DRC-2010-005963

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November 12, 2010

VIA E-MAIL AND OVERNIGHT DELIVERY

Rusty Lundberg
Utah Department of Environmental Quality
195 North 1950 West
P.O. Box 144810
Salt Lake City, UT 84114-4820

Re: State of Utah Ground Water Discharge Permit ("GWDP") No. UGW370004
Transmittal of Revised Documents Addressing White Mesa Uranium Mill New Cell 4B and Response to Division of Radiation Control ("DRC") Letter of October 11, 2010 Regarding Comprehensive Comments on Proposed Revised Plans

Dear Mr. Lundberg:

This letter transmits Denison Mines (USA) Corp's proposed revisions to the Tailings Management System and Discharge Minimization Technology Monitoring ("DMT") Plan, the Best Available Technology Operations and Maintenance ("BAT O&M") Plan, and the Contingency Plan for White Mesa Mill which are currently pending UDEQ approval. This letter also responds to DRC's letter of October 11, 2010 requesting additional changes to previously submitted versions of these documents.

Based on the need to address newly-constructed Cell 4B, and on the comments provided in DRC's October 11, 2010 letter, Denison has prepared:

- DMT Plan Revision 11,
- BAT O&M Plan Revision 2.0, and
- Contingency Plan Revision 4.0

which are provided, respectively, as Attachments 1, 2, and 3 to this letter. These revisions incorporate:

- all the changes provided in the August 4, 2010 submittal of the DMT Plan Revision 10 (provided in redline format),
- all the changes requested in DRC's request for information regarding the New Decontamination Pad and previously submitted in Denison's letter of September 2, 2010 (provided in redline format),
- all the changes requested in DRC's October 11, 2010 letter (provided in redline format), and
- additional changes necessary to address management of Cell 4B (provided in redline format).

All red-lined changes in the attachments to this letter are linked to the approved versions of each document, specifically, the changes have been applied to:

- Approved Version 3 of the DMT Plan
- Approved Version 1.4 of the BAT O&M Plan, and
- Approved Version 2.0 of the Contingency Plan.

Each of the revised documents has also been provided as a clean file version with all changes accepted. Denison requests that UDEQ review and approve the versions attached to this letter, which consolidate into one set of documents all changes submitted by Denison since September 2008, for which Denison is awaiting DRC approval.

In an attempt to consolidate all required changes into one set of revisions which capture all required changes Denison has not provided a stand-alone submittal solely in response to the October 11, 2010 RFI, however, we have provided, below, specific responses to each request in that RFI. The sections and numbering of the remainder of this letter follow that of the RFI. Each UDEQ request is shown in italics, below, followed by Denison's response.

DEQ Comments and Responses

Contingency Plan (Revision 3):

> *In the subject September 2, 2010 letter, DUSA provided a proposed Revision 3 of the Contingency Plan. This was provided in response to our subject comment letter of May 10, 2010. However, our response regarding the Contingency Plan will not be addressed in this letter, but will be addressed under separate cover Review of that plan will proceed independently, and will not be tied to the use of the NDP. For reference, the third paragraph and Section 2.a.1 of the subject September 2, 2010 DUSA letter specifically address the contingency plan comments in our May 10, 2010 letter*

Denison Response: No response required. Denison requests that DRC review and approve the attached Contingency Plan revision 4.0, which addresses Cell 4B.

Comments on the Proposed DMT Plan (Revision 10.1, refer to the black-line copy):

> *1. Paragraph 3. I.e. i. D. The end of the third sentence should be changed to read, "standing water shall not be less than 6.2 feet."*

Denison Response: This change has been made in the attached DMT Plan Revision 11.

> *2. On page 28 of 48 in Appendix A, entries:*
> *a. Item numbered as one on that page should state Pond and Beach elevations (as per approved DMT Plan 3/10 Revision: Denison-7).*

Denison Response: The weekly inspection data form in DMT approved 3/10 Revision 7 does not say "Pond and Beach" as your comment states, but states only "Pond.". Moreover, we do not measure beach elevations in the tailings cells. This change has not been made.

> *b. For Cell 3 should be deleted (as per approved DMT Plan 3/10 Revision: Denison-7).*

Denison Response: This change has been made in the attached DMT Plan Revision 11

> *c. For Cell 4A an item (d) should be added (per the foregoing reference).*

Denison Response: The DMT Plan 3/10 Revision: Denison-7 Appendix A tailings Weekly Data does not contain any item d. We do not understand the wording of this comment or the meaning of "foregoing reference." This change has not been made because we do not understand the request.

> 3. Per our letter dated April 29, 2010, comment two, where we previously requested that in Appendix A of the DMT Plan, Table II. Operational Systems, that a line be added in the table for any observable FML liner damage at any disposal cell. Please add this line.

Denison Response: This line has been added to Appendix A, Daily Inspection Data, Table II, in the attached revision to the DMT Plan.

> 4. For reference, on page 34 of 48 the bottom two new paragraphs of the black-line copy regard storm water. The record of these storm water related inspection items will need to be available for the annual storm water inspections held at the mill.

Denison Response: Agreed.

Comments on the Proposed Cell 4A O&M Plan (Revision 1.6):

> A. The list of Attachments on the last page of this plan needs to be revised. It does not include the revisions for this page, which were proposed in the versions submitted in the DUSA letters of December 11, 2008 and May 26, 2009. Please update and complete.

Denison Response: The list of Attachments has been revised in the version attached to this letter. The document has undergone multiple revisions since the letters of December 11, 2008 and May 26, 2009 cited in DRC's comment. The list of Attachments has been updated to be consistent with the Attachments in the current version of the document.

> B. The actual attachments need to be included with the proposed plan. This would be a change to the attachments included with the current approved version, Cell 4A O&M Plan 3110 Revision Denison 1.4. Please submit.

Denison Response: The attachments have been provided in the version attached to this letter.

Please also note that by this letter, Denison is providing 10 day notification to UDEQ of a 48 hour hydrostatic test of the steel tank containment of the EDP (Beginning November 24, 2010).

Please contact the undersigned if you have any questions or require any further information.

Yours very truly,

DENISON MINES (USA) CORP.

JoAnn Tischler

Jo Ann Tischler
Director, Compliance and Permitting

cc: David C. Frydenlund
Harold R. Roberts
David E. Turk
K. Weinel
Central files

ATTACHMENT 2
PROPOSED REVISON 2.0 TO BAT OPERATIONS AND MANAGEMENT PLAN
RED-LINED AND CLEAN VERSIONS

Cell 4A and 4B BAT Monitoring, Operations and Maintenance Plan.

Introduction

Construction of Cell 4A was authorized by the Utah Department of Environmental Quality, Division of Radiation Control ("DRC) on June 25, 2007. The construction authorization provided that Cell 4A shall not be in operation until after a BAT Monitoring, Operations and Maintenance Plan is submitted for Executive Secretary review and approval. The Plan shall include requirements in Part I.F.3 of the Groundwater Discharge Permit No. UGW370004 ("GWDP") and ful~~l~~-fill the requirements of Parts I.D.6, I.E.8, and I.F.~~8~~ 9 of the GWDP.

Construction of Cell 4B was authorized by DRC on June 21, 2010. The construction authorization provided that Cell 4B shall not be in operation until after a BAT Monitoring, Operations and Maintenance Plan is submitted for Executive Secretary review and approval. The Plan shall include requirements in Part I.F.3 of the GWDP and fulfill the requirements of Parts I.D.12, I.E.12, and I.F.9 of the GWDP

Cell Design

Tailings Cell 4A consists of the following major elements:

a) Dikes – consisting of earthen embankments of compacted soil, constructed between 1989-1990, and composed of four dikes, each including a 15-foot wide road at the top (minimum). On the north, east, and south margins these dikes have slopes of 3H to 1V. The west dike has an interior slope of 2H to 1V. Width of these dikes varies; each has a minimum crest width of at least 15 feet to support an access road. Base width also varies from 89-feet on the east dike (with no exterior embankment), to 211-feet at the west dike.

b) Foundation – including subgrade soils over bedrock materials. Foundation preparation included excavation and removal of contaminated soils, compaction of imported soils to a maximum dry density of 90%. Floor of Cell 4A has an average slope of 1% that grades from the northeast to the southwest corners.

c) Tailings Capacity – the floor and inside slopes of Cell 4A encompass about 40 acres and have a maximum capacity of about 1.6 million cubic yards of tailings material storage (as measured below the required 3-foot freeboard).

d) Liner and Leak Detection Systems – including the following layers, in descending order:

   1) Primary Flexible Membrane Liner (FML) – consisting of impermeable 60

mil high density polyethylene (HDPE) membrane that extends across both the entire cell floor and the inside side-slopes, and is anchored in a trench at the top of the dikes on all four sides. The primary FML will be in direct physical contact with the tailings material over most of the Cell 4A floor area. In other locations, the primary FML will be in contact with the slimes drain collection system (discussed below).

2) Leak Detection System – includes a permeable HDPE geonet fabric that extends across the entire area under the primary FML in Cell 4A, and drains to a leak detection sump in the southwest corner. Access to the leak detection sump is via an 18-inch inside diameter (ID) PVC pipe placed down the inside slope, located between the primary and secondary FML liners. At its base this pipe will be surrounded with a gravel filter set in the leak detection sump, having dimensions of 10 feet by 10 feet by 2 feet deep. In turn, the gravel filter layer will be enclosed in an envelope of geotextile fabric. The purpose of both the gravel and geotextile fabric is to serve as a filter.

3) Secondary FML – consisting of an impermeable 60-mil HDPE membrane found immediately below the leak detection geonet. Said FML also extends across the entire Cell 4A floor, up the inside side-slopes and is also anchored in a trench at the top of all four dikes.

4) Geosynthetic Clay Liner – consisting of a manufactured geosynthetic clay liner (GCL) composed of 0.2-inch of low permeability bentonite clay centered and stitched between two- layers of geotextile. Prior to disposal of any wastewater in Cell 4A, the Permittee shall demonstrate that the GCL has achieved a moisture content of at least 50% by weight. This item is a revised requirement per DRC letter to DUSA dated September 28, 2007

e) Slimes Drain Collection System – including a two-part system of strip drains and perforated collection pipes both installed immediately above the primary FML, as follows:

1) Horizontal Strip Drain System – is installed in a herringbone pattern across the floor of Cell 4A that drain to a "backbone" of perforated collection pipes. These strip drains are made of a prefabricated two-part geo-composite drain material (solid polymer drainage strip) core surrounded by an envelope of non-woven geotextile filter fabric. The strip drains are placed immediately over the primary FML on 50-foot centers, where they conduct fluids downgradient in a southwesterly direction to a physical and hydraulic connection to the perforated slimes drain collection pipe. A series of continuous sand bags, filled with filter sand cover the strip drains. The sand bags are composed of a woven polyester fabric filled with well graded filter sand to protect the drainage system from plugging.

2) Horizontal Slimes Drain Collection Pipe System – includes a "backbone" piping system of 4-inch ID Schedule 40 perforated PVC slimes drain collection (SDC) pipe found at the downgradient end of the strip drain lines. This pipe is in turn overlain by a berm of gravel that runs the entire diagonal length of the cell, surrounded by a geotextile fabric cushion in

immediate contact with the primary FML. In turn, the gravel is overlain by a layer of non-woven geotextile to serve as an additional filter material. This perforated collection pipe serves as the "backbone" to the slimes drain system and runs from the far northeast corner downhill to the far southwest corner of Cell 4A where it joins the slimes drain access pipe.

3) Slimes Drain Access Pipe – consisting of an 18-inch ID Schedule 40 PVC pipe placed down the inside slope of Cell 4A at the southwest corner, above the primary FML. Said pipe then merges with another horizontal pipe of equivalent diameter and material, where it is enveloped by gravel and nonwoven geotextile that serves as a cushion to protect the primary FML. A reducer connects the horizontal 18-inch pipe with the 4-inch SDC pipe. At some future time, a pump will be set in this 18-inch pipe and used to remove tailings wastewaters for purposes of de-watering the tailings cell.

f) Dike Splash Pads – A minimum of eight (8) 240-foot wide splash pads are installed on the interior dike slopes to protect the primary FML from abrasion and scouring by tailings slurry. These pads ~~will~~ consist of an extra layer of 60 mil HDPE membrane that ~~will be~~is placed down the inside slope of Cell 4A, from the top of the dike and down the inside slope. The pads ~~on the north side of the Cell will~~ extend to a point 5-feet beyond the toe of the slope to protect the liner bottom during initial startup of the Cell. The exact location of the splash pads is detailed on the As-Built Plans and Specifications.

g) Rub Protection Sheets – In addition to the splash pads described in f) above, rub sheets are installed beneath all piping entering or exiting Cell 4A that is not located directly on the splash pads.

h) Emergency Spillway – a concrete lined spillway constructed near the western corner of the north dike to allow emergency runoff from Cell 3 into Cell 4A. This spillway will be limited to a 6-inch reinforced concrete slab set directly over the primary FML in a 4-foot deep trapezoidal channel. A second spillway has been constructed in the southwest corner of Cell 4A to allow emergency runoff from Cell 4A into Cell 4B. ~~No other spillway or overflow structure will be constructed at Cell 4A.~~ All stormwater runoff and tailings wastewaters not retained in Cells 32 and 4A3, will be managed and contained in Cell 4BA, including the Probable Maximum Precipitation and flood event.

Tailings Cell 4B consists of the following major elements:

a) Dikes – consisting of a newly-constructed dikes on the south and ~~West~~side of the cell, ~~each including~~ with a 2015-foot wide road at the top (minimum) to support an access road. The grading plan for the Cell 4B excavation includes interior slopes of 2H to 1V. The exterior slopes of the southern and western dikes will have the typical slopes of 3H to 1V. Limited portions of the Cell 4B interior sideslopes in the northwest corner and southeast corner of the cell (where the slimes drain and leak detection

sump will be located) will also have a slope of 3H to 1V. The base width of the southern dikes varies from approximately 92100 feet at the western end to approximately 190 feet at the eastern end of the dike, with no exterior embankment present on any other side of the cell.

b) Foundation – including subgrade soils over bedrock materials. Foundation preparation included 6-inch over excavation of rock and placement andexcavation and removal of contaminated soils, compaction of imported soils to a maximum dry density of 90%. at a moisture content between +3% and -3% of optimum moisture content, as determined by ASTM D-1557. The floor of Cell 4B has an average slope of 1% that grades from the northwest corner to the southeast corner..

c) Tailings Capacity – the floor and inside slopes of Cell 4B encompass about 445 acres and the cell will have a water surface area of 40 acres and a maximum capacity of about 1.9 million cubic yards of tailings material storage (as measured below the required 3-foot freeboard).

d) Liner and Leak Detection Systems – including the following layers, in descending order:

1) Primary Flexible Membrane Liner (FML) – consisting of 60 mil high density polyethylene (HDPE) membrane that extends across both the entire cell floor and the inside side-slopes, and is anchored in a trench at the top of the dikes on all four sides. The primary FML will be in direct physical contact with the tailings material over most of the Cell 4B floor area. In other locations, the primary FML will be in contact with the slimes drain collection system (discussed below).

2) Leak Detection System – includes a permeable HDPE geonet fabric that extends across the entire area under the primary FML in Cell 4B, and drains to a leak detection sump in the southeastwest corner. Access to the leak detection sump is via an 18-inch inside diameter (ID) PVC pipe placed down the inside slope, located between the primary and secondary FML liners. At its base this pipe will be surrounded with a gravel filter set in the leak detection sump, having dimensions of 10 feet by 10 feet by 2 feet deep. In turn, the gravel filter layer will be enclosed in an envelope of geotextile fabric. The purpose of both the gravel and geotextile fabric is to serve as a filter.

3) Secondary FML – consisting of a 60-mil HDPE membrane found immediately below the leak detection geonet. Said FML also extends across the entire Cell 4B floor, up the inside side-slopes and is also anchored in a trench at the top of all four dikes.

4) Geosynthetic Clay Liner – consisting of a manufactured geosynthetic clay liner (GCL) composed of 0.2-inch of low permeability bentonite clay centered and stitched between two layers of geotextile. Prior to disposal of any wastewater in Cell 4B, the Permittee shall demonstrate that the

GCL has achieved a moisture content of at least 50% by weight.

e) Slimes Drain Collection System – including a two-part system of strip drains and perforated collection pipes both installed immediately above the primary FML, as follows:

1) Horizontal Strip Drain System – is installed in a herringbone pattern across the floor of Cell 4B that drain to a "backbone" of perforated collection pipes. These strip drains are made of a prefabricated two-part geo-composite drain material (solid polymer drainage strip) core surrounded by an envelope of non-woven geotextile filter fabric. The strip drains are placed immediately over the primary FML on 50-foot centers, where they conduct fluids downgradient in a southeaswesterly direction to a physical and hydraulic connection to the perforated slimes drain collection pipe. A series of continuous sand bags, filled with filter sand cover the strip drains. The sand bags are composed of a woven polyester fabric filled with well graded filter sand to protect the drainage system from plugging.

2) Horizontal Slimes Drain Collection Pipe System – includes a "backbone" piping system of 4-inch ID Schedule 40 perforated PVC slimes drain collection (SDC) pipe found at the downgradient end of the strip drain lines. This pipe is in turn overlain by a berm of gravel that runs the entire diagonal length of the cell, surrounded by a geotextile fabric cushion in immediate contact with the primary FML. In turn, the gravel is overlain by a layer of non-woven geotextile to serve as an additional filter material. This perforated collection pipe serves as the "backbone" to the slimes drain system and runs from the far northwest corner downhill to the far southeast corner of Cell 4B where it joins the slimes drain access pipe.

3) Slimes Drain Access Pipe – consisting of an 18-inch ID Schedule 40 PVC pipe placed down the inside slope of Cell 4B at the southeast corner, above the primary FML. Said pipe then merges with another horizontal pipe of equivalent diameter and material, where it is enveloped by gravel and nonwoven geotextile that serves as a cushion to protect the primary FML. A reducer connects the horizontal 18-inch pipe with the 4-inch SDC pipe. At some future time, a pump will be set in this 18-inch pipe and used to remove tailings wastewaters for purposes of de-watering the tailings cell.

f) Cell 4B North and East Dike Splash Pads - Nine 20-foot-wide splash pads will be constructed on the north and east dikes to protect the primary FML from abrasion and scouring by tailings slurry. These pads will consist of an extra layer of textured, 60 mil HDPE membrane that will be installed in the anchor trench and placed down the inside slope of Cell 4B, from the top of the dike, under the inlet pipe, and down the inside slope to a point at least 5 feet onto the Cell 4B floor beyond the toe of the slope.

g) Rub Protection Sheets – In addition to the splash pads described in f)

above, rub sheets are installed beneath all piping entering or exiting Cell 4B that is not located directly on the splash pads.

h) Emergency Spillway – a concrete lined spillway constructed near the westernsouthern corner of the northeast dike to allow emergency runoff from Cell 4A3 into Cell 4B. This spillway will be limited to a 6-inch reinforced concrete slab, with a welded-wire fabric installed within its midsection, set atop a cushion geotextile placed directly over the primary FML in a 4-foot deep trapezoidal channel. A 100 foot wide, 60 mil HDPE geomembrane spaslsplash pad will be installed beneath the emergency spillway. No other spillway or overflow structure will be constructed at Cell 4B. All stormwater runoff and tailings wastewaters not retained in Cells 2, 3 and 4A, will be managed and contained in Cell 4AB, including the Probable Maximum Precipitation and flood event.

Cell Operation

Solution Discharge to Cell 4A

Cell 4A will initially be used for storage and evaporation of process solutions from the Mill operations. These process solutions will be from the uranium/vanadium solvent extraction circuit, or transferred from Cell 1 evaporation pond or the free water surface from Cell 3, or transferred from Cell 2 tailings dewatering operations. The solution will be pumped to Cell 4A through 6 inch or 8 inch diameter HDPE pipelines. The initial solution discharge will be in the southwest corner of the Cell. The discharge pipe will be routed down the Splash Pad provided in the corner of the Cell to protect the pipeline running from the solution reclaim barge. The solution will be discharged in the bottom of the Cell, away from any sand bags or other installation on the top of the FML. Building the solution pool from the low end of the Cell will allow the solution pool to gradually rise around the slimes drain strips, eliminating any damage to the strip drains or the sand bag cover due to solution flowing past the drainage strips. The solution will eventually be discharged along the dike between Cell 3 and Cell 4A, utilizing the Splash Pads described above. The subsequent discharge of process solutions will be near the floor of the pond, through a discharge header designed to discharge through multiple points, thereby reducing the potential to damage the Splash Pads or the Slimes Drain system. At no time, subsequent to initial filling, will the solution be discharged into less than 2 feet of solution. As the cell begins to fill with solution the discharge point will be pulled back up the Splash Pad and allowed to continue discharging at or near the solution level.

Solution Discharge to Cell 4B

Cell 4B will initially be used for storage and evaporation of process solutions from the Mill operations. These process solutions will be from the uranium/vanadium solvent extraction circuit, or transferred from Cell 1 evaporation pond or the free water surface from Cell 3 or Cell 4A, or transferred

from Cell 2 dewatering operations. The solution will be pumped to Cell 4B through 6 inch or 8 inch diameter HDPE pipelines. The initial solution discharge will be in the southeast corner of the Cell. The discharge pipe will be routed down the Splash Pad provided in the southeast corner of the Cell at the spillway to protect the primary FML ~~pipeline running from the solution reclaim barge~~. The solution will be discharged in the bottom of the Cell, away from any sand bags or other installation on the top of the FML. Building the solution pool from the low end of the Cell will allow the solution pool to gradually rise around the slimes drain strips, eliminating any damage to the strip drains or the sand bag cover due to solution flowing past the drainage strips. The solution will eventually be discharged along the dike between Cell 3 and Cell 4B, utilizing the Splash Pads described above. The subsequent discharge of process solutions will be near the floor of the pond, through a discharge header designed to discharge through multiple points, thereby reducing the potential to damage the Splash Pads or the Slimes Drain system. At no time, subsequent to initial filling, will the solution be discharged into less than 2 feet of solution. As the cell begins to fill with solution the discharge point will be pulled back up the Splash Pad and allowed to continue discharging at or near the solution level.

Initial Solids Discharge into Cell 4A

Once Cell 4A is needed for storage for tailings solids the slurry discharge from No. 8 CCD thickener will be pumped to the cell through 6 inch or 8 inch diameter HDPE pipelines. The pipelines will be routed along the dike between Cell 3 and Cell 4A, with discharge valves and drop pipes extending down the Splash Pads to the solution level. One or all of the discharge points can be used depending on operational considerations. Solids will settle into a cone, or mound, of material under the solution level, with the courser fraction settling out closer to the discharge point. The initial discharge locations are shown on Figure 1A. Figure 2A illustrates the general location of the solution and slurry discharge pipelines and control valve locations. The valves are 6" or 8" stainless steel knife-gate valves. The initial discharge of slurry will be at or near the toe of the Cell slope and then gradually moved up the slope, continuing to discharge at or near the water surface. This is illustrated in Section A-A on Figure 2A. Because of the depth of Cell 4A, each of the discharge points will be utilized for an extended period of time before the cone of material is above the maximum level of the solution. The discharge location will then be moved further to the interior of the cell allowing for additional volume of solids to be placed under the solution level. The solution level in the cell will vary depending on the operating schedule of the Mill and the seasonal evaporation rates. The tailings slurry will not be allowed to discharge directly on to the Splash Pads, in order to further protect the FML. The tailings slurry will discharge directly in to the solution contained in the Cell, onto an additional protective sheet, or on to previously deposited tailings sand.

Initial Solids Discharge into Cell 4B

Once Cell 4B is needed for storage for tailings solids the slurry discharge from No. 8 CCD thickener will be pumped to the cell through 6 inch or 8 inch diameter HDPE pipelines. The pipelines will be routed along the dike between Cell 3 and Cell 4B, with discharge valves and drop pipes extending down the Splash Pads to the solution level. One or all of the discharge points can be used depending on operational considerations. Solids will settle into a cone, or mound, of material under the solution level, with the courser fraction settling out closer to the discharge point. The initial discharge locations are shown on Figure 1B. Figure 2B illustrates the general location of the solution and slurry discharge pipelines and control valve locations. The valves are 6" or 8" stainless steel knife-gate valves. The initial discharge of slurry will be at or near the toe of the Cell slope and then gradually moved up the slope, continuing to discharge at or near the water surface. This is illustrated in Section A-A on Figure 2B. Because of the depth of Cell 4B, each of the discharge points will be utilized for an extended period of time before the cone of material is above the maximum level of the solution. The discharge location will then be moved further to the interior of the cell allowing for additional volume of solids to be placed under the solution level. The solution level in the cell will vary depending on the operating schedule of the Mill and the seasonal evaporation rates. The tailings slurry will not be allowed to discharge directly on to the Splash Pads, in order to further protect the FML. The tailings slurry will discharge directly in to the solution contained in the Cell, onto an additional protective sheet, or on to previously deposited tailings sand.

Equipment Access to Cell 4A and Cell 4B

Access will be restricted to the interior portion of the cells due to the potential to damage the flexible membrane liners. Only low pressure rubber tired all terrain vehicles or foot traffic will be allowed on the flexible membrane liners. Personnel are also cautioned on the potential damage to the flexible membrane liners through the use and handling of hand tools and maintenance materials.

Reclaim Water System at Cell 4A

A pump barge and solution recovery system ~~will be installed~~is operating in the southwest corner of the cell to pump solution from the cell for water balance purposes or for re-use in the Mill process. Figure 3A illustrates the routing of the solution return pipeline and the location of the pump barge. The pump barge will be constructed and maintained to ensure that the flexible membrane liner is not damaged during the initial filling of the cell or subsequent operation and maintenance activities. The condition of the pump barge and access walkway will be noted during the weekly Cell inspections.

Reclaim Water System at Cell 4B

A pump barge and solution recovery system will be installed in the southeast corner of the cell to pump solution from the cell for water balance purposes or for re-use in the Mill process. Figure 3B illustrates the routing of the solution return pipeline and the location of the pump barge. The pump barge will be constructed and maintained to ensure that the flexible membrane liner is not damaged during the initial filling of the cell or subsequent operation and maintenance activities. The condition of the pump barge and access walkway will be noted during the weekly Cell inspections.

Interim Solids Discharge to Cell 4A

Figure 4A illustrates the progression of the slurry discharge points around the north and east sides of Cell 4A. Once the tailings solids have been deposited along the north and east sides of the Cell, the discharges points will subsequently be moved to the sand beaches, which will eliminate any potential for damage to the liner system.

Interim Solids Discharge to Cell 4B

Figure 4B illustrates the progression of the slurry discharge points around the north and east sides of Cell 4B. Once the tailings solids have been deposited along the north and east sides of the Cell, the discharges points will subsequently be moved to the sand beaches, which will eliminate any potential for damage to the liner system.

Liner Maintenance and QA/QC for Cell 4A

Any construction defects or operational damage discovered during observation of the flexible membrane liner will be repaired, tested and documented according to the procedures detailed in the approved **Revised Ceonstruction Quality Assurance Plan for the Construction of the Cell 4A Lining System, May 2007, by GeoSyntec Consultants.**

Liner Maintenance and QA/QC for Cell 4B

Any construction defects or operational damage discovered during observation of the flexible membrane liner will be repaired, tested and documented according to the procedures detailed in the approved ~~Revised~~ **Construction Quality Assurance Plan for the Construction of the Cell 4BA Lining System, ~~May~~October 200~~7~~, by Geo~~s~~Syntec Consultants.**

BAT Performance Standards for Tailings Cell 4A and 4B

DUSA will operate and maintain Tailings Cell 4A and 4B so as to prevent release of wastewater to groundwater and the environment in accordance with this BAT Monitoring Operations and Maintenance Plan, pursuant to Part I.H.19 8 of the GWDP. These performance standards shall include:

1) Leak Detection System Pumping and Monitoring Equipment – the leak detection system pumping and monitoring equipment in each cell, includes a submersible pump, pump controller, water level indicator (head monitoring), and flow meter with volume totalizer. The pump controller is set to maintain the maximum level in the leak detection system in each cell at no more than 1 foot above the lowest level of the secondary flexible membrane, not including the sump (i.e. no more than 3 feet above the bottom of the sump). A second leak detection pump with pressure transducer, flow meter, and manufacturer recommended spare parts for the pump controller and water level data collector is maintained in the Mill warehouse to ensure that the pump and controller can be replaced and operational within 24 hours of detection of a failure of the pumping system. The root cause of the equipment failure will be documented in a report to Mill management with recommendations for prevention of a re-occurrence.

2) Maximum Allowable Head – the Permittee shall measure the fluid head above the lowest point on the secondary flexible membrane in each cell by the use of procedures and equipment specified in the **White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Mmonitoring Plan, 3/07 10/10 Revision: Denison-10.23,** or the currently approved DMT Plan. Under no circumstance shall fluid head in the leak detection system sump exceed a 1-foot level above the lowest point in the lower flexible membrane liner, not including the sump (i.e. no more than 3 feet above the bottom of the sump).

3) Maximum Allowable Daily LDS Flow Rates - the Permittee shall measure the volume of all fluids pumped from the each LDS on a weekly basis, and use that information to calculate an average volume pumped per day. Under no circumstances shall the daily LDS flow volume exceed 24,160 gallons/day for Cell 4A or 26,145 gallons/day for Cell 4B. The maximum daily LDS flow volume will be compared against the measured cell solution levels detailed on the attached Table 1A or 1B for Cells 4A or 4B, respectively, to determine the maximum daily allowable LDS flow volume for varying head conditions in the cell. -

4) 3-foot Minimum Vertical Freeboard Criteria – the Permittee shall operate and maintain wastewater levels to provide a 3-foot Minimum of vertical freeboard in Tailings Cell 4A and Cell 4B. Said measurements shall be made to the nearest 0.1 foot.

5) Slimes Drain Recovery Head Monitoring – immediately after the Permittee initiates pumping conditions in the Tailings Cell 4A or Cell 4B slimes drain system, monthly recovery head tests and fluid level measurements will be made in accordance with a plan approved by the DRC Executive Secretary. The slimes drain system ~~will~~ pumping and monitoring equipment, includes a submersible pump, pump controller, water level indicator (head monitoring), and flow meter with volume totalizer.

Routine Maintenance and Monitoring

Trained personnel inspect the White Mesa tailings system on a once per day basis. Any abnormal occurrences or changes in the system will be immediately reported to Mill management and maintenance personnel. The inspectors are trained to look for events involving the routine placement of tailings material as well as events that could affect the integrity of the tailings cell dikes or lining systems. The daily inspection reports are summarized on a monthly basis and reviewed and signed by the Mill Manager.

Solution Elevation

Measurements of solution elevation in Cell 4A and Cell 4B are to be taken by survey on a weekly basis, and measurements of the beach area in Cell 4A and Cell 4B with the highest elevation are to be taken by survey on a monthly basis, by the use of the procedures and equipment specified in the latest approved edition of the DMT Plan. ~~as follows:~~

~~(i) The survey will be performed by the Mill's Radiation Safety Officer or designee (the "Surveyor") with the assistance of another Mill worker (the "Assistant");~~

~~(ii) The survey will be performed using a survey instrument (the "Survey Instrument") accurate to 0.01 feet, such as a Sokkai No. B21, or equivalent, together with a survey rod (the "Survey Rod") having a visible scale in 0.01 foot increments;~~

~~(iii) The reference Points (the "Reference Points") for Cells 4A are known points established by Registered Land Surveyor. For Cell 4A, the Reference Point is a piece of metal rebar located on the dike between Cell 3 and Cell 4A. The elevation at the top of this piece of rebar (the Reference Point Elevation for Cell 4A is at 5,607.83 feet above mean sea level ("amsl");~~

~~(iv) The Surveyor will set up the Survey Instrument in a location where both the applicable Reference Point and pond surface are visible.~~

~~For Cell 4A, this is typically on the road between Cell 3 and Cell4A, approximately 100 feet east of the Cell 4A Reference Point;~~

~~(v) Once in location, the Surveyor will ensure that the Survey Instrument is level by centering the bubble in the level gauge on the Survey Instrument;~~

~~(vi) The Assistant will place the Survey Rod vertically on the Cell 4A Reference Point. The Assistant will ensure that the Survey Rod is vertical by gently rocking the rod back and forth until the Surveyor has established a level reading;~~

~~(vii) The Surveyor will focus the cross hairs of the Survey Instrument on the scale on the Survey Rod, and record the number (the "Reference Point Reading"), which represents the number of feet the Survey Instrument is reading above the Reference Point;~~

~~The Assistant will then move to a designated location where the Survey Rod can be placed on the surface of the main solution pond in Cell 4A. The designated location for Cell 4A is in the northeast corner of the Cell where the side slope allows for safe access to the solution surface.~~

~~The approximate coordinate locations for the measuring points for Cell 4A is 2,579,360 east, and 320,300 north. These coordinate locations may vary somewhat depending on solution elevations in the Cell.~~

~~The Assistant will hold the Survey Rod vertically with one end of the Survey Rod just touching the pond surface. The Assistant will ensure that the Survey Rod is vertical by gently rocking the rod back and forth until the Surveyor has established a level reading;~~

~~(viii) The Surveyor will focus the cross hairs of the Survey Instrument on the scale on the Survey Rod, and record the number (the "Pond Surface Reading"), which represents the number of feet the Survey Instrument is reading above the pond surface level.~~

~~The Surveyor will calculate the elevation of the pond surface in feet amsl by adding the Reference Point Reading for the Cell and subtracting the Pond Surface Reading for the Cell, and will record the number accurate to 0.01 feet.~~

Leak Detection System

The Leak ~~D~~detection ~~S~~system in Cell 4A and Cell 4B is monitored on a continuous basis by use of a pressure transducer that feeds water level information to an electronic data collector. The water levels are measured every hour and the information is stored for later retrieval. The water levels are measured to the nearest 0.10 inch. The data collector is currently programmed to store 7 days of water level information. The

number of days of stored data can be increased beyond 7 days if needed. The water level data is downloaded to a laptop computer on a weekly basis and incorporated into the Mill's environmental monitoring data base, and into the files for weekly inspection reports of the tailings cell leak detection systems. Within 24 hours after collection of the weekly water level data, the information will be evaluated to ensure that: 1) the water level in the Cell 4A and Cell 4B leak detection sumps did not exceed the allowable level (5556.14 feet amsl in the Cell 4A LDS sump and 5558.5 feet amsl in the Cell 4B sump), and 2) the average daily flow rate from the LDS did not exceed the maximum daily allowable flow rate at any time during the reporting period. For Cell 4A and Cell 4B, under no circumstance shall fluid head in the leak detection system sump exceed a 1-foot level above the lowest point in the lower flexible membrane liner, not including the sump (i.e. no more than 3 feet above the bottom of the sump). To determine the Maximum Allowable Daily LDS Flow Rates in the Cell 4A and Cell 4B leak detection system, the total volume of all fluids pumped from the LDS of each cell on a weekly basis shall be recovered from the data collector, and that information will be used to calculate an average volume pumped per day for each cell. Under no circumstances shall the daily LDS flow volume exceed 24,160 gallons/day from Cell 4A or 26,145 gallons/day from Cell 4B. The maximum daily LDS flow volume will be compared against the measured cell solution levels detailed on the attached Tables 1A and 1B, to determine the maximum daily allowable LDS flow volume for varying head conditions in Cell 4A and Cell 4B. Any abnormal or out of compliance water levels must be immediately reported to Mill management. The data collector on each cell is also equipped with an audible alarm that sounds if the water level in the leak detection sump exceeds the allowable level (5556.14 feet amsl in the Cell 4A LDS sump and 5558.5 feet amsl in the Cell 4B sump). The current water level is displayed at all times on ~~the~~ each data collector and available for recording on the daily inspection form. ~~The~~ Each leak detection system is also equipped with a leak detection pump, EPS Model # 25S05-3 stainless steel, or equal. ~~The~~ Each pump is capable of pumping in excess of 25 gallons per minute at a total dynamic head of 50 feet. ~~The~~ Each pump has a 1.5 inch diameter discharge, and operates on 460 volt 3 phase power. ~~The~~ Each pump is equipped with a pressure sensing transducer to start the pump once the level of solution in the leak detection sump is approximately 2.25 feet (elevation 5555.89 in the Cell 4A LDS sump and 5557.69 feet amsl in the Cell 4B sump) above the lowest level of the leak detection sump (9 inches above the lowest point on the lower flexible membrane liner, to ensure the allowable 1.0 foot (5556.14 feet amsl in the Cell 4A LDS sump and 5558.5 feet amsl in the Cell 4B sump) above the lowest point on the lower flexible membrane liner is not exceeded). The attached Figures 6A and 6B (Cell 4A and 4B, respectively), Leak Detection Sump Operating Elevations, illustrates the

relationship between the sump elevation, the lowest point on the lower flexible membrane liner and the pump-on solution elevation for the leak detection pump. The pump also has manual start and stop controls. The pump will operate until the solution is drawn down to the lowest level possible, expected to be approximately 4 inches above the lowest level of the sump (approximate elevation 5554.0 and 5555.77 ft amsl for Cells 4A and 4B, respectively). The pump discharge is equipped with a 1.5 inch flow meter, EPS Paddle Wheel Flowsensor, or equal, that reads the pump discharge in gallons per minute, and records total gallons pumped. The flow rate and total gallons is are recorded by the Inspector on the weekly inspection form. The leak detection pump is installed in the horizontal section of the 18 inch, horizontal, perforated section of the PVC collection pipe. The distance from the top flange face, at the collection pipe invert, to the centerline of the 22.5 degree elbow is 133.4 feet in Cell 4A and 135.6 feet in Cell 4B, and the vertical height is approximately 45 feet in Cell 4A and approximately XX42.5 feet in Cell 4B. The pump is installed at least 2 feet beyond the centerline of the elbow. The bottom of the pump will be installed in the leak detection sump at least 135.4 feet in Cell 4A and 137.6 feet in Cell 4B or more from the top of the flange invert. A pressure transducer installed within the pump continuously measures the solution head and is programmed to start and stop the pump within the ranges specified above. The attached Figures 5A and 5B5 (Cell 4A and 4B, respectively). illustrates the general configuration of the pump installation.

A second spare leak detection pump with pressure transducer, flow meter, and manufacturer recommended spare parts for the pump controller and water level data collector will be maintained in the Mill warehouse to ensure that the pump and controller on either cell can be replaced and operational within 24 hours of detection of a failure of the pumping system. The root cause of the equipment failure will be documented in a report to Mill management with recommendations for prevention of a re-occurrence.

Slimes Drain System

(i) A pump, Tsurumi Model # KTZ23.7-62 stainless steel, or equal, will be placed inside of the slimes drain access riser pipe of each cell and a near as possible to the bottom of the slimes drain sump. The bottom of the slimes drain sump in Cell 4A and Cell 4B are 38 and 35.9 in both Ceell 4A and Cell 4B is 38 feet below a water level measuring point, respectively, at the centerline of the slimes drain access pipe, near the ground surface level. The eEach pump discharge will be equipped with a

2 inch flow meter, E/H Model #33, or equal, that reads the pump discharge in gallons per minute, and records total gallons pumped. The flow rate and total gallons will be recorded by the Inspector on the weekly inspection form.

(ii) The slimes drain pumps will be on adjustable probes that allows the pumps to be set to start and stop on intervals determined by Mill management.

(iii) The Cell 4A and Cell 4B slimes drain pumps will be checked weekly to observe that it they are is operating and that the level probes are set properly, which is noted on the Weekly Tailings Inspection Form. If at any time either pump is observed to be not working properly, it will be repaired or replaced within 15 days;

(iv) Depth to wastewater in the Cell 4A and Cell 4B slimes drain access riser pipes shall be monitored and recorded weekly to determine maximum and minimum fluid head before and after a pumping cycle, respectively. All head measurements must be made from the same measuring point, to the nearest 0.01 foot. The results will be recorded as depth-in-pipe measurements on the Weekly Tailings Inspection Form;

(v) On a monthly basis, the each slimes drain pump will be turned off and the wastewater in the slimes drain access pipe will be allowed to stabilize for at least 90 hours. Once the water level has stabilized (based on no change in water level for three (3) successive readings taken no less than one (1) hour apart) the water level of the wastewater will be measured and recorded as a depth-in-pipe measurement on the Monthly Inspection Data form, by measuring the depth to water below the water level measuring point on the slimes drain access pipe;

The slimes drain pumps for each cell will not be operated until Mill management has determined that no additional process solutions will be discharged to Cell 4Athat cell, and the cCell has been partially covered with the first phase of the reclamation cap. The long term effectiveness and performance of the slimes drain dewatering will be evaluated on the same basis as the currently operating slimes drain system for Cell 2.

Tailings Emergencies

Inspectors will notify the Radiation Safety Officer and/or Mill management immediately if, during their inspection, they discover that an abnormal condition exists or an event has occurred that could cause a tailings emergency. Until relieved by the Environmental or Radiation Technician or Radiation Safety Officer, inspectors will have the authority to direct resources during tailings emergencies.

Any major catastrophic events or conditions pertaining to the tailings area should be reported immediately to the Mill Manager or the Radiation Safety Officer, one of whom

will notify Corporate Management. If dam failure occurs, notify your supervisor and the Mill Manager immediately. The Mill Manager will then notify Corporate Management, MSHA (303-231-5465), and the State of Utah, Division of Dam Safety (801-538-7200).

