

January 31, 2025

Amy Yeldell DRMS Room 215, 1001 E 62<sup>nd</sup> Ave, Denver, CO 80216

Re: Response, Whirlwind Mine, Permit No. M-2007-044, Technical Revision (TR-2), Adequacy Review-1

Dear Ms. Yeldell:

Energy Fuels Resources Inc. ("**EFRI**") received the Division of Reclamation, Mining and Safety ("**DRMS**") adequacy review dated December 13, 2024. EFRI submitted a requested and received an extension of time to respond dated December 16, 2024 to allow submittal by January 31, 2025. Response to DRMS request for additional information are as follows. Redline documents and an index page has been included for pages changed in response to comments.

#### **Exhibit D - Mining Plan**

1. Page D-17 Within the Linkin System where does the waste from the media filters and the two ion exchangers go? How often does this waste have to be disposed of and what's the maximum volume stored on site at any given time?

*EFRI Response*: Solids removed by the media filters will be backwashed into the treated water storage pond and the media filters themselves will not generate additional waste. It is anticipated that the ion exchange columns will not reach loading capacity by the end of mine operation and will therefore not generate waste. The ion exchange units will be disposed of at the end of operation or regenerated and reused at another site if possible. Maximum waste generated into the untreated water storage pond remains as stated in the approved permit as 19 cubic yards.

#### **Exhibit E - Reclamation Plan**

2. Please include a statement within the reclamation plan that addresses the reclamation/removal of the Linkin System.

*EFRI Response*: The two trailers from the Linkan system are both skid mount and portable as is the one trailer for the Lyntek system. A statement has been added to Exhibit E, Section 6, pg. E-7 to include all three trailers. See attached.

3. Page T-3 states that a 3 in, 2 in and 6 in HDPE Mine Water Pipelines will be present on site. Only the 6" Ore Pad Sump pipeline is mentioned in section 6, page E-7 of the Reclamation plan. Please revise the Reclamation Plan to clarify how all HDPE pipelines will be reclaimed upon completion of mining. Explicitly state how those features will be reclaimed.

*EFRI Response*: As described in Exhibit E, Section 6, page E-7 the 6-inch HDPE pipe will remain buried in the backfill. The 2-inch and 3-include HDPE lines described on page T-3 will also be buried in the backfill. A statement has been added



to Exhibit E, Section 6 to account for the 2-inch and 3-inch HDPE lines. See attached.

#### **Exhibit L - Reclamation Costs**

4. What is the new total LF of 6 ft H chain link fencing that will require removal at the Whirlwind. Additional fencing is necessary to enclose the two Linkan trailers in addition to the existing water treatment system. There is also fencing along the dry room trailer. Previously a total 1100 LF was noted, please state the new total.

*EFRI Response*: The amount of fencing remains the same as what is already listed. The existing fence will be moved out to encompass the two Linkan trailers. See the attached illustration depicting EFRI's intent to push the existing fence diagonally outward approximately 100-feet. It is worth noting that this ground is already disturbed, and no new disturbance is required for the addition of the two Linkan trailers.

5. For task 01W does the disposal of the water treatment liner include the 40 CY of sludges contained within it? If not, please provide an updated user provided cost that accounts for inflation to dispose of the 40 CY of water treatment sludges. (Loading, transport, disposal fee)

*EFRI Response*: The disposal of the water treatment liner does not include the 40 CY of sludges contained within it. According to the permit, Section 4 of Exhibit E, the sludge volume is estimated to be approximately 19 cubic yards. The 19 cubic yards will be mixed with a cement grout, on site, creating the 40 CY which will then be placed in the decline as described in the approved permit. Attached is a quote from a third-party contractor, in the amount of \$85,050.00, for this work.

6. The current bond accounts for closure of two 6" air shafts. The Division acknowledges that additional shafts are to be located on the Utah side. Will any of the air shafts on the Colorado side be secondary escape ways and thus greater in diameter than 6"?

*EFRI Response*: Only two air shafts, 6-feet each, will exist in Colorado, and they are of sufficient size for a secondary escape.

7. During the 2024 inspection it was noted that the poles are owned by San Miguel Power. Cost date was provided for the utility removal. Typically, the Operator is only responsible for removal of owned poles and the utility takes care of the rest. Please clarify this relationship and who is financially liable for the removal of the 5240' LF of wire and 6 poles that service the mine.

*EFRI Response*: Initially, EFRI had thought to be financially liable for the poles and wire. Based on recent discussion with BLM, San Miguel Power has a Right of Way (ROW) for the poles and wire installation. Per BLM, it is usual that the holder of the ROW is financially liable for removal. However, BLM indicated the ROW may not have been completed and they are working to close it making San Miguel Power responsible for reclamation of the poles and wire.



8. Please include a task(s) to address reclamation of all the HDPE pipelines on site. Reference question 3.

*EFRI Response*: Added the removal of the 2, 3, and 6-inch HDPE pipelines to Task #6 described in Table E-1 of Exhibit E. See response to Comment #3.

#### Exhibit U - Designated Mining Operation Environmental Protection Plan (Exhibit T)

9. After reviewing the previous Appendix H, Hydrated Lime was previously proposed for use however the revised plans do not indicate if its continued use is contemplated. Please state if hydrated lime will be used at the Whirlwind site for water treatment.

