STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

BOARD OF MINERALS AND ENVIRONMENT

IN THE MATTER OF QUARTZ OPERATIONS, LLC. NORTHERN POINTS 1 WELL; DENR PETITION TO REVOKE PERMIT AND PETITION TO FORFEIT SURETY (O & G Permit No. 2026)	PETITION TO REVOKE DRILLING PERMIT & PETITION FOR FORFEITURE OF SURETY

The Minerals and Mining Program of the Department of Environment and Natural Resources (DENR), through the undersigned counsel of record, hereby petitions the Board of Minerals and Environment (Board) for a contested enforcement hearing regarding the potential revocation of Quartz Operations, LLC's (Quartz) permit to drill at the Northern Points 1 well site, DENR Oil & Gas permit no. 2026, and potential forfeiture of surety associated with permit no. 2026. This petition is filed pursuant to South Dakota Codified Law (SDCL) chs. 1-26 and 45-9, and the Administrative Rules of South Dakota (ARSD) chs. 74:09 and 74:12.

In support of this petition the DENR states and alleges as follows:

1. The DENR is the state agency, along with the Board, that regulates the production of oil and gas resources in the State of South Dakota, pursuant to SDCL ch. 45-9.

2. Specifically the Board has been granted authority by the South Dakota Legislature to administer and enforce the provisions of SDCL ch. 45-9, and may delegate that authority to the DENR. SDCL 45-9-13 and 45-9-54.

3. Quartz submitted applications on March 5, 2013, for permits authorizing them to drill two oil wells known as Northern Points 1 and Northern Points 2.

4. It is the historical practice of the Board to delegate authority to administer oil & gas bonds to DENR staff unless the Board asserts jurisdiction over a matter.

5. Upon review of the Quartz permit applications, the DENR requested that the Board assert jurisdiction over the bonding process for Quartz's permit applications. DENR felt that the location of the proposed wells, depth of the proposed wells, target formation of the proposed wells, and other factors suggested a higher bond amount than typically should be required.

6. On March 21, 2013, the Board held a contested hearing regarding Quartz's applications. The Board issued a conditional order granting the Northern Points 1 and 2 permits.

7. The Northern Points 1 well is located at: Northwest Quarter of the Northwest Quarter of Section 7, Township 1 North, Range 14 East, Pennington County, South Dakota.

8. The Northern Points 1 well was originally intended to be drilled into the Precambrian formation, and to a depth of 9,700 feet.

9. The Northern Points 2 well site has never been drilled. According to ARSD § 74:12:02:03, the DENR considers the permit issued for the Northern Points 2 well site to be cancelled due to the failure of Quartz to commence drilling within one year of the permit being issued. The DENR does not consider the Northern Points 2 well permit to be a part of the current petition.

10. The Northern Points 1 drilling permit was conditioned on thirteen items including the compliance with all applicable requirements of SDCL ch. 45-9 and ARSD ch. 74:12. See attached Permit and Permit Conditions incorporated into this petition by reference.

11. Condition 11.C.1 of the permit to drill the Northern Points 1 well specifically required "100 foot cement plugs must be installed half in and half out of the top of the following formations: Deadwood, Red River, Interlake, Madison, Minnelusa, Minnekahta, and Inyan Kara."

12. As part of the applications for the permits to drill, Quartz submitted a $20,000 statewide Plugging and Performance Bond in accordance with SDCL 45-9-15.

13. The statewide bond was secured through a $20,000 Certificate of Deposit, no. 205428, issued by First National Bank, Pierre, South Dakota, on November 20, 2012, and issued to Quartz Operations, LLC and South Dakota DENR.

14. As part of the conditions imposed upon the Permit to Drill by the Board, Quartz was required to submit additional surety in the amount of $110,000.

At the time of Quartz's application, it was estimated by the DENR that the cost to the State (should Quartz fail to comply with its obligations) of properly plugging each well and reclaiming the affected surface lands would be approximately $130,000.

15. The additional required surety was secured through a $110,000 Certificate of Deposit, no. 207486, issued by First National Bank, Pierre, South Dakota, on March 21, 2013, and issued to Quartz Operations, LLC, and the DENR.

16. A total surety amount of $130,000 is held by the Board under the conditions of the Northern Points 1 drilling permit.

17. On April 2, 2013, Quartz commenced drilling the Northern Points 1 well.

18. Quartz lost drilling fluid circulation on the Northern Points 1 well after penetrating the uppermost sediments of the Madison Group on April 12, 2013. Loss of circulation occurred as the drillstem penetrated zones of high porosity between the depths of approximately 4,744 and 4,809 feet.

19. On April 17, 2013, while attempting to correct fluid circulation problems at the Northern Points 1 drill site, Quartz's drillstem became stuck in the borehole at a depth of approximately 2,800 feet.

20. Between April 17, 2013 and April 29, 2013, Quartz attempted to retrieve the stuck drillstem, but was unable to retrieve a section of drillstem approximately 150 feet in length. The stuck drillstem includes a drill bit, a mud

motor, drill collars, and drill pipe lodged within the Northern Points 1 borehole between the depths of approximately 2,600 feet and 2,750 feet.

21. Quartz was unable to reenter the 2,106 feet of the Northern Points 1 open borehole that lie below the 150-foot section of stuck drillstem. Because Quartz was unable to reenter the lower portion of the borehole, plugging the isolated section of borehole would require directional drilling around the stuck drillstem to the borehole at a cost vastly exceeding the $130,000 plugging cost estimate upon which the surety was based.

22. The open borehole that lies below the 150-foot section of stuck drillstem penetrates the Inyan Kara, Minnekahta, Minnelusa, and Madison aquifers and is not cased with production casing.

23. In accordance with ARSD 74:12:03:02(4)(a)(i), which pertains to plugging of wells without production casing, all aquifers, salt zones, and fluid-bearing formations must be sealed or separated with individual cement plugs, circulated to fill at least 100 feet of hole. Each individual cement plug must be at least 50 feet above the top of these formations, as specified by the secretary.

24. Quartz submitted a Sundry Notice and Report on Wells on May 7, 2013 notifying the department of Quartz's intention to plug and abandon the Northern Points 1 well. The plugging plan described in the Sundry Notice consisted of placing cement plugs only in the upper portion of the Northern Points 1 borehole above the stuck drillstem. The plugging plan did not make provision for plugging the 2,106 feet of uncased borehole lying below the stuck drillstem.

25. On May 7, 2013 Quartz informed the department by phone that Quartz did not have the financial resources necessary to plug the Northern Points 1 well in accordance with state rules.

26. The plugging plan proposed by Quartz was rejected by DENR for failure to comply with the requirements of ARSD ch. 74:12:03.

27. On May 11, 2013 Quartz attempted to plug the upper 2,594 feet of the Northern Points 1 well, but was unable to accomplish its unapproved plugging plan because the borehole collapsed at a depth of approximately 1,030 feet.

28. On May 12, 2013 Quartz attempted to drill through the collapsed section of borehole at a depth of approximately 1,030 feet, but was unable to do so due to continued collapse of the borehole wall at depths between 1,000 and 1,100 feet. Subsequently, Quartz managed to plug only the upper 1,090 feet of the borehole by placing a cement plug between 795 and 1,090 feet in depth, and another plug from the surface to 70 feet in depth.

29. These plugging activities do not comply with the requirements of ARSD ch. 74:12:03, nor with the requirements of the conditions imposed upon the permit to drill the Northern Points 1 well.

