Appendix A

DNR FORM SM-8A – APPLICATION FOR RECLAMATION PERMIT

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July 31, 2024
Washington Geological Survey

WASHINGTON STATE DEPT OF NATURAL RESOURCES

APPLICATION FOR RECLAMATION PERMIT AND PLAN (Form SM-8A)

Check appropriate box(es): ☒ new permit ☐ revision of existing permit ☐ transfer of permit ☐ expansion

NOTE: Do not attempt to complete this form until you have carefully read "Instructions for Form SM-8A".

1. NAME OF APPLICANT/PERMIT HOLDER(S)
Versatile Industries, Inc.

2. MAILING ADDRESS
P.O. Box 275
Ione, WA 99139

3. Telephone **509-442-2444** Email **kory@viidirt.com**

4. NAME OF MINE
Phillips Pit

5. Street address and milepost of surface mine
Milepost 115.5 on Washington SR 25

6. Distance (miles)	**7.** Direction from	**8.** Nearest community
~2	**North**	**Northport**

9. COUNTY **Stevens**
No attachments will be accepted. Legal Description of permit area:

1/4	Section	Township	Range
SE	**24**	**40N**	**39E**
NE	**25**	**40N**	**39E**
SW	**19**	**40N**	**40E**
NW	**30**	**40N**	**40E**

10. Do you or any person, partnership, or corporation associated with you now hold, or have you held, a surface mining operating or reclamation permit? ☒ yes ☐ no
If you answered yes to the above, please list: **#70-013217, #70-012996**

11. Are all of these mines now in compliance with RCW 78.44, WAC 332-18, and conditions of the permits? ☒ yes ☐ no
Have you ever had a surface mine operating or reclamation permit revoked? ☐ yes ☒ no
Have you ever had a reclamation security forfeited? ☐ yes ☒ no
If you answered yes to either of the above, give permit number(s):

12. TOTAL ACREAGE OF PERMIT AREA APPLIED FOR:
(Include all acreage to be permitted. See Form SM-6.) **66.5** acres

13. Total disturbed acreage (Include all acreage to be disturbed by mining and reclamation during the life of the mine.)
Total area to be disturbed: **~63** acres.
Area to be disturbed in next 36 months: **10** acres.

14. Maximum vertical depth (thickness) mined below pre-mining topographic grade will be **90** feet.

15. Lowest elevation of excavated mine will be **1,320** feet relative to mean sea level.
Highest elevation of excavated mine will be **1,420** feet relative to mean sea level.

16. Type of proposed or existing mine: ☒ pit ☐ quarry

17. Material(s) to be mined: ☒ sand and gravel ☐ rock or stone ☐ clay ☐ metal ☐ limestone ☐ silica ☐ other _____

18. Deposit type: ☒ glacial ☐ river floodplain (alluvial) ☐ river channel deposits ☐ talus ☐ bedrock ☐ lode ☐ other _____

19. Expected start date of mining:
Summer 2024

20. Estimated number of years:
~50 years

21. Total quantity to be mined over life of mine (estimated):
5 million (including topsoil, OB, and product) ☐ tons or ☒ cu yds

22. Estimated annual production:
100,000
☐ tons or ☒ cu yds

23. Subsequent land use: ☐ industrial ☐ commercial ☐ residential ☒ agricultural ☐ forestry ☐ wetlands and lakes ☒ other **Rangeland**
County or Municipality Approval for Surface Mining (Form SM-6) attached? ☒ yes ☐ no

24. Reclaimed elevation of floor of mine: **1,320** feet relative to mean sea level
Reclaimed elevation is shown on cross sections? ☒ yes ☐ no

25. SEPA Checklist required? ☒ yes ☐ no

26. Application fee for a new reclamation permit is herewith attached? ☒ yes ☐ no

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APPLICATION FOR RECLAMATION PERMIT AND PLAN

22. SEGMENTAL RECLAMATION

Permit area has been divided into segments for mining and a mining schedule has been developed? ☒ yes ☐ no
If no, explain:

Permit area has been divided into segments for reclamation and a reclamation schedule has been developed? ☒ yes ☐ no
If no, explain:

23. SITE PREPARATION

23A. Saving Topsoil, Subsoil, and Overburden for Reclamation

Thickness of topsoil is **0.25 to 0.5** feet Thickness of subsoil is **~0** feet Depth to bedrock is **>200** feet
Total volume of topsoil is **30,000** cubic yards Total volume of subsoil is **included with topsoil** cubic yards
Volume of stored topsoil/subsoil is **30,000** cubic yards and will require **~2** acres for storage.

Storage areas are shown on maps and will be marked on the ground with permanent boundary markers? ☒ yes ☐ no

Topsoil will be salvaged? ☒ yes ☐ no
If no, explain:

Topsoil and overburden will be moved to reclaim an adjacent depleted segment? ☒ yes ☐ no
If no, explain:

Before materials are moved, vegetation will be cleared and drainage planned for soil storage areas? ☒ yes ☐ no
If no, explain:

Soil storage areas will be stabilized with vegetation to prevent erosion if materials will be stored for more than one season? ☒ yes ☐ no
If no, explain:

23B. Permit and Disturbed Area Boundaries

Boundary of the permit area will be marked on the ground with permanent boundary markers? ☒ yes ☐ no
Explain boundary markers: **Metal T-posts and perimeter fences.**

23C. Setbacks Screens and Buffers

Are Screens required and are shown on maps? ☐ yes ☒ no

The reclamation setback for this site will be **20** feet wide.

Is a permanent, undisturbed buffer planned for this site? ☐ yes ☒ no
If no, explain: **Reclamation setback may be used for some topsoil storage and access.**

Setbacks and buffers are shown on maps and have been marked on the ground with permanent boundary markers? ☒ yes ☐ no
If no, explain:

23D. Buffers to Protect Streams and Flood Plains

Will the site include a stream or flood plain? ☐ **yes** ☒ **no**
If yes, see "Additional Requirements for Mines in Flood Plains" in "Instructions for SM-8A".
If no, skip to 23E.

