Cent (\$375,566.00), unless authorized by Change Order. There is no guaranteed minimum payment under this Contract and there are no guaranteed quantities. Contract estimated pay quantities, unit prices, and amended bid are presented in Exhibit A to this Contract

B. Contract Payment. The Engineer shall pay the Contractor only for Work actually performed under this Contract at the rates specified in Section C, Bid Proposal, of this Contract subject to any final additions or deletions included in the final calculation of quantities prepared by the Engineer and approved by the Agency. The Contractor shall submit payment requests as outlined in Section G, no more frequently than monthly. The Engineer shall pay the Contractor within ten (10) days of receipt of payment from the Agency. The Contractor shall receive and accept this payment as full compensation for all Work performed under this Contract for which it is paid and for all loss or damage arising out of the nature of the work, the action of the elements and for unforeseen contingencies or difficulties encountered in performance of the Work.

C. Performance Before Contract is Executed. The Contractor shall not begin Work under this Contract before this Contract is fully executed nor before the start date of the Notice to Proceed. The Engineer is not obligated nor shall be liable to pay the Contractor for any Work performed before the execution of this Contract. The Contractor hereby expressly waives any and all claims for service performed in expectation of this Contract.

D. Unauthorized Work. The Engineer will not pay for any unauthorized work.

E. Retainage. Pursuant to Wyo. Stat. 16-6-702, a retainage of no more than ten percent (10%) of the entire contract price can be withheld by the Engineer or Agency. No retainage is anticipated.

5. Responsibilities of Contractor

A. Contract Execution. The Contractor shall furnish all supervision, personnel, labor, materials, machinery, tools, equipment, facilities and services, including utility and transportation services necessary for the proper execution and completion of all Work, whether temporary or permanent, as required for the construction of the project described in the plans and specifications. The Contractor shall do everything required by this Contract.

B. Project Completion. Contractor shall complete all Work by the deadline agreed upon by the Contract and the Engineer and the Agency. The Contractor agrees to commence work on or with ten (10) days of the date specified in the Notice to Proceed and to fully complete the Work within the Contract Term thereafter. In accordance with Section G, the Contractor further agrees to pay as Liquidated Damages, the sum of one thousand five hundred dollars (\$1,500.00) for each consecutive calendar day required to complete the Work after expiration of the Contract Term.

C. Contractor Services. Contractor shall provide all means to perform the services required by the Engineer or the Agency pursuant to this Contract including, but not limited to, transportation, clothing, and supplies. The Engineer is not obligated to provide office space or supplies, nor any office or field support staff.

D. Registration of Mobile Machinery. In accordance with Wyo. Stat. §§31-18-201 through 31-18-211, the Contractor shall provide the Engineer with proof of registration of all equipment brought on site within five (5) calendar days of said equipment arriving on site.

E. Responsibility Regarding Existing Utilities and Structures. The Contractor shall be responsible for any damage to, and for the maintenance and protection of, existing utilities and structures and shall notify the utility companies before any excavation.

F. Familiarity with Hazards. By executing this Contract, the Contractor represents that it has inspected the project site(s) to view patent conditions, become familiar with the local conditions under which the Work is to be performed and compared observations with the requirements of Contract. **It shall not complain of any patent site condition. FAILURE TO MAKE CAREFUL OBSERVATIONS OF EXISTING CONDITIONS AT THE SITE WILL NOT RESULT IN ISSUANCE OF A CHANGE ORDER OR AN EXTRA WORK ORDER.**

The Contractor shall warrant that the Contractor has examined the site(s) of the Work and that the Contractor is fully aware of any hazardous conditions that exist in performing work in an area of abandoned mines and mine workings, utilities, public facilities, and other existing conditions. The Contractor further warrants that he has read the Health and Safety Plan (HASP) which is included within and as part of these Contract Documents and that he has made all of his employees, assigns, contractors and subcontractors aware of this HASP. The Contractor shall further assert that it is aware that radioactive tailings are present and are part of this interim site stabilization plan. The Contractor assumes all liabilities for the welfare of its personnel and equipment pursuant to performing the Work associated with such features.

G. Working Area Limits. The Contractor shall take all necessary precautions to confine activities to the designated work areas as set forth by the Engineer in order to avoid disturbing cultural resources, sensitive wildlife species or other sensitive areas.

6. Special Provisions

A. Americans with Disabilities Act. The Contractor shall not discriminate against a qualified individual with a disability and shall comply with the Americans with Disabilities Act, P.L. 101-336, 42 U.S.C. §§ 12101, *et seq.*, and any properly promulgated rules and regulations related thereto.

B. Assumption of Risk. The Contractor shall assume the risk of any loss of State or Federal funding, either administrative or program dollars, due to the Contractor's failure to comply with State or federal requirements. The Agency or the Engineer shall notify the Contractor of any State or federal determination of noncompliance.

C. Audit/Access to Records. The Agency and any of its representatives shall have access to any books, documents, papers, and records of the Contractor which are pertinent to this Contract, for a period of three (3) years following the final payment under this Contract. The Contractor shall, immediately upon receiving written instruction from the Agency provide to any independent auditor, accountant, or accounting firm, all books, documents, papers, and records of the Contractor which are pertinent to this Contract. The Contractor shall cooperate fully with any such independent auditor, accountant, or accounting firm during the entire course of any audit authorized by the Agency.

D. Civil Rights Obligations. The Contractor agrees to comply with all applicable civil rights regulations, including but not limited to:

- (i) Title IX obligations, 40 C.F.R. Part 5; and
- (ii) Title VI, Section 405, Age Discrimination Act, and Section 13 obligations, 40 C.F.R. Part 7.

These regulations establish specific requirements, including maintaining compliance information, establishing grievance procedures, designating a Civil Rights Coordinator, and providing notices of non-discrimination.

E. Compliance with Laws. The Contractor shall keep informed of and comply with all applicable federal, state, and local laws and regulations in the performance of this Contract.

F. Contract Work Hours and Safety Standards Act. The Contractor agrees to comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5).

G. Copyright License and Patent Rights. The Contractor acknowledges that federal grantor, the State of Wyoming, and the Agency reserve a royalty-free, nonexclusive, unlimited, and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, for federal and state government purposes: (1) the copyright in any Work developed under this Contract; and (2) any rights of copyright to which the Contractor purchases ownership using funds awarded under this Contract. The Contractor must consult with the Agency regarding any patent rights that arise from, or are purchased with funds awarded under this Contract.

H. Disclaimer. The Work under this Contract is financed by forfeited reclamation bonds by the American Nuclear Corporation and by funds provided by the U.S. Department of Energy. The contents of this Contract do not reflect the views and policies of the State of Wyoming, the U.S. Nuclear Regulatory Agency, nor the U.S. Department of Energy, nor does mention of trade names or commercial products constitute their endorsement or recommendation for use by the United States Government.

I. Environmental Protection and Energy Efficiency. The Contractor shall comply with all applicable environmental standards, orders, or requirements including the Clean Air Act, the Clean Water Act, the Energy Policy and Conservation Act (P.L. 94-165), Executive Order 11738, applicable Environmental Protection Agency regulations, and the Wyoming Environmental Quality Act, Wyo. Stat. §§ 35-11-101 *et seq.*

J. Equal Employment Opportunity. The Contractor agrees to comply with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR Chapter 60), as well as the Equal Employment Opportunity Act of 1972.

K. Funding. Funding for this project shall be provided by the State of Wyoming, the United States Government, or both. However, neither the United States nor any of its departments, agencies, or employees is party to this Contract.

L. Human Trafficking. As required by 22 U.S.C. § 7104(g) and 2 CFR Part 175, this Contract may be terminated without penalty if a private entity that receives funds under this Contract:

- (i) Engages in severe forms of trafficking in persons during the period of time that the award is in effect; or
- (ii) Procures a commercial sex act during the period of time that the award is effect;
or
- (iii) Uses forced labor in the performance of the award or sub-awards under the award.

M. Kickbacks.

(i) The Contractor shall comply with the Copeland "Anti-Kickback" Act (18 USC § 874) as supplemented in the Department of Labor Regulations (29 CFR Part 3). This Act provides that the Contractor is prohibited from inducing by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which they are otherwise entitled.

(ii) The Contractor certifies and warrants that no gratuities, kickbacks, or contingency fees were paid in connection with this Contract, nor were any fees, commissions, gifts, or other considerations made contingent upon the award of this Contract and that it is otherwise in compliance with Wyo. Stat. § 9-2-1032(d).

(iii) No staff member of the Contractor shall engage in any contract or activity which would constitute a conflict of interest as related to this Contract.

(iv) If the Contractor breaches or violates this warranty, the Engineer may, at its discretion, terminate this Contract without liability to the Engineer or deduct from the Contract Price or consideration, or otherwise recover, the full amount of any commission, percentage, brokerage, or contingency fee.

N. Limitations on Lobbying Activities. In accordance with P.L. 101-121, payments made from a federal grant shall not be used by the Contractor or its subcontractors for the purpose of lobbying Congressmen, or any federal agency in connection with the award of a federal grant, contract, cooperative agreement, or loan. The Contractor acknowledges that:

(i) By signing this Contract, the Contractor certifies that they and their subcontractors have not and will not use any federal appropriated funds for payment to lobbyists; and

(ii) The Contractor must disclose the name, address, payment details, and purpose of any payment made to a lobbyist whom the Contractor or its subcontractors have paid on or after December 22, 1989, if applicable.

O. No Finder's Fees. No finder's fee, employment agency fee, or other such fee related to the procurement of this Contract, shall be paid by either party.

P. Nondiscrimination. The Contractor shall comply with Presidential Executive Order 11246 "Equal Employment Opportunity," as amended by Presidential Executive Order 11375, and as supplemented in the Department of Labor Regulations (41 CFR Part 60, particularly 41 CFR 60-4, the Civil Rights Act of 1964, the Wyoming Fair Employment Practices Act (Wyo. Stat. §§ 27-9-105 *et seq.*), the Americans with Disabilities Act (ADA), 42 U.S.C. §§ 12101, *et seq.*, and the Age Discrimination Act of 1975. The Contractor shall assure that no person is discriminated against on the grounds of age, sex, race, color, religion, national origin, or disability in connection with the performance of this Contract. The Contractor shall include the provisions of this section in every subcontract awarded in excess of ten thousand dollars (\$10,000.00) so that such provisions are binding on each subcontract.

Q. Ownership of Documents/Work Product. All documents, reports, records, field notes, materials, and data of any kind resulting from performance of this Contract are at all times the property of the Engineer.

R. Patent or Copyright Protection. The Contractor recognizes that certain proprietary matters or techniques may be subject to patent, trademark, copyright, license, or other similar restrictions, and warrants that no Work performed by the Contractor or its subcontractors will violate any such restriction. The Contractor shall defend and indemnify the Agency and the Engineer for any violation or alleged violation of such patent, trademark, copyright, license, or other restrictions.

S. Publicity. Any publicity given to the Engineer or the Agency or services provided herein including, but not limited to, notices, information, pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Contractor, shall identify the

Agency as the sponsoring entity and shall not be released without prior written approval from the Agency and the Engineer.

T. Records Retention. The Contractor agrees to retain all required records for three (3) years after receiving and/or making final payments and all other pending matters are closed.

U. Suspension and Debarment. By signing this Contract, the Contractor certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction for from federal financial or nonfinancial assistance, nor are any of the participants involved in the execution of this Contract suspended, debarred, or voluntarily excluded by any federal department or agency in accordance with Executive Order 12549 (Debarment and Suspension), 44 CFR Part 17, and 2 CFR Part 180, or are on the debarred, or otherwise ineligible, vendors lists maintained by the federal government. Further the Contractor agrees to notify the Agency and Engineer by certified mail should it or any of its agents become ineligible for payment, debarred, suspended, or voluntarily excluded from receiving federal funds during the term of this Contract.

7. General Provision.

A. Amendments. Except as provided in Section G., 10., Changes in the Work, Section G., 11., Change of Contract Price, or Section G., 12., Change of the Contract Term, any changes. Modifications, revisions or amendments to this Contract which are mutually agreed upon by the parties to this Contract shall be incorporated by written instrument, executed and signed by all parties to this Contract.

B. Right to Perform.

(i) If the Contractor defaults or fails to perform the Work in accordance with the Contract and fails within twenty (20) calendar days after receipt of written notice from the Engineer to commence and/or continue correction of such default or failure to perform with diligence and promptness, the Engineer may stop work and/or make good such deficiencies. In such case, an appropriate Change Order shall be issued deducting from any payments otherwise due the Contractor the cost of correcting all deficiencies.

(ii) If it becomes necessary for the Agency to take over the completion of any part of the Contract, all of the amounts owing the Contractor, shall first be applied toward the cost of completion of the Contract, as provided in Wyo. Stat. § 16-6-703, as amended. If the payments due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Agency.

C. Applicable Law/Venue. The construction, interpretation and enforcement of this Contract shall be governed by the laws of the State of Minnesota.

D. Assignment/Contract Not Used as Collateral. Neither party shall assign or otherwise transfer any of their rights or delegate any of the duties set out in this Contract without the prior written consent of the other party. The Contractor shall not use this Contract, or any portion thereof, for collateral for any financial obligation, without the prior written permission of the Engineer or Agency.

E. Availability of Funds. Each payment obligation of the Engineer is conditioned upon payment by the Agency. The Engineer shall approve each Pay Request or shall notify Contractor of insufficient or disputed invoice within ten (10) days of receipt of Pay Request from the Contractor. Within ten (10) days of receipt of acceptable Pay Request, the Engineer shall submit Pay Request to the Agency for payment. Engineer shall pay Contractor within ten (10) days of receipt of payment from the Agency.

F. Award of Related Contracts. The Engineer or the Agency may undertake or award supplemental or successor contracts for Work related to this Contract. The Contractor shall cooperate fully with other contractors and the Agency in all such cases.

G. Confidentiality of Information and Ownership of Documents. All documents, data compilations, reports, computer programs, photographs, and any other work provided to, or produced by the Contractor in the performance of this Contract shall be kept confidential by the Contractor unless written permission is granted by the Engineer or the Agency for its release.

H. Discontinuance of Work if Cultural Resources are Unearthed. The Engineer, with the Agency's approval, shall notify the Contractor in writing to suspend Work in a given area if cultural resources are unearthed. The Contractor shall immediately stop Work in the area of concern and Work shall not be resumed until notification in writing is given to the Contractor by the Engineer, with the Agency's approval. Such Work delay shall not count against the project construction time.

I. Entirety of Contract.

This Construction Contract, consisting of 15 pages, and attachments including Section B, Instructions to Bidders, Section C, Bid Proposal (as completed by Contractor, Sections E and F, Contractor's Performance and Payment Bonds, Section G, General Conditions, Section I, Administrative Instructions, and the Technical Specifications in Section J, K, L, M, N, O, and P, the Plans, Appendix 1, Appendix 2, Appendix 3, and Addendums as required as corrected as listed below.

The listed sections, together with this Construction Contract, form the entire Contract and are as fully a part thereof as if attached hereto or repeated herein, and represent the entire and integrated Contract between the parties and supersedes all prior negotiations, representations, and agreements, whether written or oral.

Parts of the Contract are identified as follows:

Construction Contract: Pages (15 pages)
Section B, Instructions to Bidders: 9 Pages
Section C, Bid Proposal: 9 Pages
Sections E and F, Contractor's Performance and Payment Bonds: 6 Pages
Section G, General Conditions: 35 Pages
Section I - Administrative Instructions: 11 Pages
Section J - Mobilization/Demobilization: 11 Pages
Section K - Earthwork: 15 Pages
Section L - Drainage Construction and Control: 14 Pages
Section M - Field Office: 4 Pages

Section N – Revegetation: 13 Pages
Section O – Miscellaneous Work Items-Force Account: 4 Pages
Section P – Fencing and Signage: 7 Pages
Appendix 1 -- Contract Forms: 15 pages
Appendix 2 -- Health and Safety Plan: 21 Pages
Appendix 3 -- Storm Water Pollution Prevention Plan: 14 Pages

J. Examination. The Contractor will thoroughly examine project sites and the extent and nature of the Work before executing the Work. The Contractor represents that it is fully aware of any hazards associated with performing the Work at and in the vicinity of abandoned mines, mill tailings facilities and mine workings and that the Contractor assumes all liability associated with the Work for its equipment and personnel, and for all subcontractors engaged by the Contractor on the project.

K. Final Inspection. Upon completion of the Work, the Contractor, Agency Project Manager, and Engineer will inspect the Work and complete an Acceptance of Work form.

L. Force Majeure. Neither party shall be liable for failure to perform under this Contract if such failure to perform arises out of causes beyond the control and without the fault or negligence of the nonperforming party. Such causes may include, but are not limited to, acts of God or the public enemy, fires, floods, epidemics, quarantine restrictions, freight embargoes, and unusually severe weather. This provision shall become effective only if the party failing to perform immediately notifies the other party of the extent and nature of the problem, limits delay in performance to that required by the event, and takes all reasonable steps to minimize delays. This provision shall not be effective unless the failure to perform is beyond the control and without the fault or negligence of the nonperforming party.

M. Indemnification. The Contractor shall release, indemnify and hold harmless the Engineer (Wenck dba Lidstone & Associates- a Wenck Company, the State of Wyoming, the DEQ/LQD (Agency) and their officers, agents, employees, successors, and assignees from any and all claims, lawsuits, losses, and liability arising out of Contractor's failure to perform any of Contractor's duties and obligations hereunder or in connection with the negligent performance of Contractor's duties or obligations, including but not limited to any claims, lawsuits, losses, or liability arising out of Contractor's malpractice or malfeasance.

