



memorandum

To: Don Connell, Fremont County SWDD
From: Ken Schreuder, P.E., P.G.
cc: Fremont County SWDD Board
Date: September 7, 2011
Re: Updates for September 12, 2011 Board Meeting

The following information is provided to update the Fremont County Solid Waste Disposal District (FCSWDD) on the status of various projects that are being managed by Trihydro Corporation (Trihydro), and associated actions by the Wyoming Department of Environmental Quality (WDEQ), Solid and Hazardous Waste Division (SHWD).

Sand Draw Landfill / Permit / Project 09Y-001-002

The public comment period on the proposed permit opened on July 22, 2011, and closed on August 29, 2011. A letter summarizing the chronology, comments, and objections to the proposed permit was reviewed and approved by the executive board on August 24, 2011, and hand-delivered to WDEQ/SHWD on August 25, 2011. A hearing before the Environmental Quality Council is anticipated in October or November of 2011.

Trihydro compiled information requested by the WDEQ Air Quality Division (AQD) in correspondence dated June 30, 2011. The information requested was excerpted from the December 23, 2010 permit application document. The information form was signed by the Chairman on August 30, 2011 and forwarded to the WDEQ/AQD, with copies to the WDEQ/SHWD and FCSWDD. The current estimated design capacity of the Sand Draw Landfill is approximately 5.77 million m³ (7.55 million yd³), which is greater than the 2.5 million m³ (3.27 million yd³) maximum design capacity threshold defined by 40 CFR Part 60, Subpart WWW. The provisions of Subpart WWW are part of the Federal Clean Air Act (CAA), and define performance standards for municipal solid waste landfills. The implications of exceeding the design capacity threshold are that the facility will be required to obtain a Title V operating permit from the WDEQ/AQD, and provide an annual report with emission rate estimates for non-methane organic compounds (NMOCs). Trihydro has experience with Title V permitting requirements and annual NMOC emission reporting requirements for landfills. Once the WDEQ/AQD notifies the FCSWDD of the applicable permitting and reporting requirements, Trihydro will provide a cost estimate for the Board's consideration.

When the requirements of Subpart WWW were enacted in 1999, the WDEQ made an initial effort to determine the applicability of the rule by preparing design capacity reports for existing landfills, and then sending them to the operators for review and approval. It is not clear why the permitting and annual reporting requirements were not triggered at that time, because the 1995 permit application for the Sand Draw Landfill identifies a maximum design capacity of approximately 4.12 million yd³, which exceeds



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the design capacity threshold defined by Subpart WWW. The June 30, 2011 information request from the WDEQ represents their effort to review the applicability of the rule for existing landfills. Although the Sand Draw Landfill will most likely be required to obtain a Title V operating permit and provide annual reports, the initial permitting and subsequent annual reporting process are relatively straightforward. Based on NMOC emission rate estimates for larger landfills in Wyoming, it appears unlikely that the Sand Draw Landfill emission rate will exceed the regulatory threshold (50 Mg/year) that would require installation and operation of an active landfill gas collection and control system.

Shoshoni Landfill / Permit / Project 09Y-003-001

On July 29, 2011, the WDEQ/SHWD issued its initial review of the operating permit renewal application for the Shoshoni Landfill, which was submitted on April 29, 2011. The WDEQ/SHWD's review was received August 1, 2011. Ken Schreuder and Don Connell met with Patrick Troxel on August 16, 2011 to discuss the WDEQ/SHWD's comments. The following issues and proposed action items were discussed:

1. Facility Classification ... DEQ's review noted that the facility's classification should be changed from Type II to Type I because there is evidence of contamination from the landfill (i.e., VOCs have been detected by the groundwater monitoring program).

Action Item: The date of DEQ's determination will be noted, and the affected portions of the narrative and the sampling and analysis plan will be revised accordingly. The implication of this change is that the monitoring reports for the facility will need to include statistical analysis of the data, which is not part of the current scope of work.

2. Permeability Specification (prescriptive cover system) ... DEQ's review suggested the permeability should be in the range of 1×10^{-8} cm/sec based on previously-reported laboratory analysis of bedrock samples. It was noted that there are questions regarding the accuracy of the referenced tests, there is no laboratory documentation to support the reported results, and the samples may not be representative of the soils at the base of the trenches.

Action Item: Trihydro will collect two additional undisturbed samples from the base of the existing trench, have them analyzed by a laboratory, and use the data to define the permeability specification for the barrier layer in a prescriptive cover.

3. Phased Reclamation ... The DEQ's review requested a schedule for completing phased reclamation of the facility, rather than waiting for the facility to reach capacity, which could be many decades at the current filling rate. It was noted that reclamation of the area immediately adjacent to the current trench (circa 2000-2010, tan shading) may interfere with ongoing operations. The next area (circa 1993-2000, green shading) currently has a significant amount of cover material stockpiled on it, which will need to be moved in order to reclaim the area. Finally, it was noted that pending reclamation commitments at other FCSWDD facilities will need to be considered.

Action Item: The narrative of the current permit application document will be revised to include a commitment to provide a reclamation schedule for the 1993-2000 area in the next renewal application



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for a lifetime permit. Assuming a 4-year permit is issued for the Shoshoni Landfill in 2012, an application for a lifetime permit would likely be required in 2015. The proposed reclamation schedule will identify 2016-2020 as the target for completing reclamation of the 1993-2000 area. This delayed schedule will provide the Board with time to evaluate the future role of the Shoshoni Landfill in Fremont County's waste management system, as well as alternative final cover system designs.