A stream buffer of at least 200 feet has been marked on the ground with permanent boundary markers? ☐ yes ☐ no

A buffer of at least 200 feet from the 100-year flood plain has been marked on the ground with permanent boundary markers? ☐ yes ☐ no
If no, explain:

Copy of Shoreline Permit from local government or the Department of Ecology is attached? ☐ yes ☐ no

Hydraulic Project Approval from the Department of Fish and Wildlife is attached? ☐ yes ☐ no

23E. Conservation Buffers

Are there any conservation buffers? ☐ yes ☒ no

If no, skip to 23F

Conservation buffers will be established for the following purpose(s): *(Check all that apply)*

☐ unstable slopes ☐ wildlife habitat ☐ water quality ☐ other

Describe the nature and configuration of the conservation buffer(s):

Conservation buffers are shown on maps and have been marked on the ground with permanent boundary markers? ☐ yes ☐ no

23F. Ground Water

High water table depth is **~1,319 (west)** feet ☒ relative to mean sea level, ☐ below original surface, or ☐ unknown.

Low water table depth is **~1,270 (east)** feet ☒ relative to mean sea level, ☐ below original surface, or ☐ unknown.

Annual fluctuation of water table is from **unknown** feet on _____ to _____ feet on _____.

Are well logs attached? ☒ yes ☐ no

The shallowest aquifer is ☐ confined ☒ unconfined

The site will be mined: ☐ wet ☒ dry ☐ both

Describe mining method: **Sand and gravel will be excavated using conventional earthmoving equipment.**

The site is in a: **N/A**

☐ critical aquifer recharge area ☐ sole source aquifer ☐ public water supply watershed

☐ wellhead protection area ☐ special protection area ☐ designated aquifer protection area

If checked above, see "Additional Requirements for Mines in Hydrologically Sensitive Areas" in "Instructions for SM-8A".

Ground water study attached? ☐ yes ☒ no

If no, explain: **Mining >10 vertical feet above interpreted groundwater. Nearby well logs attached.**

23G. Archeology

Are archeological/cultural resource sites present? ☒ yes ☐ no

If yes, describe how you will protect these resources: **A cultural resources survey was conducted by a professional archaeologist. No pre-contact archaeological resources were indicated or encountered. One historic feature, an old wagon road segment, was identified and is not recommended for listing or protection by the archaeologist. The cultural resources report provides an Inadvertent Discovery Plan that will be incorporated into the project plans.**

24. MINING PRACTICES TO FACILITATE RECLAMATION

24A. Soil Replacement

Topsoil and (or) subsoil will be restored? ☒ yes ☐ no

If "no", explain:

Subsoil will be replaced to an approximate depth of ***** feet on the pit floor and a depth of ***** feet on slopes. **(*included with topsoil)**

Topsoil will be replaced to an approximate depth of **~0.3** feet on the pit floor and a depth of **~0.3** feet on slopes.

If topsoil is in short supply, it will be strategically placed in depressions and low areas in adequate thickness to conserve moisture and promote revegetation? ☒ yes ☐ no

If no, explain:

Topsoil will be moved when conditions are not overly wet or dry? ☒ yes ☐ no

If no, explain:

Topsoil will be restored to promote effective revegetation and to stabilize slopes and mine floor? ☒ yes ☐ no

If "no", explain:

Topsoil will be replaced with equipment that will minimize compaction, or it will be plowed, disked, or ripped following placement? ☒ yes ☐ no

If no, explain:

Topsoil will be immediately stabilized with grasses and legumes to prevent loss by erosion, slumping, or crusting? ☒ yes ☐ no

If no, explain:

Segmental topsoil removal and replacement is shown on maps? ☒ yes ☐ no

If no, explain:

Topsoil will be imported? ☐ yes ☒ no

If yes, describe source.

Estimated volume is _____ cubic yards.

Synthetic topsoil made from compost, biosolids, or other amendments will be used and (or) made on site to supplement existing topsoil? ☐ yes ☒ no

Materials such as till, loess, and (or) silt are available on site that could be used to supplement topsoil for reclamation. ☒ yes ☐ no

If yes, explain: **Fine-grained outwash deposits may be encountered during mining and will be stored to augment recovered topsoil for reclamation.**

Silt from settling ponds or a filter press will be used for reclamation? ☐ yes ☒ no

Settling pond clay slurries will be pumped or hauled to other segments for reclamation? ☐ yes ☒ no

If yes, explain:

24B. Removal of Vegetation

Vegetation will be removed sequentially from areas to be mined to prevent unnecessary erosion? ☒ yes ☐ no

If no, explain:

Small trees and other transplantable vegetation will be salvaged for use in revegetating other segments? ☐ yes ☒ no

If yes, give details. If no, explain: **Site will be revegetated for rangeland and agricultural post-mining use. Refer to Section 6.0 Revegetation Plan for details.**

Wood and other organic debris will be:

☐ recycled ☐ removed from site ☒ chipped ☒ burned ☐ buried ☐ used to synthesize topsoil or mulch

☐ other (*explain*)

Solid waste disposal, burning, and land use permits are attached? ☐ yes ☒ no

Some coarse wood (logs, stumps) and other large debris will be salvaged for fish and wildlife habitats? ☒ yes ☐ no

If yes, give details. If no, explain: **Stumps and logs can be placed on reclaimed areas for habitat when available.**

24C. Stormwater and Erosion control for Reclamation

Pit floor will slope at gentle angles toward highwall, sediment retention pond, or proper drainage? ☒ yes ☐ no