30. The Northern Points 1 well has been abandoned by Quartz and is without production casing.

31. The Inyan Kara Aquifer in the vicinity of Northern Points 1 well is located at a depth between approximately 3,000 feet and 3,200 feet.

32. The Inyan Kara Aquifer in the vicinity of the Northern Points 1 well is characterized by good water quality with total dissolved solids ranging from approximately 500 to 800 parts per million, and is utilized as a municipal and domestic source of fresh water.

33. The Minnelusa Aquifer in the vicinity of the Northern Points 1 well is located at a depth between approximately 3,800 feet and 4,100 feet.

34. The Minnelusa Aquifer in the vicinity of the Northern Points 1 well is characterized by relatively poor water quality, ranging from approximately 5,000 to 25,000 parts per million total dissolved solids.

35. Based on regional water level data, the potentiometric surface of the Minnelusa Aquifer is higher than the elevation of the Inyan Kara Aquifer in the vicinity of the Northern Points 1 well due to artesian pressure. Therefore, the unplugged portion of the Northern Points 1 wellbore provides a potential pathway for upward flow of poorer-quality Minnelusa ground water into the Inyan Kara Aquifer.

36. Failure to plug the Northern Points 1 well in accordance with the conditions of the drilling permit is a violation of Quartz's permit for the Northern Points 1 well, and a violation of ARSD § 74:12:03:02(4)(a)(i).

37. On May 21, 2015, the Board issued Findings of Fact and Conclusions of Law in a related matter, In re Quartz Operations, LLC, Surety Bond: Partial Disbursement Request. The Board has already adopted factual findings regarding

many of the items listed in this Petition. See attached Findings of Fact and Conclusions of Law hereby incorporated into this petition by reference.

38. On July 1, 2016, the DENR issued a Notice of Violation to Quartz regarding the Northern Points 1 well. The Notice of Violation indicated that if Quartz did not contest the allegations contained in the Notice within thirty days these allegations were to be deemed admitted. See attached Notice of Violation hereby incorporated into this petition by reference.

RELIEF REQUESTED

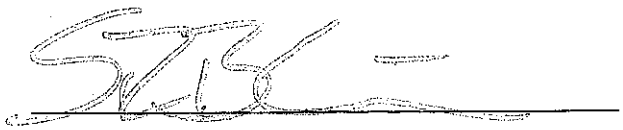
Due to Quartz's failure to properly plug the Northern Points 1 well site, and pursuant to SDCL chs. 1-26, 45-9, and ARSD chs. 74:09 and 74:12, the DENR respectfully requests that the Board enter its order stating the following:

1. Ordering that Oil & Gas Permit no. 2026 issued by the Board to Quartz Operations, LLC, for the drilling of the Northern Points 1 well site be revoked for failure to comply with the terms and conditions of said permit and the applicable statutes and administrative rules of South Dakota; and

2. Declaring that the two above referenced Certificates of Deposit, in an amount totaling $130,000 be forfeited to the State of South Dakota, and instructing DENR staff to carry out all activities necessary to transfer the proceeds from the above referenced Certificates of Deposit to the Department.

[*signature contained on following page*]

Dated this 27th day of October, 2016.



Steven R. Blair
Ellie J. Bailey
Assistant Attorneys General
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Telephone: (605) 773-3215
Steve.Blair@state.sd.us
Ellie.Bailey@state.sd.us

Counsel for Department of Environment and Natural Resources

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES
Minerals & Mining Program
2050 West Main, Suite #1, Rapid City, SD 57702-2493
Telephone: 605-773-4201, FAX: 605-394-5317

FORM 2

RECEIVED
MAR 05 2013
DEPT OF ENVIRONMENT & NATURAL RESOURCES - RAPID CITY

State of South Dakota Department of Environment and Natural Resources

APPLICATION FOR PERMIT TO DRILL

ORIGINAL

Type of work:
☑ Drill New Well ☐ Reenter Well ☐ Drill Directional Well
☐ Other: _____

Type of well:
☑ Oil Well ☑ Gas Well ☐ Injection
☐ Other: _____

Name and Address of Operator: Telephone:
Quartz Operations 522 South Seventh Street, Rapid City, SD 57701 (801) 310-1523

Name and Address of Surface Owner:
Bill Gikling 4120 Penrose Place Rapid City, SD 57701

Name and Address of Drilling Contractor and Rig Number:
To be determined

Surface Location of well: Qtr-Qtr, Sec, Twp, Rge, County, feet from nearest lines of section, and latitude and longitude (if available):
NWNW Section 7, T1N-R14E, Pennington, 761.7 FNL, 786.7 FWL, Lat. N44 03' 53.703, Long. W 102 29' 05.964

If Directional, top of pay and bottom hole location from nearest lines of section:

Acres in Spacing (Drilling) Unit: 40

Description of Spacing Unit: Wildcat

Well Name and Number:	Elevation:	Field and Pool, or Wildcat:	Proposed Depth and Formation:
Northern Points 1	2627.31	Wildcat	9,700 Pre-Cambrian

Size of Hole:	Size of Casing:	Weight per Foot:	Depth:	Cementing Program (amount, type, yield, additives)	Depth:
1) See Attached	Sheet				
2)					
3)					
4)					

Describe Proposed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). Use additional page(s) if appropriate.

Wildcat well consisting of the above stated information with an estimated starting date of 02/15/2013 – 02/28/2013 A 4' cellar/ conductor pipe will be installed before rig arrives ; 12 ¼ hole will be drilled to ~1000 ft and 9 5/8 casing will be run and cemented back to surface. 7 5/8 hole will be drilled to TD ~9700 ft. Well will be logged and evaluated. Depending on evaluation For the 5 ½ production casing we will use a DV tool (2 Stage) The Madison formation will be covered by 1st stage, 2 stage will bring cement to surface or at a minimum of inside the 9 5/8 casing so all zones will be isolated. Final cement additives will be determined by logs.

Pit Liner Specifications: See Attached Sheet

I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operation.

Signature	Name (Print)	Title	Date
NO	Natali Ormiston	Managing Member	03/05/2013

FOR OFFICE USE ONLY

Approved By: Lee M. M. Tabor Title: vice chairman, Board of Minerals & Environment

Permit No.: 20210 API No.: 40 103 20019 Date Issued: 03/21/2013

Conditions, if any, on attached page.