N. Independent Contractor. The Contractor shall function as an independent contractor for the purposes of this Contract, and shall not be considered an employee of the State of Wyoming or the Engineer for any purpose. The Contractor shall be free of direction or control by the Engineer as to details of performance of services under this Contract, and shall assume sole responsibility for the payment of all federal, state, and local taxes which may accrue because of this Contract. Nothing in this Contract shall be interpreted as authorizing the Contractor or its agents and/or employees to act as an agent or representative for or on behalf of the State of Wyoming or the Agency, or to incur any obligation of any kind on the behalf of the State of Wyoming.

O. Notice of Use of Subcontractors. The Contractor shall notify the Engineer in writing of its intent to use subcontractors for any Work under this Contract for approval from the

Engineer at least thirty (30) days in advance of its intended use. If subcontractors are used, the Contractor must submit signed lien waivers with the pay request.

P. Notices. Except for a Notice to Proceed all notices arising out of, or from, the provisions of this Contract shall be in writing and given to the parties at the addresses provided below or hand delivered. Any notice of termination as described below at "Y" shall be in writing and sent via certified mail, with return receipt, to the mailing address listed in the table below.

Engineer's Address	DEQ/LQD's Address
Lidstone & Associates, a Wenck Company Chris Lidstone, Project Manager 4025 Automation Way, Building E Fort Collins, CO 80525 Phone: 970-223-4705 Fax: 970-223-4706 E-mail: clidstone@wenck.com	Kyle Wendtland, Administrator, Wyoming Dept. of Environmental Quality Land Quality Division 200 W. 17 th Street, Suite 10 Cheyenne, WY 82002 Phone: 307-777-7756 E-mail: kyle.wendtland@wyo.gov
Contractor's Address	LQD Project Manager
Weeden Construction, LLC Monte Weeden 402 Murphy Gulch Road Banner, WY 82832 Phone: 307-752-2001 Email: mikw@mkweeden.com	Muthu Kuchanur, LQD Project Manager Wyoming Dept. of Environmental Quality Land Quality Division 200 W. 17 th Street, Suite 10 Cheyenne, WY 82002 Phone: 307-777-7132 E-mail: muthu.kuchanur@wyo.gov

Q. Notice and Approval of Proposed Sale or Transfer of the Contractor. The Contractor shall provide the Engineer with the earliest possible advance notice of any proposed sale or transfer or any proposed merger or consolidation of the assets of the Contractor. Such notice shall be provided to the Engineer and the Agency in accordance with the notice provision in Section Q of this Contract. If the Engineer or the Agency determines that the proposed merger, consolidation, sale, or transfer of assets is not consistent with the continued satisfactory performance of the Contractor's obligations under this Contract, then the Engineer at the Agency's direction may, at its option, terminate or renegotiate the Contract.

R. Proof of Insurance. The Contractor shall not commence Work contemplated under this Contract until it has obtained all the insurance required, provided a copy of all policies to the Engineer and such insurance has been approved by the Engineer. Approval of the insurance shall not relieve or decrease the liability of the Contractor. In the event the Contractor fails to provide proof of insurance or other necessary documentation within twenty (20) calendar days of execution of this Contract, this Contract is invalid. Specific requirements are listed in Section G.5 of the Contract Documents.

S. Severability. Should any portion of this Contract be judicially determined to be illegal or unenforceable, the remainder of the Contract shall continue in full force and effect, and the parties may renegotiate the terms affected by the severance

T. Sovereign Immunity. The State of Wyoming and the Agency do not waive sovereign immunity by entering into this Contract and specifically retain all immunities and defenses available to them as sovereigns pursuant to Wyo. Stat. § 1-39-104(a) and all other applicable law. Designations of venue, choice of law, enforcement actions, and similar provisions should not be construed as a waiver of sovereign immunity. The parties agree that any ambiguity in this Contract shall not be strictly construed either against or for either party, except that any ambiguity as to sovereign immunity shall be construed in favor of sovereign immunity

U. Successors. This Contract shall inure to the benefit of and be binding upon the legal representatives and successors of the Engineer, the Agency and the Contractor, respectively.

V. Taxes. The Contractor shall pay all taxes and other such amounts required by federal, state and local law including, but not limited to, federal and social security taxes, workers' compensation, unemployment insurance, and sales taxes.

W. Termination of Contract or Task Order. This Contract may be terminated without cause by the Engineer upon thirty (30) days written notice to the Contractor. The thirty (30) days shall begin to run from the day after the of postmark date of the Contractor's notice from the Engineer to the physical address set out in Section 7.Q. herein. This Contract may be terminated immediately by the Engineer for cause.

X. Third Party Beneficiary Right. The parties do not intend to create in any other individual or entity the status of third party beneficiary, and this Contract shall not be construed so as to create such status. The rights, duties, and obligations contained in this Contract shall operate only between the parties to this Contract, and shall inure solely to the benefit of the parties to this Contract. The provisions of this Contract are intended only to assist the parties in determining and performing their obligations under this Contract. The parties to this Contract intend and expressly agree that only parties signatory to this Contract shall have any legal or equitable right to seek to enforce this Contract, to seek any remedy arising out of a party's performance or failure to perform any term or condition of this Contract, or to bring an action for the breach of this Contract.

Neither the Engineer nor the Agency assumes any liability for any accident or injury that may occur to the Contractor, its employees or subcontractors, any third party injured by the Contractor, or to the Contractor's personal property or any third party's personal property harmed by the Contractor, during the course of execution of the Contractor's duties associated with this Contract.

Y. Time is of the Essence. Time is of the essence in all provisions of this Contract.

Z. Title Not Controlling. Titles of paragraphs are for reference only, and shall not be used to construe the language of this Contract.

AA. Wage and Hour Provisions. Pursuant to the Wyoming Prevailing Wage Act of 1967, Wyo. Stat. §§ 27-4-401-413, as amended, not less than the prevailing hourly rate of wages for Work under this Contract shall be paid to all workers unless otherwise specified in writing by the State of Wyoming Procurement Administrator.

The Contractor shall comply with Wyo. Stat. § 7-4-410, as amended, which requires contractors and all subcontractors to maintain accurate records of employees, including names, occupations, and wages paid to employees. These records shall be maintained by the Contractor and made available upon request to the Engineer, the Agency or its agents for inspection. Failure to comply with this section may result in the Engineer suspending all further payments until compliance is achieved.

The Contractor shall comply with Wyo. Stat. § 16-6-110, as amended, which requires that no worker shall be required to work more than 8 hours in one day or more than 40 hours in one week, unless the worker agrees and the worker is paid 1½ times the regular rate for all work over forty (40) hours in one week.

BB. Wage Rates. The prevailing wage rates for this project are the current Wyoming Department of Transportation (WYDOT) Wyoming Construction Prevailing Wages. The prevailing wage decisions are shown by WYDOT on its website. Prevailing Wage Decisions are updated annually, and therefore may change during the term of this Contract.

CC. Waiver. The waiver of any breach of any term or condition in this Contract shall not be deemed a waiver of any prior or subsequent breach. Failure to object to a breach shall not constitute a waiver.

DD. Warranty. The Contractor shall warrant that its Work is free from defects and substandard workmanship for a period of one (1) year from date of acceptance of any portion of the Contract, which acceptance shall be in writing by the Engineer.

EE. Wyoming Preference. Unless otherwise provided in the Contract, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent. The Contractor shall comply with all resident and other preference requirements, including but not limited to those applicable to labor, materials, and subcontractors.

EXHIBIT A TO
Construction Contract Between Wenck Associates, Inc. dba Lidstone & Associates, a Wenck Company
and Contractor for the American Nuclear Corporation (ANC) Tailings Pond 1, Interim Site Stabilization Plan

NOTE: Bids shall include sales tax and all other applicable taxes and fees.

BASE BID

Item #	Description	Quantity	Unit	Unit Written Price	Unit Cost	Total Cost
J-1	Mobilization (Including Haul Road Development)	1	LS	One hundred seventy-six thousand dollars and zero cents	\$176,000	\$176,000
K-1	Wicking Barrier Excavation and Placement on TP-1	226	CY	Four hundred two dollars and zero cents	\$1.78	\$402
K-2	Unclassified Excavation and Placement on TP-1	111,000	CY	One hundred thirty-three thousand two hundred dollars and zero cents	\$1.20	\$133,200
K-3	Topsoil Excavation and Placement on TP-1	1,200	CY	One thousand seven hundred four dollars and zero cents	\$1.42	\$1,704
K-4	Channel Excavation and Placement	13,000	CY	Eighteen thousand four hundred sixty dollars and zero cents	\$1.42	\$18,460
L-1	Imported 8-inch Rock (Grade Control Structures)	100	CY	Zero	\$0.00	\$0.00
N-1	Soil Amendment - Lime	250	TON	Eleven thousand dollars and zero cents	\$44.00	\$11,000
N-2	Revegetation	36	AC	Nineteen thousand eight hundred dollars and zero cents	\$550.00	\$19,800
O-1	Force Account	1	LS	Fifteen thousand dollars and zero cents	\$15,000	\$15,000
Summary Total Base Bid (Numbers): \$375,566						
Summary Total Base Bid (Written): Three hundred seventy-five thousand five hundred sixty-six and zero cents						

ALTERNATE BID ITEMS

Item #	Description	Quantity	Unit	Unit Written Price	Unit Cost	Total Cost
Alt. 1	Fencing and Signage	6,000	LF		\$6.13	Not Awarded
Alt. 2	36-inch CMP Culvert (60 feet)	1	LS		\$5,500	Not Awarded
Alt. 3	Detention Pond - Compacted Fill	3,000	CY		\$1.28	Not Awarded
	Detention Pond - Unclassified Excavation	12,000	CY		\$1.27	Not Awarded

Contractor's proposed start date: **April 1, 2018**

Acknowledge Addendum: **YES**

Bid Bond Included: **YES**

Wyoming Residency: **YES**


Bid Signed: **YES**

8. **Signatures.** In witness thereof, the parties to this Contract, either personally or through their duly authorized representatives, have executed this Contract on the dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this Contract.

This Contract is not binding on either party until executed by both parties and approved by the Agency.

The Effective Date of this Contract is the date of the signature last affixed.

Wenck dba Lidstone & Associates, a Wenck Company


Christopher D. Lidstone
Principal and Regional Manager

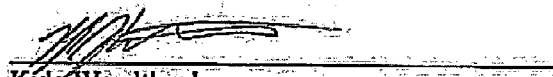
3/21/18
Date

Weeden Construction, LLC


Contractor Signatory, Title
Monte Weeden, Member

3/20/18
Date

**Wyoming Department of Environmental Quality,
Land Quality Division, Approval to Form**


Kyle Wendtland
Administrator

3/29/18
Date

Change Order No. 1

Date of Issuance: April 24, 2018

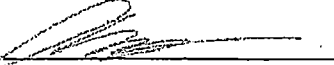

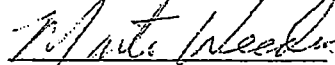
Effective Date: April 24, 2018

Project: American Nuclear Corporation Tailings Pond #1 Interim Stabilization	Owner: Wyoming DEQ/LQD	Owner's Contract No.: PS0694 ANC
Engineer: Wenck Associates dba Lidstone & Associates	Date of Contract: March 21, 2018	
Contractor: Weeden Construction LLC	Engineer's Project No.: WYDEQ104	

The Contract Documents are modified as follows upon execution of this Change Order:

This Change Order adds contract dollars to the ANC Tailings Pond #1 Interim Stabilization Plan to allow the addition of approximately 48,800 CY of topsoil and 14,774 CY of wicking barrier material originating from Willow Springs Draw. The unit price for topsoil remains at \$1.42 per cubic yard. The unit price for wicking barrier material remains at \$1.78 per cubic yard.

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES
Original Contract Price: \$375,566	Original Contract Times: _____ working days 110 calendar days Substantial completion (days): 100 Ready for final payment (days): 110
[Increase] [Decrease] from previously approved Change Orders: NONE	Increase] [Decrease] from previously approved Change Orders: No. _____ to No. _____ Substantial completion (days): Ready for final payment (days):
Contract Price prior to this Change Order: \$375,566	Contract Times prior to this Change Order: Substantial completion (days): 100 Ready for final payment (days): 110
Increase of this Change Order: \$95,594	[Increase] [Decrease] of this Change Order: NONE Substantial completion (days or date): Ready for final payment (days or date):
Contract Price incorporating this Change Order: \$471,160	Contract Times with all approved Change Orders: Substantial completion (days or date): 100 Ready for final payment (days or date): 110

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: 	By: 	By: 
Engineer (authorized signature)	Owner (authorized signature)	Contractor (authorized signature)

Date: <u>4/24/18</u>	Date: <u>4/28/18</u>	Date: <u>4/25/18</u>
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Approved by Funding Agency (if applicable):

Date: _____

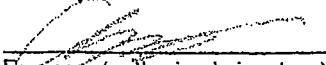
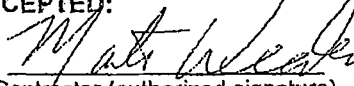
Change Order No. 2

Date of Issuance: October 11, 2018		Effective Date: October 11, 2018
Project: American Nuclear Corporation Tailings Pond #1 Interim Stabilization	Owner: Wyoming DEQ/LQD	Owner's Contract No.: PS0694 ANC
Engineer: Wenck Associates dba Lidstone & Associates		Date of Contract: March 21, 2018
Contractor: Weeden Construction LLC		Engineer's Project No.: WYDEQ104

The Contract Documents are modified as follows upon execution of this Change Order:

This Change Order adds contract dollars to the ANC Tailings Pond #1 Interim Stabilization Plan to allow final revegetation of the Tailings Pond #1 surface. Acreage increased over the bid price. Revegetation efforts include disking, pitting and seeding with both an annual and perennial seed mix. The unit price for revegetation remains at \$550 per acre and final revegetation acreage was 48 acres.

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES
Original Contract Price: \$375,566	Original Contract Times: _____ working days 110 calendar days Substantial completion (days): 100 Ready for final payment (days): 110
[Increase] from previously approved Change Orders: \$95,594	Increase] [Decrease] from previously approved Change Orders: No. _____ to No. _____ Substantial completion (days): _____ Ready for final payment (days): _____
Contract Price prior to this Change Order: \$471,160	Contract Times prior to this Change Order: Substantial completion (days): 100 Ready for final payment (days): 110
Increase of this Change Order: \$22,720.75	[Increase] [Decrease] of this Change Order: NONE Substantial completion (days or date): _____ Ready for final payment (days or date): _____
Contract Price incorporating this Change Order: \$493,880.75	Contract Times with all approved Change Orders: Substantial completion (days or date): 100 Ready for final payment (days or date): 110

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By:  Engineer (authorized signature)	By: _____ Owner (authorized signature)	By:  Contractor (authorized signature)
Date: <u>10/11/18</u>	Date: _____	Date: <u>10/11/18</u>

Approved by Funding Agency (if applicable):

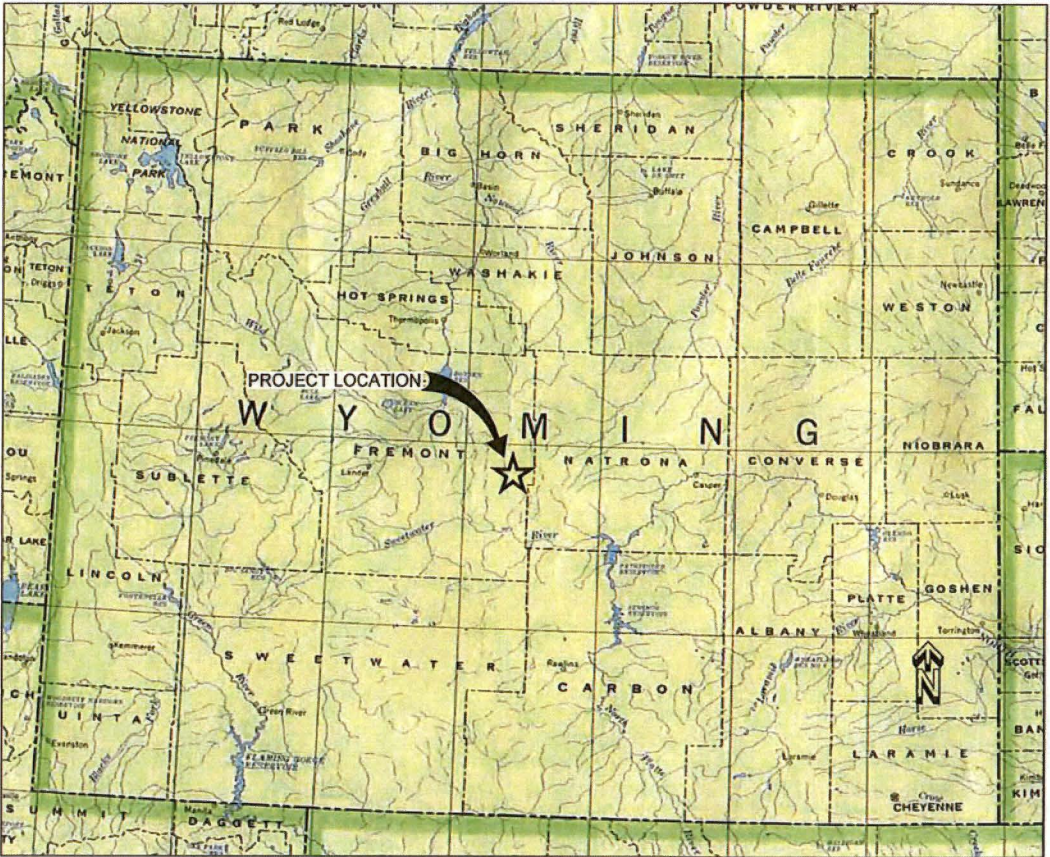
_____ Date: _____

Appendix D

RECORD DRAWINGS FOR
Wyoming Department of Environmental Quality
Land Quality Division
American Nuclear Corporation (ANC) Tailings Pond #1
Interim Site Stabilization Plan

