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SOLID AND HAZARDOUS
WASTE DIVISION

AUG 25 2011

August 25, 2011

Mr. John Corra, Director
Wyoming Department of Environmental Quality
122 West 25th Street
Cheyenne, WY 82002

Jim Ruby, Executive Secretary
Environmental Quality Council

RE: Proposed Renewal Permit, Sand Draw Landfill (SHWD File #10.195), Fremont County,
Wyoming

Dear Mr. Corra:

The Fremont County Solid Waste Disposal District (FCSWDD) has been attempting to work with the Wyoming Department of Environmental Quality (DEQ) to successfully complete renewal of a Sanitary Landfill Permit (Permit) for the Sand Draw Landfill in accordance with Chapter 2 of the Solid Waste Rules and Regulations. On July 22, 2011, the FCSWDD published a public notice regarding a proposed Permit drafted by the DEQ for the Sand Draw Landfill. Publication of the public notice was required by the DEQ. The FCSWDD published the notice despite its objections to the proposed Permit in order to comply with DEQ requirements. The purpose of this letter is to respectfully:

- Summarize the sequence of events leading to the publication of the public notice for the proposed permit;
- Provide comments on the DEQ's May 17, 2011 final review of the December 23, 2011 permit application;
- Identify objections regarding the proposed Permit; and
- Request a hearing before the Environmental Quality Council (EQC).

The FCSWDD's objections to the proposed permit are summarized as follows:

1. The DEQ has issued multiple reviews with inconsistent comments and regulatory interpretations, without providing the FCSWDD with a reasonable opportunity to respond.
2. The DEQ has proposed omitting scientific data that has been used by the FCSWDD's professional geologist to support the characterization and interpretation of the site hydrogeology.
3. The DEQ's objections to the proposed vertical expansion over existing wastes are unsupported by the scientific data and analysis provided in the permit application, and inconsistent with solid waste statutes, rules and regulations.

CHRONOLOGY

The following information is provided to summarize the sequence of events leading to the publication of the public notice for the proposed permit. This information provides a context for subsequent comments and objections.

- October 28, 2008 The DEQ issued a Notice of Violation and Order (Docket No. 4384-08) to the FCSWDD for alleged violations of Solid Waste Chapters 1 and 2 at the Sand Draw Landfill. The Order required submission of a renewal permit application by May 31, 2009.
- January 11, 2010 The FCSWDD submitted a renewal permit application for the Sand Draw Landfill. The proposed design estimated that the Original Area would reach capacity in 2041.
- February 2, 2010 The DEQ filed a Civil Complaint (No. 175-570) to require the FCSWDD to come into compliance with Solid Waste Chapters 1 and 2 and the October 28, 2010 Order (Docket No. 4384-08), and assess penalties.
- June 17, 2010 The DEQ completed its review of the FCSWDD's January 11, 2010 permit application, and determined that it was incomplete and technically inadequate. Section 4.4 of the DEQ's review indicated that the portion of the application addressing the site capacity and life was complete and technically inadequate. The DEQ comments indicated that this section of the application was technically inadequate because the site capacity and life information, which were included as an appendix, were not summarized in the narrative, and that there were some inconsistencies in the information provided in various portions of the document. The DEQ's comments did not raise questions or concerns regarding the estimated life of the Original Area (2041).
- July 21, 2010 The DEQ and the FCSWDD met to discuss settlement of the DEQ's civil complaint. At this meeting, the DEQ indicated that they thought the facility should close as soon as possible (e.g., 2016). The FCSWDD indicated that this would create a financial hardship, there was significant available capacity, and placement of additional wastes would facilitate achieving grades that would allow proper closure of the facility.
- September 30, 2010 The DEQ and the FCSWDD filed a Consent Decree to settle litigation regarding the DEQ's Civil Complaint. The Consent Decree required the FCSWDD to submit a renewal application no later than December 31, 2010.
- October 19, 2010 The DEQ and the FCSWDD met to discuss the permitting of the Sand Draw Landfill.
- October 20, 2010 The DEQ and the FCSWDD held a monthly project status meeting, which included a discussion of the proposed design and estimated life of the Original

Area. The discussion noted a discrepancy between the DEQ's interest to close the facility sooner (e.g., 2016) and the FCSWDD's interest closing later (e.g., 2036). Discussion also included the scope of work for evaluating potential impacts to groundwater, including: predictive water-balance modeling, statistical analysis of available groundwater data, proposed measures to limit potential impacts, and a schedule for the design, permitting and construction of an engineered containment system for the Expansion Area.

