Public Service Commission
State of North Dakota

600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505-0480
Web: www.psc.nd.gov
E-mail: ndpsc@nd.gov
Phone: 701-328-2400
ND Toll Free: 1-877-245-6685
Fax: 701-328-2410
TDD: 800-366-6888 or 711

June 13, 2019

Mr. Clyde Eisenbeis
2819 Horgan Drive
Bismarck, ND 58503

Dear Mr. Eisenbeis:

The North Dakota Public Service Commission (Commission) has reviewed your filing, dated May 15, 2019, regarding your land located in the NW¼ of Section 34, T146N, R88W.

Upon review of your filing, the requested manner to process this filing is unclear. However, based upon the Reclamation Division's July 23, 2018 response and the filing's citation (69-05.2-28-01 and 69-05.2-28-02), the Commission is administratively processing this as a request for informal review. On June 12, 2019, the Commission informally reviewed and discussed your filing during a work session on June 12, 2019 and asked me to respond to you.

Your property is located off-permit and adjacent to Surface Coal Mining Permit NACT-9501 at the Coteau Properties Freedom Mine. The E½ of Section 34 is part of Surface Coal Mining Permit NACT-9501. Portions of the permitted area in the E½ of Section 34 were mined and reclaimed. Sedimentation ponds P-H34-04 and P-H34-05 were also constructed in the NE¼ of Section 34 upstream of your property in 1999 and 2004, respectively. The purpose of sedimentation ponds is to detain surface runoff from mine disturbance areas until it meets the required effluent or discharge standards. During active mining operations, Coteau routed discharges from these ponds around your property through pipes to the main drainage channel in the NW¼ of Section 34. Sedimentation pond P-H34-04 was removed and reclaimed in 2013 and sedimentation pond P-H34-05 was removed and reclaimed in 2015.

Many of the points in your filing were previously addressed in the Reclamation Division's July 23, 2018 letter to you. A copy of that letter is attached (Attachment 1) and serves as part of our response; however, each of your specific complaints is addressed below. Also in response to your earlier concerns, we requested additional information from Coteau (see Attachment No. 2)

regarding the diversion/road ditch and erosion on your property. Coteau's response is provided in Attachment No. 3.

Complaint No. 1: *Constructed a diversion ditch on farmland creating a new affected area outside the permit area without a PSC permit revision and without Landowner consent, no associated reclamation plan or performance bond, and resulted in loss of crop income.*

Reclamation Division staff noted on several occasions an existing diversion located on the east side of your property in the NW¼ of Section 34 (off-permit). We are uncertain who constructed this diversion or when it was constructed; however, it was in place well before the adjacent area was permitted, mined, and reclaimed. This diversion flowed to the north until it intercepted the south road ditch of the road between the NW¼ of Section 34 and the SW¼ of Section 27.

On August 28, 2007, Coteau submitted the application for Revision No. 30 to Surface Coal Mining Permit NACT-9501. This revision proposed changes to the postmine topography and watershed boundaries in the NE¼ of Section 34. The size of watershed 14-14 (most of the area controlled by sediment pond P-H34-04) decreased slightly (5 acres smaller than premine) but the size of watershed 14-15 (most of the area controlled by sediment pond P-H34-05) was increased by 132 acres. The combined area of watersheds (14-4 and 14-15) increased by a total of 127 acres. Revision No. 30 also proposed some land use changes for the NE¼ of Section 34 including changing the postmine land use of a portion of the watersheds from cropland to native grassland. Attachment 1 includes maps depicting pre- and post-mine watersheds 14-14 and 14-15.

Due to the changes proposed by Revision No. 30 (increased watershed size and changes to the post mine topography), Coteau was asked to provide additional documentation that downstream areas would not be adversely affected by the increased watershed size of watershed 14-15. Coteau updated the Probable Hydrologic Consequences (PHC) section of the permit to address these concerns. Their analysis compared the premine watershed characteristics to those proposed in Revision 30. A standard and commonly accepted watershed flow model was used to predict runoff velocity and volumes from the revised watershed areas and these values were compared to the premine conditions using the same models. Attachment 1 includes the results of that modeling (Table 3 of Section 2.2.5 of Permit NACT-9501).

The model predicted the peak discharge rate (velocity measured in cubic feet per second or cfs) and total runoff volume measured in acre-feet (ac-ft). Three different rainfall events were modeled: a 2-year, 24 hour rainfall event (1.93"), a 10-year, 24 hour rainfall event (3.12"), and a 25-year, 24 hour rainfall event (3.63"). Peak discharge and total runoff volumes were calculated at the control point (the point where the sedimentation ponds would have discharged) for each watershed and then for the combined flow of both watersheds. The combined total discharge rate and flow volume is simply the sum of the two watersheds. While the calculated peak

discharge and total runoff volume of watershed 14-15 increased over premine conditions, the peak discharge and total runoff volume of watershed 14-14 decreased, and the sum total peak discharge and total runoff volume for both watersheds (or that which would flow in the diversion) actually decreased.

As part of our review of Revision No. 30, Reclamation Division staff have reviewed the flow modeling provided by Coteau and have determined the parameters and assumptions used were appropriate and reflected the actual conditions. In response to your concerns, staff again modeled both watersheds and the results of our independent modeling are similar to those provided by Coteau in Revision 30. The results of our modeling are also included in Attachment 1.

Our analysis shows that even though the total combined watershed size increased after reclamation, the expected total flow rates and volumes are less than the premine condition. This is due to a number of reasons but is primarily due to the reclaimed or postmine watersheds being less steep than the premine watersheds. The premine average slope of watershed 14-15 was 12.7% and the postmine average slope is 4.4%. In addition, the soils with a higher runoff potential (shallow and claypan soils) that were common in the premine watershed were replaced with deeper, loamy soils with higher infiltration rates and lower runoff potential. In addition, there is less cropland and more native grassland in the reclaimed watershed than in the premine watershed. The perennial native grassland vegetation generally has a lower runoff potential than cropland.

North Dakota Century Code 38-14.1-24(8) requires that mining companies "minimize disturbances to the prevailing hydrologic balance at the mine site and in associated offsite areas and to the quality and quantity of water in surface and ground water systems both during and after surface coal mining operations and during reclamation." As part of Revision No. 30, the Reclamation Division determined that although the combined watershed size increased following mining and reclamation, the combined peak discharges and total runoff volume decreased or was near premine conditions. Therefore, there would be no adverse effects to the downstream areas as a result of the changes proposed in Revision No. 30. Revision No. 30 was approved on January 9, 2009.

As previously stated, the original diversion was constructed many years prior to mining and reclamation. At the time that Revision No. 30 to Permit NACT-9501 was approved, Coteau demonstrated that the changes proposed by Revision No. 30 would not have adverse effects on downstream areas and the Reclamation Division concurred. The condition or the functionality of the existing diversion on your property was not evaluated at that time since the Reclamation Division found that the actions proposed by Revision 30 would not result in adverse effects to downstream areas, i.e., the calculated combined flows of reclaimed watersheds 14-14 and 14-15

are less than the premine condition. Our re-analysis of this finding in response to your concerns reaffirms our original finding made in 2009 when Revision No. 30 was approved.

The Reclamation Division was not involved in the reconstruction of this diversion and continues to view this issue as a matter between Coteau and the landowner. We do not view reconstruction of the diversion as a mining related matter and therefore, it is not subject to our jurisdiction nor was it an activity that required to be permitted.

Complaint No. 2: *Discharged more than 7 billion gallons of surface coal mine disturbed area pond water from within the permit area onto the adjacent farmland which resulted in gullies, loss of topsoil, and loss of crop income from the farmland (impact outside the permit area without a PSC permit revision and Landowner consent.*

It appears that the pond discharges listed on Appendix F of your complaint are **all** of the pond discharges from the Freedom Mine for the time period of January 1, 2011 through June 25, 2018. Currently there are 68 active discharge points (sediment ponds) at the Freedom Mine and only a small portion of the discharge points drain to your property. A total of eight discharge points, discharge points no. 38 (Sump S-I02-01), 47 (Pond P-I02-02), 50 (Pond P-I03-01), 59 (Pond P-H34-01), 61 (Pond P-34-04), 85 (Pond P-H34-05), 148 (Pond P-W11-01), and 155 (Pond P-W03-04), are the only discharge points/ponds that could have discharged to your property, all of the other discharge points/ponds discharged to other watersheds. Of the 8 discharge points/ponds, all have been reclaimed with the exception of Ponds P-W11-01 and P-W03-04. As previously stated, pond discharges from sedimentation ponds P-H34-04 and P-H34-05 were routed around your property via a pipe discharge during mining and reclamation. Only when these ponds overflowed, did they flow through the old field-engineered diversion and/or across your property.