CLIENT:

WYOMING DEPARTMENT OF
ENVIRONMENTAL QUALITY
LAND QUALITY DIVISION
200 WEST 17TH ST., SUITE 10
CHEYENNE, WY 82002



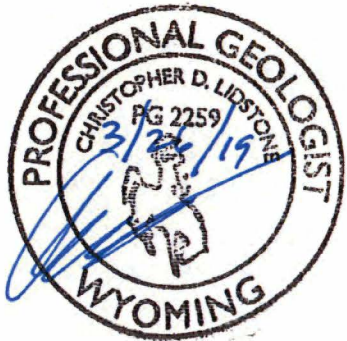
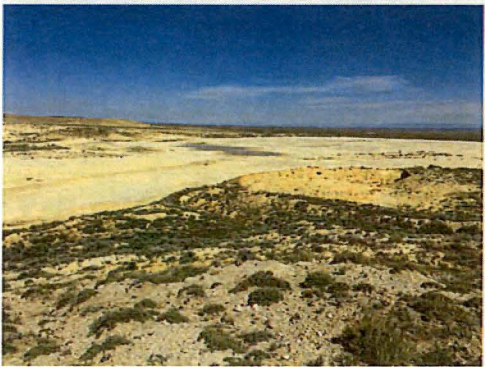
INDEX MAP

ENGINEER:

LIDSTONE AND ASSOCIATES - A WENCK COMPANY
4025 AUTOMATION WAY, BLDG. E
FORT COLLINS, COLORADO 80525



Lidstone and Associates - A Wenck Company



RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, LIDSTONE AND ASSOCIATES - A WENCK COMPANY, CANNOT ASSURE ITS ACCURACY, AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS RECORD DRAWING OR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

PREPARED BY: *M. Jan* DATE: 3-26-19

PROJECT CONSTRUCTION TEAM

M. K. WEEDEN CONSTRUCTION, INC. GENERAL CONTRACTOR
LIDSTONE AND ASSOCIATES, INC. - A WENCK COMPANY ENGINEER
WYOMING DEQ - LAND QUALITY DIVISION OWNER / FUNDING AGENCY

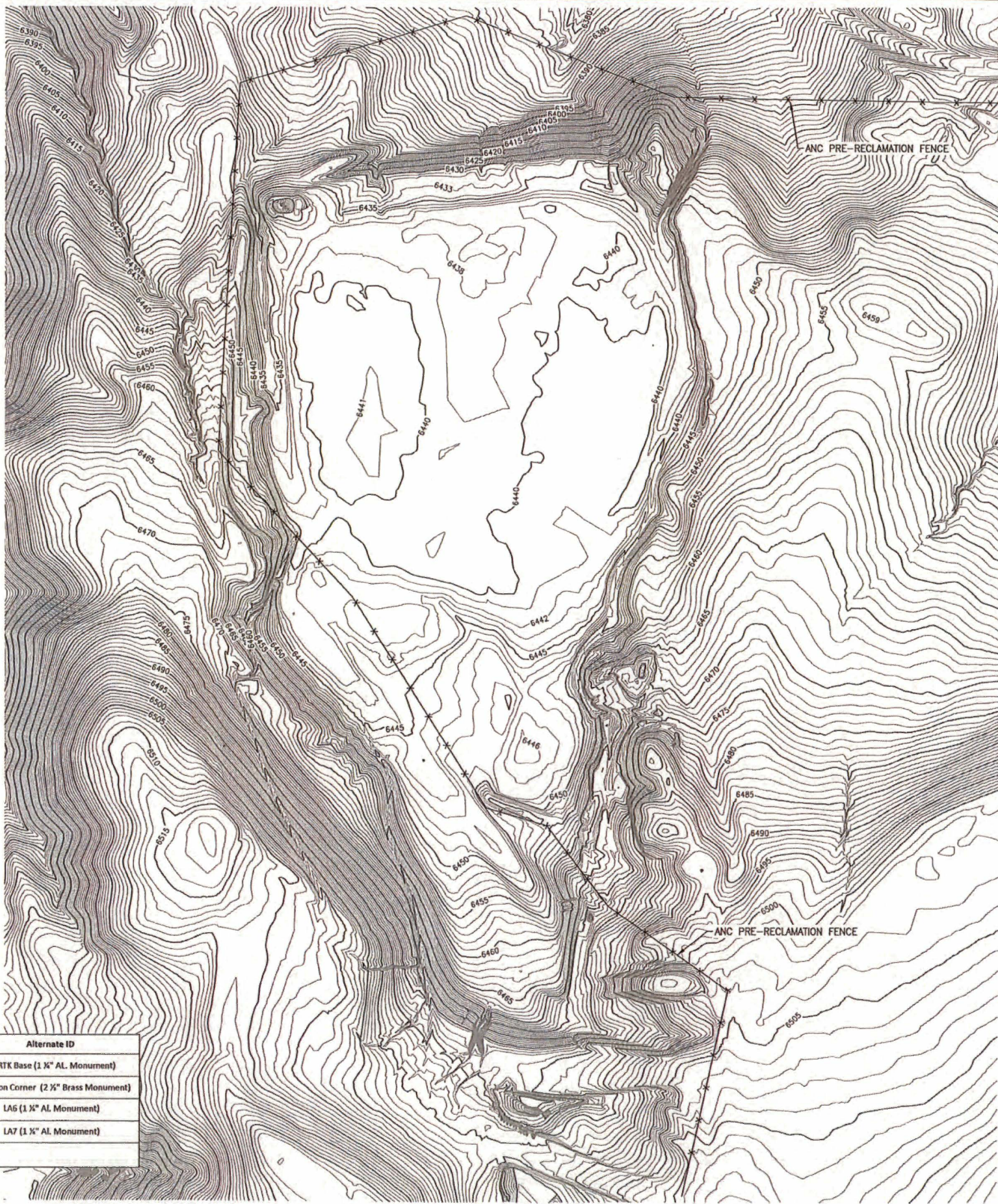
RECORD DRAWINGS

SHEET INDEX

SHEET NO.	SHEET TITLE
G-001	COVER SHEET
G-002	PRE-RECLAMATION TOPOGRAPHY
G-003	SURFACE READINGS (UR)
C-101	PLAN VIEW (AERIAL)
C-102	PLAN VIEW (CONTOURS)
C-201	DRAINAGE CHANNEL PROFILES AND SECTION VIEWS
C-202	CROSS-SECTIONS
C-601	AS-BUILT CHANNEL GRADING OVERALL SITE PLAN
C-602	AS-BUILT WEST CHANNEL PLAN AND PROFILE
C-603	AS-BUILT EAST CHANNEL PLAN AND PROFILE
C-604	DROP STRUCTURE DETAILS
C-605	GRADE CONTROL DETAILS

Plot Date & Time: 30 March 2018 3:17 PM

Z:\projects\WYDEQ104\TASK ORDER 2\GANT RECORDING\G-002_PIE RECLAMATION TOPO.dwg



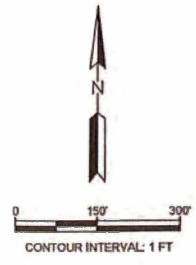
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PREPARED BY: *W. J. J.* DATE: 3-26-19


SURVEY CONTROL

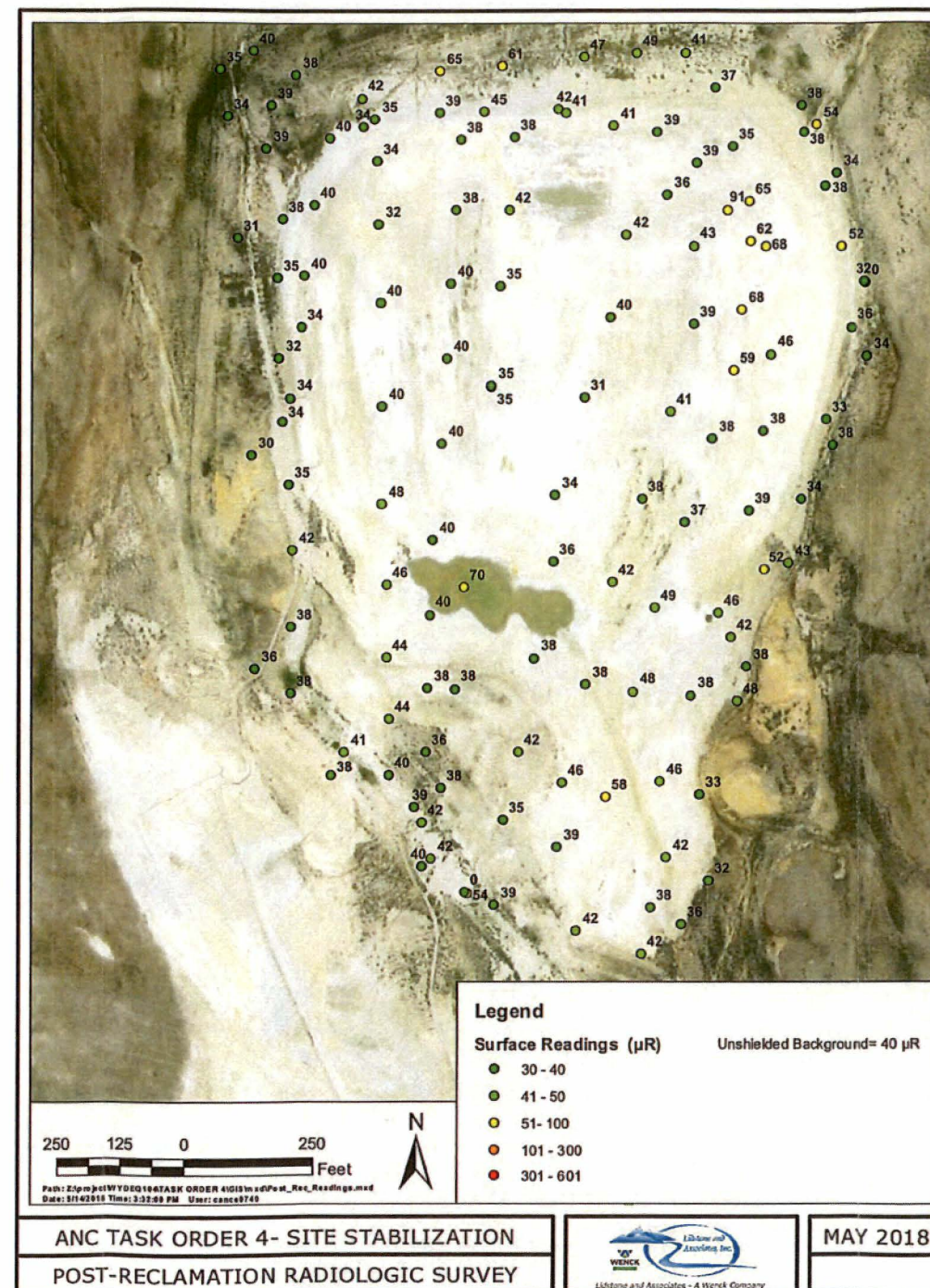
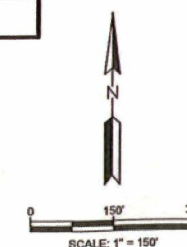
Control Point	Northing (ft.)	Easting (ft.)	Elevation (ft.)	Alternate ID
100	842337.62	2267049.72	6,440.42	RTK Base (1 1/2" AL Monument)
4	838892.82	2267472.38	6,503.57	Section Corner (2 1/2" Brass Monument)
6	843872.93	2267073.75	6,387.96	LA6 (1 1/2" AL Monument)
7	843080.18	2263245.55	6,435.19	LA7 (1 1/2" AL Monument)

PROJECTION: NONE (LOCAL TVA)

TOPOGRAPHY FROM AERIAL FLIGHT BY:
DATA MAP DIGITAL SERVICES
DATE: AUGUST 20, 2015
CONTROL SET BY AM P.C., CHEYENNE, WY



RECORD DRAWINGS		8/01/2018	
REV	REVISION DESCRIPTION	OWN	APP
CLIENT			
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY LAND QUALITY DIVISION			
PRIME CONSULTANT			
 WENCK Responsive partner, Exceptional outcomes			
SUB CONSULTANT			
SEAL			
PROJECT TITLE			
AMERICAN NUCLEAR CORPORATION TP-1 INTERIM STABILIZATION PLAN			
SHEET TITLE			
PRE-RECLAMATION TOPOGRAPHY			
OWN BY	CHK'D	APP'D	DWG DATE
DJW	CMJ	CDL	8/1/18
PROJECT NO.	SHEET NO.	SCALE 1" = 150'	
WYDEQ104	G-002	REV NO.	

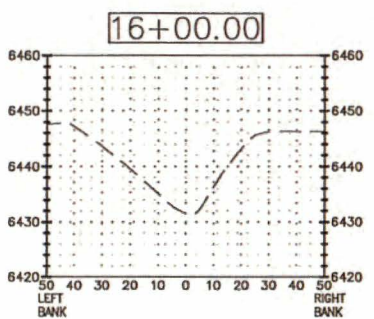
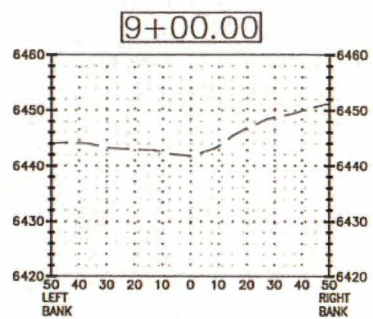
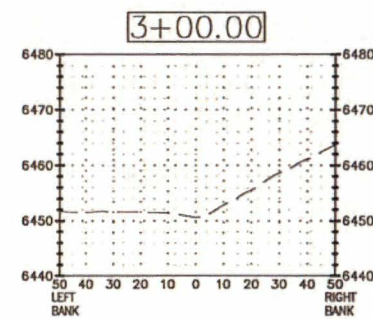
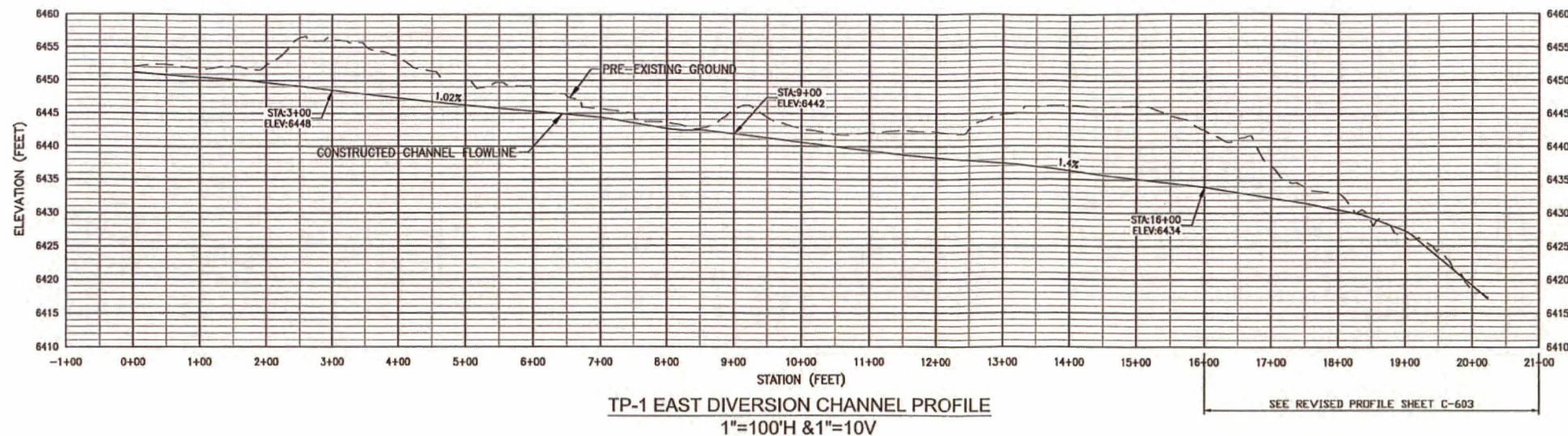
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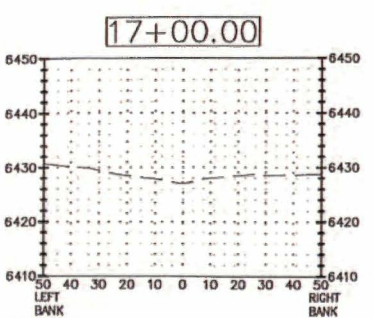
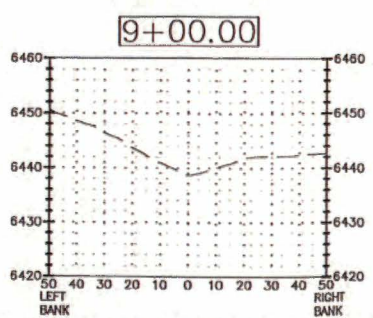
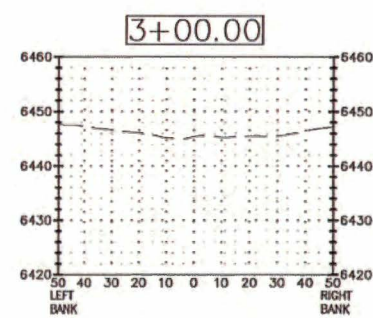
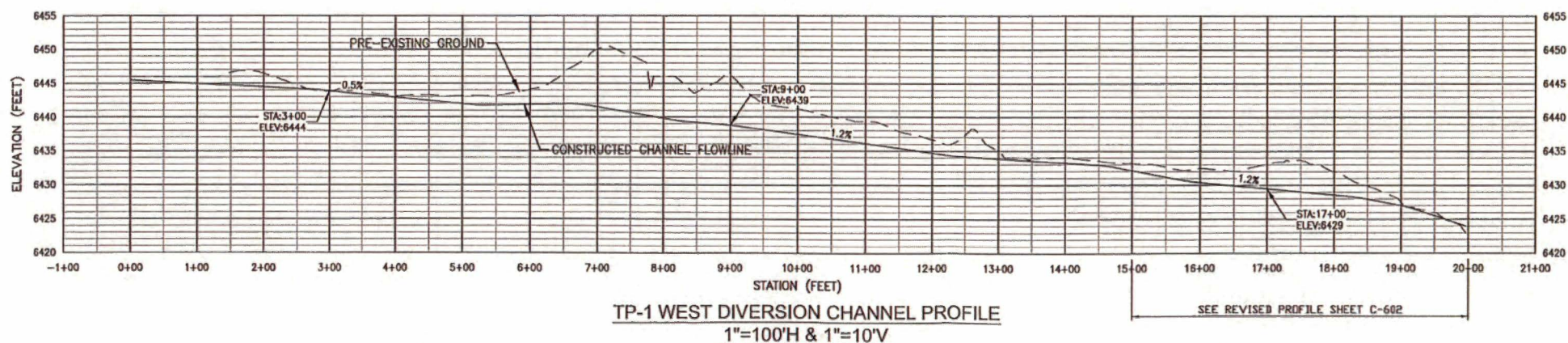
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PREPARED BY: M. Kim DATE: 3-26-19