- October 28, 2010 The DEQ sent a letter to the FCSWDD, which was received on November 1, 2010. The letter summarized the DEQ's interpretation of discussions between the DEQ and the FCSWDD on October 19 and 20. The letter also proposed to permit the Original Area to receive waste until 2028.
- December 10, 2010 The DEQ and the FCSWDD held a monthly project status meeting, which included a discussion of the proposed design and estimated life of the Original Area. The FCSWDD informed DEQ that the proposed design was based on amount of time (approximately 2037) required to reach final grades that are necessary to provide adequate drainage for the final cover system. The DEQ indicated that they may provide comments on the proposed site life in its review.
- December 23, 2010 The FCSWDD sent a letter to the DEQ regarding the FCSWDD's interpretation of discussions with the DEQ on October 19, and the DEQ's letter of October 28, 2010. The FCSWDD correspondence clarified that the Board had not agreed to close the Original Area at the Sand Draw Landfill as soon as possible, and that the Board wanted to utilize as much of the proposed vertical expansion capacity as possible.
- December 23, 2010 The FCSWDD submitted an initial renewal permit application to the DEQ, which was received on December 27, 2010. The permit application indicated the Original Area was expected to reach capacity (i.e., final grades) in approximately 2037.
- March 25, 2011 The DEQ completed its first review of the FCSWDD's initial renewal permit application. The DEQ's review was transmitted in correspondence dated March 28, and received by the FCSWDD on March 30, 2011. The DEQ's first review:
- Identified three deficiencies;
 - Identified eight complete and technically adequate issues, with comments;
 - Indicated three issues were not evaluated, with comments;
 - Limited the life of unlined Original Area to 2018; and
 - Imposed a requirement for an engineered containment system (ECS) for the proposed vertical expansion of the Original Area on the basis that it constituted a "new cell/unit".

- April 11, 2011 The FCSWDD sent a letter to the DEQ, which was received on April 13, 2011. The FCSWDD's letter:
- Raised questions regarding the DEQ's basis for imposing the ECS requirement for the proposed vertical expansion of the existing Original Area; and
 - Requested a meeting with the DEQ by April 22, 2011 in order to resolve discrepancies in understanding, discuss the technical/regulatory basis for issues/comments identified as part of the March 25, 2011, and continue making progress on the renewal Permit as expeditiously as possible.
- April 28, 2011 The DEQ was not available to meet with the FCSWDD by April 22, 2011 and did not propose an alternative meeting date, so the FCSWDD filed a Petition for Review Determination with the EQC (Docket No. 11-5601).
- May 9, 2011 The DEQ sent a letter to the FCSWDD, which was received on May 10, 2011. The DEQ letter:
- Stated that the DEQ received and reviewed the FCSWDD's April 11, 2011 correspondence; and
 - Stated that the proposed Permit will be suitable for publication with certain conditions.
- May 10, 2011 The FCSWDD called the DEQ to discuss the review and Permit conditions referenced in the DEQ's May 9, 2011 letter. The DEQ indicated that no additional information was currently available, but that the DEQ's review and proposed Permit would be provided at a later date.
- May 10, 2011 The DEQ sent a letter to the FCSWDD, which was received on May 13, 2011. The DEQ's letter:
- Confirmed receipt of the FCSWDD's letter dated April 11, 2011;
 - Confirmed that the DEQ was unable to meet with the FCSWDD prior to the FCSWDD filing its petition to the EQC; and
 - Stated that the DEQ would be providing a response regarding the permit application (*see* May 9 correspondence from DEQ).
- May 12, 2011 The DEQ filed an initial Motion to Dismiss the FCSWDD's petition with the EQC on grounds that "the EQC lacked subject matter jurisdiction".
- May 23, 2011 The DEQ transmitted a second and final review (dated May 17, 2011) of the FCSWDD's initial permit application, which was received on May 25, 2011. The DEQ's second and final review:
- Omitted previous review comments that the proposed vertical expansion of the Original Area constituted a new cell, and thus required an ECS;