*EFRI Response*: Lime will not be used as part of the Linkan system. Further, lime is no longer anticipated to be needed at part of the Lyntek system.

Disposal of Sludges

10. Will the new water treatment system generate additional sludges or mine waste that will need to be disposed of. If so, please clarify under Rule 6.4.21(19) how the material will be properly disposed of. This information should also be address in the Reclamation Cost Estimate. Also reference question 1.

*EFRI Response*: No new sludge will be generated with the addition of the Linkan system as discussed in question 1. The ion exchange units, however, would need to be disposed if not moved to another location. Proper disposal of ion exchange units is quoted at \$10,000. A quote from WRT, a company who specializes in water treatment systems, is attached.

If you have any questions please contact me at (307)-351-9165 or <u>dkolkman@energyfuels.com</u>, or Scott Bakken at <u>sbakken@energyfuels.com</u>.

Sincerely,

ENERGY FUELS RESOURCES (USA) INC. Dawn Kolkman Permitting Manager, Regulatory Affairs

- Encl. Fenceline Illustration Index of Page Changes Exhibit E Thirsty Bird Quote WRT Quote
- cc: M. Munson (DOGM), J. Whittington (BLM), S.Bakken, T. Groves, N. Martin (EFRI)

Energy Fuels Resources (USA) Inc. Whirlwind Mine, M-2007-004 Technical Revision (TR-2), Adequacy Review-1 January 31, 2025



#### Index of Change Energy Fuels Resources (USA) Inc.

#### Whirlwind Mine Water Treatment Technical Revision

Volume	I EXNIDIT	Page, Map or other Permit Entry to be Removed	Page, Map or other Permit Entry to be Added	Description of Change
Volume I	Exhibit E	Table E-1, pg. E-3	Table E-1, pg. E-3	Updated the table revising Task 6 to account for the 2, 3, and 6-inches pipelines. (DRMS Comments 3 and 8)
Volume I	Exhibit E	Section 6. pg E-7		Revised to describe portable water treatment trailers (DRMS Comment 2) & 2, 3, and 6-inch pipelines (DRMS Comments 3 and 8)

# **RECLAMATION PLAN**

# EXHIBIT E

#### 1. General Reclamation Plan

The total disturbed area for this permit consists of the following areas:

- 19.75 acres in the main Whirlwind portal area,
- 0.99 acres in the Packrat portal area.
- 0.76 acres of Packrat access road.
- 0.64 acres at two power drop pad areas.
- An additional 0.23 acres at each of two ventilation shafts in Colorado. This does not include an
- additional 6 ventilation shafts in Grand County, Utah, which will be permitted under Utah regulations.

This is a total disturbed area in Colorado of 22.60 acres.

All disturbed areas will be reclaimed to dry rangeland for wildlife habitat, which is the primary post mining land use. Bat gates will be provided at the main Packrat portal to enhance bat habitat, which is a desire of the Colorado Division of Wildlife and the BLM. Current plans are to backfill the Whirlwind Portal during reclamation; however, a bat gate could also be installed at that portal if requested by the BLM. Map F show the final configuration of the two portal areas. Map C-3 shows cross sections of the Whirlwind site for current mining and reclamation cases and Map C-5 shows the same for the Packrat portal site.

As discussed in the mine plan (see Exhibit D), the site will be partially reclaimed as the waste embankment is constructed over the 10-year mine life. Initially, the outer slope of the existing waste pile will be reclaimed, after it is expanded to its northern limit as shown in Cross section A-A' on Map C-3. As the waste embankment of the pile expands to the east, the north face will also be reclaimed concurrently. Topsoil replacement will be performed by dozers spreading the material over the slope, followed by seeding in the fall. The seed mix is presented later in this section. Final reclamation will commence at the end of the mine life of approximately 10 years.

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The worst-case reclamation scenario (i.e., largest reclamation liability) occurs at the conclusion of mining, since most of the Whirlwind bench and a portion of the waste embankment will need to be reclaimed. The entire 0.99-acre area at the Packrat portal will need to be reclaimed. The ventilation shafts will also be reclaimed at the conclusion of mining. Each portion of the reclamation is discussed in the sections that follow.

The reclamation timetable is shown in Section 2 in **Table E-1** and the costs for the worst-case scenario are calculated in **Exhibit L: Reclamation Costs**.

#### 2. Reclamation Timetable

The reclamation timetable below is based on the projections for the mine and the amount of reclamation that is needed after mine shutdown. Once the mine is permanently shut down, the reclamation is expected to take approximately 24 months. The initial 18 months of reclamation consists of sealing the Whirlwind decline and monitoring the water pool that will form above the seal.