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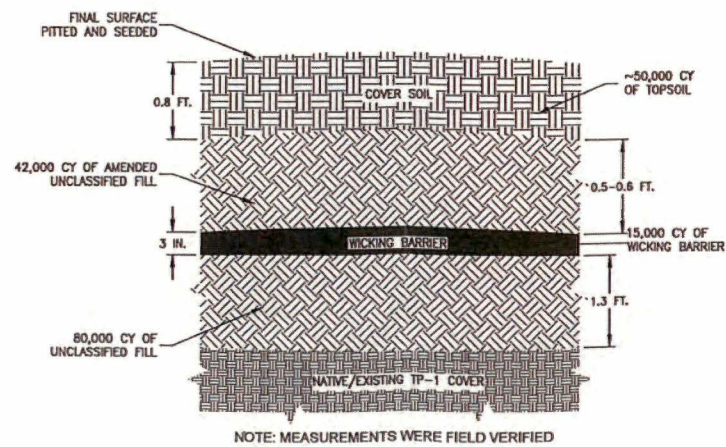
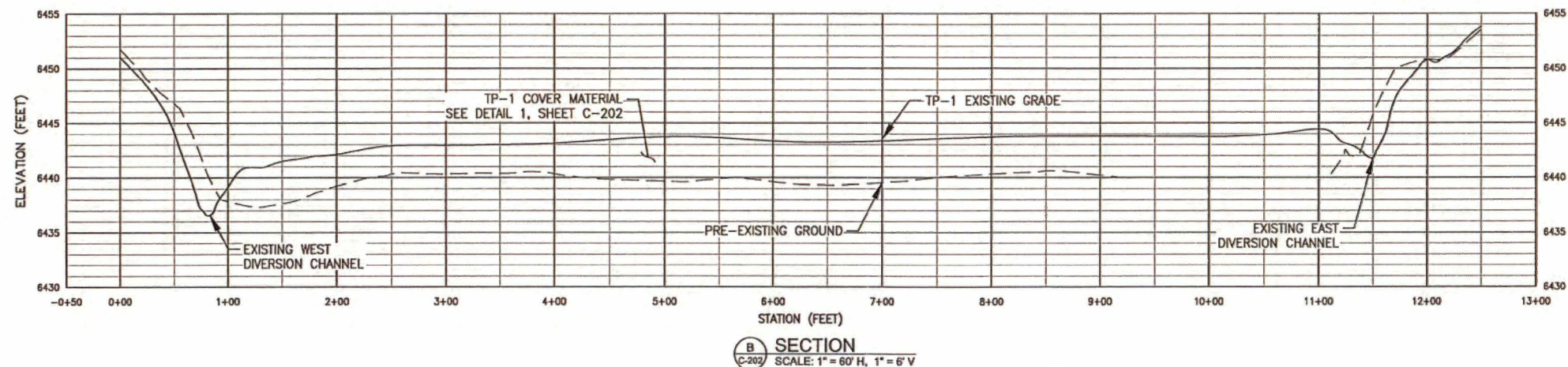
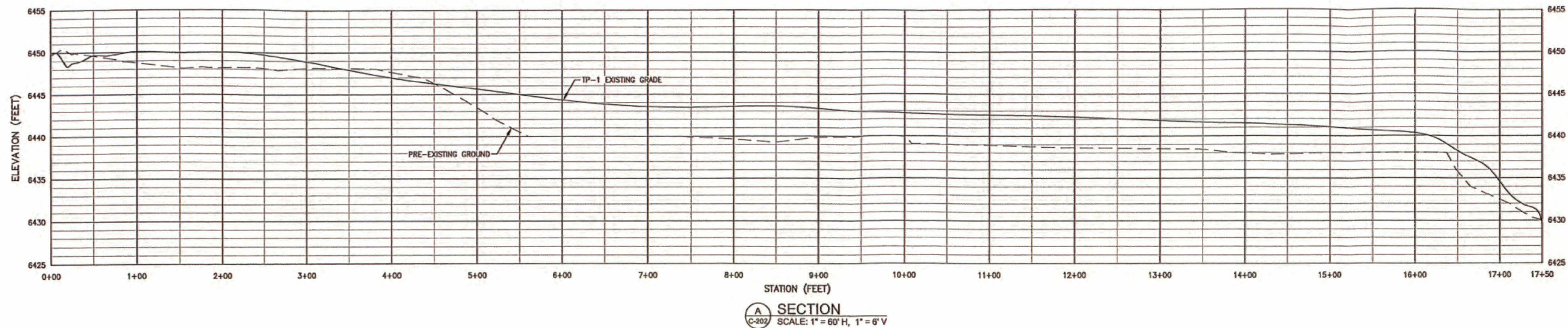
TP-1 EAST DIVERSION CHANNEL SECTION VIEWS
1"=30'H & 1"=15'V



TP-1 WEST DIVERSION CHANNEL SECTION VIEWS
1"=30'H & 1"=15'V


RECORD DRAWING
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PREPARED BY: *M. J. W.* DATE: 3-26-19

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PRIME CONSULTANT				
 WENCK Responsive partner, Exceptional outcomes				
SUB CONSULTANT				
PROJECT TITLE				
TP-1 INTERIM STABILIZATION PLAN				
SHEET TITLE				
POST RECLAMATION AS-BUILT DRAINAGE CHANNEL PROFILES AND SECTION VIEWS - ANC TP-1				
DWN BY	CHK'D	APP'D	DWG DATE	3/20/19
DJW	CMJ	COL	SCALE	
PROJECT NO.		SHEET NO.		REV NO.
WYDEQ104		C-201		



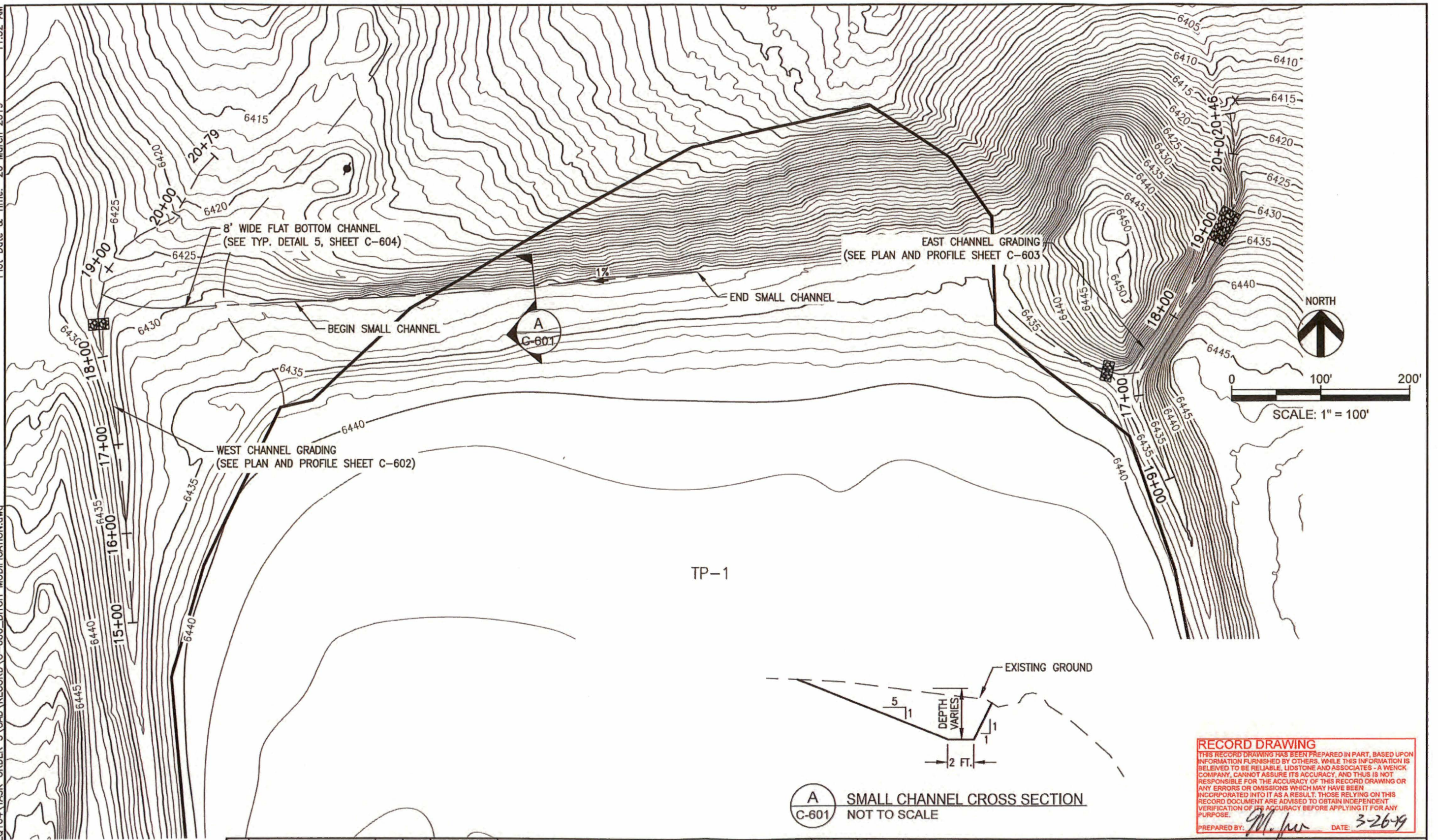
TP-1 COVER MATERIAL
NOT TO SCALE

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PREPARED BY: *ML/jw* DATE: *3/26/19*

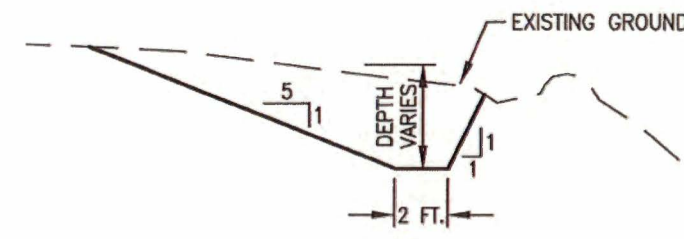
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PRIME CONSULTANT			
 WENCK Responsive partner, Exceptional outcomes			
SUB CONSULTANT			
PROJECT TITLE			
AMERICAN NUCLEAR CORPORATION TP-1 INTERIM STABILIZATION PLAN			
SHEET TITLE			
POST RECLAMATION AS-BUILT CROSS SECTIONS ANC TP-1			
DWN BY	CHK'D	APP'D	DWG DATE
DJW	CMJ	COL	3/20/19
PROJECT NO.		SCALE 1"=60'H & 1"=6'V	
WYDEQ104		C-202	
SHEET NO.		REV NO.	

Plot Date & Time: 26 March 2019 11:32 AM

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TP-1



A
C-601 SMALL CHANNEL CROSS SECTION
NOT TO SCALE

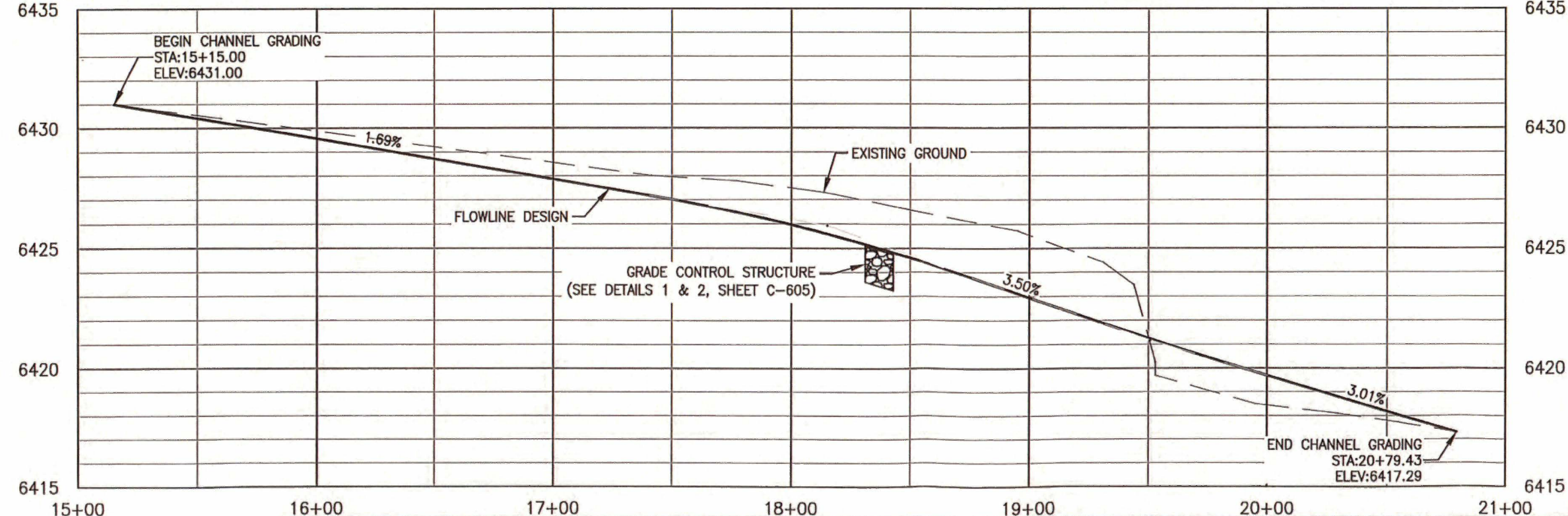
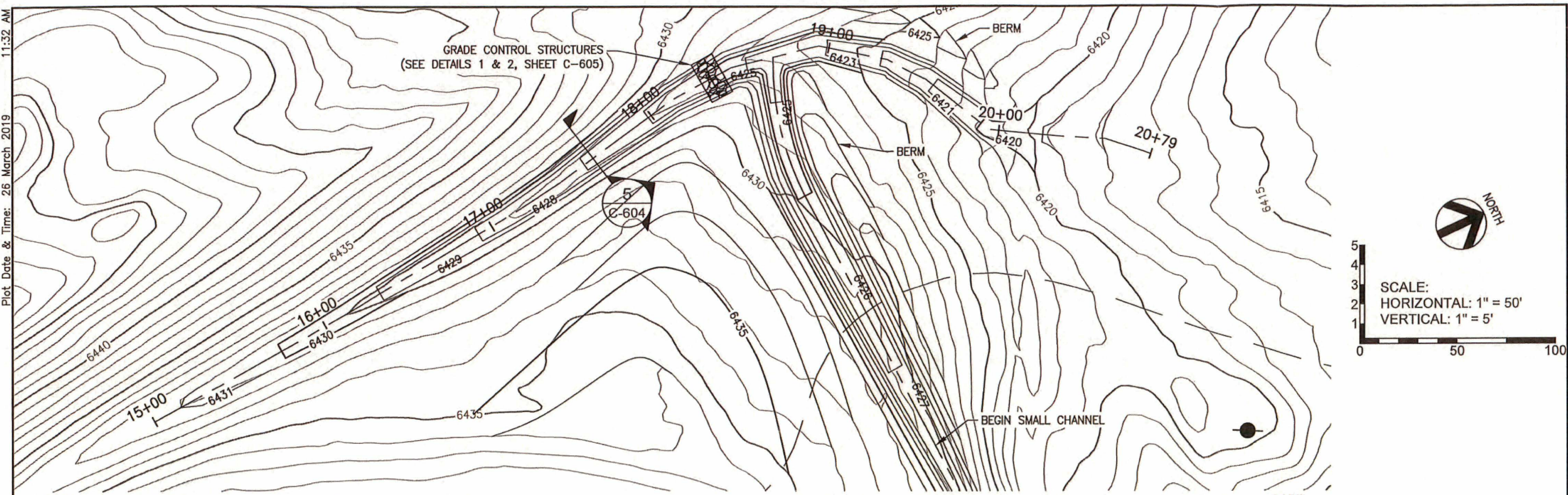
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PREPARED BY: *[Signature]* DATE: 3-26-19

REV	REVISION DESCRIPTION	DWN	APP	REV DATE




DWN BY DJW	CHK'D CMJ	APP'D	PROJECT AMERICAN NUCLEAR CORPORATION TP-1 INTERIM STABILIZATION PLAN	SHEET TITLE AS-BUILT CHANNEL GRADING OVERALL SITE PLAN
DWG DATE 3/26/2019	SCALE AS NOTED	CLIENT WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY LAND QUALITY DIVISION	PROJECT NO. WYDEQ104	SHEET NO. C-601
				REV NO.

