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February 29, 2012

VIA E-MAIL AND OVERNIGHT DELIVERY

Mr. Rusty Lundberg
Department of Environmental Quality
195 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

Re: State of Utah Groundwater Discharge Permit ("GWDP") No. UGW370004
Transmittal of Revised Discharge Minimization Technology Monitoring ("DMT") Revision 11.5, dated February 2012

Dear Mr. Lundberg:

Reference is made to the Division of Radiation Control ("DRC") letters dated September 13, 2011, December 14, 2011, December 22, 2011, and February 15, 2012 regarding the White Mesa Mill Tailings Management System and Discharge Minimization Technology ("DMT") Monitoring Plans dated June 2011 (Revision 11.2), July 2011 (Revision 11.3), and January 2012 (Revision 11.4).

This letter transmits Denison Mines (USA) Corp's ("Denison's") proposed revisions to the White Mesa Mill DMT Plan. These revisions include changes made to

1. Respond to the DRC Letter dated February 15, 2011, which incorporated specific comments from the DRC letters dated September 13, 2011, December 14, 2011, December 22, 2011.
2. Correct additional errors and inconsistencies in the January 2012 Revision of the DMT Plan.

For ease of review we have provided both redline and clean versions of each document.

The attached DMT Plan Revision 11.5 has accepted all the redline changes proposed in Denison's January 2012 submittal as the base version in black type. Changes resulting from the above-referenced DRC comment letter are provided in redline/strikeout format.

We have also provided, below, specific responses to each request in DRC's February 15, 2011 letter. The sections and numbering of the remainder of this letter follow the DRC February 15, 2011 letter. Each DRC request is shown in italics, below, followed by Denison's response.

Responses to Comments Provided to DUSA in the September 13, 2011 DRC RFI/Confirmatory Action Letter (as re-transmitted in a DRC letter dated February 15, 2011)

DRC Comment
The comment, shown immediately below, corresponds to comment number three (3) in the subject September 13, 2011 DRC CAL:

3. DUSA states that, "Denison has developed other means to accurately measure cell solution level elevations prior to construction of any walkways." However, the CAL states that, "The procedures

for this method to measure the water level elevation will be submitted by DUSA for approval, in a revised DMT Plan."

Please propose the "other means" to measure the water level, as discussed above. It is not apparent in the DMT plan what the "other means" to measure the solution elevation are.

Denison Response:
As previously stated in Denison's January 30, 2012 response letter, tailings cell wastewater pool elevations will be monitored within 30 days of authorization for use in accordance with the existing survey procedures specified in the DMT Plan and in accordance with Mill health and safety requirements.

The text referring to "other methods" was removed from the DMT Plan, Revision 11.4, submitted in January 2012. The tailings cell wastewater pool elevations will be measured using the standard survey procedures as described in the DMT Plan. No further descriptions of additional procedures are needed because the procedures are already described in Section 3.1 d) of the DMT Plan. Additional text has been added clarifying that for newly constructed cells the same procedure will be used.

DRC Comment
The comment numbers below correspond to the comment numbers in the subject December 22, 2011 DRC Letter:

3. *Part I.D.3(b)(3) of the Permit states that "Annual Slimes Drain Compliance – shall be achieved when the average annual wastewater recovery elevation in the slimes drain access pipe, as determined pursuant to the currently approved DMT Monitoring Plan, meets the conditions in Equation 1 below..."*

Thus, the DMT Plan needs to state how the slimes drain recovery elevations are to be calculated. A DUSA letter dated January 27, 2012[1] shows DUSA's current method of calculating the slimes drain recovery elevation, as well as the annual average slimes drain recovery elevation. This method is clarified in the second full paragraph on page 2 of that letter. One may call the current DUSA method of calculating recovery elevations a relative elevation method.

Although this method is valid for comparison purposes, it appears correct elevations, with respect to the true elevation above mean sea, level (fmsl), are not being used. As mentioned in the January 27, 2012 letter, " ... the standpipe elevation was re-surveyed, in 2011, which indicated that the elevation of the measurement point of 5614.83 fmsl reported to date ... was 3.07 feet higher than the 2011 survey result of 5611.76 fmsl. .. "

To avoid the complex adjustments to calculate relative elevations, and to avoid future errors, DUSA must convert to using actual fmsl elevations, not relative elevations, in all of its slimes drain recovery elevation determinations and calculations. DUSA's method to do this must be stated in the DMT Plan.

Notwithstanding the above, the DMT Plan needs to state how the slimes drain recovery elevations are to be calculated.

Denison Response:
The current, correct elevation of the measuring point as surveyed by a Utah-Licensed surveyor, has been added to the DMT Plan. The calculation of the Cell 2 slimes drain elevation (SDRE) has been added to Section 3.1 b)(v) showing how the elevation of the fluid is calculated relative to the surveyed measuring point on the Cell 2 slimes drain access pipe.

[1] January 27, 2012 DUSA response letter on Failure to Meet Affirmative Defense Requirements on Cell 2 Slimes Drain Recovery Elevation.

As we discussed with DRC on February 14, 2012, the elevation of the Cell 2 slimes drain access pipe of 5611.76 fmsl is a correct value representing the elevation prior to the addition in 2011 of the 6.97 foot extension. All entries and calculations (for every period from 1/25/2008 through 12/19/2011) in the table in Attachment 3 of Denison's January 17, 2012 letter using this value are correct.