Task #	Description	Time Needed (Months)
1	1 Open Mine and create mine waste disposal areas prior to initial reclamation	
2	2 Strip topsoil from expanding east portions of waste embankment to reclaim west portions.	
3	3 This task is the start of the final reclamation process. Place bulkhead seal in the lower portion of Whirlwind decline and monitor water pool Also, seal off other areas of ground water inflow	
4	Pump sludge from the Treated Water Settling Tank into upper portion of decline using existing waterline. Add cement at pump to stablilize sludge. Excavate ore pad liner and cover material and place in the upper portion of the decline.	1.0
5	Remove fans and concrete foundations at all ventilation portals and seal shafts. Remove or cut power cable at power drops and seal cased holes. Replace topsoil and seed/mulch associated pad areas.	0.50
6	Dismantle and remove shop, warehouse, tanks, water treatment plant and tanks, <u>HDPE pipelines (the 2, 3 and 6-inch lines)</u> fence, other site structures at Whirlwind and bins, retaining wall, shop door, and supply storage area at Packrat.	2.0
7	Remove foundations at Whirlwind portal and Packrat portal.	0.20
8	Install bat gate at Packrat and seal off shop area with blocks.	0.15
9	Conduct backfilling and grading at the 2 portal areas, waste embankment and mine benches.	0.50
10	Use MSHA berm on the Packrat Road to re-topsoil the Packrat portal area.	0.20
11	Re-seed and mulch the Packrat portal area.	0.10
12	Use hydraulic excavator to conduct partial backfilling and grading of Packrat road.	
13	Seed and mulch Packrat road and block access.	0.10
14	Rip compacted areas of Whirlwind prior to topsoil replacement	0.10
15	Replace topsoil on remaining areas of Whirlwind mine.	0.40
16	Harrow topsoil at Whirlwind mine	0.10
17	Seed and mulch Whirlwind area and block access.	0.10
18	Backfill Sediment Pond* and Collection Ditches	0.05
	Total months	144
	Total years	12.0

**Table E-1 Reclamation Timetable** 

#### 3. Seal Decline and Other Areas of Ground Water Inflow

The Whirlwind Mine will require the installation of a bulkhead seal in the lower portion of the decline to ensure that the water seeping into the decline from the lower Brushy Basin aquifer is not allowed to enter the mine workings. The lower bulkhead will be constructed near the base of the decline within a zone of competent sandstone of high compressive strength. The hydraulic loading on this seal is expected to be relatively low i.e., about 38 feet of hydraulic head based on a maximum of 630 feet of Brushy Basin intercept on a 6 % grade. However, the seal design is based on the assumption that the water will back to the surface. Design details and the estimated costs of the seal are presented in Appendix K

Energy Fuels will also attempt to seal off other ground water inflows into the mine that may still exist at the time of closure. This will likely consist of grouting and/or sealing of areas where water may be seeping into the mine through natural fractures or more permeable zones. The cost of a contingency seal in the Packrat workings has been included in the reclamation bond as described in Appendix L. Energy Fuels and the Division of Reclamation, Mining and Safety believe that the likelihood of a seal in the Packrat workings is low, however, the Division requested the additional bond so that its potential cost is covered for a worst case scenario.

The ground water-bearing zone above the Whirlwind seal is perched and present only at the base of the channel sandstone unit; therefore, the water level behind the seal is expected to stabilize at or near the ground water inflow point within the decline. Energy Fuels will monitor the water elevation above the lower seal until it reaches equilibrium plus an additional 5 quarters (i.e., 1.25 years). Once the monitoring period is completed, the remainder of the mine site can be reclaimed.

#### 4. Place Ore Pad Liner, Pad Cover Material, and Treatment Sludge in Mine

Over the life of the mine, percolation of rain water through the ore stockpile may result in radionuclides leaching into the compacted pad immediately below it; therefore, the 3.5 feet of cover material and the ore pad liner will be excavated over the 0.5-acre stockpile area shown on Map C-2. This material will be disposed of inside the mine above the seal and water pool. This area of the

decline is dry and the material will not be in contact with ground or meteoric water. The calculated volume of pad material is 2,820 cubic yards. The liner consists of overlapping strips of GCL. These strips will be dragged into the mine with a chain and buggy and left in the upper part of the decline.

The sludge collected in the Treated Water Settling Tank will be disposed of in either one of two ways: 1) mixed into a cement grout on site and disposed of in the mine in a designated area or 2) taken to the uranium mill with ore to be processed. The later disposal method is preferred as it allows for maximum utilization of the resource; however, this option may not always be available. For reclamation costing purposes, disposal in the mine is assumed. As discussed in Appendix H, the sludge is expected to contain low levels of radionuclides and metals that do not require disposal as a radioactive or hazardous waste.

The sludge volume is estimated to be approximately 19 cubic yards as discussed in Appendix H. The sludge will be slurried into a grout pump where cement will be added to form a cement grout that will be pumped into the upper portion of the decline using the existing waterline. The grout will be placed on top of or next to the ore pad material. The volume of slurried grout is expected to be about 40 cubic yards.

#### 5. Reclaim Ventilation Shafts and Power Drops

As explained in Section 16 of Exhibit D – Mine Plan, two ventilation shafts will be located in Colorado. Up to six other shafts may be present in Utah, which will be permitted under a NOI to Commence Small Mining Operations (i.e., 5 acres or less disturbance) with the Utah Division of Oil, Gas and Mining. All new shafts will be grouted where they intercept aquifers so that they do not provide a conduit for ground water flow.

There are a number of methods available for sealing a vent shaft at the surface including the use of foam, concrete, metal, and/or combination thereof. Seal designs will be provided to the DRMS and BLM at the time of closure for their review and approval. For reclamation costing purposes, the following traditional reinforced metal and concrete design is assumed.