PERMIT CONDITIONS

Quartz: Northern Points 1
01N-14E-07 NWNW, Pennington County

Permit: # 3026
API: 40 103 20019

Approval has been granted to drill this location as detailed on the attached Application for Permit to Drill (Form #2) with the following additional conditions:

1. This permit is conditioned on compliance with all applicable requirements of South Dakota Codified Laws 45-9 and Administrative Rules of South Dakota 74-12.
2. That the operator shall submit additional surety bonds for each well to be held in addition to the $20,000 Statewide Plugging and Performance Bond already submitted. The additional bond required for the first well is $110,000 and for the second well, $130,000. The form of the surety bond may be in the form of a certificate of deposit in the name of the Board of Minerals and Environment or a surety bond. The additional bond for each well must be submitted and approved by the Department before site preparation and drilling may begin.
3. The operator shall provide the Department with the name of the drilling contractor before the drilling commences.
4. A 12-mil woven, reinforced high-density polyethylene liner must be used for pits or cuttings storage areas.
5. Surface runoff must be diverted around the drill site.
6. The surface hole must be drilled with fresh water.
7. Cement must be circulated to the ground surface on the surface casing.
8. Vertical deviation survey results must be submitted to the department within 30 days of completion of the well pursuant to rule 74:12:02:15.
9. If production casing is set:
   A. The casing and cementing program submitted with the application, including cementing the production casing from total depth to surface, shall be followed.
   B. A cement bond log must be run and filed with the department within 60 days of completion of the well as required by rule 74:12:02:12.
   C. A completion report must be submitted to the department within 30 days of completion of the well as required by rule 74:12:02:17.
10. Technical reports and well logs must be submitted to the department as required by rule 74:12:02:17.
11. If abandoned:
   A. If production casing is left in the wellbore, a mechanical integrity test (MIT) must be conducted to verify the integrity of the casing as required by rule 74:12:03:02(4)(b)(ii).
   B. With production casing:
      1. A cast iron bridge plug and a 20-foot cement plug must be installed immediately above any perforations.
      2. If a portion of the production casing is retrieved, a 100-foot cement plug, half in and half out of the top of the casing stub after the retrievable part of the production casing has been removed, must be installed.
      3. A 100-foot cement plug, half in and half out of the top of the following formations: Deadwood, Red River, Interlake, Minnelusa, Minnekahta, and Inyan Kara, must be installed.
      4. A 100-foot cement plug, half in and half out of the base of the surface casing, must be installed.
      5. A 25-foot cement plug must be installed at the top of the surface casing.
   C. Without production casing:
      1. 100-foot cement plugs must be installed, half in and half out of the top of the following formations: Deadwood, Red River, Interlake, Madison, Minnelusa, Minnekahta, and Inyan Kara.
      2. A 100-foot cement plug, half in and half out of the base of the surface casing, must be installed.
      3. A 25-foot cement plug must be installed at the top of the surface casing.
      4. Heavy, mud-laden fluid must be used between all open hole plugs.
   D. The casing string must be cut off at least three feet below the final ground surface contour. A plate with the name of the operator, well name and number, and legal location by quarter-quarter section,

EX- 7-001

township and range must be welded to the casing stub. The location of the abandoned well must be surveyed with high resolution global positioning system equipment or other appropriate survey methods sufficient to accurately locate the well. Survey coordinates must be included in the final abandonment report.

E. A plugging report must be submitted to the department within 30 days after plugging and abandonment operations are complete as required by rule 74:12:03:01.

12. Surface reclamation of the site must be completed within one year of plugging and abandoning the well.
13. A washed set of sample cuttings (or cores, if cut) must be shipped, free of charge, to:

Derric Iles
Geological Survey Program
Akeley-Lawrence Science Center
University of South Dakota
414 E. Clark Street
Vermillion, SD 57069-2390

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

BOARD OF MINERALS AND ENVIRONMENT

IN THE MATTER OF QUARTZ OPERATIONS, LLC SURETY BOND: 2015 PARTIAL DISBURSEMENT REQUEST	)))))	O&G no. 2-2015 FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

On January 22, 2015, Woodford Construction Company, Inc., (Woodford) filed a Petition Initiating a Contested Case with the Board requesting partial release of the surety held by the Board of Minerals and Environment (Board) in relation to the permit to drill granted to Quartz Operations, LLC (Quartz) for the Northern Points 1 well. On February 4, 2015, the Minerals and Mining Program of the South Dakota Department of Environment and Natural Resources (DENR) filed its Answer to Woodford's Petition. A Notice of Contested Hearing, and Notice of Appointment of Rexford Hagg as Hearing Chair, were filed that same day.

On March 12, 2015, Richard Davis (Davis) filed a motion with the Board to intervene in this matter. Said motion was granted by Chairman Hagg on March 20, 2015.

Also on March 20, 2015, DENR filed a Motion for Judgment as a Matter of Law, pursuant to SDCL 1-26-18, requesting that Woodford's petition be dismissed. DENR's motion was supported by a memorandum of law and a Statement of Material Facts.

On April 9, 2015, a telephonic pre-hearing conference was held in the matter. Chairman Hagg, serving as hearing chair, presided. Charles McGuigan, Chief Deputy Attorney General, appeared as counsel for the Board. DENR was represented by Assistant Attorneys General Steven Blair and Ellie Bailey. Quartz was represented by counsel, Mark Ekse of Hagen, Wilka & Archer. Petitioner Woodford was represented by counsel, Charles Patterson of Patterson & Prahl, LLP. Intervenor Davis was represented by counsel, John Fitzgerald of Fitzgerald Law Firm.

After reviewing the pleadings, hearing the arguments of the parties, and otherwise being fully informed as to all matters pertinent thereto, Hearing Chair Hagg hereby adopts the following Findings of Fact, Conclusions of Law, and Order:

FINDINGS OF FACT

1. On March 5, 2013, Quartz Operations, LLC (Quartz) submitted applications to DENR for permits authorizing them to drill two oil wells known as Northern Points 1 and 2.

2. Upon DENR's request, the Board asserted jurisdiction over the Northern Points 1 and 2 bonding process pursuant to SDCL 45-9-15.

3. On March 21, 2013, the Board conducted a contested case proceeding regarding Quartz's applications. The same day, the Board entered a conditional Order granting the Northern Points 1 and 2 permits.

4. The approval of Quartz's drilling application for the Northern Points 1 well was conditioned on thirteen items, including: compliance with SDCL 45-9 and ARSD 74:12; satisfaction of certain requirements during the drilling of the well; satisfaction of certain steps if the well were abandoned; completion of surface reclamation; and the submission of an $110,000 surety bond.

5. Quartz submitted a $20,000 Statewide Surety bond to DENR on November 20, 2012. As required by the permit, Quartz submitted an

additional $110,000 surety bond to DENR on March 21, 2013. The combined bond amount totaled $130,000.

6. Both surety bonds were submitted in the form of certificates of deposit with First National Bank.

7. Quartz began drilling the Northern Points 1 well in April 2013. During the drilling, a section of drill pipe became stuck in the well hole at an approximate depth of 2,594 feet.

8. Quartz submitted an initial plugging plan to DENR on April 17, 2013. DENR approved this plan.

9. Due to changing conditions at the well site, and in the bore hole, Quartz submitted a revised plugging plan on May 7, 2013. This plan was rejected by DENR for failure to comply with ARSD 74:12:03.

10. In May of 2013, Quartz plugged the upper portion of the wellbore using two plugs—this plugging plan was not approved by DENR.

11. Quartz abandoned the Northern Points 1 well in May 2013.

12. Pursuant to the conditions of its permit, Quartz was required to complete surface reclamation within one year of plugging or abandoning the Northern Points 1 well.

13. Quartz did not initiate reclamation of the surface land affected by its drilling operation until September 2014.

14. Woodford, Petitioner in the above captioned action, provided labor and materials to Quartz related to the drilling of the Northern Points 1 well. Woodford received a default judgment against Quartz from the Seventh Circuit Court, Pennington County, South Dakota, on January 14, 2014, amended January 15, 2014, for its failure to pay Woodford for labor and materials totaling $58,617.16 (plus pre- and post-judgment interest).

15. Richard Davis, intervenor in the above captioned action, also provided labor and materials to Quartz related to the drilling of the Northern Points 1 well. Davis received a default judgment against Quartz from the Seventh Judicial Circuit, Pennington County, South Dakota, on April 29, 2014, in the amount of $109,479.49.