Cell 4A Solution Freeboard Calculation

The maximum tailings cell pond wastewater levels in Cells 1-I, Cell 2, Cell 3, Cell 4A, and Cell 4BA are regulated by condition 10.3 of the White Mesa Mill 11e.(2) Materials License.

Condition 10.3 states that "The **Freeboard limits for Cells 1 1, and 3, shall be 5615.4 feet above mean sea level, and the freeboard limit for Cell 4A and Cell 4B shall be set periodically in accordance with the procedures set out in Section 3.0 to Appendix E of the previously approved NRC license application, including the October 13, 1999 revisions made to the January 10, 1990 Drainage Report. The freeboard limit for Cell 3 shall be recalculated annually in accordance with the procedures set in the October 13, 1999 revision to the Drainage Reportannually in accordance with the procedures set out in the latest edition of the White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Monitoring Plan, which is included as a section of the Mill's Environmental Protection Manual. Said calculations shall be submitted as part of the Annual Technical Evaluation Report. Said report shall be submitted for Executive Secretary approval no later than November 15 of each year.**"

The freeboard limits set out in Section 6.3 of the DMT Plan are intended to capture 1990 Drainage Report uses the Local 6-hour Probable Maximum Precipitation (PMP) event, which was determined in the January 10, 1990 Drainage Report for calculating the freeboard requirements for each of the tailings cells. The PMP for the White Mesa site is to be 10 inches.

Based on the PMP storm event, the freeboard requirement for Cell 1 is a maximum operating water level of 5615.4 feet above mean sea level (amsl). The Cell 1 freeboard limit is not affected by operations or conditions in Cells 2, 3, 4A, or 4BA.

Cells 2 and 3 haves no freeboard limit because those Cells is 99%are full or near full of tailings solids. Cell 4A has no freeboard limit because it is assumed that all precipitation falling on Cell 4A will overflow to Cell 4B. and Aall precipitation falling on Cell 2, 3, and 4A and the adjacent drainage areas must be contained in Cell 4B3. The flood volume from the PMP event over the Cell 2, and Cell 3, and Cell 4A pond areas, plus the adjacent drainage areas, which must be contained in Cell 4B, is 123159.4 acre-feet of water. According to the freeboard calculation procedures, this volume currently must be contained in the existing 24-acre pool area in Cell 3. This results in a maximum operating water level in Cell 3 of 5601.6 feet amsl.

~~The Cell 4A design includes a concrete spillway between Cell 3 and Cell 4A with the invert elevation 4 feet below the top of the Cell 3 dike, at an elevation of 5604.5 feet amsl. Once Cell 4A is placed in operation, the cell would be available for emergency overflows from Cell 3, but as long as the freeboard limit in Cell 3 is maintained at 5601.6 it is extremely unlikely that Cell 4A would see any overflow water from Cell 3 unless the full PMP event were to occur. Should Cell 3 receive the full PMP volume of 123.4 acre feet of water, approximately 62 acre feet of that volume would flow through the spillway into Cell 4A.~~

The flood volume from the PMP event over the Cell 4A area is 36 acre-feet of water (40 acres, plus the adjacent drainage area of 3.25 acres, times the PMP of 10 inches). For the purposes of establishing the freeboard in Cell 4B, it is assumed Cell 4A has no freeboard limit and all of the flood volume from the PMP event will be contained in Cell 4B. The flood volume from the PMP event over the Cell 4B area is ~~36~~ 38.1 acre-feet of water (40 acres, plus the adjacent drainage area of ~~3.25~~5.7 acres, times the PMP of 10 inches). This would result in a total flood volume of ~~98~~ 159.4197.5 acre-feet, including the ~~62~~ 123.4 acre-feet of solution from Cells 2 and 33, and 36 acre-feet of solution from Cells 2, 3, and 4A that must be contained in Cell 4A or Cell 4B. The procedure for calculating the freeboard limit for Cell 4A and cCell 4B is set out in the DMT Plan. ~~The freeboard depth required for Cell 4A from the PMP event would be 2.44 feet, plus a wave run-up depth of 0.77 feet (from the 1990 Drainage Report), for a total freeboard requirement of 3.2 feet. This calculation is illustrated on Attachment 4. The Groundwater Quality Discharge Permit, No. UGW370004, for the White Mesa Mill requires that the minimum freeboard be no less than 3.0 feet for any of the existing Cell construction, but based on the above calculation the freeboard would be set 3.2 feet below the top of liner. The freeboard for Cell 4A would therefore be 5595.3 amsl (top of liner 5598.5 – 3.2 feet). Figure 7, Hydraulic Profile Schematic, shows the relationship between the Cells, and the relative elevations of the solution pools and the spillway elevations.~~

~~If Cell 4A were required to store the entire PMP event for Cell 2, Cell 3 and Cell 4A, the required storage volume would be approximately 160 acre-feet of solution. This would increase the necessary freeboard to 4.77 feet.~~

The Groundwater Quality Discharge Permit, No. UGW370004, for the White Mesa Mill requires that the minimum freeboard be no less than 3.0 feet for Cells 1, 4A, and 4B but based on License condition 10.3 and the procedure set out in the DMT Plan, the freeboard limits for Cells 1, 4A, and 4B will be at least three feet.

Figure 7, Hydraulic Profile Schematic, shows the relationship between the Cells, and the relative elevations of the solution pools and the spillway elevations.

The required freeboard for Cells 4A and 4B will be recalculated annually. ~~along with the re-calculation of the Cell 3 freeboard requirement. A calculation of the current freeboard calculation for both Cells is attached to this Plan.~~

Attachments

1) Figures 1A and 1B, Initial Filling Plan, ~~GeoSyntec~~ Geosyntec Consultants

2) Figure 2A and 2B, Initial Filling Plan, Details and Sections, ~~GeoSyntec~~ Geosyntec Consultants

3) Figure 3A and 3B, Initial Filling Plan, Solution and Slurry Pipeline Routes, ~~GeoSyntec~~ Geosyntec Consultants

4) Figure 4A and 4B, Interim Filling Plan, ~~GeoSyntec~~ Geosyntec Consultants

5) Figure 5, Leak Detection System Sumps for Cell 4A and 4B, ~~GeoSyntec~~ Geosyntec Consultants

6) Figure 6A and 6B, Leak Detection Sump Operating Elevations, Geosyntec Consultants

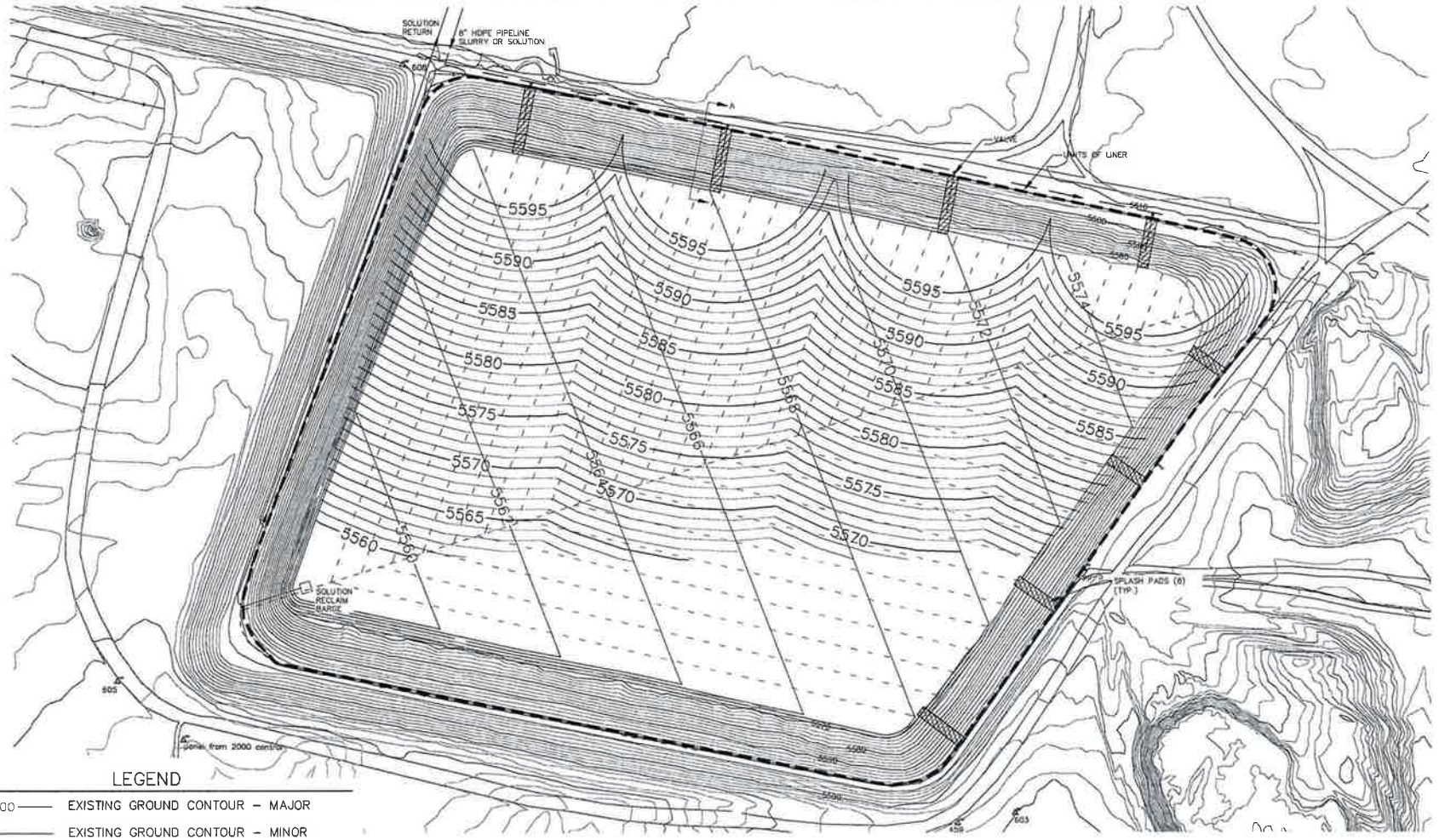
7) Figure 7, Hydraulic Profile Schematic

8) ~~Cell 3 and~~ Cell 4A and Cell 4B Freeboard Calculations

9) Table 1A, Calculated Action leakage Rates for Various Head Conditions, Cell 4A, White Mesa Mill, Blanding, Utah, ~~GeoSyntec~~ Geosyntec Consultants

10) Table 1B, Calculated Action leakage Rates for Various Head Conditions, Cell 4B, White Mesa Mill, Blanding, Utah, Geosyntec Consultants

~~10)~~11) White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Monitoring Plan, ~~3/07~~10/10 Revision: DUSA-~~2~~10, ~~32 pages~~, or currently approved version of the DMT



LEGEND

- 5600 — EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

0 200' 400'

SCALE IN FEET

N

INITIAL FILLING PLAN
CELL 4A
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 1A

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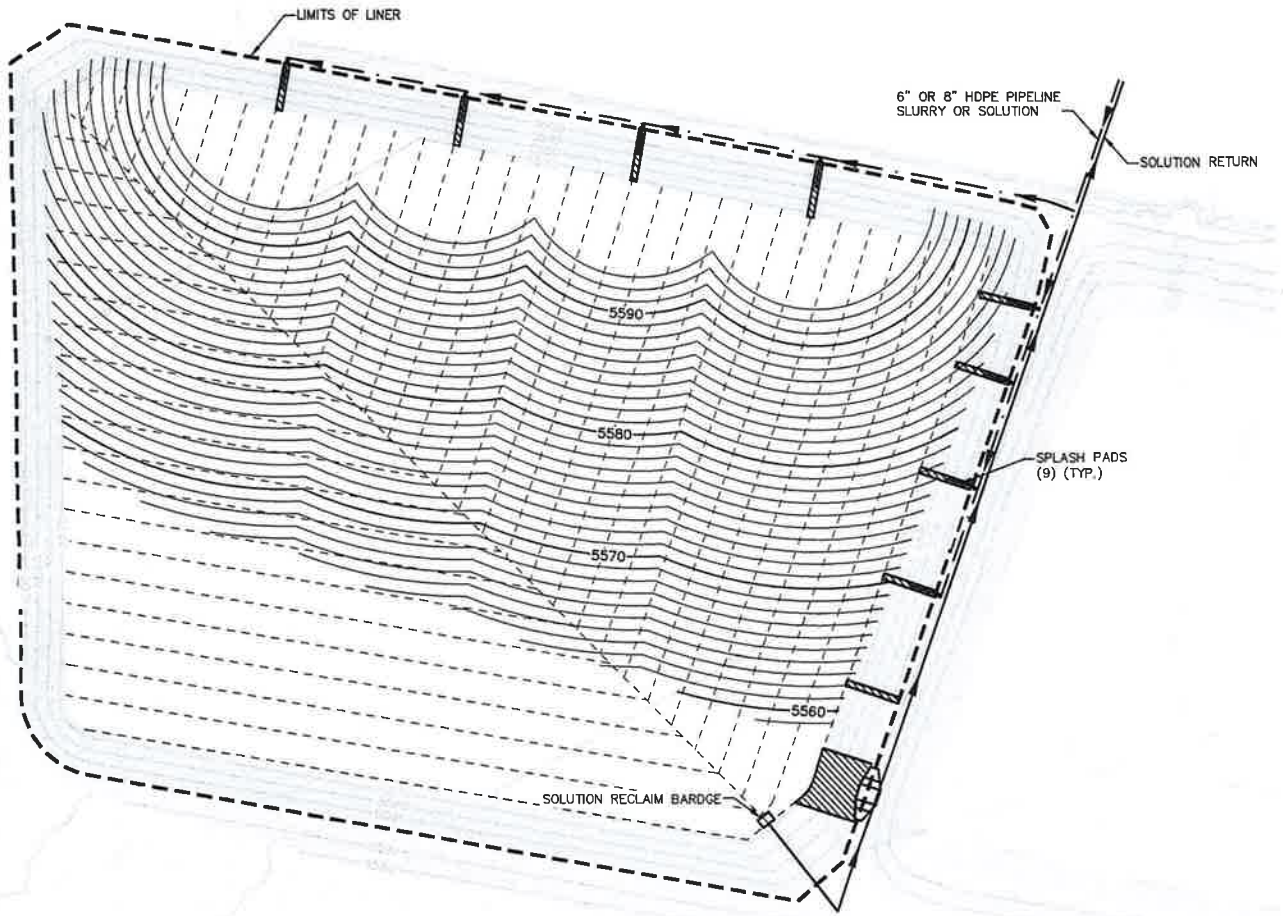

N

LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

0 200' 400'

SCALE IN FEET

INITIAL FILLING PLAN
CELL 4B
BLANDING, UTAH

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FIGURE 1B

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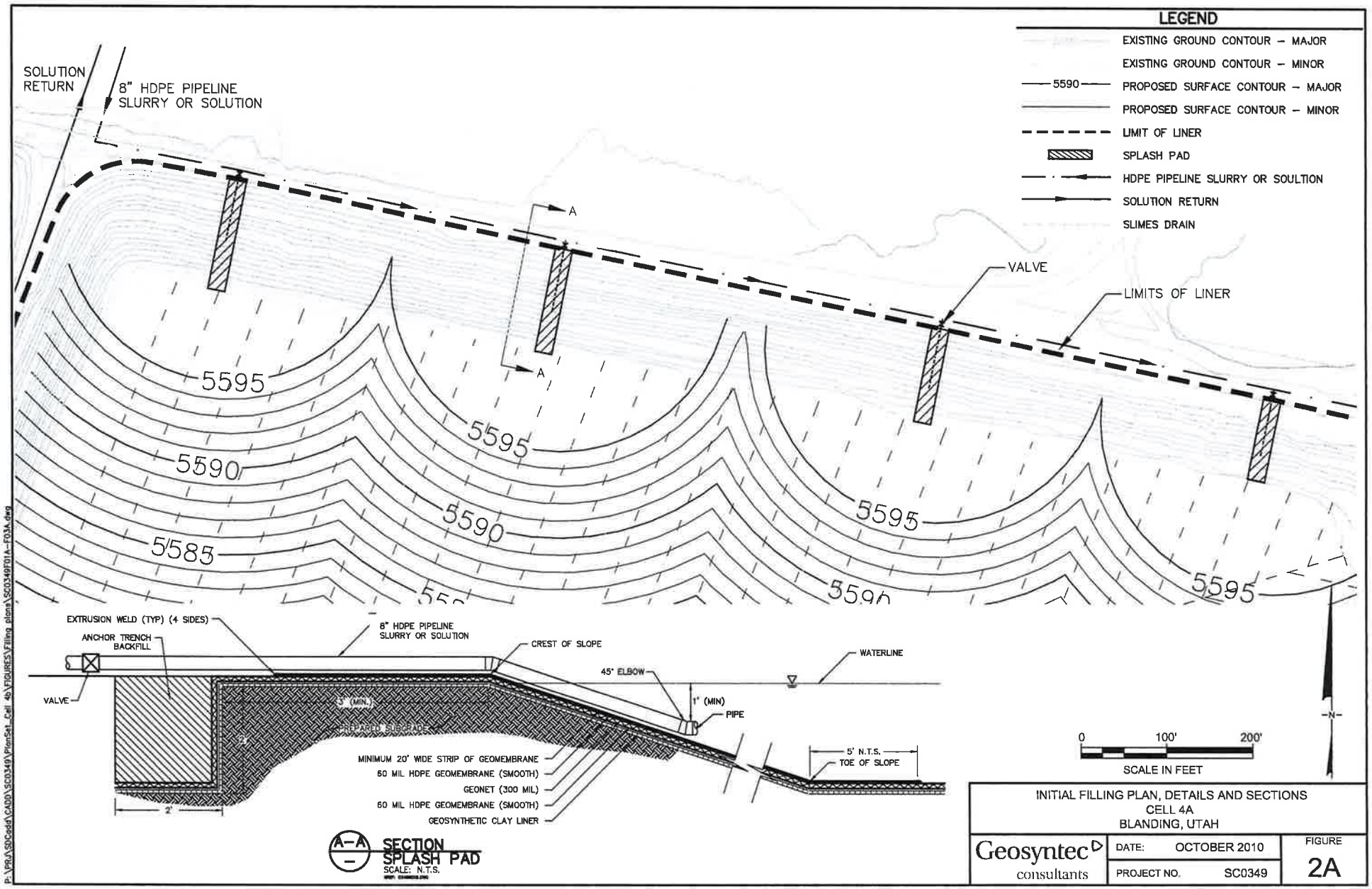

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INITIAL FILLING PLAN, DETAILS AND SECTIONS
CELL 4A
BLANDING, UTAH

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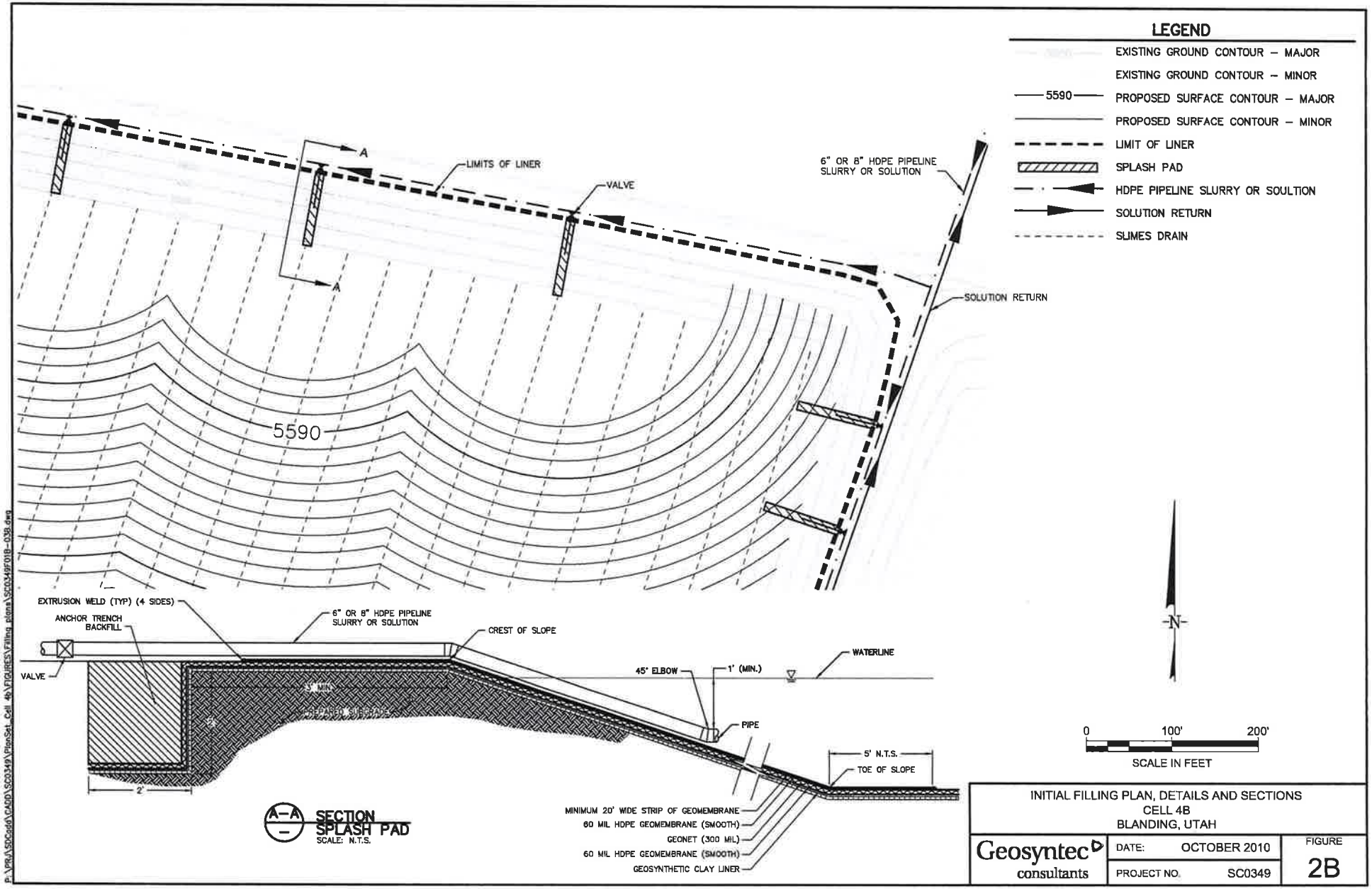
PROJECT NO. SC0349

FIGURE 2A



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INITIAL FILLING PLAN, DETAILS AND SECTIONS
CELL 4B
BLANDING, UTAH

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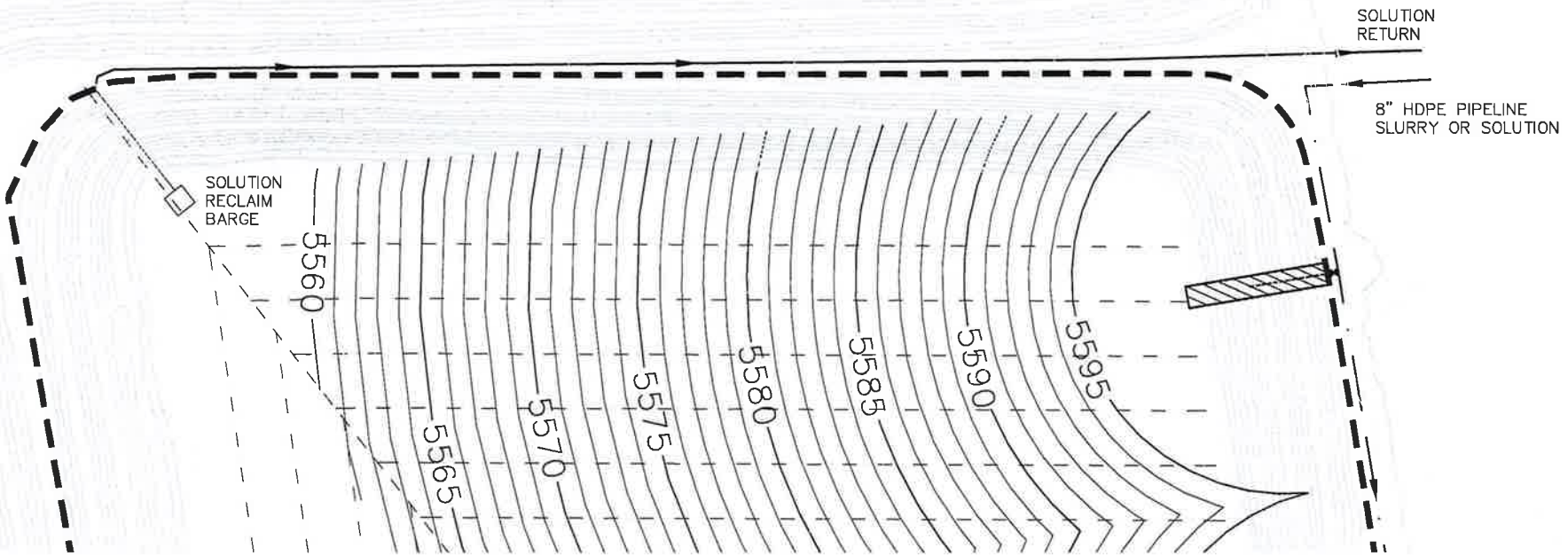
FIGURE 2B



LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

N

0 100' 200'

SCALE IN FEET

INITIAL FILLING PLAN, SOLUTION AND SLURRY PIPELINE ROUTES
CELL 4A
BLANDING, UTAH

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DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 3A

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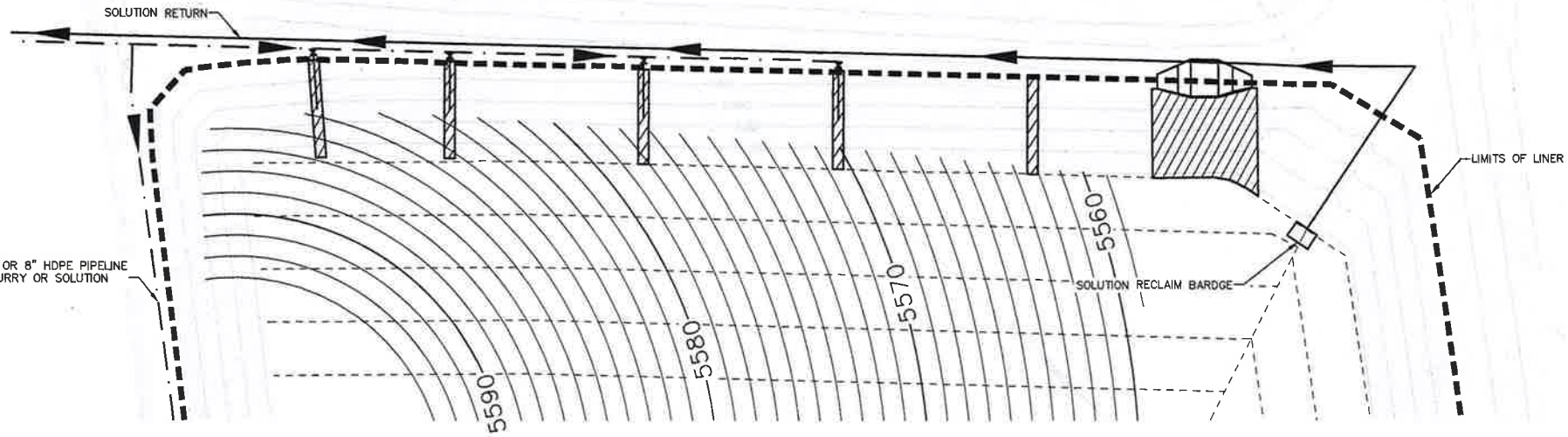

LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

N

0 100' 200'

SCALE IN FEET

INITIAL FILLING PLAN, SOLUTION AND SLURRY PIPELINE ROUTES
CELL 4B
BLANDING, UTAH

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PROJECT NO. SC0349

FIGURE 3B

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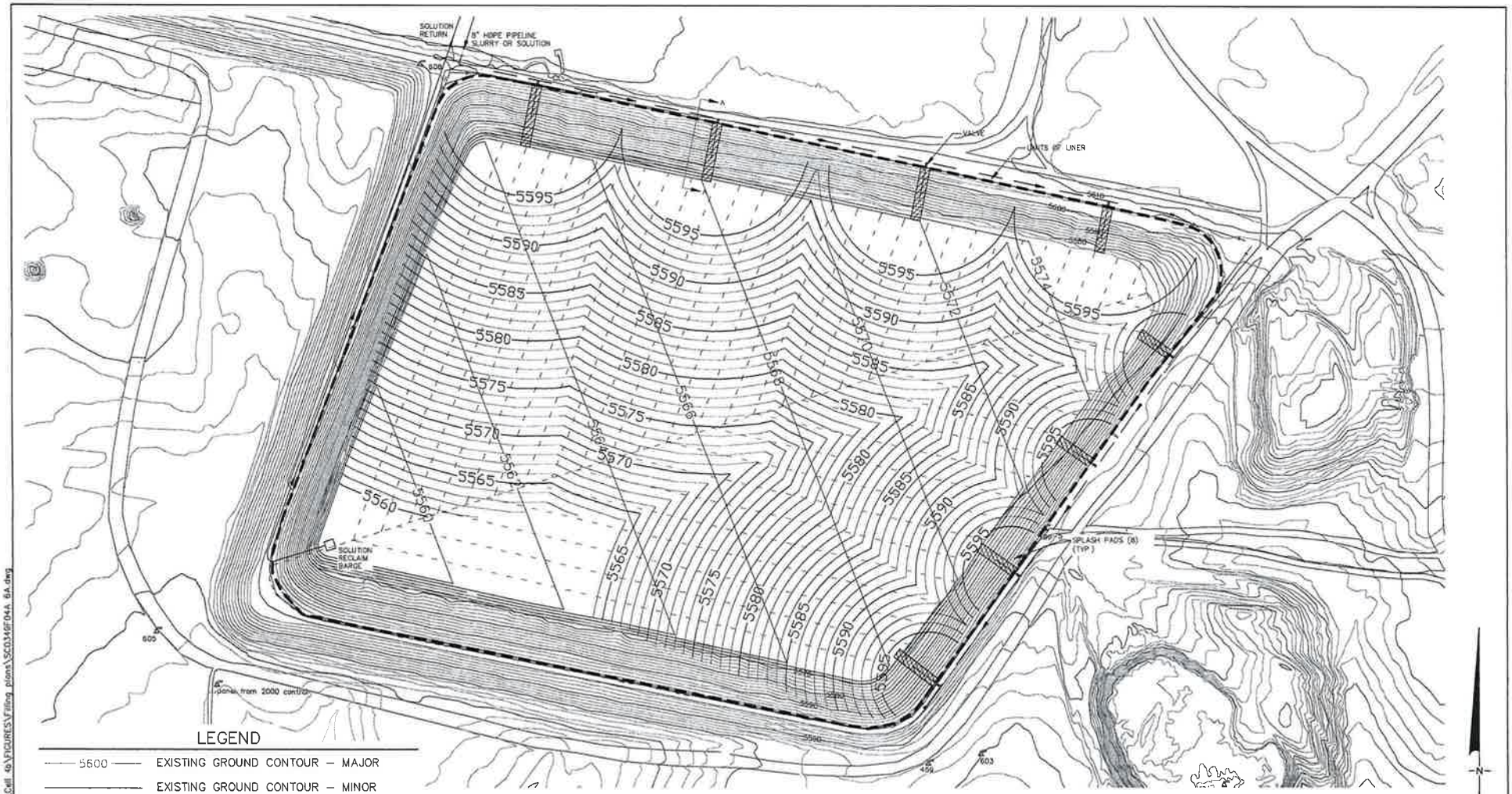

LEGEND

- 5600 — EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

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INITERIM FILLING PLAN
CELL 4A
BLANDING, UTAH

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PROJECT NO. SC0349

FIGURE 4A

LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

0 200' 400'

SCALE IN FEET

INTERIM FILLING PLAN
CELL 4B
BLANDING, UTAH

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DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 4B

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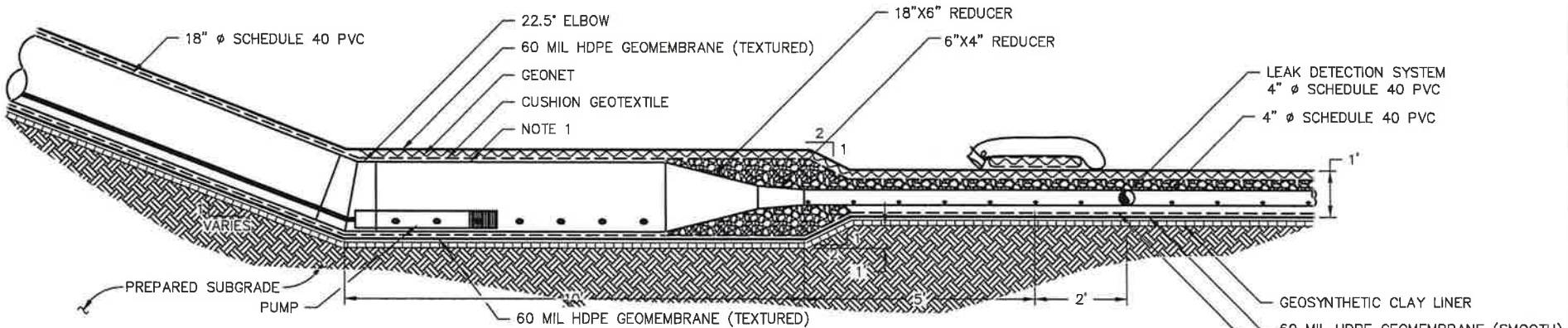

SECTION
LEAK DETECTION SYSTEM SUMP
N.T.S.

LEAK DETECTION SYSTEM SUMP CELLS 4A AND 4B BLANDING, UTAH		
Geosyntec consultants	DATE: OCTOBER 2010 PROJECT NO. SC0349	FIGURE 5

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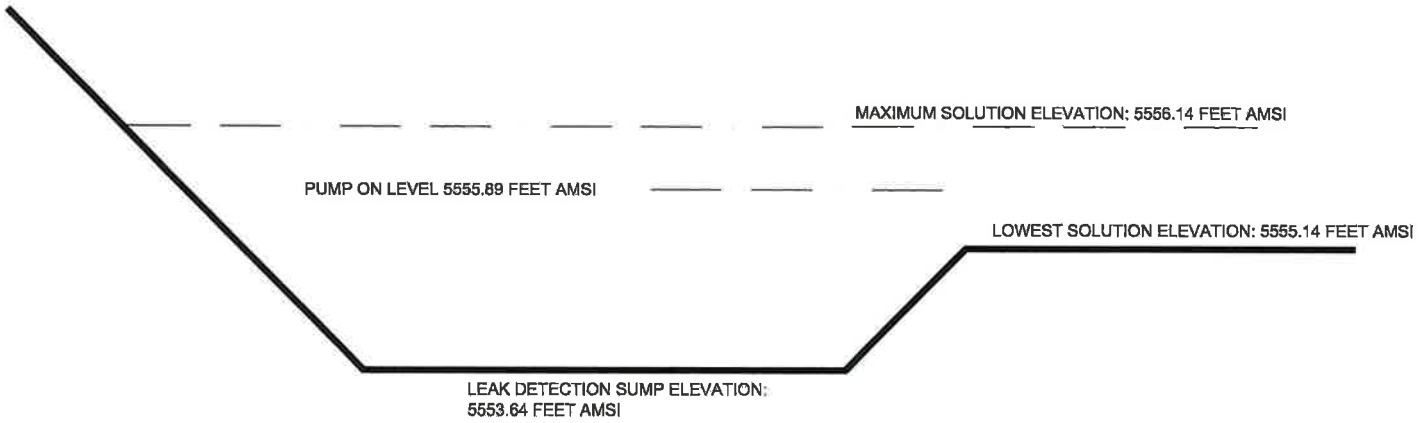

LEAK DETECTION SUMP
CELL 4A
BLANDING, UTAH

Geosyntec consultants	DATE: OCTOBER 2010	FIGURE 6A
	PROJECT NO. SC0349	

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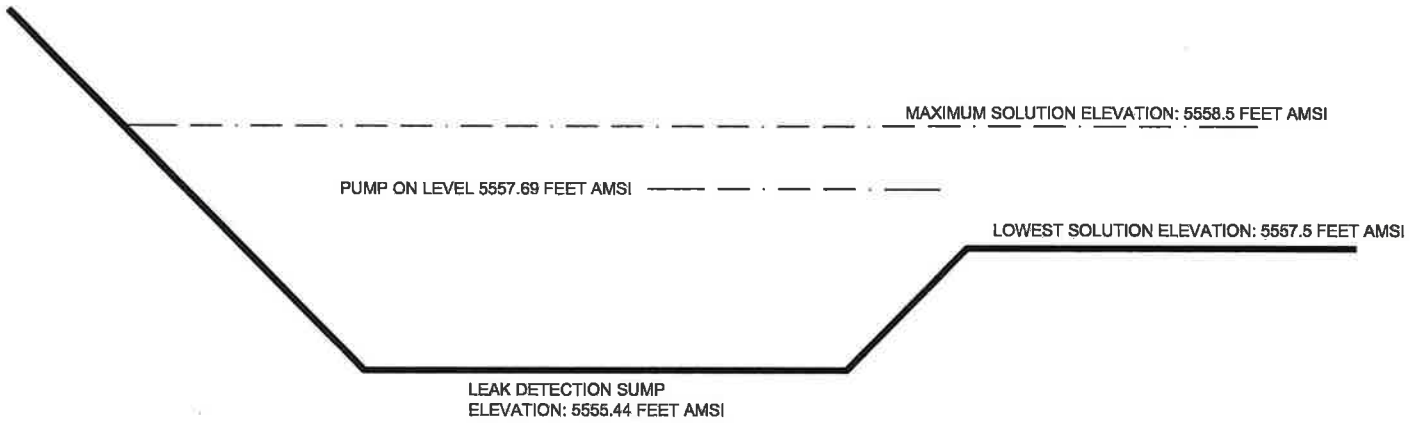

LEAK DETECTION SUMP
CELL 4B
BLANDING, UTAH

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DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE
6B

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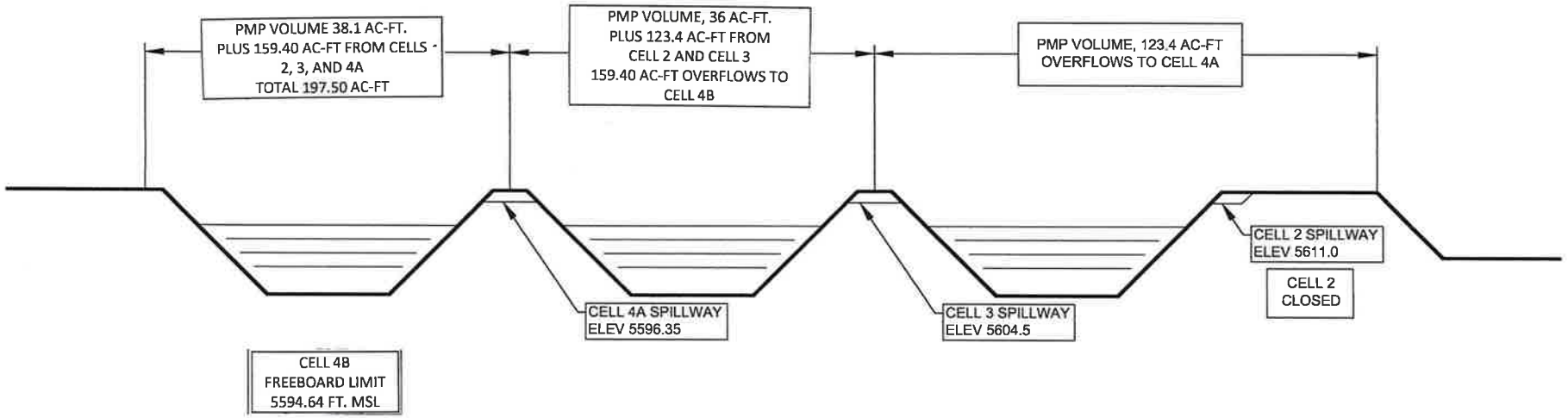

NOT TO SCALE

HYDRAULIC PROFILE SCHEMATIC
CELL 4B
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 7

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Table 1A
Calculated Action Leakage Rates for Various Head Conditions
Cell 4A, White Mesa Mill
Blanding, Utah

Head Above Liner System (feet)	Calculated Action Leakage Rate (gallons/acre/day)
5	222.04
10	314.0
15	384.58
20	444.08
25	496.5
30	543.88
35	587.5
37	604.0

Table 1B
Calculated Action Leakage Rates for Various Head Conditions
Cell 4B, White Mesa Mill
Blanding, Utah

Head Above Liner System (feet)	Calculated Action Leakage Rate (gallons/acre/day)
5	211.4
10	317.0
15	369.9
20	422.7
25	475.6
30	528.4
35	570.0
37	581.2

Cell 4A and 4B BAT Monitoring, Operations and Maintenance Plan.

Introduction

Construction of Cell 4A was authorized by the Utah Department of Environmental Quality, Division of Radiation Control ("DRC) on June 25, 2007. The construction authorization provided that Cell 4A shall not be in operation until after a BAT Monitoring, Operations and Maintenance Plan is submitted for Executive Secretary review and approval. The Plan shall include requirements in Part I.F.3 of the Groundwater Discharge Permit No. UGW370004 ("GWDP") and fulfill the requirements of Parts I.D.6, I.E.8, and I.F.9 of the GWDP.