If yes, give details. If no, explain: **The pit floor will contain stormwater at final reclamation where water will readily infiltrate.**

Revegetation, sheeting, and (or) matting will be used to protect areas susceptible to erosion? ☒ yes ☐ no

If yes, give details. If no, explain: **Areas susceptible to erosion will be revegetated.**

Water control systems used during segmental reclamation will:

Divert clean water around pit? ☒ yes ☐ no

Trap sediment-laden runoff before it enters a stream? ☒ yes ☐ no

Be established to prevent erosion of setbacks and neighboring properties? ☒ yes ☐ no

Be removed or reclaimed? ☒ yes ☐ no

If any answers are no, explain:

Stormwater system design will be capable of carrying the peak flow of the 25-year, 24-hour precipitation event? ☒ yes ☐ no

(*Data are available at the National Oceanic And Atmospheric Administration (NOAA)*) ☐ yes ☒ no

If yes, are calculations attached?

If yes, give details. If no, explain: **The mine floor will receive and contain all stormwater generated within the disturbance boundary of the mine. Infiltration into the gravel and cobble floor will far exceed requirements for the design storm.**

Natural and other drainage channels will be kept free of equipment, wastes, stockpiles, and overburden? ☒ yes ☐ no

If no, explain:

25. RECLAMATION TOPOGRAPHY

25A. Final Slopes

Final slopes will be created using the cut-and-fill method? ☐ yes ☒ no

Explain procedure to be used:

Slopes will be created by mining to the final slope using the cut method? ☒ yes ☐ no

Explain procedure to be used: **Final mined slopes will be cut during the mining process.**

Slopes will vary in steepness? ☐ yes ☒ no

If no, explain: **Slopes surrounding the final mine floor will generally be graded at uniform 2H:1V gradient to support rangeland and agricultural use after reclamation.**

Slopes will have a sinuous appearance in both profile and plan view? ☒ yes ☐ no

If no, explain:

Large rectilinear (that is, right angle, or straight, planar) areas will be eliminated? ☒ yes ☐ no

If no, explain:

Where reasonable, tracks of the final equipment pass will be preserved and oriented to trap moisture, soil, and seeds, and to inhibit erosion? ☒ yes ☐ no

If no, explain:

25B. Slope Requirements for Pits and Overburden/Waste Rock Dumps (non-saleable products)

If the mine is a quarry or in hard rock, skip to Quarry section (25C).

Slopes will vary between 2 and 3 feet horizontal to 1 foot vertical or flatter, except in limited areas where steeper slopes are necessary to create sinuous topography and control drainage? ☒ yes ☐ no

If no, explain:

For pits, slopes will not exceed 2 feet horizontal to 1 foot vertical except as necessary to blend with adjacent natural slopes? ☒ yes ☐ no

Give details: **Slopes surrounding the final mine floor will generally be graded at uniform 2H:1V gradient to support rangeland and agricultural use after reclamation.**

Review "Additional Requirements for Mines with Steep or Potentially Unstable Slopes" in "Instructions for SM-8A".

Slope stability analysis required? ☐ yes ☒ no

If yes, attach analysis.

25C. Slope Requirements for Quarries and Hardrock Metal Mines

If mine is a pit in unconsolidated materials covered by Section 25B, go to Section 25D

Check the appropriate box(es)

☐ Slopes will not exceed 2 feet horizontal to 1 foot vertical.

☐ Slopes steeper than 1 foot horizontal to 1 foot vertical are an acceptable subsequent land use as confirmed on Form SM-6.

☐ Hazardous slopes or cliffs are indigenous to the immediate area and already present a potential threat to human life. Photo and maps attached to document presence of cliffs.

☐ Geologic or topographic characteristics of the site preclude slopes being reclaimed at a flatter angle and are an acceptable subsequent land use as confirmed on Form SM-6.

Review "Additional Requirements for Mines with Steep or Potentially Unstable Slopes" in "Instructions for SM-8A".

Slope stability analysis required? If yes, attach analysis.	☐ yes ☐ no
Measures will be taken to limit access to the top and bottom of hazardous slopes? Describe measures, or if no, explain:	☐ yes ☐ no
Selective blasting will be used to remove benches and walls and to create chutes, buttresses, spurs, scree slopes, and rough cliff faces that appear natural? Blasting plan attached? If no, explain:	☐ yes ☐ no ☐ yes ☐ no
Reclamation blasting will be used to reduce the entire highwall to a scree or rubble slope less than 2 feet horizontal to 1 foot vertical? Blasting plan is attached? If no, explain:	☐ yes ☐ no ☐ yes ☐ no
Access to benches will be maintained for reclamation blasting? If no, explain:	☐ yes ☐ no
Small portions of benches will be left to provide habitat for raptors and other cliff-dwelling birds?	☐ yes ☐ no
25D. Backfilling	
The site will require backfilling? **If no, skip to 25E.** Maximum depth of backfilling is __ feet.	☐ yes ☒ no
Backfill will be ☐ onsite materials ☐ imported materials ☐ both Provide a written screening method that ensures importation of acceptable soil for reclamation.	☐ yes ☐ no
Backfilling plan is attached? If no, explain:	☐ yes ☐ no
Backfill stockpiles are shown on maps and will be marked on the ground with markers?	☐ yes ☐ no
All grading/backfilling will be done with non-noxious, non-combustible, and relatively incompactible solids? If no, explain:	☐ yes ☐ no
Backfill will require compaction? If no, explain:	☐ yes ☐ no
Will you be backfilling to create slopes? Is slope stability analysis attached? If no, explain.	☐ yes ☐ no ☐ yes ☐ no
25E. Mine Floors	
Flat areas will be formed into gently rolling mounds? If yes, give details. If no, explain: **The mine floor will have small amounts of finer sand and topsoil placed strategically to form rolling mounds where appropriate.**	☒ yes ☐ no
Mine floor will be gently graded into sinuous drainage channels to preclude sheetwash erosion during intense precipitation? If yes, give details. If no, explain: **The mine floor will be sloped and shaped appropriately to eliminate erosion issues.**	☒ yes ☐ no
Mine floor and other compacted areas will be bulldozed, plowed, ripped, or blasted to foster revegetation? If yes, give details. If no, explain: **The mine floor will be ripped prior to the placement of topsoil to aid in revegetation.**	☒ yes ☐ no
25F. Lakes, Ponds, and Wetlands	
Is water currently present in the area or will the mining penetrate the water table? ***If no, go to Section 25G.***	☐ yes ☒ no