11:32 AM
Plot Date & Time: 26 March 2019
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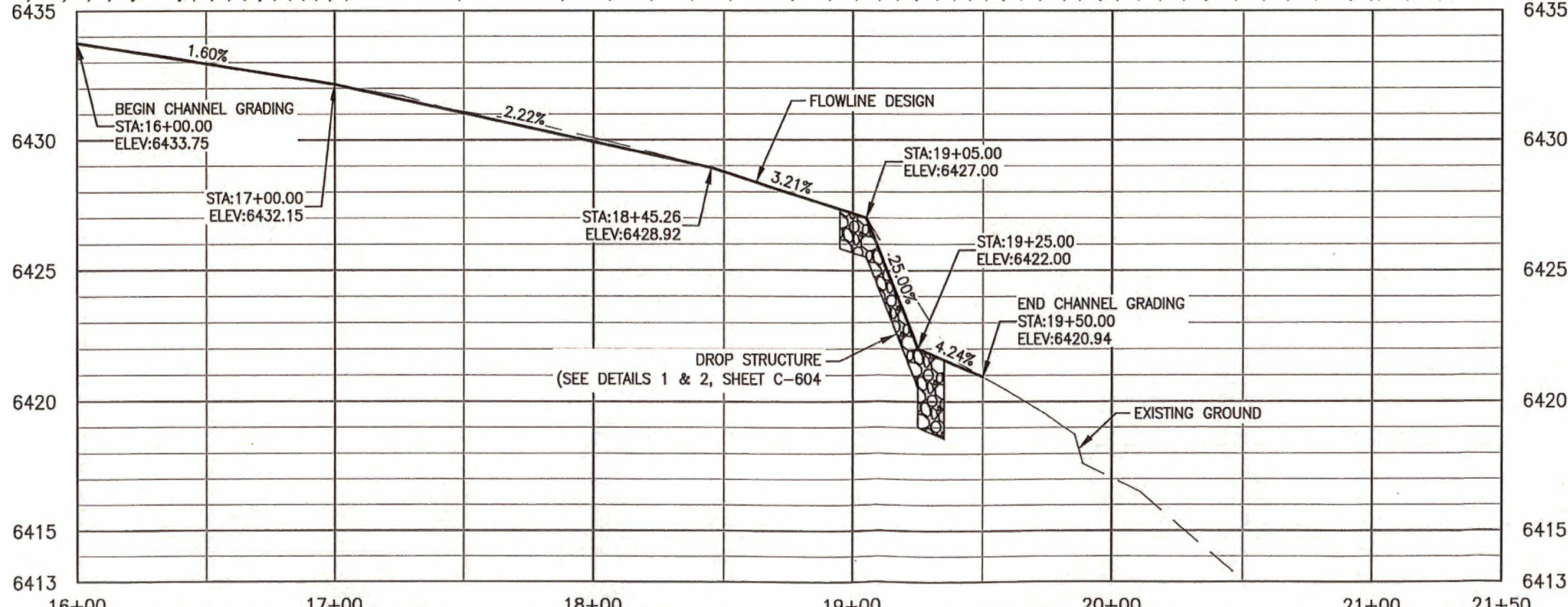
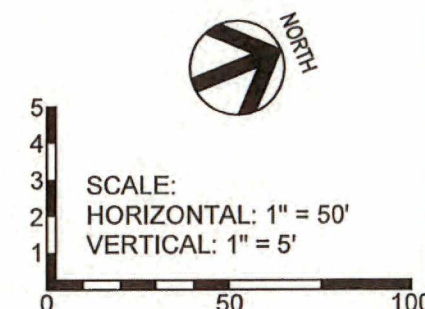
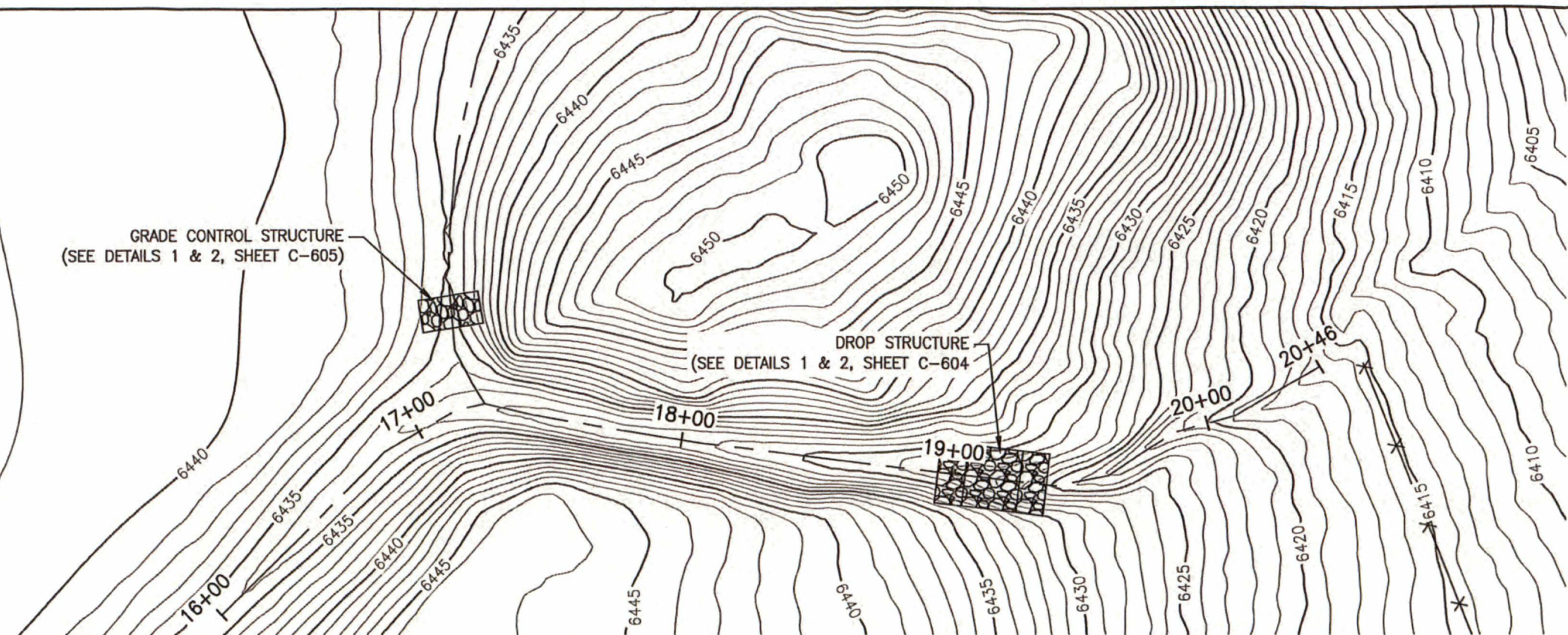
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PREPARED BY: *[Signature]* DATE: 3-26-19

16+00		17+00		18+00		19+00		20+00		21+00	
						DWN BY DJW	CHK'D CMJ	APP'D	PROJECT AMERICAN NUCLEAR CORPORATION TP-1 INTERIM STABILIZATION PLAN	SHEET TITLE AS-BUILT WEST CHANNELS PLAN AND PROFILE	
						DWG DATE 3/26/2019		CLIENT WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY LAND QUALITY DIVISION	PROJECT NO. WYDEQ104	SHEET NO. C-602	REV NO.
						SCALE AS NOTED					
REV	REVISION DESCRIPTION	DWN	APP	REV DATE							



WENCK
ASSOCIATES

Responsive partner. Exceptional outcomes.



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 PREPARED BY: *M. J. J.* DATE: 3-26-19

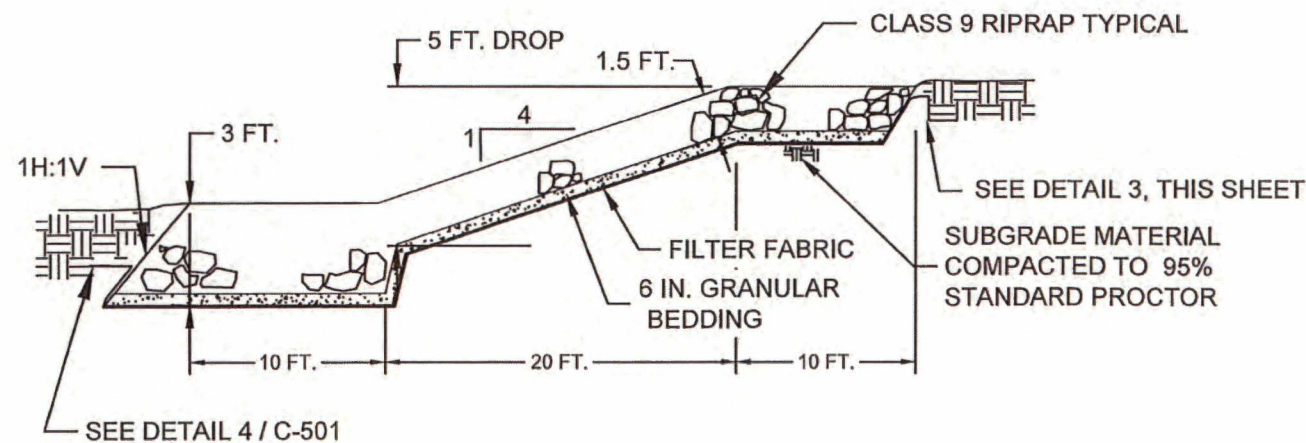
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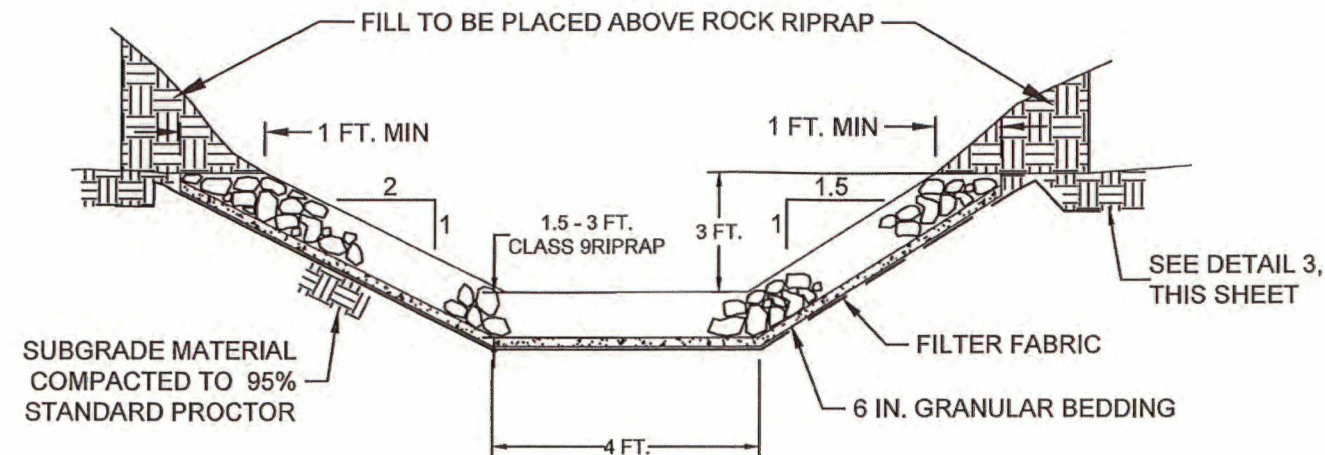
DWN BY DJW	CHK'D CMJ	APP'D
DWG DATE 3/26/2019		
SCALE AS NOTED		

PROJECT AMERICAN NUCLEAR CORPORATION TP-1 INTERIM STABILIZATION PLAN	CLIENT WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY LAND QUALITY DIVISION
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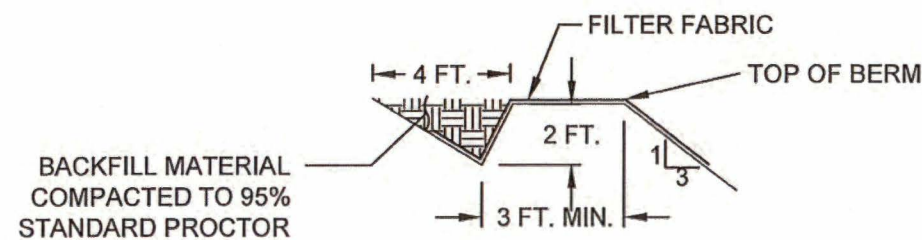
SHEET TITLE AS-BUILT EAST CHANNEL PLAN AND PROFILE		
PROJECT NO. WYDEQ104	SHEET NO. C-603	REV NO.



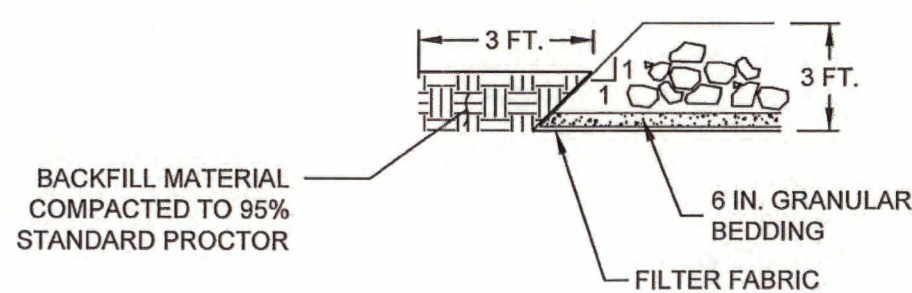
1 EAST DROP STRUCTURE - PROFILE VIEW
C-604 NOT TO SCALE



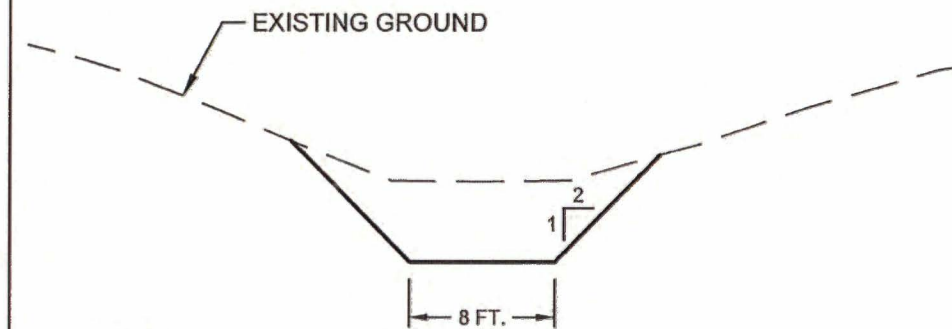
2 EAST DROP STRUCTURE - SECTION VIEW
C-604 NOT TO SCALE



3 FILTER FABRIC EDGE ANCHOR DETAIL
C-604 NOT TO SCALE



4 FILTER FABRIC EDGE ANCHOR DETAIL
C-604 NOT TO SCALE



5 TYPICAL WEST CHANNEL CROSS SECTION
C-604 NOT TO SCALE

RECORD DRAWING
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PREPARED BY: *M. J. J.* DATE: 3-26-19

REV	REVISION DESCRIPTION	DWN	APP	REV DATE



Responsive partner. Exceptional outcomes.

4025 AUTOMATION WAY BLDG E
FORT COLLINS CO 80525
(PHONE): 970-223-4705
(FAX): 970-223-4706

DWN BY	CHK'D	APP'D
NRA	GHS	CMJ
DWG DATE	3/26/19	
SCALE	NTS	

PROJECT	AMERICAN NUCLEAR CORPORATION TP-1 INTERIM STABILIZATION PLAN
CLIENT	WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY LAND QUALITY DIVISION

SHEET TITLE	DROP STRUCTURE DETAILS		
PROJECT NO.	WYDEQ104	SHEET NO.	C-604
REV NO.			