The surveyed elevation of the slimes drain access pipe of 5618.73 fmsl used in Attachment 3 of Denison's January 27, 2012 letter is a correct value, surveyed by a Utah-Licensed surveyor, after the installation of the 6.97 foot extension to the slimes drain access pipe. The entry and calculations for 12/19/2011 in the table in Attachment 3 based on this value are also correct. The plots of slimes drain elevation based on these values and measured depths to slimes drain solution, as provided in the DMT reports to date, are also correct. As we agreed on February 14, 2012, since the elevations in fmsl are correct, there is no need to further revise any of the table entries or the plots and, as the calculations indicate, the Cell 2 slimes drain recovery is in compliance with Part I.D.3(b)(3) of the Groundwater Discharge Permit.

As we discussed on February 14, 2012, the value of 5614.83 fmsl, which was identified in Denison's January 27, 2012, letter is not a correct value. This entries and calculations in the table in Attachment 3 of the letter, and the data used to prepare the slimes drain elevation plots in the DMT reports, were based on the correct values discussed above, not on the incorrect value. Therefore, as we agreed on February 14, 2012, since the elevations used are correct, there is no need to further revise any of the table entries or the plots.

As we discussed on February 14, 2012, all calculation are based on the subtraction of an actual surveyed value in fmsl for the slimes drain access pipe elevation, and an actual measured depth to fluid for the slimes drain solution, and are not based on relative elevations. The text in Section 3.1 b)(v) has been revised to include a description of the process.

DRC Comment
5. In Appendix F of the DMT Plan, additionally, the first bullet line should refer to Cell 4B instead of Cell 4A. Please make this correction.

Denison Response:
The text has been changed as requested.

DRC Comment
6. The previous comment was, "Paragraph 6.2 needs to be revised due to the construction of Cell 4B. It needs to be corrected to refer to the current exterior dikes required to have movement monitoring." However, DUSA's response that, "The text corrections have been made as requested," is incorrect, as no changes were made.

It appears dikes 4A-E, 4A-S, and 4B-S are the current dikes exposed exterior dikes subject to movement monitoring. Please indicate such in this paragraph of the plan.

Denison Response:
The text has been changed as requested.

DRC Comment
7. See Appendix A, page 28, Table III. Since the freeboard in Cell 1 is always exposed, and the water level is often changing, all the dikes in Cell 1 become visible from time to time. Columns need to be made available so inspection entries can be made for all the dikes of Cell 1.

Similarly, all the dikes of Cells 4A and 4B need to be included in the table.

Denison Response:
Per Denison's discussion with DRC on February 14, 2012, Denison understands the need to include in the Daily Inspection Form a place to record observations from inspections of the interior walls of all four

dikes of Cells 1, 4A, and 4B. Consistent with our discussion with DRC, Denison has revised Table II of the Daily Inspection Form to include space for these observations. The title of Table II has been modified to clarify that it addresses inspection of the interior conditions and issues at Cells 1, 4A, and 4B.

As we discussed, the contents of Table III, which addressed inspection of geotechnical components of the exterior of visible dikes, have not been changed. The notes inside Table III have been edited to clarify that the table addresses exterior dikes.

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

Yours very truly,

DENISON MINES (USA) CORP.

Jo Ann Tischler
Director, Compliance and Permitting

cc: David C. Frydenlund
Ron F. Hochstein
Harold R. Roberts
David E. Turk
Kathy A. Weinel

Attachments

DENISON MINES

CLEAN

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

Revision 11.5
February 2012

Prepared by:
Denison Mines (USA) Corp.
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WHITE MESA MILL TAILINGS MANAGEMENT SYSTEM AND DISCHARGE MINIMIZATION TECHNOLOGY (DMT) MONITORING PLAN

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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 evaporation cell (Cell 1) and thefour tailings cells (Cells 2, 3, 4A, and 4B) will be inspected. Observations will be made of the current condition of each cell, noting any corrective action that needs to be taken.

The Radiation Safety Officer (RSO) or his designee is responsible for performing the daily tailings inspections. The RSO 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, Dikes 4A-S, 4A-E, and 4B-

S,wind movement of tailings, effectiveness of dust minimization methods, spray evaporation, Cell 2 spillway, Cell 3 spillway, Cell 4A spillway,Cell 3, Cell 4A and 4B liquid pools and associated liquid return equipment, and cell leak detection systems.

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 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 4A or Cell 4B; 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 4A-S, 4A-E, and 4B-S.

h) The Cell 2 spillway, Cell 3 spillway, Cell 4A spillway, Cell 3, Cell 4A and Cell 4B 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 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 (FML) (Cell 4A FML elevation is 5555.14 amsl and with the addition of the 1.0 foot of solution the solution elevation is 5556.14 feet amsl. For Cell 4B the FML elevation is 5557.50 amsl and with the addition of the 1.0 foot of solution the solution elevation is 5558.50 feet amsl). 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.

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 RSO 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 RSO 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 Technician or RSO, 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 RSO, 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 (as well as daily) 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 dual-probe system that senses the presence of solutions in the LDS system (comparable to the systems in Cells 4A and 4B) and indicates the presence of solution with a warning light. 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. For Cells 1 and 3, the water level data is recorded on the Daily Tailings Inspection Form. For Cells 4A and 4B, the water level data is downloaded to a laptop computer periodically and incorporated into the Mill's environmental monitoring data storage, 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.