Reclaimed areas below the permanent low water table in soil, sand, gravel, and other unconsolidated material will have a slope no steeper than 1.5 feet horizontal to 1 foot vertical? If yes, give details. If no, explain:	☐ yes ☐ no
If not already present, soils, silts, and clay-bearing material will be placed below water level to enhance revegetation? If yes, give details. If no, explain:	☐ yes ☐ no
Some parts of pond and lake banks will be shaped so that a person can escape from the water?	☐ yes ☐ no
Armored spillways or other measures to prevent undesirable overflow or seepage will be provided to stabilize bodies of water and adjacent slopes? If yes, give details. If no, explain:	☐ yes ☐ no
Wildlife habitat will be developed, incorporating such measures as:	
Sinuous and irregular shorelines?	☐ yes ☐ no
Varied water depths?	☐ yes ☐ no
Shallow areas less than 18 inches deep?	☐ yes ☐ no
Islands and peninsulas? Give details:	☐ yes ☐ no
Ponds or basins will:	
Be located in stable areas?	☐ yes ☐ no
Have sufficient volume for expected runoff?	☐ yes ☐ no
Have an emergency overflow spillway?	☐ yes ☐ no
Spillways and outfalls will be protected (for example, rock armor) to prevent failure and erosion? If any answers are no, explain:	☐ yes ☐ no
Proper measures will be taken to prevent seepage from water impoundments that could cause flooding outside the permitted area or adversely affect the stability of impoundment dams or adjacent slopes? If yes, give details. If no, explain:	☐ yes ☐ no
Written approval from other agencies with jurisdiction to regulate impoundment of water is attached? If no, explain:	☐ yes ☐ no
25G. Final Drainage Configuration	
Drainages will be constructed on each reclaimed segment to control surface water, erosion, and siltation?	☒ yes ☐ no
Result in essentially natural conditions of volume, velocity, and turbidity?	☒ yes ☐ no
Clean runoff is directed to a safe outlet? If yes, give details. If no, explain: **All drainage will be contained within the incised mine floor and infiltrated.**	☐ yes ☒ no
Are these shown on maps?	☒ yes ☐ no
26. SITE CLEANUP AND PREPARATION FOR REVEGETATION	
26A. Dealing with Hazardous Materials	
Hazardous materials are present at the mine site? ***If no, go to Section 26B***	☐ yes ☒ no
The final ground surface drains away from any hazardous natural materials? If yes, give details. If no, explain:	☐ yes ☐ no
Plan for handling hazardous mineral wastes indigenous to the site is attached?	☐ yes ☐ no
If no, written approval from all appropriate solid waste regulatory agencies attached?	☐ yes ☐ no

APPLICATION FOR RECLAMATION PERMIT AND PLAN

26B. Removal of Debris

All debris (garbage, 'bone piles', treated wood, old mining equipment, etc.) will be removed from the mine site? ☒ yes ☐ no

All sheds, scale houses, and other structures will be removed from the site? ☒ yes ☐ no

If either answer is yes, give details. If no, explain: **No debris or structures will remain on the mine site at final reclamation.**

27. REVEGETATION

The mine site is in: ☒ eastern Washington ☐ western Washington

Revegetation area is: ☐ wet ☒ dry ☐ both

The average precipitation is **19.5 inches** per year.

Revegetation will start during the first proper growing season (fall for grasses and legumes, fall or late winter for trees and shrubs) following restoration of mine segments? ☒ yes ☐ no

If yes, give details. If no, explain: **Refer to Section 6.0 Revegetation Plan for details.**

The site will not be revegetated because:

☐ It is a rural area with a rainfall exceeding 30 inches annually and erosion will not be a problem (requires approval of DNR).

☐ Revegetation is inappropriate for the approved subsequent use of this surface mine.

Explain:

27A. Recommended Pioneer Species

In the Sections below, check the species that will be planted at your mine site:

**** indicates nitrogen-fixing species***

Western Washington Dry Areas

☐ alfalfa*	☐ lupine*	☐ clover*	☐ orchard grass
☐ cereal rye	☐ perennial rye	☐ colonial bent grass	☐ ponderosa pine
☐ creeping red fescue	☐ red alder*	☐ Douglas fir	☐ shore pine
☐ ground cover	☐ shrubs	☐ other	

Western Washington Wet Areas

☐ birdsfoot trefoil	☐ sedges	☐ cedar	☐ tubers
☐ cottonwood	☐ wetland grasses	☐ creeping red fescue	☐ willow
☐ red alder*	☐ other		

Eastern Washington Dry Areas

☐ alder*	☒ grasses	☐ alfalfa*	☐ juniper
☐ black locust	☐ lodgepole pine	☐ clover	☐ lupine*
☐ deciduous trees	☐ ponderosa pine	☐ shrubs	☐ deep-rooted ground cover
☐ diverse evergreens	☐ other		

Eastern Washington Wet Areas

☐ alder*	☐ cottonwood	☐ poplar	☐ sedges
☐ serviceberry	☐ tubers	☐ willow	
☐ other			

Give planting details (stems/acres of trees and shrubs, see Forest Practices manual; lbs/acre of grass, legume, or forb mixture):

Refer to Section 6.0 Revegetation Plan for details.