16. Quartz stated at the prehearing conference held on April 9, 2015, that it had not yet re-seeded the Northern Points 1 well site. Quartz further stated that it intended to work with DENR regarding any steps necessary

to comply with the plugging provisions of ARSD 74:12:03. Quartz stated that to date remediation at the site has not been completed.

17. Quartz has not applied for the release of its plugging and performance bonds. Nor has Quartz presented a remedial action plan for the Board's consideration. Accordingly, the Northern Points 1 bonds have not been released by the Board.

18. Any Finding of Fact more appropriately labeled as a Conclusion of Law is hereby re-designated as such and incorporated below therein.

CONCLUSIONS OF LAW

1. The Board has jurisdiction over this matter pursuant to SDCL 45-9-15 and -54.

2. SDCL 1-26-18 provides, in part:

> Opportunity shall be afforded all parties to respond and present evidence on issues of fact and argument on issues of law or policy. However, each agency, upon the motion of any party, may dispose of any defense or claim:
>
> (1) If the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and a party is entitled to a judgment as a matter of law; ...

3. The language of SDCL 1-26-18 subsection (1) mirrors the language found in SDCL 15-6-56(c) setting forth the requirements for a motion for summary judgment in the circuit courts of South Dakota.

4. A Motion for Judgment as a Matter of Law filed pursuant to SDCL 1-26-18 is in essence a request for summary judgment under South Dakota's Administrative Procedures Act (SDCL ch. 1-26). In reviewing such motions, courts have held:

> In reviewing a grant or a denial of summary judgment under SDCL 15–6–56(c), we must determine whether the moving party demonstrated the absence of any genuine issue of material fact and showed entitlement to judgment on the merits as a matter of law. The evidence must be viewed most favorably to the nonmoving party and reasonable doubts should be resolved against the moving party. The nonmoving

> party, however, must present specific facts showing that a genuine, material issue for trial exists.

Peters v. Great Western Bank, Inc., 2015 S.D. 4, ¶ 5, 859 N.W.2d 618, 621 (quoting *Saathoff v. Kuhlman*, 2009 S.D. 17, ¶ 11, 763 N.W.2d 800, 804).

5. Pursuant to ARSD 74:09:01:08, the chair of the Board may appoint a member of the Board to act as hearing chair in any contested case proceeding. The hearing chair "may rule on all prehearing motions." "Any decision made by the [hearing chair] is a final decision of the board unless the board overrules the decision of the" hearing chair.

6. Pursuant to ARSD 74:09:01:17, the hearing examiner appointed to conduct any contested hearing "shall make proposed findings of fact, conclusions of law, and an order to the board. . . . The board shall allow the parties to object in writing to the . . . recommended decision and to present oral argument prior to the board rendering a final decision[.]"

7. "When the language in a statute is clear, certain and unambiguous, there is no reason for construction, and this Court's only function is to declare the meaning of the statute as clearly expressed." *Paul Nelson Farm v. S.D. Dept. of Revenue*, 2014 S.D. 31, ¶ 10, 847 N.W.2d 550, 554 (quoting *State v. Hatchett*, 2014 S.D. 13, ¶ 11, 844 N.W.2d 610, 614).

8. SDCL 34A-10-2.2 provides:

> All right and title in any bond or other security required by the Water Management Board or the Board of Minerals and Environment under any provision of this title, Title 45, or Title 46 for the protection of the environment or reclamation of lands or other resources shall be in the state until the board by order releases the security. The bond or other security does not constitute an asset of the person required to provide it, and may not be cancelled, assigned, revoked, disbursed, replaced, or allowed to terminate without board approval.

9. According to SDCL 34A-10-2.2, oil and gas surety bonds held by the Board are the property of the State and are not subject to claims of third parties.

10. SDCL 34A-10-2.2 reserves solely to the Board and the State all right and title to the certificates of deposit currently being held as surety for Quartz's activities at the Northern Points 1 well. The certificates of deposit are an asset of the State.

11. SDCL 34A-10-2.3 provides:

> The state, with such board or court approval . . . may use the security as necessary for the cleanup and remediation of environmental problems related to the activity for which the security was provided. When such cleanup and remediation is complete, as certified by the board, or sufficient funds have been set aside to achieve complete remediation pursuant to a site-specific, board-approved remedial action plan, the state may proceed against any remaining security for the purpose of collecting any properly recoverable cost incurred by the state in pursuing the cleanup, environmental damages, or penalties. Until the environmental cleanup or remediation is complete, any state cost, environmental damage, and penalty judgments have been satisfied and the security has been released by the board, the security may not be assigned for the benefit of creditors, attached, garnished, levied, or executed on, or subject to process issued from any court; except for the purpose of enabling the state to effectuate the environmental cleanup or remediation.

12. The language of SDCL 34A-10-2.3 directly prohibits the attachment, garnishment, or levying of liens on such surety bonds.

13. SDCL 34A-10-2.3 makes clear that the surety held by the State cannot be "assigned for the benefit of creditors" until the Board certifies that remediation is complete or approves a remedial action plan, and the surety is released by the Board.

14. There is no genuine issue of material fact as to whether or not reclamation or remediation has been completed. Remediation is not complete as to the Northern Points 1 site.

15. The certificates of deposit at issue in this matter may be released only when remediation is complete and has been certified by the Board. Until such time as the surety is released by the Board, it is not reachable by Quartz's creditors, and the State has priority of claim to the bonds pursuant to SDCL 34A-10-2.3.

16. SDCL 45-9-15 addresses plugging and performance bonds for wells. It provides that: "The Board of Minerals and Environment may require, or may delegate to the secretary of environment and natural resources, specific authority to require the furnishing of a plugging and performance bond . . . ."

17. Because the Board asserted jurisdiction over the Quartz bonding process for Northern Points 1, the Board holds jurisdiction in this matter to release any surety held by the State.

18. It has been recognized that "[t]he Board is given the duty to perform all the necessary quasi-legislative and quasi-judicial functions necessary to carry out the state's purpose of SDCL Ch. 45-9." *Application of Kohlman*, 263 N.W.2d 674, 677 (S.D. 1978)(discussing Board of Minerals and Environment authority to set risk compensation in a compulsory pooling order). However, an administrative agency or board is still limited in its authority to those powers expressly conferred upon it by statute and those implied powers reasonably necessary to effectuate its statutory powers. *Id.* at 678.

19. Woodford argued that SDCL ch. 45-6B was applicable to the current matter. SDCL 45-6B is inapplicable in this context because that chapter applies to mined land reclamation. The provisions of SDCL 45-6B-3(10) expressly exclude oil and gas.

20. Woodford also argued that SDCL ch. 45-5A was applicable to this matter. SDCL 45-5A does not apply in this context in that said chapter is specifically designed to protect the rights of surface owners. Neither Petitioner Woodford, nor intervener Davis qualify as a surface owner.

21. Based upon the above, there is no statutory jurisdiction to allow the Board to proceed with a hearing regarding Woodford's petition.

22. Any Conclusion of Law more appropriately labeled as a Finding of Fact is hereby re-designated as such and incorporated above therein.

ORDER

Based upon the above Findings and Conclusions, Rexford Hagg, duly appointed hearing chair in the above captioned matter, hereby ORDERS that:

1. DENR's Motion for Judgment as a Matter of Law is granted;

2. Woodford's Petition Initiating a Contested Case is dismissed without prejudice; and

3. The Petition of Richard Davis, allowed by intervention, is also dismissed without prejudice.

Pursuant to ARSD 74:09:01:19 these Findings, Conclusions and Order constitute the final decision of the Board.