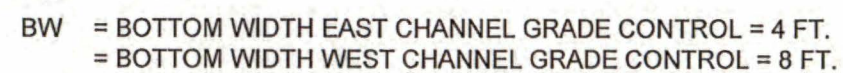


Diagram illustrating the cross-section of a ditch or drainage structure. The structure is composed of several layers and materials:

- SUBGRADE MATERIAL COMPACTED TO 95% STANDARD PROCTOR**: The base layer on the left.
- 6 IN. GRANULAR BEDDING**: A layer of granular material above the subgrade.
- 2.25 FT. CLASS 9 RIPRAP**: A layer of riprap above the granular bedding.
- 10 IN.**: A dimension indicating the thickness of the riprap layer.
- 2 FT.**: A dimension indicating the width of the ditch.
- 12 FT.**: A dimension indicating the total length of the structure.
- FILTER FABRIC**: A layer of filter fabric below the granular bedding.
- MATCH EXISTING GRADE**: The right end of the structure, where it meets the existing ground level.
- FLOW**: An arrow indicating the direction of water flow into the ditch.
- SEE DETAIL A SHEET C-501**: A reference to another detail sheet.

RECORD DRAWING

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PREPARED BY: *M. H. H.* DATE: 3-26-19

[illegible]

Appendix E

APPENDIX E1
STORMWATER POLLUTION PREVENTION PLAN

NOTICE OF INTENT

TO REQUEST DISCHARGE AUTHORIZATION FOR STORM WATER FROM **LARGE CONSTRUCTION ACTIVITIES**

(Under Large Construction General Permit
WYR10-0000)



Official Use Only
Date received:

- ✓ Please print or type.
- ✓ All items must be completed accurately and in their entirety or the NOI will be deemed incomplete and will be returned. A complete SWPPP must be submitted before the NOI will be processed.
- ✓ Storm water discharges are covered under the large construction general permit when the Administrator provides a letter of authorization (LOA) to the applicant (see Part 1.2.4 of the permit).
- ✓ Check for permit fees must be submitted with this NOI. See item 2 below.
- ✓ An original signature of the applicant is required. Faxes or emails cannot be accepted.

For Renewing Existing Coverage Only:

Check here only if you are extending an early expiration date on existing coverage because your construction site is not "finally stabilized." Please provide your current authorization number.
Authorization WYR10_____

1. Contact Information:

Permit Applicant

Company Name:	Wyoming Department of Environmental Quality - Land Quality Division		
Legally Responsible Person: (See Item 10 below for description)	<input checked="" type="radio"/> Mr. Kyle Wendtland <input type="radio"/> Ms.		
Title:	Division Administrator		
Mailing Address:	200 West 17th St.		
City, State, ZIP Code:	Cheyenne, WY 82001		
Telephone:	307-777-7756	Email:	kyle.wendtland@wyo.gov

Local Facility Contact

☐ Same as Applicant

Company Name:	Wenck Associates, Inc.		
Local Contact Name:	<input checked="" type="radio"/> Mr. Cal Demler <input type="radio"/> Ms.		
Title:	Construction Manager		
Mailing Address:	4025 Automation Way, Building E		
City, State, ZIP Code:	Fort Collins, CO 80525		
Telephone:	307-248-1415	Email:	cdemler@wenck.com

2. WYPDES Permit Fee

Applications under the WYPDES program must include payment for permit fees with the application or notice of intent. See the WYPDES fee page at http://deq.state.wy.us/wqd/WYPDES_Permitting/feecalc.html for more information and to find the fee calculator. Please provide the following information to verify your permit fee amount.			
NOI date (date you expect to submit the NOI):		1/15/2108	
Month and year you wish coverage under the LCGP to expire (not to exceed 2/1/2020). LCGP coverage must be maintained on this project until the project no longer requires permit coverage (i.e., the project reaches "finally stabilized" condition – see Part 2.8 in the permit for a definition). Permittee must renew coverage if the project is not "finally stabilized" by this date:		2/1/2020	
Amount remitted:	\$300	Check Number:	100183

3. Sage Grouse Core Area Determination

<p>Pursuant to the requirements of the Governor's Executive Order 2015-4, Greater Sage-Grouse Core Area Protection, the Wyoming Department of Environmental Quality (WDEQ) is working with the Wyoming Game and Fish Department (WGFD) to minimize the impact of development on the Greater Sage-Grouse population in Wyoming. To that end, operators of large construction projects must determine if any part of the project falls within a Greater Sage-Grouse Core Area (SGCA) <u>before</u> applying for coverage under the Large Construction General Permit (LCGP). If any part of your project falls within a SGCA, <u>the first point of contact for addressing sage-grouse issues is the WGFD</u>. Coordinate with the WGFD and obtain a letter confirming consistency with the Executive Order <u>prior</u> to applying for coverage under the LCGP. The G&F consistency letter must be attached to this NOI. Note that your NOI will be returned without processing until you have consulted with the WGFD and obtained a letter confirming consistency with the Executive Order. In order to extend coverage for your project under the LCGP, you must also certify your intent to comply with any Executive Order stipulations and recommendations provided through consultation with WGFD.</p> <p>Additional information and a map of SCGAs are available at http://deq.wyoming.gov/wqd/storm-water-permitting/resources/construction-general-permits/</p> <p> <input type="radio"/> Some part of my project does fall within a SGCA and I contacted the WGFD for a consultation. A letter from the WGFD confirming consistency with the Executive Order is attached. </p> <p> <input type="radio"/> No part of my project falls within a SGCA → No additional requirements. Complete and submit your Notice of Intent. </p>

4. Project Description:

Briefly describe the project:	The project will reclaim abandoned mine disturbed areas with new soil cover, drainage swales, and vegetation to enhance stability and prevent further erosion.		
Area that your project will disturb during construction in acres:	80	Total disturbed area of the "larger common plan of development or sale" (if applicable):	N/A
Date construction is planned to start:	April 2018	Date "final stabilization" is expected:	Spring 2020
Is a sediment basin or pond as described in Part 7 included in the SWPPP? <i>Note that basins and ponds must comply with appropriate design standards and designs for sediment basins/ponds must be stamped by a Wyoming-licensed Professional Engineer and plans must be included in the facility SWPPP.</i>			<input type="radio"/> Yes <input type="radio"/> No

5. Project Information:

Project Name:	American Nuclear Corporation Tailings Pond #1 Interim Site Stabilization Plan		
Project County(ies)	Fremont County		
Project Location: Provide the location as either section, township and range OR a street address. For linear projects such as roads or pipelines provide the locations of the endpoints.			
T33N, R90W: Sec 28, E 1/2 of Sec 29, N 1/2 of Sec 33			
<i>If this is a linear project add ending location. If more space is needed attach additional sheet(s):</i>			
Latitude and longitude to a minimum of 5 decimal places:	42.80452 N, -107.63780 W	If this is a WYDOT project, list project number(s) and WYDOT project engineer:	
<p>Access to facility and map of access route(s): As part of its application, the applicant shall certify under penalty of perjury that the applicant has secured and shall maintain permission for Department of Environmental Quality personnel and their invitees to access the permitted facility, including (i) permission to access the land where the permitted facility is located, (ii) permission to collect resource data as defined by Wyoming Statute § 6-3-414, and (iii) permission to enter and cross all properties necessary to access the permitted facility if the facility cannot be directly accessed from a public road. A map of access route(s) to the facility shall accompany the Notice of Intent and SWPPP.</p>			

6. Receiving Waters and Municipal Storm Sewers:

Name(s) of the nearest defined drainage(s) which could receive runoff from the construction project, whether it contains water or not. Include bodies of water such as lakes and wetlands where applicable.	Willow Springs Draw
Will storm water discharge from the project enter a municipal storm sewer?	<input type="radio"/> Yes <input type="radio"/> No
If so, what municipality?	
To what water body does the storm sewer discharge?	
<p>Identify all water bodies that are within 2000 feet the construction site and that may receive flow from the construction site that are:</p> <ol style="list-style-type: none"> Listed on the state's 303(d) report as impaired due to sediment, suspended solids or turbidity or Have an approved TMDL for sediment, suspended solids or turbidity 	There are no water bodies within 2,000 feet of the construction site that are listed on the state's 303(d) report as impaired or that have an approved TMDL.

7. Attachments (failure to provide required attachments will result in return of the application package):

For all projects:

- ☐ A complete SWPPP must be submitted with the NOI for all projects. SWPPPs may be submitted as: A hard copy with this NOI OR (Preferred) electronically (as PDF or Microsoft Word compatible format) on a CD or DVD with the NOI or to deq-stormwater@wyo.gov. SWPPPs submitted by e-mail must include the permittee name and contact information and the project name and location.
- ☐ A map of access routes to the project that comply with the access requirements as defined in item 5 above.
- ☐ A check for permit fees must be attached. To determine the fee amount required for this application go to the fee calculator at http://deq.state.wy.us/wqd/WYPDES_Permitting/feecalc.html. Checks should be made payable to the Department of Environmental Quality.

For any project that falls partly or completely within a Sage-Grouse Core Area:

- ☐ Provide a copy of a letter from the WGFD confirming consistency with the Executive Order.

Alternative inspection plans only.

- ☐ Operators seeking approval for alternative inspection schedules at the beginning of their project must submit the project SWPPP and proposed inspection plan with their NOI. Approval for an alternative plan may also be requested later (see Part 9.5 in the permit).

8. Copy of General Permit:

Do you wish to receive a paper copy of the Large Construction General Permit?
Those who check "no" will receive only a letter of authorization for their project.

☐ Yes

☐ No

10. Certifications:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. Additionally, I certify that I have secured and shall maintain permission for Department of Environmental Quality personnel and their invitees to access the permitted facility, including (i) permission to access the land where the facility is located, (ii) permission to collect resource data as defined by Wyoming Statute § 6-3-414, and (iii) permission to enter and cross all properties necessary to access the facility if the facility cannot be directly accessed from a public road. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Additionally, I certify that I am aware of the terms and conditions of the large construction general permit and I agree to comply with those requirements and any additional sage grouse Executive Order stipulations and operating restrictions or recommendations provided by the Wyoming Game & Fish Department for activities in Greater Sage Grouse Core Areas.

Authorized signatories for this notice of intent are the following "legally responsible persons:"	
For corporations:	A principal executive officer of at least the level of vice president, or the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the overall operation of the facility from which the discharge originates.
For partnerships:	A general partner.
For a sole proprietorship:	The proprietor.
For a municipal, state, federal or other public facility:	Either a principal executive officer or ranking elected official.

Kyle Wendtland

Division Administrator

Printed Name of "Legally Responsible Person"

Title

Signature of "Legally Responsible Person"

Date

Section 35-11-901 of Wyoming Statutes provides that: "Any person who knowingly makes any false statement, representation, or certification in any application . . . shall, upon conviction, be fined not more than ten thousand dollars (\$10,000) per day for each violation or imprisoned for not more than one (1) year, or both."

Clear Form

Mail or hand deliver this application to: WYPDES Storm Water Section DEQ/WQD 200 West 17 th Street Cheyenne, WY 82002	DEQ use only:	
	Date check rec'd:	
	Check amount:	
	Permit term:	
	Approval:	

NOI revised 3/17

c:\bsahl\storm_water\construction\cgp_2016\final_lcgp\final_permit&forms\noi_lcgp_2016(rev3-17).doc

9. Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. In addition, I certify that I am aware of the terms and conditions of the large construction general permit and I agree to comply with those requirements and any additional sage grouse Executive Order stipulations and operating restrictions or recommendations provided by the Wyoming Game & Fish Department for activities in Greater Sage Grouse Core Areas.

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For partnerships:	A general partner.
For a sole proprietorship:	The proprietor.
For a municipal, state, federal or other public facility:	Either a principal executive officer or ranking elected official.

Kyle Wendtland

Division Administrator

Printed Name of "Legally Responsible Person"

Title


Signature of "Legally Responsible Person"


Date

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Mail or hand deliver this application to:
WYPDES Storm Water Section
DEQ/WQD
Herschler Bldg. - 4W
122 West 25th Street
Cheyenne, WY 82002

DEQ use only:

Date check rec'd:

Check amount:

Permit term:

Approval:

NOI revised 10/13
2-0927-doc

c:\bsahlstorm_water\construction\cgcp_2011\cgcp_2011\final_cgcp_docs\permit_and_forms\noi_cgcp_2011_rev-10-13_for_renew.doc

Reset Form

Wyoming Department of
Environmental Quality
Template for the
Storm Water Pollution Prevention Plan
(for the Large Construction General Permit)



Print Form

Reset Form

PLEASE READ THIS PRIOR TO COMPLETING THE TEMPLATE. While use of this template is optional, your project SWPPP must follow the format set forth in Part 8.2 of the Large Construction General Permit (LCGP) for storm water discharges. SWPPPs that do not follow the required format will be returned to the applicant and processing will be delayed until a compliant SWPPP is submitted to the WDEQ. This template is intended to assist operators in developing a compliant SWPPP. For your convenience, each section below references the relevant paragraph of the LCGP. If there is any question about what is required for a section, refer to the LCGP for information.

The SWPPP is a site-specific, dynamic plan which, when implemented, will control erosion and sedimentation, prevent storm water contamination and comply with the requirements of the federal Clean Water Act and Chapter 2 of the Wyoming Water Quality Rules and Regulations. It is the permittee's responsibility to ensure all required items in the LCGP are adequately addressed and in compliance with all the requirements of the LCGP.

Project/Site Information

WYPDES Authorization Number: WYR10

Project/Site Name: American Nuclear Corporation Tailings Pond #1 Interim Site Stabilization Plan

Project Location - Enter either:

Quarter/Quarter, Section, Township, Range
OR

Street Address and City
OR

Latitude and Longitude

SE 1/4 of Section 29, T33N, R90W;
NE 1/4 of Section 29, T33N, R90W;
All of Section 28, T33N, R90W;
NW 1/4 of NE 1/4 of Section 33, T33N, R90W

SWPPP Administrator (8.2.1)

Company or Organization: Wyoming Department of Environmental Quality - Land Quality Division

Name of Individual: Kyle Wendtland

Title: Division Administrator

Phone: (307) 777-7756

Cell Phone: N/A

Fax: N/A

E-mail: kyle.wendtland@wyo.gov

Narrative Site Description (8.2.2)

A brief description of the nature of the construction activity (8.2.2.1):

The ANC-TP-1 Interim Stabilization Plan consists of placing 3.25 feet of additional cover over the existing TP-1 cover to address long-term stabilization of TP-1 and further reduce radon emanation. Material for the proposed cover will be taken from topsoil stockpiles, an unclassified material borrow area to the south of TP-1, and wicking material from Willow Springs Draw. Approximately 185,000 cubic yards will be placed on the existing cover. The first one foot layer of unclassified material will be excavated from the proposed borrow area to the south of TP-1. The next layer will consist of three inches of sands and gravels that will originate from Willow Springs Draw. A second one foot layer of unclassified borrow material will be placed on top of the wicking barrier and amended with imported lime. Following placement of these layers of unclassified material, topsoil from existing stockpiles will be placed, ripped, and then pitted and seeded. The entire cover will be graded to the proposed grading plan as shown in the construction drawings. Runoff collection channels will be constructed on each side of TP-1, which will carry storm runoff from the contributing drainage basins surrounding TP-1. These channels will include riprap grade control structures to improve channel stability. Revegetation seeding and temporary erosion control stabilization measures will be implemented before and after construction is complete to achieve final site stabilization.

Proposed sequence of major activities including an estimated completion date (8.2.2.2)

Construction is expected to take approximately twelve weeks in the summer of 2018, with anticipated completion of final seeding and stabilization measures in September 2018. Following is a sequence of major activities:

- 1) Mobilization including placement of stormwater controls and BMPs, office trailer, staging area preparation, surveying, haul road development, and project limit delineations.
- 2) Clear and grub site excavation areas as necessary. Salvage existing coversoil materials from the staging area and proposed borrow area and stockpile for final revegetation efforts.
- 3) Excavate diversion channels and construct grade control structures.
- 4) Excavate unclassified material (1st [bottom] layer) from the borrow area and transport to TP-1 for placement.
- 5) Excavate wicking material from Willow Springs Draw and transport to TP-1 for placement.
- 6) Excavate unclassified material (2nd [top] layer) from the borrow area and transport to TP-1 for placement.
- 7) Amend the 2nd layer of unclassified material with imported lime.
- 8) Salvage topsoil from existing stockpiles and transport to TP-1 for placement.
- 9) Place the coversoil on TP-1; rip, disk, apply soil amendment, and seed all disturbed areas.
- 10) Reclaim access roads, and demobilize from site.

An estimate of the total area of the project site (8.2.2.3):

The overall project area is estimated to be approximately 80 acres.

An estimate of the area expected to undergo clearing, excavation or grading, including off-site materials sources, access roads, areas for support activities and staging/storage areas (8.2.2.3). Note that areas included under a separate WYPDES storm water permit authorization do not need to be included here:

80 acres

Describe storm water discharges from support activities dedicated to the construction site (and permitted under the construction site LCGP) including, but not limited to, off-site materials borrow areas, concrete or asphalt batch plants, equipment staging yards, material storage areas and access roads constructed for the project (8.2.2.4):

Storm water discharges from support activities dedicated to the construction will include equipment parking areas and material stockpile storage areas. Construction trucking routes will be primarily located on existing access roads. One new temporary construction road will be constructed in the northern area of the site. The project will not require off-site borrow materials or concrete or asphalt batch plants.