- Indicated the FCSWDD's initial permit application was complete and technically adequate with three permit conditions;
NOTE: This was a new finding relative to the DEQ's first review.
- Stated that the facility has "altered" groundwater;
NOTE: This was a new finding relative to the DEQ's first review.
- Provided a public notice and a request to publish; and
- Provided a proposed Permit.

June 2, 2011 The DEQ filed a second Motion to Dismiss the FCSWDD's petition to the EQC on the grounds that it was moot because the DEQ's previous determination that the proposed vertical expansion of the Original Area constituted a new cell or unit, had been removed from the proposed permit.

June 3, 2011 The FCSWDD filed a Response to DEQ's Motion to Dismiss the FCSWDD's petition to the EQC for "mootness" because the DEQ acquiesced and removed its position that the vertical expansion of the Original Area constituted a new cell or unit.

June 6, 2011 The EQC filed an Order of Dismissal for Mootness regarding the FCSWDD's petition to the EQC.

June 6, 2011 The FCSWDD sent a letter to the DEQ in response to the DEQ's May 23, 2011 correspondence. The FCSWDD's letter:

- Identified objections to the proposed permit and the public notice;
- Stated that the FCSWDD's consultant was prepared to clarify its professional geologist certification of information provided as an appendix;
- Raised questions regarding the basis of the DEQ's assertion that the facility has altered groundwater quality;
- Requested classification of groundwater and identification of protection standards;
- Stated that the FCSWDD was preparing to submit a revised permit application document; and
- Stated that the FCSWDD was interested in meeting with the DEQ to discuss the noted issues.

July 1, 2011 The DEQ sent a letter to the FCSWDD, which was received on July 7, 2011. The DEQ's letter:

- Stated that the DEQ received the FCSWDD's June 6, 2011 letter;
- Committed to classifying groundwater and establishing groundwater protection standards by January 1, 2013; and
- Provided a revised public notice and a request to publish the public notice.

- July 11, 2011 The FCSWDD called the DEQ and requested a meeting to discuss the permit application process.
- July 18, 2011 The FCSWDD and the DEQ met to discuss the permit application process. The FCSWDD reviewed project goals, efforts to complete the permitting process, outstanding issues, ongoing activities to provide additional data and analysis to the DEQ, and options for moving the permitting process toward completion. The FCSWDD indicated that the two most critical outstanding issues were the alleged alteration of groundwater, and the associated impacts on the design and life of the Original Area. The FCSWDD indicated that it needed to make timely and informed decisions regarding the future of solid waste management in Fremont County, including the design and life of the Original Area at the Sand Draw Landfill. To do this, the FCSWDD indicated that it wanted to pursue resolution of the two outstanding issues as part of the current permit application process, rather than deferring the issues to a later date.
- In the course of the meeting, both parties “agreed to disagree” regarding the alleged alteration of groundwater and the associated implications on the design and operating life of the Original Area. The DEQ also indicated that it was unwilling to delay the current permitting process, so that the FCSWDD could pursue resolution of the two outstanding issues.
- July 22, 2011 With the consent of the DEQ, the public notice prepared by the DEQ was revised to state that the FCSWDD was publishing the public notice to comply with solid waste rules, but that the FCSWDD intended to file formal written objections to the proposed Permit. The FCSWDD subsequently published the public notice, which identified the beginning (July 22, 2011) and end (August 29, 2011) of the public comment period.

COMMENTS

The FCSWDD offers the following comments regarding the permit application process leading to the issuance of the proposed Permit.