Construction of Cell 4B was authorized by DRC on June 21, 2010. The construction authorization provided that Cell 4B shall not be in operation until after a BAT Monitoring, Operations and Maintenance Plan is submitted for Executive Secretary review and approval. The Plan shall include requirements in Part I.F.3 of the GWDP and fulfill the requirements of Parts I.D.12, I.E.12, and I.F.9 of the GWDP

Cell Design

Tailings Cell 4A consists of the following major elements:

a) Dikes – consisting of earthen embankments of compacted soil, constructed between 1989-1990, and composed of four dikes, each including a 15-foot wide road at the top (minimum). On the north, east, and south margins these dikes have slopes of 3H to 1V. The west dike has an interior slope of 2H to 1V. Width of these dikes varies; each has a minimum crest width of at least 15 feet to support an access road. Base width also varies from 89-feet on the east dike (with no exterior embankment), to 211-feet at the west dike.

b) Foundation – including subgrade soils over bedrock materials. Foundation preparation included excavation and removal of contaminated soils, compaction of imported soils to a maximum dry density of 90%. Floor of Cell 4A has an average slope of 1% that grades from the northeast to the southwest corners.

c) Tailings Capacity – the floor and inside slopes of Cell 4A encompass about 40 acres and have a maximum capacity of about 1.6 million cubic yards of tailings material storage (as measured below the required 3-foot freeboard).

d) Liner and Leak Detection Systems – including the following layers, in descending order:

    1) Primary Flexible Membrane Liner (FML) – consisting of impermeable 60 mil high density polyethylene (HDPE) membrane that extends across both

the entire cell floor and the inside side-slopes, and is anchored in a trench at the top of the dikes on all four sides. The primary FML will be in direct physical contact with the tailings material over most of the Cell 4A floor area. In other locations, the primary FML will be in contact with the slimes drain collection system (discussed below).

2) Leak Detection System – includes a permeable HDPE geonet fabric that extends across the entire area under the primary FML in Cell 4A, and drains to a leak detection sump in the southwest corner. Access to the leak detection sump is via an 18-inch inside diameter (ID) PVC pipe placed down the inside slope, located between the primary and secondary FML liners. At its base this pipe will be surrounded with a gravel filter set in the leak detection sump, having dimensions of 10 feet by 10 feet by 2 feet deep. In turn, the gravel filter layer will be enclosed in an envelope of geotextile fabric. The purpose of both the gravel and geotextile fabric is to serve as a filter.

3) Secondary FML – consisting of an impermeable 60-mil HDPE membrane found immediately below the leak detection geonet. Said FML also extends across the entire Cell 4A floor, up the inside side-slopes and is also anchored in a trench at the top of all four dikes.

4) Geosynthetic Clay Liner – consisting of a manufactured geosynthetic clay liner (GCL) composed of 0.2-inch of low permeability bentonite clay centered and stitched between two layers of geotextile. Prior to disposal of any wastewater in Cell 4A, the Permittee shall demonstrate that the GCL has achieved a moisture content of at least 50% by weight. This item is a revised requirement per DRC letter to DUSA dated September 28, 2007

e) Slimes Drain Collection System – including a two-part system of strip drains and perforated collection pipes both installed immediately above the primary FML, as follows:

1) Horizontal Strip Drain System – is installed in a herringbone pattern across the floor of Cell 4A that drain to a "backbone" of perforated collection pipes. These strip drains are made of a prefabricated two-part geo-composite drain material (solid polymer drainage strip) core surrounded by an envelope of non-woven geotextile filter fabric. The strip drains are placed immediately over the primary FML on 50-foot centers, where they conduct fluids downgradient in a southwesterly direction to a physical and hydraulic connection to the perforated slimes drain collection pipe. A series of continuous sand bags, filled with filter sand cover the strip drains. The sand bags are composed of a woven polyester fabric filled with well graded filter sand to protect the drainage system from plugging.

2) Horizontal Slimes Drain Collection Pipe System – includes a "backbone" piping system of 4-inch ID Schedule 40 perforated PVC slimes drain collection (SDC) pipe found at the downgradient end of the strip drain lines. This pipe is in turn overlain by a berm of gravel that runs the entire diagonal length of the cell, surrounded by a geotextile fabric cushion in immediate contact with the primary FML. In turn, the gravel is overlain by a layer of non-woven geotextile to serve as an additional filter material. This perforated collection pipe serves as the "backbone" to the slimes

drain system and runs from the far northeast corner downhill to the far southwest corner of Cell 4A where it joins the slimes drain access pipe.

3) Slimes Drain Access Pipe – consisting of an 18-inch ID Schedule 40 PVC pipe placed down the inside slope of Cell 4A at the southwest corner, above the primary FML. Said pipe then merges with another horizontal pipe of equivalent diameter and material, where it is enveloped by gravel and nonwoven geotextile that serves as a cushion to protect the primary FML. A reducer connects the horizontal 18-inch pipe with the 4-inch SDC pipe. At some future time, a pump will be set in this 18-inch pipe and used to remove tailings wastewaters for purposes of de-watering the tailings cell.

f) Dike Splash Pads – A minimum of eight (8) 20-foot wide splash pads are installed on the interior dike slopes to protect the primary FML from abrasion and scouring by tailings slurry. These pads consist of an extra layer of 60 mil HDPE membrane that is placed down the inside slope of Cell 4A, from the top of the dike and down the inside slope. The pads extend to a point 5-feet beyond the toe of the slope to protect the liner bottom during initial startup of the Cell. The exact location of the splash pads is detailed on the As-Built Plans and Specifications.

g) Rub Protection Sheets – In addition to the splash pads described in f) above, rub sheets are installed beneath all piping entering or exiting Cell 4A that is not located directly on the splash pads.

h) Emergency Spillway – a concrete lined spillway constructed near the western corner of the north dike to allow emergency runoff from Cell 3 into Cell 4A. This spillway will be limited to a 6-inch reinforced concrete slab set directly over the primary FML in a 4-foot deep trapezoidal channel. A second spillway has been constructed in the southwest corner of Cell 4A to allow emergency runoff from Cell 4A into Cell 4B. All stormwater runoff and tailings wastewaters not retained in Cells 3 and 4A, will be managed and contained in Cell 4B, including the Probable Maximum Precipitation and flood event.

Tailings Cell 4B consists of the following major elements:

a) Dike – consisting of a newly-constructed dike on the south side of the cell with a 15-foot wide road at the top (minimum) to support an access road. The grading plan for the Cell 4B excavation includes interior slopes of 2H to 1V. The exterior slope of the southern dike will have the typical slopes of 3H to 1V. Limited portions of the Cell 4B interior sideslopes in the northwest corner and southeast corner of the cell (where the slimes drain and leak detection sump will be located) will also have a slope of 3H to 1V. The base width of the southern dike varies from approximately 100 feet at the western end to approximately 190 feet at the eastern end of the dike, with no exterior embankment present on any other side of the cell.

b) Foundation – including subgrade soils over bedrock materials. Foundation

preparation included 6-inch over excavation of rock and placement and compaction of imported soils to a maximum dry density of 90% at a moisture content between +3% and -3% of optimum moisture content, as determined by ASTM D-1557. The floor of Cell 4B has an average slope of 1% that grades from the northwest corner to the southeast corner.

c) Tailings Capacity – the floor and inside slopes of Cell 4B encompass about 45 acres and the cell will have a water surface area of 40 acres and a maximum capacity of about 1.9 million cubic yards of tailings material storage (as measured below the required 3-foot freeboard).

d) Liner and Leak Detection Systems – including the following layers, in descending order:

1) Primary Flexible Membrane Liner (FML) – consisting of 60 mil high density polyethylene (HDPE) membrane that extends across both the entire cell floor and the inside side-slopes, and is anchored in a trench at the top of the dikes on all four sides. The primary FML will be in direct physical contact with the tailings material over most of the Cell 4B floor area. In other locations, the primary FML will be in contact with the slimes drain collection system (discussed below).

2) Leak Detection System – includes a permeable HDPE geonet fabric that extends across the entire area under the primary FML in Cell 4B, and drains to a leak detection sump in the southeast corner. Access to the leak detection sump is via an 18-inch inside diameter (ID) PVC pipe placed down the inside slope, located between the primary and secondary FML liners. At its base this pipe will be surrounded with a gravel filter set in the leak detection sump, having dimensions of 10 feet by 10 feet by 2 feet deep. In turn, the gravel filter layer will be enclosed in an envelope of geotextile fabric. The purpose of both the gravel and geotextile fabric is to serve as a filter.

3) Secondary FML – consisting of a 60-mil HDPE membrane found immediately below the leak detection geonet. Said FML also extends across the entire Cell 4B floor, up the inside side-slopes and is also anchored in a trench at the top of all four dikes.

4) Geosynthetic Clay Liner – consisting of a manufactured geosynthetic clay liner (GCL) composed of 0.2-inch of low permeability bentonite clay centered and stitched between two layers of geotextile. Prior to disposal of any wastewater in Cell 4B, the Permittee shall demonstrate that the GCL has achieved a moisture content of at least 50% by weight.

e) Slimes Drain Collection System – including a two-part system of strip drains and perforated collection pipes both installed immediately above the primary FML, as follows:

1) Horizontal Strip Drain System – is installed in a herringbone pattern across the floor of Cell 4B that drain to a "backbone" of perforated collection pipes. These strip drains are made of a prefabricated two-part

geo-composite drain material (solid polymer drainage strip) core surrounded by an envelope of non-woven geotextile filter fabric. The strip drains are placed immediately over the primary FML on 50-foot centers, where they conduct fluids downgradient in a southeasterly direction to a physical and hydraulic connection to the perforated slimes drain collection pipe. A series of continuous sand bags, filled with filter sand cover the strip drains. The sand bags are composed of a woven polyester fabric filled with well graded filter sand to protect the drainage system from plugging.

2) Horizontal Slimes Drain Collection Pipe System – includes a "backbone" piping system of 4-inch ID Schedule 40 perforated PVC slimes drain collection (SDC) pipe found at the downgradient end of the strip drain lines. This pipe is in turn overlain by a berm of gravel that runs the entire diagonal length of the cell, surrounded by a geotextile fabric cushion in immediate contact with the primary FML. In turn, the gravel is overlain by a layer of non-woven geotextile to serve as an additional filter material. This perforated collection pipe serves as the "backbone" to the slimes drain system and runs from the far northwest corner downhill to the far southeast corner of Cell 4B where it joins the slimes drain access pipe.

3) Slimes Drain Access Pipe – consisting of an 18-inch ID Schedule 40 PVC pipe placed down the inside slope of Cell 4B at the southeast corner, above the primary FML. Said pipe then merges with another horizontal pipe of equivalent diameter and material, where it is enveloped by gravel and nonwoven geotextile that serves as a cushion to protect the primary FML. A reducer connects the horizontal 18-inch pipe with the 4-inch SDC pipe. At some future time, a pump will be set in this 18-inch pipe and used to remove tailings wastewaters for purposes of de-watering the tailings cell.

f) Cell 4B North and East Dike Splash Pads - Nine 20-foot-wide splash pads will be constructed on the north and east dikes to protect the primary FML from abrasion and scouring by tailings slurry. These pads will consist of an extra layer of textured, 60 mil HDPE membrane that will be installed in the anchor trench and placed down the inside slope of Cell 4B, from the top of the dike, under the inlet pipe, and down the inside slope to a point at least 5 feet onto the Cell 4B floor beyond the toe of the slope.

g) Rub Protection Sheets – In addition to the splash pads described in f) above, rub sheets are installed beneath all piping entering or exiting Cell 4B that is not located directly on the splash pads.

h) Emergency Spillway – a concrete lined spillway constructed near the southern corner of the east dike to allow emergency runoff from Cell 4A into Cell 4B. This spillway will be limited to a 6-inch reinforced concrete slab, with a welded-wire fabric installed within its midsection, set atop a cushion geotextile placed directly over the primary FML in a 4-foot deep trapezoidal channel. A 100 foot wide, 60 mil HDPE geomembrane splash

pad will be installed beneath the emergency spillway. No other spillway or overflow structure will be constructed at Cell 4B. All stormwater runoff and tailings wastewaters not retained in Cells 2, 3 and 4A, will be managed and contained in Cell 4B, including the Probable Maximum Precipitation and flood event.

Cell Operation

Solution Discharge to Cell 4A

Cell 4A will initially be used for storage and evaporation of process solutions from the Mill operations. These process solutions will be from the uranium/vanadium solvent extraction circuit, or transferred from Cell 1 evaporation pond or the free water surface from Cell 3, or transferred from Cell 2 tailings dewatering operations. The solution will be pumped to Cell 4A through 6 inch or 8 inch diameter HDPE pipelines. The initial solution discharge will be in the southwest corner of the Cell. The solution will be discharged in the bottom of the Cell, away from any sand bags or other installation on the top of the FML. Building the solution pool from the low end of the Cell will allow the solution pool to gradually rise around the slimes drain strips, eliminating any damage to the strip drains or the sand bag cover due to solution flowing past the drainage strips. The solution will eventually be discharged along the dike between Cell 3 and Cell 4A, utilizing the Splash Pads described above. The subsequent discharge of process solutions will be near the floor of the pond, through a discharge header designed to discharge through multiple points, thereby reducing the potential to damage the Splash Pads or the Slimes Drain system. At no time, subsequent to initial filling, will the solution be discharged into less than 2 feet of solution. As the cell begins to fill with solution the discharge point will be pulled back up the Splash Pad and allowed to continue discharging at or near the solution level.

Solution Discharge to Cell 4B

Cell 4B will initially be used for storage and evaporation of process solutions from the Mill operations. These process solutions will be from the uranium/vanadium solvent extraction circuit, or transferred from Cell 1 evaporation pond or the free water surface from Cell 3 or Cell 4A, or transferred from Cell 2 dewatering operations. The solution will be pumped to Cell 4B through 6 inch or 8 inch diameter HDPE pipelines. The initial solution discharge will be in the southeast corner of the Cell. The discharge pipe will be routed down the Splash Pad provided in the southeast corner of the Cell at the spillway to protect the primary FML. The solution will be discharged in the bottom of the Cell, away from any sand bags or other installation on the top of the FML. Building the solution pool from the low end of the Cell will allow the solution pool to gradually rise around the slimes drain strips, eliminating any damage to the strip drains or the sand bag cover due to solution flowing past the drainage strips. The solution will eventually be discharged along the dike between Cell 3 and Cell 4B, utilizing the Splash Pads described above. The subsequent discharge

of process solutions will be near the floor of the pond, through a discharge header designed to discharge through multiple points, thereby reducing the potential to damage the Splash Pads or the Slimes Drain system. At no time, subsequent to initial filling, will the solution be discharged into less than 2 feet of solution. As the cell begins to fill with solution the discharge point will be pulled back up the Splash Pad and allowed to continue discharging at or near the solution level.

Initial Solids Discharge into Cell 4A

Once Cell 4A is needed for storage for tailings solids the slurry discharge from No. 8 CCD thickener will be pumped to the cell through 6 inch or 8 inch diameter HDPE pipelines. The pipelines will be routed along the dike between Cell 3 and Cell 4A, with discharge valves and drop pipes extending down the Splash Pads to the solution level. One or all of the discharge points can be used depending on operational considerations. Solids will settle into a cone, or mound, of material under the solution level, with the courser fraction settling out closer to the discharge point. The initial discharge locations are shown on Figure 1A. Figure 2A illustrates the general location of the solution and slurry discharge pipelines and control valve locations. The valves are 6" or 8" stainless steel knife-gate valves. The initial discharge of slurry will be at or near the toe of the Cell slope and then gradually moved up the slope, continuing to discharge at or near the water surface. This is illustrated in Section A-A on Figure 2A. Because of the depth of Cell 4A, each of the discharge points will be utilized for an extended period of time before the cone of material is above the maximum level of the solution. The discharge location will then be moved further to the interior of the cell allowing for additional volume of solids to be placed under the solution level. The solution level in the cell will vary depending on the operating schedule of the Mill and the seasonal evaporation rates. The tailings slurry will not be allowed to discharge directly on to the Splash Pads, in order to further protect the FML. The tailings slurry will discharge directly in to the solution contained in the Cell, onto an additional protective sheet, or on to previously deposited tailings sand.

Initial Solids Discharge into Cell 4B

Once Cell 4B is needed for storage for tailings solids the slurry discharge from No. 8 CCD thickener will be pumped to the cell through 6 inch or 8 inch diameter HDPE pipelines. The pipelines will be routed along the dike between Cell 3 and Cell 4B, with discharge valves and drop pipes extending down the Splash Pads to the solution level. One or all of the discharge points can be used depending on operational considerations. Solids will settle into a cone, or mound, of material under the solution level, with the courser fraction settling out closer to the discharge point. The initial discharge locations are shown on Figure 1B. Figure 2B illustrates the general location of the solution and slurry discharge pipelines and control valve locations. The valves are 6" or 8" stainless steel knife-gate valves. The initial discharge of slurry will be at or near the toe of the Cell slope and then gradually moved up the slope, continuing to discharge at or near the

water surface. This is illustrated in Section A-A on Figure 2B. Because of the depth of Cell 4B, each of the discharge points will be utilized for an extended period of time before the cone of material is above the maximum level of the solution. The discharge location will then be moved further to the interior of the cell allowing for additional volume of solids to be placed under the solution level. The solution level in the cell will vary depending on the operating schedule of the Mill and the seasonal evaporation rates. The tailings slurry will not be allowed to discharge directly on to the Splash Pads, in order to further protect the FML. The tailings slurry will discharge directly in to the solution contained in the Cell, onto an additional protective sheet, or on to previously deposited tailings sand.

Equipment Access to Cell 4A and Cell 4B

Access will be restricted to the interior portion of the cells due to the potential to damage the flexible membrane liners. Only low pressure rubber tired all terrain vehicles or foot traffic will be allowed on the flexible membrane liners. Personnel are also cautioned on the potential damage to the flexible membrane liners through the use and handling of hand tools and maintenance materials.

Reclaim Water System at Cell 4A

A pump barge and solution recovery system is operating in the southwest corner of the cell to pump solution from the cell for water balance purposes or for re-use in the Mill process. Figure 3A illustrates the routing of the solution return pipeline and the location of the pump barge. The pump barge will be constructed and maintained to ensure that the flexible membrane liner is not damaged during the initial filling of the cell or subsequent operation and maintenance activities. The condition of the pump barge and access walkway will be noted during the weekly Cell inspections.

Reclaim Water System at Cell 4B

A pump barge and solution recovery system will be installed in the southeast corner of the cell to pump solution from the cell for water balance purposes or for re-use in the Mill process. Figure 3B illustrates the routing of the solution return pipeline and the location of the pump barge. The pump barge will be constructed and maintained to ensure that the flexible membrane liner is not damaged during the initial filling of the cell or subsequent operation and maintenance activities. The condition of the pump barge and access walkway will be noted during the weekly Cell inspections.

Interim Solids Discharge to Cell 4A

Figure 4A illustrates the progression of the slurry discharge points around the north and east sides of Cell 4A. Once the tailings solids have been deposited

along the north and east sides of the Cell, the discharges points will subsequently be moved to the sand beaches, which will eliminate any potential for damage to the liner system.

Interim Solids Discharge to Cell 4B

Figure 4B illustrates the progression of the slurry discharge points around the north and east sides of Cell 4B. Once the tailings solids have been deposited along the north and east sides of the Cell, the discharges points will subsequently be moved to the sand beaches, which will eliminate any potential for damage to the liner system.

Liner Maintenance and QA/QC for Cell 4A

Any construction defects or operational damage discovered during observation of the flexible membrane liner will be repaired, tested and documented according to the procedures detailed in the approved **Revised Construction Quality Assurance Plan for the Construction of the Cell 4A Lining System, May 2007, by GeoSyntec Consultants.**

Liner Maintenance and QA/QC for Cell 4B

Any construction defects or operational damage discovered during observation of the flexible membrane liner will be repaired, tested and documented according to the procedures detailed in the approved **Construction Quality Assurance Plan for the Construction of the Cell 4B Lining System, October 2009, by Geosyntec Consultants.**

BAT Performance Standards for Tailings Cell 4A and 4B

DUSA will operate and maintain Tailings Cell 4A and 4B so as to prevent release of wastewater to groundwater and the environment in accordance with this BAT Monitoring Operations and Maintenance Plan, pursuant to Part I.H.8 of the GWDP. These performance standards shall include:

1) Leak Detection System Pumping and Monitoring Equipment – the leak detection system pumping and monitoring equipment in each cell includes a submersible pump, pump controller, water level indicator (head monitoring), and flow meter with volume totalizer. The pump controller is set to maintain the maximum level in the leak detection system in each cell at no more than 1 foot above the lowest level of the secondary flexible membrane, not including the sump (i.e. no more than 3 feet above the bottom of the sump). A second leak detection pump with pressure

transducer, flow meter, and manufacturer recommended spare parts for the pump controller and water level data collector is maintained in the Mill warehouse to ensure that the pump and controller can be replaced and operational within 24 hours of detection of a failure of the pumping system. The root cause of the equipment failure will be documented in a report to Mill management with recommendations for prevention of a re-occurrence.

2) Maximum Allowable Head – the Permittee shall measure the fluid head above the lowest point on the secondary flexible membrane in each cell by the use of procedures and equipment specified in the **White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Monitoring Plan, 10/10 Revision: Denison-10.2,** or the currently approved DMT Plan. Under no circumstance shall fluid head in the leak detection system sump exceed a 1-foot level above the lowest point in the lower flexible membrane liner, not including the sump (i.e. no more than 3 feet above the bottom of the sump).

3) Maximum Allowable Daily LDS Flow Rates - the Permittee shall measure the volume of all fluids pumped from each LDS on a weekly basis, and use that information to calculate an average volume pumped per day. Under no circumstances shall the daily LDS flow volume exceed 24,160 gallons/day for Cell 4A or 26,145 gallons/day for Cell 4B. The maximum daily LDS flow volume will be compared against the measured cell solution levels detailed on the attached Table 1A or 1B for Cells 4A or 4B, respectively, to determine the maximum daily allowable LDS flow volume for varying head conditions in the cell.

4) 3-foot Minimum Vertical Freeboard Criteria – the Permittee shall operate and maintain wastewater levels to provide a 3-foot Minimum of vertical freeboard in Tailings Cell 4A and Cell 4B. Said measurements shall be made to the nearest 0.1 foot.

5) Slimes Drain Recovery Head Monitoring – immediately after the Permittee initiates pumping conditions in the Tailings Cell 4A or Cell 4B slimes drain system, monthly recovery head tests and fluid level measurements will be made in accordance with a plan approved by the DRC Executive Secretary. The slimes drain system pumping and monitoring equipment, includes a submersible pump, pump controller, water level indicator (head monitoring), and flow meter with volume totalizer.

Routine Maintenance and Monitoring

Trained personnel inspect the White Mesa tailings system on a once per day basis. Any abnormal occurrences or changes in the system will be immediately reported to Mill

management and maintenance personnel. The inspectors are trained to look for events involving the routine placement of tailings material as well as events that could affect the integrity of the tailings cell dikes or lining systems. The daily inspection reports are summarized on a monthly basis and reviewed and signed by the Mill Manager.

Solution Elevation

Measurements of solution elevation in Cell 4A and Cell 4B are to be taken by survey on a weekly basis, and measurements of the beach area in Cell 4A and Cell 4B with the highest elevation are to be taken by survey on a monthly basis, by the use of the procedures and equipment specified in the latest approved edition of the DMT Plan.

Leak Detection System

The Leak Detection System in Cell 4A and Cell 4B is monitored on a continuous basis by use of a pressure transducer that feeds water level information to an electronic data collector. The water levels are measured every hour and the information is stored for later retrieval. The water levels are measured to the nearest 0.10 inch. The data collector is currently programmed to store 7 days of water level information. The number of days of stored data can be increased beyond 7 days if needed. The water level data is downloaded to a laptop computer on a weekly basis and incorporated into the Mill's environmental monitoring data base, and into the files for weekly inspection reports of the tailings cell leak detection systems. Within 24 hours after collection of the weekly water level data, the information will be evaluated to ensure that: 1) the water level in the Cell 4A and Cell 4B leak detection sumps did not exceed the allowable level (5556.14 feet amsl in the Cell 4A LDS sump and 5558.5 feet amsl in the Cell 4B sump), and 2) the average daily flow rate from the LDS did not exceed the maximum daily allowable flow rate at any time during the reporting period. For Cell 4A and Cell 4B, under no circumstance shall fluid head in the leak detection system sump exceed a 1-foot level above the lowest point in the lower flexible membrane liner, not including the sump (i.e. no more than 3 feet above the bottom of the sump). To determine the Maximum Allowable Daily LDS Flow Rates in the Cell 4A and Cell 4B leak detection system, the total volume of all fluids pumped from the LDS of each cell on a weekly basis shall be recovered from the data collector, and that information will be used to calculate an average volume pumped per day for each cell. Under no circumstances shall the daily LDS flow volume exceed 24,160 gallons/day from Cell 4A or 26,145 gallons/day from Cell 4B. The maximum daily LDS flow volume will be compared against the measured cell solution levels detailed on the attached Tables 1A and 1B, to determine the maximum daily allowable LDS flow volume for varying head conditions

in Cell 4A and Cell 4B. Any abnormal or out of compliance water levels must be immediately reported to Mill management. The data collector on each cell is also equipped with an audible alarm that sounds if the water level in the leak detection sump exceeds the allowable level (5556.14 feet amsl in the Cell 4A LDS sump and 5558.5 feet amsl in the Cell 4B sump). The current water level is displayed at all times on each data collector and available for recording on the daily inspection form. Each leak detection system is also equipped with a leak detection pump, EPS Model # 25S05-3 stainless steel, or equal. Each pump is capable of pumping in excess of 25 gallons per minute at a total dynamic head of 50 feet. Each pump has a 1.5 inch diameter discharge, and operates on 460 volt 3 phase power. Each pump is equipped with a pressure sensing transducer to start the pump once the level of solution in the leak detection sump is approximately 2.25 feet (elevation 5555.89 in the Cell 4A LDS sump and 5557.69 feet amsl in the Cell 4B sump) above the lowest level of the leak detection sump (9 inches above the lowest point on the lower flexible membrane liner, to ensure the allowable 1.0 foot (5556.14 feet amsl in the Cell 4A LDS sump and 5558.5 feet amsl in the Cell 4B sump) above the lowest point on the lower flexible membrane liner is not exceeded). The attached Figures 6A and 6B (Cell 4A and 4B, respectively), Leak Detection Sump Operating Elevations, illustrates the relationship between the sump elevation, the lowest point on the lower flexible membrane liner and the pump-on solution elevation for the leak detection pump. The pump also has manual start and stop controls. The pump will operate until the solution is drawn down to the lowest level possible, expected to be approximately 4 inches above the lowest level of the sump (approximate elevation 5554.0 and 5555.77 ft amsl for Cells 4A and 4B, respectively). The pump discharge is equipped with a 1.5 inch flow meter, EPS Paddle Wheel Flowsensor, or equal, that reads the pump discharge in gallons per minute, and records total gallons pumped. The flow rate and total gallons are recorded by the Inspector on the weekly inspection form. The leak detection pump is installed in the horizontal section of the 18 inch, perforated section of the PVC collection pipe. The distance from the top flange face, at the collection pipe invert, to the centerline of the 22.5 degree elbow is 133.4 feet in Cell 4A and 135.6 feet in Cell 4B, and the vertical height is approximately 45 feet in Cell 4A and approximately 42.5 feet in Cell 4B. The pump is installed at least 2 feet beyond the centerline of the elbow. The bottom of the pump will be installed in the leak detection sump at least 135.4 feet in Cell 4A and 137.6 feet in Cell 4B or more from the top of the flange invert. A pressure transducer installed within the pump continuously measures the solution head and is programmed to start and stop the pump within the ranges specified above. The attached Figure 5, illustrates the general configuration of the pump installation.

A spare leak detection pump with pressure transducer, flow meter, and

manufacturer recommended spare parts for the pump controller and water level data collector will be maintained in the Mill warehouse to ensure that the pump and controller on either cell can be replaced and operational within 24 hours of detection of a failure of the pumping system. The root cause of the equipment failure will be documented in a report to Mill management with recommendations for prevention of a re-occurrence.

Slimes Drain System

(i) A pump, Tsurumi Model # KTZ23.7-62 stainless steel, or equal, will be placed inside of the slimes drain access riser pipe of each cell and a near as possible to the bottom of the slimes drain sump. The bottom of the slimes drain sump in Cell 4A and Cell 4B are 38 and 35.9 feet below a water level measuring point, respectively, at the centerline of the slimes drain access pipe, near the ground surface level. Each pump discharge will be equipped with a 2 inch flow meter, E/H Model #33, or equal, that reads the pump discharge in gallons per minute, and records total gallons pumped. The flow rate and total gallons will be recorded by the Inspector on the weekly inspection form.

(ii) The slimes drain pumps will be on adjustable probes that allow the pumps to be set to start and stop on intervals determined by Mill management.

(iii) The Cell 4A and Cell 4B slimes drain pumps will be checked weekly to observe that they are operating and that the level probes are set properly, which is noted on the Weekly Tailings Inspection Form. If at any time either pump is observed to be not working properly, it will be repaired or replaced within 15 days;

(iv) Depth to wastewater in the Cell 4A and Cell 4B slimes drain access riser pipes shall be monitored and recorded weekly to determine maximum and minimum fluid head before and after a pumping cycle, respectively. All head measurements must be made from the same measuring point, to the nearest 0.01 foot. The results will be recorded as depth-in-pipe measurements on the Weekly Tailings Inspection Form;

(v) On a monthly basis, each slimes drain pump will be turned off and the wastewater in the slimes drain access pipe will be allowed to stabilize for at least 90 hours. Once the water level has stabilized (based on no change in water level for three (3) successive readings taken no less than one (1) hour apart) the water level of the wastewater will be measured and recorded as a depth-in-pipe measurement on the Monthly Inspection Data form, by measuring the depth to water below the water level measuring point on the slimes drain access pipe;

The slimes drain pumps for each cell will not be operated until Mill management has determined that no additional process solutions will be discharged to that cell, and the cell has been partially covered with the first phase of the reclamation cap. The long term effectiveness and performance of the slimes drain dewatering will be evaluated on the same basis as the currently operating slimes drain system for

Cell 2.

Tailings Emergencies

Inspectors will notify the Radiation Safety Officer and/or Mill management immediately if, during their inspection, they discover that an abnormal condition exists or an event has occurred that could cause a tailings emergency. Until relieved by the Environmental or Radiation Technician or Radiation Safety Officer, inspectors will have the authority to direct resources during tailings emergencies.

Any major catastrophic events or conditions pertaining to the tailings area should be reported immediately to the Mill Manager or the Radiation Safety Officer, one of whom will notify Corporate Management. If dam failure occurs, notify your supervisor and the Mill Manager immediately. The Mill Manager will then notify Corporate Management, MSHA (303-231-5465), and the State of Utah, Division of Dam Safety (801-538-7200).

Cell 4A Solution Freeboard Calculation

The maximum tailings cell pond wastewater levels in Cells 1-I, Cell 2, Cell 3, Cell 4A, and Cell 4B are regulated by condition 10.3 of the White Mesa Mill 11e.(2) Materials License.

Condition 10.3 states that "The **Freeboard limit for Cell 1shall be 5615.4 feet above mean sea level, and the freeboard limit for Cell 4A and Cell 4B shall be set annually in accordance with the procedures set out in the latest edition of the White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Monitoring Plan, which is included as a section of the Mill's Environmental Protection Manual. Said calculations shall be submitted as part of the Annual Technical Evaluation Report. Said report shall be submitted for Executive Secretary approval no later than November 15 of each year.**"

The freeboard limits set out in Section 6.3 of the DMT Plan are intended to capture the Local 6-hour Probable Maximum Precipitation (PMP) event, which was determined in the January 10, 1990 Drainage Report for the White Mesa site to be 10 inches.

Based on the PMP storm event, the freeboard requirement for Cell 1 is a maximum operating water level of 5615.4 feet above mean sea level (amsl). The Cell 1 freeboard limit is not affected by operations or conditions in Cells 2, 3, 4A, or 4B.

Cells 2 and 3 have no freeboard limit because those Cells are full or near full of tailings solids. Cell 4A has no freeboard limit because it is assumed that all precipitation falling on Cell 4A will overflow to Cell 4B. All precipitation falling on Cell 2, 3, and 4A and the adjacent drainage areas must be contained in Cell 4B. The flood volume from the

PMP event over the Cell 2, 3, and Cell 4A pond areas, plus the adjacent drainage areas, which must be contained in Cell 4B, is 159.4 acre-feet of water.

The flood volume from the PMP event over the Cell 4A area is 36 acre-feet of water (40 acres, plus the adjacent drainage area of 3.25 acres, times the PMP of 10 inches). For the purposes of establishing the freeboard in Cell 4B, it is assumed Cell 4A has no freeboard limit and all of the flood volume from the PMP event will be contained in Cell 4B. The flood volume from the PMP event over the Cell 4B area is 38.1 acre-feet of water (40 acres, plus the adjacent drainage area of 5.7 acres, times the PMP of 10 inches). This would result in a total flood volume of 197.5 acre-feet, including the 123.4 acre-feet of solution from Cells 2 and 3 and 36 acre-feet of solution from Cells 2, 3, and 4A that must be contained in Cell 4B. The procedure for calculating the freeboard limit for Cell 4B is set out in the DMT Plan.

The Groundwater Quality Discharge Permit, No. UGW370004, for the White Mesa Mill requires that the minimum freeboard be no less than 3.0 feet for Cells 1, 4A, and 4B but based on License condition 10.3 and the procedure set out in the DMT Plan, the freeboard limits for Cells 1, 4A, and 4B will be at least three feet.

Figure 7, Hydraulic Profile Schematic, shows the relationship between the Cells, and the relative elevations of the solution pools and the spillway elevations.

The required freeboard for Cells 4A and 4B will be recalculated annually.

Attachments

1) Figures 1A and 1B, Initial Filling Plan, Geosyntec Consultants

2) Figure 2A and 2B, Initial Filling Plan, Details and Sections, Geosyntec Consultants

3) Figure 3A and 3B, Initial Filling Plan, Solution and Slurry Pipeline Routes, Geosyntec Consultants

4) Figure 4A and 4B, Interim Filling Plan, Geosyntec Consultants

5) Figure 5, Leak Detection System Sumps for Cell 4A and 4B, Geosyntec Consultants

6) Figure 6A and 6B, Leak Detection Sump Operating Elevations, Geosyntec Consultants

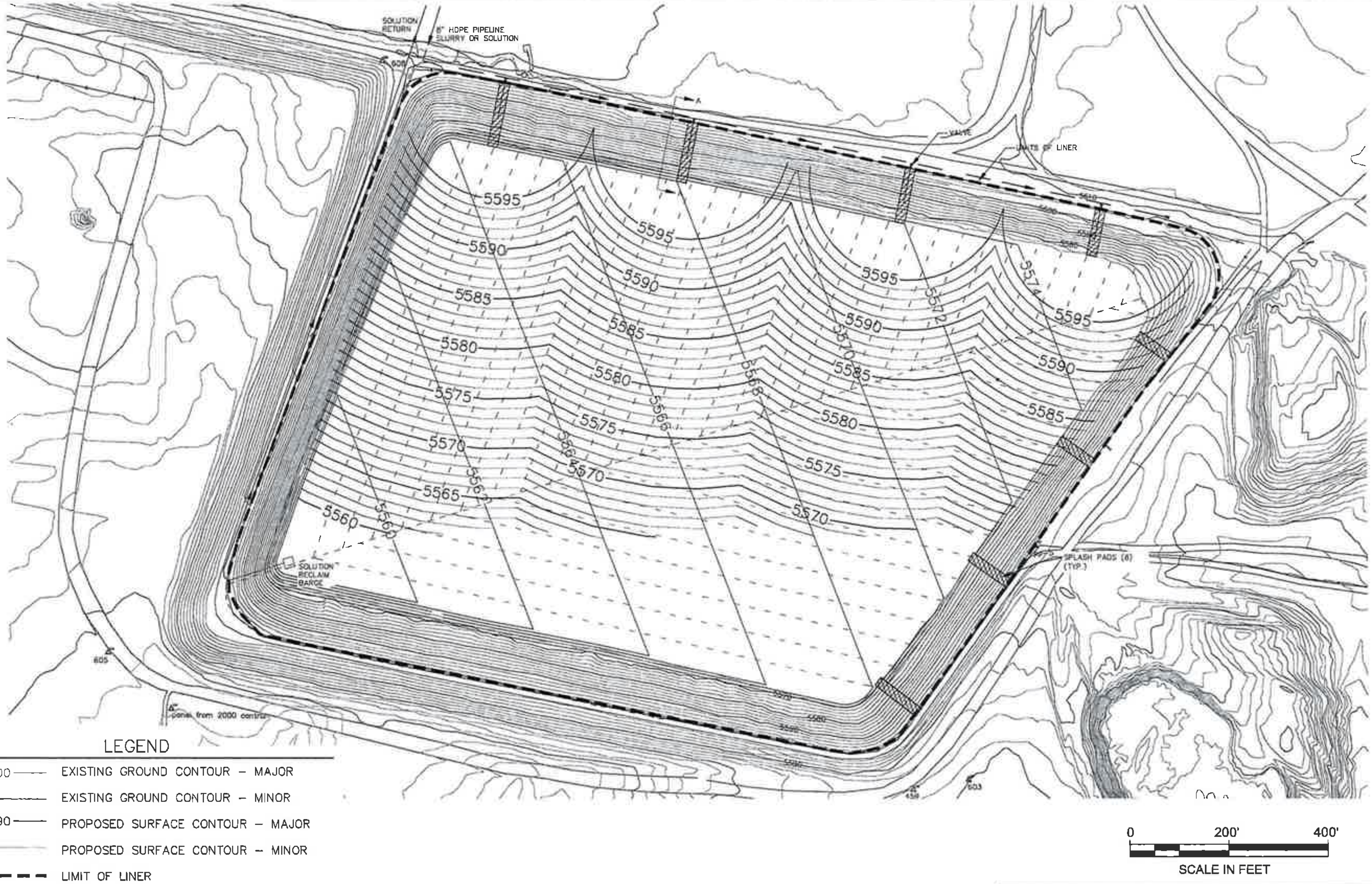
7) Figure 7, Hydraulic Profile Schematic

8) Cell 4A and Cell 4B Freeboard Calculations

9) Table 1A, Calculated Action leakage Rates for Various Head Conditions, Cell 4A, White Mesa Mill, Blanding, Utah, Geosyntec Consultants

10) Table 1B, Calculated Action leakage Rates for Various Head Conditions, Cell 4B, White Mesa Mill, Blanding, Utah, Geosyntec Consultants

11) White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Monitoring Plan, 10/10 Revision: DUSA-10, , or currently approved version of the DMT



LEGEND

5600	EXISTING GROUND CONTOUR – MAJOR
	EXISTING GROUND CONTOUR – MINOR
5590	PROPOSED SURFACE CONTOUR – MAJOR
	PROPOSED SURFACE CONTOUR – MINOR
	LIMIT OF LINER
	SPLASH PAD
	HDPE PIPELINE SLURRY OR SOULTION
	SOLUTION RETURN
	SLIMES DRAIN

INITIAL FILLING PLAN
CELL 4A
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 1A

