Silver Peak. An integrated uranium opportunity.

One place to explore, evaluate a prospective mine and build a local processing business.



EXPLORE / SPU-01

A 700 m² first-phase campus on Silver Peak Road, powered by Milieu GeoTrace.

VERIFY / U02

A prospective mine concept over the verified 9.545 ppm airborne eU response.

RECOVER / P-B

A separate northern processing concept with a 12 ha core and conditional residue reserve.

Milieu Minerals development proposal. Mine and plant are conditional concepts. Airborne response is not ore grade. Rendered from the shared georeferenced scene.

Build the opportunity in investable stages

A useful operating base today, a focused geological test, and a commercially explicit path to local processing.

The investment proposition. Establish Milieu Minerals at Silver Peak with a compact exploration campus, test the strongest nearby uranium response, and select the northern P-B processing site to reduce long-distance movement of mineralized material.

The immediate authorization. A $6M, 24-month discovery program is the first capital decision. The $2M campus remains a separate release after site control, access, utilities and an operating program are confirmed.

The expansion proposition. If independent drilling and metallurgy support an economic deposit, advance the selected P-B local recovery plant, with licensed off-site recovery as a benchmark and contingency. Keep the mine, local plant and residue facilities as separately approved investments.

A DISTINCTIVE OPERATING SYSTEM

Milieu GeoTrace, the geospatial awareness services arm, connects expert mapping, prospectivity analysis, sensors, data and integrations to field and capital decisions.

LOCAL PROCESSING / COMMERCIAL SCREEN

The hypothetical reference produces $41.1M annual cash against $309.6M future mine-and-mill funding. Five-year capital recovery needs 0.178% U3O8 under the model assumptions.

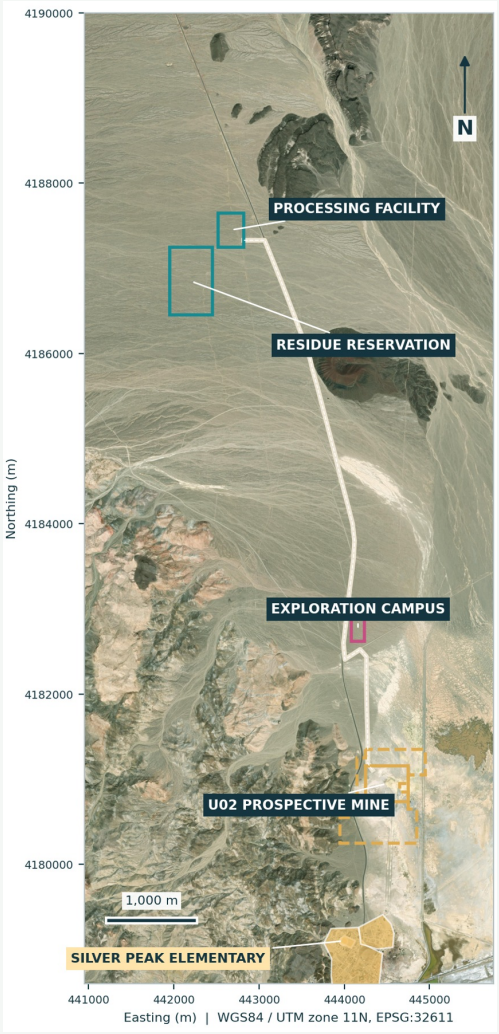
EVIDENCE THAT UNLOCKS CAPITAL

Chemical assays, mineralized continuity, representative recovery, lawful land and water access, permits and credible contracts determine the next step.

Local screen: 500,000 t/y, hypothetical 0.15% U3O8, $85/lb. Cash before tax/finance; no mine life or resource established. Costs are unquoted planning assumptions.

Three locations. One coordinated development.

The campus supports exploration; the U02 concept tests a geological opportunity; the selected northern plant has a distinct prospective operating role.



SPU-01 / Exploration campus
37.790407, -117.634206
3.90 ha east of NV 265. Public frontage and controlled core/sample work.

U02 / Prospective mine
37.773748, -117.631339
Investigation envelope and an illustrative extraction footprint over the strongest saved response.

P-B / Prospective processing
37.832674, -117.651500
12 ha plant core west of NV 265, with a conditional 40 ha residue reservation.

CONNECTED BY A NORTHERN OPERATING CORRIDOR

Campus gate to P-B: 5.69 km by indicative road route. Mine support to P-B: 7.01 km mapped planning corridor. Exact access and road-use agreements remain development gates.

Actual imagery is the map base. Proposed geometry is not a cadastral survey or an approved development. The detailed A3 sheets govern feature positions and IDs.

Specific locations, transparent land status

Named access roads and mapped footprints identify the proposal without inventing street addresses or ownership.

Component	Physical and legal location	Access and status
SPU-01 campus	Silver Peak Road / NV 265, north of Silver Peak, Esmeralda County, NV 89047. T2S R39E, Section 3, Mount Diablo Meridian.	Gate 37.789237, -117.633912. Proposed spur from east-side service track; legal access unconfirmed.
U02 mine concept	Near Silver Peak Road (NV 265). Illustrative pit: T2S R39E, Sections 10 and 15, Mount Diablo Meridian. The 21 ha reservation also intersects Sections 11 and 14.	Native peak 37.773748, -117.631339. Proposed access links support pads to the northbound corridor; legal road use and junctions unconfirmed.
P-B processing core	West of Silver Peak Road (NV 265), Esmeralda County, NV 89047. T1S R39E, Sections 21 and 28, Mount Diablo Meridian.	Gate 37.831602, -117.649786. 245 m proposed highway spur to the east-side controlled plant gate. Highway access authorization is unverified.
P-B residue reservation	T1S R39E, Section 28, Mount Diablo Meridian.	Conditional separate 40 ha planning reservation. No storage capacity or entitlement is established.