1. The FCSWDD has attempted to respond in a timely manner to all DEQ communication, and openly invited the DEQ to meet and pursue collaborative resolution of outstanding issues associated with preparation and review of the FCSWDD’s December 23, 2010 permit application.
2. Since October of 2010, the DEQ has proposed a variety of closure dates for the Original Area, including 2016, 2027, and 2018. It was not until May 23, 2011, that the DEQ proposed a closure date (2018) referencing an alleged violation of a regulation. As noted below, the FCSWDD objects to the alleged violation referenced in the DEQ’s May 23, 2011 correspondence. To date, the DEQ has not provided a technical, regulatory, or statutory justification for the specific closure dates that have been proposed.

3. The DEQ has taken actions to move the permit process forward, despite repeated requests by the FCSWDD for clarification of critical issues and justification for DEQ determinations. The DEQ's actions and lack of timely response to requests for information are hindering the FCSWDD's efforts to make informed decisions and responsibly plan for the future of solid waste management in Fremont County.

OBJECTIONS

The FCSWDD offers the following specific objections to the proposed Permit, provided by the DEQ on May 23, 2011. Statements of fact supporting the noted objections are also provided for consideration.

1. The FCSWDD objects to the issuance of a second, final review of the permit application and a proposed Permit with conditions before the FCSWDD has had a reasonable opportunity to respond to comments provided by the DEQ's first and second reviews of the permit application.

The DEQ's first review (March 25, 2011) of the FCSWDD's first permit application (December 23, 2010) identified a number of deficiencies that needed to be addressed in order for the DEQ to issue a renewal permit (*reference* DEQ correspondence dated March 28, 2011, third paragraph). The DEQ's review did not identify a deadline for providing a response.

Within 12 days of receiving the DEQ's first review, the FCSWDD proactively responded in writing to question a specific determination by the DEQ (i.e., that a vertical expansion constituted a new cell, which requires an ECS), and requested a meeting with the DEQ to discuss the issue. The DEQ was unavailable for a meeting during the two weeks following its receipt of the FCSWDD's letter requesting a meeting, and did not indicate that a meeting was forthcoming. In an effort to expedite the resolution of this important issue, the FCSWDD filed a Petition for Review Determination before the EQC.

Although no additional information was provided by the FCSWDD, the DEQ issued a second review of the FCSWDD's first application, and omitted the contested determination that the proposed vertical expansion of the Original Area constituted a new cell or unit which required an ECS. The DEQ's second review was issued while the FCSWDD's petition regarding the DEQ's first review was still pending before the EQC.

The DEQ's second and final review (May 17, 2010) raised new technical and regulatory issues, concluded that the FCSWDD's first application was complete and technically adequate (with conditions), provided a proposed permit, and requested publication of a public notice. Within 12 days of receiving the DEQ's second/final review, the FCSWDD notified the DEQ in writing that it had concerns with the proposed permit and public notice, and requested information from the DEQ to justify the DEQ's statement that groundwater monitoring data indicates that groundwater has been/is being altered. The FCSWDD's written response (June 6, 2011) to the DEQ's second review also stated that the FCSWDD was prepared to submit a revised permit application document upon receipt and review of the additional information requested of the DEQ.

The DEQ typically provides applicants a reasonable opportunity to respond to items that are determined to be deficient by the DEQ's review, and then reviews the additional information as provided by W.S. 35-11-502(h). In this case, however, the DEQ issued a second and final review, and a proposed permit with conditions, while the FCSWDD was in the process of contesting the administration of the solid waste rules and regulations, as provided by W.S. 35-11-112(a)(iii). The DEQ's actions were not consistent with application processes afforded to other applicants in Wyoming, and did not provide the FCSWDD with a reasonable opportunity to respond to comments provided by the DEQ.

2. The FCSWDD objects to Permit Condition #1, which states:

"The operator of this facility shall remove all document from the permit application, including but not limited to appendices V and Y, which have not been signed and stamped by a Wyoming Professional Engineer (P.E.) or Professional Geologist (P.G.) as required in Chapter 2, Section 2(b)(ii) of the Solid Waste Rules and Regulations."