A brief description of the existing vegetation at the site and an estimate of the percent of vegetative ground cover (8.2.2.5):

The site is impacted from previous mining and reclamation activities. The existing TP-1 cover is predominately non-vegetated. A majority of the areas surrounding TP-1 are vegetated. As a result, the project area has approximately 50 percent vegetation cover, which is predominately composed of sagebrush grasslands.

Provide the location and a description of any other potential pollution sources including, but not limited to, vehicle fueling, equipment maintenance, storage of fertilizers, chemicals or paint (8.2.2.6):

Soil disturbances and erosion resulting in sediment runoff is the primary potential pollutant on the project site. Support activities associated with the reclamation are minimal, but to the extent that they exist, they will be confined to staging areas as much as possible where runoff controls and BMPs are most effective. Potential other hazardous materials or pollutants associated with construction at the TP-1 project site consist of petroleum-based liquids including diesel fuel, lubricant oils, and hydraulic fluid. Equipment fueling will occur on site and is a potential pollution source to mitigate. All equipment maintenance is expected to be completed on site and any resultant petroleum fluid leaks will be disposed of in an orderly manner through a recycling entity off site. Minimal storage of materials, mostly fuels, will be necessary on site and no fertilizers, chemicals, or paints are expected to be stored on site.

Provide the name of drainages or other surface water(s) of the state that may receive a storm water discharge from the construction activity. Identify the size, type and location of any outfall.

- Where a discharge is to an unnamed drainage, provide the name of the first named drainage within 1000 feet downstream of the discharge. If there is no named drainage within 1000 feet, indicate unnamed drainage.
- If the discharge is to a municipal separate storm sewer, indicate the owner of the system, the location of the storm sewer outfall and the name of the receiving water.
- If more space is needed, attach additional sheets (8.2.2.7).

The site is located over 2,000 feet west of an ephemeral drainage, Willow Springs Draw. There is an additional unnamed drainage immediately north of the project site. Overland flow is the principal runoff and no point source storm water outfall from the site is anticipated; however, sediment control BMPs will be utilized on site. In the event of a large runoff event, flows would pass through sediment control BMPs before crossing vegetation buffers and native grasslands and entering the ephemeral drainage.

Identify any receiving water(s) that is listed on the state's most recent 303(d) report as impaired due to, or has an approved TMDL for, sediment, suspended solids or turbidity that is: 1) within 2000 feet of the construction site and that may receive runoff from the construction site or; 2) will receive construction site storm water discharges that enter a storm sewer system regardless of the distance from the receiving water. See 3.5.11 for additional information. (8.2.2.8)

There are no receiving waters that are listed on the state's most recent 2014 draft 303(d) report as impaired due to, or has an approved TMDL for, sediment, suspended solids or turbidity that is: 1) within 2,000 feet of the construction site and that may receive runoff from the construction site or; 2) will receive construction site storm water discharges that enter a storm sewer system.

Site Map(s) (8.2.3)

Attach one (or more) map(s) that provide, at a minimum, the following information. The map(s) should be prepared so that all of the required information is clearly displayed and it is clear what BMPs will be installed in each major stage of construction, including the time between the cessation of active construction and final stabilization. Provide multiple maps as necessary to clearly describe BMP timing and placement. The scale of the map(s) must be sufficient to identify the location of all the items listed below:

1. Preconstruction topography and location of surface waters of the state
2. Construction site boundaries.
3. All areas of soil disturbance and areas that are to remain undisturbed.
4. The location of surface waters of the state including any unnamed drainages.
5. Areas used for storage of building materials, soils, wastes, fuel, and concrete washout areas.
6. Locations of all existing or planned temporary or permanent erosion and sedimentation controls.
7. Locations of all other structural and non-structural best management practices for pollutants other than sediment, including but not limited to, fueling/maintenance areas and concrete washout disposal areas.
8. Site topography or storm water drainage patterns including lines showing boundaries between different drainage areas in the project area(s).
9. Areas where dedicated support activities (e.g. operations producing earthen materials such as sand and gravel, staging areas, portable asphalt or concrete batch plants) occur and are to be covered under the same general permit authorization. **Include all the same information requested in this section on these off site maps.**
10. Storm water discharge locations. Include discharge locations for offsite operations covered under this permit.
11. North Arrow. Include a legend where needed for clarity.

Best Management Practices (8.2.4)

At a minimum, structural storm water best management practices (BMPs) are expected to withstand and function properly during precipitation events up to, and including, a 2-year, 24-hour storm event. Visible and measurable erosion (see Part 7.4 of the LCGP) that leaves the site from such storm events should be minimal. The 2-year, 24-hour event in Wyoming ranges from 0.8 to 2.6 inches. An isopluvial map of the 2-year, 24-hour storm depth for the state of Wyoming is available on the WDEQ storm water website. Permittees may substitute equivalent data published by the local municipality or regulatory agency.

The plan shall clearly describe the relationship between the stages of construction and the implementation and maintenance of controls and measures. For example, which controls will be implemented during each stage of construction, such as, clearing and grubbing necessary for perimeter controls, initiation of perimeter controls, remaining clearing and grading, road grading, storm drain installation, final grading, stabilization and removal of control measures.

The description of controls shall address the following minimum components. If the space provided below is inadequate, please attach additional sheets.

Erosion Prevention BMPs (8.2.4.1a). Clearly describe in detail the storm water erosion control BMPs that will be used at each major stage of construction. Indicate the location of the described measures on the site map(s) as required above. Examples of erosion control BMPs include, but are not limited to, preserving existing vegetation, scheduling (i.e., minimizing site disturbance at a given time), surface roughening, temporary and permanent seeding or planting, soil binders or tackifiers, erosion control blankets/mats, wind erosion control, storm water diversion practices upslope of a construction site, pipe slope drains and outlet protection.

Construction activities will minimize erosion by scheduling work during low precipitation summer months, constructing and maintaining erosion prevention BMPs. Vehicle traffic will predominantly use existing access roads to protect established vegetation. Erosion Control Logs/ Wattles will be constructed down-gradient of the staging/loading area and the perimeter of the overall project disturbance area. Following excavation, the disturbed areas will be coversoiled, then ripped, then seeded. The construction area will be recontoured so that the final slopes do not exceed 4H:1V and will blend with the existing grade. Once the construction/reclamation is complete, all disturbed and poorly vegetated areas will be ripped, then seeded. Additional techniques may include:

- Preserving existing vegetative barriers between soil source areas and off site discharge locations;
- Surface roughening by machine and/or tracking slopes parallel with contours to diminish runoff channelization;
- Permanent or temporary seeding;
- Diversion of upslope run-on using berms, check dams, bale dikes, and sediment control logs.

Sediment Control BMPs (8.2.4.1b). Clearly describe in detail the sediment controls that will be used at each major stage of construction. Indicate the location of these BMPs on the required site map(s). Examples of sediment control BMPs include, but are not limited to, sediment barriers (such as straw bales, gravel/rock berms, silt fences, fiber rolls and wattles), undercut lots where curb and gutter is installed, exit tracking controls, vegetated buffer strips, grassed waterways, water bars and water wings.

Construction activities will minimize sedimentation by applying and maintaining sediment control BMPs. The 2-year, 24-hour event for the Gas Hills Mining Area is approximately 1.1 inches. To ensure the construction activities do not contribute to sedimentation, sediment barriers, including straw logs/wattles and/or bio bags will be used down-gradient and along the perimeter of the disturbed construction areas. Straw wattles will be the principal sediment control BMP throughout construction. The location of these sediment control BMPs are identified on Plan Sheet C-101. Additional techniques may include sediment traps and basins, entrance/exit tracking controls, and vegetated buffer strips. Dust control water will be applied full time throughout the disturbed areas and on haul routes for the duration of construction.

Stabilization Measures (8.2.4.1c). Describe temporary or permanent stabilization measures (which include, but are not limited to, cover crop plantings, mulching, rolled erosion control products or surface roughening). Refer to the permit at Part 7.14 for additional information. Please note that implementation of stabilization measures is required in areas where further clearing, grading, excavating or other earth disturbing activities have permanently ceased or temporarily ceased and are not expected to resume for more than 14 days. See the permit at part 7.14 for further discussion and limited exceptions.

If construction activities need to temporarily cease for a period exceeding 14 calendar days, then temporary stabilization measures will be employed to prevent erosion and sedimentation to adjacent waterways. Stabilization techniques to be employed, as needed, may include ditches and berms surrounding disturbed areas as well as the installation of rolled erosion products, contour tracking to limit runoff channelization, and mulching.

Permanent stabilization measures including revegetation will be initiated immediately upon completion of grading and cover soil placement. Upon completion of the construction activities, the TP #1 disturbance will be permanently reclaimed. Borrow areas will be regraded and off site sedimentation will be controlled by ditches, berms and a detention pond. Following completion of permanent stabilization measures and reclamation seeding, a qualified person will inspect the site every 30 calendar days or an extended inspection frequency under severe and winter condition exceptions. Final stabilization will be achieved when all site activities have been completed and a uniform perennial vegetation cover with a density of 70% of the typical or native background vegetative cover for the area has been established. A Notice of Termination will be submitted following final stabilization and removal of all temporary synthetic and structural erosion and sediment controls (e.g. silt fence, temporary rock check dams, and wattles).

Construction site dewatering (8.4.4.2) Describe the specific BMPs that will be used for discharges from construction site dewatering. Discharges must meet the conditions specified in Part 7.13 of the LCGP including the use of appropriate settling or filtering techniques and the use of velocity dissipation devices at the outlet. This section addresses accumulated storm water only. Discharge of ground water is subject to another WYPDES discharge permit for wastewater.

No dewatering will occur at the TP-1 Interim Stabilization Plan project site.

Operational Controls (8.2.4.3)

Good Housekeeping (8.2.4.3a). Describe in detail the good housekeeping BMPs/procedures that will be implemented to maintain a clean and orderly facility. At a minimum, this section shall address litter, debris, chemicals, fertilizers and sanitary waste. Also include measures to remove sediment that has left the construction site.

The construction staging area, equipment and materials storage will be confined to the area shown on Sheet C-101. The work and staging area will be routinely observed and maintained to ensure a neat and orderly work site. Appropriate containers with lids will be staged on site for storing debris and other wastes until disposal. Litter and debris will be picked up as needed to reduce the chance for materials to be carried off site by wind or water. At the end of construction, all areas affected by construction including petroleum product spills, garbage, trash, and debris will be cleaned and properly disposed of in accordance with federal, state, and local requirements.

Portable toilets located on site will be cleaned and maintained by the operating vendor. Toilets will be secured to prevent tipping. Site equipment is maintained following a regular maintenance schedule with maintenance performed on site. Daily equipment startup checks are performed to identify maintenance needs and minimize the potential for storm water contamination. Any fuel, oil, or hydraulic fluid leaks on equipment will be removed immediately to prevent contamination of soils on site. Burial of solid wastes or waste petroleum products will not be permitted within the project limits.

Bulk Storage of Petroleum Products (8.2.4.3b). Describe in detail the specific practices that will be used for storage of bulk petroleum products. Include spill handling procedures. Those sites that are covered by and in compliance with other relevant plans (such as a Spill Prevention Control and Countermeasure (SPCC) plan) may reference that plan below as fulfillment of this requirement. See the permit for more information.

Bulk storage of petroleum products will be allowed at the project site and the fuel tank will be contained within a lined berm to contain any spills. The liner shall consist of a geotextile material to allow complete cleanup. The containment area shall be of capacity to hold the contents of the largest storage vessel and precipitation freeboard. The containment plan will comply with OSHA Standard 29 CFR Part 1926.152(i)(2)(vii) and 40 CFR 112. Soils that may become contaminated will be disposed of at a licensed landfill permitted to handle these type of wastes.

Concrete Washout and other Related Waste (8.2.4.3c). Clearly describe the specific practices that will be used to contain concrete wash waters. Where applicable, management of concrete grindings and slurry must also be described. Include relevant operations at portable concrete batch plants that are covered under the same authorization as the construction activity.

No concrete work will be conducted at the project site and therefore no concrete washout will be used.

Employee Training (8.2.4.3e). Describe your training program to inform personnel of their responsibility in implementing the practices and controls in the SWPPP, including, but not limited to, spill response, good housekeeping and sediment control.

SWPPP training will be conducted jointly with site safety meetings per the project Health and Safety Plan. Personnel will be trained in spill prevention and emergency spill response, good housekeeping, and sediment controls prior to initiating construction.

Maintenance (8.2.5)

Maintenance. Describe the schedule, intervals or conditions upon which BMPs described in the SWPPP will be maintained. Each type of structural BMP (e.g., wattles, silt fence, rolled erosion control products, basins/ponds, etc.) described in the SWPPP should be addressed. Please note that BMPs found to be in need of maintenance must be repaired, maintained or replaced in accordance with Appendix C, Part 2.

BMP's (wattles) shall be installed immediately upon mobilization to the site, or as appropriate within construction areas and prior to soil disturbance activities. Wattles and straw bales will receive maintenance when they become nonfunctional, the sediment reaches one-third of the height of the device or as recommended in the manufacturer's specifications. Vegetative buffers shall be repaired and stabilized following discovery of sediment accumulation, signs of rill formation, or otherwise rendered ineffective. BMP's deemed ineffective or in need of maintenance will be repaired, replaced, or supplemented according to the following: For active construction sites, maintenance of BMP's shall occur within 24 hours of discovery (72 hours for sedimentation basins), or as soon as field conditions allow. For inactive construction sites, repair or replacement of BMP's shall occur within 14 days of discovery, or as soon as field conditions allow.

Inspections (8.2.6)

Inspection Schedule. Describe an inspection program and schedule that meets the requirements of the LCGP, Part 9.

Inspections will be conducted following the general permit guidance and standard inspection schedule. The following describes the inspection schedule for the project:

Active Construction: At least once every 14 calendar days and within 24 hours following precipitation and/or snow melt exceeding 0.5 inches.

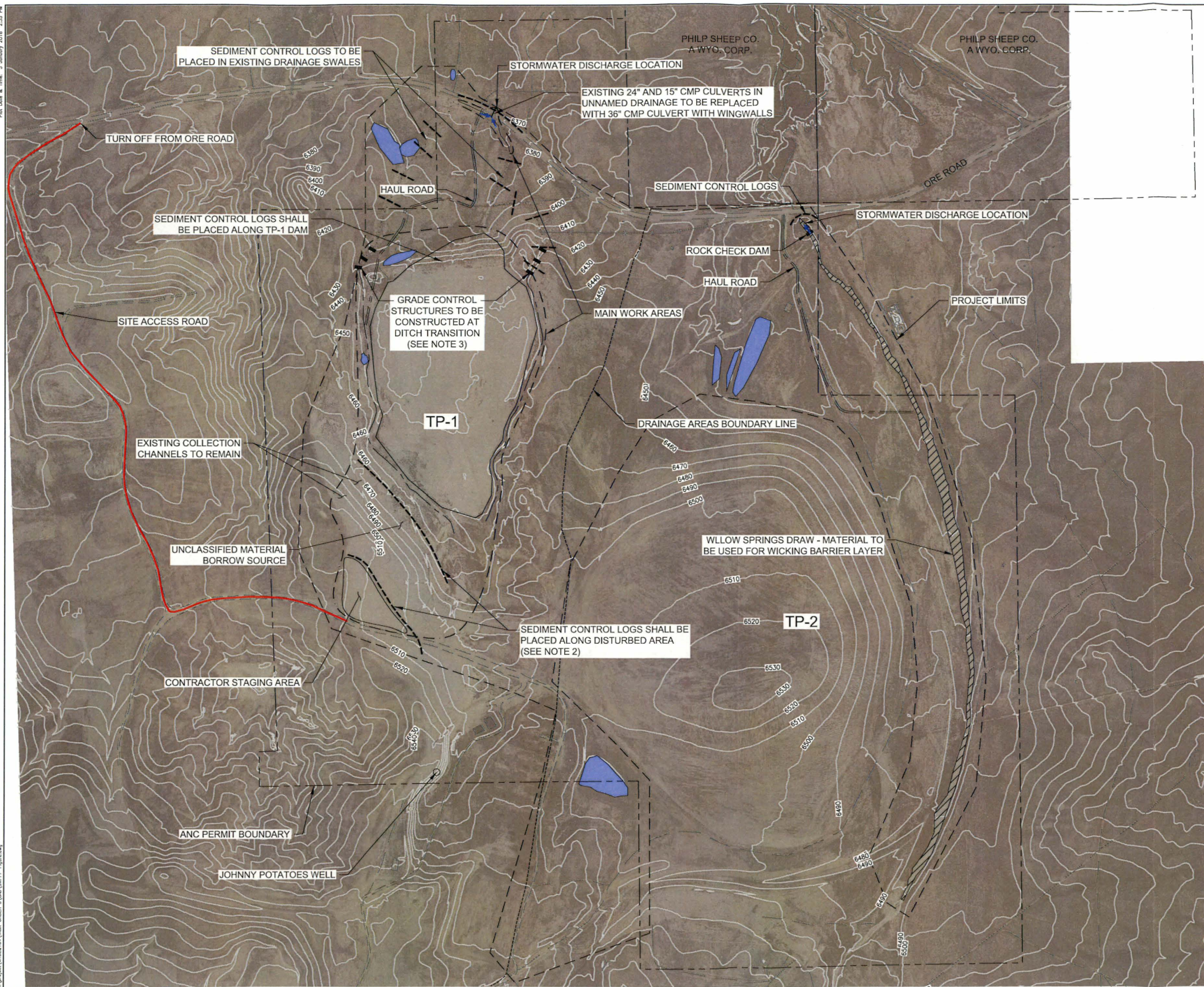
Inactive Construction: At least once every 30 calendar days following completion of construction and earthwork activities and initiation of temporary or permanent stabilization measures.