Describe weed control plan:

Weed compliance will be in accordance with the Stevens County Noxious Weed Control Board.

APPLICATION FOR RECLAMATION PERMIT AND PLAN

27B. Planting Techniques

Revegetation at this site will require:

Ripping and tilling?	☒ yes	☐ no
Blasting to create permeability?	☐ yes	☒ no
Mulching?	☐ yes	☒ no
Irrigation?	☐ yes	☒ no
Fertilization?	☐ yes	☒ no
Importation of clay- or humus-bearing soils?	☐ yes	☒ no
Other soil conditioners or amendments?	☐ yes	☒ no

Give details: **Compacted areas of the mine floor will be ripped prior to topsoil placement.**

Trees and shrubs will be planted in topsoil or in subsoil amended with generous amounts of organic matter? ☐ yes ☒ no

If yes, give details. If no, explain: **No trees will be used for revegetation. Refer to Section 6.0 Revegetation Plan for details.**

Mulch will be piled around the base of trees and shrubs?	☐ yes	☒ no
High quality stock will be used?	☐ yes	☒ no
Trees and shrubs will be planted while they are dormant?	☐ yes	☒ no
Stock will be properly handled, kept cool and moist, and planted as soon as possible?	☐ yes	☒ no
Seeds will be covered with topsoil or mulch no deeper than one-half inch?	☒ yes	☐ no

If any answers are no, explain: **No trees will be used for revegetation.**

28. FINAL CHECKLIST

All required maps are attached? (***See "Instructions for SM-8A" for detailed requirements.***)	☒ yes	☐ no
All required cross sections are attached? (***See "Instructions for SM-8A" for detailed requirements.***)	☒ yes	☐ no
Geologic map attached (if required)? (***See "Instructions for SM-8A" for detailed requirements.***)	☐ yes	☒ no
All documents submitted have the date, the name and address of the permit holder, and the application number?	☒ yes	☐ no
Have you completed the SM-6 and has it been signed by the local jurisdiction?	☒ yes	☐ no
Have you provided the SEPA checklist?	☒ yes	☐ no
Have you provided a copy of the SEPA determination (DNS, MDNS, or DS)?	☐ yes	☒ no
Have you attached photographs (as needed)?	☒ yes	☐ no

Are additional supplemental studies included? ☐ yes ☒ no

If yes, check the appropriate box(es) below:

☐ Archeological ☐ Geohydrologic ☐ Backfill ☐ Slope stability
☐ Topsoil ☐ Flood plain ☐ Conservational ☐ Vegetation
☐ Other

Other permits required? ☒ yes ☐ no

If yes, check the appropriate box(es) below:

☐ Shoreline Permit ☐ Water Discharge Permit ☐ Solid Waste Permit
☐ Air Quality Permit ☒ NPDS or General Discharge Permit ☐ Hydraulic Project Approval
☐ Special or Conditional Use Permit ☐ Other

APPLICATION FOR RECLAMATION PERMIT AND PLAN

IDENTIFICATION OF LANDOWNER(S)

Identify names and addresses of all landowners. Provide written evidence of landowner approval of the extraction of minerals by surface mining methods and of the reclamation plan and/or provide the signature of all landowners below. If landownership has been severed between surface and mineral rights ownership, identify all affected mineral rights owner(s) and provide their approval. *(Attach signed copies of this page if more than one.)*

Print Name(s): **Phillips EZ2C Ranch LLC**

Address(es): **4522 Mitchell Road**
Northport, WA 99157

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APPLICANT ACKNOWLEDGEMENT

By signing this application, the applicant acknowledges the following:

- **Application's Information True.** The applicant verifies that all information on this application and reclamation plan is true.
- **Reclamation Plan Contents.** The applicant's reclamation plan consists of this document (SM-8A), associated maps, cross sections, reclamation narrative, and other attachments. The department's approval of this application would reflect approval of the applicant's reclamation plan.
- **Applicant/Permit Holder Must Comply.** If the department approves this application, the applicant shall be the permit holder and shall be responsible for compliance with Chapter 78.44 RCW, Chapter 332-18 WAC, the terms and conditions of the permit, and the approved reclamation plan and attachments. ***The permit holder shall comply with the permit and may not significantly deviate from the reclamation plan without prior written approval by the department for the proposed change.*** Revised permits or modified plans might be necessary following significant deviations.
- **Applicant/Permit Holder Consents to Inspection.** All permitted surface mines are subject to regular inspection. See RCW 78.44.161 and WAC 332-18-050. The applicant verifies that it has authority to consent to department inspections on behalf of itself and the landowner(s). ***Applicant authorizes the department to enter and inspect any property covered by this application during any day or time determined necessary by the department to ensure compliance with the Surface Mining Act, Surface Mining Rules, the Reclamation Permit, and the Reclamation Plan.***

APPLICANT Signature of surface mine permit applicant or applicant's company representative	Name and Title of Company Representative (Please print) **Kory Hedrick** **Vice President**	Date signed 1/25/2024

LANDOWNER(S)

As landowner, I Michael Phillips (name) authorize the applicant to extract minerals from my land using surface mining methods and I approve this reclamation plan.

Signature: Michael Phillips Date signed: 1/25/2024
Manager Phillips EZ2C Ranch

FOR DEPARTMENTAL USE ONLY

Date accepted	Accepted by:	Title:	Reclamation Permit No.

Appendix B

DNR FORM SM-6 – COUNTY OR MUNICIPALITY APPROVAL FOR SURFACE MINING

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Washington Geological Survey

WASHINGTON STATE DEPT OF NATURAL RESOURCES

COUNTY OR MUNICIPALITY APPROVAL FOR SURFACE MINING (Form SM-6)

NAME OF COMPANY OR INDIVIDUAL APPLICANT(S)
Same as name of the exploration permit holder. *(Type or print in ink.)*

Versatile Industries, Inc.