Dated this 21st day of May, 2015.

SOUTH DAKOTA BOARD OF
MINERALS AND ENVIRONMENT

Rexford A. Hagg
Hearing Chairman

THE PARTIES ARE ADVISED of their right, pursuant to SDCL ch. 1-26 to further appeal this Final Agency Decision and Order to the circuit court within thirty (30) days of receipt of this Decision and Order.

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

July 1, 2016

Leon Somsen
Quartz Operations, LLC
920 E. HWY. 50
Yankton, SD 57078

Re: Northern Points 1 Drill Permit

Dear Mr. Somsen:

The South Dakota Board of Minerals and Environment (the Board) held a public meeting on June 16, 2016. At that meeting, the Board directed the SD DENR to issue a Notice of Violation (NOV) pertaining to the Northern Points 1 well. Pursuant to that request, the enclosed NOV has been issued by the Department. It sets several action deadlines for Quartz: 1) If Quartz intends to contest the facts alleged within the NOV, Quartz must request a hearing within 30 days of receipt of this letter; 2) Quartz must submit a plugging plan for the Northern Points 1 well by September 1, 2016; and 3) Quartz must properly plug the Northern Points 1 well by October 31, 2016.

If Quartz fails to meet either the planning deadline or the plugging deadline stipulated in the NOV, the Board of Minerals and Environment will hold a contested case hearing on November 17, 2016 to consider action in regard to the Northern Points 1 well, including but not limited to: acting upon the plugging and performance bond, permit revocation, and pursuit of civil penalties pursuant to SDCL 45-9-68.

Please contact Bob Townsend or Mike Lees, DENR Minerals and Mining Program, at 605-773-4201 if you have questions regarding the NOV.

Sincerely,

Steven M. Pirner
Secretary

Enclosure
Cc: Mark Ekse, Hagen, Wilka & Archer, LLP, 600 S Main Suite 102, Sioux Falls, SD 57104

STATE OF SOUTH DAKOTA

SECRETARY OF THE

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF QUARTZ OPERATIONS' FAILURE TO PROPERLY PLUG THE NORTHERN POINTS 1 WELL	)))	NOTICE OF VIOLATION AND ORDER
		NOTICE OF CONTESTED CASE HEARING

TO: Leon Somsen
Quartz Operations, LLC
920 E. HWY. 50
Yankton, SD 57078

The Secretary of the Department of Environment and Natural Resources ("Department"), pursuant to South Dakota Codified Laws (SDCL) 34A-10-16 hereby gives NOTICE that Quartz Operations, LLC, ("Quartz"), 920 E. HWY. 50, Yankton, SD, 57078 has violated conditions of its Application for Permit to Drill number 2026 and Administrative Rules of South Dakota (ARSD) 74:12:03:02(4)(a)(i), SDCL 45-6C, as specified below.

The FACTS alleged to constitute these violations are as follows:

1. Quartz Operations submitted two complete applications for permits to drill oil/gas wells at the following locations:

"NORTHERN POINTS 1" WELL: Located in the Northwest Quarter of the Northwest Quarter of Section 7, Township 1 North, Range 14 East, Pennington County, South Dakota;

And

"NORTHERN POINTS 2" WELL: Located in the Northeast Quarter of the Northeast Quarter of Section 12, Township 1 North, Range 13 East, Pennington County, South Dakota.

2. As part of the applications for the permits to drill, Quartz submitted a $20,000 statewide Plugging and Performance Bond in accordance with SDCL 45-9-15.

3. The South Dakota Board of Minerals and Environment ("Board") conducted a contested case proceeding to consider issuance of the two drilling permit applications identified in #1, above on March 21, 2013.

4. Based on the Department's recommendation of conditional approval, the Board ordered the two drilling permits be issued with the following conditions:

   a. Each permit is conditioned on compliance with all applicable requirements of SDCL Title 45-9 and ARSD Article 74:12.

   b. That the operator shall submit additional surety bonds for each well to be held in addition to the $20,000 Statewide Plugging and Performance Bond already submitted. The additional bond required for the first well is $110,000 and for the second well, $130,000. The form of the surety bond may be in the form of a certificate of deposit in the name of the Board of Minerals and Environment or a surety bond. The additional bond for each well must be submitted and approved by the Department before site preparation and drilling may begin.

   c. The operator shall provide the Department with the name of the drilling contractor before the drilling commences.

   d. A 12-mil woven, reinforced high-density polyethylene liner must be used for pits or cuttings storage areas.

   e. Surface runoff must be diverted around the drill site.

   f. The surface hole must be drilled with fresh water.

   g. Cement must be circulated to the ground surface on the surface casing.

   h. Vertical deviation survey results must be submitted to the department within 30 days of completion of the well pursuant to rule 74:12:02:15.

   i. If production casing is set:

(1). The casing and cementing program submitted with the application, including cementing the production casing from total depth to surface, shall be followed.

(2). A cement bond log must be run and filed with the department within 60 days of completion of the well as required by rule 74:12:02:12.

(3). A completion report must be submitted to the department within 30 days of completion of the well as required by rule 74:12:02:17.

j. Technical reports and well logs must be submitted to the department as required by rule 74:12:02:17.

k. If abandoned:

(1). If production casing is left in the wellbore, a mechanical integrity test (MIT) must be conducted to verify the integrity of the casing as required by rule 74:12:03:02(4)(b)(ii).

(2). With production casing:

(a). A cast iron bridge plug and a 20-foot cement plug must be installed immediately above any perforations.

(b). If a portion of the production casing is retrieved, a 100-foot cement plug, half in and half out of the top of the casing stub after the retrievable part of the production casing has been removed, must be installed.

(c). A 100-foot cement plug, half in and half out of the top of the following formations: Deadwood, Red River, Interlake, Minnelusa, Minnekahta, and Inyan Kara, must be installed.

(d). A 100-foot cement plug, half in and half out of the base of the surface casing, must be installed.

(e). A 25-foot cement plug must be installed at the top of the surface casing.

(3). Without production casing:

(a). 100-foot cement plugs must be installed, half in and half out of the top of the following formations: Deadwood, Red River, Interlake, Madison, Minnelusa, Minnekahta, and Inyan Kara.

(b). A 100-foot cement plug, half in and half out of the base of the surface casing, must be installed.

(c). A 25-foot cement plug must be installed at the top of the surface casing.

(d). Heavy, mud-laden fluid must be used between all open hole plugs.

(4). The casing string must be cut off at least three feet below the final ground surface contour. A plate with the name of the operator, well name and number, and legal location by quarter-quarter section, township and range must be welded to the casing stub. The location of the abandoned well must be surveyed with high resolution global positioning system equipment or other appropriate survey methods sufficient to accurately locate the well. Survey coordinates must be included in the final abandonment report.

(5). A plugging report must be submitted to the department within 30 days after plugging and abandonment operations are complete as required by rule 74:12:03:01.

l. Surface reclamation of the site must be completed within one year of plugging and abandoning the well.

m. A washed set of sample cuttings (or cores, if cut) must be shipped, free of charge, to:

Derric Iles

Geological Survey Program

Akeley-Lawrence Science Center

University of South Dakota

414 Clark Street

Vermillion, SD 57069-2390

5. Quartz submitted a certificate of deposit in the amount of $110,000 on March 21, 2013 to cover plugging and performance liability for the Northern Points 1 well in accordance with condition 4.b., above.