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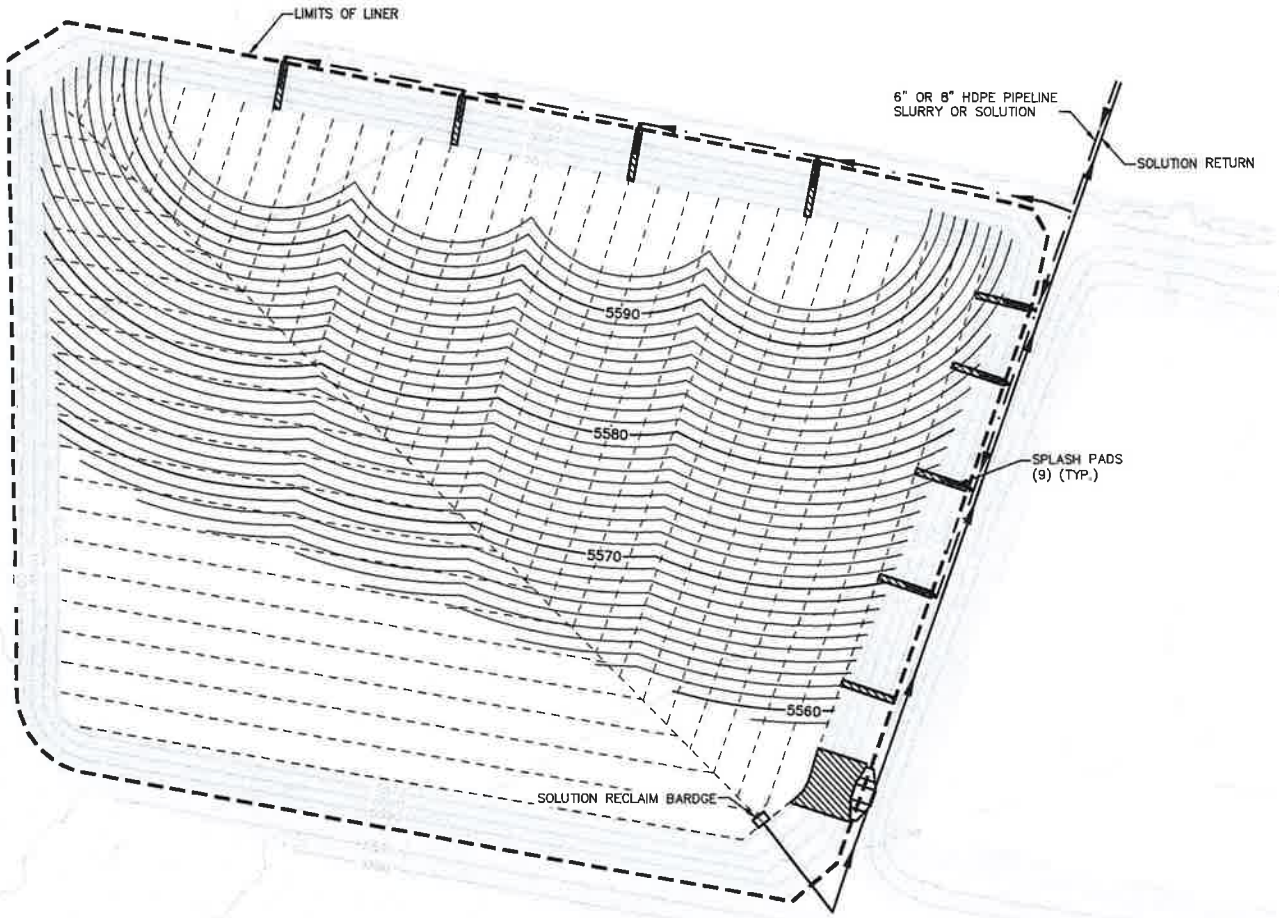

N

LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

0 200' 400'

SCALE IN FEET

INITIAL FILLING PLAN
CELL 4B
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 1B

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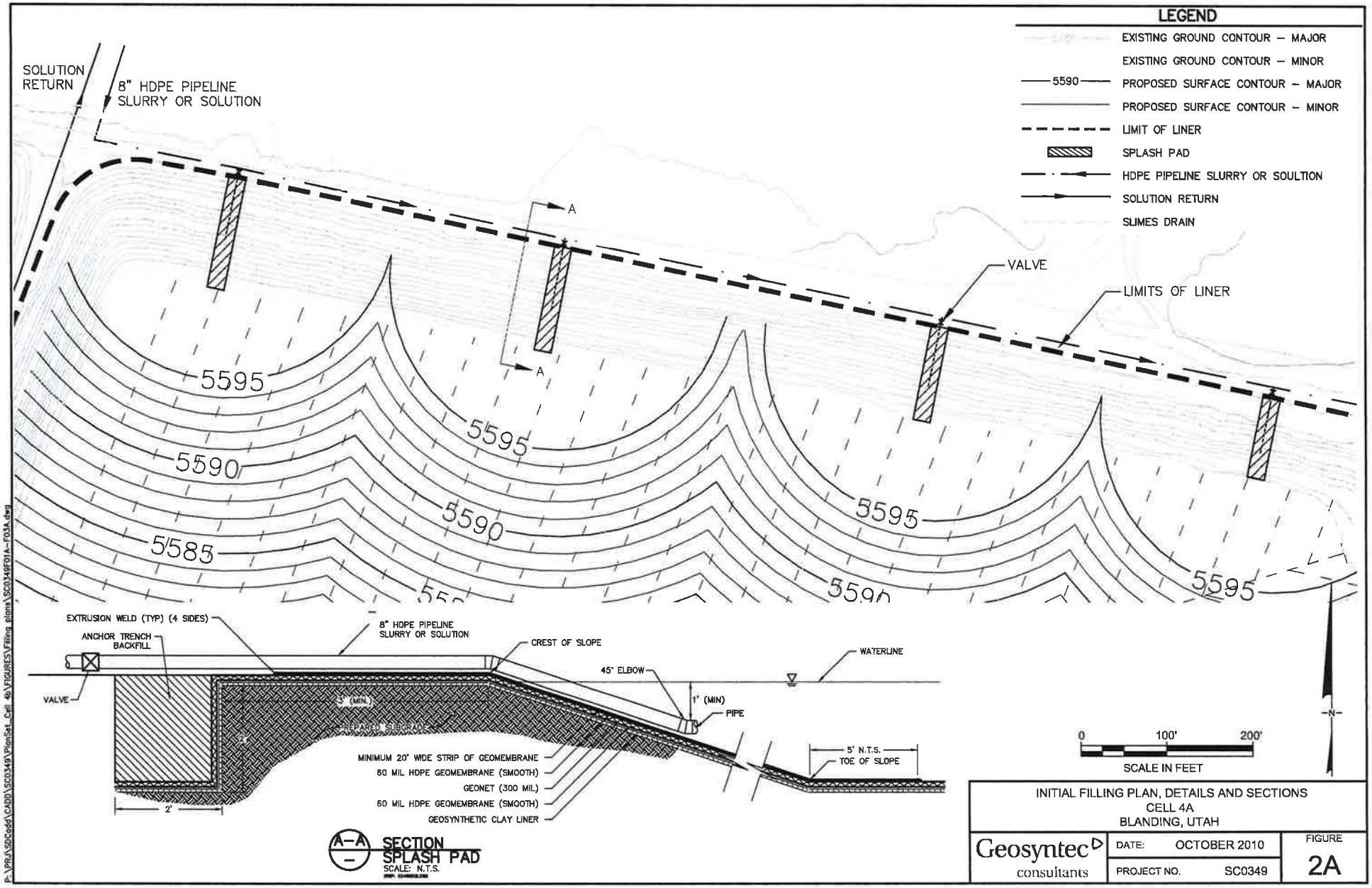

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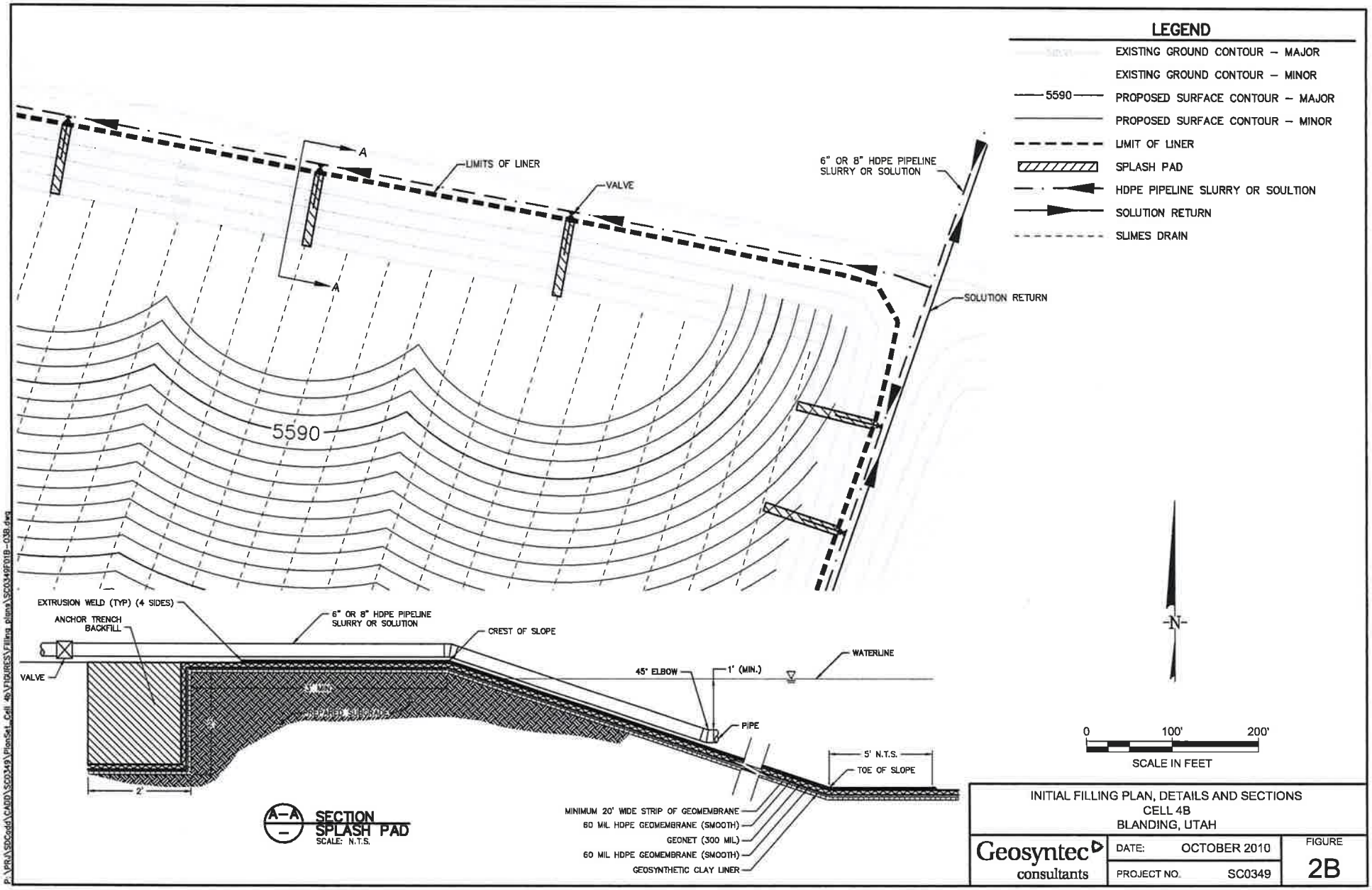
INITIAL FILLING PLAN, DETAILS AND SECTIONS
CELL 4A
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 2A



INITIAL FILLING PLAN, DETAILS AND SECTIONS
CELL 4B
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 2B

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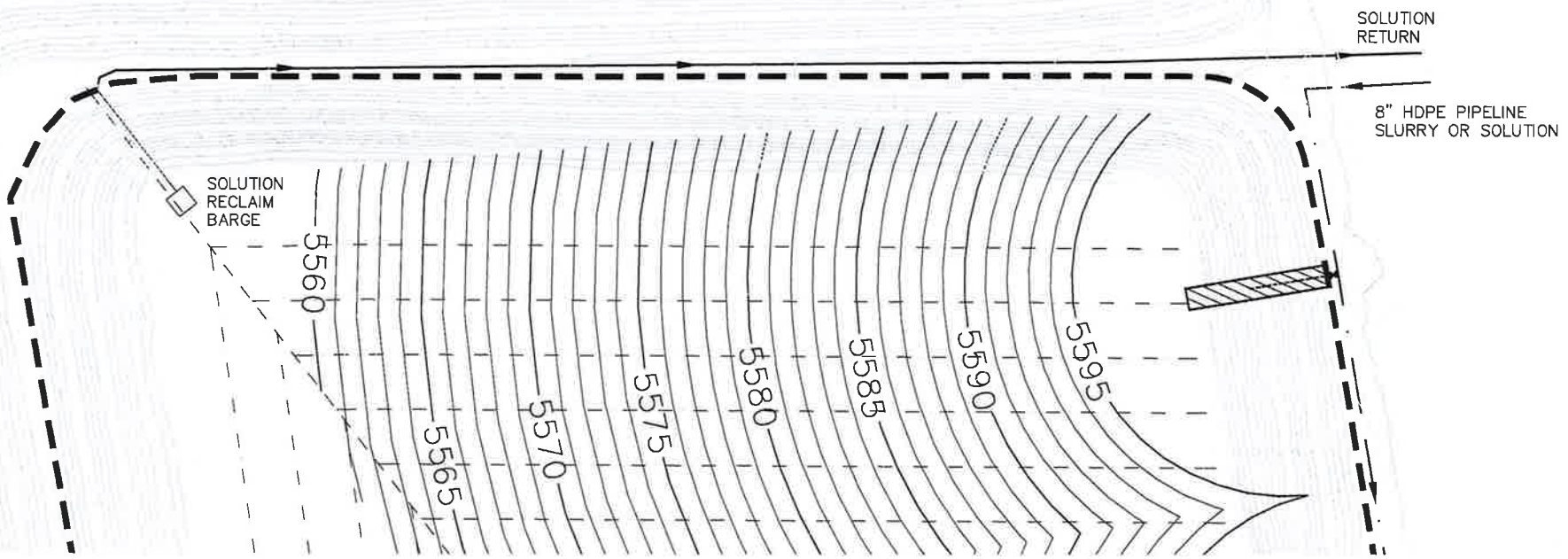

LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

N

0 100' 200'

SCALE IN FEET

INITIAL FILLING PLAN, SOLUTION AND SLURRY PIPELINE ROUTES
CELL 4A
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 3A

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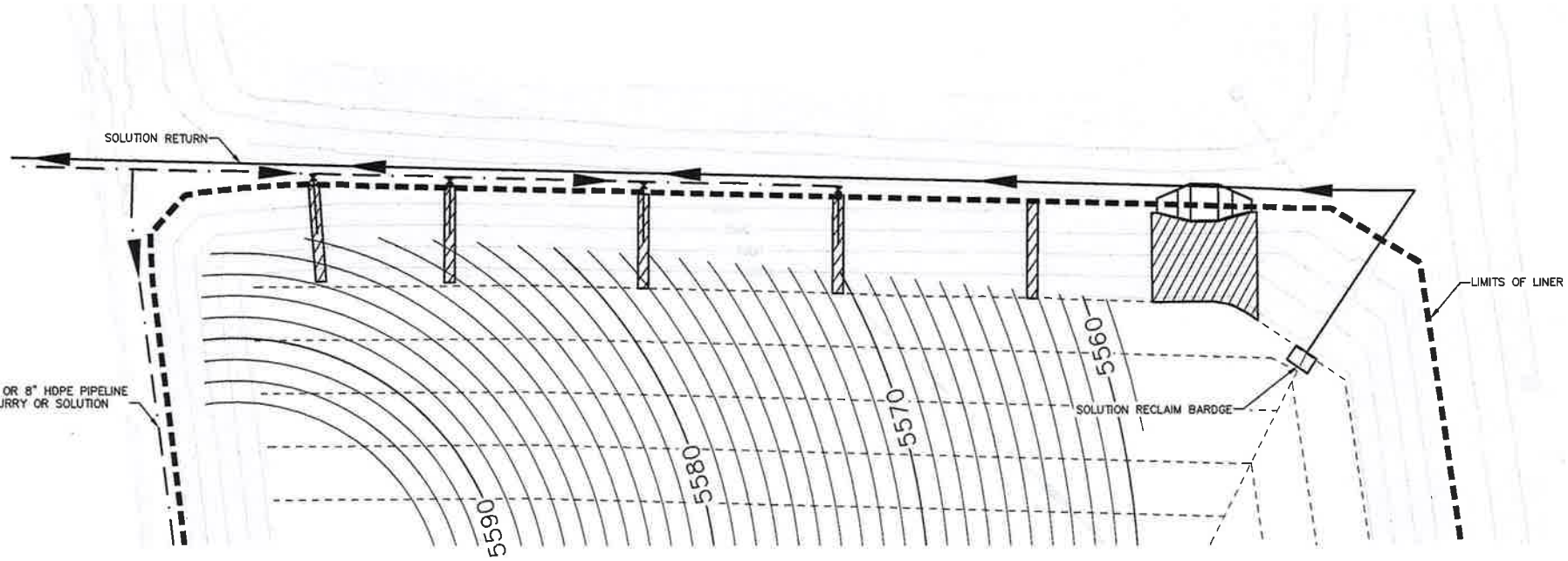

LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

N

0 100' 200'

SCALE IN FEET

INITIAL FILLING PLAN, SOLUTION AND SLURRY PIPELINE ROUTES
CELL 4B
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 3B

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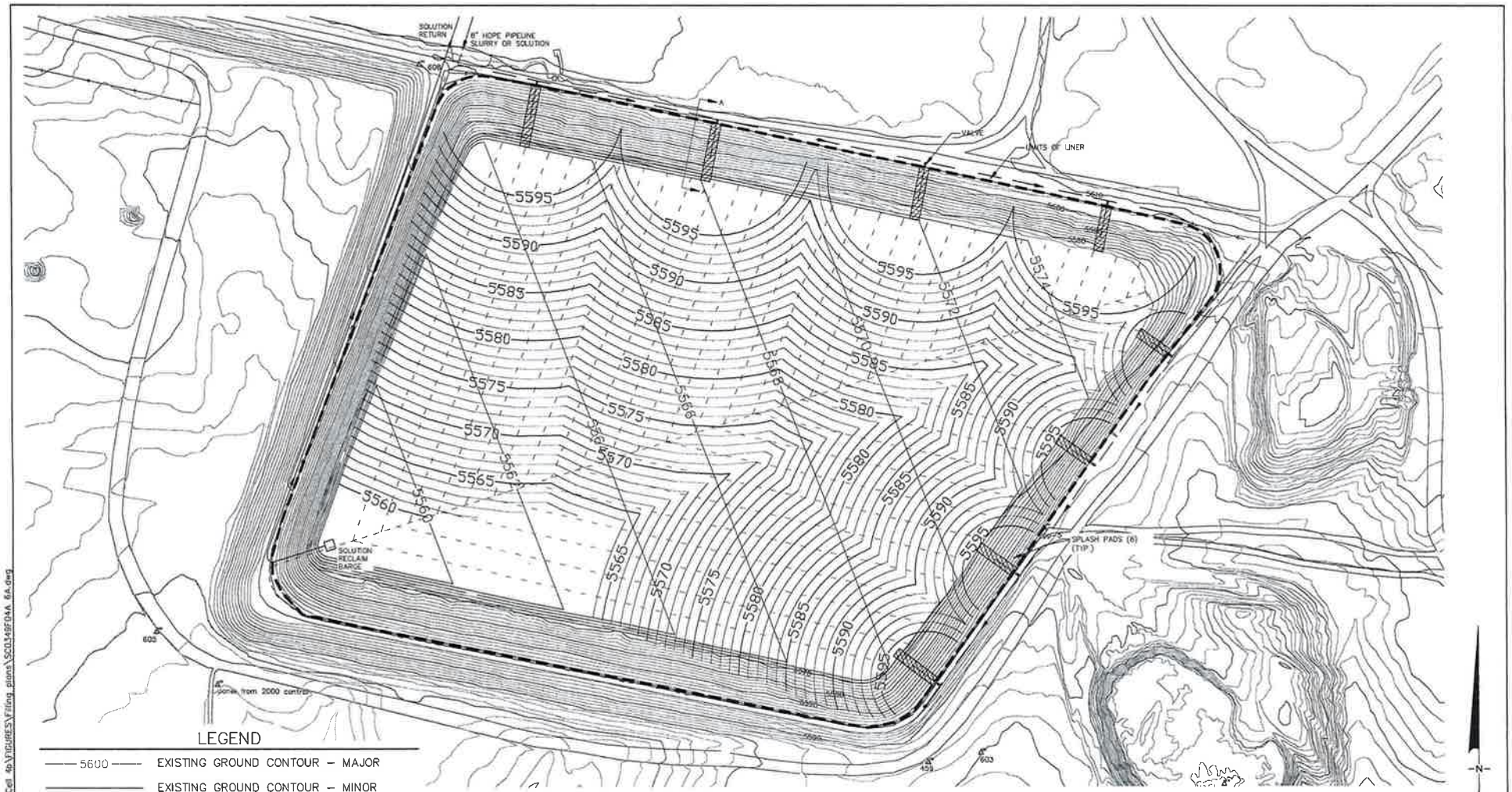

LEGEND

- 5600 — EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 — PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

INITERIM FILLING PLAN
CELL 4A
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 4A

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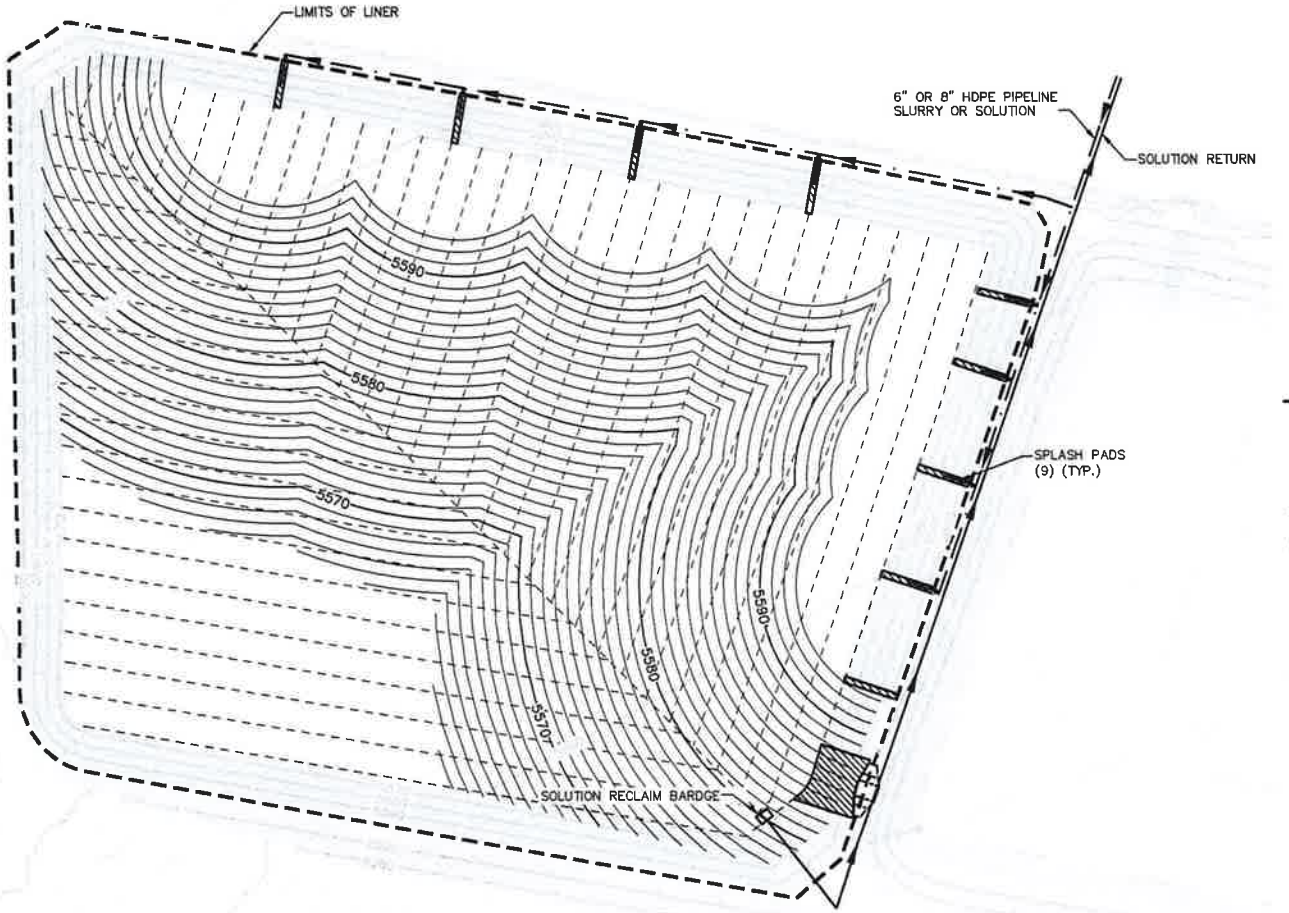

LEGEND

- EXISTING GROUND CONTOUR – MAJOR
- EXISTING GROUND CONTOUR – MINOR
- 5590 PROPOSED SURFACE CONTOUR – MAJOR
- PROPOSED SURFACE CONTOUR – MINOR
- LIMIT OF LINER
- SPLASH PAD
- HDPE PIPELINE SLURRY OR SOULTION
- SOLUTION RETURN
- SLIMES DRAIN

0 200' 400'

SCALE IN FEET

INTERIM FILLING PLAN
CELL 4B
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 4B

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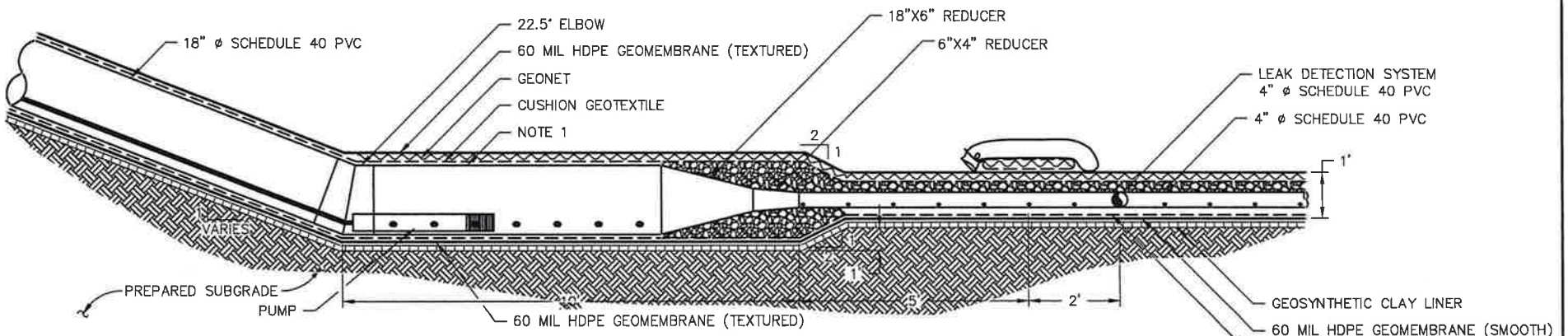

SECTION
LEAK DETECTION SYSTEM SUMP
N.T.S.

LEAK DETECTION SYSTEM SUMP CELLS 4A AND 4B BLANDING, UTAH		
Geosyntec consultants	DATE: OCTOBER 2010 PROJECT NO. SC0349	FIGURE 5

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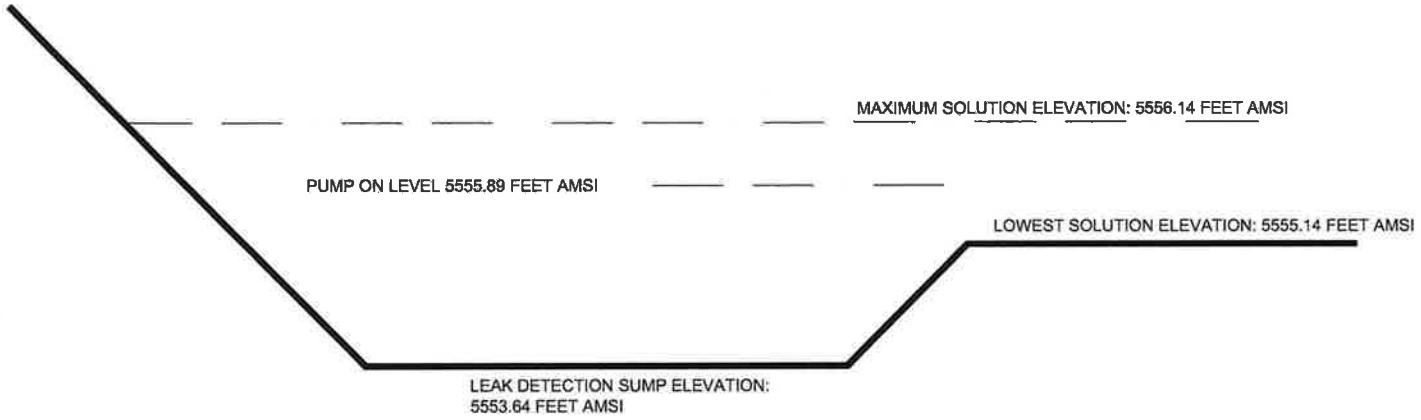

LEAK DETECTION SUMP
CELL 4A
BLANDING, UTAH

Geosyntec consultants	DATE: OCTOBER 2010	FIGURE 6A
	PROJECT NO. SC0349	

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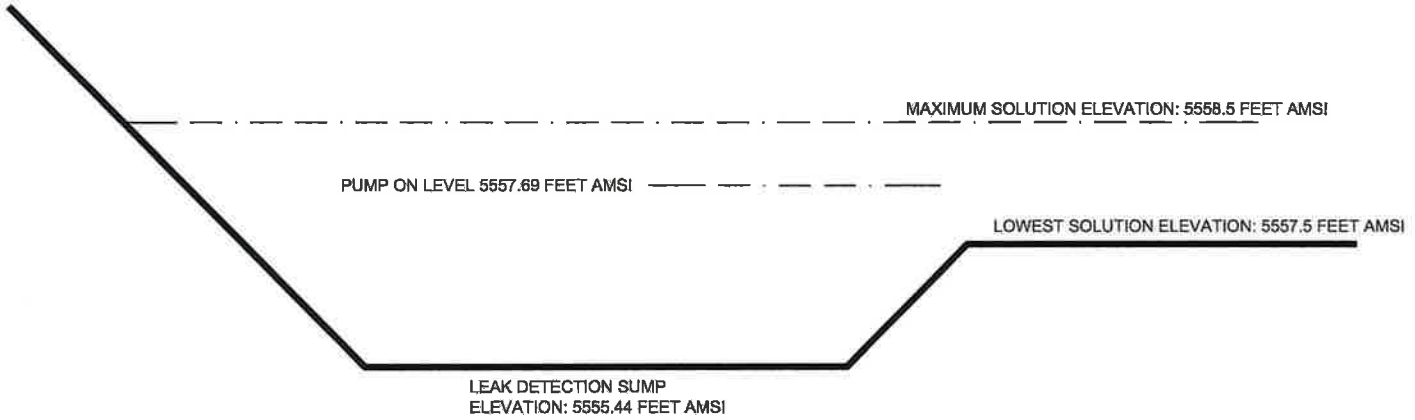

LEAK DETECTION SUMP
CELL 4B
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 6B

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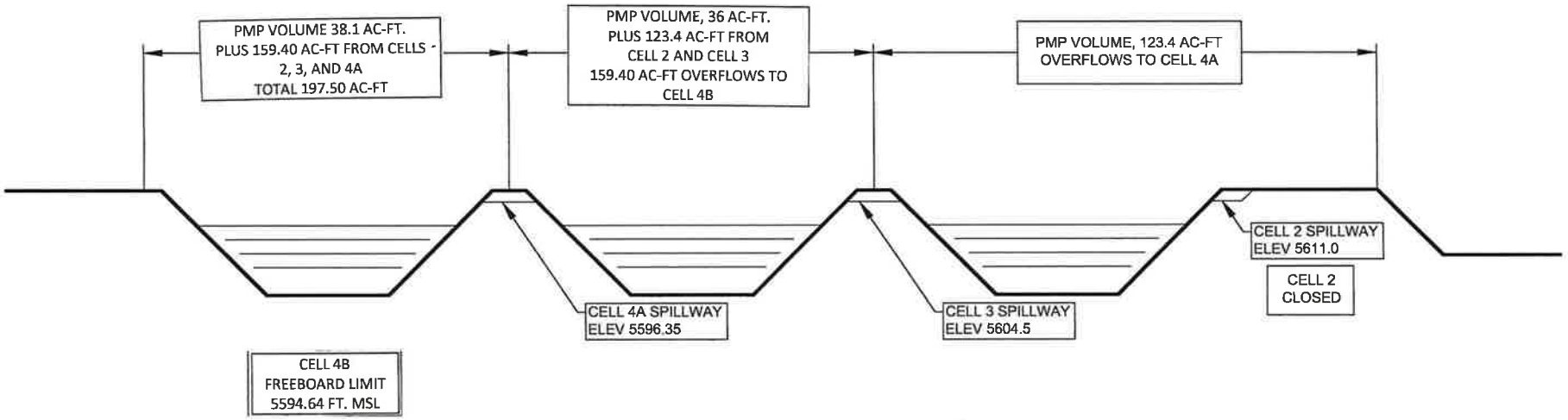

NOT TO SCALE

HYDRAULIC PROFILE SCHEMATIC
CELL 4B
BLANDING, UTAH

Geosyntec consultants

DATE: OCTOBER 2010

PROJECT NO. SC0349

FIGURE 7

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Table 1A
Calculated Action Leakage Rates for Various Head Conditions
Cell 4A, White Mesa Mill
Blanding, Utah

Head Above Liner System (feet)	Calculated Action Leakage Rate (gallons/acre/day)
5	222.04
10	314.0
15	384.58
20	444.08
25	496.5
30	543.88
35	587.5
37	604.0

Table 1B
Calculated Action Leakage Rates for Various Head Conditions
Cell 4B, White Mesa Mill
Blanding, Utah

Head Above Liner System (feet)	Calculated Action Leakage Rate (gallons/acre/day)
5	211.4
10	317.0
15	369.9
20	422.7
25	475.6
30	528.4
35	570.0
37	581.2

ATTACHMENT 1
PROPOSED REVISON 11.0 TO DMT PLAN
RED-LINED AND CLEAN VERSIONS

WHITE MESA MILL TAILINGS MANAGEMENT SYSTEM AND DISCHARGE MINIMIZATION TECHNOLOGY (DMT) MONITORING PLAN

1. INTRODUCTION

This Tailings Management System and Discharge Minimization Technology Monitoring Plan (the "Plan") for the White Mesa Mill (the "Mill") provides procedures for monitoring of the tailings cell system as required under State of Utah Radioactive Materials License No. UT1900479 (the "Radioactive Materials License"), as well as procedures for operating and maintenance of monitoring equipment and reporting procedures that are adequate to demonstrate DMT compliance under State of Utah Ground Water Discharge Permit No. 370004 for the Mill (the "GWDP").

This Plan is designed as a systematic program for constant surveillance and documentation of the integrity of the tailings impoundment system including dike stability, liner integrity, and transport systems, as well as monitoring of water levels in Roberts Pond and feedstock storage areas at the Mill. The Plan requires daily, weekly, quarterly, monthly and annual inspections and evaluations and monthly reporting to Mill management.

2. DAILY TAILINGS INSPECTIONS

The following daily tailings inspections shall be performed:

2.1. Daily Comprehensive Tailings Inspection

On a daily basis, including weekends, all areas connected with the four tailings cells will be inspected. Observations will be made of the current condition of each cell, noting any corrective action that needs to be taken.

The Environmental or Radiation Technician is responsible for performing the daily tailings inspections~~, except on weekends when the Shift Foreman will perform the weekend tailings inspections~~. The Radiation Safety Officer may designate other individuals with training, as described in Section 2.4 below, to perform the daily tailings inspection.

Observations made by the inspector will be recorded on the *Daily Inspection Data* form (a copy of which is attached in Appendix A). The *Daily Inspection Data* form contains an inspection checklist,

which includes a tailings cells map, and spaces to record observations, especially those of immediate concern and those requiring corrective action. The inspector will place a check by all inspection items that appear to be operating properly. Those items where conditions of potential concern are observed should be marked with an "X". A note should accompany the "X" specifying what the concern is and what corrective measures will resolve the problem. This observation of concern should be noted on the form until the problem has been remedied. The date that corrective action was taken should be noted as well.

Areas to be inspected include the following: Cell 1, 2, 3, 4A and 4B-A, Dikes 1, 2, 3, 4A-S, and 4A-W, 4B-S and 4B-W wind movement of tailings, effectiveness of dust minimization methods, spray evaporation, Cell 2 spillway, Cell 3 spillway, Cell 3, 4A and 4B-A liquid pools and associated liquid return equipment, cell leak detection systems, and the wildlife ponds.

Operational features of the tailings area are checked for conditions of potential concern. ~~The following items require visual inspection during the daily tailings inspection:~~

a) Tailings slurry and SX raffinate transport systems from the Mill to the active following items require visual inspection during the daily tailings inspection: disposal cell(s), and pool return pipeline and pumps.

Daily inspections of the tailings lines are required to be performed when the Mill is operating. The lines to be inspected include the: tailings slurry lines from CCD to the active tailings cell; SX raffinate lines that can discharge into Cell 1, Cell 3 or Cell 4A; the pond return line from the tailings area to the Mill; and, lines transporting pond solutions from one cell to another.

b) Cell 1.

c) Cell 2.

d) Cell 3.

e) Cell 4A.

~~e)~~f) Cell 4B.

~~f)~~g) Dike structures including dikes 1, 2, 3, 4A-S, ~~and~~ 4A-W, 4B-S and 4B-W.

g)h) The Cell 2 spillway, Cell 3 spillway, Cell 3 and Cell 4A liquid pools and associated liquid return equipment.

~~h)~~i) Presence of wildlife and/or domesticated animals in the tailings area, including

waterfowl and burrowing animal habitations.

i)j) Spray evaporation pumps and lines.

j)k) Wind movement of tailings and dust minimization.

Wind movement of tailings will be evaluated for conditions which may require initiation of preventative dust minimization measures for cells containing tailings sand. During tailings inspection, general surface conditions will be evaluated for the following: 1) areas of tailings subject to blowing and/or wind movement, 2) liquid pool size, 3) areas not subject to blowing and/or wind movement, expressed as a percentage of the total cell area. The evaluations will be reviewed on a weekly basis, or more frequently if warranted, and will be used to direct dust minimization activities.

k)l) Observation of flow and operational status of the dust control/spray evaporation system(s).

l)m) Observations of any abnormal variations in tailings pond elevations in Cells 1, 3, and 4A, and 4B.

m)n) Locations of slurry and SX discharge within the active cells. Slurry and SX discharge points need to be indicated on the tailings cells map included in the *Daily Inspection Data* form.

n)o) An estimate of flow for active tailings slurry and SX line(s).

o)p) An estimate of flow in the solution return line(s).

p)q) Daily measurements in the leak detection system (LDS) sumps of the tailings cells will be made when warranted by changes in the solution level of the respective leak detection system.

The trigger for further action when evaluating the measurements in the Cell 1 and Cell 3 leak detection systems is a gain of more than 12 inches in 24 hours. The solution level in Cell 4A or 4B leak detection system is not allowed to be more than 1.0 foot above the lowest point on the bottom flexible membrane liner (elevation 5556.14 feet amsl for Cell 4A and 5558.5 feet amsl for Cell 4B). If any of these observations are made, the Mill Manager should be notified immediately and the leak detection system pump started. In addition, the requirement to notify the Executive Secretary in accordance with Parts I.D.6 and I.G.3 of the Groundwater Discharge Permit must be adhered to when the solution

level trigger for Cell 4A or 4B has been exceeded.

Whenever the leak detection system pump is operating and the flow meter totalizer is recording, a notation of the date and the time will be recorded on the *Daily Inspection Data* form. This data will be used in accordance with License Condition 11.3.B through 11.3.E of the Mill's Radioactive Materials License, to determine whether or not the flow rate into the leak detection system is in excess of the License Conditions.

~~q)~~r) An estimate of the percentage of the tailings beach surface area and solution pool area is made, including estimates of solutions, cover areas, and tailings sands for Cells 3, 4A and 4B~~A~~.

Items (a), (m), (n), and (o) are to be done only when the Mill is operating. When the Mill is down, these items cannot be performed.

2.2. Daily Operations Inspection

During Mill operation, the Shift Foreman, or other person with the training specified in Section 2.4 below, designated by the Radiation Safety Officer, will perform an inspection of the tailings line and tailings area at least once per shift, paying close attention for potential leaks and to the discharges from the pipelines. Observations by the Inspector will be recorded on the appropriate line on the *Operating Foreman's Daily Inspection* form.

2.3. Daily Operations Patrol

In addition to the inspections described in Sections 2.1 and 2.2 above, a Mill employee will patrol the tailings area at least twice per shift during Mill operations to ensure that there are no obvious safety or operational issues, such as leaking pipes or unusual wildlife activity or incidences.

No record of these patrols need be made, but the inspectors will notify the Radiation Safety Officer and/or Mill management in the event that during their inspection they discover that an abnormal condition or tailings emergency has occurred.

2.4. Training

All individuals performing inspections described in Sections 2.1 and 2.2 above must have Tailings Management System training as set out in the Tailings Inspection Training procedure, which is attached as Appendix B. This training will include a training pack explaining the procedure for performing the inspection and addressing inspection items to be observed. In addition, each individual, after reviewing the training pack, will sign a certification form, indicating that training has been received relative to his/her duties as an inspector.

2.5. Tailings Emergencies

Inspectors will notify the Radiation Safety Officer and/or Mill management immediately if, during their inspection, they discover that an abnormal condition exists or an event has occurred that could cause a tailings emergency. Until relieved by the Environmental or Radiation Technician or Radiation Safety Officer, inspectors will have the authority to direct resources during tailings emergencies.

Any major catastrophic events or conditions pertaining to the tailings area should be reported immediately to the Mill Manager or the Radiation Safety Officer, one of whom will notify Corporate Management. If dam failure occurs, notify your supervisor and the Mill Manager immediately. The Mill Manager will then notify Corporate Management, MSHA (303-231-5465), and the State of Utah, Division of Dam Safety (801-538-7200).