MAILING ADDRESS

P.O. Box 275
Ione, WA 99139

Telephone 509-442-2444

TOTAL ACREAGE AND DEPTH OF PERMIT AREA
(Include all acreage to be disturbed by mining, setbacks, and buffers, and associated activities during the life of the mine.) *(See SM-8A.)*

Total area permitted will be 66.5 acres

Maximum vertical depth below pre-mining topographic grade is 90 feet

Maximum depth of excavated mine floor is 1,320 feet relative to mean sea level

COUNTY Stevens

No attachments will be accepted. Legal description of permit area:

1/4	1/4	Section	Township	Range
SE	SE	24	40N	39E
NE	NE	25	40N	39E
SW	SW	19	40N	40E
SE	SW	19	40N	40E
NW	NW	30	40N	40E

Proposed subsequent use of site upon completion of reclamation

Rangeland and agricultural use

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Signature of company representative or individual applicant(s)	Name and title of company representative *(please print)*	Date signed
[signature]	Kory Hedrick Vice President	1/25/2024

TO BE COMPLETED BY THE APPROPRIATE COUNTY OR MUNICIPALITY:

Please answer the following questions 'yes' or 'no'.

	Yes	No
1. Has the proposed surface mine been approved under local zoning and land-use regulations?	X	
2. Is the proposed subsequent use of the land after reclamation consistent with the local land-use plan/designation?	X	

When complete, return this form to the Department of Natural Resources.

Name of planning director or administrative official *(please print)*

Erik Johansen

Signature

[signature]

Title (please print)

Director

Address

215 S. Oak St.
Colville, WA 99114

Telephone	Date	FOR DEPARTMENT USE ONLY:	DNR Reclamation Permit No.
509-624-2401	1-29-2024		70-013301

SURFACE MINE RECLAMATION PERMIT APPLICATION

PHILLIPS PIT

Applicant:
Versatile Industries, Inc.

Operator:
Versatile Industries, Inc.

Mailing Address:
P.O. Box 275
Ione, WA 99139

Physical Location:
Milepost 115.5 on Washington SR 25
Northport, WA 99157
Stevens County

Permitting Contact:
Kory Hedricks
(509) 442-2444

July 31, 2024

Washington State Department of Natural Resources
Washington Geological Survey

Prepared by:

FULCRUM GEO RESOURCES LLC

17600 Pacific Highway, Unit 357
Marylhurst, Oregon 97036

Project: 027.01.01

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1.0 INTRODUCTION

On behalf of Versatile Industries, Inc. (Versatile), Fulcrum GeoResources LLC has prepared this surface mine reclamation permit application for the DNR Washington Geological Survey Surface Mine Reclamation Program intended to satisfy DNR requirements pursuant to Chapter 78.44 Revised Code of Washington. This reclamation permit application includes this narrative, Figures 1 through 6, and the following appendices:

- Appendix A – DNR Form SM-8A, Application for Reclamation Permit
- Appendix B – DNR Form SM-6, County or Municipality Approval for Surface Mining
- Appendix C – SEPA Environmental Checklist
- Appendix D – WSDOT Boring Logs
- Appendix E – Well Logs
- Appendix F – Wetland Evaluation Report; Ardurra Group, Inc., July 2024
- Appendix G – Cultural Resources Report; Cordilleran Archaeological Research, July 2024

Acronyms and abbreviations used herein are defined in Section 9.0 of this document.

2.0 SITE DESCRIPTION

2.1 SITE LOCATION

Phillips Pit is located approximately 2 miles north of Northport in Stevens County, Washington. Access to the quarry is via an unnamed gravel roadway west of Washington SR 25 at approximately milepost 115.5. The mine permit area is located in tax parcels 2397800, 2399000, 5089605, and 5094901 (Figures 1 and 2) in the following quarter-quarter sections:

- SE quarter of the SE quarter of Section 24, Township 40 North, Range 39 East
- NE quarter of the NE quarter of Section 25, Township 40 North, Range 39 East
- SW and SE quarters of the SW quarter of Section 19, Township 40 North, Range 40 East
- NW quarter of the NW quarter of Section 30, Township 40 North, Range 40 East

2.2 BACKGROUND

The site consists of an elevated, flat-topped terrace at the foot of bedrock hills located along the northwest side of the Columbia River Valley and north of Big Sheep Creek, which flows out of the hills and into the Columbia River approximately 0.5 mile southeast of the site. The top of the flattened terrace on site ranges from about 1,410 to 1,380 feet MSL. A steep slope bounds the terrace to the south, dropping at gradients ranging from 40 to 100 percent down to elevations from about 1,350 feet MSL in the southwest site to 1,320 feet MSL in the southeast. Smaller, younger terraces step down further south to the channel of Big Sheep Creek. Based on review of lidar hillshade imagery and onsite observations, the main terrace slope does not have defined drainages descending to the lower terraces. The main terrace is vegetated with grasses from prior rangeland and agricultural use. West and south of this grassy plain, the site is forested with ponderosa pine and other conifers of varying ages from past timber harvest.

WSDOT has a permitted sand and gravel pit adjacent and southeast of the site (Sheep Creek Pit Site PS-W-63, DNR permit #70-011950). Previously, the pit extended slightly west onto the southeast site parcel (Figure 2), but WSDOT reclaimed the area and removed it from their permit in 2010. Some stockpiles of sand and gravel are still located on their mine site.

Most of the site vicinity has been used for commercial forestry, hayfields, rangeland, or is undeveloped. Several rural residences are located in the hills north of the site and along Big Sheep Creek south of the site. SR 25 bounds the site on the east and north sides.