The FCSWDD's permit application was certified by a professional geologist licensed by the State of Wyoming. Due to the fact that a significant amount of historical facility data, analysis, and design work was completed by other consultants, the certification was limited to geologic work completed by Trihydro. The information provided in Appendices V and Y includes reports prepared by a previous consultant. The reports include laboratory data and associated interpretations by a PhD geologist that is not licensed by the State of Wyoming. The permit application narrative prepared by Trihydro (*see* Section 4.7) references and summarizes the data and analysis presented in the reports provided in Appendices V and Y, but also includes an independent interpretation (certified by a professional geologist on the permit application form) regarding the data and analysis in the referenced reports.

The FCSWDD is unaware of statutory or regulatory authority that allows the DEQ to determine what data or associated interpretations may be used by a professional geologist in the practice of geology before the public. As stated previously, Trihydro is prepared to provide clarification of the application of the professional geologist certification on the permit application form relative to the laboratory data in the referenced appendices, and the associated interpretations provided in the permit application narrative prepared by Trihydro.

3. The FCSWDD objects to the DEQ's May 17 review (reference Sections 4.5 and 3.7, sixth paragraph) and associated Permit Condition #3, which states:

"No later than October 1, 2013, the operator of this facility shall demonstrate that the facility is not altering and will not alter groundwater. If the operator fails timely to make such a demonstration, the (i) the original eighty (80) acres shall cease receipt of waste no later than December 31, 2018 and promptly begin closure activities, and (ii) the lifetime renewal permit

shall include either a performance based design or an engineered containment system design for all units of the expansion area(s) that will receive waste after December 31, 2018."

Solid Waste Chapter 2, Section 2(b)(iii)(A)(X)(3), requires permit applications to provide:

"An evaluation of the facility's potential to impact surface and groundwater quality, based on the facility design and the hydrogeologic information required in subsection (b)(iii)(A)(X)."

The DEQ's request for a demonstration that the facility *will not* (emphasis added) alter groundwater implies that a definitive prediction of no future impact is required. In contrast, the referenced standard requires an evaluation of the "potential" for the facility to impact groundwater. A definite demonstration of no future environmental impacts is not practical, given the variability of natural systems, and the variety of assumptions that are required to perform predictive modeling. Section 5.5 of the permit application provides a detailed discussion of the facility's potential to impact groundwater, including analyses of groundwater monitoring data to date, and predictive modeling of potential precipitation infiltration rates. (The information provided in Section 5.5 of the permit application is consistent with the scope of work discussed with the DEQ at the October 20, 2010 project status meeting.) The discussion in Section 5.5 of the permit application concludes:

"... the body of evidence summarized above indicates that the historical operation of the Sand Draw Landfill has not adversely affected the groundwater below the facility, and that the design, operating, and closure procedures described in this document will limit the potential for future adverse impacts to develop. Ongoing monitoring will be necessary to evaluate the long-term performance of the Sand Draw Landfill."

The references in Section 5.5 of the permit application to the proposed design, operating, and closure procedures that will limit the potential for future impacts to develop include:

- Current waste screening procedures are significantly more robust than historical procedures, which reduces the potential for the disposal of unauthorized wastes that could impact groundwater. Historically, waste screening activities were limited to a single visual observation at the working face during compaction and covering the waste at the end of the day. Current waste screening activities include pre-screening of wastes at the Riverton Baler, which includes visual inspections at the scale facility and on the tipping floor. In addition, loose waste delivered to the Sand Draw Landfill is visually inspected at the scale facility and at the working face.
- The proposed vertical expansion will allow placement of additional waste above grade, and above the existing waste disposal footprint. The historical use of below grade trenches created an opportunity for precipitation to accumulate, infiltrate adjacent or underlying wastes, and generate leachate. The proposed vertical expansion promotes positive drainage of precipitation that falls on the existing waste footprint, and therefore reduces the potential

for accumulation and infiltration of precipitation, and the generation of leachate.