The Shoshoni Landfill Permit project is currently within budget, so no task change orders are anticipated to complete the noted action items and resubmit the permit application. However, in the event that the proposed samples from the bottom of the existing trench have permeabilities lower than 1×10^{-6} cm/sec, existing soils at the site may not be adequate to construct a prescriptive cover, and it may be necessary to develop new design and construction plans for either a synthetic cover system or an evapotranspiration cover system. (The existing final cover system is based on the prescriptive design described in the previous application approved by WDEQ/SHWD.) If the final cover system needs to be redesigned, a task change order may be necessary.

Sand Draw and Shoshoni Landfills / Monitoring / Project 09Y-001-003

The 2011 third quarter monitoring events at the Sand Draw and Shoshoni Landfills were completed the week of July 18, and included collection and analysis of groundwater samples from just the Sand Draw Landfill, including samples from down-gradient wells for Appendix B constituents and radiocarbon dating. The radiocarbon dating results for the Sand Draw Landfill have been received, and the quarterly report is expected to be completed by September 9, 2011.

Based on recent discussions with Dr. Don Siegel, Trihydro is recommending additional analysis of several down-gradient wells for tritium. Tritium can be used to evaluate the potential for mixing of relatively young atmospheric water (i.e., infiltration of precipitation) with the older groundwater below the site. Trihydro recommends analyzing samples from down-gradient wells R-13D, R-19D, R-21, and R-22 for tritium. (Dr. Siegel has tritium data for other wells at the site.) The cost per sample is approximately \$475, for a total cost of approximately \$1,900. The tritium samples can be taken in conjunction with the next quarterly event, which is tentatively scheduled for October 2011. If the Board approves of this proposal, Trihydro will provide a Task Change Order for the Chairman's signature.

Riverton Recycling Center / Design, Permitting, and Construction / Project 09Y-002-001

Majors Equipment contacted Trihydro on August 2, 2011, to indicate that the water/sewer, structural fill, methane venting system, and concrete work was substantially complete. Trihydro completed a construction inspection on August 3, 2011 and determined that the project was substantially complete. On August 4, 2011, Trihydro provided Don Connell with a Tentative Certificate of Substantial Completion and a recommendation to pay Major Equipment's Application for Payment No. 2. Due to an oversight, the 10% retainage associated with Application for Payment No. 2 was not held, so the total amount of the retainage is \$4,684.13, which represents approximately 5% of the total project cost.



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(\$103,461.78). Also, publication of the Notice of Final Payment to Contractor was delayed, so the final payment will not be due until October 15, 2011.

The Tentative Certificate of Substantial Completion identified three items that need to be addressed by September 20 in order to obtain a Certificate of Substantial Completion. One of the items has been completed, and another is expected to be completed on-time. The third item requires correction of surface blemishes on the finished floor. Several surface defects (small holes and spall marks) on the north half of the finished floor were observed on August 3, 2011. The surface was inspected in more detail on September 2, 2011, and additional areas of concern were noted. It appears that numerous portions of the finished surface have delaminated from the underlying concrete, and are likely to deteriorate further once wheeled containers and a fork lift begin operating on the surface. At a minimum, it appears that the entire surface of the north half of the slab will need to be ground down to a solid surface. Depending on the depth and quality of the ground surface, it may also be necessary to resurface the floor to obtain a suitable working surface. Majors Equipment was asked to provide a proposal for addressing the noted concerns. Depending on the amount of time required for Majors Equipment to provide a proposal, obtain approval, and implement the approved measures, a Change Order may be necessary to extend the current September 20, 2011 deadline for Substantial Completion.

Riverton Composting Facility / Design and Permitting / Project 09Y-002-001

The draft permit application amendment and a storm water pollution prevention plan for the proposed composting facility were provided to the FCSWDD and the City of Riverton for review by the end of August. No questions or comments were identified, so Trihydro finalized both documents and submitted them to the WDEQ for review and approval.

Questions and Additional Information

Please let us know if you have any questions or need additional information. You can call me on my cell phone (307-330-7737) or send me an email (kschreuder@trihydro.com).



Unknown

From: Ken Schreuder
Sent: Tuesday, June 14, 2011 8:58 AM
To: Don Connell (fcswwd@wyoming.com); skyking@wyoming.com; Dale Groutage (dgroutage@wyoming.com); Mike McDonald (mmcdonal@wyoming.com)
Subject: Resampling of R-20 at Sand Draw

As discussed at last night's board meeting, there was a detection of tetrachloroethylene in well R-20 during the April 2011 event at 1.4 ppb (detection limit = 1.0 ppb, MCL = 5 ppb), but not in the blind duplicate from R-20. Tetrachloroethylene was not detected in any other wells during this event, or during previous events. The single detection resulted in a statistically significant exceedance of both the tolerance interval and the prediction interval.

I talked to our statistical and laboratory experts in Laramie, and they've recommended resampling well R-20 (for just VOCs) right away, and then again during the next quarterly event in July. We'll send one set of samples and a trip blank to Test America Laboratories (who analyzed the previous sample), and one set of samples and a trip blank to Energy Labs in Casper. I checked our remaining budget for 2010-2011, and it looks like we are far enough below budget to complete the resampling without needing to request a change order. Based on the direction I received from the board last night, we will proceed as proposed, with resampling scheduled for Thursday, June 16.

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