The first step in reclaiming the vent holes will consist of digging down four to six feet deep around each hole and cutting the casing off from three to four feet below the ground surface. It is assumed that an 80-horsepower tracked hydraulic excavator will require about 20 minutes at 3 to 4 miles per hour (mph) to tram between the two locations and that the trench around each casing could be excavated in 45 minutes. Based on this scenario, 2 hours were allotted toward excavating around the 2 vent holes plus an additional 1 hour for traveling from the portal area to the initial excavation.

After the casing is cut off, a steel plate will be welded over the opening and structural steel (i.e., small I-beams and rebar) will be welded over the top of the steel plate to form a six-inch-thick, reinforced square cover. Concrete will be poured between the I-beams and around the rebar to complete the installation. A minimum of three feet of soil will be placed over the cover. The cost estimate assumes that a welder and laborer can cut the casing and weld together a cover in six hours and that two laborers can hand mix and pour the concrete for each cover in four hours. Materials are based on average cover dimensions of six feet by six feet.

Each shaft area is assumed to have a maximum disturbance of 100 feet wide x 100 feet long or 10,000 square feet. This includes any short two-track roads built to access the shaft area. After shaft sealing, the topsoil which was previously stockpiled at each shaft location will be replaced and graded. The area will then be seeded and mulched. Assuming an average topsoil depth of 12 inches, approximately 370 cubic yards of topsoil will be placed.

As explained in Section 14 and 17 of Exhibit D – Mine Plan, two cased holes will serve as power drops into the mine workings. The power cable will be removed from these holes and then the casing will be cut off at a depth of three to four feet below the surface using an acetylene torch. The cased opening will be sealed with an expansion foam plug and the excavated soil will be placed back over the sealed hole.

The proposed pad areas for the Whirlwind and Packrat power drops encompass 0.23 acre and 0.41 acress respectively, for a total acreage of 0.64 acres. Using the same cost assumptions as specified above for the vent shaft pads, this will require regrading of 370 + 659 cubic yards = 1029 cubic yards of topsoil.

### 6. Dismantle Buildings and Structures at Both Portal Areas

Reclamation will include the removal of all buildings and other structures. The following structures will be removed at the Whirlwind Portal area:

- 2 powder magazines
- Watchman's trailer (portable)
- -\_\_\_\_Water Treatment Tanks (3 tanks that must be disassembled and hauled off site)
- Water Treatment Facilities (portable) one Lyntek treatment trailer, two Linkan treatment trailers (skid mount)
- Shop and office building, 60 feet x 43 feet size, One story (fixed building which must be dismantled)
- Dry change facility, 50' x 20', One story (fixed building which must be dismantled)
- Storage Trailer (portable) 12 feet x 40 feet
- Generator Trailer (portable) 12 feet x 40 feet, assumes that it is still on site even though power is expected to be delivered to the mine at an early stage
- A skid-mounted oil storage shed with nominal dimensions of eight feet by ten feet located adjacent to the maintenance shop (portable)
- Helipad (20 feet x 20 feet)
- Four 500-gallon diesel fuel tanks on the Whirlwind Pad area as shown on Map C-2, called the fuel station, immediately west of the ore pad. These tanks will be installed within larger livestock tanks (approx. 700-gallons each)
- Magnesium Chloride Tank located near the portal. The tank size is 1,000 gallons and it will be contained within a soil berm.
- Propane tank (portable)
- Fence around water treatment area and mine entrance
- -\_\_\_Concrete sump (6 feet x 6 feet) which drains from the ore pad area to a pipe (-the HDPE pipe will remain buried in the backfill)
- <u>The 2-inch and 3-inch HDPE will also remain buried in the backfill like the 6-inch HDPE pipe</u> described above. The pipelines are buried in the same trench and will be unearthed at the same

time and placed- on top of or next to the ore pad material, along with the grout sludge (described in Section 4..

The following structures will be removed at the Packrat Portal area:

- Retaining wall, approximately 300 feet in length, with an average height of 8 feet and a maximum height of 22 feet. This wall will be made of steel supports with wood beams.
- Concrete jersey barriers of 100 feet total length, which will be hauled off site and re-used.
- Up to four steel bins for the loading of ore and waste. These bins will be 22 feet high for truck loading underneath, and an upper bin storage area of 12 feet x 12 feet.
- Shop door, approximately 12 feet wide by 8 feet high. This door will be removed and the opening blocked in prior to regrading.

No other structures will require removal at the Packrat portal.

#### 7. Remove Foundations at Whirlwind and Packrat Portals

The shop and dry/admin building rest on concrete foundations that are 60 feet x 43 feet and 20 feet x 50 feet, respectively. The foundations are 6 inches thick with rebar. This is a volume of 66 cubic yards of concrete. An additional 2.5 cy of rebar-reinforced concrete and 5 cy of non-reinforced concrete will be removed at the ore pad sump and helipad, respectively. The material will be removed with a Cat D-7 dozer equipped with a hydraulic concrete breaker or equivalent. The material will be loaded in trucks and hauled underground or off site.

The Packrat bins will have up to 16 concrete footers of 3-foot depth and 2-foot diameter.

#### 8. Install Bat Gate at Packrat Portal and Seal Shop Area

A steel bat gate will be welded into place at the main Packrat portal. An 8-foot by 12-foot block wall will be constructed over the door opening into the underground shop.