- Current and future waste disposal activities will include some loose wastes, but the majority of waste disposal activities will include baled wastes. Baled wastes are typically more tightly compacted than loose wastes, which reduces the potential for precipitation to infiltrate wastes exposed at the working face. Additionally, the operating procedures for the placement of baled wastes results in a considerably smaller and predominately vertical working face. As a result, the working face of the bale fill operation reduces the aerial extent of waste exposed to precipitation (as compared to the historical loose fill operation), which reduces the surface area of the wastes exposed to precipitation. A reduction in the amount of precipitation that contacts exposed wastes will reduce the potential for the generation of leachate.
- The proposed vertical expansion includes a phased reclamation strategy that will create positive drainage off the existing waste disposal footprint, and allow final grades to be attained over the existing waste disposal footprint in an expeditious fashion. In the interim, the permit application provides for intermediate cover over areas that have not received wastes for more than 180 days, which is estimated to reduce the precipitation infiltration rate to approximately 0.6 mm/year. In comparison, guidance from the U.S. EPA's Alternative Cover Assessment Program suggests that final cover systems should be capable of limiting precipitation infiltration rates to between 3 and 10 mm/year.

Section 3.7 of the DEQ's second review provides no data, predictive modeling, or geologic/engineering analysis to refute the data, modeling, and conclusions provided in Section 5.5 of the permit application, or the associated sections of the permit application describing design, operating, and closure procedures that reduce the potential for the facility to impact groundwater.

On a related matter, the FCSWDD objects to comments in Section 4.5 of the DEQ's second review which states:

"groundwater monitoring data indicates that groundwater at the Sand Draw Landfill has been/is being altered".

By reference, the DEQ's comments assert that the facility is in violation of Solid Waste Chapter 2, Section 5(x) which states:

"Solid waste disposal facilities shall not be allowed to alter groundwater quality, as determined by groundwater monitoring."

The FCSWDD does not contest that laboratory data reports indicate the detection of volatile organic compounds (VOCs) at low concentrations in samples from the groundwater monitoring network, or that statistically significant differences between background and down-gradient concentrations of naturally-occurring constituents have been identified by groundwater monitoring. However, the FCSWDD takes issue with the DEQ's assertion that this data

constitutes "alteration" of groundwater, a violation of regulatory or statutory provisions, or justification for precluding the proposed vertical expansion in the Original Area. The FCSWDD's position on this matter is supported by the following:

- The majority of VOC detections have been qualified as a result of data validation reviews, or by the laboratory due to the fact that the detected constituents were reported at concentrations below the laboratory reporting limit, which is also known as the practical quantitation limit (PQL). It should be noted that the FCSWDD reports qualified data (i.e., estimated values) between the PQL and the Method Detection Limit (MDL), as per DEQ guidance. The Solid Waste Chapter 2, Section 6(b)(i)(C)(VII)(5), and Appendices A and B state that reporting is required to the PQL -- not the lower MDL as specified by DEQ guidance. Therefore, formulating determinations regarding closure, life, capacity and alteration based on estimated concentrations below the PQL is unwarranted.
- The only unqualified detections of a VOC above the PQL have involved acetone in up-gradient well R-9D. (A second VOC, trichloroethene, was detected once near the PQL in a sample from down-gradient well R-20, but data validation and resampling resulted in qualification of the detection due to poor repeatability.) Acetone was detected above the PQL during two consecutive events, at concentrations of 25 and 140 µg/L. The unit "µg/L" is comparable to parts per billion. There is no maximum contaminant level (MCL) for acetone, but the calculated drinking water equivalent level (DWEL) is 32,800 µg/L, which is approximately three to four orders of magnitude greater than the noted detections. Acetone is also a common laboratory introduced constituent, and therefore, subject to false positive detection reporting.
- No statistically significant concentrations of VOCs have been identified through inter-well evaluation of analytical results (i.e., comparing concentrations in samples from up-gradient wells to concentrations in samples from down-gradient wells).
- No statistically significant increasing trends in the concentrations of VOCs have been identified through evaluation of intra-well analytical results (i.e., comparing concentrations in samples from a given well over time).
- Although statistically significant differences in the concentrations of three naturally-occurring constituents (sodium, total dissolved solids, and sulfate) were identified during the most recent statistical evaluation (i.e., the April 2011 event), the lack of baseline groundwater quality data prior to the placement of wastes precludes a definitive conclusion regarding the cause of the differences. The differences could be attributable to the landfill, but they could also be attributable to the natural variability of water quality between water bearing zones that may or may not be hydrogeologically connected. Statistical analysis of well/constituent combinations with statistically significant differences indicates that only one well/constituent combination (well R-21 and sulfate) currently has shown a significant increasing trend. It should also be noted that the number of statistically significant differences identified by each event has steadily decreased with each event (i.e., more data), which supports a conclusion that differences in water quality by may be attributable to natural variability.