3. WEEKLY TAILINGS AND DMT INSPECTION

3.1. Weekly Tailings Inspections

Weekly tailings inspections are to be conducted by the Radiation Safety Department and include the following:

a) Leak Detection Systems

Each tailings cell's leak detection system shall be checked weekly to determine whether it is wet or dry. If marked wet, the liquid levels need to be measured and reported. In Cell 1 and Cell 3 the leak detection system is measured by use of a pipe that is removed from the system which will indicate the presence of solutions in the LDS system. The Cell 4A and 4B leak detection systems ~~is~~ are monitored on a continuous basis by use of a pressure transducer that feeds water level information to an electronic data collector. The pressure transducer is calibrated for fluid with a specific gravity of 1.0. The water levels are measured every hour and the information is stored for later retrieval. The water levels are measured to the nearest 0.10 inch. The data collector is currently programmed to store 7 days of water level information. The number of days of stored data can be increased beyond 7 days if needed. The water level data is downloaded to a laptop computer on a weekly basis and incorporated into the Mill's environmental monitoring data base, and into the files for weekly inspection reports of the tailings cell leak detection systems

If sufficient fluid is present in the leak detection system of any cell, the fluid shall be pumped from the LDS, to the extent reasonably possible, and record the volume of fluid recovered. Any fluid pumped from an LDS~~A~~ shall be returned to a disposal cell.

If fluid is pumped from an LDS, the flow rate shall be calculated by dividing the recorded volume of fluid recovered by the elapsed time since fluid was last pumped or increases in the LDS fluid levels were recorded, whichever is the more recent. This calculation shall be documented as part of the weekly inspection.

Upon the initial pumping of fluid from an LDS, a fluid sample shall be collected and analyzed in accordance with paragraph 11.3 C. of the Radioactive Materials License.

For Cell 4A and 4B, under no circumstance shall fluid head in the leak detection system sump exceed a 1-foot level above the lowest point in the lower flexible membrane liner. To determine the Maximum Allowable Daily LDS Flow Rates in the Cell 4A and 4B leak detection systems, the total volume of all fluids pumped from the LDS on a weekly basis shall be recovered from the data collector, and that information will be used to calculate an average volume pumped per day. Under no circumstances shall the daily LDS flow volume exceed 24,160 gallons/day for Cell 4A or 26,145gallons/day for Cell 4B. The maximum daily LDS flow volume will be compared against the measured cell solution levels detailed on Table 1A and 1B (for Cells 4A and 4B, respectively) in Appendix E, to determine the maximum daily allowable LDS flow volume for varying head conditions in Cell 4A and 4B.

b) Slimes Drain Water Level Monitoring

(i) Cell 3 is ~~an active tailings cell~~nearly full and will commence closure when filled. ~~while~~ Cell 2 is partially reclaimed with ~~approximately 90% of~~ the surface covered by platform fill. Each cell has a slimes drain system which aids in dewatering the slimes and sands placed in the cell;

(ii) Cell 2 has a pump placed inside of the slimes drain access pipe at the bottom of the slimes drain. As taken from actual measurements, the bottom of the slimes drain is 38 feet below a water level measuring point at the centerline of the slimes drain access pipe, at the ground surface level. This means that the bottom of the slimes

drain pool and the location of the pump are one foot above the lowest point of the FML in Cell 2, which, based on construction reports, is at a depth of 39 feet below the water level measuring point on the slimes drain access pipe for Cell 2;

(iii) The slimes drain pump in Cell 2 is ~~on a timed system, under which it pumps for 15 minutes each hour, thereby allowing the slimes wastewater to recharge for 45 minutes before being pumped again. Based on measurements taken in August 2006, the water level in the Cell 2 slimes drain recharges to a depth of about 28.50 feet before each pumping and is pumped to a depth of 38 feet after each pumping, in each case measured below the water level measuring point on the slimes drain access pipe~~activated and deactivated by a float mechanism and water level probe system. When the water level reaches the level of the float mechanism the pump is activated. Pumping then occurs until the water level reaches the lower probe which turns the pump off. The lower probe is located one foot above the bottom of the slimes drain standpipe, and the float valve is located at five feet above the bottom of the slimes drain standpipe. The average wastewater head in the Cell 2 slimes drain is therefore ~~about~~ less than 5 feet~~. The depth to water of about 28.50 feet after recharge~~and is below the phreatic surface of tailings Cell 2, ~~which is at a depth of~~ about 20 feet below the water level measuring point on the slimes drain access pipe. As a result, there is a continuous flow of wastewater from Cell 2 into the slimes drain collection system. Mill management considers that the average allowable wastewater head in the Cell 2 slimes drain resulting from pumping ~~at these intervals~~in this manner is satisfactory and is as low as reasonably achievable. ~~Based on past experience, cycling the pump more than 15 minutes every hour can result in more replacement costs for pumps and more resulting system downtime;~~

(iv) The Cell 2 slimes drain pump is checked weekly to observe that it is operating and that the ~~timer is set~~water level probe and float mechanism are working properly, which is noted on the Weekly Tailings Inspection Form. If at any time the pump is observed to be not working properly, it will be fixed or replaced within 15 days;

(v) Depth to wastewater in the Cell 2 slimes drain access pipe shall be monitored and recorded weekly to determine maximum and minimum fluid head before and after a pumping cycle, respectively. All head measurements must be made from the same measuring point (the notch at the north side of the access pipe), and made to the nearest 0.01 foot. The results will be recorded as depth-in-pipe measurements on the Weekly Tailings Inspection Form;

(vi) On a monthly basis, the slimes drain pump will be turned off and the wastewater in the slimes drain access pipe will be allowed to stabilize for at least 90 hours. Once the water level has stabilized (based on no change in water level for three (3) successive readings taken no less than one (1) hour apart) the water level of the wastewater will be measured and recorded as a depth-in-pipe measurement on the Monthly Inspection Data form, by measuring the depth to water below the water level measuring point on the slimes drain access pipe;

(vii) No process liquids shall be allowed to be discharged into Cell 2;

(viii) If at any time the most recent average annual head in the Cell 2 slimes drain is found to have increased above the average head for the previous calendar year, the Licensee will comply with the requirements of Part I.G.3 of the GWDP, including the requirement to provide notification to the Executive Secretary orally within 24 hours followed by written notification;

(ix) Because Cell 3 and Cell 4A are currently active, no pumping from the Cell 3 or Cell 4A slimes drain is authorized. No pumping from the Cell 4B slimes drain will be authorized once it is put into service and while it is active. Prior to initiation of tailings dewatering operations for Cell 3, ~~or~~ Cell 4A, or Cell 4B, a similar procedure will be developed for ensuring that average head elevations in the Cell 3 and Cell 4A slimes drains are kept as low as reasonably achievable, and that the Cell 3, Cell 4A, and Cell ~~4A~~ slimes drains are inspected and the results reported in accordance with the requirements of the permit."

c) Wind Movement of Tailings

An evaluation of wind movement of tailings or dusting and control measures shall be taken if needed.

d) Tailings Wastewater Pool Elevation Monitoring

Solution elevation measurements in Cells 1, ~~3~~ 4A, and 4B~~A~~ and Roberts Pond are to be taken by survey on a weekly basis, and the beach area in Cell 4A and 4B with the maximum elevation is to be taken by survey on a monthly basis, as follows:

(i) The survey will be performed by the Mill's Radiation Safety Officer or designee (the "Surveyor") with the assistance of another Mill worker (the "Assistant");

(ii) The survey will be performed using a survey instrument (the "Survey Instrument") accurate to 0.01 feet, such as a Sokkai No. B21, or equivalent, together with a survey rod (the "Survey Rod") having a visible scale in 0.01 foot increments;

~~(iii)~~ The reference Points (the "Reference Points") for Cells 1, ~~3~~ 4A, and 4B~~A~~, and Roberts Pond are known points established by professional survey. For Cell 1 and Roberts Pond, the Reference Point is a wooden stake with a metal disk on it located on the southeast corner of Cell 1. The elevation of the metal disk (the "Reference Point Elevation") for Cell 1 and Roberts Pond is at 5,623.14 feet above mean sea level ("FMSL"). For Cell 3 C~~and c~~ell 4A, and Cell 4B, the Reference Point is a piece of metal rebar located on the south dike of Cell 3. The elevation at the top of this piece of rebar (the Reference Point Elevation for Cell ~~3 and cell~~ 4A and 4B) is at 5,607.83 FMSL. ~~;~~

~~(iv)~~(iii) The Surveyor will set up the Survey Instrument in a location where both the applicable Reference Point and pond surface are visible. For Cell 1 and Roberts Pond, this is typically on the road on the Cell 1 south dike between Cell 1

and Roberts Pond, approximately 100 feet east of the Cell 1/Roberts Pond Reference Point. For ~~Cell 3 and~~ Cell 4A and Cell 4B, this is typically on the road on the Cell 3 dike approximately 100 feet east of the Cell 3 Reference Point;~~;~~

~~(v)~~(iv) Once in location, the Surveyor will ensure that the Survey Instrument is level by centering the bubble in the level gauge on the Survey Instrument;

~~(vi)~~(v) The Assistant will place the Survey Rod vertically on the Reference Point (on the metal disk on the Cell 1/Roberts Pond Reference Point ~~and~~ on the top of the rebar on the Cell ~~3 and cell~~ 4A and 4B Reference Point. The Assistant will ensure that the Survey Rod is vertical by gently rocking the rod back and forth until the Surveyor has established a level reading;

~~(vii)~~(vi) The Surveyor will focus the cross hairs of the Survey Instrument on the scale on the Survey Rod, and record the number (the "Reference Point Reading"), which represents the number of feet the Survey Instrument is reading above the Reference Point;

~~(viii)~~(vii) The Assistant will then move to a designated location where the Survey Rod can be placed on the surface of the main solution pond in the Cell 1, Cell 4A, Cell 4B, or Roberts Pond, or the area of the beach in Cell 4A or Cell 4B with the highest elevation, as the case may be. These designated locations, and the methods to be used by the Assistant to consistently use the same locations are as follows:

A. Pond Surface Measurements

~~I. Cell 3~~

~~A stake has been place in the central area of the south dike of Cell 3. The Assistant will walk perpendicular to the dike from the stake to the nearest point on the liquid surface of Cell 3 and place the Survey Rod at that location;~~

I. Cell 4A

~~B. Cell 4A~~

The Assistant will walk down the slope in the northeast corner of Cell 4A and place the Survey Rod at the liquid level.

II. Cell 4B

The Assistant will walk down the slope in the northwest corner of Cell 4B and place the Survey Rod at the liquid level.

III. Cell 1

~~C. Cell 1~~

A mark has been painted on the north side of the ramp going to the pump platform in Cell 1. The Assistant will place the Survey Rod against that mark and hold the rod vertically, with one end just touching the liquid surface; and

~~D~~ III Roberts Pond

A mark has been painted on the railing of the pump stand in Roberts Pond. The Assistant will place the Survey Rod against that mark and hold the rod vertically, with one end just touching the liquid surface.

Based on the foregoing methods, the approximate coordinate locations for the measuring points for Roberts Pond and the Cells are:

	Northing	Easting
Roberts Pond	323,041	2,579,697
Cell 1	322,196	2,579,277
~~Cell 3~~	~~320,508~~	~~2,577,760~~
Cell 4A	320,300	2,579,360
Cell 4B	320,690	2,576,200

These coordinate locations may vary somewhat depending on solution elevations in the Pond and Cells;

~~(i) The Assistant will hold the Survey Rod vertically with one end of the Survey Rod just touching the pond surface. The Assistant will ensure that the Survey Rod is vertical by gently rocking the rod back and forth until the Surveyor has established a level reading;~~

~~(ii) The Surveyor will focus the cross hairs of the Survey Instrument on the scale on the Survey Rod, and record the number (the "Pond Surface Reading"), which represents the number of feet the Survey Instrument is reading above the pond surface level.~~

~~The Surveyor will calculate the elevation of the pond surface as FSML by adding the Reference Point Reading for the Cell or Roberts Pond, as the case may be, to the Reference Point Elevation for the Cell or Roberts Pond and subtracting the Pond Surface Reading for the Cell or Roberts Pond, and will record the number accurate to 0.01 feet.~~

C. Cell 4B Beach Elevation

The Assistant will place the Survey Rod at the point on the beach area of Cell 4B that has the highest elevation. If it is not clear which area of the beach has the highest elevation, then multiple points on the beach area will be surveyed until the Surveyor is satisfied that the point on the Cell 4B beach area with the highest elevation has been surveyed. If it is clear that all points on the Cell 4B beach area are below 5,593 FMSL, then the Surveyor may rely on one survey point;

(viii) The Assistant will hold the Survey Rod vertically with one end of the Survey Rod just touching the pond surface. The Assistant will ensure that the Survey Rod is vertical by gently rocking the rod back and forth until the Surveyor has established a level reading;

(ix) The Surveyor will focus the cross hairs of the Survey Instrument on the scale on the Survey Rod, and record the number (the "Pond Surface Reading"), which represents the number of feet the Survey Instrument is reading above the pond surface level.

The Surveyor will calculate the elevation of the pond surface as FSML by adding the Reference Point Reading for the Cell or Roberts Pond, as the case may be, to the Reference Point Elevation for the Cell or Roberts Pond and subtracting the Pond Surface Reading for the Cell or Roberts Pond, and will record the number accurate to 0.01 feet.

e) Decontamination Pads

(i) New Decontamination Pad

The New Decontamination Pad is located in the southeast corner of the ore pad, near the Mill's scale house.

A. In order to ensure that the primary containment of the New Decontamination Pad water collection system has not been compromised, and to provide an inspection capability to detect leakage from the primary containment, vertical inspection portals have been installed between the primary and secondary containments;

B. These portals will be visually observed on a weekly basis as a means of detecting any leakage from the primary containment into the void between the primary and secondary containment. The depth to water in each portal will be measured weekly, by physically measuring the depth to water with an electrical sounding tape/device. All measurements must be made from the same measuring point and be made to the nearest 0.01 foot;

C. These inspections will be recorded on the Weekly Tailings Inspection form;

D. The water level shall not exceed 0.10 foot above the concrete floor in any standpipe, at any time. This will be determined by subtracting the weekly depth to water measurement from the distance from the measuring point in the standpipe to the dry concrete floor The depth to water from the top (elevation 5589.8 feet amsl) of any of the three (3) observation ports to the standing water shall be no less than 6.2 feet. Depths less than 6.2 feet shall indicate more that 0.1 foot of standing water above the concrete floor (elev. 5583.5 feet amsl), and shall indicate a leak in the primary containment.

E. Any observation of fluid between the primary and secondary containments will be reported to the Radiation Safety Officer (RSO).

F. In addition to inspection of the water levels in the standpipes, the New Decontamination Pad, including the concrete integrity of the exposed surfaces of the pad, will be inspected on a weekly basis. Any soil and debris will be removed from the New Decontamination Pad immediately prior to inspection of the concrete wash pad for cracking. Observations will be made of the current condition of the New Decontamination Pad. Any abnormalities relating to the pad and any damage to the concrete wash surface of the pad will be noted on the Weekly Tailings Inspection form. If there are any cracks greater than 1/8 inch separation (width), the RSO must be contacted. The RSO will have the responsibility to cease activities and have the cracks repaired.

(ii) Existing Decontamination Pad

The Existing Decontamination Pad is located between the northwest corner of the Mill's maintenance shop and the ore feeding grizzly.

A. The Existing Decontamination Pad will be inspected on a weekly basis. Any soil and debris will be removed from the Existing Decontamination Pad immediately prior to inspection of the concrete wash pad for cracking Observations will be made of the current condition of the Existing Decontamination Pad, including the concrete integrity of the exposed surfaces of the pad. Any abnormalities relating to the pad and any damage or cracks on the

concrete wash surface of the pad will be noted on the Weekly Tailings Inspection form. If there are any cracks greater than 1/8 inch separation (width), the RSO must be contacted. The RSO will have the responsibility to cease activities and have the cracks repaired.

~~e)~~f) *Summary*

In addition, the weekly inspection should summarize all activities concerning the tailings area for that particular week.

Results of the weekly tailings inspection are recorded on the *Weekly Tailings and DMT Inspection* form. An example of the *Weekly Tailings and DMT Inspection* form is provided in Appendix A.

3.2. Weekly Inspection of Solution Levels in Roberts Pond

On a weekly basis, solution elevations are taken on Roberts Pond, in accordance with the procedures set out in Section 3.1 d) above. The Weekly solution level in Roberts Pond is recorded on the *Weekly Tailings and DMT Inspection* form. Based on historical observations, the FML at the Pond Surface Reading area for Roberts Pond, is approximately six inches above the lowest point on the pond's FML. If the pond solution elevation at the Pond Surface Reading area is at or below the FML for that area, the pond will be recorded as being dry.

3.3. Weekly Feedstock Storage Area Inspections

Weekly feedstock storage area inspections will be performed by the Radiation Safety Department, to confirm that:

a) the bulk feedstock materials are stored and maintained within the defined area described in the GWDP, as indicated on the map attached hereto as Appendix D;

b) a 4 ft. buffer is maintained at the periphery of the storage area which is absent bulk material in order to assure that the materials do not encroach upon the boundary of the storage area; and

c) all alternate feedstock located outside the defined Feedstock Area are maintained within water tight containers.

The results of this inspection will be recorded on the *Ore Storage/Sample Plant Weekly Inspection Report*, a copy of which is contained in Appendix A. Any variance in stored materials from this requirement or observed leaking alternate feedstock drums or other containers will be brought to the attention of Mill Management and rectified within 15 days.

4. MONTHLY TAILINGS INSPECTION

Monthly tailings inspections will be performed by the Radiation Safety Officer or his designee from the Radiation Safety Department and recorded on the *Monthly Inspection Data* form, an example of which is contained in Appendix A. Monthly inspections are to be performed no sooner than 14 days since the last monthly tailings inspection and can be conducted concurrently with the quarterly tailings inspection when applicable. The following items are to be inspected:

a) Tailings Slurry Pipeline

When the Mill is operating, the slurry pipeline will be inspected at key locations to determine pipe wear. Pipe thickness will be measured using an ultrasonic device by either the radiation safety staff or other trained designees. The critical points of the pipe include bends, slope changes, valves, and junctions, which are critical to dike stability. These locations to be monitored will be determined by the Radiation Safety Officer or his designee from the Radiation Safety Department during the Mill run.

b) Diversion Ditches

Diversion ditches 1, 2 and 3 shall be monitored monthly for sloughing, erosion, undesirable vegetation, and obstruction of flow. Diversion berm 2 should be checked for stability and signs of distress.

c) Sedimentation Pond

Activities around the Mill and facilities area sedimentation pond shall be summarized for the month.

d) Overspray Dust Minimization

The inspection shall include an evaluation of overspray minimization, if applicable. This entails ensuring that the overspray system is functioning properly. In the event that overspray is carried more than 50 feet from the cell, the overspray system should be immediately shut-off.

e) Remarks

A section is included on the *Monthly Inspection Data* form for remarks in which recommendations can be made or observations of concern can be documented.

f) Summary of Daily, Weekly and Quarterly Inspections

The monthly inspection will also summarize the daily, weekly and, if applicable, quarterly tailings inspections for the specific month.

In addition, settlement monitors are typically surveyed monthly and the results reported on the *Monthly Inspection Data* form.

5. QUARTERLY TAILINGS INSPECTION

The quarterly tailings inspection is performed by the Radiation Safety Officer or his designee from the Radiation Safety Department, having the training specified in Section 2.4 above, once per calendar quarter. A quarterly inspection should be performed no sooner than 45 days since the previous quarterly inspection was performed.

Each quarterly inspection shall include an Embankment Inspection, an Operations/Maintenance Review, a Construction Review and a Summary, as follows:

a) Embankment Inspection

The Embankment inspection involves a visual inspection of the crest, slope and toe of each dike for movement, seepage, severe erosion, subsidence, shrinkage cracks, and exposed liner.

b) Operations/Maintenance Review

The Operations/Maintenance Review consists of reviewing Operations and Maintenance activities pertaining to the tailings area on a quarterly basis.

c) Construction Review

The Construction Review consists of reviewing any construction changes or modifications made to the tailings area on a quarterly basis.

d) Summary

The summary will include all major activities or observations noted around the tailings area on a quarterly basis.

If any of these conditions are noted, the conditions and corrective measures taken should be documented in the *Quarterly Inspection Data* form. An example of the *Quarterly Inspection Data* form is provided in Appendix A.

6. ANNUAL EVALUATIONS

The following annual evaluations shall be performed:

6.1. Annual Technical Evaluation

An annual technical evaluation of the tailings management system is performed by a registered professional engineer (PE), who has experience and training in the area of geotechnical aspects of retention structures. The technical evaluation includes an on-site inspection of the tailings management system and a thorough review of all tailings records for the past year. The Technical Evaluation also includes a review and summary of the annual movement monitor survey (see Section 5.2 below).

All tailings cells and corresponding dikes will be inspected for signs of erosion, subsidence, shrinkage, and seepage. The drainage ditches will be inspected to evaluate surface water control structures.

In the event tailings capacity evaluations (as per SOP PBL-3) were performed for the receipt of alternate feed material during the year, the capacity evaluation forms and associated calculation sheets will be reviewed to ensure that the maximum tailings capacity estimate is accurate. The amount of tailings added to the system since the last evaluation will also be calculated to determine the estimated capacity at the time of the evaluation.

Tailings inspection records will consist of daily, weekly, monthly, and quarterly tailings inspections. These inspection records will be evaluated to determine if any freeboard limits are being approached. Records will also be reviewed to summarize observations of potential concern. The evaluation also involves discussion with the Environmental and/or Radiation Technician and the Radiation Safety Officer regarding activities around the tailings area for the past year. During the annual inspection, photographs of the tailings area will be taken. The training of individuals will be reviewed as a part of the Annual Technical Evaluation.

The registered engineer will obtain copies of selected tailings inspections, along with the monthly and quarterly summaries of observations of concern and the corrective actions taken. These copies will then be included in the Annual Technical Evaluation Report.

The Annual Technical Evaluation Report must be submitted by ~~September 1st~~ November 15th of every year to:

Directing Dam Safety Engineer
State of Utah, Natural Resources
1636 West North Temple, Suite 220
Salt Lake City, Utah 84116-3156

6.2. Movement Monitors

A movement monitor survey is to be conducted by a licensed surveyor annually during the second quarter of each year. The movement monitor survey consists of surveying monitors along dikes 3-S, 4A-W, and 4A-S to detect any possible settlement or movement of the dikes. The data generated from this survey is reviewed and incorporated into the *Annual Technical Evaluation Report* of the tailings management system.

6.3. Freeboard Limits

The freeboard limits set out in this Section are intended to capture the Local 6-hour Probable Maximum Precipitation (PMP) event, which was determined in the January 10, 1990 Drainage Report (the "Drainage Report") for the White Mesa site to be 10 inches.

The flood volume from the PMP event over the Cell 1 pond area plus the adjacent drainage areas, was calculated in the Drainage Report to be 103 acre feet of water, with a wave run up factor of 0.90 feet.

The flood volume from the PMP event over the Cell 2 and Cell 3 pond areas, plus the adjacent drainage areas was calculated in the Drainage Report to be 123.4 acre-feet of water.

The flood volume from the PMP event over the Cell 4A area was calculated in the Drainage Report to be 36 acre-feet of water (40 acres, plus the adjacent drainage area of 3.25 acres), times the PMP of 10 inches), with a wave run up factor of 0.77 feet.

The flood volume from the PMP event over the Cell 4B area has been calculated to be ~~36~~ 38.1 acre-feet of water (~~40~~ 45.72 acres, plus the adjacent drainage area of ~~3.25~~5.72 acres), times ~~a~~ the PMP of 10 inches, with a wave run up factor of 0.77 feet.

The total pool surface area in Cell 1 is 52.9 acres, in Cell 4A is 40 acres, and in Cell 4B is 40

acres. The top of the flexible membrane liner ("FML") for Cell 1 is 5,618.2 FMSL, for Cell 4A is 5,598.5 FMSL and for Cell 4B is 5600.4 FMSL.

Based on the foregoing, the freeboard limits for the Mill's tailings cells will be set as follows:

6.3.1. Cell 1

The freeboard limit for Cell 1 will be set at 5,615.4 FMSL. This will allow Cell 1 to capture all of the PMP volume associated with Cell 1. The total volume requirement for Cell 1 is 103 acre feet divided by 52.9 acres equals 1.95 feet, plus the wave run up factor of 0.90 feet equals 2.85 feet. The freeboard limit is then 5,618.2 FMSL minus 2.85 feet equals 5,615.4 FMSL. Under Radioactive Materials License condition 10.3, this freeboard limit is set and is not recalculated annually.

6.3.2. Cell 2

The freeboard limit for Cell 2 is inapplicable, since Cell 2 is filled with solids. All of the PMP volume associated with Cell 2 will be attributed to Cell 4A (and/or any future tailings cells).

6.3.3. Cell 3

The freeboard limit for Cell 3 is inapplicable, since Cell 3 is close to being filled with solids, and all of the PMP flood volume associated with Cell 3 will be attributed to Cell 4B (and/or any future tailings cells).

6.3.4. Cell 4A

The freeboard limit for Cell 4A is inapplicable since all of the PMP flood volume associated with Cell 4A will be attributed to Cell 4B. A spillway has been added to Cell 4A to allow overflow into Cell 4B.

6.3.5. Cell 4B

The freeboard limit for Cell 4B will be set assuming that the total PMP volume for Cells 2, 3, 4A, and 4B of 159.4 acre feet will be accommodated in Cell 4B. The procedure for calculating the freeboard limit for Cell 4B is as follows:

(a) When the Pool Surface Area is 40 Acres

When the pool surface area in Cell 4B is 40 acres (i.e., when there are no beaches), the freeboard limit for Cell 4B will be 5,594.6FMSL, which is 5.7 feet below the FML. This freeboard value was developed as follows:

PMP Flood Volume	38.1 acre-feet
Overflow from Cell 4A assuming no storage in Cell 3 or 4A	159.4 acre-feet

Sum of PMP volume and overflow volume	197.5 acre-feet
Depth to store PMP an overflow volume = 197.5 acre-feet/40 acres	4.9 feet
Wave run up factor	0.77 feet
Total required freeboard	5.7 feet

(all values in the above calculation have been rounded to the nearest one-tenth of a foot);

(b) When the Maximum Elevation of the Beach Area is 5,594 FMSL or Less

When the maximum elevation of the beach area in Cell 4B is 5594 FMSL or less, then the freeboard limit will be 5,594.6 FMSL, which is the same as in (a) above. This allows for the situation where there may be beaches, but these beaches are at a lower elevation than the freeboard limit established in (a) above, and there is therefore ample freeboard above the beaches to hold the maximum PMP volume. The maximum elevation of the beach area will be determined by monthly surveys performed by Mill personnel in accordance with the Mill's DMT Plan.

(c) When the Maximum Elevation of the Beach Area First Exceeds 5,594 FMSL

When the maximum elevation of the beach area in Cell 4B first exceeds 5,594 FMSL, then the freeboard limit for the remainder of the ensuing year (period t=0) (until the next November 1) will be calculated when that elevation is first exceeded (the "Initial Calculation Date"), as follows:

i) The total number of dry tons of tailings that have historically been deposited into Cell 4B prior to the Initial Calculation Date ("T_0") will be determined;

ii) The expected number of dry tons to be deposited into Cell 4B for the remainder of the ensuing year (up to the next November 1), based on production estimates for that period ("Δ_0*"), will be determined;

iii) Δ_0* will be grossed up by a safety factor of 150% to allow for a potential underestimation of the number of tons that will be deposited in the cell during the remainder of the ensuing year. This grossed up number can be referred to as the "modeled tonnage" for the period;

iv) The total design tailings solid storage capacity of Cell 4A will be accepted as 2,094,000 dry tons of tailings;

v) The available remaining space in Cell 4B for solids as at the Initial Calculation Date will be calculated as 2,094,000 dry tons minus T_0;

vi) The reduction in the pool surface area for the remainder of the ensuing year will be assumed to be directly proportional to the reduction in the available space in Cell 4A for solids. That is, the reduced pool surface area for period t=0 ("RPA_0"), after the reduction, will be calculated to be:

$$(1 - (\Delta_0^* \times 1.5) / (2{,}094{,}000 - T_0)) \times 40 \text{ acres} = RPA_0$$

vii) The required freeboard for Cell 4A for the remainder of the period t=0 can be calculated in feet to be the wave run up factor for Cell 4B of 0.77 feet plus the quotient of 197.5 acre feet divided by the RPA_0. The freeboard limit for Cell 4B for

the remainder of period t=0 would then be the elevation of the FML for Cell 4B of 5594.0 FMSL less this required freeboard amount, rounded to the nearest one-tenth of a foot; and

viii) The foregoing calculations will be performed at the Initial Calculation Date and the resulting freeboard limit will persist until the next November 1.

An example of this calculation is set out in Appendix F.

(d) Annual Freeboard Calculation When the Maximum Elevation of the Beach Area Exceeds 5,594 FMSL

On November 1 of each year (the "Annual Calculation Date"), the reduction in pool area for the ensuing year (referred to as period t) will be calculated by:

i) First, calculating the Adjusted Reduced Pool Area for the previous period ($ARPA_{t-1}$) to reflect actual tonnages deposited in Cell 4B for the previous period (period t-1). The RPA_{t-1} used for the previous period was based on expected tonnages for period t-1, grossed up by a safety factor. The $ARPA_{t-1}$ is merely the RPA that would have been used for period t-1 had the actual tonnages for year t-1 been known at the outset of period t-1 and had the RPA been calculated based on the actual tonnages for period t-1. This allows the freeboard calculations to be corrected each year to take into account actual tonnages deposited in the cell as of the date of the calculation. The $ARPA_{t-1}$ can be calculated using the following formula:

$$(1 - \Delta_{t-1} / (2{,}094{,}000 - T_{t-1})) \times ARPA_{t-2} = ARPA_{t-1}$$

Where:

- Δ_{t-1} is the actual number of dry tons of tailings solids deposited in Cell 4B during period t-1;
- T_{t-1} is the actual number of dry tons of tailings solids historically deposited in Cell 4B prior to the beginning of period t-1; and
- $ARPA_{t-2}$ is the Adjusted Reduced Pool Area for period t-2. If period t-2 started at the Initial Calculation Date, then $ARPA_{t-2}$ is 40 acres;

ii) Once the $ARPA_{t-1}$ for the previous period (period t-1) has been calculated, the RPA for the subject period (period t) can be calculated as follows:

$$(1 - (\Delta_t^* \times 1.5) / (2{,}094{,}000 - T_t)) \times ARPA_{t-1} = RPA_t$$

Where:

- Δ_t^* is the expected number of dry tons of tailings to be deposited into Cell 4B for the ensuing year (period t), based on production estimates for the year (as can be seen from the foregoing formula, this expected number is grossed up by a safety factor of 1.5);
- T_t is the actual number of dry tons of tailings solids historically deposited in Cell 4B prior to the beginning of period t; and

- $ARPA_{t-1}$ is the Adjusted Reduced Pool Area for period t-1, which is the pool surface area for the previous period (period t-1) that should have applied during that period, had modeled tonnages (i.e., expected tonnages grossed up by the 150% safety factor) equaled actual tonnages for the period;

iii) The required freeboard for period t can be calculated in feet to be the wave run up factor for Cell 4B of 0.77 feet plus the quotient of 197.5 acre feet divided by the RPA_t. The freeboard limit for Cell 4A for period t would then be the elevation of the FML for Cell 4B of 5594.0 FMSL less this required freeboard amount, rounded to the nearest one-tenth of a foot; and

iv) The foregoing calculations will be performed at the Annual Calculation Date for period t and the resulting freeboard limit will persist until the next Annual Calculation Date for period t+1.

An example of this calculation is set out in Appendix F.

(e) When a Spillway is Added to Cell 4B that Allows Overflow Into a New Tailings Cell

When a spillway is added between Cell 4B and a new tailings cell then, if an approved freeboard limit calculation method for the new cell is set to cover the entire PMP event for Cells 2, 3, 4A, 4B and the new tailings cell, the freeboard limit for Cell 4B will be inapplicable, except for approved provisions to prevent storm water runoff from overtopping dikes.

~~*a) Tailings Cells 1 and 4A*~~

~~The freeboard limits are as per *January 10, 1990 Drainage Report for Cells 1 and 4A* and are stated below:~~

~~(i) A liquid maximum elevation of 5,615.4 feet mean sea level in Cell 1.~~

~~(ii) A liquid maximum elevation of 5,596.4 feet mean sea level in Cell 4A.~~

~~*b) Tailings Cell 3*~~

~~The freeboard limit for Cell 3 is determined annually using the following procedure:~~

~~(i) From a survey of Cell 3, the pool surface will be determined.~~

~~(ii) An estimate of the maximum tons of dry tailings to be generated during the next 12 months will be made. This estimate is multiplied by 1.5, a factor of safety, to yield the Maximum Mill Production.~~

~~(iii) The Maximum Mill Production is divided by the number of tons required~~

~~to reduce the pool size by one acre and then subtracted from the pool surface (determined in Step i), yielding the Reduced Pool Area.~~

~~(iv) The PMP Flood Volume Requirement, as per the *January 10, 1990 Drainage Report*, is 123.4 acre feet. The PMP Flood Volume Requirement is divided by the Reduced Pool Area to determine the PMP Freeboard Level.~~

~~(v) The Wave Run Up of 0.78 feet (as specified in the *January 10, 1990 Drainage Report*) is added to the PMP Freeboard Level to determine the Total Required Freeboard.~~

~~The calculation of the Total Required Freeboard for Cell 3 will be calculated annually and the calculation sheet filed in the Mill Central File.~~

~~*c) Tailings Cell 4A*~~

~~The freeboard limit for Cell 4A is determined annually using the following procedure:~~

~~The Cell 4A design includes a concrete spillway between Cell 3 and Cell 4A, with the invert elevation 4 feet below the top of the Cell 3 dike, at an elevation of 5604.5 feet amsl. Should Cell 3 receive the full PMP volume of 123.4 acre feet of water, approximately 62 acre feet of that volume would flow through the spillway into Cell 4A.~~

~~The flood volume from the PMP event over the Cell 4A area is 36 acre-feet of water (40 acres, plus the adjacent drainage area of 3.25 acres, times the PMP of 10 inches). This would result in a total flood volume of 98 acre-feet, including the 62 acre-feet of solution from Cell 3. The freeboard depth required for Cell 4A from the PMP event would be 2.44 feet, plus a wave run-up depth of 0.77 feet (from the 1990 Drainage Report), for a total freeboard requirement of 3.2 feet. This calculation is illustrated on Attachment 4. The Groundwater Quality Discharge Permit, No. UGW370004, for the White Mesa Mill requires that the minimum freeboard be no less than 3.0 feet for any of the existing Cell construction, but based on the above calculation the freeboard would be set 3.2 feet below the top of liner. The freeboard for Cell 4A would therefore be 5595.3 amsl (top of liner 5598.5 – 3.2 feet).~~

~~The calculation of the Total Required Freeboard for Cell 4A will be calculated annually and the calculation sheet filed in the Mill Central File.~~

6.3.6. Roberts Pond

The freeboard limit for Roberts Pond is a liquid maximum elevation of 5,624.0 feet above mean sea level, as specified in the GWDP.

~~*d) Roberts Pond*~~

~~The freeboard limit for Roberts Pond is a liquid maximum elevation of 5,624.0 feet above mean sea level, as specified in the GWDP.~~

6.4. Annual Leak Detection Fluid Samples

In the event solution has been detected in a leak detection system, a sample will be collected on an annual basis. This sample will be analyzed according to the conditions set forth in License Condition 11.3.C. The results of the analysis will be reviewed to determine the origin of the solution.

6.5. Annual Inspection of the Decontamination Pads

a) New Decontamination Pad

During the second quarter of each year, the New Decontamination Pad will be taken out of service and inspected to ensure the integrity of the wash pad's exposed concrete surface. If any abnormalities are identified, i.e. cracks in the concrete with greater than 1/8 inch separation (width) or any significant deterioration or damage of the pad surface, repairs will be made prior to resuming the use of the facility. All inspection findings and any repairs required shall be documented on the Annual Decontamination Pad Inspection form. The inspection findings, any repairs required and repairs completed shall be summarized in the 2nd Quarter DMT Monitoring Report due September 1 of each calendar year.

b) Existing Decontamination Pad

During the second quarter of each year, the Existing Decontamination Pad will be taken out of service and inspected to ensure the integrity of the steel tank. Once the water and any sediment present is removed from the steel tank containment, the walls and bottom of the tank will be visually inspected for any areas of damage, cracks, or bubbling indicating corrosion that may have occurred since the last inspection. If any abnormalities are identified, defects or damage will be reported to Mill management and repairs will be made prior to resuming the use of the facility. All inspection findings and any repairs required shall be documented on the Annual Decontamination Pad Inspection form. A record of the repairs will be maintained as a part of the Annual Inspection records at the Mill site. The inspection findings, any repairs required and repairs completed shall be summarized in the 2nd Quarter DMT Monitoring Report due

September 1 of each calendar year.

7. OTHER INSPECTIONS

All daily, weekly, monthly, quarterly and annual inspections and evaluations should be performed as specified in Sections 2, 3, 4, 5 and 6 above. However, additional inspections should be conducted after any significant storm or significant natural or man-made event occurs.

8. REPORTING REQUIREMENTS

In addition to the *Daily Inspection Data*, *Weekly Tailings Inspection, Monthly Inspection Data* and *Quarterly Inspection Data* forms included as Appendix A and described in Sections 2, 3, 4 and 5 respectively, and the *Operating Foreman's Daily Inspection* and *Weekly Mill Inspection* forms described in Sections 2 and 3, respectively, the following additional reports shall also be prepared:

8.1. Monthly Tailings Reports

Monthly tailings reports are prepared every month and summarize the previous month's activities around the tailings area. If not prepared by the Radiation Safety Officer, the report shall be submitted to the Radiation Safety Officer for review. The Mill Manager will review the report as well before the report is filed in the Mill Central File. The report will contain a summary of observations of concern noted on the daily and weekly tailings inspections. Corrective measures taken during the month will be documented along with the observations where appropriate. All daily and weekly tailings inspection forms will be attached to the report. A monthly inspection form will also be attached. Quarterly inspection forms will accompany the report when applicable. The report will be signed and dated by the preparer in addition to the Radiation Safety Officer and the Mill Manager.

8.2. DMT Reports

Quarterly reports of DMT monitoring activities, which will include the following information, will be provided to the Executive Secretary on the schedule provided in Table 5 of the GWDP:

a) On a quarterly basis, all required information required by Part 1.F.2 of the GWDP relating to the inspections described in Section 3.1(b) (Slimes Drain Water Level Monitoring), 3.1(d) (Tailings Wastewater Pool and Beach Area Elevation Monitoring), 3.2 (Weekly Inspection of Solution Levels in Roberts Pond) and 3.3 (Weekly Feedstock Storage Area Inspections);

b) On a quarterly basis, a summary of the weekly water level (depth) inspections for the quarter for the presence of fluid in all three vertical inspection portals for each of the three chambers in the concrete settling tank system for the New Decontamination Pad, which will include a table indicating the water level measurements in each portal during the quarter;

c) With respect to the annual inspection of the New Decontamination Pad described in Section 6.5(a), the inspection findings, any repairs required, and repairs completed shall be summarized in the 2nd Quarter report, due September 1 of each calendar year;

d) With respect to the annual inspection of the Existing Decontamination Pad described in Section 6.5(b), the inspection findings, any repairs required, and repairs completed shall be summarized in the 2nd Quarter report, due September 1 of each calendar year; and

e) An annual summary and graph for each calendar year of the depth to wastewater in the Cell 2 slimes drain must be included in the fourth quarter report. After the first year, and beginning in 2008, quarterly reports shall include both the current year monthly values and a graphic comparison to the previous year.