It should be noted any pit water (i.e., groundwater) encountered in the west mine area of the Freedom Mine is pumped to the legal drain/Antelope Creek which flows to the south, away from your property. It should also be noted that sedimentation ponds only detain surface runoff that would otherwise have flowed down the natural drainages had the ponds not been in place. Generally, the water in the sedimentation ponds is eventually discharged when it meets the required North Dakota Department of Environmental Quality discharge standards. So the effect of the sedimentation ponds on hydrologic balance is to delay the timing of the flow event to the downstream drainage. Sedimentation ponds do not necessarily increase the volume of water that flows through a drainage system, it only affects the timing of the flow event.

There is evidence that there has been a long-term erosion problem in the NW¼ of Section 34. Historical aerial photographs provide evidence of erosion prior to mining and reclamation. Google Earth contains aerial photos dating back to 1995, prior to any mining having taken place in the watersheds above your property. The 1995 aerial photo shows the same erosion and

drainage patterns as pointed out on Page 9 of 17 of the PSC and OSMRE Complaint: Eisenbeis Farmland. In addition, Attachment No. 4 includes aerial photos from 1977 and 1996 that show similar erosion and drainage patterns. We believe the field-engineered diversion was constructed as an attempt to minimize runoff and reduce erosion well before the adjacent area was permitted, mined, and reclaimed. As previously pointed out, runoff from the upstream areas was routed around your property during mining and reclamation activities via pipe discharges to natural drainage at the north end of property. Runoff from upstream areas continues to be routed around property via the reconstructed diversion.

On page 10 of 17 of the complaint, you provide a map showing elevations of your property in 1970 and 2015. You allege that the differences between the two surveys is due to erosion on your property. Although there are some slight differences in elevation, we believe this is most likely due to differences in technology. Please note that the 1970 contours (red color) are on a ten-foot elevation contour, i.e., there is ten feet of elevation difference between elevation contours. The 2015 contours are on a 2-foot elevation contour and were most likely derived from LIDAR, a much more sophisticated and accurate method of producing surface contour maps. The index contours (elevations 1890, 1900, 1910, and 1920) for the two surveys actually align very well. We believe that the slight differences between the two surveys is the result of different survey methodologies and accuracies and not the result of erosion.

The only time when there would have been flows across your property from the upstream areas east of your property during mining and reclamation is when the ponds overflowed due to a significant runoff event in excess of the design standards. The ponds were designed to contain a 10-year/24-hour storm event. Pond overflows are acceptable provided that water levels of the ponds are maintained at a level below which an adequate amount of water storage is provided to contain a 10-year/24-hour storm event.

We are aware that the rebuilt diversion overflowed twice, both times in 2014. One overflow event took place on the south end of the reconstructed diversion and was likely due to snow blocking the diversion channel making it non-functional during a snowmelt event. The other overflow event took place in August 2014 following a significant rainfall event in excess of the design standard that caused sediment pond P-H34-05 to overflow. The watershed 14-15 outlet into the reconstructed diversion washed out causing the diversion to overtop. The pond overflow was not considered a violation since adequate storage was provided in sediment pond P-34-05 to contain a 10-year/24-hour event. We are aware that the erosion associated with these events was repaired by Coteau.

Any erosion that has taken place while the diversion has been functioning as intended (i.e., taking runoff water from upstream areas around the east side of your property), is not likely to have been caused by runoff from the upstream watersheds. Simply put, the diversion prevents runoff from the areas above the diversion from flowing across your property. Therefore, the

erosion observed on the cropland portion of your property is not caused by runoff from the upstream portions of the watershed as the runoff from the upstream areas (Coteau property) is intercepted by the diversion and does not flow across the cropland portion of your property.

The Reclamation Division has determined that Coteau conducted mining and reclamation activities in the watersheds above your property in the NW¼ of Section 34 in accordance with our surface coal mining laws and regulations. The Commission cannot require Coteau to repair erosion that is not the result of mining and reclamation activities.

Complaint No. 3: *This same 7 billion gallons of surface coal mine disturbed area pond from within the permit area water entered the farmland creek which resulted in flooding the southwest corner of the farmland which caused the loss of crop income (impact outside the permit area, without a PSC permit revision and without Landowner consent).*

As stated in our response to Complaint No. 2, only a small fraction of the discharges from the Freedom Mine listed in Appendix F actually flowed through your property. Water discharged from ponds P-H34-04 and P-H34-05 while they were in place would not have affected the drainage channel through your property as these ponds were discharged via pipe around your property and entered the natural drainage at the very north edge of your property and continued to flow to the north through the natural drainage to Lake Sakakawea. Currently, only discharges from ponds P-W11-01 and P-W03-04 would flow through your property and those discharges flow through the natural drainage that runs through the center portion of your property.

To date, there have been no mine pond discharges to the western-most drainage channel (the cattail area is located in or near this drainage channel) through your property. Flows in the western-most drainage channel are from an entirely undisturbed watershed located south and west of your property. A significant portion of this watershed is not even within the permit area.

Complaint No. 4: *Modified a Mercer County road ditch making it deeper in order to convey the large volume of water discharge away from the coal mine that resulted in blockage of historical direct ramp access to the farmland (such construction was done outside the permit area without a PSC permit revision, without Landowner consent, and without a Mercer County permit)*

Similar to the construction of the diversion, we view the deepening of the road ditch and property access as a matter between Coteau and the landowner. We do not view it as a mining related matter and as such is not jurisdictional to the Commission.

Although mining and reclamation activities modified the watersheds upstream of your property, we believe the demonstration has been made that Coteau has minimized disturbances to the prevailing hydrologic balance at the mine site and associated offsite areas as required by North Dakota Century Code 38-14.1-24(8). Any erosion on your property that was the result of mining

or reclamation activities (overtopping of the diversion) has been repaired. Staff continues to monitor this area during routine mine inspections. At this time, we do not believe that a joint inspection is necessary.

This informal review does not affect an opportunity to request a formal review under North Dakota Century Code section 38-14.1-30, or to a citizen's suit under North Dakota Century Code section 38-14.1-40. If the intent was to file a formal complaint subject to an adjudicative process, please see the attached document, "Filing A Formal Complaint" (Attachment No. 4).

Please feel free to contact our office if you have any questions.

Sincerely,

Dean K. Moos
Director, Reclamation Division

Attachments: 1) July 23, 2018 Letter to Mr. Eisenbeis w/ Attachments
2) May 14, 2018 Letter from the Reclamation Division to Coteau
3) June 19, 2018 Response Letter from Coteau to the Reclamation Division
4) Document "Filing a Formal Complaint"

cc: Jeff Fleischman
David Berry
Sarah Flath

Minedata/Freedom/FormalComplaint/2019/Informal_Review_ltr_to_Eisenbeis_6-13-19

Public Service Commission
State of North Dakota

600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505-0480
Web: www.psc.nd.gov
E-mail: ndpsc@nd.gov
Phone: 701-328-2400
ND Toll Free: 1-877-245-6685
Fax: 701-328-2410
TDD: 800-366-6888 or 711

July 23, 2018

Mr. Clyde Eisenbeis
2819 Horgan Drive
Bismarck, ND 58503

Dear Mr. Eisenbeis:

The Reclamation Division has reviewed your concerns regarding your land located in the NW¼ of Section 34, T146N, R88W, as outlined in your May 4, 2018 email. Your property is located off-permit and adjacent to Surface Coal Mining Permit NACT-9501 at the Coteau Properties Freedom Mine.

The main issues you raise are: the diversion that was reconstructed on your property; access to your property; erosion on your property; and wet areas within your property.

The E½ of Section 34 is part of Surface Coal Mining Permit NACT-9501. Portions of the permitted area in the E½ of Section 34 were mined and reclaimed. Sedimentation ponds P-H34-04 and P-H34-05 were also constructed in the NE¼ of Section 34 upstream of your property in 1999 and 2004, respectively. The purpose of sedimentation ponds is to detain surface runoff from mine disturbance areas until it meets the required effluent or discharge standards. During active mining operations, Coteau routed discharges from these ponds around your property through pipes to the main drainage channel in the NW¼ of Section 34. Sedimentation pond P-H34-04 was removed and reclaimed in 2013 and sedimentation pond P-H34-05 was removed and reclaimed in 2015.

Reclamation Division staff noted on several occasions an existing diversion located on the east side of your property in the NW¼ of Section 34 (off-permit). This diversion flowed to the north until it intercepted the south road ditch of the road between the NW¼ of Section 34 and the SW¼ of Section 27. We are uncertain who constructed this diversion and when it was constructed but it appears to have been in place for a long time. We assume that it was constructed to alleviate erosion on the downstream areas in the NW¼ of Section 34. Historic

aerial photography indicates well-defined erosion patterns in the NW¼ of Section 34, well before the area was permitted, mined, and reclaimed.