- Radiocarbon dating of the groundwater suggests that the groundwater(s) below the facility accumulated between 4,500 and 22,000 years ago. Based on predictive modeling, which suggests precipitation infiltration rates are between 0.5 and 17 mm/year, it is reasonable to conclude that the concentrations of naturally-occurring constituents in groundwater are more likely to be dominated by the original concentrations of the recharge or source water, or a result of the groundwater approaching equilibrium with the lithologic matrix over thousands of years, than the migration of a relatively small amount of leachate over the past 28 years.

Even if it could be proven that the concentrations of naturally-occurring constituents in the down-gradient wells are a result of leachate migration, the FCSWDD maintains that neither statistically significant differences in the concentrations of naturally-occurring constituents, nor low level detections of VOCs constitutes “alter(ation)” of groundwater, or provides a technical, regulatory or statutory basis for requiring closure or an engineered containment system (ECS). The FCSWDD’s position on this matter is supported by the following:

- Solid Waste Chapter 2, Section 6(b)(i)(D) outlines detection monitoring requirements. Identification of a statistically significant difference by the detection monitoring program triggers assessment monitoring requirements. Based on the results of the assessment monitoring requirements, corrective action may be required. The FCSWDD has completed the initial round of assessment monitoring, and as previously stated, has asked the DEQ to classify the groundwater and identify groundwater protection standards for the facility. However, the referenced groundwater monitoring requirements do not state that statistically significant differences identified by a detection monitoring program constitute “alter(ation)” of groundwater, or provide regulatory justification for closure or modifications to a facility.
- Solid Waste Chapter 2, Section 4(j)(i) states that engineered containment systems are required when various site conditions are not sufficient to prevent potential “contamination” of groundwater. Neither the Environmental Quality Act (EQA) nor Solid Waste Chapter 1 specifically defines the term “alter(ation)” or “contamination” of groundwater. W.S. 35-11-103(c)(i) of the EQA defines “pollution” as:

“... contamination or other alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity or odor of the waters or any discharge of any acid or toxic material, chemical or chemical compound, whether it be liquid, gaseous, solid, radioactive or other substance, including wastes, into any waters of the state which creates a nuisance or renders any waters harmful, detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses, or to livestock, wildlife or aquatic life, or which degrades the water for its intended use, or adversely affects the environment. This term does not mean water, gas or other material which is injected into a well to facilitate production of oil, or gas or water, derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the state, and if

the state determines that such injection or disposal well will not result in the degradation of ground or surface or water resources;"

- Water Quality Chapter 8, Section 4(d)(vi) states:

"A discharge into an aquifer containing Class I, II, III or Special (A) Groundwater of the State shall not result in variations in the range of any parameter, or concentrations of constituents in excess of the standards of these regulations at any place or places of withdrawal or natural flow to the surface. A discharge which results in concentrations in excess of standards shall be permitted if post-discharge water quality can be returned to a quality of use equal to, or better than, and consistent with the uses for which the water was suitable prior to the operation."