6. The application for permit to drill number 2027 for the Northern Points 2 well was never utilized by Quartz, and expired on March 21, 2014 pursuant to ARSD 74:12:02:03.

7. Quartz constructed a drilling pad location for the Northern Points 1 well and commenced drilling the well on April 2, 2013.

8. Quartz lost drilling fluid circulation on the Northern Points 1 well after penetrating the Madison Formation at a depth of approximately 4,800 feet on April 12, 2013. Loss of circulation occurred as the drillstem penetrated zones of high porosity in the upper Madison Formation.

9. On April 17, 2013, while attempting to correct fluid circulation problems at the Northern Points 1 drill site, Quartz's drillstem became stuck in the borehole at a depth of approximately 2,800 feet.

10. Between April 17, 2013 and April 29, 2013, Quartz attempted to retrieve the stuck drillstem, but was unable to retrieve a section of drillstem approximately 150 feet in length. The stuck drillstem includes a drill bit, a mud motor, drill collars, and drill pipe lodged within the Northern Points 1 borehole between the depths of approximately 2,600 feet and 2,750 feet.

11. Quartz was unable to reenter the 2,106 feet of the Northern Points 1 open borehole that lie below the 150-foot section of stuck drillstem. Because Quartz was unable to reenter the

lower portion of the borehole, plugging the isolated section of borehole would require directional drilling around the stuck drillstem.

12. The open borehole that lies below the 150-foot section of stuck drillstem penetrates the Inyan Kara, Minnekahta, Minnelusa, and Madison aquifers and is not cased with production casing.

13. In accordance with ARSD 74:12:03:02(4)(a)(i), which pertains to plugging of wells without production casing, all aquifers, salt zones, and fluid-bearing formations must be sealed or separated with individual cement plugs, circulated to fill at least 100 feet of hole. Each individual cement plug must be at least 50 feet above the top of these formations, as specified by the secretary.

14. Condition 4.k.(3)(a) above requires placement of 100-foot cement plugs, half in and half out of the top of the Inyan Kara, Minnekahta, Minnelusa, and Madison aquifers.

15. Quartz submitted a Sundry Notice and Report on Wells on May 7, 2013 notifying the department of Quartz's intention to plug and abandon the Northern Points 1 well. The plugging plan described in the Sundry Notice consisted of placing cement plugs only in the upper portion of the Northern Points 1 borehole. The plugging plan did not make provision for plugging the 2,106 feet of uncased borehole lying below the stuck drillstem.

16. On May 7, 2013 Quartz informed the department by phone that Quartz did not have the financial resources necessary to plug the Northern Points 1 well in accordance with state rules.

17. On May 11, 2013 Quartz attempted to plug the upper 2,594 feet of the Northern Points 1 well, but was unable to accomplish its unapproved plugging plan because the borehole collapsed at a depth of approximately 1,030 feet.

18. On May 12, 2013 Quartz attempted to drill through the collapsed section of borehole at a depth of approximately 1,030 feet, but was unable to do so due to continued collapse of the borehole wall at depths between 1,000 and 1,100 feet. Subsequently, Quartz managed to plug only the upper 1,090 feet of the borehole by placing a cement plug between 795 and 1,090 feet in depth, and another plug from the surface to 70 feet in depth.

19. The Inyan Kara Aquifer in the vicinity of Northern Points 1 is characterized by good water quality with total dissolved solids ranging from approximately 500 to 800 parts per million, and is utilized as a municipal and domestic source of fresh water.

20. Based on regional water quality estimates, the Minnelusa Aquifer in the vicinity of the Northern Points 1 well is characterized by relatively poor water quality, with approximately 25,000 parts per million total dissolved solids.

21. Based on regional water level data, the potentiometric surface of the Minnelusa Aquifer is higher than the elevation of the Inyan Kara Aquifer in the vicinity of the Northern Points 1 well due to artesian pressure. Therefore, the unplugged portion of the Northern Points 1 wellbore provides a pathway for upward flow of poorer-quality Minnelusa ground water into the Inyan Kara Aquifer.

22. Failure to plug the Northern Points 1 well in accordance with condition 4.k.(3), above, is a violation of Quartz's drilling permit and ARSD 74:12:03:02(4)(a)(i).

ORDER

WHEREFORE, as a result of these FACTS and VIOLATIONS, and pursuant to SDCL 34A-10-16 the Secretary of the South Dakota Department of Environment and Natural Resources hereby ORDERS that the following corrective actions be taken by Quartz:

1. Quartz shall submit a plugging plan for the Northern Points 1 well to the department by September 1, 2016. The plan must include a budget and implementation schedule developed in consultation with a well services company approved by the department.

2. Quartz shall plug the Northern Points 1 well in accordance with Condition 4.k.(3)(a) of the application for permit to drill number 2026 and ARSD 74:12:03:02(4)(a)(i) by October 31, 2016.

NOTICE IS HEREBY GIVEN that this Notice of Violation is effective thirty days from its issuance, unless Quartz submits a written request for a hearing before the Secretary regarding the allegations. The written request must be filed before the expiration of thirty days, by delivery to: Secretary, Department of Environment and Natural Resources, 523 East Capitol Ave., Pierre, SD 57501-3182. NOTICE IS ALSO GIVEN THAT, should Quartz fail to request a hearing within that time, the allegations stated herein shall be deemed fact and the Notice of Violation shall be immediately effective.

NOTICE IS HEREBY GIVEN that if Quartz fails to meet either the planning deadline or the plugging deadline ordered above, the Board of Minerals and Environment will hold a contested case hearing on November 17, 2016 to consider action in regard to the Northern Points 1 well including but not limited to acting upon the plugging and performance bond, permit revocation, and pursuit of civil penalties pursuant to SDCL 45-9-68.

NOTICE IS ALSO HEREBY GIVEN that these violations, as well as a failure to comply with the provisions of the Order, may subject Quartz to injunctive legal action pursuant to SDCL 34A-10-2.5, and to legal action for civil penalties and for damages to the natural resources pursuant to SDCL 45-9-68.

This Notice of Violation does not constitute a waiver or election by the State to forego civil or criminal action of any kind, including actions to seek penalties or other relief as the State may deem appropriate under the provisions of SDCL Chapters 34A-10 and 45-9.

Dated and signed this 1st day of July, 2016.

Steven M. Pirner
Secretary
Department of Environment and Natural Resources

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

BOARD OF MINERALS AND ENVIRONMENT

IN THE MATTER OF QUARTZ OPERATIONS, LLC. NORTHERN POINTS 1 WELL; DENR PETITION TO REVOKE PERMIT AND PETITION TO FORFEIT SURETY (O & G Permit No. 2026)	))))))))	CERTIFICATE OF SERVICE

The undersigned hereby certifies that the original of the Department's Petition to Revoke Drilling Permit and Petition for Forfeiture of Surety, along with the Notice of Hearing, and Motion for Appointment of Hearing Chair were filed with:

Brenda Binegar
DENR Minerals & Mining Program
523 E. Capitol Ave.
Pierre, SD 57501

Further, the undersigned certifies that true and correct copies of the above referenced documents were served by United States Mail, first class, postage prepaid upon the following:

Quartz Operations, LLC
Attn. Mark Ekse
Hagen, Wilka & Archer
600 S. Main, Suite 102
P.O. Box 964
Sioux Falls, SD 57104

Tom Brady
Lynn, Jackson, Shultz & Lebrun
135 E. Colorado Blvd
P.O. Box 8250
Spearfish, SD 57783

Craig Perry
Craig K. Perry & Associates
8010 W. Sahara Ave., Suite 260
Las Vegas, NV 89117

Rex Hagg
601 West Blvd
P.O. Box 8008
Rapid City, SD 57709

And hand delivered to:

Charles McGuigan
Chief Deputy Attorney General
1302 E. Highway 14, Suite 1
Pierre, SD 57501

On this 20th day of October, 2016.