On August 28, 2007, Coteau submitted the application for Revision No. 30 to Surface Coal Mining Permit NACT-9501. This revision proposed changes to the postmine topography and watershed boundaries in the NE¼ of Section 34. The size of watershed 14-14 (most of the area controlled by sediment pond P-H34-04) decreased slightly (5 acres smaller than premine) but the size of watershed 14-15 (most of the area controlled by sediment pond P-H34-05) was increased by 132 acres. The combined area of watersheds (14-4 and 14-15) increased by a total of 127 acres. Revision No. 30 also proposed some land use changes for the NE¼ of Section 34 including changing the postmine land use of a portion of the watersheds from cropland to native grassland. Attached are maps depicting pre- and post-mine watersheds 14-14 and 14-15.

Due to the changes proposed by Revision No. 30 (increased watershed size and changes to the post mine topography), Coteau was asked to provide additional documentation that downstream areas would not be adversely affected by the increased watershed size of watershed 14-15. Coteau updated the Probable Hydrologic Consequences (PHC) section of the permit to address these concerns. Their analysis compared the premine watershed characteristics to those proposed in Revision 30. A standard and commonly accepted watershed flow model was used to predict runoff velocity and volumes from the revised watershed areas and these values were compared to the premine conditions using the same models. Attached are the results of that modeling (Table 3 of Section 2.2.5 of Permit NACT-9501).

The model predicted the peak discharge rate (velocity measured in cubic feet per second or cfs) and total runoff volume measured in acre-feet (ac-ft). Three different rainfall events were modeled: a 2-year, 24 hour rainfall event (1.93"), a 10-year, 24 hour rainfall event (3.12"), and a 25-year, 24 hour rainfall event (3.63"). Peak discharge and total runoff volumes were calculated at the control point (the point where the sedimentation ponds would have discharged) for each watershed and then for the combined flow of both watersheds. The combined total discharge rate and flow volume is simply the sum of the two watersheds. While the calculated peak discharge and total runoff volume of watershed 14-15 increased over premine conditions, the peak discharge and total runoff volume of watershed 14-14 decreased, and the sum total peak discharge and total runoff volume for both watersheds (or that which would flow in the diversion) actually decreased.

The Reclamation Division staff have reviewed the flow modeling provided by Coteau and have determined the parameters and assumptions used were appropriate and reflected the actual conditions. In response to your concerns, staff again modeled both watersheds and the results of our independent modeling are similar to those provided by Coteau in Revision 30. A copy of our analysis is attached.

Our analysis shows that even though the total combined watershed size increased after reclamation, the expected total flow rates and volumes are less than the premine condition. This is due to a number of reasons but is primarily due to the reclaimed or postmine watersheds being less steep than the premine watersheds. The premine average slope of watershed 14-15 was 12.7% and the postmine average slope is 4.4%. In addition, the shallow and claypan soils that were common in the premine watershed were replaced with deeper, loamy soils with higher infiltration rates. In addition, there is less cropland and more native grassland in the reclaimed watershed than in the premine watershed. The perennial native grassland vegetation generally has a lower runoff potential than cropland.

North Dakota Century Code 38-14.1-24(8) requires that mining companies "minimize disturbances to the prevailing hydrologic balance at the mine site and in associated offsite areas and to the quality and quantity of water in surface and ground water systems both during and after surface coal mining operations and during reclamation." As part of Revision No. 30, the Reclamation Division determined that although the combined watershed size increased following mining and reclamation, the combined peak discharges and total runoff volume decreased or was near premine conditions. Therefore, there would be no adverse effects to the downstream areas as a result of the changes proposed in Revision No. 30. Revision No. 30 was approved on January 9, 2009.

As previously stated, pond discharges were routed around your property via a pipe discharge during mining and reclamation. Only when the ponds overflowed, did they flow through the old field-engineered diversion. Coteau has indicated that they were approached by the tenant Wayne Eisenbeis in 2010 and 2011 about the erosion in the NW¼ of Section 34. It should be noted that this erosion had taken place while the pond discharges were being routed around the NW¼ of Section 34. In 2011, the tenant reportedly also asked that the diversion be rebuilt to prevent the re-occurring erosion. The diversion was re-built by Coteau in late 2012. Coteau indicated that they have repaired erosion on your property in 2010, 2011, and 2014. In addition, grassed waterways were installed by Coteau on your property in 2015; however, they have been farmed through.

Attached to this letter is a copy of the April 26, 2018 inspection report that you and the current renters participated in.

Each of your specific concerns is addressed separately below:

The diversion that was reconstructed on your property: As previously stated, the original diversion was constructed many years prior to mining and reclamation. At the time that Revision No. 30 to Permit NACT-9501 was approved, Coteau demonstrated that the changes proposed by Revision No. 30 would not have adverse effects on downstream areas and the Reclamation Division concurred. The condition or the functionality of the existing diversion on your property

was not evaluated at that time since the Reclamation Division found that the actions proposed by Revision 30 would not result in adverse effects to downstream areas, i.e., the calculated combined flows of reclaimed watersheds 14-14 and 14-15 are less than the premine condition. Our re-analysis of this finding in response to your concerns reaffirms our original finding made in 2009 when Revision No. 30 was approved.

It is our understanding that the tenant at the time asked Coteau to reconstruct the diversion and south road ditch. The Reclamation Division was not involved in the reconstruction of this diversion and continues to view this issue as a matter between Coteau and the landowner. We do not view reconstruction of the diversion as a mining related matter and therefore, it is not subject to our jurisdiction.

However, in our review of the matter, we concluded that Coteau should reconfigure the upstream drainage channel from watershed 14-15 into the reconstructed diversion channel. This is discussed further under **Required Action** near the end of this letter.

Access to your property: You have requested that the creflex crossing on the north side of your property be replaced with an approach to improve access. The creflex crossing was previously installed by Coteau shortly after the diversion/road ditch had been reconstructed. Coteau has indicated that they were willing to build the approach provided you sign the agreement they prepared. You indicate that you provided them with your permission to construct the approach. We encourage you and Coteau to resolve this issue to both parties' satisfaction. As with the reconstructed diversion, we do not view the road ditch and access as a mining related matter that is jurisdictional to the Commission.

Repair of erosion: There is evidence that there has been a long-term erosion problem in the NE¼NW¼ of Section 34. Historical aerial photographs provide evidence of erosion prior to mining and reclamation. We believe that is why the field-engineered diversion was constructed in the first place. During mining and reclamation, runoff from the upstream areas was routed around your property. The only time when there would have been flows across your property from the upstream areas is when the ponds overflowed due to a significant runoff event in excess of the design standards. We are aware that the rebuilt diversion overflowed twice, both times in 2014. One overflow event took place on the south end of the reconstructed diversion and was likely due to snow blocking the diversion channel making it non-functional during the snow melt event. The other overflow event took place in August 2014 following a significant rainfall event in excess of the design standard that caused sediment pond P-H34-05 to overflow. The watershed 14-15 outlet into the reconstructed diversion washed out causing the diversion to overtop. We are aware that the erosion associated with these events was repaired by Coteau. Any erosion that has taken place while the diversion has been functioning as intended (i.e., taking runoff water from upstream areas around the east side of your property), is not likely to have been caused by runoff from the upstream watersheds.

The Reclamation Division has determined that Coteau conducted mining and reclamation activities in the watersheds above your property in the NW¼ of Section 34 in accordance with all required surface coal mining laws and regulations, and therefore they are not responsible for the erosion that may have occurred on your property. The Reclamation cannot require Coteau to repair erosion that is not the result of mining and reclamation activities.

Wet areas within your property: You imply that Coteau has raised the water table in this area resulting in wet areas in the southwest corner of your property. The natural surface flow in this area is to the north through several low gradient natural drainage channels within the Beulah Trench. Ground water also flows to the north in this area. Since 2010, there have been very limited surface water discharges and no pit water discharges to the north from Coteau's mining operations located to the south of your property. All pit water discharges and most of the surface water discharges have been to the south through West Antelope Creek. However, there are large undisturbed portions of the watershed that still flow naturally to the north and do not flow through a sediment pond.

The elevation of shallow ground water tables have raised over much of western and central North Dakota in recent years due a trend of increased precipitation. In addition, ground water elevations in the Beulah Trench are influenced by the water elevation of Lake Sakakawea, which has been operated at relatively high levels for several years. The Reclamation Division concludes that the wet areas in your field are not the result of Coteau's mining and reclamation activities.