#### 9. Backfilling and Grading at Portal Areas

#### Whirlwind

The Whirlwind decline was originally equipped with a bat gate; however, no bats were found in the mine during inspections conducted by the BLM and the Colorado Division of Wildlife (DOW). For cost estimating purposes, it is assumed that the Whirlwind portal will be backfilled; however, the decision as to whether it will be backfilled or reclaimed with a bat gate will be made at the time of closure in consultation with the BLM. A bat gate was also installed over the smaller portal at the Packrat Mine while the larger portal was backfilled. Generally, a larger opening is preferred by the bats and the reclamation cost estimate assumes that the larger portal will be reclaimed with a bat gate while the smaller portal will be backfilled.

Backfilling of the Whirlwind portal will consist of pushing material from the portal pad into the mine opening for a distance of 20 feet. Then additional material from the pad will be backfilled to a height of 10 feet above the top of the portal opening to the existing bench at a slope of 3H:1V. This backfill volume is 820 cubic yards.

The waste embankment final configuration will be created on an ongoing basis during mine operations; therefore, less earthwork will be required at the end of the mine life to achieve the final contours. Map C-3 shows that the grading at the end of the mine life is minimal. Final grading of the waste embankment will include grading the remaining angle of repose slopes to 3H:1V or less steep, placing fill against the backfilled portal area to create slopes of 3H:1V, and providing proper drainage for all areas. It is expected that approximately 4,000 cubic yards of waste rock will be regraded with a Cat D-7 dozer. The final contours are shown on Map F and the cross sections are shown on Map C-3 (see Appendix I).

No pocking of the surface at Whirlwind is specified since topsoil that is salvaged will provide a good medium for plant growth and the recontoured slopes will not be as prone to erosion as the longer and steeper slopes observed at the Packrat waste pile (see Packrat below).

#### Packrat

The Packrat portal will require grading after the retaining wall is removed. The portal bench will be regraded to blend with the surrounding hillside except for a small flat area to be left at the base of the main portal. The final contours are shown on Map F and the cross sections are shown on Map C-5. The backfilling and grading will require dozing of approximately 3,200 cubic yards. The material will require a short uphill push with a D-7 dozer, at a grade of 33% and a length of approximately 240 feet.

Pocking of the regraded surface will be required at the Packrat because the topsoil available for this site is poor (imported alluvium from lower elevation) and the slopes are relatively steep. Pocking consists of using the bucket of a hydraulic excavator to create a series of depressions in the slope surface where runoff can be retained so as to promote plant germination and reduce erosion. Pocking will be done on an area of approximately 0.99 acres using depressions of approximately 10 feet x 10 feet and 2 feet deep. If additional soil is available from stripping and reclamation at the Whirlwind waste embankment area, additional soil may be brought to the Packrat portal for reclamation. The Whirlwind reclamation, however, will have no less than 12 inches of topsoil replacement.

#### 10. Use MSHA Berm to Re-topsoil Packrat Portal Area

All previous substitute topsoil used to reclaim the Packrat Portal area was stripped and placed along the perimeter of the Packrat Pad and Road to create the 3-foot high safety berm required by MSHA. During reclamation, this material will be removed and replaced on the pocked surface of the Packrat Portal area of approximately 0.99 acre. This material was previously calculated as having a volume of 672 cubic yards, assuming a soil depth of 5 inches. It will be placed carefully into the pockmarks.

#### 11. Re-Seed and Mulch the Packrat Portal Area

Once re-topsoiling is complete, the area must be immediately seeded and mulched because the Packrat Road will be removed, preventing future access to the site by vehicle. Seeding and mulching will be done by broadcast methods using the seed mix described below in Table E-2:

Table E-2 Reclamation Seed Mix:

Species	Lbs Pure Live Seed per acre
Rincon or Native Four Wing Saltbush	2.0
Lutana Cicer Milkvetch	0.2
Cedar Palmer Penstemon	0.1
Lewis Flax	0.5
Hachita Blue Grama	0.3
Needle and Threadgrass	1.6
Paloma Indian Ricegrass	1.4
Nordan Crested Wheatgrass	1.0
Luna Pubescent Wheatgrass	2.0
Primar Slender Wheatgrass	1.3
Arriba Western Wheatgrass	1.8
Total	12.2

The rates above are for dill seeding. Seed application rates will be doubled when using broadcast methods.

Certified weed free hay or straw mulch will be applied after seeding at the rate of 2,000 lbs per acre. This mulch will be applied manually given the restricted access to this site and the undulating surface created by pocking.

### 12. Partial Backfilling and Grading of Packrat Road

The Packrat Road is a pre-existing road that was cut from the hillside in order to provide access to the early operation of the Packrat Mine, which started decades ago. During construction of the road, rock and soil excavated from the road cut were side cast downslope to create the full width of the road. The road was previously reclaimed by ripping and seeding the road surface and installing water bars.

Previous reclamation did not include recontouring of the road cut. Energy Fuels will utilize this road to access the Packrat portal and will reclaim the road after the work at the portal area is complete. Reclamation will include partial backfilling and recontouring of the road cut so that the reclaimed surface better blends with the surrounding area. Water bars will also be installed in their approximate former locations to divert water off the reclaimed road into the natural drainage below.