For Cells 1 and 3, 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.

For Cells 1 and 3, 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 26,145 gallons/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) Denison re-graded the interim fill on Cell 2 in order to reduce the potential for the accumulation of stormwater on the surface of Cell 2. As a result of the re-grading of the interim cover and the placement of an additional 62,000 cubic yards of fill material on Cell 2, the slimes drain access pipe was extended 6.97 feet. The extension pipe is 6.97 feet in length, and therefore the new measuring point is 37.97 feet from the bottom of the slimes drain. The measuring point on the extension pipe was surveyed by a Utah-Certified Land Surveyor. The measuring point elevation is 5618.73 fmsl. For the quarterly recovery test described in section vi below, this extension has no effect on the data measurement procedures.
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 37.97 feet below a water level measuring point which is a notch on the side of the Cell 2 slimes drain access pipe. . 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 38.97 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 three feet above the bottom of the slimes drain standpipe. The average wastewater head in the Cell 2 slimes drain is therefore less than 3 feet and is below the phreatic surface of tailings Cell 2, about 27 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. The extension of the Cell 2 slimes drain access pipe did not require any changes to the measurement procedure. The surveyed measuring point on the extended pipe is used as required. The elevation of the measuring point is 5618.73 fmsl. The head measurements are calculated in the same manner, using the same procedures as those used prior to the extension of the Cell 2 slimes drain access pipe; however, the total depth to the bottom of the pipe is now 37.97 feet as noted on the corrected form in Attachment A.

All head measurements must be made from the same measuring point (the notch at the north side of the access pipe 5618.73 fmsl), and made to the nearest 0.01 foot. The results will be recorded as depth-in-pipe measurements on the Weekly Tailings Inspection Form. The equation specified in the GWDP will be used to calculate the slimes drain recovery elevation (SDRE). To calculate the SDRE contemplated by the GWDP, the depth to wastewater in the Cell 2 slimes drain access pipe (in feet) will be subtracted from the surveyed elevation of the measuring point. The calculation is as follows:

5618.73 - Depth to wastewater in the Cell 2 slimes drain access pipe = SDRE

It is important to note that the extension of the Cell 2 slimes access pipe has not changed the method of calculation of the pre- and post-pump head calculations, only the constant (Cell 2 slimes drain access pipe height) used in the calculation has changed. The head is calculated by subtracting the depth to liquid from 37.97 feet rather than from the previous measurement of 38 feet. The weekly Tailings Inspection form included in Attachment A has been changed to reflect the extension height;

(vi) Effective July 11, 2011, on a quarterly 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 Quarterly 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 1, 4A, and 4B and Roberts Pond are to be taken by survey on a weekly basis. The beach area in Cell 4B with the maximum elevation is to be taken by survey on a monthly basis when beaches are first observed, 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 for Cells 1, Cell 4A, 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 4A and 4B, the Reference Point is a piece of stamped metal monument located

next to the transformer on the south side of Cell 4A and 4B. The elevation at the top of this piece of rebar (the Reference Point Elevation for Cell 4A and 4B) is 5600.49 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 south side of Cell 4A and 4B;

(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 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:

For a newly-constructed cell, when the cell is first placed into operation, the solution level is typically zero feet above the FML or a minimal elevation above the FML due to natural precipitation. For newly-constructed cells, measurement of solution level will commence within 30 days of authorization for use. Measurements will be conducted as described above in items d) (i) through d) (vii) of this Section consistent with current Mill health and safety procedures. The measurements will be completed using survey equipment and the appropriate length survey rod (either 25' or 45').

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 southeast 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

IV. 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;

B. Cell 4B Beach Elevation

Beach elevations in Cell 4B will commence when beaches are first observed.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 visually inspected at key locations to determine pipe wear. 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) 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.

e) *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 the Executive Secretary.

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 4A-E, 4A-S, and 4B-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 (40 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 4B 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 4B 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 4B 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 4B 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 and INTERIOR of CELLS																
Inspection Items	Conditions of Potential Concern	Cell 1				Cell 2	Cell 3	Cell 4A				Cell 4B				
		N	S	E	W			N	S	E	W	N	S	E	W	
Interior Cell Walls																
Liner	Observable Liner Damage															
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															

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-E	Dike 4B-S
Slopes	Sloughs or Sliding Cracks, Bulges, Subsidence, Severe Erosion, Moist Areas, Areas of Seepage Outbreak	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect			
Crest	Cracks, Subsidence, Severe Erosion	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect			