Steven R. Blair
Ellie Bailey
Assistant Attorneys General
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Telephone: (605) 773-3215
Steve.Blair@state.sd.us
Ellie.Bailey@state.sd.us

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

BOARD OF MINERALS AND ENVIRONMENT

IN THE MATTER OF QUARTZ OPERATIONS, LLC. NORTHERN POINTS 1 WELL; DENR PETITION TO REVOKE PERMIT AND PETITION TO FORFEIT SURETY (O & G Permit No. 2026)	)	MOTION FOR APPOINTMENT OF HEARING CHAIR

The Department of Environment and Natural Resources (DENR), pursuant to ARSD § 74:09:01:08, hereby moves for the appointment of a member of the Board of Minerals and Environment to sit as hearing chair for any proceedings involving the above captioned matter.

Dated this 19th day of October, 2016.

Steven R. Blair
Ellie J. Bailey
Assistant Attorneys General
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Telephone: (605) 773-3215
Steve.Blair@state.sd.us
Ellie.Bailey@state.sd.us

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

July 1, 2016

Leon Somsen
Quartz Operations, LLC
920 E. HWY. 50
Yankton, SD 57078

Re: Northern Points 1 Drill Permit

Dear Mr. Somsen:

The South Dakota Board of Minerals and Environment (the Board) held a public meeting on June 16, 2016. At that meeting, the Board directed the SD DENR to issue a Notice of Violation (NOV) pertaining to the Northern Points 1 well. Pursuant to that request, the enclosed NOV has been issued by the Department. It sets several action deadlines for Quartz: 1) If Quartz intends to contest the facts alleged within the NOV, Quartz must request a hearing within 30 days of receipt of this letter; 2) Quartz must submit a plugging plan for the Northern Points 1 well by September 1, 2016; and 3) Quartz must properly plug the Northern Points 1 well by October 31, 2016.

If Quartz fails to meet either the planning deadline or the plugging deadline stipulated in the NOV, the Board of Minerals and Environment will hold a contested case hearing on November 17, 2016 to consider action in regard to the Northern Points 1 well, including but not limited to: acting upon the plugging and performance bond, permit revocation, and pursuit of civil penalties pursuant to SDCL 45-9-68.

Please contact Bob Townsend or Mike Lees, DENR Minerals and Mining Program, at 605-773-4201 if you have questions regarding the NOV.

Sincerely,

Steven M. Pirner
Secretary

Enclosure
Cc: Mark Ekse, Hagen, Wilka & Archer, LLP, 600 S Main Suite 102, Sioux Falls, SD 57104

STATE OF SOUTH DAKOTA

SECRETARY OF THE

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF QUARTZ OPERATIONS' FAILURE TO PROPERLY PLUG THE NORTHERN POINTS 1 WELL	)))	NOTICE OF VIOLATION AND ORDER

NOTICE OF CONTESTED CASE HEARING

TO: Leon Somsen
Quartz Operations, LLC
920 E. HWY. 50
Yankton, SD 57078

The Secretary of the Department of Environment and Natural Resources ("Department"), pursuant to South Dakota Codified Laws (SDCL) 34A-10-16 hereby gives NOTICE that Quartz Operations, LLC, ("Quartz"), 920 E. HWY. 50, Yankton, SD, 57078 has violated conditions of its Application for Permit to Drill number 2026 and Administrative Rules of South Dakota (ARSD) 74:12:03:02(4)(a)(i), SDCL 45-6C, as specified below.

The FACTS alleged to constitute these violations are as follows:

1. Quartz Operations submitted two complete applications for permits to drill oil/gas wells at the following locations:

"NORTHERN POINTS 1" WELL: Located in the Northwest Quarter of the Northwest Quarter of Section 7, Township 1 North, Range 14 East, Pennington County, South Dakota;

And

"NORTHERN POINTS 2" WELL: Located in the Northeast Quarter of the Northeast Quarter of Section 12, Township 1 North, Range 13 East, Pennington County, South Dakota.

2. As part of the applications for the permits to drill, Quartz submitted a $20,000 statewide Plugging and Performance Bond in accordance with SDCL 45-9-15.

3. The South Dakota Board of Minerals and Environment ("Board") conducted a contested case proceeding to consider issuance of the two drilling permit applications identified in #1, above on March 21, 2013.

4. Based on the Department's recommendation of conditional approval, the Board ordered the two drilling permits be issued with the following conditions:

    a. Each permit is conditioned on compliance with all applicable requirements of SDCL Title 45-9 and ARSD Article 74:12.

    b. That the operator shall submit additional surety bonds for each well to be held in addition to the $20,000 Statewide Plugging and Performance Bond already submitted. The additional bond required for the first well is $110,000 and for the second well, $130,000. The form of the surety bond may be in the form of a certificate of deposit in the name of the Board of Minerals and Environment or a surety bond. The additional bond for each well must be submitted and approved by the Department before site preparation and drilling may begin.

    c. The operator shall provide the Department with the name of the drilling contractor before the drilling commences.

    d. A 12-mil woven, reinforced high-density polyethylene liner must be used for pits or cuttings storage areas.

    e. Surface runoff must be diverted around the drill site.

    f. The surface hole must be drilled with fresh water.

    g. Cement must be circulated to the ground surface on the surface casing.

    h. Vertical deviation survey results must be submitted to the department within 30 days of completion of the well pursuant to rule 74:12:02:15.

    i. If production casing is set:

(1). The casing and cementing program submitted with the application, including cementing the production casing from total depth to surface, shall be followed.

(2). A cement bond log must be run and filed with the department within 60 days of completion of the well as required by rule 74:12:02:12.

(3). A completion report must be submitted to the department within 30 days of completion of the well as required by rule 74:12:02:17.

j. Technical reports and well logs must be submitted to the department as required by rule 74:12:02:17.

k. If abandoned:

(1). If production casing is left in the wellbore, a mechanical integrity test (MIT) must be conducted to verify the integrity of the casing as required by rule 74:12:03:02(4)(b)(ii).

(2). With production casing:

(a). A cast iron bridge plug and a 20-foot cement plug must be installed immediately above any perforations.

(b). If a portion of the production casing is retrieved, a 100-foot cement plug, half in and half out of the top of the casing stub after the retrievable part of the production casing has been removed, must be installed.

(c). A 100-foot cement plug, half in and half out of the top of the following formations: Deadwood, Red River, Interlake, Minnelusa, Minnekahta, and Inyan Kara, must be installed.

(d). A 100-foot cement plug, half in and half out of the base of the surface casing, must be installed.

(e). A 25-foot cement plug must be installed at the top of the surface casing.

(3). Without production casing:

(a). 100-foot cement plugs must be installed, half in and half out of the top of the following formations: Deadwood, Red River, Interlake, Madison, Minnelusa, Minnekahta, and Inyan Kara.

(b). A 100-foot cement plug, half in and half out of the base of the surface casing, must be installed.

(c). A 25-foot cement plug must be installed at the top of the surface casing.