Versatile plans to mine the site for construction sand and gravel resource. This will require a surface mining reclamation permit from DNR. The site is zoned Rural Area 5 (RA-5), which allows mining as an outright permitted use in Stevens County. As such, DNR will issue the first permit for the proposed mine project, requiring a SEPA environmental review. A SEPA checklist is provided in Appendix C.

2.3 SUBSEQUENT USE

At final reclamation, the quarry will be reclaimed to rangeland and agricultural use. Stevens County approved this subsequent use in the DNR Form SM-6, County or Municipality Approval for Surface Mining, which is presented in Appendix B.

3.0 SITE CHARACTERISTICS

3.1 GEOLOGY

The geology underlying the site consists of Pleistocene glacial outwash deposits of relatively clean sand and rounded gravel with many cobbles and boulders that form a well-defined terrace (Yates, 1971). These deposits were emplaced by recessional outwash streams from the most recent glaciation approximately 15,000 years ago. The sand and gravel deposits are exposed in the WSDOT mine excavation, in road cuts both onsite and along SR 25, and as isolated boulders and cobbles across the upper terrace surface. WSDOT drilled four borings on their mine parcel to depths ranging from 50 to 70 feet BGS. The encountered strata primarily consisted of sandy, coarse gravel with cobbles and occasional sand layers. The boring locations are approximately located on Figure 3, and the boring logs are presented in Appendix D. The lower terraces to the south of the main terrace represent more recently eroded and redeposited alluvium from post-glacial downcutting by Big Sheep Creek and other rivers.

Most of the site vicinity is mapped by Yates (1971) as glacial outwash and till deposits with isolated exposures of Eocene bedrock consisting of granite to the north (Sheppard Granite) and phyllite to the west in the Big Sheep Creek canyon. Well logs from Ecology's Well Report Viewer for residential wells located in the hills north of the site report shale and limestone encountered from near ground surface to at least 340 feet BGS. Based on well logs for residential wells drilled near Big Sheep Creek, bedrock likely underlies the glacial deposits below the site at depths at least 200 feet BGS. Well logs are included in Appendix E.

3.2 HYDROGEOLOGY

Surface streams and drainages are not located on the site, likely due to the coarse-grained outwash allowing rapid infiltration of precipitation into the subsurface. Big Sheep Creek flows from west to east and will be located at least 250 feet south of any mining-related disturbance. Water wells in the hills north of the site are developed in confined bedrock aquifers with water-bearing zones at elevations of about 1,270 feet MSL north of the site and 1,390 feet MSL further northwest. Two residential wells drilled south of Big Sheep Creek encountered confined aquifers below a tight clay deposit (possibly glacial till) at elevations ranging from about 1,171 to 1,185 feet MSL. Two wells installed approximately between the site and Big Sheep Creek are developed in an unconfined, alluvial sand and gravel aquifer with water levels ranging from about 1,319 feet MSL to the southwest and 1,270 to the east of the site. Based on the well log data and the geomorphology of the surrounding area, the interpreted water table underlying the site is shown on the cross sections on Figure 6. The interpreted water table will be at least 10 feet below the proposed final mine floor discussed below.

3.3 WETLANDS

The USFWS maps a potential wetland polygon in the southeastern portion of the site on its National Wetlands Inventory. Professional biologists from Ardurra Group, Inc. (Ardurra) out of Spokane, Washington conducted a wetland survey of the project area. No wetlands were identified on the site, and Ardurra determined the mapped wetland polygon is located in an upland habitat. Ardurra's wetland evaluation report is provided in Appendix F.

3.4 CULTURAL RESOURCES

Much of the site area is mapped by DAHP's archaeological predictive model as having a "very high" potential for cultural resources. A professional archaeologist from Cordilleran Archaeological Research (Cordilleran) out of Spokane, Washington conducted a cultural resources evaluation and survey of the site area. No pre-contact archaeological resources were indicated or encountered during the survey. One historic feature, an old wagon road segment, was identified and is not recommended for listing or protection by the archaeologist. Cordilleran's cultural resources report is provided in Appendix G. The cultural resources report provides an Inadvertent Discovery Plan that will be incorporated into the mine project plans.

4.0 MINING AND RECLAMATION

The permit boundary for this site includes 66.5 acres, approximately 63 acres of which will be disturbed by mineral extraction and other mining disturbance. The reclamation sequence map is shown on Figure 4, and the final topography map is shown on Figure 5. Cross sections showing the existing and final slopes are presented on Figure 6. The maximum depth of mining is approximately 90 feet BGS. The final mine floor will range from approximately 1,330 feet MSL in the north and west site down to 1,320 feet MSL in the central and southeast site, meeting the adjacent grade of the WSDOT pit. Mining is projected to occur over the next 50 years or more and will involve the removal of approximately 5,447,000 cubic yards of resource material, overburden, and topsoil.

Mining-related activities will consist of soil excavation and storage in designated berms and storage areas; sand and gravel excavation using conventional earthwork equipment (i.e., loaders and excavators); temporary stockpiling of material; crushing and screening of material into product stockpiles; and hauling to and from the processing area. Commercial traffic will use the existing access road off of SR 25.

Mined slopes will be reclaimed as they reach their final configuration in general accordance with the sequence presented on Figure 4. Sinuous post-mining slopes will be constructed of in situ sand and gravel and will not exceed 2H:1V using a cut-slope method of mining. Figure 5 illustrates the final configuration of the reclaimed mine area upon completion of mining activities. Final mine slopes and the finished floor will be capped with topsoil and revegetated as described below.