~~Quarterly reports of DMT monitoring activities of all required information required by Part 1.F.2 of the GWDP relating to the inspections described in Section 3.1(b) (Slimes Drain Water Level Monitoring), 3.1(d) (Tailings Wastewater Pool Elevation Monitoring), 3.2 (Weekly Inspection of Solution Levels in Roberts Pond) and 3.3 (Weekly Feedstock Storage Area Inspections) will be provided to the Executive Secretary on the schedule provided in Table 5 of the GWDP. An annual summary and graph for each calendar year of the depth to wastewater in the Cell 2 slimes drain must be included in the fourth quarter report. After the first year, and beginning in 2008, quarterly reports shall include both the current year monthly values and a graphic comparison to the previous year.~~

APPENDIX A

FORMS

APPENDIX A (CONT.)
DAILY INSPECTION DATA

Inspector:_____
Date;_____
Accompanied by:_____
Time:_____

Any Item not "OK" must be documented. A check mark = OK, X = Action Required

I. TAILINGS SLURRY TRANSPORT SYSTEM						
Inspection Items	Conditions of Potential Concern	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Slurry Pipeline	Leaks, Damage, Blockage, Sharp Bends					
Pipeline Joints	Leaks, Loose Connections					
Pipeline Supports	Damage, Loss of Support					
Valves	Leaks, Blocked, Closed					
Point(s) of Discharge	Improper Location or Orientation					

II. OPERATIONAL SYSTEMS						
Inspection Items	Conditions of Potential Concern	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Water Level	Greater Than Operating Level, Large Change Since Previous Inspection					
Beach	Cracks, Severe Erosion, Subsidence					
Liner and Cover	Erosion of cover, Exposure of Liner					
Liner	Observable Liner Damage					

III. DIKES AND EMBANKMENTS									
Inspection Items	Conditions of Potential Concern	Dike 1-I	Dike 1-1A	Dike 2	Dike 3	Dike 4A-S	Dike 4A-W	Dike 4B-S	Dike 4B-W
Slopes	Sloughs or Sliding Cracks, Bulges, Subsidence, Severe Erosion, Moist Areas, Areas of Seepage Outbreak								
Crest	Cracks, Subsidence, Severe Erosion								

IV. FLOW RATES				
	Slurry Line(s)	Pond Return	S-X Tails	Spray System
GPM				

V. PHYSICAL INSPECTION OF SLURRY LINES(S)

Walked to Discharge Point _____Yes _____No
Observed Entire Discharge Line _____Yes _____No

VI. DUST CONTROL				
	Cell 2	Cell 3	Cell 4A	Cell 4B
Dusting				
Wind Movement of Tailings				
Precipitation: _____ inches liquid				
General Meteorological conditions: _____ _____ _____				

VII. DAILY LEAK DETECTION CHECK					
	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Leak Detection System Checked	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____

VIII OBSERVATIONS OF POTENTIAL CONCERN	Action Required

[MAP OF TAILINGS AREA]

APPENDIX A (CONT)

DENISON MINES (USA) CORP.
WEEKLY TAILINGS INSPECTION

Date:_____ Inspectors: _____

1. Pond elevations (msl, ft)

Cell 1: (a) Pond Solution Elevation _____
(b) FML Bottom Elevation 5597
(c) Depth of Water above FML ((a)-(b)) _____

~~Cell 3: (a)Pond Solution Elevation _____~~
~~(b)FML Bottom Elevation 5570~~
~~(c)Depth of Water above FML ((a)-(b)) _____~~

Cell 4A: (a)Pond Solution Elevation _____
(b)FML Bottom Elevation _____
~~5564~~5555.1
(c)Depth of Water above FML ((a)-(b)) _____

Cell 4B: (a)Pond Solution Elevation _____
(b)FML Bottom Elevation _____
5557.5
(c)Depth of Water above FML ((a)-(b)) _____

Roberts
Pond: (a)Pond Solution Elevation _____
(b)FML Bottom Elevation 5612.34
(c)Depth of Water above FML ((a)-(b)) _____

2. Slimes Drain Liquid Levels Cell 2

Pump functioning properly _____
Pump Timer set at 15min on 45 min off _____

_____Depth to Liquid pre-pump
_____Depth to Liquid Post-pump

(all measurements are depth-in-pipe)

Pre-pump head is 38'-Depth to Liquid Pre-pump =
_____
Post-pump head is 38' –Depth to Liquid Post-

pump = _____

3. Leak Detection Systems

Observation:					
	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Is LDS wet or dry?	____wet ____dry	____wet ____dry	____wet ____dry	____wet ____dry	____wet ____dry
If wet, Record liquid level:	_____Ft to Liquid	_____Ft to Liquid	_____Ft to Liquid	_____Ft to Liquid *	_____Ft to Liquid *
If sufficient fluid is present, record volume of fluid pumped and flow rate:	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____
Was fluid sample collected?	____yes____no	____yes____no	____yes____no	____yes____no	____yes____no

Observation:			
	New Decon Pad, Portal 1	New Decon Pad, Portal 2	New Decon Pad Portal 3
Is LDS (Portal) wet or dry?	____wet____dry	____wet____dry	____wet____dry
If wet, Record liquid level:	_____Ft to Liquid	_____Ft to Liquid	_____Ft to Liquid
If wet, Report to RSO			

4. Tailings Area Inspection (Note dispersal of blowing tailings):

_____
_____

5. Control Methods Implemented:_____
_____
_____

6. Remarks:_____
_____

7. Contaminated Waste Dump:_____

* Does Level exceed 12 inches above the lowest point on the bottom flexible membrane liner (elevation 5556.14 amsl)? _____ no _____ yes

If Cell 4A leak detection system level exceeds 12 inches above the lowest point on the bottom flexible membrane liner (elevation 5556.14 amsl), notify supervisor or Mill manager immediately.

APPENDIX A (CONT.)

MONTHLY INSPECTION DATA

Inspector: _____

Date: _____

1. Slurry Pipeline: _____

_____

_____

_____

_____

Pipe Thickness:_____(To be measured only during periods when the Mill is operating)

2. Diversion Ditches and Diversion Berm:

Observation:

	Diversion Ditch 1	Diversion Ditch 2	Diversion Ditch 3	Diversion Berm 2
Diversion Ditches:				
Sloughing	_____yes_____no	_____yes_____no	_____yes_____no	
Erosion	_____yes_____no	_____yes_____no	_____yes_____no	
Undesirable Vegetation	_____yes_____no	_____yes_____no	_____yes_____no	
Obstruction of Flow	_____yes_____no	_____yes_____no	_____yes_____no	
Diversion Berm:				
Stability Issues				_____yes_____no
Signs of Distress				_____yes_____no

Comments:_____

_____

_____

_____

_____

_____

3. Summary of Activities Around Sedimentation Pond: _____

_____

_____

_____

_____

_____

4. Overspray Dust Minimization:

Overspray system functioning properly: _____yes_____no

Overspray carried more than 50 feet from the cell: _____yes_____no
If "yes", was system immediately shut off? _____yes_____no

Comments:_____

5. Remarks: _____

6. Settlement Monitors

Cell 2 W1: _____	Cell 2W3-S: _____	Cell 3-1N: _____
Cell 2 W2: _____	Cell 2E1-N: _____	Cell 3-1C: _____
Cell 2 W3: _____	Cell 2E1-1S: _____	Cell 3-1S: _____
Cell 2 W4: _____	Cell 2E1-2S: _____	Cell 3-2N: _____
Cell 2W7-C: _____	Cell 2 East: _____	Cell 2W5-N: _____
Cell 2 W7N: _____	Cell 2 W7S: _____	Cell 2 W6N: _____
Cell 2 W6C: _____	Cell 2 W6S: _____	Cell 2 W4N: _____
Cell 4A-Toe: _____	Cell 2 W4S: _____	Cell 2 W5C: _____
Cell 3-2C: _____	Cell 3-2S: _____	Cell 2 W5S: _____
Cell 4B _____		

7. Summary of Daily, Weekly and Quarterly Inspections: _____

8. ___–Monthly Slimes Drain Static Head Measurement for Cell 2 (Depth-in-Pipe Water Level Reading): _____

9. Monthly Slimes Drain Static Head Measurement for Cell 3 (Depth-in-Pipe Water level) (after

Cell 3 is closed):

APPENDIX A (CONT.)

WHITE MESA MILL
TAILINGS MANAGEMENT SYSTEM

QUARTERLY INSPECTION DATA

Inspector: _____

Date: _____

1. **Embankment Inspection:** _____

2. **Operations/Maintenance Review:** _____

3. **Construction Activities:** _____

4. **Summary:** _____

APPENDIX A (CONT.)

ORE STORAGE/SAMPLE PLANT WEEKLY INSPECTION REPORT

Week of _____ through _____ Date of Inspection:_____

Inspector:_____

Weather conditions for the week:

_____
_____
_____

Blowing dust conditions for the week:

_____
_____
_____
_____

Corrective actions needed or taken for the week:

_____
_____
_____
_____

Are all bulk feedstock materials stored in the area indicated on the attached diagram:
yes:_____ no:_____
comments:_____
_____

Are all alternate feedstock materials located outside the area indicated on the attached diagram maintained within water-tight containers:
yes:_____ no:_____
comments (e.g., conditions of containers):_____
_____
_____

Are all sumps and low lying areas free of standing solutions?
Yes:_____ No:_____
If "No", how was the situation corrected, supervisor contacted and correction date?
_____
_____

Is there free standing water or water running off of the feedstock stockpiles?
Yes:_____ No:_____
Comments:~~Conditions of storage areas for materials:~~

Other comments:

APPENDIX A (CONT.)

ANNUAL DECONTAMINATION PAD INSPECTION

Date of Inspection: _____

Inspector: _____

New Decontamination Pad:

Are there any cracks on the wash pad surface greater than 1/8 inch of separation? ___Yes ___No

Is there any significant deterioration or damage of the pad surface? ____Yes ____No

Findings:

_____

_____

_____

Repair Work Required:

_____

_____

_____

Existing Decontamination Pad:

Were there any observed problems with the steel tank? ____Yes ____No

Findings:

_____

_____

_____

Repair Work Required:

_____

_____

_____

Note For the annual inspection of the both the Existing and New Decontamination Pads, the annual inspection findings, any repairs required, and repairs completed, along with a summary of the weekly inspections, shall be discussed in the 2nd Quarter report, due September 1 of each calendar year

APPENDIX B

TAILINGS INSPECTOR TRAINING

This document provides the training necessary for qualifying management-designated individuals for conducting daily tailings inspections. Training information is presented by the Radiation Safety Officer or designee from the Environmental Department. Daily tailings inspections are conducted in accordance with the White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Monitoring Plan. The Radiation Safety Officer or designee from the Radiation Safety Department is responsible for performing monthly and quarterly tailings inspections. Tailings inspection forms will be included in the monthly tailings inspection reports, which summarize the conditions, activities, and areas of concern regarding the tailings areas.

Notifications:

The inspector is required to record whether all inspection items are normal (satisfactory, requiring no action) or that conditions of potential concern exist (requiring action). A "check" mark indicates no action required. If conditions of potential concern exist the inspector should mark an "X" in the area the condition pertains to, note the condition, and specify the corrective action to be taken. If an observable concern is made, it should be noted on the tailings report until the corrective action is taken and the concern is remedied. The dates of all corrective actions should be noted on the reports as well.

Any major catastrophic events or conditions pertaining to the tailings area should be reported immediately to the Mill Manager or the Radiation Safety Officer, one of whom will notify Corporate Management. If dam failure occurs, notify your supervisor and the Mill Manager immediately. The Mill Manager will then notify Corporate Management, MSHA (303-231-5465), and the State of Utah, Division of Dam Safety (801-538-7200).

Inspections:

All areas of the tailings disposal system are routinely patrolled and visible observations are to be noted on a daily tailings inspection form. Refer to Appendix A for an example of the daily tailings inspection form. The inspection form consists of three pages and is summarized as follows:

1. Tailings Slurry Transport System:

The slurry pipeline is to be inspected for leaks, damage, and sharp bends. The pipeline joints are to be monitored for leaks, and loose connections. The pipeline supports are to be

inspected for damage and loss of support. Valves are also to be inspected particularly for leaks, blocked valves, and closed valves. Points of discharge need to be inspected for improper location and orientation.

2. Operational Systems:

Operating systems including water levels, beach liners, and covered areas are items to be inspected and noted on the daily inspection forms. Sudden changes in water levels previously observed or water levels exceeding the operating level of a pond are potential areas of concern and should be noted. Beach areas that are observed as having cracks, severe erosion or cavities are also items that require investigation and notation on daily forms. Exposed liner or absence of cover from erosion are potential items of concern for ponds and covered areas. These should also be noted on the daily inspection form.

Cells 1, 3, 4A and 4B~~A~~ solution levels are to be monitored closely for conditions nearing maximum operating level and for large changes in the water level since the last inspection. All pumping activities affecting the water level will be documented. In Cells 1 and 3, the PVC liner needs to be monitored closely for exposed liner, especially after storm events. It is important to cover exposed liner immediately as exposure to sunlight will cause degradation of the PVC liner. Small areas of exposed liner should be covered by hand. Large sections of exposed liner will require the use of heavy equipment

These conditions are considered serious and require immediate action. After these conditions have been noted to the Radiation Safety Officer, a work order will be written by the Radiation Safety Officer and turned into the Maintenance Department. All such repairs should be noted in the report and should contain the start and finish date of the repairs.

3. Dikes and Embankments:

Inspection items include the slopes and the crests of each dike. For slopes, areas of concern are sloughs or sliding cracks, bulges, subsidence, severe erosion, moist areas, and areas of seepage outbreak. For crests, areas of concern are cracks, subsidence, and severe erosion. When any of these conditions are noted, an "X" mark should be placed in the section marked for that dike.

In addition, the dikes, in particular dikes 3, 4A-S, ~~and~~ 4A-W, 4B-S, and 4B-W, should be inspected closely for mice holes and more importantly for prairie dog holes, as the prairie dogs are likely to burrow in deep, possibly to the liner. If any of these conditions exist, the inspection report should be marked accordingly.

4. Flow Rates:

Presence of all flows in and out of the cells should be noted. Flow rates are to be estimated in gallons per minute (GPM). Rates need to be determined for slurry lines, pond return, SX-tails, and the spray system. During non-operational modes, the flow rate column should be marked as "0". The same holds true when the spray system is not utilized.

5. Physical Inspection of Slurry Line(s):

A physical inspection of all slurry lines has to be made every 4 hours during operation of the mill. If possible, the inspection should include observation of the entire discharge line and discharge spill point into the cell. If "fill to elevation" flags are in place, the tailings and build-up is to be monitored and controlled so as to not cover the flags.

6. Dust Control:

Dusting and wind movement of tailings should be noted for Cells 2, 3, 4A, and 4B~~A~~. Other observations to be noted include a brief description of present weather conditions, and a record of any precipitation received. Any dusting or wind movement of tailings should be documented. In addition, an estimate should be made for wind speed at the time of the observed dusting or wind movement of tailings.

The Radiation Safety Department measures precipitation on a daily basis. Daily measurements should be made as near to 8:00 a.m. as possible every day. Weekend measurements will be taken by the Shifter as close to 8:00 a.m. as possible. All snow or ice should be melted before a reading is taken.

7. Observations of Potential Concern:

All observations of concern during the inspection should be noted in this section. Corrective action should follow each area of concern noted. All work orders issued, contacts, or notifications made should be noted in this section as well. It is important to document all these items in order to assure that the tailings management system records are complete and accurate.

8. Map of Tailings Cells:

The last section of the inspection involves drawing, as accurately as possible, the following items where applicable.

1. Cover area
2. Beach/tailing sands area
3. Solution as it exists
4. Pump lines
5. Activities around tailings cell (i.e. hauling trash to the dump, liner repairs, etc.)
6. Slurry discharge when operating
7. Over spray system when operating

9. Safety Rules:

All safety rules applicable to the mill are applicable when in the tailings area. These rules meet the required MSHA regulations for the tailings area. Please pay particular notice to the following rules:

1. The posted speed limit for the tailings area is 15 mph and should not be exceeded.
2. No food or drink is permitted in the area.
3. All personnel entering the tailings area must have access to a two-way radio.
4. Horseplay is not permitted at any time.
5. Only those specifically authorized may operate motor vehicles in the restricted area.
6. When road conditions are muddy or slick, a four-wheel drive vehicle is required in the area.
7. Any work performed in which there is a danger of falling or slipping in the cell will require the use of a safety belt or harness with attended life line and an approved life jacket. A portable eyewash must be present on site as well.
8. Anytime the boat is used to perform any work; an approved life jacket and goggles must be worn at all times. There must also be an approved safety watch with a two-way hand-held radio on shore. A portable eyewash must be present on site as well.

10. Preservation of Wildlife:

Every effort should be made to prevent wildlife and domesticated animals from entering the tailings area. All wildlife observed should be reported on the Wildlife Report Worksheet during each shift. Waterfowl seen near the tailings cells should be discouraged from landing by the use of noisemakers.

11. Certification:

Following the review of this document and on-site instruction on the tailings system inspection program, designated individuals will be certified to perform daily tailings inspections. The Radiation Safety Officer authorizes certification. Refer to the Certification Form, Appendix C. This form should be signed and dated only after a thorough review of the

tailings information previously presented. The form will then be signed by the Radiation Safety Officer and filed.

APPENDIX C

CERTIFICATION FORM

Date: _____

Name: _____

I have read the document titled "Tailings Management System, White Mesa Mill Tailings Inspector Training" and have received on-site instruction at the tailings system. This instruction included documentation of daily tailings inspections, analysis of potential problems (dike failures, unusual flows), notification procedures and safety.

_____
Signature

I certify that the above-named person is qualified to perform the daily inspection of the tailings system at the White Mesa Mill.

_____
Radiation Safety Personnel/ Tailings System Supervisor

APPENDIX D
FEEDSTOCK STORAGE AREA

APPENDIX E

TABLES

Table 1A

Calculated Action leakage Rates
for Various head Conditions
Cell 4A White mesa Mill
Blanding, Utah

Head above Liner System (feet)	Calculated Action leakage Rate (gallons / acre / day)
5	222.04
10	314.01
15	384.58
20	444.08
25	496.50
30	543.88
35	587.46
37	604.01

Table 1B

Calculated Action leakage Rates
for Various head Conditions
Cell 4B White mesa Mill
Blanding, Utah

Head above Liner System (feet)	Calculated Action leakage Rate (gallons / acre / day)
5	211.40
10	317.00
15	369.90
20	422.70
25	475.60
30	528.40
35	570.00
37	581.20

APPENDIX F

Example of Freeboard Calculations For Cell 4B

Assumptions and Factors:

- Total PMP volume to be stored in Cell 4A – 159.4 acre feet
- Wave runup factor for Cell 4A – 0.77 feet
- Total capacity of Cell 4B – 2,094,000 dry tons
- Elevation of FML of Cell 4B – 5,600.35 FMSL
- Maximum pool surface area of Cell 4A – 40 acres
- Total tailings solids deposited into Cell 4B at time beach area first exceeds 5,594 FMSL – 1,000,000 dry tons*
- Date beach area first exceeds 5,594, FMSL – March 1, 2012*
- Expected and actual production is as set forth in the following table:

Time Period	Expected Tailings Solids Disposition into Cell 4B Determined at the beginning of the period (dry tons)*	Expected Tailings Solids Disposition into Cell 4B at the beginning of the period, multiplied by 150% Safety Factor (dry tons)	Actual Tailings Solids Disposition into Cell 4B determined at end of the period (dry tons)*
March 1, 2012 to November 1, 2012	150,000	225,000	225,000
November 1, 2012 to November 1, 2013	300,000	450,000	275,000
November 1, 2013 to November 1, 2014	200,000	300,000	250,000

*These expected and actual tailings and production numbers and dates are fictional and have been assumed for illustrative purposes only.

Based on these assumptions and factors, the freeboard limits for Cell 4B would be calculated as follows:

1. Prior to March 1, 2012

Prior to March 1, 2012, the maximum elevation of the beach area in Cell 4B is less than or equal to 5,594 FMSL, therefore the freeboard limit is set at 5,594.6 FMSL.

2. March 1, 2012 to November 1, 2012

The pool surface area would be reduced to the following amount

(1 – 225,000 / (2,094,000 – 1,000,000)) x 40 acres = 31.77 acres

Based on this reduced pool area, the amount of freeboard would be 197.5 acre feet divided by 31.77 acres equals 6.22 feet. When the wave run up factor for Cell 4B of 0.77 feet is added to this, the total freeboard required is 6.99 feet. This means that the freeboard limit for Cell 4B would be reduced from 5594.6 FMSL to 5592.2 FMSL (5594.6 FMSL minus 6.22 feet, rounded to the nearest one-tenth of a foot). This calculation would be performed at March 1, 2012, and this freeboard limit would persist until November 1, 2012.

3. November 1, 2012 to November 1, 2013

The pool surface area would be reduced to the following amount:

First, recalculate the pool surface area that should have applied during the previous period, had modeled tonnages (i.e., expected tonnages grossed up by the 150% safety factor) equaled actual tonnages for the period. Since the actual tonnage of 225,000 dry tons was the same as the modeled tonnage of 225,000 dry tons, the recalculated pool surface area is the same as the modeled pool surface area for the previous period, which is 31.77 acres.

Then, calculate the modeled pool surface area to be used for the period:

(1 – 450,000 / (2,094,000 – 1,000,000 - 225,000)) x 31.77 acres = 15.32 acres

Based on this reduced pool area, the amount of freeboard would be 197.5 acre feet divided by 15.32 acres equals 12.89 feet. When the wave run up factor for Cell 4B of 0.77 feet is added to this, the total freeboard required is 13.66 feet. This means that the freeboard limit for Cell 4B would be reduced from 5592.2 FMSL to 5586.7 FMSL (5600.35 FMSL minus 13.66 feet, rounded to the nearest one-tenth of a foot). This calculation would be performed at November 1, 2012, and this freeboard limit would persist until November 1, 2013.

4. November 1, 2013 to November 1, 2014

The pool surface area would be reduced to the following amount:

First, recalculate the pool surface area that should have applied during the previous period, had modeled tonnages (i.e., expected tonnages grossed up by the 150% safety factor) equaled actual tonnages for the period. Since modeled tonnages exceeded actual tonnages, the pool area was reduced too much during the previous period, and must be adjusted. The recalculated pool area for the previous period is:

(1 – 275,000 / (2,094,000 – 1,000,000 - 225,000) x 31.77 acres = 21.72 acres.

This recalculated pool surface area will be used as the starting point for the freeboard calculation to be performed at November 1, 2013.

Then, calculate the modeled pool surface area to be used for the period:

(1 – 300,000 / (2,094,000 – 1,000,000 - 225,000 – 275,000)) x 21.72 acres = 10.75 acres

Based on this reduced pool area, the amount of freeboard would be 197.5 acre feet divided by 10.75 acres equals 18.37 feet. When the wave run up factor for Cell 4B of 0.77 feet is added to this, the total freeboard required is 19.14 feet. This means that the freeboard limit for Cell 4B would be reduced from 5586.7 FMSL to 5581.2 FMSL (5600.4 FMSL minus 18.4 feet, rounded to the nearest one-tenth of a foot). This calculation would be performed at November 1, 2013, and this freeboard limit would persist until November 1, 2014.

WHITE MESA MILL TAILINGS MANAGEMENT SYSTEM AND DISCHARGE MINIMIZATION TECHNOLOGY (DMT) MONITORING PLAN

1. INTRODUCTION

This Tailings Management System and Discharge Minimization Technology Monitoring Plan (the "Plan") for the White Mesa Mill (the "Mill") provides procedures for monitoring of the tailings cell system as required under State of Utah Radioactive Materials License No. UT1900479 (the "Radioactive Materials License"), as well as procedures for operating and maintenance of monitoring equipment and reporting procedures that are adequate to demonstrate DMT compliance under State of Utah Ground Water Discharge Permit No. 370004 for the Mill (the "GWDP").

This Plan is designed as a systematic program for constant surveillance and documentation of the integrity of the tailings impoundment system including dike stability, liner integrity, and transport systems, as well as monitoring of water levels in Roberts Pond and feedstock storage areas at the Mill. The Plan requires daily, weekly, quarterly, monthly and annual inspections and evaluations and monthly reporting to Mill management.

2. DAILY TAILINGS INSPECTIONS

The following daily tailings inspections shall be performed:

2.1. Daily Comprehensive Tailings Inspection

On a daily basis, including weekends, all areas connected with the four tailings cells will be inspected. Observations will be made of the current condition of each cell, noting any corrective action that needs to be taken.

The Environmental or Radiation Technician is responsible for performing the daily tailings inspections. The Radiation Safety Officer may designate other individuals with training, as described in Section 2.4 below, to perform the daily tailings inspection.

Observations made by the inspector will be recorded on the *Daily Inspection Data* form (a copy of which is attached in Appendix A). The *Daily Inspection Data* form contains an inspection checklist, which includes a tailings cells map, and spaces to record observations, especially those of immediate

concern and those requiring corrective action. The inspector will place a check by all inspection items that appear to be operating properly. Those items where conditions of potential concern are observed should be marked with an "X". A note should accompany the "X" specifying what the concern is and what corrective measures will resolve the problem. This observation of concern should be noted on the form until the problem has been remedied. The date that corrective action was taken should be noted as well.

Areas to be inspected include the following: Cell 1, 2, 3, 4Aand 4B, Dikes 1, 2, 3, 4A-S, 4A-W, 4B-S and 4B-W wind movement of tailings, effectiveness of dust minimization methods, spray evaporation, Cell 2 spillway, Cell 3 spillway, Cell 3, 4A and 4B liquid pools and associated liquid return equipment, cell leak detection systems, and the wildlife ponds.

Operational features of the tailings area are checked for conditions of potential concern.

a) Tailings slurry and SX raffinate transport systems from the Mill to the active following items require visual inspection during the daily tailings inspection: disposal cell(s), and pool return pipeline and pumps.

   Daily inspections of the tailings lines are required to be performed when the Mill is operating. The lines to be inspected include the: tailings slurry lines from CCD to the active tailings cell; SX raffinate lines that can discharge into Cell 1, Cell 3 or Cell 4A; the pond return line from the tailings area to the Mill; and, lines transporting pond solutions from one cell to another.

b) Cell 1.

c) Cell 2.

d) Cell 3.

e) Cell 4A.

f) Cell 4B.

g) Dike structures including dikes 1, 2, 3, 4A-S, 4A-W, 4B-S and 4B-W.

h) The Cell 2 spillway, Cell 3 spillway, Cell 3 and Cell 4A liquid pools and associated liquid return equipment.

i) Presence of wildlife and/or domesticated animals in the tailings area, including waterfowl and burrowing animal habitations.

j) Spray evaporation pumps and lines.

k) Wind movement of tailings and dust minimization.

Wind movement of tailings will be evaluated for conditions which may require initiation of preventative dust minimization measures for cells containing tailings sand. During tailings inspection, general surface conditions will be evaluated for the following: 1) areas of tailings subject to blowing and/or wind movement, 2) liquid pool size, 3) areas not subject to blowing and/or wind movement, expressed as a percentage of the total cell area. The evaluations will be reviewed on a weekly basis, or more frequently if warranted, and will be used to direct dust minimization activities.

l) Observation of flow and operational status of the dust control/spray evaporation system(s).

m) Observations of any abnormal variations in tailings pond elevations in Cells 1, 3, 4A, and 4B.

n) Locations of slurry and SX discharge within the active cells. Slurry and SX discharge points need to be indicated on the tailings cells map included in the *Daily Inspection Data* form.

o) An estimate of flow for active tailings slurry and SX line(s).

p) An estimate of flow in the solution return line(s).

q) Daily measurements in the leak detection system (LDS) sumps of the tailings cells will be made when warranted by changes in the solution level of the respective leak detection system.

The trigger for further action when evaluating the measurements in the Cell 1 and Cell 3 leak detection systems is a gain of more than 12 inches in 24 hours. The solution level in Cell 4A or 4B leak detection system is not allowed to be more than 1.0 foot above the lowest point on the bottom flexible membrane liner (elevation 5556.14 feet amsl for Cell 4A and 5558.5 feet amsl for Cell 4B). If any of these observations are made, the Mill Manager should be notified immediately and the leak detection system pump started. In addition, the requirement to notify the Executive Secretary in accordance with Parts I.D.6 and I.G.3 of the Groundwater Discharge Permit must be adhered to when the solution level trigger for Cell 4A or 4B has been exceeded.

Whenever the leak detection system pump is operating and the flow meter totalizer is recording, a notation of the date and the time will be recorded on the *Daily Inspection Data* form. This data will be used in accordance with License Condition 11.3.B through 11.3.E of the Mill's Radioactive Materials License, to determine whether or not the flow rate into the leak detection system is in excess of the License Conditions.

r) An estimate of the percentage of the tailings beach surface area and solution pool area is made, including estimates of solutions, cover areas, and tailings sands for Cells 3, 4A and 4B.

Items (a), (m), (n), and (o) are to be done only when the Mill is operating. When the Mill is down, these items cannot be performed.

2.2. Daily Operations Inspection

During Mill operation, the Shift Foreman, or other person with the training specified in Section 2.4 below, designated by the Radiation Safety Officer, will perform an inspection of the tailings line and tailings area at least once per shift, paying close attention for potential leaks and to the discharges from the pipelines. Observations by the Inspector will be recorded on the appropriate line on the *Operating Foreman's Daily Inspection* form.

2.3. Daily Operations Patrol

In addition to the inspections described in Sections 2.1 and 2.2 above, a Mill employee will patrol the tailings area at least twice per shift during Mill operations to ensure that there are no obvious safety or operational issues, such as leaking pipes or unusual wildlife activity or incidences.

No record of these patrols need be made, but the inspectors will notify the Radiation Safety Officer and/or Mill management in the event that during their inspection they discover that an abnormal condition or tailings emergency has occurred.

2.4. Training

All individuals performing inspections described in Sections 2.1 and 2.2 above must have Tailings Management System training as set out in the Tailings Inspection Training procedure, which is attached as Appendix B. This training will include a training pack explaining the procedure for performing the inspection and addressing inspection items to be observed. In addition, each individual, after reviewing the training pack, will sign a certification form, indicating that training has been received relative to his/her duties as an inspector.

2.5. Tailings Emergencies

Inspectors will notify the Radiation Safety Officer and/or Mill management immediately if, during their inspection, they discover that an abnormal condition exists or an event has occurred that could cause a tailings emergency. Until relieved by the Environmental or Radiation Technician or Radiation Safety Officer, inspectors will have the authority to direct resources during tailings emergencies.

Any major catastrophic events or conditions pertaining to the tailings area should be reported immediately to the Mill Manager or the Radiation Safety Officer, one of whom will notify Corporate Management. If dam failure occurs, notify your supervisor and the Mill Manager immediately. The Mill Manager will then notify Corporate Management, MSHA (303-231-5465), and the State of Utah, Division of Dam Safety (801-538-7200).

3. WEEKLY TAILINGS AND DMT INSPECTION

3.1. Weekly Tailings Inspections

Weekly tailings inspections are to be conducted by the Radiation Safety Department and include the following:

a) Leak Detection Systems

Each tailings cell's leak detection system shall be checked weekly to determine whether it is wet or dry. If marked wet, the liquid levels need to be measured and reported. In Cell 1 and Cell 3 the leak detection system is measured by use of a pipe that is removed from the system which will indicate the presence of solutions in the LDS system. The Cell 4A and 4B leak detection systems are monitored on a continuous basis by use of a pressure transducer that feeds water level information to an electronic data collector. The pressure transducer is calibrated for fluid with a specific gravity of 1.0. The water levels are measured every hour and the information is stored for later retrieval. The water levels are measured to the nearest 0.10 inch. The data collector is currently programmed to store 7 days of water level information. The number of days of stored data can be increased beyond 7 days if needed. The water level data is downloaded to a laptop computer on a weekly basis and incorporated into the Mill's environmental monitoring data base, and into the files for weekly inspection reports of the tailings cell leak detection systems

If sufficient fluid is present in the leak detection system of any cell, the fluid shall be pumped from the LDS, to the extent reasonably possible, and record the volume of fluid recovered. Any fluid pumped from an LDS shall be returned to a disposal cell.

If fluid is pumped from an LDS, the flow rate shall be calculated by dividing the recorded volume of fluid recovered by the elapsed time since fluid was last pumped or increases in the LDS fluid levels were recorded, whichever is the more recent. This calculation shall be documented as part of the weekly inspection.

Upon the initial pumping of fluid from an LDS, a fluid sample shall be collected and analyzed in accordance with paragraph 11.3 C. of the Radioactive Materials License.

For Cell 4A and 4B, under no circumstance shall fluid head in the leak detection system sump exceed a 1-foot level above the lowest point in the lower flexible membrane liner. To determine the Maximum Allowable Daily LDS Flow Rates in the Cell 4A and 4B leak detection systems, the total volume of all fluids pumped from the LDS on a weekly basis shall be recovered from the data collector, and that information will be used to calculate an average volume pumped per day. Under no circumstances shall the daily LDS flow volume exceed 24,160 gallons/day for Cell 4A or 26,145gallons/day for Cell 4B. The maximum daily LDS flow volume will be compared against the measured cell solution levels detailed on Table 1A and 1B (for Cells 4A and 4B, respectively) in Appendix E, to determine the maximum daily allowable LDS flow volume for varying head conditions in Cell 4A and 4B.

b) Slimes Drain Water Level Monitoring

(i) Cell 3 is nearly full and will commence closure when filled. Cell 2 is partially reclaimed with the surface covered by platform fill. Each cell has a slimes drain system which aids in dewatering the slimes and sands placed in the cell;
(ii) Cell 2 has a pump placed inside of the slimes drain access pipe at the bottom of the slimes drain. As taken from actual measurements, the bottom of the slimes drain is 38 feet below a water level measuring point at the centerline of the slimes drain access pipe, at the ground surface level. This means that the bottom of the slimes drain pool and the location of the pump are one foot above the lowest point of the

FML in Cell 2, which, based on construction reports, is at a depth of 39 feet below the water level measuring point on the slimes drain access pipe for Cell 2;

(iii) The slimes drain pump in Cell 2 is activated and deactivated by a float mechanism and water level probe system. When the water level reaches the level of the float mechanism the pump is activated. Pumping then occurs until the water level reaches the lower probe which turns the pump off. The lower probe is located one foot above the bottom of the slimes drain standpipe, and the float valve is located at five feet above the bottom of the slimes drain standpipe. The average wastewater head in the Cell 2 slimes drain is therefore less than 5 feetand is below the phreatic surface of tailings Cell 2, about 20 feet below the water level measuring point on the slimes drain access pipe. As a result, there is a continuous flow of wastewater from Cell 2 into the slimes drain collection system. Mill management considers that the average allowable wastewater head in the Cell 2 slimes drain resulting from pumping in this manner is satisfactory and is as low as reasonably achievable.

(iv) The Cell 2 slimes drain pump is checked weekly to observe that it is operating and that the water level probe and float mechanism are working properly, which is noted on the Weekly Tailings Inspection Form. If at any time the pump is observed to be not working properly, it will be fixed or replaced within 15 days;

(v) Depth to wastewater in the Cell 2 slimes drain access pipe shall be monitored and recorded weekly to determine maximum and minimum fluid head before and after a pumping cycle, respectively. All head measurements must be made from the same measuring point (the notch at the north side of the access pipe), and made to the nearest 0.01 foot. The results will be recorded as depth-in-pipe measurements on the Weekly Tailings Inspection Form;

(vi) On a monthly basis, the slimes drain pump will be turned off and the wastewater in the slimes drain access pipe will be allowed to stabilize for at least 90 hours. Once the water level has stabilized (based on no change in water level for three (3) successive readings taken no less than one (1) hour apart) the water level of the wastewater will be measured and recorded as a depth-in-pipe measurement on the Monthly Inspection Data form, by measuring the depth to water below the water level measuring point on the slimes drain access pipe;

(vii) No process liquids shall be allowed to be discharged into Cell 2;

(viii) If at any time the most recent average annual head in the Cell 2 slimes drain is found to have increased above the average head for the previous calendar year, the Licensee will comply with the requirements of Part I.G.3 of the GWDP, including the requirement to provide notification to the Executive Secretary orally within 24 hours followed by written notification;

(ix) Because Cell 3 and Cell 4A are currently active, no pumping from the Cell 3 or Cell 4A slimes drain is authorized. No pumping from the Cell 4B slimes drain will be authorized once it is put into service and while it is active. Prior to initiation of tailings dewatering operations for Cell 3,Cell 4A, or Cell 4B, a similar procedure will be developed for ensuring that average head elevations in the Cell 3 and Cell 4A

slimes drains are kept as low as reasonably achievable, and that the Cell 3, Cell 4A, and Cell 4 slimes drains are inspected and the results reported in accordance with the requirements of the permit."

c) Wind Movement of Tailings

An evaluation of wind movement of tailings or dusting and control measures shall be taken if needed.

d) Tailings Wastewater Pool Elevation Monitoring

Solution elevation measurements in Cells 14A, and 4B and Roberts Pond are to be taken by survey on a weekly basis, and the beach area in Cell 4A and 4B with the maximum elevation is to be taken by survey on a monthly basis, as follows:

(i) The survey will be performed by the Mill's Radiation Safety Officer or designee (the "Surveyor") with the assistance of another Mill worker (the "Assistant");
(ii) The survey will be performed using a survey instrument (the "Survey Instrument") accurate to 0.01 feet, such as a Sokkai No. B21, or equivalent, together with a survey rod (the "Survey Rod") having a visible scale in 0.01 foot increments;
(iii) The reference Points (the "Reference Points") for Cells 14A, and 4B, and Roberts Pond are known points established by professional survey. For Cell 1 and Roberts Pond, the Reference Point is a wooden stake with a metal disk on it located on the southeast corner of Cell 1. The elevation of the metal disk (the "Reference Point Elevation") for Cell 1 and Roberts Pond is at 5,623.14 feet above mean sea level ("FMSL"). For Cell 3 Cell 4A, and Cell 4B, the Reference Point is a piece of metal rebar located on the south dike of Cell 3. The elevation at the top of this piece of rebar (the Reference Point Elevation for Cell 4A and 4B) is at 5,607.83 FMSL. The Surveyor will set up the Survey Instrument in a location where both the applicable Reference Point and pond surface are visible. For Cell 1 and Roberts Pond, this is typically on the road on the Cell 1 south dike between Cell 1 and Roberts Pond, approximately 100 feet east of the Cell 1/Roberts Pond Reference Point. For Cell 4A and Cell 4B, this is typically on the road on the Cell 3 dike approximately 100 feet east of the Cell 3 Reference Point;
(iv) Once in location, the Surveyor will ensure that the Survey Instrument is level by centering the bubble in the level gauge on the Survey Instrument;
(v) The Assistant will place the Survey Rod vertically on the Reference Point (on the metal disk on the Cell 1/Roberts Pond Reference Point on the top of the rebar on the Cell 4A and 4B Reference Point. The Assistant will ensure that the Survey Rod is vertical by gently rocking the rod back and forth until the Surveyor has established a level reading;

(vi) The Surveyor will focus the cross hairs of the Survey Instrument on the scale on the Survey Rod, and record the number (the "Reference Point Reading"), which represents the number of feet the Survey Instrument is reading above the Reference Point;

(vii) The Assistant will then move to a designated location where the Survey Rod can be placed on the surface of the main solution pond in the Cell 1, Cell 4A, Cell 4B, or Roberts Pond, or the area of the beach in Cell 4A or Cell 4B with the highest elevation, as the case may be. These designated locations, and the methods to be used by the Assistant to consistently use the same locations are as follows:

A. Pond Surface Measurements

I. Cell 4A

The Assistant will walk down the slope in the northeast corner of Cell 4A and place the Survey Rod at the liquid level.

II. Cell 4B

The Assistant will walk down the slope in the northwest corner of Cell 4B and place the Survey Rod at the liquid level.

III. Cell 1

A mark has been painted on the north side of the ramp going to the pump platform in Cell 1. The Assistant will place the Survey Rod against that mark and hold the rod vertically, with one end just touching the liquid surface; and

III Roberts Pond

A mark has been painted on the railing of the pump stand in Roberts Pond. The Assistant will place the Survey Rod against that mark and hold the rod vertically, with one end just touching the liquid surface.

Based on the foregoing methods, the approximate coordinate locations for the measuring points for Roberts Pond and the Cells are:

	Northing	Easting
Roberts Pond	323,041	2,579,697
Cell 1	322,196	2,579,277
Cell 4A	320,300	2,579,360
Cell 4B	320,690	2,576,200

These coordinate locations may vary somewhat depending on solution elevations in the Pond and Cells;

C. Cell 4B Beach Elevation

The Assistant will place the Survey Rod at the point on the beach area of Cell 4B that has the highest elevation. If it is not clear which area of the beach has the highest elevation, then multiple points on the beach area will be surveyed until the Surveyor is satisfied that the point on the Cell 4B beach area with the highest elevation has been surveyed. If it is clear that all points on the Cell 4B beach area are below 5,593 FMSL, then the Surveyor may rely on one survey point;

(viii) The Assistant will hold the Survey Rod vertically with one end of the Survey Rod just touching the pond surface. The Assistant will ensure that the Survey Rod is vertical by gently rocking the rod back and forth until the Surveyor has established a level reading;

(ix) The Surveyor will focus the cross hairs of the Survey Instrument on the scale on the Survey Rod, and record the number (the "Pond Surface Reading"), which represents the number of feet the Survey Instrument is reading above the pond surface level.

The Surveyor will calculate the elevation of the pond surface as FSML by adding the Reference Point Reading for the Cell or Roberts Pond, as the case may be, to the Reference Point Elevation for the Cell or Roberts Pond and subtracting the Pond Surface Reading for the Cell or Roberts Pond, and will record the number accurate to 0.01 feet.

e) *Decontamination Pads*

(i) *New Decontamination Pad*

The New Decontamination Pad is located in the southeast corner of the ore pad, near the Mill's scale house.

A. In order to ensure that the primary containment of the New Decontamination Pad water collection system has not been compromised, and to provide an inspection capability to detect leakage from the primary containment, vertical inspection portals have been installed between the primary and secondary containments;

B. These portals will be visually observed on a weekly basis as a means of detecting any leakage from the primary containment into the void

between the primary and secondary containment. The depth to water in each portal will be measured weekly, by physically measuring the depth to water with an electrical sounding tape/device. All measurements must be made from the same measuring point and be made to the nearest 0.01 foot;

C. These inspections will be recorded on the Weekly Tailings Inspection form;

D. The water level shall not exceed 0.10 foot above the concrete floor in any standpipe, at any time. This will be determined by subtracting the weekly depth to water measurement from the distance from the measuring point in the standpipe to the dry concrete floor The depth to water from the top (elevation 5589.8 feet amsl) of any of the three (3) observation ports to the standing water shall be no less than 6.2 feet. Depths less than 6.2 feet shall indicate more that 0.1 foot of standing water above the concrete floor (elev. 5583.5 feet amsl), and shall indicate a leak in the primary containment.

E. Any observation of fluid between the primary and secondary containments will be reported to the Radiation Safety Officer (RSO).