Pulling up all the material from the outside edge of the road is not practical or environmentally sound since the original slope was steeper than 2H:1V in many places. Replacement of the loose material at this slope angle would likely produce a slope with a low safety factor (i.e., less than 1.3) that is prone to accelerated erosion. In addition, almost all of the material placed on the outside edge of the road during original road construction has revegetated in the intervening years. Pulling this material back up the hill will result in more disturbance and potential erosion in an area that will not be easily accessible after reclamation is completed. It is proposed that only the top 2.5 vertical feet of the outside edge of the road be removed and placed on the inside edge to achieve partial backfilling. This will lessen the erosion impacts compared to more extensive recontouring and the material placed on the road cut slope (west edge) can be placed to achieve an angle of approximately 4H:1V, which is more stable, easier to revegetate, and less prone to erosion. The cross sectional area to be cut and filled is approximately 25 square feet, as shown in Figure E-1 below.



Since the length of road is 1,660 feet, the volume needed to cut and fill is 1,537 cubic yards. Four large water bars will also be installed in approximately the same location as those installed during previous reclamation activities. This will require about 15 cubic yards of additional cut and fill per water bar bringing the total cut and fill quantity to 1,597 cubic yards. The water bars will be constructed using a small, track-mounted hydraulic excavator.

Much of the road fill is well vegetated and contains the original topsoil from the road excavation; therefore no topsoiling of the fill is needed. It will be left in a rough loose condition to enhance revegetation. Boulders will be used to construct berms in the narrower portions of the Packrat Road where a soil berm would be too wide. During reclamation, these boulders will be salvaged and later used to block the entrance to both the Packrat and Whirlwind access roads.

#### 13. Seeding, Mulching, and Blocking of Packrat Road

The backfilled surface will be reseeded as segments of road are reclaimed, since there will be no future access. The methods are the same as that described for the Packrat Portal area in Section 11 of this Exhibit. As measured from Figure E-1, the width of area to be reseeded is 25 feet times the road length of 1,660 feet = 41,500 square feet (sf) or 0.95 acres.

Boulders salvaged from the road berm will be placed across the road entrance to discourage access by recreational vehicles. This work will be done with a front end loader.

#### 14. Rip Compacted Traffic Areas of Whirlwind Mine Prior to Topsoiling

The Whirlwind portal bench, access roads, facility areas and top of waste embankments will be ripped to a depth of 2.5 feet prior to topsoiling to relieve compaction from vehicle traffic. The total area to be ripped is 7.41 acres.

#### 15. Topsoil Replacement on Remaining Areas of Whirlwind Mine

As shown on Map F, the remaining areas that will require topsoiling at the end of the mine life are the water treatment area, called Area #2, which is 2.35 acres in size. The Whirlwind portal bench, and the eastern portion of the waste embankment are called area #1, which is 5.72 acres in size. The total area for re-topsoiling is 8.07 acres. The replacement thickness is from 12 to 16 inches with an expected average of 14 inches, therefore, the volume to be spread and graded is 15,189 cubic yards.

The required topsoil will be obtained from the following stockpiles:

Main Stockpile north of County Road: 7,182 cy. Stockpile near Water Treatment Area: 4,214 cy. Stockpile at portal bench: 3,928 cy.

Total available: 15,324 cy

Whirlwind Mine (rev. January 25January 25April 08)

The topsoil from the Water Treatment area will be used to reclaim that area. Similarly, the portal bench stockpile will be used to reclaim the bench itself. These piles can be easily moved a short distance by a D-7 dozer and spread over the desired area.

The main stockpile of 7,182 cy will be moved by loader and truck and spread with a D-7 dozer.

#### 16. Harrow Topsoil at the Whirlwind Portal Area

Harrowing topsoil at a grade of 3H:1V requires a tractor and disc. The area to be harrowed is 8.07 acres of topsoil replacement area + 1.82 acres of original stockpile area = 9.89 acres.

#### 17. Re-Seed, Mulch, and Block the Whirlwind Portal Area

The area of seeding and mulching is the same as that for harrowing topsoil: 9.89 acres. The seed mix is the same as that for the Packrat Portal. Hydromulching and hydroseeding methods will be used at this location since it has areas of 3H:1V slopes and the area is large enough to justify the mobilization of the hydroseeding truck. Wood fiber mulch will be included at the rate of 3,000 pounds (lbs) per acre. Tackifier will also be applied.

Blocking access to the reclaimed Whirlwind portal area will be more difficult than the Packrat road because the area is open and the slopes are relatively gentle. It may be preferable to leave the fence and gate along the road in place until the area has achieved revegetation standards and then remove them at the same time as the sediment pond. For reclamation costing purposes, construction of a berm and ditch over a 200-foot linear distance is assumed in this area along with the strategic placement of boulders salvaged from the Packrat road berm. This work would be done with a D-7 dozer or equivalent.

#### 18. Backfill Sediment Pond and Collection Ditches

The sediment pond must be backfilled. The estimated fill volume is 4,608 cubic yards (cy). The material will be obtained by regrading the treatment pad area and from the adjacent fill stockpile shown on Map C-2.

The Whirlwind Sediment Pond will not be backfilled until the vegetation is adequate to control erosion from the site. At that time, the ditches that drain to the Sediment Pond will be allowed to drain to the ephemeral branch of Lumsden Creek. See Map F in Appendix I. These ditches are designed for the 100-year, 24-hour event and they are meant to carry runoff off the site in a controlled manner. Any associated culverts under the county road will remain. The culvert within the waste rock area will be removed and replaced with a low-water crossing that will allow future access for reclamation monitoring and maintenance. This minor earthwork will be done with a D-7 dozer or smaller.