Required Action: During our reanalysis of the Probable Hydrologic Consequences (PHC), we noted the reclaimed grassland drainage channel for watershed 14-15 (within the permit area) enters the reconstructed diversion at a right angle and drops several feet in elevation over a very short distance. This configuration has resulted in erosion and maintenance problems in the past. The original drainage channel flowed in a more northwesterly direction and entered the existing diversion near the northeast corner of the NW¼ of Section 34. We will require Coteau to re-route this drainage channel in a more northwesterly manner, similar to how it existed prior to mining. This will result in a more stable configuration and much of the drainage from watershed 14-15 will flow almost directly into the east-west reconstructed road ditch rather than flowing into the north-south reconstructed diversion. As a result of this reconfiguration, most of the drainage from watershed 14-15 will "bypass" your property with the exception of the south road ditch. Most of this "reconfiguration work" will take place within the permit area; however, the point at which the reconfigured drainage channel will enter the reconstructed diversion is located on your property and we encourage you to work with Coteau to accommodate the reconfiguration of this drainage channel.

As requested in your June 26, 2018 email, we can meet with you at your convenience if you so desire. We can also extend the invitation to Attorney General Stenehjem as you requested once the date of the meeting is established.

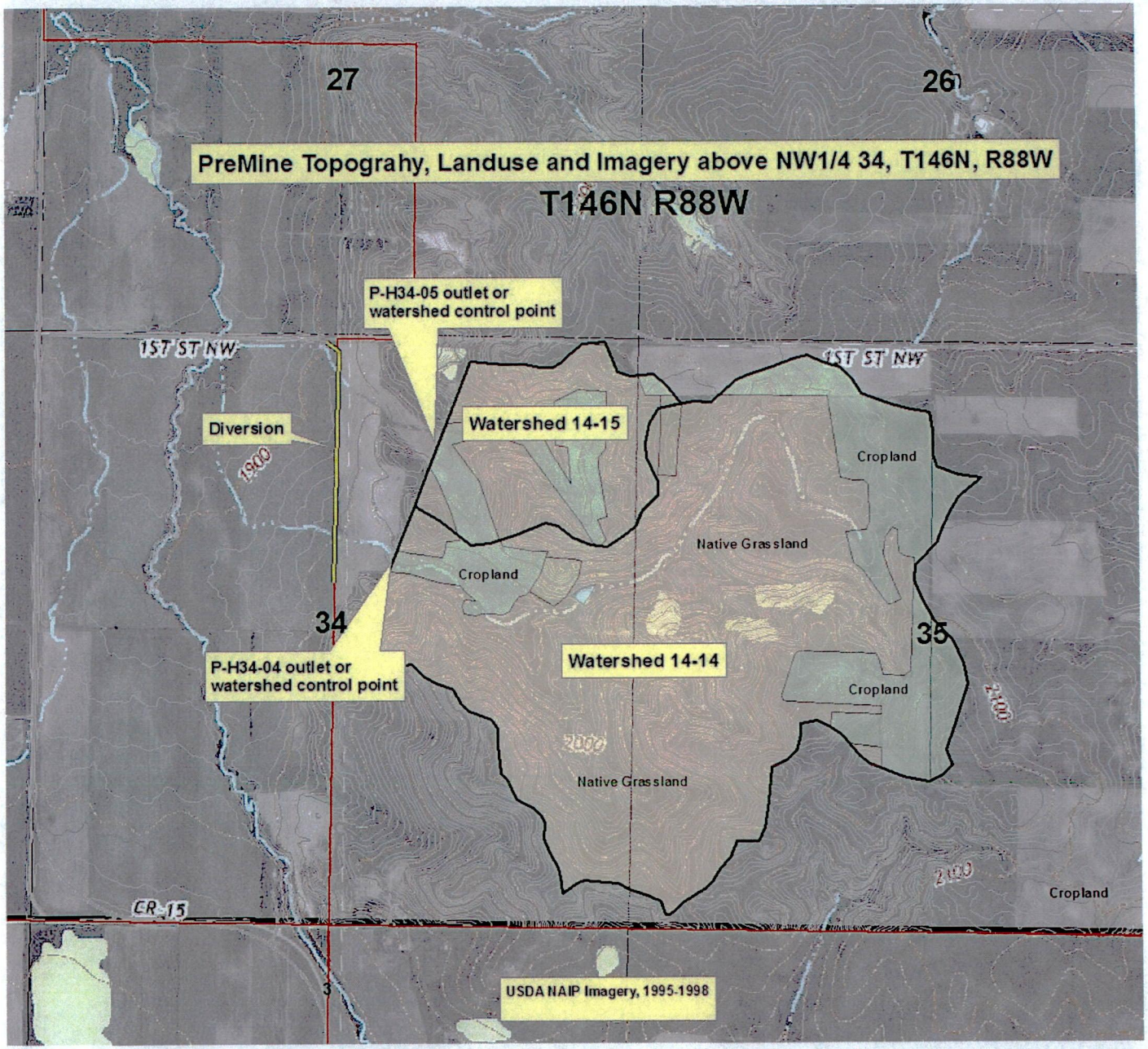
Please feel free to contact our office if you have any questions.

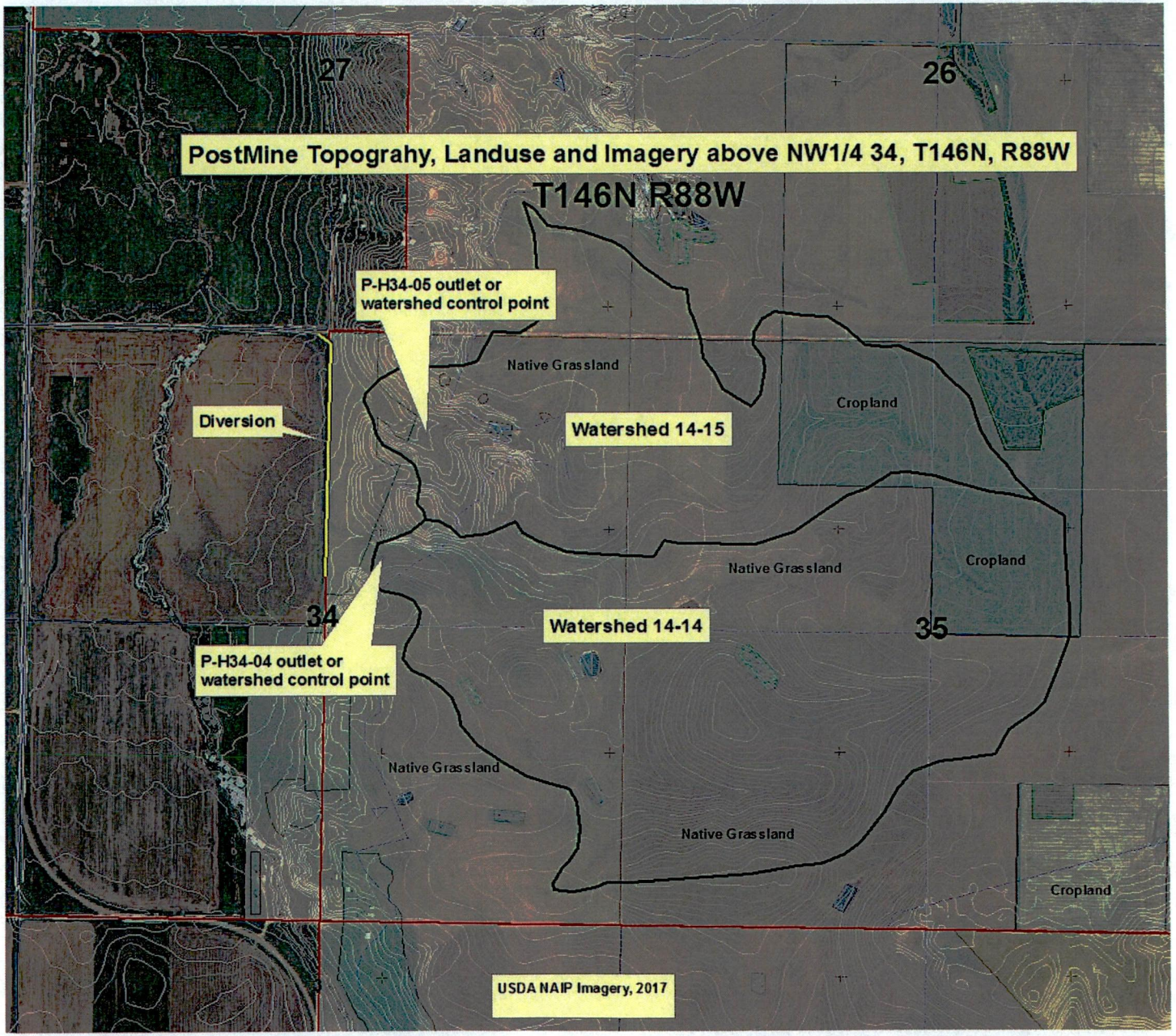
Sincerely,

Dean K. Moos
Director, Reclamation Division

Attachments:
1) Pre-Mine Topography, Landuse, & Imagery above NW¼, T146N, R88W
2) Post-Mine Topography, Landuse, & Imagery above NW¼, T146N, R88W
3) Table 3 of Section 2.2.5, PHC, Revision 30 to Permit NACT-9501
4) Results of the Reclamation Division modeling & map
5) April 26, 2018 Inspection Report

cc: Sarah Flath
Chris Friesz


PreMine Topograhy, Landuse and Imagery above NW1/4 34, T146N, R88W
T146N R88W
27
26
P-H34-05 outlet or watershed control point
1ST ST NW
1ST ST NW
Diversion
1900
Watershed 14-15
Cropland
Native Grassland
Cropland
34
35
P-H34-04 outlet or watershed control point
Watershed 14-14
Cropland
2100
2000
Native Grassland
2100
Cropland
CR 15
3
USDA NAIP Imagery, 1995-1998