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

V. PHYSICAL INSPECTION OF SLURRY LINES(S)

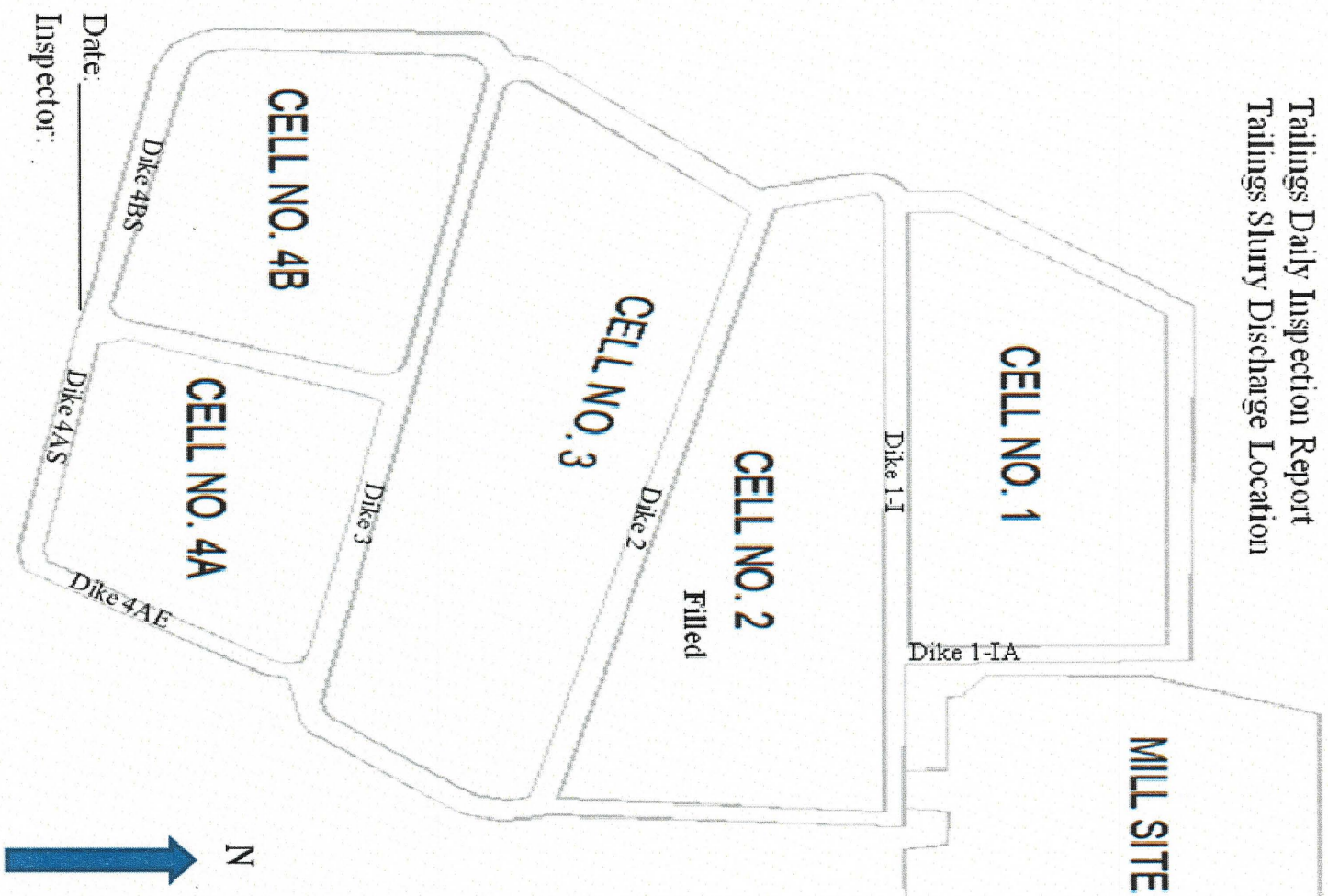
Walked to Discharge Point _____Yes _____No
Observed Entire Discharge Line _____Yes _____No

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


Tailings Daily Inspection Report
Tailings Slurry Discharge Location
Date:_____
Inspector:
CELL NO. 4B
CELL NO. 4A
CELL NO. 3
CELL NO. 2
Filled
CELL NO. 1
MILL SITE
Dike 4BS
Dike 4AS
Dike 4AE
Dike 3
Dike 2
Dike 1-I
Dike 1-IA
N

APPENDIX A (CONT)

DENISON MINES (USA) CORP.
WEEKLY TAILINGS INSPECTION

Date:_____ Inspectors: _____

1. Pond and Beach 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 _____5555.14__
(c)Depth of Water above FML ((a)-(b)) _____

Cell 4B: (a)Pond Solution Elevation _____

(b)FML Bottom Elevation _____5557.50
(c)Depth of Water above FML ((a)-(b)) _____
(d)Elevation of Beach Area with Highest Elevation (monthly) _____

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 _____

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

(all measurements are depth-in-pipe)

Pre-pump head is 37.97'-Depth to Liquid Pre-pump = _____
Post-pump head is 37.97' –Depth to Liquid Post-pump = _____

3. Leak Detection Systems

(Same data as Daily Inspection Form. Record data on daily form).

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. Designated Disposal Area for Non-Tailings Mill Waste (awaiting DRC approval)
_____

* Does Level exceed 12 inches above the lowest point on the bottom flexible membrane liner (solution elevation of 5556.14 amsl for Cell 4A and 5558.50 for Cell 4B)? _____ 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: _____
_____
_____
_____
_____

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 3-3S: _____	Cell 3-3C; _____	Cell3-3N: _____
Cell 3-4N: _____	Cell 3-6N: _____	Cell 3-7S: _____
Cell 3-7C: _____	Cell 3-7N: _____	Cell 3-8S: _____
Cell 3-8C: _____	Cell 3-8N: _____	

7. Movement Monitors: (Is there visible damage to any movement monitor or to adjacent surfaces)?

_____

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

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. **Estimated Areas:**

	Cell 3	Cell 4A	Cell 4B
Estimated percent of beach surface area			
Estimated percent of solution pool area			
Estimated percent of cover area			