#### 19. Post-Reclamation Site Drainage

The entire Packrat permit area will drain to the ephemeral drainage to the east, as in the past prior to mining. The reclamation of the Packrat Road will restore the natural drainage to a configuration that more closely approximates pre-mining conditions than that which currently exists. The Whirlwind area will be altered slightly since the permanent diversions around the reclaimed waste rock pile will remain to keep as much water off the waste as possible. The final layout of these permanent ditches is shown on Map F.

#### 20. Weed Control

Appropriate measures will be employed to minimize the occurrence and spread of noxious weed species. The Weed Control Plan for the site will include:

1) A weed survey will be made of the permit area each spring in April or May.

- 2) If noxious weeds are identified, they will be sprayed using a backpack sprayer or 4-wheeler with chemicals approved for use by the weed control staff of Mesa County.
- After reclamation, weed surveys and spraying will continue until the perennial cover and production of the site have met State and BLM requirements and bond release has been obtained.

The BLM and Mesa County weed control staff will be consulted regarding any identified weed infestation areas and appropriate control measures will be agreed upon prior to their initiation. The plan does not contemplate total weed removal in reclaimed areas on the property. Past experience shows that some initial weed cover in the first year following retopsoiling is beneficial to the reclamation effort at dry range sites. Weeds tend to provide shade for new grasses, are a means of holding snow on the seedbed longer and protect it from wind and water erosion until the planted species have taken hold.

#### 21. Revegetation Success Criteria

The pre-mine site is basically Pinyon Juniper community with an understory of grasses and forbs. The post-mining revegetation will emphasize grasses, forbs and shrubs that can be utilized by wildlife as forage. Based on pre-disturbance reconnaissance of the Whirlwind waste embankment area, it is estimated that the live perennial cover below the tree canopy is approximately 20%. The disturbed areas will be considered satisfactorily revegetated by the BLM when the percent vegetative cover at least equals the cover percent prior to disturbance and the plant species composition is at least as desirable as the present prior to disturbance.

#### 22. Monitoring Reclamation Success

Monitoring of reclaimed areas on an ongoing basis during mining operations and during the postclosure period will help to assure successful reclamation. The operator plans to consult with the local NRCS office in Mesa County and the BLM prior to and after reclamation to determine preferred methods for minimizing erosion and enhancing revegetation. If minor changes or modifications are needed in the seeding and reclamation plan, revised plans will be submitted to the BLM and DRMS, if required. It is hoped that the agencies will provide assistance in evaluating the success of the ongoing reclamation process. A summary of the areas disturbed and reclaimed and any other important items regarding site monitoring and reclamation will be submitted to the Division and BLM in annual reports.

#### 24. Reclamation Cost Estimate

The reclamation scenario resulting in the highest cost occurs at the conclusion of mining, since most of the Whirlwind bench, the mine structures, vent shafts, and a portion of the waste embankment will need to be reclaimed. The entire Packrat portal, road, and power drop area will need to be reclaimed. The DRMS calculated a bond necessary to cover the reclamation items outlined in this Exhibit, and a copy of this bond calculation is included in Exhibit L.



1/21/2025 Energy Fuels Whirlwind Mine Dawn Kolkman

Job Scope:

Mix grout into approximately 40 cubic yards of sludge left in the water containment pit, pump into mine using an existing 6" water line.

Total estimate for this project:

\$85,050.00

This estimate includes grout to be mixed into sludge at 625 lbs of grout per yard of sludge.

Thank you for allowing Thirsty Bird Energy Services to be a part of this project. If you have any questions please feel free to call.

Zach Larimore Ops Manager Thirsty Bird Energy Services (970) 314-5777 zachlarimore@thirstybirdllc.com



DESIGN

**Proposal for Water Treatment System** 

Energy Fuels – Pinyon Plain Mine Tusayan, Arizona



DEVELOP



DELIVER

January 10, 2025

#### WRT Contact

Adam Szczesniak, Regional Sales Manager Email: <u>aszczesniak@wrtnet.com</u> Phone: 860-993-3418



901 W. 116th Ave., Suite 400 • Westminster, CO 80234 • 303-424-5355



# **Current Media Exchange**



Z-92-CG <sup>®</sup> Media Exchange	4 replacement vessels containing new Z-92-CG <sup>®</sup> Uranium Removal Media. WRT service team will disinfect and place the system back into operation. This includes new treatment media and replacement vessels.
Z-33 <sup>®</sup> New Media	23 cubic feet of new Z-33 <sup>®</sup> Arsenic Removal Media and 7 cubic feet of 6x12 barrier sand underbedding for replacement of media previously removed by Owner.
Service	Inspection of existing equipment by WRT personnel. A report will be delivered after inspection indicating any potential issues with equipment.
Media Disposal Adder	Removal of existing treatment vessels, transportation and proper disposition of spent media.

# **Media Exchange Pricing**

# CURRENT PRICING FOR MEDIA EXCHANGE Media Disposal Adder

# **EQUIPMENT PAYMENT TERMS**

- 50% upon execution of this Agreement
- 50% upon completion of service

Payment of invoices is due in full within 30 days of the date of the invoice. Payments must be made by ACH or check.