PostMine Topograhy, Landuse and Imagery above NW1/4 34, T146N, R88W
T146N R88W
27
26
P-H34-05 outlet or watershed control point
Native Grassland
Cropland
Diversion
Watershed 14-15
Native Grassland
Cropland
34
Watershed 14-14
35
P-H34-04 outlet or watershed control point
Native Grassland
Native Grassland
Cropland
USDA NAIP Imagery, 2017

+Table 3

COTEAU PERMIT NACT-9501

PEAK DISCHARGE AND TOTAL RUNOFF VOLUME

@ DESIGNATED CONTROL POINTS (AMC - II)

CONTROL POINT	DRAINAGE AREA			DISCHARGE			VOLUME		
	PRE MINING (acres)	POST MINING (acres)	% CHANGE	PRE MINING (cfs)	POST MINING (cfs)	% CHANGE	PRE MINING (ac-ft)	POST MINING (ac-ft)	% CHANGE
2-YEAR, 24-HOUR RAINFALL EVENT, (1.93 inches)									
14-14	340	335	-1.5	92.9	21.5	-76.9	12.4	5.8	-53.2
14-15	78	210	+169.2	6.1	11.9	+95.1	1.2	3.8	+216.7
TOTAL	418	545	+130.4	99.0	33.4	-66.2	13.6	9.6	-29.4
10-YEAR, 24-HOUR RAINFALL EVENT, (3.12 inches)									
14-14	340	335	-1.5	292.0	125.1	-57.2	33.9	21.4	-36.9
14-15	78	210	+169.2	40.1	63.2	+57.6	4.7	13.8	+193.6
TOTAL	418	545	+130.4	332.1	188.3	-43.3	38.6	35.2	-8.8
25-YEAR, 24-HOUR RAINFALL EVENT, (3.63 inches)									
14-14	340	335	-1.5	388.5	187.0	-51.9	44.4	30.0	-32.4
14-15	78	210	+169.2	59.6	93.5	+56.9	6.6	19.2	+190.9
TOTAL	418	545	+130.4	448.1	280.5	-37.4	51.0	49.2	-3.5

REVISION 30
08/22/08
11/14/08

Global Summary Results for Run "Run 10-24"

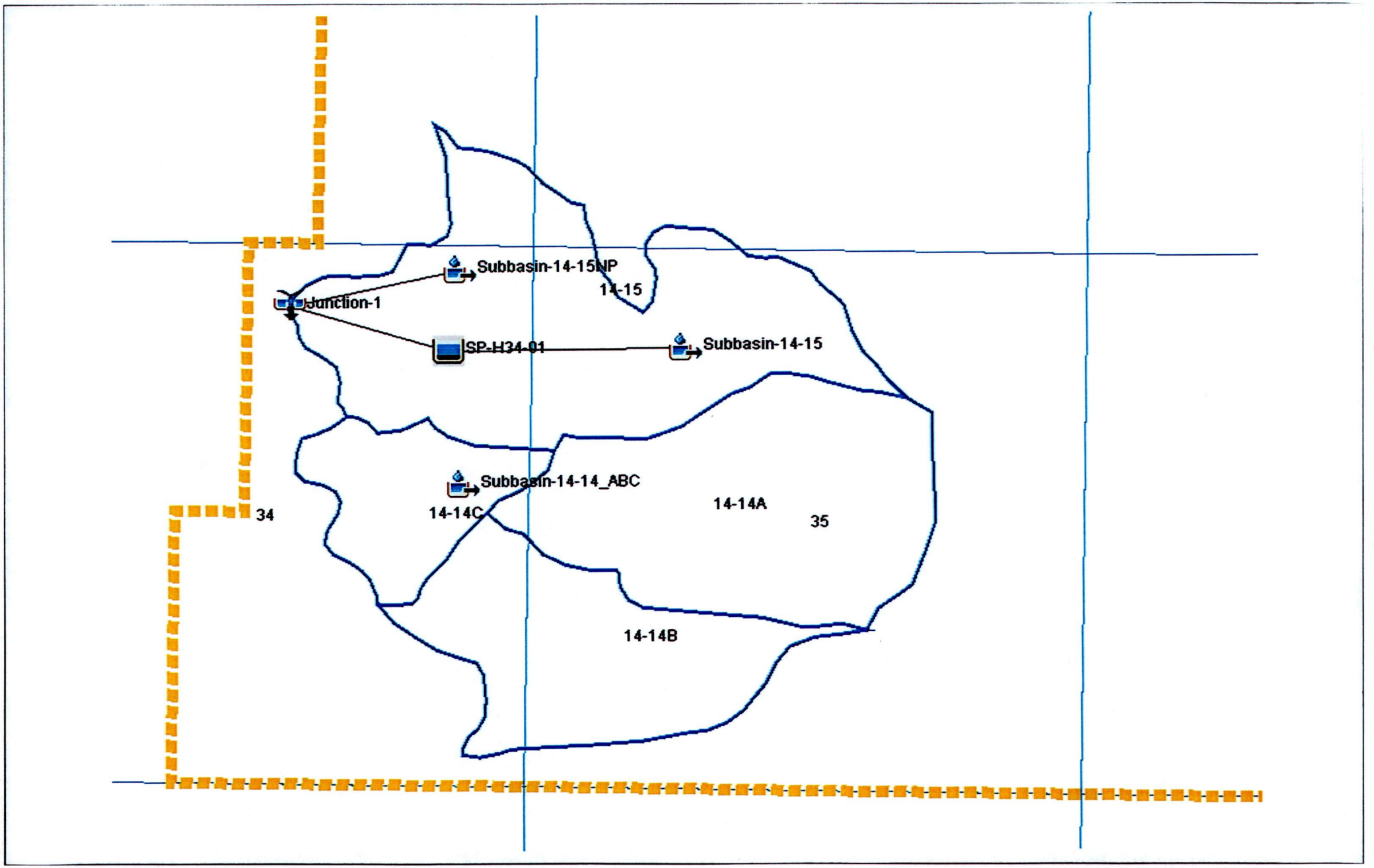
Project: Eisenbeis PostMine2 Simulation Run: Run 10-24

Start of Run: 26Jun2018, 08:00
End of Run: 27Jun2018, 08:00
Compute Time: 23Jul2018, 09:23:35

Basin Model: Basin 14-15
Meteorologic Model: 10yr/24hour
Control Specifications: Control 10_24

Show Elements: All Elements Volume Units: IN AC-FT Sorting: Hydrologic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
Subbasin-14-14_ABC	0.44	103.8	26Jun2018, 20:45	17.1
Subbasin-14-15	0.28	40.8	26Jun2018, 21:45	10.7
SP-H34-01	0.28	43.2	26Jun2018, 21:45	9.0
Subbasin-14-15NP	0.05	18.6	26Jun2018, 20:15	2.0
Junction-1	0.33	45.7	26Jun2018, 21:45	10.9


Subbasin-14-15NP
14-15
Junction-1
SP-H34-01
Subbasin-14-15
Subbasin-14-14_ABC
14-14C
14-14A
35
34
14-14B

Public Service Commission
State of North Dakota

600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505-0480
Web: www.psc.nd.gov
E-mail: ndpsc@nd.gov
Phone: 701-328-2400
ND Toll Free: 1-877-245-6685
Fax: 701-328-2410
TDD: 800-366-6888 or 711

May 14, 2018

Ms. Sarah Flath
Environmental Manager
Coteau Properties Company
204 County Rd. 15
Beulah, ND 58523

Dear Ms. Flath:

The purpose of this letter is to request additional information regarding the diversion that was constructed in the NW¼ of Section of 34, T146N, R88W on property owned by the Eisenbeis family. Please provide a response to each of the following questions or requests for additional information in a timely manner.

1. What was the condition of the pre-existing north/south diversion between the NE¼ and NW¼ of Section 34 and the pre-existing road ditch on the south side of the road between the NE¼NW¼ of Section 34 and the SE¼SW¼ of Section 27 prior to reconstruction? Were these features in functional condition and capable of handling the flows from the premine watershed?