Comments: _____

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

8.3. 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 4A-S, 4A-E, and 4B-S, , 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 Environmental, Health and Safety personnel 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 on Cell 4A and 4B dike is 5 mph, and the posted speed limit for the tailings area (other than the Cell 4A and 4B dike) is 15 mph. These limits 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: _____

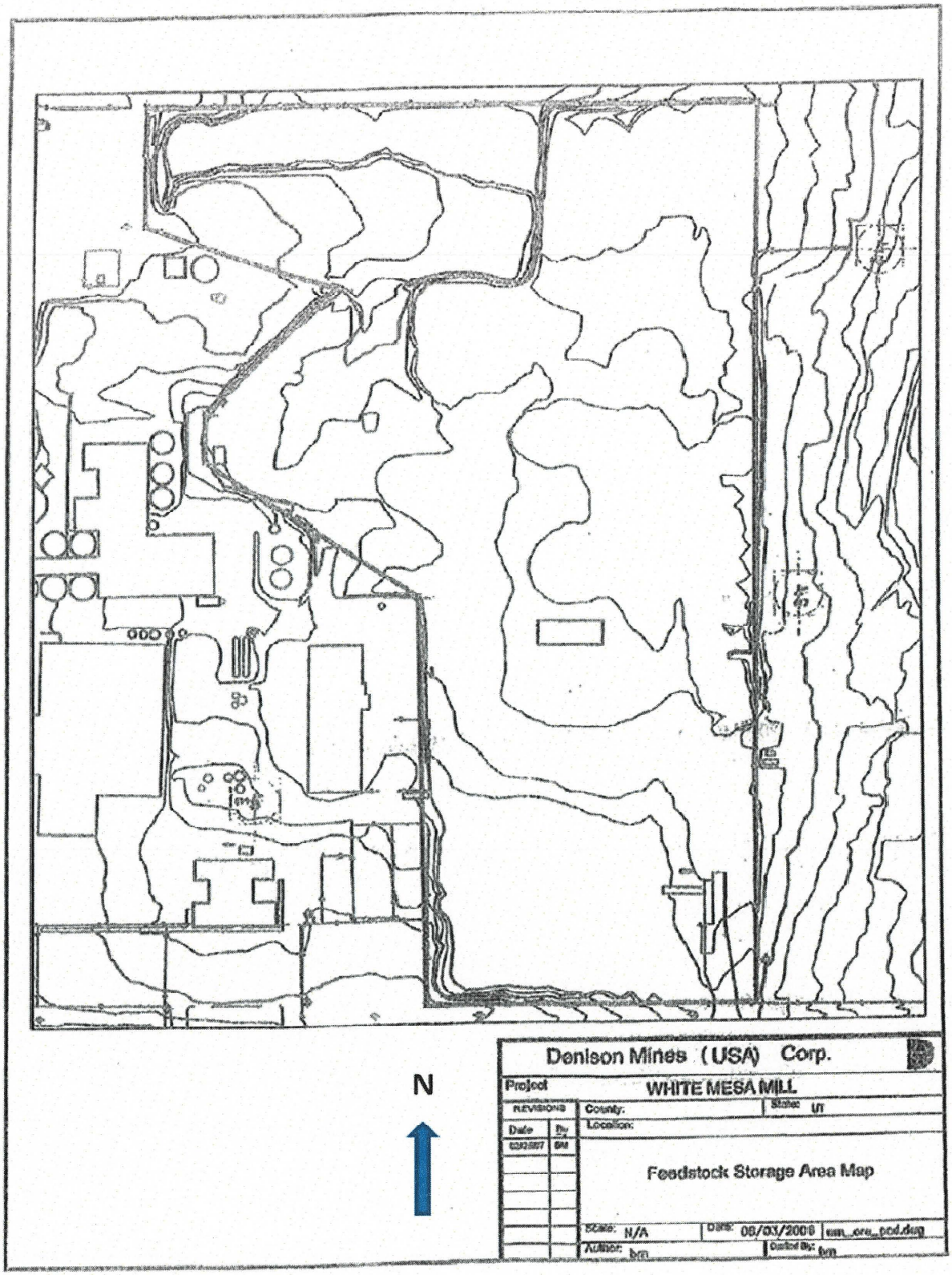
I have read the document titled "Tailings Management System, White Mesa Mill Tailings Inspector Training" and have received on-site instruction at the tailings system. This instruction included documentation of daily tailings inspections, analysis of potential problems (dike failures, unusual flows),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


N
Denison Mines (USA) Corp.
Project
WHITE MESA MILL
REVISIONS
Date
By
County:
State: UT
Location:
Feedstock Storage Area Map
Scale: N/A
Date: 08/03/2009
Author: bm
Drafted By: bm

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 4B – 159.4 acre feet
- Wave runup factor for Cell 4B – 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 4B – 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.

REDLINE

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

Revision 11.5
February 2012

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

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

TABLE OF CONTENTS

Contents

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 evaporation cell (Cell 1) and thefour tailings cells (Cells 2, 3, 4A, and 4B) will be inspected. Observations will be made of the current condition of each cell, noting any corrective action that needs to be taken.