4.1 TOPSOIL AND SUBSOIL PLAN

The U.S. Department of Agriculture – Natural Resources Conservation Service's Web Soil Survey maps soils in the project vicinity. Most of the site is mapped as Garrison gravelly loam extending across the outwash terrace. The slope dropping south from the main terrace to lower elevations is mapped as Spens extremely gravelly loamy sand. Neither the Garrison nor Spens typical soil profiles include descriptions of A or B horizons. The smaller terraces below the main slope in the southwest and southeast site are mapped as Springdale cobbly ashy sandy loam with an A horizon 4 inches thick overlying a B horizon 7 inches thick.

Topsoil depth observed in onsite roadcuts, along SR 25, and in the WSDOT pit excavation ranges from approximately 3 to 6 inches overlying sand and gravel. No significant subsoil was observed in these exposures. Topsoil and any encountered fine-grained deposits will be salvaged for use at reclamation. An estimated 30,000 cubic yards of topsoil will be available at the completion of mining assuming an in-situ average of 4 inches of topsoil. Final slopes and the mine floor will be covered with the 4 inches of topsoil at reclamation plus any fine-grained outwash deposits that are salvaged and stored during the mining process. Compacted areas will be ripped prior to topsoil placement.

4.2 SETBACKS AND BUFFERS

A minimum 20-foot setback will be maintained interior to the permit boundary. Some disturbance such as for access roads or topsoil storage may occur in setback areas and will be reclaimed along with the rest of the completed mine site unless the access routes are necessary for post-mining site development and use.

5.0 EROSION CONTROL

5.1 EXISTING STORMWATER

Currently, stormwater falls on the site and readily infiltrates into the underlying sand and gravel deposits. The absence of rills or gullies on the terrace slopes indicates stormwater rapidly infiltrates into the terrace substrate. Past mining on the adjacent WSDOT pit has also

demonstrated the sand and gravel deposits adequately infiltrate all stormwater in the mining disturbance.

5.2 POST-MINING STORMWATER

Post-mining stormwater will be contained on site by the post-mining topography, which will direct stormwater to the mine floor to readily infiltrate into the underlying sand and gravel deposits. Finished mine depths will be at least 10 feet vertically above the groundwater table, allowing capacity for stormwater infiltration. Stormwater volumes will be similar to what currently falls and infiltrates into the site subsurface.

6.0 REVEGETATION PLAN

Rangeland grasses will be established to provide a base for a productive, diverse, and successful revegetation scheme for the site. Over time, it is expected that a compatible community of forbs and shrubs will naturally re-establish on the grass-stabilized topsoil. The site will be sown at 10 to 20 pounds per acre within the prescribed timeframe. Seed should be broadcast (20 pounds per acre application) or mechanically drilled (10 pounds per acre application) at a shallow depth (less than 0.5 inch) with the topsoil covering the seed. Table 1 presents the prescribed species for diversity, forage suitability, wildlife habitat, slope protection, and erosion control.

Table 1. Rangeland Revegetation Specifications

Species Common Name	Species Scientific Name	Planting Method	Percentage (by weight)	Planting Season
Smooth brome	*Bromus inermis*	drilled or broadcast	60	late fall or early spring
Alsike clover	*Trifolium hybridum*	drilled or broadcast	20	late fall or early spring
Timothy grass	*Phleum pratense*	drilled or broadcast	20	late fall or early spring

Should noxious or invasive species propagate on site, they will be removed mechanically or by herbicide. The operator will consult with the Stevens County Noxious Weed Control Board during reclamation to develop weed control strategies.

7.0 REFERENCES

U.S. Department of Agriculture Natural Resources Conservation Service, n.d. Web Soil Survey. Retrieved from https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

U.S. Department of Fish and Wildlife Services, n.d. National Wetlands Inventory (NWI). Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.

Washington State Department of Archaeology and Historic Preservation, n.d. Washington Information System for Architectural and Archeological Records Data (WISAARD). Retrieved from https://wisaard.dahp.wa.gov/Map.

Washington State Department of Ecology, n.d. Washington State Well Report Viewer. Retrieved from https://appswr.ecology.wa.gov/wellconstruction/map/WCLSWebMap/default.aspx.

Washington State Department of Natural Resources, n.d. Forest Practices Application Mapping Tool (FPAMT). Retrieved from https://fpamt.dnr.wa.gov/2d-view#activity?-14866370,-12518225,5386282,6661863.

Washington State Department of Natural Resources, n.d. Washington Geologic Information Portal. Retrieved from https://geologyportal.dnr.wa.gov/.

Yates, R.G., 1971. Geologic Map of the Northport Quadrangle, Washington. USGS Miscellaneous Geologic Investigations Map I-603, scale 1:31,680.

8.0 LIMITATIONS

The services described in this narrative were provided consistent with generally accepted professional consulting principles and practices. Our narrative, conclusions, and interpretations should not be construed as warranty of the subsurface conditions and are not applicable to areas other than the subject site. This narrative is prepared solely for the use of our client and may not be used or relied upon by a third party for any purpose. Any such use or reliance will be at such party's risk.

The opinions and recommendations contained in this narrative apply to conditions existing when services were performed. Fulcrum GeoResources LLC is not responsible for the impacts of changes in environmental standards, practices, or regulations after the date of this narrative. Fulcrum GeoResources LLC does not warrant the accuracy of information that was supplied by others as incorporated in this permit application.

Our interpretations of the mining and geologic conditions are based on discussions with the client, review of publicly available information, and exposures of soil and rock within the mine area. The accuracy of outside information is beyond our control.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time this narrative was prepared. No warranty, express or implied, should be understood.

9.0 ACRONYMS AND ABBREVIATIONS

BGS	below ground surface
DAHP	Washington State Department of Archaeology and Historic Preservation
DNR	Washington State Department of Natural Resources
Ecology	Washington State Department of Ecology
H:V	horizontal to vertical
MSL	mean sea level
SEPA	Washington State Environmental Policy Act
USFWS	United States Fish and Wildlife Service
WSDOT	Washington State Department of Transportation

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