2. Was the original diversion capable of handling the flows from the upstream areas during and following mining and reclamation activities?

3. Is there evidence that the original diversion overtopped during mining and reclamation (i.e., prior to being reconstructed)?

4. Please explain why the diversion and road ditch were reconstructed.

5. Permit NACT-9501 includes design information for the two permanent grassed waterways that were constructed below sedimentation ponds P-H34-04 and P-H34-05 in the W½NE¼ of Section 34. Was the rebuilt diversion and road ditch designed and reconstructed to handle the combined flows from these two grassed waterways?

6. Are the assumptions and conditions used in the Probable Hydrologic Consequences still valid and applicable? If not, what changes have occurred?

7. How many times has the rebuilt diversion overtopped since being rebuilt and under what circumstances did it overtop?

The Reclamation Division encourages Coteau to work with the Eisenbeis family to address their concerns regarding access to their property.

If you have any questions, please contact this office.

Sincerely,

Dean K. Moos
Director
Reclamation Division

cc: Clyde Eisenbeis
Chris Friesz

Minedata/Freedom/Permits/NACT-9501/AdminCorr/2018/Sec34_Diversion_info_rqst_ltr_5-14-18

THE COTEAU PROPERTIES COMPANY

A SUBSIDIARY OF THE NORTH AMERICAN COAL CORPORATION

FREEDOM MINE
204 County Road 15
Beulah, North Dakota 58523-9475
(701) 873-2281 • Fax (701) 873-7226

June 19, 2018

Mr. Dean K. Moos
Director Reclamation Division
Public Service Commission
600 East Boulevard Avenue
Department 408
Bismarck, ND 58505-0480

Dear Mr. Moos:

This letter is in response to your letter dated May 14, 2018. Provided are responses to each of the following questions or requests.

1. ***What was the condition of the pre-existing north/south diversion between the NE¼ and NW¼ of Section 34 and the pre-existing road ditch on the south side of the road between the NE¼NW¼ of Section 34 and the SE¼SW¼ of Section 27 prior to reconstruction? Were these features in functional condition and capable of handling the flows from the premine watershed?***

   The diversion was in poor condition. It was silted in areas and blown out in others. There were also small trees or shrubs growing in the diversion channel. There was little to no elevation difference between the field and diversion bottom and between the field, ditch bottom, and the road top. The ditch had filled in with sediment over the years and when water did flow in this area, it mostly flattened out over a broad area and flooded into the adjoining field.

   The diversion was not capable of handling pre-mining flows. This is evident by the erosion shown in Figures 1 and 2, attached. Figures 1 and 2 are aerial photographs of the field from 1977 and 1996 respectively.

2. ***Was the original diversion capable of handling the flows from the upstream areas during and following mining and reclamation activities?***

   No. As indicated above, the diversion was not capable of handling pre-mining flows and it was not capable of handling flows during mining and reclamation activities even though runoff was controlled during mining and reclamation activities. From 1999 to 2015, a large portion of runoff from the watershed above the diversion was captured by sedimentation ponds P-H34-04 and P-H34-05. While in place, these ponds were discharged around the downstream cropland through HDPE poly pipe into the main channel flowing through the center of the NW¼ of Section 34. This was done to avoid exacerbating the erosion that was already occurring regularly on the east side of the crop field prior to and during mining

activities. Therefore, it can clearly be concluded that if erosion was occurring when runoff was captured, the existing diversion would not have had the capacity to handle the flows when the ponds were removed.

It should be noted that flows during mining and following mining are less than the flows which occurred pre-mining. It should also be noted that erosion and flooding occurred in the subject field long before mining, as can be shown by viewing aerial photos, including Figures 1 and 2, dating back several decades prior to Coteau entering the area.

3. ***Is there evidence that the original diversion overtopped during mining and reclamation (i.e., prior to being reconstructed)?***

The producer approached Coteau in both 2010 and 2011 about aiding in repairing erosion in the field while the sediment ponds were in place and functioning. Additionally, Figure 3 is the original ground topography survey prior to reconstruction of the diversion. As can be seen in the drawing, there are several areas that show erosion west or below the diversion. Figure 3 includes two cross-sections of the existing diversion, one at the entrance of watershed 14-14 and one at the entrance of watershed 14-15. Both cross-sections indicate that runoff would flow across the diversion to the west uninterrupted. This survey was collected on November 29, 2011, after installation of the sedimentation ponds, but prior to the reconstruction of the diversion or removal of any sedimentation ponds.

Mining operations did not cause increased flows and erosion was already occurring prior to any mining operations in the area. As noted above, flows were less during and following mining than the flows pre-mining.

4. ***Please explain why the diversion and road ditch were reconstructed.***

As noted in a December 6, 2012, PSC inspection report the diversion was redesigned and reconstructed at the landowner's request. The diversion was reconstructed for several reasons. Coteau was approached by the producer, Wayne Eisenbeis, in 2010 about erosion which was occurring in the field. This erosion was occurring even with the sedimentation ponds in place and their discharges being routed around the field through HDPE pipe. Wayne Eisenbeis asked if Coteau could help him fill in the erosion using the washed material near the main drain. Soil in this area had accumulated to the extent that he was getting stuck when farming. Coteau hired an outside contractor to repair the erosion in the field. In the following year, 2011, additional erosion occurred in the field and Wayne Eisenbeis again approached Coteau about repair, and also asked that the diversion be improved to prevent future erosion. The owner at the time, Esther Eisenbeis, agreed with Wayne Eisenbeis's request. Wayne Eisenbeis is the nephew of Esther Eisenbeis. Even though he was not the current surface owner at the time, Clyde Eisenbeis, Esther Eisenbeis's son, became involved in the design and location of the proposed improved diversion. After several discussions with Bill Kirk from Coteau, and additional discussions with the PSC, Clyde Eisenbeis agreed the diversion should be reconstructed in its current location, as did Esther Eisenbeis. Over the years, washing from the existing diversion had filled the road ditch with sediment. The sediment needed to be removed in order for the diversion to function properly and not flood the north edge of the field.

In the interest of being a good neighbor, Coteau engaged contractors to improve the pre-existing diversion with the hope it would alleviate the erosion issues that had plagued this tract for several decades.

5. ***Permit NACT-9501 includes design information for the two permanent grassed waterways that were constructed below sedimentation ponds P-H34-04 and P-H34-05 in the W½NE¼ of Section 34. Was the rebuilt diversion and road ditch designed and reconstructed to handle the combined flows from these two grassed waterways?***

   Yes, the diversion was sized to divert runoff from the reclaimed watersheds as well as the undisturbed area for a 10 year 24 hour storm event or 3.12 inches of rain in 24 hours. As noted above, flows from these new grassed waterways are less than flows prior to any mining activities.

6. ***Are the assumptions and conditions used in the Probable Hydrologic Consequences still valid and applicable? If not, what changes have occurred?***

   Yes, the PHC is still valid; however, it is conservative. For instance, Watershed 14-15 contains a stockpond, which was not considered when modeling. The stockpond would further reduce the amount of water as it will capture a portion of the runoff before overflowing. Additionally this causes the water to slow before entering the last reach of the channel. A second stockpond with a storage capacity of 5.5 acre-feet is planned for construction in the near future in the NE¼ of Section 34. This will further reduce flows as more water is captured.

   Secondly, native grassland in the post mining condition is considered as "fair" for modeling purposes. A visual inspection of the area will show that the vegetation is in much better condition than "fair." This will further reduce the Curve Number and the amount of runoff leaving the site, as more water will infiltrate the ground due to residue and plant uptake.

   Third, the cropland in the NE¼ of Section 34, which was located directly below the sedimentation ponds along the west side of this quarter, has now been converted to native grasslands, reducing the amount of runoff entering the diversion.

   Fourth, the cropland has been assumed to be 20% fallow and 80% crop. However, farming practices have changed and the use of fallow has been virtually eliminated in the area, thus reducing the amount of runoff from the ground.

   Finally, the Antecedent Moisture Condition II (AMC-II) was used in the modeling process. The use of AMC-II is conservative for this area according to a study conducted by Schroeder, Enz, and Larsen, which reports that AMC-I conditions, exist 95.1% of the time between April 1 and October 31 in the Beulah area.

   In conclusion, the PHC could be remodeled to reflect the items above, and doing so would show a reduction in the flows and volumes from what is currently shown.

7. ***How many times has the rebuilt diversion overtopped since being rebuilt and under what circumstances did it overtop?***

To our knowledge, the diversion has overflowed twice, both times in 2014. The first overflow occurred in the spring of the year, near the south end of the diversion. This overflow was most likely caused by snow blocking the diversion and not allowing water to flow through.