(d). Heavy, mud-laden fluid must be used between all open hole plugs.

(4). The casing string must be cut off at least three feet below the final ground surface contour. A plate with the name of the operator, well name and number, and legal location by quarter-quarter section, township and range must be welded to the casing stub. The location of the abandoned well must be surveyed with high resolution global positioning system equipment or other appropriate survey methods sufficient to accurately locate the well. Survey coordinates must be included in the final abandonment report.

(5). A plugging report must be submitted to the department within 30 days after plugging and abandonment operations are complete as required by rule 74:12:03:01.

l. Surface reclamation of the site must be completed within one year of plugging and abandoning the well.

m. A washed set of sample cuttings (or cores, if cut) must be shipped, free of charge, to:

Derric Iles

Geological Survey Program

Akeley-Lawrence Science Center

University of South Dakota

414 Clark Street

Vermillion, SD 57069-2390

5. Quartz submitted a certificate of deposit in the amount of $110,000 on March 21, 2013 to cover plugging and performance liability for the Northern Points 1 well in accordance with condition 4.b., above.
6. The application for permit to drill number 2027 for the Northern Points 2 well was never utilized by Quartz, and expired on March 21, 2014 pursuant to ARSD 74:12:02:03.
7. Quartz constructed a drilling pad location for the Northern Points 1 well and commenced drilling the well on April 2, 2013.
8. Quartz lost drilling fluid circulation on the Northern Points 1 well after penetrating the Madison Formation at a depth of approximately 4,800 feet on April 12, 2013. Loss of circulation occurred as the drillstem penetrated zones of high porosity in the upper Madison Formation.
9. On April 17, 2013, while attempting to correct fluid circulation problems at the Northern Points 1 drill site, Quartz's drillstem became stuck in the borehole at a depth of approximately 2,800 feet.
10. Between April 17, 2013 and April 29, 2013, Quartz attempted to retrieve the stuck drillstem, but was unable to retrieve a section of drillstem approximately 150 feet in length. The stuck drillstem includes a drill bit, a mud motor, drill collars, and drill pipe lodged within the Northern Points 1 borehole between the depths of approximately 2,600 feet and 2,750 feet.
11. Quartz was unable to reenter the 2,106 feet of the Northern Points 1 open borehole that lie below the 150-foot section of stuck drillstem. Because Quartz was unable to reenter the

lower portion of the borehole, plugging the isolated section of borehole would require directional drilling around the stuck drillstem.

12. The open borehole that lies below the 150-foot section of stuck drillstem penetrates the Inyan Kara, Minnekahta, Minnelusa, and Madison aquifers and is not cased with production casing.

13. In accordance with ARSD 74:12:03:02(4)(a)(i), which pertains to plugging of wells without production casing, all aquifers, salt zones, and fluid-bearing formations must be sealed or separated with individual cement plugs, circulated to fill at least 100 feet of hole. Each individual cement plug must be at least 50 feet above the top of these formations, as specified by the secretary.

14. Condition 4.k.(3)(a) above requires placement of 100-foot cement plugs, half in and half out of the top of the Inyan Kara, Minnekahta, Minnelusa, and Madison aquifers.

15. Quartz submitted a Sundry Notice and Report on Wells on May 7, 2013 notifying the department of Quartz's intention to plug and abandon the Northern Points 1 well. The plugging plan described in the Sundry Notice consisted of placing cement plugs only in the upper portion of the Northern Points 1 borehole. The plugging plan did not make provision for plugging the 2,106 feet of uncased borehole lying below the stuck drillstem.

16. On May 7, 2013 Quartz informed the department by phone that Quartz did not have the financial resources necessary to plug the Northern Points 1 well in accordance with state rules.

17. On May 11, 2013 Quartz attempted to plug the upper 2,594 feet of the Northern Points 1 well, but was unable to accomplish its unapproved plugging plan because the borehole collapsed at a depth of approximately 1,030 feet.

18. On May 12, 2013 Quartz attempted to drill through the collapsed section of borehole at a depth of approximately 1,030 feet, but was unable to do so due to continued collapse of the borehole wall at depths between 1,000 and 1,100 feet. Subsequently, Quartz managed to plug only the upper 1,090 feet of the borehole by placing a cement plug between 795 and 1,090 feet in depth, and another plug from the surface to 70 feet in depth.

19. The Inyan Kara Aquifer in the vicinity of Northern Points 1 is characterized by good water quality with total dissolved solids ranging from approximately 500 to 800 parts per million, and is utilized as a municipal and domestic source of fresh water.

20. Based on regional water quality estimates, the Minnelusa Aquifer in the vicinity of the Northern Points 1 well is characterized by relatively poor water quality, with approximately 25,000 parts per million total dissolved solids.

21. Based on regional water level data, the potentiometric surface of the Minnelusa Aquifer is higher than the elevation of the Inyan Kara Aquifer in the vicinity of the Northern Points 1 well due to artesian pressure. Therefore, the unplugged portion of the Northern Points 1 wellbore provides a pathway for upward flow of poorer-quality Minnelusa ground water into the Inyan Kara Aquifer.

22. Failure to plug the Northern Points 1 well in accordance with condition 4.k.(3), above, is a violation of Quartz's drilling permit and ARSD 74:12:03:02(4)(a)(i).

ORDER

WHEREFORE, as a result of these FACTS and VIOLATIONS, and pursuant to SDCL 34A-10-16 the Secretary of the South Dakota Department of Environment and Natural Resources hereby ORDERS that the following corrective actions be taken by Quartz:

1. Quartz shall submit a plugging plan for the Northern Points 1 well to the department by September 1, 2016. The plan must include a budget and implementation schedule developed in consultation with a well services company approved by the department.

2. Quartz shall plug the Northern Points 1 well in accordance with Condition 4.k.(3)(a) of the application for permit to drill number 2026 and ARSD 74:12:03:02(4)(a)(i) by October 31, 2016.

NOTICE IS HEREBY GIVEN that this Notice of Violation is effective thirty days from its issuance, unless Quartz submits a written request for a hearing before the Secretary regarding the allegations. The written request must be filed before the expiration of thirty days, by delivery to: Secretary, Department of Environment and Natural Resources, 523 East Capitol Ave., Pierre, SD 57501-3182. NOTICE IS ALSO GIVEN THAT, should Quartz fail to request a hearing within that time, the allegations stated herein shall be deemed fact and the Notice of Violation shall be immediately effective.

NOTICE IS HEREBY GIVEN that if Quartz fails to meet either the planning deadline or the plugging deadline ordered above, the Board of Minerals and Environment will hold a contested case hearing on November 17, 2016 to consider action in regard to the Northern Points 1 well including but not limited to acting upon the plugging and performance bond, permit revocation, and pursuit of civil penalties pursuant to SDCL 45-9-68.

NOTICE IS ALSO HEREBY GIVEN that these violations, as well as a failure to comply with the provisions of the Order, may subject Quartz to injunctive legal action pursuant to SDCL 34A-10-2.5, and to legal action for civil penalties and for damages to the natural resources pursuant to SDCL 45-9-68.

This Notice of Violation does not constitute a waiver or election by the State to forego civil or criminal action of any kind, including actions to seek penalties or other relief as the State may deem appropriate under the provisions of SDCL Chapters 34A-10 and 45-9.

Dated and signed this 1st day of July, 2016.

Steven M. Pirner
Secretary
Department of Environment and Natural Resources