F. In addition to inspection of the water levels in the standpipes, the New Decontamination Pad, including the concrete integrity of the exposed surfaces of the pad, will be inspected on a weekly basis. Any soil and debris will be removed from the New Decontamination Pad immediately prior to inspection of the concrete wash pad for cracking. Observations will be made of the current condition of the New Decontamination Pad. Any abnormalities relating to the pad and any damage to the concrete wash surface of the pad will be noted on the Weekly Tailings Inspection form. If there are any cracks greater than 1/8 inch separation (width), the RSO must be contacted. The RSO will have the responsibility to cease activities and have the cracks repaired.

(ii) *Existing Decontamination Pad*

The Existing Decontamination Pad is located between the northwest corner of the Mill's maintenance shop and the ore feeding grizzly.

A. The Existing Decontamination Pad will be inspected on a weekly

basis. Any soil and debris will be removed from the Existing Decontamination Pad immediately prior to inspection of the concrete wash pad for cracking Observations will be made of the current condition of the Existing Decontamination Pad, including the concrete integrity of the exposed surfaces of the pad. Any abnormalities relating to the pad and any damage or cracks on the concrete wash surface of the pad will be noted on the Weekly Tailings Inspection form. If there are any cracks greater than 1/8 inch separation (width), the RSO must be contacted. The RSO will have the responsibility to cease activities and have the cracks repaired.

f) *Summary*

In addition, the weekly inspection should summarize all activities concerning the tailings area for that particular week.

Results of the weekly tailings inspection are recorded on the *Weekly Tailings and DMT Inspection* form. An example of the *Weekly Tailings and DMT Inspection* form is provided in Appendix A.

3.2. Weekly Inspection of Solution Levels in Roberts Pond

On a weekly basis, solution elevations are taken on Roberts Pond, in accordance with the procedures set out in Section 3.1 d) above. The Weekly solution level in Roberts Pond is recorded on the *Weekly Tailings and DMT Inspection* form. Based on historical observations, the FML at the Pond Surface Reading area for Roberts Pond, is approximately six inches above the lowest point on the pond's FML. If the pond solution elevation at the Pond Surface Reading area is at or below the FML for that area, the pond will be recorded as being dry.

3.3. Weekly Feedstock Storage Area Inspections

Weekly feedstock storage area inspections will be performed by the Radiation Safety Department to confirm that:

a) the bulk feedstock materials are stored and maintained within the defined area described in the GWDP, as indicated on the map attached hereto as Appendix D;

b) a 4 ft. buffer is maintained at the periphery of the storage area which is absent bulk material in order to assure that the materials do not encroach upon the boundary of the storage area; and

c) all alternate feedstock located outside the defined Feedstock Area are maintained within water tight containers.

The results of this inspection will be recorded on the *Ore Storage/Sample Plant Weekly Inspection Report*, a copy of which is contained in Appendix A. Any variance in stored materials from this requirement or observed leaking alternate feedstock drums or other containers will be brought to the attention of Mill Management and rectified within 15 days.

4. MONTHLY TAILINGS INSPECTION

Monthly tailings inspections will be performed by the Radiation Safety Officer or his designee from the Radiation Safety Department and recorded on the *Monthly Inspection Data* form, an example of which is contained in Appendix A. Monthly inspections are to be performed no sooner than 14 days since the last monthly tailings inspection and can be conducted concurrently with the quarterly tailings inspection when applicable. The following items are to be inspected:

a) Tailings Slurry Pipeline

When the Mill is operating, the slurry pipeline will be inspected at key locations to determine pipe wear. Pipe thickness will be measured using an ultrasonic device by either the radiation safety staff or other trained designees. The critical points of the pipe include bends, slope changes, valves, and junctions, which are critical to dike stability. These locations to be monitored will be determined by the Radiation Safety Officer or his designee from the Radiation Safety Department during the Mill run.

b) Diversion Ditches

Diversion ditches 1, 2 and 3 shall be monitored monthly for sloughing, erosion, undesirable vegetation, and obstruction of flow. Diversion berm 2 should be checked for stability and signs of distress.

c) Sedimentation Pond

Activities around the Mill and facilities area sedimentation pond shall be summarized for the month.

d) Overspray Dust Minimization

The inspection shall include an evaluation of overspray minimization, if applicable. This entails ensuring that the overspray system is functioning properly. In the event that overspray is carried more than 50 feet from the cell, the overspray system should be immediately shut-off.

e) Remarks

A section is included on the *Monthly Inspection Data* form for remarks in which recommendations can be made or observations of concern can be documented.

f) Summary of Daily, Weekly and Quarterly Inspections

The monthly inspection will also summarize the daily, weekly and, if applicable, quarterly tailings inspections for the specific month.

In addition, settlement monitors are typically surveyed monthly and the results reported on the *Monthly Inspection Data* form.

5. QUARTERLY TAILINGS INSPECTION

The quarterly tailings inspection is performed by the Radiation Safety Officer or his designee from the Radiation Safety Department, having the training specified in Section 2.4 above, once per calendar quarter. A quarterly inspection should be performed no sooner than 45 days since the previous quarterly inspection was performed.

Each quarterly inspection shall include an Embankment Inspection, an Operations/Maintenance Review, a Construction Review and a Summary, as follows:

a) Embankment Inspection

The Embankment inspection involves a visual inspection of the crest, slope and toe of each dike for movement, seepage, severe erosion, subsidence, shrinkage cracks, and exposed liner.

b) Operations/Maintenance Review

The Operations/Maintenance Review consists of reviewing Operations and Maintenance activities pertaining to the tailings area on a quarterly basis.

c) Construction Review

The Construction Review consists of reviewing any construction changes or modifications made to the tailings area on a quarterly basis.

d) Summary

The summary will include all major activities or observations noted around the tailings area on a quarterly basis.

If any of these conditions are noted, the conditions and corrective measures taken should be documented in the *Quarterly Inspection Data* form. An example of the *Quarterly Inspection Data* form is provided in Appendix A.

6. ANNUAL EVALUATIONS

The following annual evaluations shall be performed:

6.1. Annual Technical Evaluation

An annual technical evaluation of the tailings management system is performed by a registered professional engineer (PE), who has experience and training in the area of geotechnical aspects of retention structures. The technical evaluation includes an on-site inspection of the tailings management system and a thorough review of all tailings records for the past year. The Technical Evaluation also includes a review and summary of the annual movement monitor survey (see Section 5.2 below).

All tailings cells and corresponding dikes will be inspected for signs of erosion, subsidence, shrinkage, and seepage. The drainage ditches will be inspected to evaluate surface water control structures.

In the event tailings capacity evaluations (as per SOP PBL-3) were performed for the receipt of alternate feed material during the year, the capacity evaluation forms and associated calculation sheets will be reviewed to ensure that the maximum tailings capacity estimate is accurate. The amount of tailings added to the system since the last evaluation will also be calculated to determine the estimated capacity at the time of the evaluation.

Tailings inspection records will consist of daily, weekly, monthly, and quarterly tailings inspections. These inspection records will be evaluated to determine if any freeboard limits are being approached. Records will also be reviewed to summarize observations of potential concern. The evaluation also involves discussion with the Environmental and/or Radiation Technician and the Radiation Safety Officer regarding activities around the tailings area for the past year. During the annual inspection, photographs of the tailings area will be taken. The training of individuals will be reviewed as a part of the Annual Technical Evaluation.

The registered engineer will obtain copies of selected tailings inspections, along with the monthly and quarterly summaries of observations of concern and the corrective actions taken. These copies will then be included in the Annual Technical Evaluation Report.

The Annual Technical Evaluation Report must be submitted by November 15th of every year to:

Directing Dam Safety Engineer
State of Utah, Natural Resources
1636 West North Temple, Suite 220
Salt Lake City, Utah 84116-3156

6.2. Movement Monitors

A movement monitor survey is to be conducted by a licensed surveyor annually during the second quarter of each year. The movement monitor survey consists of surveying monitors along dikes 3-S, 4A-W, and 4A-S to detect any possible settlement or movement of the dikes. The data generated from this survey is reviewed and incorporated into the *Annual Technical Evaluation Report* of the tailings management system.

6.3. Freeboard Limits

The freeboard limits set out in this Section are intended to capture the Local 6-hour Probable Maximum Precipitation (PMP) event, which was determined in the January 10, 1990 Drainage Report (the "Drainage Report") for the White Mesa site to be 10 inches.

The flood volume from the PMP event over the Cell 1 pond area plus the adjacent drainage areas, was calculated in the Drainage Report to be 103 acre feet of water, with a wave run up factor of 0.90 feet.

The flood volume from the PMP event over the Cell 2 and Cell 3 pond areas, plus the adjacent drainage areas was calculated in the Drainage Report to be 123.4 acre-feet of water.

The flood volume from the PMP event over the Cell 4A area was calculated in the Drainage Report to be 36 acre-feet of water (40 acres, plus the adjacent drainage area of 3.25 acres), times the PMP of 10 inches), with a wave run up factor of 0.77 feet.

The flood volume from the PMP event over the Cell 4B area has been calculated to be 38.1 acre-feet of water (45.72 acres, plus the adjacent drainage area of 5.72 acres), times the PMP of 10 inches, with a wave run up factor of 0.77 feet.

The total pool surface area in Cell 1 is 52.9 acres, in Cell 4A is 40 acres, and in Cell 4B is 40 acres. The top of the flexible membrane liner ("FML") for Cell 1 is 5,618.2 FMSL, for Cell 4A

is 5,598.5 FMSL and for Cell 4B is 5600.4 FMSL.

Based on the foregoing, the freeboard limits for the Mill's tailings cells will be set as follows:

6.3.1. Cell 1

The freeboard limit for Cell 1 will be set at 5,615.4 FMSL. This will allow Cell 1 to capture all of the PMP volume associated with Cell 1. The total volume requirement for Cell 1 is 103 acre feet divided by 52.9 acres equals 1.95 feet, plus the wave run up factor of 0.90 feet equals 2.85 feet. The freeboard limit is then 5,618.2 FMSL minus 2.85 feet equals 5,615.4 FMSL. Under Radioactive Materials License condition 10.3, this freeboard limit is set and is not recalculated annually.

6.3.2. Cell 2

The freeboard limit for Cell 2 is inapplicable, since Cell 2 is filled with solids. All of the PMP volume associated with Cell 2 will be attributed to Cell 4A (and/or any future tailings cells).

6.3.3. Cell 3

The freeboard limit for Cell 3 is inapplicable, since Cell 3 is close to being filled with solids, and all of the PMP flood volume associated with Cell 3 will be attributed to Cell 4B (and/or any future tailings cells).

6.3.4. Cell 4A

The freeboard limit for Cell 4A is inapplicable since all of the PMP flood volume associated with Cell 4A will be attributed to Cell 4B. A spillway has been added to Cell 4A to allow overflow into Cell 4B.

6.3.5. Cell 4B

The freeboard limit for Cell 4B will be set assuming that the total PMP volume for Cells 2, 3, 4A, and 4B of 159.4 acre feet will be accommodated in Cell 4B. The procedure for calculating the freeboard limit for Cell 4B is as follows:

(a) When the Pool Surface Area is 40 Acres

When the pool surface area in Cell 4B is 40 acres (i.e., when there are no beaches), the freeboard limit for Cell 4B will be 5,594.6FMSL, which is 5.7 feet below the FML. This freeboard value was developed as follows:

PMP Flood Volume	38.1 acre-feet
Overflow from Cell 4A assuming no storage in Cell 3 or 4A	159.4 acre-feet
Sum of PMP volume and overflow volume	197.5 acre-feet

Depth to store PMP an overflow volume = 197.5 acre-feet/40 acres	4.9 feet
Wave run up factor	0.77 feet
Total required freeboard	5.7 feet

(all values in the above calculation have been rounded to the nearest one-tenth of a foot);

(b) When the Maximum Elevation of the Beach Area is 5,594 FMSL or Less

When the maximum elevation of the beach area in Cell 4B is 5594 FMSL or less, then the freeboard limit will be 5,594.6 FMSL, which is the same as in (a) above. This allows for the situation where there may be beaches, but these beaches are at a lower elevation than the freeboard limit established in (a) above, and there is therefore ample freeboard above the beaches to hold the maximum PMP volume. The maximum elevation of the beach area will be determined by monthly surveys performed by Mill personnel in accordance with the Mill's DMT Plan.

(c) When the Maximum Elevation of the Beach Area First Exceeds 5,594 FMSL

When the maximum elevation of the beach area in Cell 4B first exceeds 5,594 FMSL, then the freeboard limit for the remainder of the ensuing year (period t=0) (until the next November 1) will be calculated when that elevation is first exceeded (the "Initial Calculation Date"), as follows:

i) The total number of dry tons of tailings that have historically been deposited into Cell 4B prior to the Initial Calculation Date ("T_0") will be determined;

ii) The expected number of dry tons to be deposited into Cell 4B for the remainder of the ensuing year (up to the next November 1), based on production estimates for that period ("Δ_0*"), will be determined;

iii) Δ_0* will be grossed up by a safety factor of 150% to allow for a potential underestimation of the number of tons that will be deposited in the cell during the remainder of the ensuing year. This grossed up number can be referred to as the "modeled tonnage" for the period;

iv) The total design tailings solid storage capacity of Cell 4A will be accepted as 2,094,000 dry tons of tailings;

v) The available remaining space in Cell 4B for solids as at the Initial Calculation Date will be calculated as 2,094,000 dry tons minus T_0;

vi) The reduction in the pool surface area for the remainder of the ensuing year will be assumed to be directly proportional to the reduction in the available space in Cell 4A for solids. That is, the reduced pool surface area for period t=0 ("RPA_0"), after the reduction, will be calculated to be:

$$(1 - (\Delta_0 * \times 1.5) / (2{,}094{,}000 - T_0)) \times 40 \text{ acres} = RPA_0$$

vii) The required freeboard for Cell 4A for the remainder of the period t=0 can be calculated in feet to be the wave run up factor for Cell 4B of 0.77 feet plus the quotient of 197.5 acre feet divided by the RPA_0. The freeboard limit for Cell 4B for the remainder of period t=0 would then be the elevation of the FML for Cell 4B of

5594.0 FMSL less this required freeboard amount, rounded to the nearest one-tenth of a foot; and

viii) The foregoing calculations will be performed at the Initial Calculation Date and the resulting freeboard limit will persist until the next November 1.

An example of this calculation is set out in Appendix F.

(d) Annual Freeboard Calculation When the Maximum Elevation of the Beach Area Exceeds 5,594 FMSL

On November 1 of each year (the "Annual Calculation Date"), the reduction in pool area for the ensuing year (referred to as period t) will be calculated by:

i) First, calculating the Adjusted Reduced Pool Area for the previous period ($ARPA_{t-1}$) to reflect actual tonnages deposited in Cell 4B for the previous period (period t-1). The RPA_{t-1} used for the previous period was based on expected tonnages for period t-1, grossed up by a safety factor. The $ARPA_{t-1}$ is merely the RPA that would have been used for period t-1 had the actual tonnages for year t-1 been known at the outset of period t-1 and had the RPA been calculated based on the actual tonnages for period t-1. This allows the freeboard calculations to be corrected each year to take into account actual tonnages deposited in the cell as of the date of the calculation. The $ARPA_{t-1}$ can be calculated using the following formula:

$$(1 - \Delta_{t-1} / (2{,}094{,}000 - T_{t-1})) \times ARPA_{t-2} = ARPA_{t-1}$$

Where:

- Δ_{t-1} is the actual number of dry tons of tailings solids deposited in Cell 4B during period t-1;
- T_{t-1} is the actual number of dry tons of tailings solids historically deposited in Cell 4B prior to the beginning of period t-1; and
- $ARPA_{t-2}$ is the Adjusted Reduced Pool Area for period t-2. If period t-2 started at the Initial Calculation Date, then $ARPA_{t-2}$ is 40 acres;

ii) Once the $ARPA_{t-1}$ for the previous period (period t-1) has been calculated, the RPA for the subject period (period t) can be calculated as follows:

$$(1 - (\Delta_t^* \times 1.5) / (2{,}094{,}000 - T_t)) \times ARPA_{t-1} = RPA_t$$

Where:

- Δ_t^* is the expected number of dry tons of tailings to be deposited into Cell 4B for the ensuing year (period t), based on production estimates for the year (as can be seen from the foregoing formula, this expected number is grossed up by a safety factor of 1.5);
- T_t is the actual number of dry tons of tailings solids historically deposited in Cell 4B prior to the beginning of period t; and

- $ARPA_{t-1}$ is the Adjusted Reduced Pool Area for period t-1, which is the pool surface area for the previous period (period t-1) that should have applied during that period, had modeled tonnages (i.e., expected tonnages grossed up by the 150% safety factor) equaled actual tonnages for the period;

iii) The required freeboard for period t can be calculated in feet to be the wave run up factor for Cell 4B of 0.77 feet plus the quotient of 197.5 acre feet divided by the RPA_t. The freeboard limit for Cell 4A for period t would then be the elevation of the FML for Cell 4B of 5594.0 FMSL less this required freeboard amount, rounded to the nearest one-tenth of a foot; and

iv) The foregoing calculations will be performed at the Annual Calculation Date for period t and the resulting freeboard limit will persist until the next Annual Calculation Date for period t+1.

An example of this calculation is set out in Appendix F.

(e) When a Spillway is Added to Cell 4B that Allows Overflow Into a New Tailings Cell

When a spillway is added between Cell 4B and a new tailings cell then, if an approved freeboard limit calculation method for the new cell is set to cover the entire PMP event for Cells 2, 3, 4A, 4B and the new tailings cell, the freeboard limit for Cell 4B will be inapplicable, except for approved provisions to prevent storm water runoff from overtopping dikes.

6.3.6. Roberts Pond

The freeboard limit for Roberts Pond is a liquid maximum elevation of 5,624.0 feet above mean sea level, as specified in the GWDP.

6.4. Annual Leak Detection Fluid Samples

In the event solution has been detected in a leak detection system, a sample will be collected on an annual basis. This sample will be analyzed according to the conditions set forth in License Condition 11.3.C. The results of the analysis will be reviewed to determine the origin of the solution.

6.5. Annual Inspection of the Decontamination Pads

a) New Decontamination Pad

During the second quarter of each year, the New Decontamination Pad will be taken out of service and inspected to ensure the integrity of the wash pad's exposed concrete surface. If any abnormalities are identified, i.e. cracks in the concrete with greater than 1/8 inch separation (width) or any significant deterioration or damage of the pad surface, repairs will be made prior to resuming the use of the facility. All inspection findings and any repairs required shall be documented on the

Annual Decontamination Pad Inspection form. The inspection findings, any repairs required and repairs completed shall be summarized in the 2nd Quarter DMT Monitoring Report due September 1 of each calendar year.

b) Existing Decontamination Pad

During the second quarter of each year, the Existing Decontamination Pad will be taken out of service and inspected to ensure the integrity of the steel tank. Once the water and any sediment present is removed from the steel tank containment, the walls and bottom of the tank will be visually inspected for any areas of damage, cracks, or bubbling indicating corrosion that may have occurred since the last inspection. If any abnormalities are identified, defects or damage will be reported to Mill management and repairs will be made prior to resuming the use of the facility. All inspection findings and any repairs required shall be documented on the Annual Decontamination Pad Inspection form. A record of the repairs will be maintained as a part of the Annual Inspection records at the Mill site. The inspection findings, any repairs required and repairs completed shall be summarized in the 2nd Quarter DMT Monitoring Report due September 1 of each calendar year.

7. OTHER INSPECTIONS

All daily, weekly, monthly, quarterly and annual inspections and evaluations should be performed as specified in Sections 2, 3, 4, 5 and 6 above. However, additional inspections should be conducted after any significant storm or significant natural or man-made event occurs.

8. REPORTING REQUIREMENTS

In addition to the *Daily Inspection Data*, *Weekly Tailings Inspection, Monthly Inspection Data* and *Quarterly Inspection Data* forms included as Appendix A and described in Sections 2, 3, 4 and 5 respectively, and the *Operating Foreman's Daily Inspection* and *Weekly Mill Inspection* forms described in Sections 2 and 3, respectively, the following additional reports shall also be prepared:

8.1. Monthly Tailings Reports

Monthly tailings reports are prepared every month and summarize the previous month's activities around the tailings area. If not prepared by the Radiation Safety Officer, the report shall be submitted to the Radiation Safety Officer for review. The Mill Manager will review the report as well before the report is filed in the Mill Central File. The report will contain a summary of observations of concern noted on the daily and weekly tailings inspections. Corrective measures taken during the month will be documented along with the observations where appropriate. All daily and weekly tailings inspection forms will be attached to the report. A monthly inspection form will also be attached. Quarterly inspection forms will accompany the report when applicable. The report will be signed and dated by the preparer in addition to the Radiation Safety Officer and the Mill Manager.

8.2. DMT Reports

Quarterly reports of DMT monitoring activities, which will include the following information, will be provided to the Executive Secretary on the schedule provided in Table 5 of the GWDP:

a) On a quarterly basis, all required information required by Part 1.F.2 of the GWDP relating to the inspections described in Section 3.1(b) (Slimes Drain Water Level Monitoring), 3.1(d) (Tailings Wastewater Pool and Beach Area Elevation Monitoring), 3.2 (Weekly Inspection of Solution Levels in Roberts Pond) and 3.3 (Weekly Feedstock Storage Area Inspections);

b) On a quarterly basis, a summary of the weekly water level (depth) inspections for the quarter for the presence of fluid in all three vertical inspection portals for each of the three chambers in the concrete settling tank system for the New Decontamination Pad, which will include a table indicating the water level measurements in each portal during the quarter;

c) With respect to the annual inspection of the New Decontamination Pad described in Section 6.5(a), the inspection findings, any repairs required, and repairs completed shall be summarized in the 2nd Quarter report, due September 1 of each calendar year;

d) With respect to the annual inspection of the Existing Decontamination Pad described in Section 6.5(b), the inspection findings, any repairs required, and repairs completed shall be summarized in the 2nd Quarter report, due September 1 of each calendar year; and

e) An annual summary and graph for each calendar year of the depth to wastewater in the Cell 2 slimes drain must be included in the fourth quarter report. After the first year, and beginning in 2008, quarterly reports shall include both the current year monthly values and a graphic comparison to the previous year.

APPENDIX A

FORMS

APPENDIX A (CONT.)
DAILY INSPECTION DATA

Inspector:_____
Date;_____
Accompanied by:_____
Time:_____

Any Item not "OK" must be documented. A check mark = OK, X = Action Required

I. TAILINGS SLURRY TRANSPORT SYSTEM						
Inspection Items	Conditions of Potential Concern	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Slurry Pipeline	Leaks, Damage, Blockage, Sharp Bends					
Pipeline Joints	Leaks, Loose Connections					
Pipeline Supports	Damage, Loss of Support					
Valves	Leaks, Blocked, Closed					
Point(s) of Discharge	Improper Location or Orientation					

II. OPERATIONAL SYSTEMS						
Inspection Items	Conditions of Potential Concern	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Water Level	Greater Than Operating Level, Large Change Since Previous Inspection					
Beach	Cracks, Severe Erosion, Subsidence					
Liner and Cover	Erosion of cover, Exposure of Liner					
Liner	Observable Liner Damage					

III. DIKES AND EMBANKMENTS									
Inspection Items	Conditions of Potential Concern	Dike 1-I	Dike 1-1A	Dike 2	Dike 3	Dike 4A-S	Dike 4A-W	Dike 4B-S	Dike 4B-W
Slopes	Sloughs or Sliding Cracks, Bulges, Subsidence, Severe Erosion, Moist Areas, Areas of Seepage Outbreak								
Crest	Cracks, Subsidence, Severe Erosion								

IV. FLOW RATES				
	Slurry Line(s)	Pond Return	S-X Tails	Spray System
GPM				

V. PHYSICAL INSPECTION OF SLURRY LINES(S)

Walked to Discharge Point _____Yes _____No
Observed Entire Discharge Line _____Yes _____No

VI. DUST CONTROL				
	Cell 2	Cell 3	Cell 4A	Cell 4B
Dusting				
Wind Movement of Tailings				
Precipitation: _____ inches liquid				
General Meteorological conditions: _____ _____ _____				

VII. DAILY LEAK DETECTION CHECK					
	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Leak Detection System Checked	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____	_____Checked _____Wet_____Dry Initial level_____ Final level_____ Gal. pumped_____

VIII OBSERVATIONS OF POTENTIAL CONCERN	Action Required

[MAP OF TAILINGS AREA]

APPENDIX A (CONT)

DENISON MINES (USA) CORP.
WEEKLY TAILINGS INSPECTION

Date:_____ Inspectors: _____

1. Pond elevations (msl, ft)

Cell 1: (a) Pond Solution Elevation _____
(b) FML Bottom Elevation _____5597_____
(c) Depth of Water above FML ((a)-(b)) _____

Cell 4A: (a)Pond Solution Elevation _____
(b)FML Bottom Elevation _____
5555.1_____
(c)Depth of Water above FML ((a)-(b)) _____

Roberts
Pond: (a)Pond Solution Elevation _____
(b)FML Bottom Elevation _____5612.3___
(c)Depth of Water above FML ((a)-(b)) _____

2. Slimes Drain Liquid Levels Cell 2

Pump functioning properly _____
Pump Timer set at 15min on 45 min off _____

_____Depth to Liquid pre-pump
_____Depth to Liquid Post-pump

(all measurements are depth-in-pipe)

Pre-pump head is 38'-Depth to Liquid Pre-pump = _____

Post-pump head is 38' –Depth to Liquid Post-pump = _____

3. Leak Detection Systems

Observation:					
	Cell 1	Cell 2	Cell 3	Cell 4A	Cell 4B
Is LDS wet or dry?	_____wet ____dry	_____wet ____dry	_____wet ____dry	_____wet ____dry	_____wet ____dry
If wet, Record liquid level:	_____Ft to Liquid	_____Ft to Liquid	_____Ft to Liquid	_____Ft to Liquid *	_____Ft to Liquid *
If sufficient fluid is present, record volume of fluid pumped and flow rate:	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____	Volume _____ Flow Rate_____
Was fluid sample collected?	____yes____no	____yes____no	____yes____no	____yes____no	____yes____no

Observation:			
	New Decon Pad, Portal 1	New Decon Pad, Portal 2	New Decon Pad Portal 3
Is LDS (Portal) wet or dry?	_____wet____dry	_____wet____dry	_____wet____dry
If wet, Record liquid level:	_____Ft to Liquid	_____Ft to Liquid	_____Ft to Liquid
If wet, Report to RSO			

4. Tailings Area Inspection (Note dispersal of blowing tailings):

_____

_____

5. Control Methods Implemented:_____

_____

_____

6. Remarks:_____

_____

7. Contaminated Waste Dump:_____

* Does Level exceed 12 inches above the lowest point on the bottom flexible membrane liner (elevation 5556.14 amsl)? _____ no _____ yes

If Cell 4A leak detection system level exceeds 12 inches above the lowest point on the bottom flexible membrane liner (elevation 5556.14 amsl), notify supervisor or Mill manager immediately.

APPENDIX A (CONT.)

MONTHLY INSPECTION DATA

Inspector: _____

Date: _____

1. Slurry Pipeline: _____

_____

_____

_____

_____

Pipe Thickness:_____(To be measured only during periods when the Mill is operating)

2. Diversion Ditches and Diversion Berm:

Observation:

	Diversion Ditch 1	Diversion Ditch 2	Diversion Ditch 3	Diversion Berm 2
Diversion Ditches:				
Sloughing	_____yes_____no	_____yes_____no	_____yes_____no	
Erosion	_____yes_____no	_____yes_____no	_____yes_____no	
Undesirable Vegetation	_____yes_____no	_____yes_____no	_____yes_____no	
Obstruction of Flow	_____yes_____no	_____yes_____no	_____yes_____no	
Diversion Berm:				
Stability Issues				_____yes_____no
Signs of Distress				_____yes_____no

Comments:_____

_____

_____

_____

_____

_____

3. Summary of Activities Around Sedimentation Pond: _____

_____

_____

_____

_____

_____

4. Overspray Dust Minimization:

Overspray system functioning properly: _____yes_____no

Overspray carried more than 50 feet from the cell: _____yes_____no
If "yes", was system immediately shut off? _____yes_____no

Comments:_____

5. Remarks: _____

6. Settlement Monitors

Cell 2 W1: _____	Cell 2W3-S: _____	Cell 3-1N: _____
Cell 2 W2: _____	Cell 2E1-N: _____	Cell 3-1C: _____
Cell 2 W3: _____	Cell 2E1-1S: _____	Cell 3-1S: _____
Cell 2 W4: _____	Cell 2E1-2S: _____	Cell 3-2N: _____
Cell 2W7-C: _____	Cell 2 East: _____	Cell 2W5-N: _____
Cell 2 W7N: _____	Cell 2 W7S: _____	Cell 2 W6N: _____
Cell 2 W6C: _____	Cell 2 W6S: _____	Cell 2 W4N: _____
Cell 4A-Toe: _____	Cell 2 W4S: _____	Cell 2 W5C: _____
Cell 3-2C: _____	Cell 3-2S: _____	Cell 2 W5S: _____
Cell 4B _____		

7. Summary of Daily, Weekly and Quarterly Inspections: _____

8. Monthly Slimes Drain Static Head Measurement for Cell 2 (Depth-in-Pipe Water Level Reading): _____

9. Monthly Slimes Drain Static Head Measurement for Cell 3 (Depth-in-Pipe Water level) (after Cell 3 is closed): _____

APPENDIX A (CONT.)

WHITE MESA MILL
TAILINGS MANAGEMENT SYSTEM

QUARTERLY INSPECTION DATA

Inspector: _____

Date: _____

1. Embankment Inspection: _____

_____
_____
_____
_____
_____

2. Operations/Maintenance Review: _____

_____
_____
_____
_____
_____

3. Construction Activities: _____

_____
_____
_____
_____
_____

4. Summary: _____

_____
_____
_____
_____
_____

APPENDIX A (CONT.)

ORE STORAGE/SAMPLE PLANT WEEKLY INSPECTION REPORT

Week of _____ through _____ Date of Inspection:_____

Inspector:_____

Weather conditions for the week:

_____
_____
_____

Blowing dust conditions for the week:

_____
_____
_____
_____

Corrective actions needed or taken for the week:

_____
_____
_____
_____

Are all bulk feedstock materials stored in the area indicated on the attached diagram:
yes:_____ no:_____
comments:_____
_____

Are all alternate feedstock materials located outside the area indicated on the attached diagram maintained within water-tight containers:
yes:_____ no:_____
comments (e.g., conditions of containers):_____
_____
_____

Are all sumps and low lying areas free of standing solutions?
Yes: _____ No: _____
If "No", how was the situation corrected, supervisor contacted and correction date?

_____
_____

Is there free standing water or water running off of the feedstock stockpiles?
Yes: _____ No: _____
Comments:_____

Other comments:

APPENDIX A (CONT.)

ANNUAL DECONTAMINATION PAD INSPECTION

Date of Inspection: _____

Inspector: _____

New Decontamination Pad:

Are there any cracks on the wash pad surface greater than 1/8 inch of separation? __Yes ___No

Is there any significant deterioration or damage of the pad surface? ____Yes ____No

Findings:

_____
_____
_____

Repair Work Required:

_____
_____
_____

Existing Decontamination Pad:

Were there any observed problems with the steel tank? ____Yes ____No

Findings:

_____
_____
_____

Repair Work Required:

_____
_____
_____

Note For the annual inspection of the both the Existing and New Decontamination Pads, the annual inspection findings, any repairs required, and repairs completed, along with a summary of the weekly inspections, shall be discussed in the 2nd Quarter report, due September 1 of each calendar year

APPENDIX B

TAILINGS INSPECTOR TRAINING

This document provides the training necessary for qualifying management-designated individuals for conducting daily tailings inspections. Training information is presented by the Radiation Safety Officer or designee from the Environmental Department. Daily tailings inspections are conducted in accordance with the White Mesa Mill Tailings Management System and Discharge Minimization Technology (DMT) Monitoring Plan. The Radiation Safety Officer or designee from the Radiation Safety Department is responsible for performing monthly and quarterly tailings inspections. Tailings inspection forms will be included in the monthly tailings inspection reports, which summarize the conditions, activities, and areas of concern regarding the tailings areas.

Notifications:

The inspector is required to record whether all inspection items are normal (satisfactory, requiring no action) or that conditions of potential concern exist (requiring action). A "check" mark indicates no action required. If conditions of potential concern exist the inspector should mark an "X" in the area the condition pertains to, note the condition, and specify the corrective action to be taken. If an observable concern is made, it should be noted on the tailings report until the corrective action is taken and the concern is remedied. The dates of all corrective actions should be noted on the reports as well.

Any major catastrophic events or conditions pertaining to the tailings area should be reported immediately to the Mill Manager or the Radiation Safety Officer, one of whom will notify Corporate Management. If dam failure occurs, notify your supervisor and the Mill Manager immediately. The Mill Manager will then notify Corporate Management, MSHA (303-231-5465), and the State of Utah, Division of Dam Safety (801-538-7200).

Inspections:

All areas of the tailings disposal system are routinely patrolled and visible observations are to be noted on a daily tailings inspection form. Refer to Appendix A for an example of the daily tailings inspection form. The inspection form consists of three pages and is summarized as follows:

1. Tailings Slurry Transport System:

The slurry pipeline is to be inspected for leaks, damage, and sharp bends. The pipeline joints are to be monitored for leaks, and loose connections. The pipeline supports are to be

inspected for damage and loss of support. Valves are also to be inspected particularly for leaks, blocked valves, and closed valves. Points of discharge need to be inspected for improper location and orientation.

2. Operational Systems:

Operating systems including water levels, beach liners, and covered areas are items to be inspected and noted on the daily inspection forms. Sudden changes in water levels previously observed or water levels exceeding the operating level of a pond are potential areas of concern and should be noted. Beach areas that are observed as having cracks, severe erosion or cavities are also items that require investigation and notation on daily forms. Exposed liner or absence of cover from erosion are potential items of concern for ponds and covered areas. These should also be noted on the daily inspection form.

Cells 1, 3, 4A and 4B solution levels are to be monitored closely for conditions nearing maximum operating level and for large changes in the water level since the last inspection. All pumping activities affecting the water level will be documented. In Cells 1 and 3, the PVC liner needs to be monitored closely for exposed liner, especially after storm events. It is important to cover exposed liner immediately as exposure to sunlight will cause degradation of the PVC liner. Small areas of exposed liner should be covered by hand. Large sections of exposed liner will require the use of heavy equipment

These conditions are considered serious and require immediate action. After these conditions have been noted to the Radiation Safety Officer, a work order will be written by the Radiation Safety Officer and turned into the Maintenance Department. All such repairs should be noted in the report and should contain the start and finish date of the repairs.

3. Dikes and Embankments:

Inspection items include the slopes and the crests of each dike. For slopes, areas of concern are sloughs or sliding cracks, bulges, subsidence, severe erosion, moist areas, and areas of seepage outbreak. For crests, areas of concern are cracks, subsidence, and severe erosion. When any of these conditions are noted, an "X" mark should be placed in the section marked for that dike.

In addition, the dikes, in particular dikes 3, 4A-S, 4A-W, 4B-S, and 4B-W, should be inspected closely for mice holes and more importantly for prairie dog holes, as the prairie dogs are likely to burrow in deep, possibly to the liner. If any of these conditions exist, the inspection report should be marked accordingly.

4. Flow Rates:

Presence of all flows in and out of the cells should be noted. Flow rates are to be estimated in gallons per minute (GPM). Rates need to be determined for slurry lines, pond return, SX-tails, and the spray system. During non-operational modes, the flow rate column should be marked as "0". The same holds true when the spray system is not utilized.

5. Physical Inspection of Slurry Line(s):

A physical inspection of all slurry lines has to be made every 4 hours during operation of the mill. If possible, the inspection should include observation of the entire discharge line and discharge spill point into the cell. If "fill to elevation" flags are in place, the tailings and build-up is to be monitored and controlled so as to not cover the flags.

6. Dust Control:

Dusting and wind movement of tailings should be noted for Cells 2, 3, 4A, and 4B. Other observations to be noted include a brief description of present weather conditions, and a record of any precipitation received. Any dusting or wind movement of tailings should be documented. In addition, an estimate should be made for wind speed at the time of the observed dusting or wind movement of tailings.

The Radiation Safety Department measures precipitation on a daily basis. Daily measurements should be made as near to 8:00 a.m. as possible every day. Weekend measurements will be taken by the Shifter as close to 8:00 a.m. as possible. All snow or ice should be melted before a reading is taken.

7. Observations of Potential Concern:

All observations of concern during the inspection should be noted in this section. Corrective action should follow each area of concern noted. All work orders issued, contacts, or notifications made should be noted in this section as well. It is important to document all these items in order to assure that the tailings management system records are complete and accurate.

8. Map of Tailings Cells:

The last section of the inspection involves drawing, as accurately as possible, the following items where applicable.

1. Cover area
2. Beach/tailing sands area
3. Solution as it exists
4. Pump lines
5. Activities around tailings cell (i.e. hauling trash to the dump, liner repairs, etc.)
6. Slurry discharge when operating
7. Over spray system when operating

9. Safety Rules:

All safety rules applicable to the mill are applicable when in the tailings area. These rules meet the required MSHA regulations for the tailings area. Please pay particular notice to the following rules:

1. The posted speed limit for the tailings area is 15 mph and should not be exceeded.
2. No food or drink is permitted in the area.
3. All personnel entering the tailings area must have access to a two-way radio.
4. Horseplay is not permitted at any time.
5. Only those specifically authorized may operate motor vehicles in the restricted area.
6. When road conditions are muddy or slick, a four-wheel drive vehicle is required in the area.
7. Any work performed in which there is a danger of falling or slipping in the cell will require the use of a safety belt or harness with attended life line and an approved life jacket. A portable eyewash must be present on site as well.
8. Anytime the boat is used to perform any work; an approved life jacket and goggles must be worn at all times. There must also be an approved safety watch with a two-way hand-held radio on shore. A portable eyewash must be present on site as well.

10. Preservation of Wildlife:

Every effort should be made to prevent wildlife and domesticated animals from entering the tailings area. All wildlife observed should be reported on the Wildlife Report Worksheet during each shift. Waterfowl seen near the tailings cells should be discouraged from landing by the use of noisemakers.

11. Certification:

Following the review of this document and on-site instruction on the tailings system inspection program, designated individuals will be certified to perform daily tailings inspections. The Radiation Safety Officer authorizes certification. Refer to the Certification Form, Appendix C. This form should be signed and dated only after a thorough review of the tailings information previously presented. The form will then be signed by the Radiation

Safety Officer and filed.

APPENDIX C

CERTIFICATION FORM

Date: _____

Name: _____

I have read the document titled "Tailings Management System, White Mesa Mill Tailings Inspector Training" and have received on-site instruction at the tailings system. This instruction included documentation of daily tailings inspections, analysis of potential problems (dike failures, unusual flows), notification procedures and safety.

_____
Signature

I certify that the above-named person is qualified to perform the daily inspection of the tailings system at the White Mesa Mill.

_____
Radiation Safety Personnel/ Tailings System Supervisor

APPENDIX D
FEEDSTOCK STORAGE AREA

APPENDIX E

TABLES

Table 1A

Calculated Action leakage Rates
for Various head Conditions
Cell 4A White mesa Mill
Blanding, Utah

Head above Liner System (feet)	Calculated Action leakage Rate (gallons / acre / day)
5	222.04
10	314.01
15	384.58
20	444.08
25	496.50
30	543.88
35	587.46
37	604.01

Table 1B

Calculated Action leakage Rates
for Various head Conditions
Cell 4B White mesa Mill
Blanding, Utah

Head above Liner System (feet)	Calculated Action leakage Rate (gallons / acre / day)
5	211.40
10	317.00
15	369.90
20	422.70
25	475.60
30	528.40
35	570.00
37	581.20

APPENDIX F

Example of Freeboard Calculations For Cell 4B

Assumptions and Factors:

- Total PMP volume to be stored in Cell 4A – 159.4 acre feet
- Wave runup factor for Cell 4A – 0.77 feet
- Total capacity of Cell 4B – 2,094,000 dry tons
- Elevation of FML of Cell 4B – 5,600.35 FMSL
- Maximum pool surface area of Cell 4A – 40 acres
- Total tailings solids deposited into Cell 4B at time beach area first exceeds 5,594 FMSL – 1,000,000 dry tons*
- Date beach area first exceeds 5,594, FMSL – March 1, 2012*
- Expected and actual production is as set forth in the following table:

Time Period	**Expected Tailings Solids Disposition into Cell 4B Determined at the beginning of the period (dry tons)***	**Expected Tailings Solids Disposition into Cell 4B at the beginning of the period, multiplied by 150% Safety Factor (dry tons)**	**Actual Tailings Solids Disposition into Cell 4B determined at end of the period (dry tons)***
March 1, 2012 to November 1, 2012	150,000	225,000	225,000
November 1, 2012 to November 1, 2013	300,000	450,000	275,000
November 1, 2013 to November 1, 2014	200,000	300,000	250,000

*These expected and actual tailings and production numbers and dates are fictional and have been assumed for illustrative purposes only.

Based on these assumptions and factors, the freeboard limits for Cell 4B would be calculated as follows:

1. Prior to March 1, 2012

Prior to March 1, 2012, the maximum elevation of the beach area in Cell 4B is less than or equal to 5,594 FMSL, therefore the freeboard limit is set at 5,594.6 FMSL.