The second overflow occurred later that year most likely due to a three-day rainfall event that began August 22, 2014. The rain gauge located in Section 22, T146N, R88W, approximately 1 mile north of the diversion, recorded 3.67 inches of rainfall from this three-day event. The majority of the rainfall occurred on August 23 with 3.19 inches falling in 14 hours. The intensity of the storm would equate to a 200 year/ 24 hour storm event.

These overtoppings were not caused by any mining or reclamation operations.

This ditch/diversion issue is a private matter between Coteau and the Eisenbeis family. As demonstrated, mining operations were never the source or cause of erosion in Eisenbeis fields. Past and current owners have chosen to crop the entire field in the W½ of Section 34 despite being in an obvious downstream location below higher elevation watersheds to the east. These upland watersheds existed pre-mining and remain post-mining. Pursuant to established water law in North Dakota, downstream owners must accept flows which come from higher adjacent uplands. If a landowner chooses to crop through obvious waterways, he does so at his own risk.

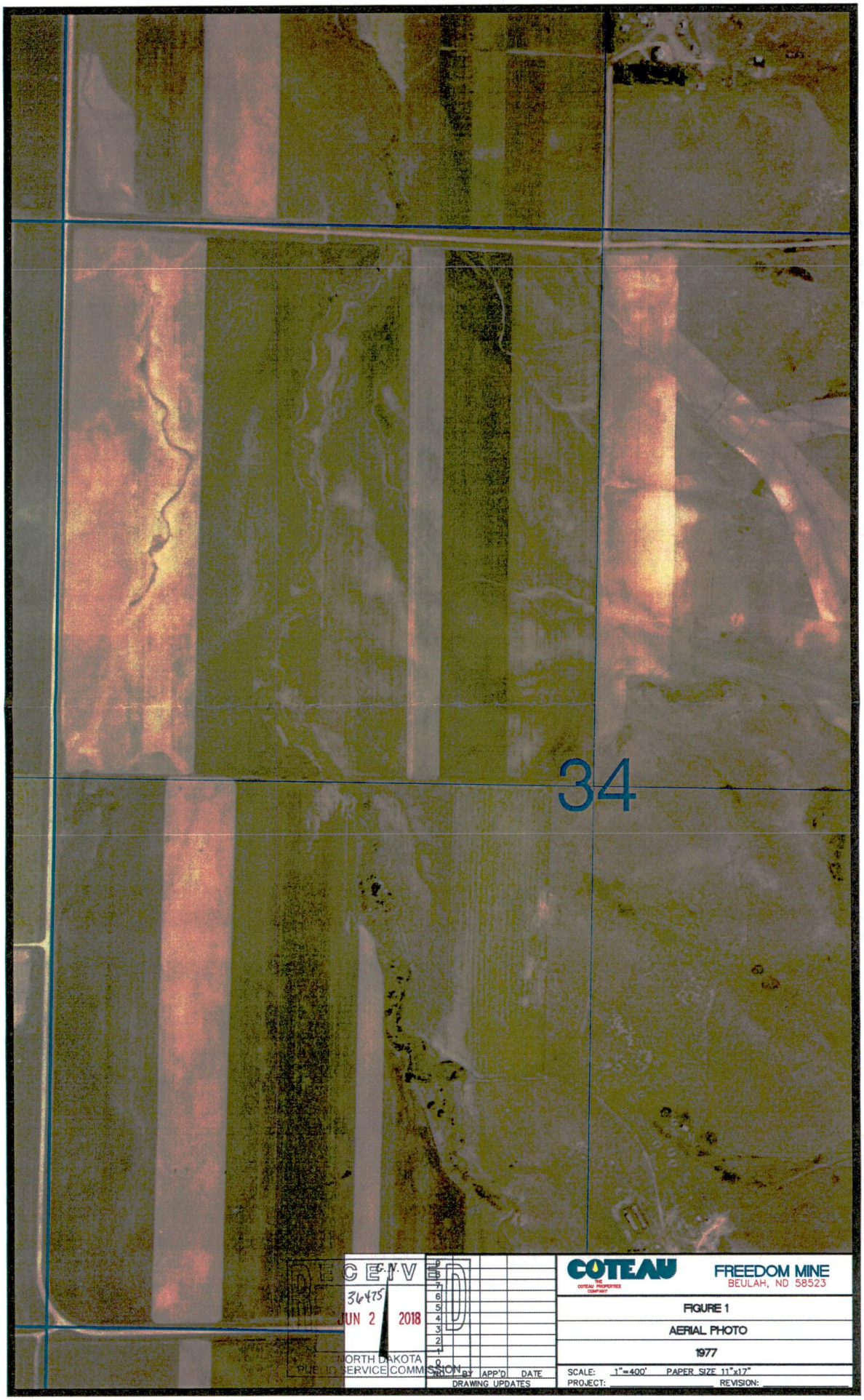
Coteau has tried to work with Clyde Eisenbeis, including by making an offer to alleviate his concerns at no expense to him, and he did not accept that offer. Coteau is always open and willing to work with landowners.

If you have any questions, please contact this office.

Sincerely,

Sarah J. Flath
Environmental Manager
The Coteau Properties Company

cc: Chris Friesz



NO.	BY	APP'D	DATE	DRAWING UPDATES
8				
7				
6				
5				
4				
3				
2				
1				
0				

COTEAU
THE COTEAU PROPERTIES COMPANY

FREEDOM MINE
BEULAH, ND 58523

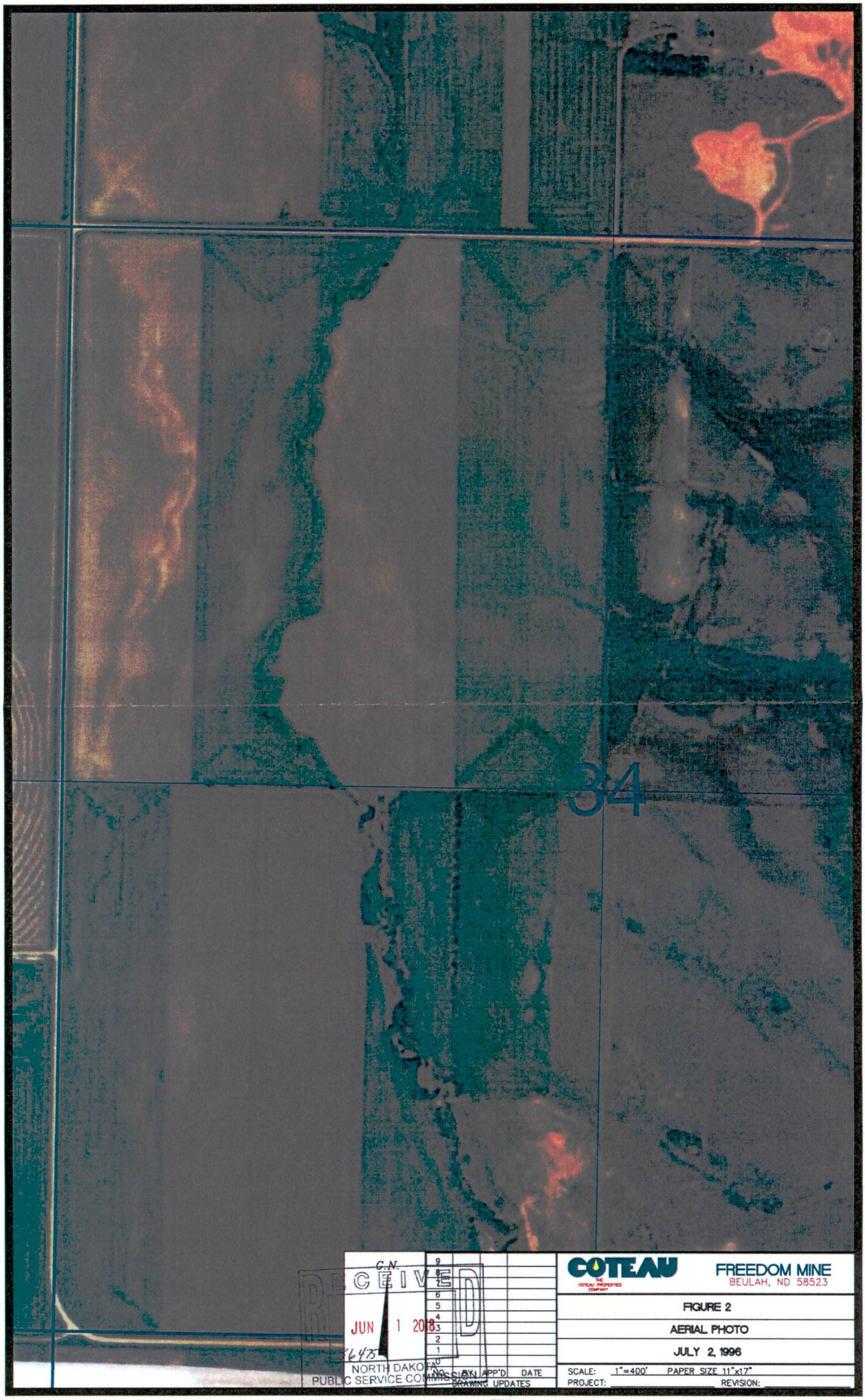
FIGURE 1

AERIAL PHOTO

1977

SCALE: 1"=400' PAPER SIZE 11"x17"