The Radiation Safety Officer (RSO) or his designee is responsible for performing the daily tailings inspections. The RSO 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, Dikes 4A-S, 4A-E, and 4B-

S,wind movement of tailings, effectiveness of dust minimization methods, spray evaporation, Cell 2 spillway, Cell 3 spillway, Cell 4A spillway,Cell 3, Cell 4A and 4B liquid pools and associated liquid return equipment, and cell leak detection systems.

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 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 4A or Cell 4B; 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 4A-S, 4A-E, and 4B-S.

h) The Cell 2 spillway, Cell 3 spillway, Cell 4A spillway, Cell 3, Cell 4A and Cell 4B 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 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 (FML) (Cell 4A FML elevation is 5555.14 amsl and with the addition of the 1.0 foot of solution the solution elevation is 5556.14 feet amsl. For Cell 4B the FML elevation is 5557.50 amsl and with the addition of the 1.0 foot of solution the solution elevation is 5558.50 feet amsl). 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.

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 RSO 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 RSO 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 Technician or RSO, 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 RSO, 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 (as well as daily) 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 dual-probe system that senses the presence of solutions in the LDS system (comparable to the systems in Cells 4A and 4B) and indicates the presence of solution with a warning light. 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. For Cells 1 and 3, the water level data is recorded on the Daily Tailings Inspection Form. For Cells 4A and 4B, the water level data is downloaded to a laptop computer periodically and incorporated into the Mill's environmental monitoring data storage, 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.

For Cells 1 and 3, 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.

For Cells 1 and 3, 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 26,145 gallons/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) Denison re-graded the interim fill on Cell 2 in order to reduce the potential for the accumulation of stormwater on the surface of Cell 2. As a result of the re-grading of the interim cover and the placement of an additional 62,000 cubic yards of fill material on Cell 2, the slimes drain access pipe was extended 6.97 feet. The extension pipe is 6.97 feet in length, and therefore the new measuring point is 37.97 feet from the bottom of the slimes drain. The measuring point on the extension pipe was surveyed by a Utah-Certified Land Surveyor. The measuring point elevation is 5618.73 fmsl. For the quarterly recovery test described in section vi below, this extension has no effect on the data measurement procedures.
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 37.97 feet below a water level measuring point which is a notch on the side of the Cell 2 slimes drain access pipe. . 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 38.97 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 three feet above the bottom of the slimes drain standpipe. The average wastewater head in the Cell 2 slimes drain is therefore less than 3 feet and is below the phreatic surface of tailings Cell 2, about 27 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. The extension of the Cell 2 slimes drain access pipe did not require any changes to the measurement procedure. The surveyed measuring point on the extended pipe is used as required. The elevation of the measuring point is 5618.73 fmsl. The head measurements are calculated in the same manner, using the same procedures as those used prior to the extension of the Cell 2 slimes drain access pipe; however, the total depth to the bottom of the pipe is now 37.97 feet as noted on the corrected form in Attachment A.

All head measurements must be made from the same measuring point (the notch at the north side of the access pipe 5618.73 fmsl), and made to the nearest 0.01 foot. The results will be recorded as depth-in-pipe measurements on the Weekly Tailings Inspection Form. The equation specified in the GWDP will be used to calculate the slimes drain recovery elevation (SDRE). To calculate the SDRE contemplated by the GWDP, the depth to wastewater in the Cell 2 slimes drain access pipe (in feet) will be subtracted from the surveyed elevation of the measuring point. The calculation is as follows:

5618.73 - Depth to wastewater in the Cell 2 slimes drain access pipe = SDRE

It is important to note that ~~T~~the extension of the Cell 2 slimes access pipe has not changed the method of calculation of the pre- and post-pump head calculations, only the constant (Cell 2 slimes drain access pipe height) used in the calculation has changed. The head is calculated by subtracting the depth to liquid from 37.97 feet rather than from the previous measurement of 38 feet. The weekly Tailings Inspection form included in Attachment A has been changed to reflect the extension height;

(vi) Effective July 11, 2011, on a quarterly 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 Quarterly 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 1, 4A, and 4B and Roberts Pond are to be taken by survey on a weekly basis. The beach area in Cell 4B with the maximum elevation is to be taken by survey on a monthly basis when beaches are first observed, as follows:

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(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 for Cells 1, Cell 4A, 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 4A and 4B, the Reference Point is a piece of stamped metal monument located

next to the transformer on the south side of Cell 4A and 4B. The elevation at the top of this piece of rebar (the Reference Point Elevation for Cell 4A and 4B) is 5600.49 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 south side of Cell 4A and 4B;

(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 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:

For a newly-constructed cell, when the cell is first placed into operation, the solution level is typically zero feet above the FML or a minimal elevation above the FML due to natural precipitation. ~~–~~For newly-constructed cells, measurement of solution level will commence within 30 days of authorization for use. Measurements will be conducted ~~consistent with the procedures~~ as described above in items d) (i) through d) (vii) of this Section ~~in this DMT Plan and~~ consistent with current Mill health and safety procedures. The measurements will be completed using survey equipment and the appropriate length survey rod (either 25' or 45').

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 southeast 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

IV. 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;

B. Cell 4B Beach Elevation

Beach elevations in Cell 4B will commence when beaches are first observed.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 visually inspected at key

locations to determine pipe wear. 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) 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.

e) 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 the Executive Secretary.

