



July 24, 2018

Re: 1RF-24 Libby Recycling Containment

Mr. Brad Billings
EMNRD/OCD
Santa Fe, New Mexico

Mr. Bradford,

On behalf of 3Bear Energy, HRL Compliance Solutions is providing this summary of actions and results at the Recycling Containment.

Empty tanks were stored on the east side of the containment. During a windstorm the tanks were blown into the containment and the t-posts attached to the tanks ripped the liner. OCD provided the following guidance via email on June 14, 2018:

- NMOCD advised 3Bear to collect discrete samples from each of the identified areas where the liner(s) have been torn. Soil samples will be collected by an environmental professional and sent to an accredited laboratory.
- Samples will be taken from the surface and at least 1 ft. bgs for verification. Soil samples will be tested for BTEX, TPH extended (GRO, DRO, and MRO), and chlorides via these respective EPA methods 8260 or 8021, 8015, and 300. Permissible levels are 10 mg/kg Benzene, 50 mg/kg BTEX, 5000 mg/kg TPH, and 600 mg/kg chlorides.
- Windblown soil currently in the containment must be removed to complete inspection of the liner for any additional defects affecting liner integrity.
- Please contact Mr. Bradford Billings to obtain more specific instructions on the use of a tracer dye for leak detection after repairs are completed.
- 3Bear will inform NMOCD of subsequent site visit opportunities and will provide photo documentation of the repair process.

3Bear Energy retained HRL to obtain the samples from 5 identified locations where the liner(s) were torn. The Sample Location Map is shown with the five locations identified relative to the southeast corner of the containment for reference. Samples were analyzed for chlorides via Method 4500 on 6/27/2018. The sampling results are presented below:



	SP1	SP2	SP3	SP4	SP5
Surface	592	672	128	576	288
1' bgs	64	656	96	144	32
2' bgs	133	864	--	256	--

Based on these results, additional excavation at SP2 was necessary.

On 6/29/2018, a small track hoe was used to excavate the contaminated material in a 10-foot radius centered around SP2. Samples were taken along the side wall and bottom of the excavation. Samples were analyzed for chlorides via Method 4500 on 6/29/2018.

	W Side	E Side	N Side	S Side	Bottom
4' bgs	3690	4240	4480	6260	
6' bgs					3120

On June 29, 2018, on behalf of 3Bear Energy, HRL communicated the results of this sampling with OCD and asked to for an alternate closure standard via email. This was approved on July 2, 2018. 3Bear commenced with repairs to the liner and pressure tested all repairs on the liner. A “spark test” was also conducted on the liner per ASTM D7240. The spark test was completed satisfactorily on July 14, 2018 and the pit was put back into service. OCD was informed of this via email on 7/19/2018. It will take several weeks for the facility to be fully operational. During this phase, the leak detection system will be monitored.

Liquid Leak Detection

The liquid leak detection (LLD) drain will be an open three-dimensional HDPE synthetic drainage net. The liquid leak detection drain will be supported by the secondary flexible membrane liner. The entire liner, including the leak detection drainage net, will be graded to drain to a leak detection drain sump that is filled with graded fine gravel supported by the secondary flexible membrane liner.

A leak detection drainage net is located in the gravel-filled sump and in the adjacent surface runoff between the primary flexible membrane liner and the secondary flexible membrane liner. The liquid leak detection header and associated gravel-filled trench will be graded to an associated leak detection sump. A geotextile cushion or additional geocomposite will be placed over the top of the gravel filling the gravel-filled leak detection trench to reduce the potential for damage to the overlying primary flexible membrane liner. A leachate collection underdrain lateral will be installed beneath the geonet drainage layer and will extend from the east end of the containment pond to the leachate detection sump. This will increase the total capacity of



the leak detection drainage system to convey the necessary leachate flow along the primary flow path at the center of the pond to the sump.

Liquid levels in the leak detection drain sump are monitored via an electronic system that is monitored in the control room. Alarms are set for any measurable liquid and any alarm will result in an immediate investigation.

3Bear Energy and HRL consider this project closed. If you have any additional questions regarding this project, please feel free to contact me via email at jknowlton@hrlcomp.com.

Sincerely,

Jennifer Knowlton
Regional Manager – Permian

Cc: Gerald Wyche
Scott Spicher