PROJECT: REVISION:



C.N. 6435

NO.	BY	APP'D	DATE	DRAWING UPDATES
9				
8				
7				
6				
5				
4				
3				
2				
1				
0				

COTEAU
THE COTEAU PROPERTIES COMPANY

FREEDOM MINE
BEULAH, ND 58523

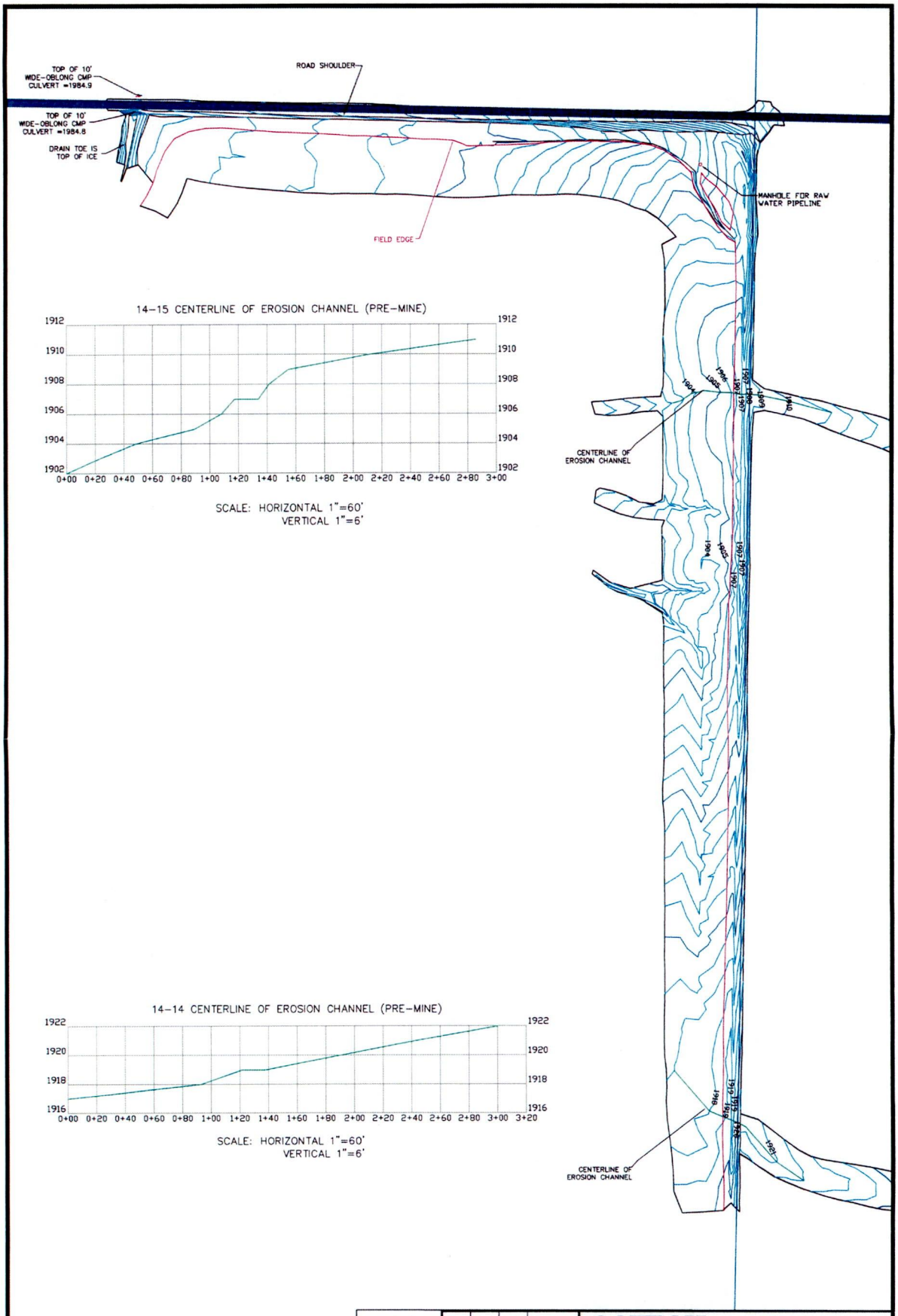
FIGURE 2

AERIAL PHOTO

JULY 2, 1996

SCALE: 1"=400' PAPER SIZE 11"x17"

PROJECT: REVISION:



14-15 CENTERLINE OF EROSION CHANNEL (PRE-MINE)

SCALE: HORIZONTAL 1"=60'
VERTICAL 1"=6'

14-14 CENTERLINE OF EROSION CHANNEL (PRE-MINE)

SCALE: HORIZONTAL 1"=60'
VERTICAL 1"=6'

G.N.

NO.	BY	APP'D	DATE
9			
8			
7			
6			
5			
4			
3			
2			
1			
0			

DRAWING UPDATES

COTEAU
THE COTEAU PROPERTIES COMPANY

FREEDOM MINE
BEULAH, ND 58523

FIGURE 3

ORGINAL SURVEY EISENBEIS DIVERSION

NOVEMBER 29 2011

SCALE: 1"=150' PAPER SIZE 11"x17"
PROJECT: REVISION:

You should know...

North Dakota Public Service Commission

Issue GO-2, Updated March 2017

Filing A Formal Complaint

Find out what you need to know in order to file a formal complaint with the Public Service Commission.

North Dakota Public Service Commission

Commissioners:
Randy Christmann
Julie Fedorchak
Brian Kroshus

600 E Boulevard Ave.
Department 408
Bismarck, ND
58505-0480

Telephone:
701-328-2400

Fax:
701-328-2410

TDD/TTY:
800-366-6888

E-mail:
ndpsc@nd.gov

Website:
www.psc.nd.gov

North Dakota LEGENDARY
Public Service Commission

If you have a complaint about mining activities, utility services, weights and measures, or any of the other areas regulated by the Public Service Commission (PSC), you should first take the issue up with the company involved. If the problem is not resolved, you can file an *informal* complaint with the PSC by calling 701-328-2400 or by sending us a letter or e-mail with the complaint details.

A *formal* complaint is a more serious step where you formally allege that a company violated a state law, a tariff or price schedule, or a PSC order or rule. As the complainant, you must prove your case in a formal administrative proceeding, similar to going to court.

HOW TO FILE A FORMAL COMPLAINT

By law, formal complaints must be in writing and be clearly and concisely stated. The complaint should include the facts constituting the basis of the complaint, including relevant dates. The complaint must also include citations to the specific statutes, PSC rules or orders involved and the relief you request. Your name and address and the name and address of your attorney, if you employ one, must appear in the complaint.

STATE LAW AND RULES

The procedural rules covering formal complaints can be found in Chapter 28-32 of the North Dakota Century Code, and Article 69-02 of the North Dakota Aministrative Code. The specific rule governing the form required for a formal complaint is North Dakota Administrative Code §69-02-02-02. Other provisions of law may also be relevant to your complaint. For instance, a complaint regarding phone service might cite the state's phone laws.

LEGAL ADVICE

You do not need an attorney to file a complaint, however, you may wish to consult legal counsel to ensure you have considered all options available to you. If not represented by an attorney, the complainant must include a statement that the complaint document is true and correct to the best of the signer's belief. PSC staff are not allowed to provide legal advice to the public.

PROCESS

After a formal complaint is filed, the first step in the process is for the PSC to serve the complaint on the company. The company has 20 days to answer the complaint, pointing out where it believes the complaint is wrong. (The company can challenge the facts alleged in the complaint, the law relied upon, the relief sought, or any combination of these.)

If the company does not respond, the PSC can decide in your favor because the company defaulted. If the company does respond, the matter will be set for hearing unless you and the company can resolve the matter outside the hearing process. At the hearing, you will have the burden of proving what you asserted in the complaint and the company will have to defend its actions. All testimony will be sworn and subject to cross-examination by the opponent.

If the Commission finds the company violated state law or a Commission order or rule, the Commission can fine the company, revoke any operating authority previously granted by the Commission, and in some cases require the company to correct the wrong or order reparations. In most cases the Commission cannot award any other damages. If you are seeking financial compensation for damages, you would need to consider other legal remedies such as civil litigation.