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~~ 4A-E, 4A-S, and 4B-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 (40 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 4B 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 4B 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 4B 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 4B 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

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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					

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II. OPERATIONAL SYSTEMS and INTERIOR of CELLS															
Inspection Items	Conditions of Potential Concern	Cell 1				Cell 2	Cell 3	Cell 4A				Cell 4B			
		N	S	E	W			N	S	E	W	N	S	E	W
Interior Cell Walls															
Liner	Observable Liner Damage														
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														

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~~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-E	Dike 4B-S
Slopes	Sloughs or Sliding Cracks, Bulges, Subsidence, Severe Erosion, Moist Areas, Areas of Seepage Outbreak	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect			
Crest	Cracks, Subsidence, Severe Erosion	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect	No visible exterior slope or dike to inspect			

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				

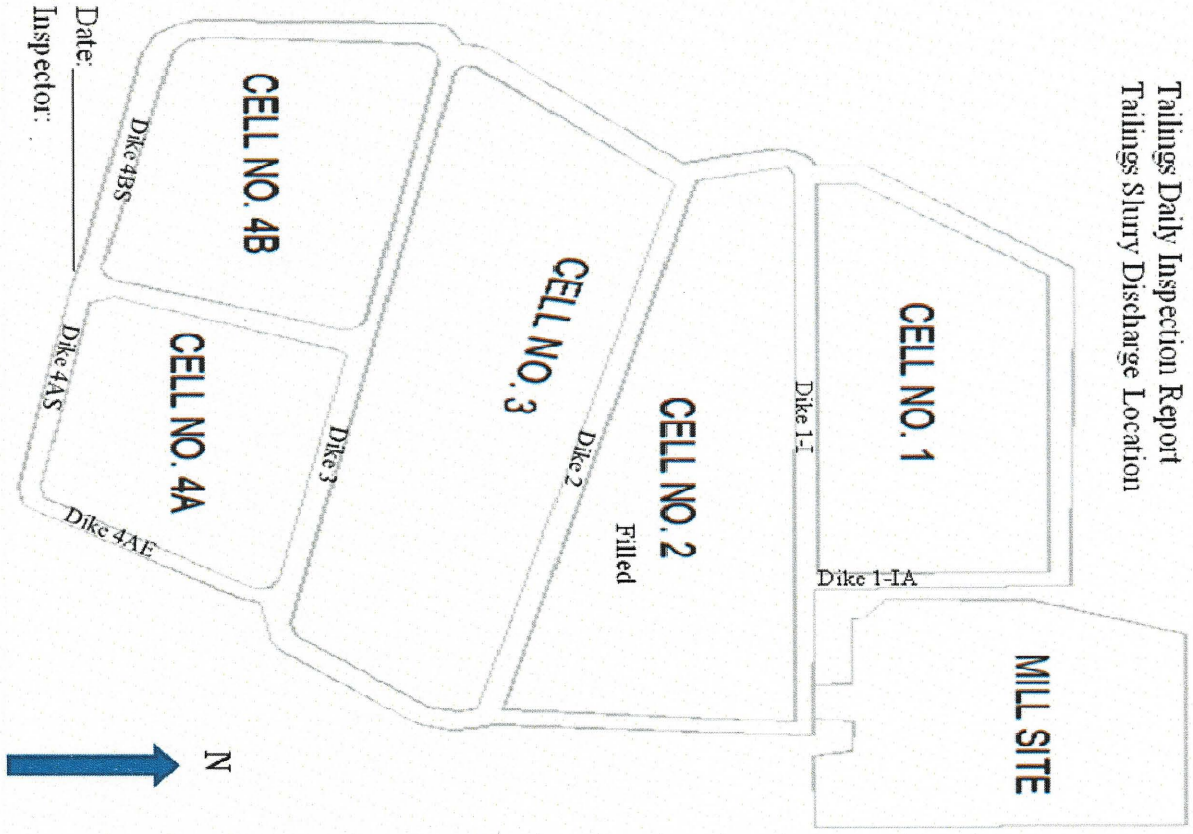
Wind Movement of Tailings				
Precipitation: _____ inches liquid				
General Meteorological conditions:_____ _____ _____				

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

Tailings Daily Inspection Report
Tailings Slurry Discharge Location

Date:_____
Inspector:



APPENDIX A (CONT)

DENISON MINES (USA) CORP.
WEEKLY TAILINGS INSPECTION

Date:_____ Inspectors: _____

1. Pond and Beach 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 _____5555.14__
(c)Depth of Water above FML ((a)-(b)) _____

Cell 4B: (a)Pond Solution Elevation _____
(b)FML Bottom Elevation _____5557.50
(c)Depth of Water above FML ((a)-(b)) _____
(d)Elevation of Beach Area with Highest Elevation (monthly) _____

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 _____

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

(all measurements are depth-in-pipe)

Pre-pump head is 37.97'-Depth to Liquid Pre-pump = _____
Post-pump head is 37.97' –Depth to Liquid Post-pump = _____

3. Leak Detection Systems

(Same data as Daily Inspection Form. Record data on daily form).