Winter Conditions: For inactive sites only, inspections will not be required where snow cover or frozen ground conditions exist over the entire site for an extended period and melting conditions do not exist.

Severe Weather: Delayed inspections will be conducted as soon as conditions allow. Precipitation data for determining the need for a 24-hour post-storm inspection will be gathered from the National Weather Service precipitation records for the Riverton, Wyoming gauge station.

The record of each inspection shall provide at least the following information:

1. The time and date of the inspection.
2. The identity of the inspector.
3. Findings of the inspection: a) Any indications of uncontrolled releases or discharges from the site of mud, muddy water, sediment, or other pollutants and the location of such observation. b) Locations of BMPs that need to be maintained. c) Locations of BMPs that failed to operate as designed or proved inadequate at controlling pollutants. d) Locations where additional BMPs are needed or that were not in place at the time of the inspection.
4. Corrective actions taken.
5. Dates and amount of all rainfall events greater than 0.5 inches in a 24-hour period during active construction.
6. Documentation of any changes made in the SWPPP and SWPPP site map as a result of the inspection.



1. ALL TOPSOIL STOCKPILES USED FOR TP-1 SHALL BE RECLAIMED AND TIED INTO EXISTING GROUND AND REVEGETATED.
2. WATTLES TO BE PLACED IN THE COLLECTION CHANNELS, AND WITHIN THE DISTURBANCE AREA AT THE DIRECTION OF THE ENGINEER.
3. ROCK CHECK DAMS SHALL BE CONSTRUCTED WITHIN THE EXISTING DRAINAGE SWALES FOR SEDIMENT PROTECTION PURPOSES.
4. CONTRACTOR SHALL CONDUCT RECLAMATION OPERATIONS WITHIN THE PROJECT LIMITS.
5. DISTURBANCE AREAS INCLUDE "MAIN WORK AREAS", TOPSOIL SOURCES, AND WILLOW SPRINGS DRAW. ALL OTHER AREAS TO REMAIN UNDISTURBED TO THE EXTENT POSSIBLE.

[illegible]

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
CLIENT				

WYOMING DEPARTMENT OF
ENVIRONMENTAL QUALITY
LAND QUALITY DIVISION

PRIME CONSULTANT

 **Lidstone and Associates, Inc.**
We are in charge of your
Business Continuity

 **WENCK**
CONSULTING

Responsive partner, Exceptional outcomes

SUB CONSULTANT

PROJECT TITLE	AMERICAN NUCLEAR CORPORATION TP-1 INTERIM STABILIZATION PLAN
---------------	---

SHEET TITLE

SWPPP SITE MAP

0'	DWN BY DJW	CHK'D CMJ	APP'D CDL	DWG DATE 1/5/18
	SCALE			
	PROJECT NO. WYDEQ104		SHEET NO. 1	REV NO.

SWPPP Certification (8.2.7):

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. In addition, I certify that I am aware of the terms and conditions of the large construction general permit and I agree to comply with those requirements.

Kyle Wendtland

Printed Name of Person Signing

Administration / LCO

Title

[Signature]

Signature

1/2/18

Date

307-777-7046

Telephone

Authorized signatories for this notice of intent are the following. Please note that the permittee may authorize other parties to SWPPPs and inspection reports as described in the permit at Part 10.7:

For corporations:	A principal executive officer of at least the level of vice president, or the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the overall operation of the facility from which the discharge originates.
For partnerships:	A general partner.
For a sole proprietorship:	The proprietor.
For a municipal, state, federal or other public facility:	Either a principal executive officer or ranking elected official.

APPENDIX E2
STORMWATER INSPECTION REPORTS

STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

Date: 9/10/19 Time: 11AM Inspector: Chris Lidstone

☐ 14 Day Standard Inspection ☐ 30 Day Stabilized Areas ☒ Other:

☐ 24-Hour (Post-0.5" Storm/Melting) - Record Dates/Precip Amount/Data Source:

Area / Present Phase of Construction: Post construction and 1 year post seeding; perimeter fencing is completed; placement of rock in diversion channels completed.

Site Conditions: Clear, mild winds, temps ~50 for high, several recent precipitation events

INSPECTION AREA

	<u>In Conformance</u>
Construction Site Perimeter	YES / NO / NA
Construction Entrance/Exit	YES / NO / NA
Site Storm Water Discharge Areas	YES / NO / NA
Material Storage Areas	YES / NO / NA
Waste Storage Areas	YES / NO / NA
Vehicle Maintenance Areas	YES / NO / NA
Other (describe): AML BASIN AREA	YES / NO / NA
Other (describe): Borrow Area Willow Springs Draw	YES / NO / NA

DEFICIENCIES NOTED: (Explain each "NO" circled above, describe any indications of uncontrolled releases or discharges from the site of mud, muddy water, sediment, or other pollutants and the location of the observation)

- Storm water discharge areas: A rock grade control was constructed on the west channel exit and has remained stable through several high precipitation events including a 1.33 inch rainstorm. There was minimal channel erosion above and below the grade control but likely existed before construction. The East Channel was stable and the rock structures remained intact.
- There has been tremendous erosion from offsite sources delivering large volumes of sediment to the reclamation area. This upper basin needs to be reclaimed if the site will meet long term stability.
- The detention pond by Johnnie Potatoes has been removed. AML should rebuild it or build another detention pond further down the basin and above the ANC reclamation.

BMP CONTROL

	<u>Effective</u>	<u>Repairs/Maintenance /Corrective Actions</u>
Good Housekeeping Controls	YES / NO / NA	YES / NO / NA
Rock Check Dam/Wattles	YES / NO / NA	YES / NO / NA
Road Stability	YES / NO / NA	YES / NO / NA
Stockpile Erosion Controls	YES / NO / NA	YES / NO / NA
Run-on Controls / Ditches	YES / NO / NA	YES / NO / NA
Run-off controls	YES / NO / NA	YES / NO / NA
Surficial Controls (mulch, tracking, etc.)	YES / NO / NA	YES / NO / NA
Equipment Fueling/Maintenance Controls	YES / NO / NA	YES / NO / NA
Other (describe):	YES / NO / NA	YES / NO / NA
Other (describe):	YES / NO / NA	YES / NO / NA
Other (describe):	YES / NO / NA	YES / NO / NA

DEFICIENCIES NOTED: (Explain and describe location of each "NO" in effectiveness)

Runon controls will need to be constantly maintained until the upper basin reclamation is addressed.

REMEDIAL ACTIONS: (Explain and describe location of each "YES" in repairs column, including under designed/inadequate BMPs, need for additional BMPs, BMP maintenance, etc.).

1. Long Term: The upper basin needs to be graded and reclaimed.
2. Short Term: the current run on ditches and detention ponds need to be reconstructed or repaired. A different design approach is imperative.
3. Short Term: A detention pond near Johnny Potatoes needs to be reconstructed and/or a lower detention pond can be constructed. Topsoil shall be salvaged if a lower detention pond is built.
4. If no further AML work will be completed Item 3 above should be constructed and several additional rock structures shall be employed on the west channel. Additional ditching could be used on the north dam face.

PHOTOS OF THE SITE ARE INCLUDED IN CLOSEOUT REPORT DATED 10/17/19: APPENDIX F.

SWPPP CHANGES: (Document any changes made to the SWPPP or Site maps as a result of the inspection)

STABILIZATION AREAS: (Describe locations/areas where temporary or permanent stabilization measures have been initiated and the stabilization methods). Rock structures were build in December 2018 and have held up well.

COMMENTS: The principal issue related to the stability of the site is uncontrolled runoff entering the site. This must be addressed before site stabilization is achieved.

Should the inspection not identify any incidents of non-compliance, do you certify that to the best of your knowledge, the facility is in compliance with the permit? ☒ YES ☐ NO

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

NAME: Christopher Lidstone DATE: September 10, 2019

SIGNATURE:  TITLE: Principal, Regional Manager

STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

Date: 6-10-19 Time: 10:00 AM Inspector: CAL DEMLER
☐ 14 Day Standard Inspection ☒ 30 Day Stabilized Areas ☐ Other: _____
☐ 24-Hour (Post-0.5" Storm/Melting) - Record Date/Precip Amount/Data Source: _____

Area / Present Phase of Construction: COMPLETE
 Site Conditions: DRY

INSPECTION AREA

Construction Site Perimeter
 Construction Entrance/Exit
 Site Storm Water Discharge Areas
 Material Storage Areas
 Waste Storage Areas
 Vehicle Maintenance Areas
 Other (describe): _____
 Other (describe): _____

In Conformance

YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA

DEFICIENCIES NOTED: (Explain each "NO" circled above, describe any indications of uncontrolled releases or discharges from the site of mud, muddy water, sediment, or other pollutants and the location of the observation)

BMP CONTROL

Good Housekeeping Controls
 Rock Check Dain
 Road Stability
 Stockpile Erosion Controls
 Run-on Controls / Ditches
 Run-off controls
 Surface Controls (mud, tracking, etc.)
 Equipment Fueling/Maintenance Controls
 Other (describe): _____
 Other (describe): _____
 Other (describe): _____

Effective

YES / NO / NA
YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA

Repairs/Maintenance (Corrective Actions)

YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA

DEFICIENCIES NOTED: (Explain and describe location of each "NO" in effectiveness)

SEDIMENT RUNNING THRU THE FENCE FROM AML-
BORROW AREA.

REMEDIAL ACTIONS: (Explain and describe location of each "YES" in repairs column, including under designed/inadequate BMPs, need for additional BMPs, BMP maintenance, etc.)

SWPPP CHANGES: (Document any changes made to the SWPPP or Site maps as a result of the inspection)

NO

STABILIZATION AREAS: (Describe locations/areas where temporary or permanent stabilization measures have been initiated and the stabilization methods)

THERE HAS BEEN NO NOTICEABLE ADDITIONAL EROSION SINCE 4-22-19. ROCK STRUCTURES IN PLACE. NO ADDITIONAL CUT IN WEST CHANNEL.

COMMENTS:

WILLOW SPRINGS LOOK GOOD.

Should the inspection not identify any incidents of non-compliance, do you certify that to the best of your knowledge, the facility is in compliance with the permit? ☒ YES ☐ NO

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

NAME: CAL DEWILDER

DATE: 6-11-19

SIGNATURE: [Signature]

TITLE: CONSTRUCTION MANAGER

SWPP Inspection Pictures 6-10-2019



East Channel Looking North



Willow Springs Looking North



TP 1 Looking South



East Channel



East Channel Drop Structure Looking North



West Channel Discharge Looking North



West Channel Drop Structure



West Channel Looking South



Head of West Channel Looking South



Sediment runoff From the AML area to the South



TP 1 Looking North

STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

Date: APRIL 22, 19 Time: 11:00AM Inspector: CAL DEMLER
☐ 14 Day Standard Inspection ☒ 30 Day Stabilized Areas ☐ Other: _____
☐ 24-Hour (Post-0.5" Storm/Melting) - Record Dates/Precip Amount/Data Source: _____

Area / Present Phase of Construction: COMPLETE
 Site Conditions: DRY, CLEAR

INSPECTION AREA

Construction Site Perimeter
 Construction Entrance/Exit
 Site Storm Water Discharge Areas
 Material Storage Areas
 Waste Storage Areas
 Vehicle Maintenance Areas
 Other (describe): _____
 Other (describe): _____

In Conformance

YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA

DEFICIENCIES NOTED: (Explain each "NO" circled above, describe any indications of uncontrolled releases or discharges from the site of mud, muddy water, sediment, or other pollutants and the location of the observation)

BMP CONTROL

Good Housekeeping Controls
 Rock Check Dam
 Road Stability
 Stockpile Erosion Controls
 Run-on Controls / Ditches
 Run-off controls
 Surficial Controls (mulch, tracking, etc.)
 Equipment Fueling/Maintenance Controls
 Other (describe): _____
 Other (describe): _____
 Other (describe): _____

Effective

YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA

Repairs/Maintenance

/Corrective Actions

YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA
 YES / NO / NA

DEFICIENCIES NOTED: (Explain and describe location of each "NO" in effectiveness)

SEDIMENT RUNNING ON TO THE SITE FROM THE BORROW AREA (AML) TO THE SOUTH.

REMEDIAL ACTIONS: (Explain and describe location of each "YES" in repairs column, including under designed/inadequate BMPs, need for additional BMPs, BMP maintenance, etc.)

SWPPP CHANGES: (Document any changes made to the SWPPP or Site maps as a result of the inspection)

NO

STABILIZATION AREAS: (Describe locations/areas where temporary or permanent stabilization measures have been initiated and the stabilization methods)

DROP STRUCTURES IN BOTH CHANNEL IN GOOD CONDITION. SEDIMENT IS BEING HELD IN CHANNELS. THE WEST CHANNEL IS BEING CUT BUT IT HAS STABILIZED WITH NO ADDITIONAL HEAD CUT. NO RECENT SIGNS OF INCREASED EROSION ON THE DAM FACE.

COMMENTS:

WILLOW SPRINGS LOOKS GOOD. THE CHANNEL LOOKS "NATURAL".

Should the inspection not identify any incidents of non-compliance, do you certify that to the best of your knowledge, the facility is in compliance with the permit? ☒ YES ☐ NO

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

NAME:

CAL DENNER

DATE:

4-22-19

SIGNATURE:

[Signature]

TITLE:

CONSTRUCTION MANAGER

SWPP Inspection Pictures 4-22-2019



Willow Springs Looking South



Willow Springs Looking North



East Channel Drop Structure



Dam Face



West Channel Looking North



West Channel Below the Dam Looking North



West Channel Below the Dam-East Channel Intersection



Head of West Channel

STORM WATER POLLUTION PREVENTION PLAN INSPECTION AND MAINTENANCE REPORT FORM

Date: 3-22-19 Time: 2:00 PM Inspector: CAL DEMER
☐ 14 Day Standard Inspection ☒ 30 Day Stabilized Areas ☐ Other: _____
☐ 24-Hour (Post-0.5" Storm/Melting) - Record Dates/Precip Amount/Data Source: _____

Area / Present Phase of Construction: COMPLETED
 Site Conditions: NO MUCH SLOTTED CHANNELS TO INSPECT

<u>INSPECTION AREA</u>	<u>In Conformance</u>
Construction Site Perimeter	YES / NO / NA
Construction Entrance/Exit	YES / NO / NA
Site Storm Water Discharge Areas	YES / NO / NA
Material Storage Areas	YES / NO / NA
Waste Storage Areas	YES / NO / NA
Vehicle Maintenance Areas	YES / NO / NA
Other (describe): _____	YES / NO / NA
Other (describe): _____	YES / NO / NA

DEFICIENCIES NOTED: (Explain each "NO" circled above, describe any indications of uncontrolled releases or discharges from the site of mud, muddy water, sediment, or other pollutants and the location of the observation)

<u>BMP CONTROL</u>	<u>Effective</u>	<u>Repairs/Maintenance /Corrective Actions</u>
Good Housekeeping Controls	YES / NO / NA	YES / NO / NA
Rock Check Dam	YES / NO / NA	YES / NO / NA
Road Stability	YES / NO / NA	YES / NO / NA
Stockpile Erosion Controls	YES / NO / NA	YES / NO / NA
Run-on Controls / Ditches	YES / NO / NA	YES / NO / NA
Run-off controls	YES / NO / NA	YES / NO / NA
Surficial Controls (mulch, tracking, etc.)	YES / NO / NA	YES / NO / NA
Equipment Fueling/Maintenance Controls	YES / NO / NA	YES / NO / NA
Other (describe): _____	YES / NO / NA	YES / NO / NA
Other (describe): _____	YES / NO / NA	YES / NO / NA
Other (describe): _____	YES / NO / NA	YES / NO / NA

DEFICIENCIES NOTED: (Explain and describe location of each "NO" in effectiveness)

SWPP Inspection Pictures 3-22-2019



East Channel Looking North



East Channel Looking North



Dam-West Channel Intersection



Dam Channel Looking East



Dam Face Looking East



Dam Channel Looking West

Appendix F



American Nuclear TP#1 Fencing and signage.



West Diversion Channel near north (Downstream) end.



West Diversion Channel looking towards grade control.



West Diversion Channel looking south towards center of reclamation tailings. TP#1 on the left.



West Diversion Channel looking south towards unreclaimed spoils. Reclaimed TP#1 on left.



South end of TP#1, looking south. Unreclaimed waste material (spoils) on south end of the fence.



Gully originating off unreclaimed spoils delivering sediment to the West Diversion Channel.



Reclaimed TP#1, looking east towards East Diversion Channel.



Sediment fan originating from unreclaimed waste spoils near the south central fenceline-separating reclaimed TP#1 from waste dump. ANC reclamation fence partially buried.



View southward at sediment fan looking directly at the buried ANC fence and unreclaimed spoils. Gully originated from failed AML diversion ditch and detention pond.



Sediment fan looking north towards reclaimed TP#1.



Failed diversion ditch: source of sediment delivered to reclamation area.



East Diversion Channel looking north.



Looking west across TP#1.



Top of rock drop structure, northern terminus of East Diversion Channel.



Reclaimed TP#1 looking south.



Willow Springs Draw at borrow area.