2. March 1, 2012 to November 1, 2012

The pool surface area would be reduced to the following amount

$$(1 - 225{,}000 / (2{,}094{,}000 - 1{,}000{,}000)) \times 40 \text{ acres} = 31.77 \text{ acres}$$

Based on this reduced pool area, the amount of freeboard would be 197.5 acre feet divided by 31.77 acres equals 6.22 feet. When the wave run up factor for Cell 4B of 0.77 feet is added to this, the total freeboard required is 6.99 feet. This means that the freeboard limit for Cell 4B would be reduced from 5594.6 FMSL to 5592.2 FMSL (5594.6 FMSL minus 6.22 feet, rounded to the nearest one-tenth of a foot). This calculation would be performed at March 1, 2012, and this freeboard limit would persist until November 1, 2012.

3. November 1, 2012 to November 1, 2013

The pool surface area would be reduced to the following amount:

First, recalculate the pool surface area that should have applied during the previous period, had modeled tonnages (i.e., expected tonnages grossed up by the 150% safety factor) equaled actual tonnages for the period. Since the actual tonnage of 225,000 dry tons was the same as the modeled tonnage of 225,000 dry tons, the recalculated pool surface area is the same as the modeled pool surface area for the previous period, which is 31.77 acres.

Then, calculate the modeled pool surface area to be used for the period:

$$(1 - 450{,}000 / (2{,}094{,}000 - 1{,}000{,}000 - 225{,}000)) \times 31.77 \text{ acres} = 15.32 \text{ acres}$$

Based on this reduced pool area, the amount of freeboard would be 197.5 acre feet divided by 15.32 acres equals 12.89 feet. When the wave run up factor for Cell 4B of 0.77 feet is added to this, the total freeboard required is 13.66 feet. This means that the freeboard limit for Cell 4B would be reduced from 5592.2 FMSL to 5586.7 FMSL (5600.35 FMSL minus 13.66 feet, rounded to the nearest one-tenth of a foot). This calculation would be performed at November 1, 2012, and this freeboard limit would persist until November 1, 2013.

4. November 1, 2013 to November 1, 2014

The pool surface area would be reduced to the following amount:

First, recalculate the pool surface area that should have applied during the previous period, had modeled tonnages (i.e., expected tonnages grossed up by the 150% safety factor) equaled actual tonnages for the period. Since modeled tonnages exceeded actual tonnages, the pool area was reduced too much during the previous period, and must be adjusted. The recalculated pool area for the previous period is:

(1 – 275,000 / (2,094,000 – 1,000,000 - 225,000) x 31.77 acres = 21.72 acres.

This recalculated pool surface area will be used as the starting point for the freeboard calculation to be performed at November 1, 2013.

Then, calculate the modeled pool surface area to be used for the period:

(1 – 300,000 / (2,094,000 – 1,000,000 - 225,000 – 275,000)) x 21.72 acres = 10.75 acres

Based on this reduced pool area, the amount of freeboard would be 197.5 acre feet divided by 10.75 acres equals 18.37 feet. When the wave run up factor for Cell 4B of 0.77 feet is added to this, the total freeboard required is 19.14 feet. This means that the freeboard limit for Cell 4B would be reduced from 5586.7 FMSL to 5581.2 FMSL (5600.4 FMSL minus 18.4 feet, rounded to the nearest one-tenth of a foot). This calculation would be performed at November 1, 2013, and this freeboard limit would persist until November 1, 2014.

ATTACHMENT 3
PROPOSED REVSION 4.0 TO THE CONTINGENCY PLAN
RED-LINED AND CLEAN VERSIONS

WHITE MESA URANIUM MILL

CONTINGENCY PLAN

As Contemplated by Part I.G.4(d)

of

State of Utah Groundwater Discharge Permit No.UGW370004

Prepared by:

Denison Mines (USA) Corp.
1050 17th Street, Suite 950
Denver CO 80265

~~March 12~~November~~,~~ 2010

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WHITE MESA URANIUM MILL
CONTINGENCY PLAN
State of Utah Groundwater Discharge Permit
No. UGW370004

1. INTRODUCTION

The State of Utah has granted Ground Water Discharge Permit No. UGW370004 (the "GWDP") for Denison Mines (USA) Corp.'s ("Denison's") White Mesa Uranium Mill (the "Mill"). The GWDP specifies the construction, operation, and monitoring requirements for all facilities at the Mill that have a potential to discharge pollutants directly or indirectly into groundwater.

2. PURPOSE

This Contingency Plan (the "Plan") provides a detailed list of actions Denison will take to regain compliance with GWDP limits and Discharge Minimization Technology ("DMT") requirements defined in Parts I.C, I.D, and I.H.4 of the GWDP. The timely execution of contingency and corrective actions outlined in this Plan will provide Denison with the basis to exercise the Affirmative Action Defense provision in Part I.G.3.c) of the GWDP and thereby avoid noncompliance status and potential enforcement action[1].

The contingency actions required to regain compliance with GWDP limits and DMT requirements defined in Parts I.C, I.D, and I.H.4 of the GWDP are described below.

3. GROUNDWATER CONTAMINATION

Since there are many different possible scenarios that could potentially give rise to groundwater contamination, and since the development and implementation of a remediation program will normally be specific to each particular scenario, this Plan does not outline a definitive remediation program. Rather, this Plan describes the steps that will be followed by Denison in the event Denison is found to be out of compliance with respect to any constituent in any monitoring well, pursuant to Part I.G.2 of the GWDP.

When the concentration of any parameter in a compliance monitoring well is out of compliance, Denison will, subject to specific requirements of the Executive Secretary as

[1] Part I.G.3.c) of the GWDP provides that, in the event a compliance action is initiated against Denison for violation of permit conditions relating to best available technology or DMT, Denison may affirmatively defend against that action by demonstrating that it has made appropriate notifications, that the failure was not intentional or caused by Denison's negligence, that Denison has taken adequate measures to meet permit conditions in a timely manner or has submitted an adequate plan and schedule for meeting permit conditions, and that the provisions of UCA 19-5-107 have not been violated.

set forth in any notice, order, remediation plan or the equivalent, implement the following process:

3.1. Notification

Denison will notify the Executive Secretary of the out of compliance status within 24 hours after detection of that status followed by a written notice within 5 days after detection, as required under Part I.G.4.a) of the GWDP.

3.2. Continuation of Accelerated Monitoring

Denison will continue accelerated sampling for the parameter in that compliance monitoring well pursuant to Part I.G.1 of the GWDP, unless the Executive Secretary determines that other periodic sampling is appropriate, until the facility is brought into compliance, as required under Part I.G.4.b) of the GWDP.

If the accelerated monitoring demonstrates that the Mill is no longer out of compliance with respect to a parameter in a well, then, with the written approval of the Executive Secretary, Denison will cease accelerated monitoring for the parameter, and no further steps will be followed by Denison with respect to such parameter.

3.3. Submission of Plan and Timetable

If the accelerated monitoring confirms that the Mill is out of compliance with respect to a parameter in a well, then, within 30 days of such confirmation, Denison will prepare and submit to the Executive Secretary a plan and a time schedule for assessment of the sources, extent and potential dispersion of the contamination, and an evaluation of potential remedial action to restore and maintain ground water quality to ensure that permit limits will not be exceeded at the compliance monitoring point and that DMT will be reestablished, as required under part I.G.4.c) of the GWDP. This plan will normally include:

a) The requirement for Denison to prepare a detailed and comprehensive operational history of the facility and surrounding areas which explores all activities that may have contributed to the contamination;

b) A requirement for Denison to complete an evaluation, which may include geochemical and hydrogeological analyses, to determine whether or not the contamination was caused by Mill activities or was caused by natural forces or offsite activities;

c) If it is concluded that the contamination is the result of current or past activities at the Mill, Denison will prepare a Characterization Report, which characterizes the physical, chemical, and radiological extent of the ground water

contamination. This will normally include a description of any additional wells to be used or installed to characterize the plume and the hydrogeologic characteristics of the affected zone, the analytical parameters to be obtained, the samples of ground water to be taken, and any other means to measure and characterize the affected ground water and contamination zone; and

d) If it is concluded that the contamination is the result of current or past activities at the Mill, Denison will evaluate potential remedial actions, including actions to restore and maintain groundwater quality to ensure that permit limits will not be exceeded at the compliance monitoring point and that DMT will be reestablished, as well as actions that merely allow natural attenuation to operate and actions that involve applying for Alternate Concentration Limits ("ACLs"). If groundwater remediation is required, Denison will prepare and submit to the Executive Secretary a Ground Water Remediation Plan, as described in Section 3.4 below.

3.4. Groundwater Remediation Plan

If the Executive Secretary determines that ground water remediation is needed, Denison will submit a Ground Water Remediation Plan to the Executive Secretary within the time frame requested by the Executive Secretary. The Ground Water Remediation Plan will normally include:

a) A description and schedule of how Denison will implement a corrective action program that prevents contaminants from exceeding the ground water protection levels or ACLs at the compliance monitoring point(s) or other locations approved by the Executive Secretary, by removing the contaminants, treating them in place, or by other means as approved by the Executive Secretary;

b) A description of the remediation monitoring program to demonstrate the effectiveness of the plan; and

c) Descriptions of how corrective action will apply to each source of the pollution.

Denison will implement the Ground Water Remediation Plan in accordance with a schedule to be submitted by Denison and approved by the Executive Secretary.

4. MILL DISCHARGE VIOLATIONS – INCLUDING UNAUTHORIZED DISCHARGE OR RELEASE OF PROHIBITED CONTAMINANTS TO THE TAILING CELLS

Part I.C.2. of the GWDP provides that only 11e.(2) by-product material authorized by the Mill's State of Utah Radioactive Materials License No. UT-2300478 (the "Radioactive Materials License") shall be discharged to or disposed of in the Mill's tailings cells.

Part I.C.3 of the GWDP provides that discharge of other compounds into the Mill's tailings cells, such as paints, used oil, antifreeze, pesticides, or any other contaminant not defined as 11e.(2) material is prohibited.

In the event of any unauthorized disposal of contaminants or wastes (the "Unauthorized Materials") to the Mill's tailings cells, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

4.1. Notifications

a) Upon discovery, the Mill Manager or RSO will be notified immediately; and

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery.

4.2. Field Activities

a) Upon discovery, Mill personnel will immediately cease placement of Unauthorized Materials into the Mill's tailings cells;

b) To the extent reasonably practicable and in a manner that can be accomplished safely, Mill personnel will attempt to segregate the Unauthorized Materials from other tailings materials and mark or record the location of the Unauthorized Materials in the tailings cells. If it is not reasonably practicable to safely segregate the Unauthorized Material from other tailings materials, Mill personnel will nevertheless mark or record the location of the Unauthorized Materials in the tailings cells;

c) To the extent reasonably practicable and in a manner that can be accomplished safely, Mill personnel will attempt to remove the Unauthorized Material from the tailings cells; and

d) Denison will dispose of the Unauthorized Material under applicable State and Federal regulations.

4.3. Request for Approvals and/or Waivers

If it is not reasonably practicable to safely remove the Unauthorized Materials from the tailings cells, then Denison will:

a) Submit a written report to the Executive Secretary analyzing the health, safety and environmental impacts, if any, associated with the permanent disposal of the Unauthorized Material in the Mill's tailings cells;

b) Apply to the Executive Secretary for any amendments that may be required to the GWDP and the Radioactive Materials License to properly accommodate the permanent disposal of the Unauthorized Material in the Mill's tailings cells in a manner that is protective of health, safety and the environment; and

c) Make all applications required under the United States Nuclear Regulatory Commission's ("NRC's") Non-11e.(2) Disposal Policy, including obtaining approval of the Department of Energy as the long term custodian of the Mill's tailings, in order to obtain approval to permanently dispose of the Unauthorized Material in the Mill's tailings cells.

5. DMT VIOLATIONS

5.1. Tailings Cell Wastewater Pool Elevation Above the Maximum Elevations

Part I.D.2 and Part I.D.6.d) of the GWDP provide that authorized operation and maximum disposal capacity in each of the existing tailings cells shall not exceed the levels authorized by the Radioactive Materials License and that under no circumstances shall the freeboard be less than three feet, as measured from the top of the flexible membrane liner ("FML").

In the event that tailings cell wastewater pool elevation in any tailings cell exceeds the maximum elevations mandated by Part I.D.2 and Part I.D.6.d) of the GWDP, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery;

c) Upon discovery, Mill personnel will cease to discharge any further tailings to the subject tailings cell, until such time as adequate freeboard capacity exists in the subject tailings cell for the disposal of the tailings;

d) To the extent reasonably practicable, without causing a violation of the freeboard limit in any other tailings cell, Mill personnel will promptly pump fluids from the subject tailings cell to another tailings cell until such time as the freeboard limit for the subject tailings cell is in compliance. If there is no room available in

another tailings cell, without violating the freeboard limit of such other cell, then, as soon as reasonably practicable, Mill personnel will cease to discharge any further tailings to any tailings cell until such time as adequate freeboard capacity exists in all tailings cells;

e) If it is not reasonably practicable to pump sufficient solutions from the subject tailings cell to another tailings cell, then the solution levels in the subject tailings cell will be reduced through natural evaporation; and

f) Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

5.2. Excess Head in Tailings Cells 2, 3, 4A and 4B~~A~~ Slimes Drain Systems

Part I.D.3.b)1) of the GWDP provides that Denison shall at all times maintain the average wastewater head in the slimes drain access pipe in Cell 2 to be as low as reasonably achievable, in accordance with the Mill's currently approved DMT Monitoring Plan , and that for Cell 3, this requirement shall apply only after initiation of de-watering operations. Similarly, Part I.D.6.c) and I.D.13.c) of the GWDP provides that after Denison initiates pumping conditions in the slimes drain layer in Cell 4A or 4B, respectively, Denison will provide: 1) continuous declining fluid heads in the slimes drain layer, in a manner equivalent to the requirements found in Part I.D.3.b); and 2) a maximum head of 1.0 feet in the tailings (as measured from the lowest point of the upper FML) in 6.4 years or less.

In the event that the average wastewater head in the slimes drain access pipe for Cell 2 or, after initiation of de-watering activities, Cell 3 or initiation of pumping conditions in the slimes drain layer in Cell 4A or 4B exceeds the levels specified in the DMT Monitoring Plan, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Mill personnel will promptly pump the excess fluid into an active tailings cell, or other appropriate containment or evaporation facility approved by the Executive Secretary;

c) If the exceedance is the result of equipment failure, Mill personnel will attempt to repair or replace the equipment;

d) If the cause of the exceedance is not rectified within 24 hours, Denison will provide verbal notification to the Executive Secretary within the ensuing 24 hours followed by a written notification within five days; and

e) If not due to an identified equipment failure, Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

5.3. Excess Cell 4A or 4B Leak Detection System Fluid Head or Daily Leak Rate

Part I.D.6.a) and I.D.13.a) provides that the fluid head in the Leak Detection System ("LDS") for Cell 4A and Cell 4B, respectively, shall not exceed 1 foot above the lowest point in the lower membrane liner, and Part I.D.6.b) of the GWDP provides that the maximum allowable daily leak rate measured in the LDS for Cell 4A shall not exceed 24,160 gallons/day. Part I.D.13.b) of the GWDP provides that the maximum allowable daily leak rate measured in the LDS for Cell 4B shall not exceed 26,145 gallons/day.

In the event that the fluid head in the LDS for Cell 4A exceeds 1 foot above the lowest point in the lower membrane layer or the daily leak rate measured in the Cell 4A LDS exceeds 24,160 gallons/day, or the fluid head in the LDS for Cell 4B exceeds 1 foot above the lowest point in the lower membrane layer or the daily leak rate measured in the Cell 4B LDS exceeds 26,145 gallons/day Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Mill personnel will promptly pump the excess fluid into an active tailings cell, or other appropriate containment or evaporation facility approved by the Executive Secretary, until such time as the cause of exceedance is rectified or until such time as otherwise directed by the Executive Secretary;

c) If the exceedance is the result of equipment failure, Mill personnel will attempt to repair or replace the equipment;

d) If the cause of the exceedance is not rectified within 24 hours, Denison will provide verbal notification to the Executive Secretary within the ensuing 24 hours followed by a written notification within five days; and

e) If not due to an identified equipment failure, Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to remediate the exceedance and to minimize the chance of a recurrence.

5.4. Excess New Decontamination Pad Leak Detection System Fluid Head

In order to ensure that the primary containment of the New Decontamination Pad water collection system has not been compromised, and to provide an inspection capability to detect leakage from the primary containment in each of the three settling tanks, a vertical inspection portal has been installed between the primary and secondary containment of each settling tank.

Section 3.1(e) of the Mill's DMT Monitoring Plan provides that the fluid head in the LDS for the New Decontamination Pad shall not exceed 0.10 feet above the concrete floor in any of the three standpipes.

In the event that the fluid head in the standpipe for a settling tank exceeds 0.10 feet above the concrete floor in the standpipe, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within the ensuing 24 hours followed by a written notification within five days;

c) Mill personnel will promptly pump the fluid from the settling tank's LDS as well as the fluids in the settling tank into another settling tank or into an active tailings cell, or other appropriate containment or evaporation facility approved by the Executive Secretary, until such time as the cause of the exceedance is rectified or until such time as otherwise directed by the Executive Secretary; and

d) Denison will perform a root cause analysis of the exceedance and, if appropriate, will implement new procedures or change existing procedures to remediate the exceedance and to minimize the chance of a recurrence.

5.5. Cracks or Physical Discrepancies on the New Decontamination Pad Wash Pad.

In the event that cracks or other physical discrepancies are observed on the concrete wash pad, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) The EDP shall be taken out of service and the cracks or deficiencies will be repaired utilizing industry standard materials and procedures appropriate for the

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defect. Following recommended cure times, the cracks or deficiencies will be re-inspected and, if acceptable, the EDP will be placed back into service.

c) A record of the repairs will be maintained as a part of the inspection records at the White Mesa Mill.

~~5.5~~.5.6. Excess Elevation For Tailings Solids

Part I.D.3.c) of the GWDP provides that upon closure of any tailings cell, Denison shall ensure that the maximum elevation of the tailings waste solids does not exceed the top of the FML.

In the event that, upon closure of any tailings cell, the maximum elevation of the tailings waste solids exceeds the top of the FML, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery;

c) To the extent reasonably practicable, without causing a violation of the freeboard limit in any other tailings cell, Mill personnel will promptly remove tailings solids from the subject tailings cell to another tailings cell, or other location approved by the Executive Secretary, until such time as the maximum elevation of the tailings waste solids in the subject tailings cell does not exceed the top of the FML; and

d) Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

~~5.6~~.5.7. Roberts Pond Wastewater Elevation

Part I.D.3.e) of the GWDP provides that the Permittee shall operate Roberts Pond so as to provide a minimum 2-foot freeboard at all times and that under no circumstances shall the water level in Roberts Pond exceed an elevation of 5,624 feet above mean sea level.

In the event that the wastewater elevation exceeds this maximum level, Denison shall remove the excess wastewater and place it into containment in Tailings Cell 1 within 72 hours of discovery, as specified in Part I.D.3.e) of the GWDP.

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In the event that, Denison fails to so remove any such excess wastewater, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately; and

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification and proposed corrective actions within five days of discovery.

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Part I.D.3.f) and Part I.D.11 of the GWDP provide that open-air or bulk storage of all feedstock materials at the Mill facility awaiting Mill processing shall be limited to the eastern portion of the Mill site area described in Table 4 of the GWDP, and that storage of feedstock materials at the facility outside that area shall be performed in accordance with the provisions of Part I.D.11 of the GWDP.

In the event that, storage of any feedstock at the Mill is not in compliance with the requirements specified in Part I.D.3.f) and Part I.D.11 of the GWDP, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery;

c) Mill personnel will:

(i) move any open-air or bulk stored feedstock materials to the portion of the Mill site area described in Table 4 of the GWDP;
(ii) ensure that any feedstock materials that are stored outside of the area described in Table 4 of the GWDP are stored and maintained in accordance with the provisions of Part I.D.11 of the GWDP; and
(iii) to the extent that any such containers are observed to be leaking, such leaking containers will be placed into watertight over-pack containers or otherwise dealt with in accordance with the provisions of Part I.D.11 of the GWDP, and any impacted soils will be removed and will be deposited into the Mill's active tailings cell; and

d) Denison will perform a root cause analysis of the non-compliant activity and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

~~5.8.~~5.9. Mill Site Chemical Reagent Storage

Part I.D.3.g) of the GWDP provides that for all chemical reagents stored at existing storage facilities, Denison shall provide secondary containment to capture and contain all volumes of reagent(s) that might be released at any individual storage area, and that for any new construction of reagent storage facilities, the secondary containment and control shall prevent any contact of the spilled reagent with the ground surface.

In the event that Denison does not provide the required secondary containment required under Part I.D.3.g) of the GWDP, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery; and

c) Denison will promptly remediate any spilled re-agent resulting from the failure to provide the required secondary containment under Part I.D.3.g) of the GWDP, by removal of the contaminated soil and disposal in the active tailings cell.

~~5.9.~~5.10. Failure to Construct as ~~p~~Per Approval

Part I.D.4 of the GWDP provides that any construction, modification, or operation of new waste or wastewater disposal, treatment, or storage facilities shall require submittal of engineering design plans and specifications, and prior Executive Secretary review and approval, and that a Construction Permit may be issued.

In the event that, any new waste or wastewater disposal, treatment, or storage facilities are constructed at the Mill facility without obtaining prior Executive Secretary review and approval, or any such facilities are not constructed in accordance with the provisions of any applicable Construction Permit, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately; and

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification and proposed corrective actions within five days of discovery.

~~5.10.~~5.11. Failure to Comply with Stormwater Management and Spill Control Requirements

Part I.D.10 of the GWDP provides that Denison will manage all contact and non-contact stormwater and control contaminant spills at the Mill facility in accordance with the currently approved Stormwater Best Management Practices Plan.

In the event that any contact or non-contact stormwater or contaminant spills are not managed in accordance with the Mill's approved Stormwater Best Management Practices Plan, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification and proposed corrective actions within five days of discovery; and

c) To the extent still practicable at the time of discovery, Denison will manage any such contaminant spill in accordance with the Mill's approved Stormwater Best Management Practices Plan. To the extent it is no longer practicable to so manage any such spill, Denison will agree with the Executive Secretary on appropriate clean up and other measures.

WHITE MESA URANIUM MILL

CONTINGENCY PLAN

As Contemplated by Part I.G.4(d)

of

State of Utah Groundwater Discharge Permit No.UGW370004

Prepared by:

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1050 17th Street, Suite 950
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November 2010

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WHITE MESA URANIUM MILL
CONTINGENCY PLAN
State of Utah Groundwater Discharge Permit
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1. INTRODUCTION

The State of Utah has granted Ground Water Discharge Permit No. UGW370004 (the "GWDP") for Denison Mines (USA) Corp.'s ("Denison's") White Mesa Uranium Mill (the "Mill"). The GWDP specifies the construction, operation, and monitoring requirements for all facilities at the Mill that have a potential to discharge pollutants directly or indirectly into groundwater.

2. PURPOSE

This Contingency Plan (the "Plan") provides a detailed list of actions Denison will take to regain compliance with GWDP limits and Discharge Minimization Technology ("DMT") requirements defined in Parts I.C, I.D, and I.H.4 of the GWDP. The timely execution of contingency and corrective actions outlined in this Plan will provide Denison with the basis to exercise the Affirmative Action Defense provision in Part I.G.3.c) of the GWDP and thereby avoid noncompliance status and potential enforcement action[1].

The contingency actions required to regain compliance with GWDP limits and DMT requirements defined in Parts I.C, I.D, and I.H.4 of the GWDP are described below.

3. GROUNDWATER CONTAMINATION

Since there are many different possible scenarios that could potentially give rise to groundwater contamination, and since the development and implementation of a remediation program will normally be specific to each particular scenario, this Plan does not outline a definitive remediation program. Rather, this Plan describes the steps that will be followed by Denison in the event Denison is found to be out of compliance with respect to any constituent in any monitoring well, pursuant to Part I.G.2 of the GWDP.

When the concentration of any parameter in a compliance monitoring well is out of compliance, Denison will, subject to specific requirements of the Executive Secretary as

[1] Part I.G.3.c) of the GWDP provides that, in the event a compliance action is initiated against Denison for violation of permit conditions relating to best available technology or DMT, Denison may affirmatively defend against that action by demonstrating that it has made appropriate notifications, that the failure was not intentional or caused by Denison's negligence, that Denison has taken adequate measures to meet permit conditions in a timely manner or has submitted an adequate plan and schedule for meeting permit conditions, and that the provisions of UCA 19-5-107 have not been violated.

set forth in any notice, order, remediation plan or the equivalent, implement the following process:

3.1. Notification

Denison will notify the Executive Secretary of the out of compliance status within 24 hours after detection of that status followed by a written notice within 5 days after detection, as required under Part I.G.4.a) of the GWDP.

3.2. Continuation of Accelerated Monitoring

Denison will continue accelerated sampling for the parameter in that compliance monitoring well pursuant to Part I.G.1 of the GWDP, unless the Executive Secretary determines that other periodic sampling is appropriate, until the facility is brought into compliance, as required under Part I.G.4.b) of the GWDP.

If the accelerated monitoring demonstrates that the Mill is no longer out of compliance with respect to a parameter in a well, then, with the written approval of the Executive Secretary, Denison will cease accelerated monitoring for the parameter, and no further steps will be followed by Denison with respect to such parameter.

3.3. Submission of Plan and Timetable

If the accelerated monitoring confirms that the Mill is out of compliance with respect to a parameter in a well, then, within 30 days of such confirmation, Denison will prepare and submit to the Executive Secretary a plan and a time schedule for assessment of the sources, extent and potential dispersion of the contamination, and an evaluation of potential remedial action to restore and maintain ground water quality to ensure that permit limits will not be exceeded at the compliance monitoring point and that DMT will be reestablished, as required under part I.G.4.c) of the GWDP. This plan will normally include:

a) The requirement for Denison to prepare a detailed and comprehensive operational history of the facility and surrounding areas which explores all activities that may have contributed to the contamination;

b) A requirement for Denison to complete an evaluation, which may include geochemical and hydrogeological analyses, to determine whether or not the contamination was caused by Mill activities or was caused by natural forces or offsite activities;

c) If it is concluded that the contamination is the result of current or past activities at the Mill, Denison will prepare a Characterization Report, which characterizes the physical, chemical, and radiological extent of the ground water

contamination. This will normally include a description of any additional wells to be used or installed to characterize the plume and the hydrogeologic characteristics of the affected zone, the analytical parameters to be obtained, the samples of ground water to be taken, and any other means to measure and characterize the affected ground water and contamination zone; and

d) If it is concluded that the contamination is the result of current or past activities at the Mill, Denison will evaluate potential remedial actions, including actions to restore and maintain groundwater quality to ensure that permit limits will not be exceeded at the compliance monitoring point and that DMT will be reestablished, as well as actions that merely allow natural attenuation to operate and actions that involve applying for Alternate Concentration Limits ("ACLs"). If groundwater remediation is required, Denison will prepare and submit to the Executive Secretary a Ground Water Remediation Plan, as described in Section 3.4 below.

3.4. Groundwater Remediation Plan

If the Executive Secretary determines that ground water remediation is needed, Denison will submit a Ground Water Remediation Plan to the Executive Secretary within the time frame requested by the Executive Secretary. The Ground Water Remediation Plan will normally include:

a) A description and schedule of how Denison will implement a corrective action program that prevents contaminants from exceeding the ground water protection levels or ACLs at the compliance monitoring point(s) or other locations approved by the Executive Secretary, by removing the contaminants, treating them in place, or by other means as approved by the Executive Secretary;

b) A description of the remediation monitoring program to demonstrate the effectiveness of the plan; and

c) Descriptions of how corrective action will apply to each source of the pollution.

Denison will implement the Ground Water Remediation Plan in accordance with a schedule to be submitted by Denison and approved by the Executive Secretary.

4. MILL DISCHARGE VIOLATIONS – INCLUDING UNAUTHORIZED DISCHARGE OR RELEASE OF PROHIBITED CONTAMINANTS TO THE TAILING CELLS

Part I.C.2. of the GWDP provides that only 11e.(2) by-product material authorized by the Mill's State of Utah Radioactive Materials License No. UT-2300478 (the "Radioactive Materials License") shall be discharged to or disposed of in the Mill's tailings cells.

Part I.C.3 of the GWDP provides that discharge of other compounds into the Mill's tailings cells, such as paints, used oil, antifreeze, pesticides, or any other contaminant not defined as 11e.(2) material is prohibited.

In the event of any unauthorized disposal of contaminants or wastes (the "Unauthorized Materials") to the Mill's tailings cells, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

4.1. Notifications

a) Upon discovery, the Mill Manager or RSO will be notified immediately; and

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery.

4.2. Field Activities

a) Upon discovery, Mill personnel will immediately cease placement of Unauthorized Materials into the Mill's tailings cells;

b) To the extent reasonably practicable and in a manner that can be accomplished safely, Mill personnel will attempt to segregate the Unauthorized Materials from other tailings materials and mark or record the location of the Unauthorized Materials in the tailings cells. If it is not reasonably practicable to safely segregate the Unauthorized Material from other tailings materials, Mill personnel will nevertheless mark or record the location of the Unauthorized Materials in the tailings cells;

c) To the extent reasonably practicable and in a manner that can be accomplished safely, Mill personnel will attempt to remove the Unauthorized Material from the tailings cells; and

d) Denison will dispose of the Unauthorized Material under applicable State and Federal regulations.

4.3. Request for Approvals and/or Waivers

If it is not reasonably practicable to safely remove the Unauthorized Materials from the tailings cells, then Denison will:

a) Submit a written report to the Executive Secretary analyzing the health, safety and environmental impacts, if any, associated with the permanent disposal of the Unauthorized Material in the Mill's tailings cells;

b) Apply to the Executive Secretary for any amendments that may be required to the GWDP and the Radioactive Materials License to properly accommodate the permanent disposal of the Unauthorized Material in the Mill's tailings cells in a manner that is protective of health, safety and the environment; and

c) Make all applications required under the United States Nuclear Regulatory Commission's ("NRC's") Non-11e.(2) Disposal Policy, including obtaining approval of the Department of Energy as the long term custodian of the Mill's tailings, in order to obtain approval to permanently dispose of the Unauthorized Material in the Mill's tailings cells.

5. DMT VIOLATIONS

5.1. Tailings Cell Wastewater Pool Elevation Above the Maximum Elevations

Part I.D.2 and Part I.D.6.d) of the GWDP provide that authorized operation and maximum disposal capacity in each of the existing tailings cells shall not exceed the levels authorized by the Radioactive Materials License and that under no circumstances shall the freeboard be less than three feet, as measured from the top of the flexible membrane liner ("FML").

In the event that tailings cell wastewater pool elevation in any tailings cell exceeds the maximum elevations mandated by Part I.D.2 and Part I.D.6.d) of the GWDP, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery;

c) Upon discovery, Mill personnel will cease to discharge any further tailings to the subject tailings cell, until such time as adequate freeboard capacity exists in the subject tailings cell for the disposal of the tailings;

d) To the extent reasonably practicable, without causing a violation of the freeboard limit in any other tailings cell, Mill personnel will promptly pump fluids from the subject tailings cell to another tailings cell until such time as the freeboard limit for the subject tailings cell is in compliance. If there is no room available in

another tailings cell, without violating the freeboard limit of such other cell, then, as soon as reasonably practicable, Mill personnel will cease to discharge any further tailings to any tailings cell until such time as adequate freeboard capacity exists in all tailings cells;

e) If it is not reasonably practicable to pump sufficient solutions from the subject tailings cell to another tailings cell, then the solution levels in the subject tailings cell will be reduced through natural evaporation; and

f) Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

5.2. Excess Head in Tailings Cells 2, 3, 4A and 4B Slimes Drain Systems

Part I.D.3.b)1) of the GWDP provides that Denison shall at all times maintain the average wastewater head in the slimes drain access pipe in Cell 2 to be as low as reasonably achievable, in accordance with the Mill's currently approved DMT Monitoring Plan , and that for Cell 3, this requirement shall apply only after initiation of de-watering operations. Similarly, Part I.D.6.c) and I.D.13.c) of the GWDP provides that after Denison initiates pumping conditions in the slimes drain layer in Cell 4A or 4B, respectively, Denison will provide: 1) continuous declining fluid heads in the slimes drain layer, in a manner equivalent to the requirements found in Part I.D.3.b); and 2) a maximum head of 1.0 feet in the tailings (as measured from the lowest point of the upper FML) in 6.4 years or less.

In the event that the average wastewater head in the slimes drain access pipe for Cell 2 or, after initiation of de-watering activities, Cell 3 or initiation of pumping conditions in the slimes drain layer in Cell 4A or 4B exceeds the levels specified in the DMT Monitoring Plan, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Mill personnel will promptly pump the excess fluid into an active tailings cell, or other appropriate containment or evaporation facility approved by the Executive Secretary;

c) If the exceedance is the result of equipment failure, Mill personnel will attempt to repair or replace the equipment;

d) If the cause of the exceedance is not rectified within 24 hours, Denison will provide verbal notification to the Executive Secretary within the ensuing 24 hours followed by a written notification within five days; and

e) If not due to an identified equipment failure, Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

5.3. Excess Cell 4A or 4B Leak Detection System Fluid Head or Daily Leak Rate

Part I.D.6.a) and I.D.13.a) provide that the fluid head in the Leak Detection System ("LDS") for Cell 4A and Cell 4B, respectively, shall not exceed 1 foot above the lowest point in the lower membrane liner, and Part I.D.6.b) of the GWDP provides that the maximum allowable daily leak rate measured in the LDS for Cell 4A shall not exceed 24,160 gallons/day. Part I.D.13.b) of the GWDP provides that the maximum allowable daily leak rate measured in the LDS for Cell 4B shall not exceed 26,145 gallons/day.

In the event that the fluid head in the LDS for Cell 4A exceeds 1 foot above the lowest point in the lower membrane layer or the daily leak rate measured in the Cell 4A LDS exceeds 24,160 gallons/day, or the fluid head in the LDS for Cell 4B exceeds 1 foot above the lowest point in the lower membrane layer or the daily leak rate measured in the Cell 4B LDS exceeds 26,145 gallons/day Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Mill personnel will promptly pump the excess fluid into an active tailings cell, or other appropriate containment or evaporation facility approved by the Executive Secretary, until such time as the cause of exceedance is rectified or until such time as otherwise directed by the Executive Secretary;

c) If the exceedance is the result of equipment failure, Mill personnel will attempt to repair or replace the equipment;

d) If the cause of the exceedance is not rectified within 24 hours, Denison will provide verbal notification to the Executive Secretary within the ensuing 24 hours followed by a written notification within five days; and

e) If not due to an identified equipment failure, Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to remediate the exceedance and to minimize the chance of a recurrence.

5.4. Excess New Decontamination Pad Leak Detection System Fluid Head

In order to ensure that the primary containment of the New Decontamination Pad water collection system has not been compromised, and to provide an inspection capability to detect leakage from the primary containment in each of the three settling tanks, a vertical inspection portal has been installed between the primary and secondary containment of each settling tank.

Section 3.1(e) of the Mill's DMT Monitoring Plan provides that the fluid head in the LDS for the New Decontamination Pad shall not exceed 0.10 feet above the concrete floor in any of the three standpipes.

In the event that the fluid head in the standpipe for a settling tank exceeds 0.10 feet above the concrete floor in the standpipe, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within the ensuing 24 hours followed by a written notification within five days;

c) Mill personnel will promptly pump the fluid from the settling tank's LDS as well as the fluids in the settling tank into another settling tank or into an active tailings cell, or other appropriate containment or evaporation facility approved by the Executive Secretary, until such time as the cause of the exceedance is rectified or until such time as otherwise directed by the Executive Secretary; and

d) Denison will perform a root cause analysis of the exceedance and, if appropriate, will implement new procedures or change existing procedures to remediate the exceedance and to minimize the chance of a recurrence.

5.5. Cracks or Physical Discrepancies on the New Decontamination Pad Wash Pad.

In the event that cracks or other physical discrepancies are observed on the concrete wash pad, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) The EDP shall be taken out of service and the cracks or deficiencies will be repaired utilizing industry standard materials and procedures appropriate for the

defect. Following recommended cure times, the cracks or deficiencies will be re-inspected and, if acceptable, the EDP will be placed back into service.

c) A record of the repairs will be maintained as a part of the inspection records at the White Mesa Mill.

5.6. Excess Elevation For Tailings Solids

Part I.D.3.c) of the GWDP provides that upon closure of any tailings cell, Denison shall ensure that the maximum elevation of the tailings waste solids does not exceed the top of the FML.

In the event that, upon closure of any tailings cell, the maximum elevation of the tailings waste solids exceeds the top of the FML, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery;

c) To the extent reasonably practicable, without causing a violation of the freeboard limit in any other tailings cell, Mill personnel will promptly remove tailings solids from the subject tailings cell to another tailings cell, or other location approved by the Executive Secretary, until such time as the maximum elevation of the tailings waste solids in the subject tailings cell does not exceed the top of the FML; and

d) Denison will perform a root cause analysis of the exceedance and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

5.7. Roberts Pond Wastewater Elevation

Part I.D.3.e) of the GWDP provides that the Permittee shall operate Roberts Pond so as to provide a minimum 2-foot freeboard at all times and that under no circumstances shall the water level in Roberts Pond exceed an elevation of 5,624 feet above mean sea level.

In the event that the wastewater elevation exceeds this maximum level, Denison shall remove the excess wastewater and place it into containment in Tailings Cell 1 within 72 hours of discovery, as specified in Part I.D.3.e) of the GWDP.

In the event that, Denison fails to so remove any such excess wastewater, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately; and

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification and proposed corrective actions within five days of discovery.

5.8. Feedstock Storage Area

Part I.D.3.f) and Part I.D.11 of the GWDP provide that open-air or bulk storage of all feedstock materials at the Mill facility awaiting Mill processing shall be limited to the eastern portion of the Mill site area described in Table 4 of the GWDP, and that storage of feedstock materials at the facility outside that area shall be performed in accordance with the provisions of Part I.D.11 of the GWDP.

In the event that, storage of any feedstock at the Mill is not in compliance with the requirements specified in Part I.D.3.f) and Part I.D.11 of the GWDP, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery;

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(i) move any open-air or bulk stored feedstock materials to the portion of the Mill site area described in Table 4 of the GWDP;
(ii) ensure that any feedstock materials that are stored outside of the area described in Table 4 of the GWDP are stored and maintained in accordance with the provisions of Part I.D.11 of the GWDP; and
(iii) to the extent that any such containers are observed to be leaking, such leaking containers will be placed into watertight over-pack containers or otherwise dealt with in accordance with the provisions of Part I.D.11 of the GWDP, and any impacted soils will be removed and will be deposited into the Mill's active tailings cell; and

d) Denison will perform a root cause analysis of the non-compliant activity and will implement new procedures or change existing procedures to minimize the chance of a recurrence.

5.9. Mill Site Chemical Reagent Storage

Part I.D.3.g) of the GWDP provides that for all chemical reagents stored at existing storage facilities, Denison shall provide secondary containment to capture and contain all volumes of reagent(s) that might be released at any individual storage area, and that for any new construction of reagent storage facilities, the secondary containment and control shall prevent any contact of the spilled reagent with the ground surface.

In the event that Denison does not provide the required secondary containment required under Part I.D.3.g) of the GWDP, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification within five days of discovery; and

c) Denison will promptly remediate any spilled re-agent resulting from the failure to provide the required secondary containment under Part I.D.3.g) of the GWDP, by removal of the contaminated soil and disposal in the active tailings cell.

5.10. Failure to Construct as Per Approval

Part I.D.4 of the GWDP provides that any construction, modification, or operation of new waste or wastewater disposal, treatment, or storage facilities shall require submittal of engineering design plans and specifications, and prior Executive Secretary review and approval, and that a Construction Permit may be issued.

In the event that, any new waste or wastewater disposal, treatment, or storage facilities are constructed at the Mill facility without obtaining prior Executive Secretary review and approval, or any such facilities are not constructed in accordance with the provisions of any applicable Construction Permit, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately; and

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5.11. Failure to Comply with Stormwater Management and Spill Control Requirements

Part I.D.10 of the GWDP provides that Denison will manage all contact and non-contact stormwater and control contaminant spills at the Mill facility in accordance with the currently approved Stormwater Best Management Practices Plan.

In the event that any contact or non-contact stormwater or contaminant spills are not managed in accordance with the Mill's approved Stormwater Best Management Practices Plan, Denison will, subject to any specific requirements of the Executive Secretary as set forth in any notice, order, remediation plan or the equivalent, implement the following process:

a) Upon discovery, the Mill Manager or RSO will be notified immediately;

b) Denison will provide verbal notification to the Executive Secretary within 24 hours of discovery followed by a written notification and proposed corrective actions within five days of discovery; and

c) To the extent still practicable at the time of discovery, Denison will manage any such contaminant spill in accordance with the Mill's approved Stormwater Best Management Practices Plan. To the extent it is no longer practicable to so manage any such spill, Denison will agree with the Executive Secretary on appropriate clean up and other measures.