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. Designated Disposal Area for Non-Tailings Mill Waste (awaiting DRC approval)
_____

* Does Level exceed 12 inches above the lowest point on the bottom flexible membrane liner (solution elevation of 5556.14 amsl for Cell 4A and 5558.50 for Cell 4B)? _____ 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: _____
_____
_____
_____
_____

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 3-3S: _____	Cell 3-3C; _____	Cell3-3N: _____
Cell 3-4N: _____	Cell 3-6N: _____	Cell 3-7S: _____
Cell 3-7C: _____	Cell 3-7N: _____	Cell 3-8S: _____
Cell 3-8C: _____	Cell 3-8N: _____	

7. Movement Monitors: (Is there visible damage to any movement monitor or to adjacent surfaces)?

_____
_____
_____

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

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. **Estimated Areas:**

	Cell 3	Cell 4A	Cell 4B
Estimated percent of beach surface area			
Estimated percent of solution pool area			
Estimated percent of cover area			

Comments: _____

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

8.3. 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 4A-S, 4A-E, and 4B-S, , 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 Environmental, Health and Safety personnel 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 on Cell 4A and 4B dike is 5 mph, and the posted speed limit for the tailings area (other than the Cell 4A and 4B dike) is 15 mph. These limits 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: _____

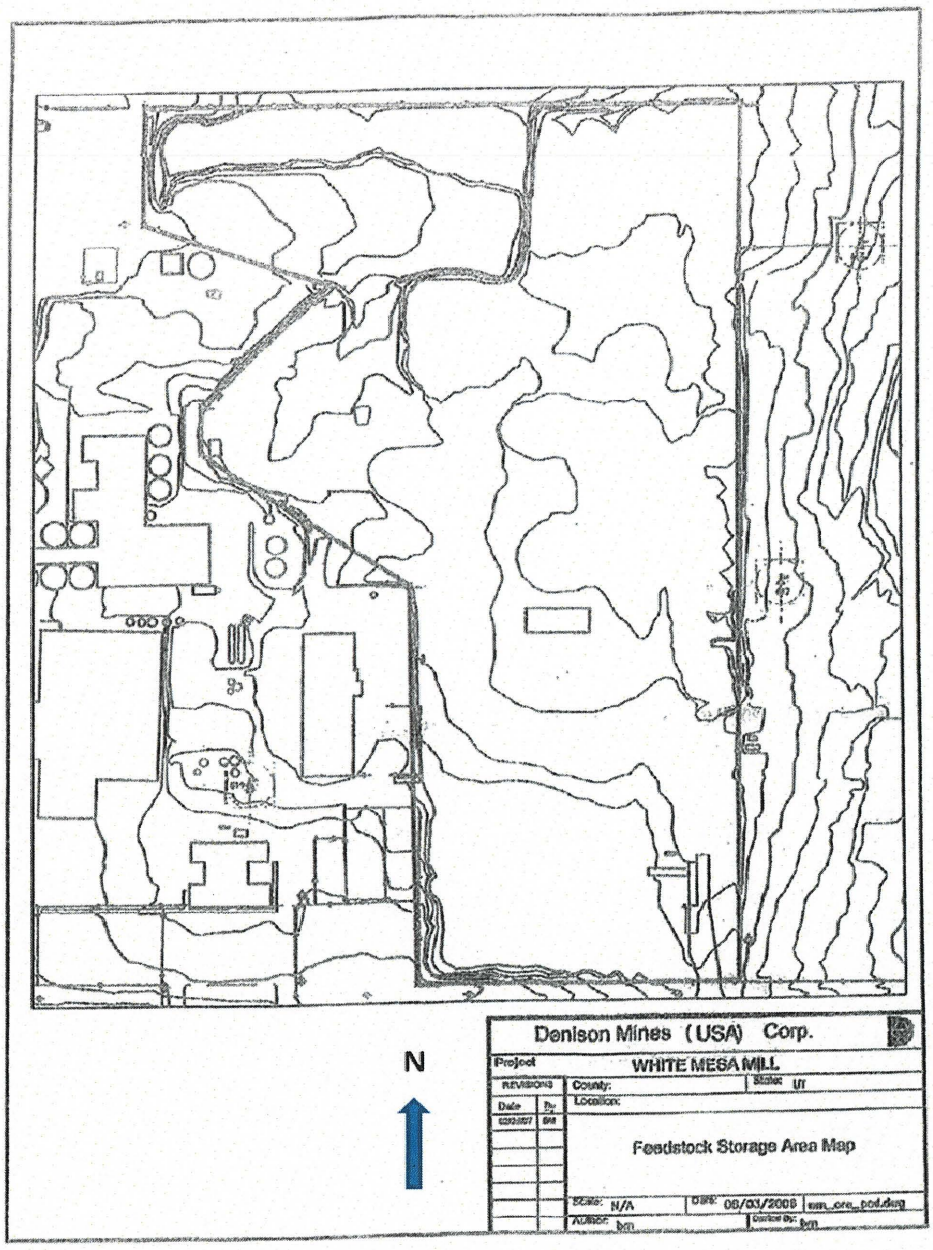
I have read the document titled "Tailings Management System, White Mesa Mill Tailings Inspector Training" and have received on-site instruction at the tailings system. This instruction included documentation of daily tailings inspections, analysis of potential problems (dike failures, unusual flows),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


N
Denison Mines (USA) Corp.
Project
WHITE MESA MILL
REVISIONS
County:
State: UT
Location:
Feedstock Storage Area Map
Scale: N/A
Date: 08/03/2009
sm_ore_pad.dwg
Author: bm
Checked By: bm

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 4B~~A~~ – 159.4 acre feet
- Wave runup factor for Cell 4B – 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 4B – 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.