All orders are accepted subject to credit approval of purchaser.

Any amounts not paid when due will be subject to a finance charge of 1½% per month.

# DELIVERY

• Timeline to be determined

### SIGNATURES

In witness hereof the Client and WRT have executed this agreement

Energy Fuels Highway 64, Mile Marker 226, Forest Road 305/305Q Tusayan, AZ

By:		 
lts:	 	 
Date:		

Water Remediation Technology, LLC 901 W. 116<sup>th</sup> Avenue, Suite 40 Westminster, CO 80234

By: \_\_\_\_\_\_ Its: \_\_\_\_\_ Date: \_\_\_\_\_

\$61,600 *\$10,000* 

# **NOTES**

- This proposal is based upon today's costs and is valid for a period of 30 days.
- Pricing includes freight to site.
- Taxes, bonding, and permitting not included.
- Pricing is based on WRT standard terms and conditions.
- Financial Assurance may be required and is not included.
- Compliance with Build America, Buy America (BABA) Act has not been taken into consideration for this proposal.



# **Standard Terms and Conditions**

- 1. **Payment.** Unless otherwise agreed by the parties in writing, payment for all products purchased pursuant to this Agreement shall be made within 30 day of Seller's invoice. Any amount not paid as agreed shall be subject to an interest charge of 1% per month, compounded monthly. Buyer will be liable for all of Buyer's costs to collect amounts due under this agreement, including reasonable attorney's fees, whether or not any collection action is commenced.
- 2. Limited Warranty. Seller warrants the products sold to the Buyer to be free of defects in materials and workmanship for a period of one year after the products are delivered to Buyer. In the event of any such defect in the products during the warranty period, Seller will provide all parts and labor necessary to correct such defect.
- 3. Disclaimer Of Implied Warranties; Limitation Of Remedies. THE BUYER'S SOLE AND EXCLUSIVE REMEDY UNDER THE LIMITED WARRANTY PROVIDED HEREIN SHALL BE THE PARTS AND LABOR AS PROVIDED IN THIS AGREEEMENT. ALL IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SELLER SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM THE BREACH OF ANY WARRANTIES WITH RESPECT TO THE PRODUCTS PURCHASED PURSUANT TO THIS AGREEMENT.
- 4. Waiver of and Indemnification for Claims. BUYER HEREBY AGREES TO WAIVE, RELEASE, DISCHARGE, INDEMNIFY AND HOLD SELLER HARMLESS FOR ANY AND ALL CLAIMS FOR DAMAGES FOR DEATH, PERSONAL INJURY OR PROPERTY DAMAGE WHICH IT OR THIRD PARTIES MAY HAVE OR WHICH MAY HEREAFTER ACCRUE AS A RESULT OF THE BUYERS' USE OF THE PRODUCTS SOLD PURSUANT TO THIS AGREEMENT.
- 5. **Intellectual Property.** To the extent the products sold pursuant to this Agreement contain, reflect or consist of the Seller's intellectual property, the sale does not include a sale of such intellectual property or of a license to use such intellectual property beyond the use by the Buyer of the products sold.
- 6. Assignment. In the event that Buyer assigns its rights and obligations under this Agreement any assignment of its payment obligation will be ineffective and Seller will remain jointly and severally liable, with its assignee, to pay all amounts due pursuant to this Agreement.
- 7. Non-Reliance on Written or Oral Statements. Buyer has relied on its own investigation about the qualities and performance of the products purchased pursuant to this Agreement and has not relied upon the written or oral statements of Seller or its representatives in entering into this Agreement.
- 8. **Only Agreement.** This is the only Agreement between the Buyer and Seller relating to the products purchased pursuant to this Agreement, and no oral or other statements, not contained herein, shall be binding on either the Buyer or the Seller.
- 9. Modification. The terms of this Agreement may not be modified, except in a writing signed by the party to be bound.
- 10. Non-Waiver; Severability. Waiver by either party hereto of non-performance of any term, provision, covenant, obligation or condition of this Agreement shall not be considered a waiver of any subsequent nonperformance, nor as waiver of the term, provision, covenant, obligation or condition itself. If any provision of this Agreement is found to be prohibited, invalid or unenforceable, such finding will not invalidate or render unenforceable any remaining provisions of this Agreement.
- 11. **Arbitration.** Any disputes arising in any way in connection with this Agreement or the products sold by the Seller shall be resolved by binding arbitration under the Colorado Uniform Arbitration Act (C.R.S. § 13-22-201 *et seq.*) (the "Act"). The parties agree that the District Court of Jefferson County, Colorado shall have jurisdiction over them for the purposes of applying the provisions of the Act. All arbitration proceedings shall take place within the greater metropolitan area of Denver, Colorado. Buyer will reimburse Seller for all attorney's fees incurred by Seller in any arbitration (for collection or otherwise) in which Seller prevails.
- 12. **Governing Law.** This Agreement and any disputes or claims arising from it shall be governed by and construed according to the laws of the State of Colorado.



wrtnet.com











# Clean water. Clean earth. That's our promise.®

WRT is the parent company of Loprest. For more information about our services, call 303.424.5355 or visit <u>wrtnet.com</u>.

Corporate Offices: 901 W. 116th Ave., Suite 400 • Westminster, CO 80234