- Based on the definition of "pollution" in the EQA, detections of VOCs and statistically significant differences of naturally-occurring constituents do not constitute "contamination" or "alteration" of groundwater unless the use of the water is affected. This interpretation is supported by the referenced standard in Water Quality Chapter 8. Section 4.8 and Tables 4-4 through 4-6 of the permit application provide a summary of statistical analyses for up-gradient and down-gradient water quality, as compared to class of use standards in Water Quality Chapter 8, Table 1. The statistical analyses indicate that up-gradient (i.e., background) water exceeds multiple limits for Class I (domestic use), Class II (agricultural use), and Class III (irrigation use), which suggests that the water is only suitable for industrial use. Currently, the only water well within one (1) mile of the facility is the supply well for the Sand Draw Landfill shop, which is appropriated for miscellaneous use (not domestic, agricultural, or irrigation use). Other water wells in the area are also permitted for industrial use (i.e., drilling and completion of oil & gas production wells).

Finally, the FCSWDD objects to the regulatory position taken by the DEQ regarding the proposed closure date (2018) of the Original Area at the Sand Draw Landfill, which is inconsistent with the regulatory position the DEQ has taken with at least one other unlined facility, namely the Lander Landfill. In 1994, VOCs were first detected in the groundwater at the Lander Landfill, including vinyl chloride at concentrations *above* the MCL. On July 26, 2007, the DEQ issued a permit extension for the Lander Landfill, which again authorizes this facility to continue receiving waste for disposal in unlined areas until 2024. On August 12, 2011, the DEQ issued a proposed permit, which allows the Lander Landfill to continue receiving waste for disposal in an unlined area until 2024. To date, the following VOCs have been detected in the groundwater at the Lander Landfill at concentrations *above* the MCL:

- tetrachloroethene in one down-gradient well, a total of two (2) times; and
- vinyl chloride in three different down-gradient wells, a total of twenty-three (23) times;

It is unclear why the DEQ is imposing a closure date of 2018 on the Original Area of the Sand Draw Landfill, which has only had two unqualified detections of a single VOC in samples from

one well at concentrations that are three to four orders of magnitude *below* the MCL, when the Lander Landfill has been authorized to accept wastes for up to 30 years after VOCs were first detected at concentrations *above* the MCL.

In summary, it is the opinion of the FCSWDD that the proposed requirement to either provide additional information regarding the facility's potential to impact groundwater, or cease receipt of waste by 2018, is:

- Arbitrary and capricious regarding the identification of a date for ceasing receipt of waste, without basis for the same; (*reference this document page 2, 5th event, July 21, 2010 meeting; page 3, 1st event, October 28, 2010 letter; page 3, 5th event, March 25, 2011 review; and page 6, Comment #2*)
- Unsupported by and contrary to the data and analysis provided in the permit application regarding the facility's potential to impact groundwater; (*reference this document page 9, 2nd paragraph, through page 10, 1st paragraph*)
- Not in accordance with existing Wyoming statutes, rules and regulations governing solid waste landfills; (*reference this document page 10, 2nd paragraph, through page 13, 2nd bullet*)
- Jeopardizes the FCSWDD's ability to optimize the capacity of the existing facility footprint, and place additional waste to facilitate creating grades for proper closure; (*reference this document, page 2, 5th event, July 21, 2010 meeting; page 3, 2nd event, December 10, 2010 meeting; page 9, 2nd bullet; page 10, 2nd bullet*)
- Inconsistent with DEQ's ongoing regulation of at least one landfill with considerably worse groundwater contamination issues. (*reference this document page 13, 1st and 2nd paragraphs*)

The DEQ's review comments, approach, and proposed permit in this case can set an important precedent that could feasibly be used to require a landfill with an engineered containment system to cease receipt waste after a single VOC is detected in a sample from single well at a concentration less than the PQL (e.g., one part per billion). The FCSWDD maintains that such a precedent is impractical, unnecessary to protect public health and the environment, and inconsistent with both the Solid Waste Rules and Regulations and the Wyoming Environmental Quality Act.

Mr. John Corra
August 25, 2011
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REQUEST FOR HEARING

Based on the significance of the comments and objections provided above, the FCSWDD is respectfully requesting a hearing on these matters before the EQC. Thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike McDonald". The signature is fluid and cursive, with a large initial "M" and a long, sweeping underline.

Mike McDonald, Chairman
Fremont County Solid Waste Disposal District