Land position. Surface-management mapping is a screening result. Site control, mineral estate, claims, withdrawals, access easements and surface occupancy require case-level title work. No numbered facility address or assessor parcel number is verified for the proposed footprints.

Geographic coordinates are WGS84; design geometry EPSG:32611. Geospatial precision is not survey accuracy. School has a verified published address; proposed facilities do not.

Keep the compact campus that already works

The integrated plan retains the 3.90 ha campus and its 700 m² first phase.



Permanent ID / building	Dimensions	Area
C-01 / Welcome + GeoTrace	20 × 10 m	200 m²
C-02 / Core and sample laboratory	30 × 10 m	300 m²
C-03 / Sensor workshop	20 × 10 m	200 m²

LOWER EARTHWORK EXPOSURE

The earlier six-site screen favored this compact east-side footprint. Full-envelope flattening proxy: 40,477 m³ cut versus 150,633 m³ at the earlier west-side option.

TERRACED FIRST PHASE

Native relief is 12.32 m across the envelope. Initial 7,500 m² disturbance has a 5,058 m³ flattening proxy; actual quantities require civil and geotechnical design.

RESERVE WITHOUT DUPLICATION

Northern campus spaces stay optional. Local recovery is at P-B; campus handling concepts are not counted again as mill buildings.

The 73% full-envelope cut-proxy reduction combines relocation and downsizing. Preserved C-01 to C-03 footprints govern every current campus rendering.

A welcoming front door to Milieu Minerals

Visitor frontage and shaded pedestrian areas are separated from controlled sampling and vehicle work.



A CONSISTENT IDENTITY

Bright white architecture, tinted glazing and restrained Milieu pink. Building frontage reads Milieu Minerals.

AN EXPLAINABLE PROJECT

Reception, project displays and scheduled community visits create an accessible introduction to the work.

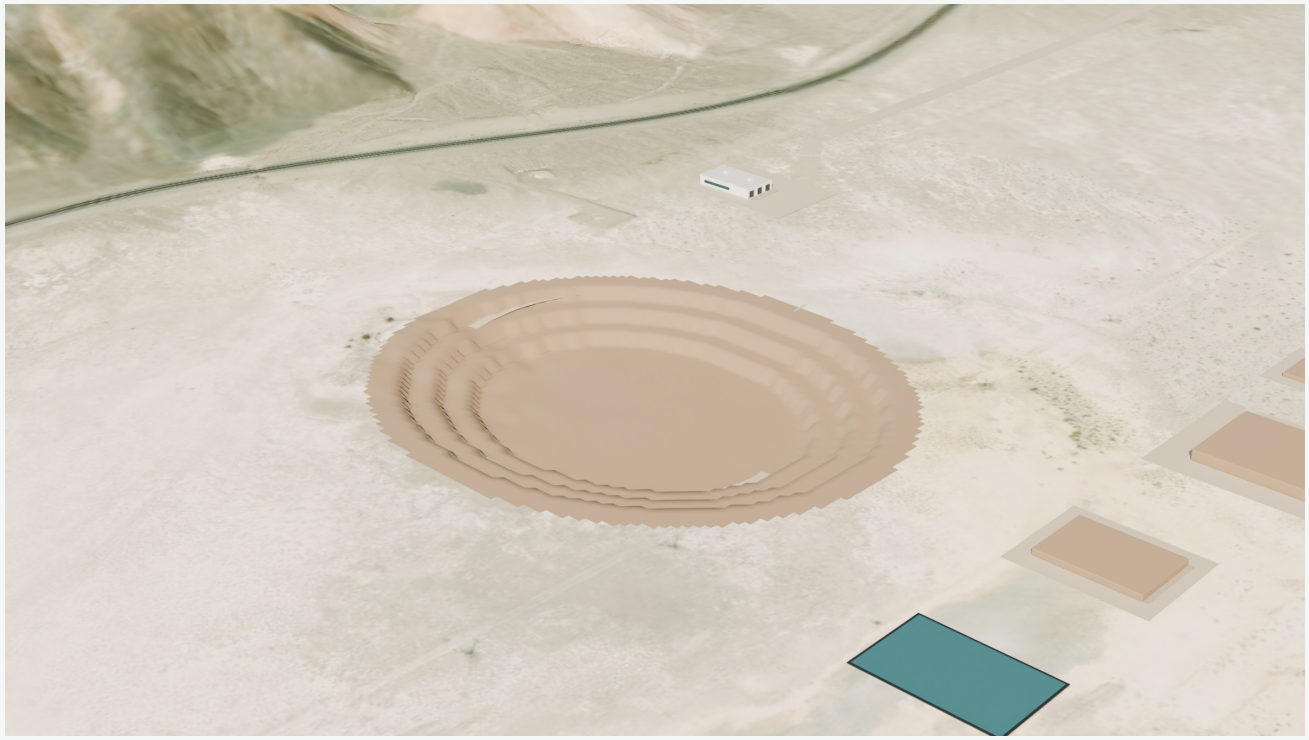
A FUNCTIONAL CAMPUS

Core management, approved sample work and sensor support. Independent accredited laboratories establish chemical assay results.

View V04 uses the same terrain, footprints, heights and materials as V06 and the master layout. Architectural concept; engineered accessibility, fire access and civil details remain design work.

Put the prospective mine over the actual signal

U02 is a clear investigation priority, with a conditional mine concept located directly over the verified peak.



NATIVE RESPONSE VERIFIED

9.545 ppm eU

Peak at 37.773747844, -117.631338714.

A LAND-PLANNING CONCEPT

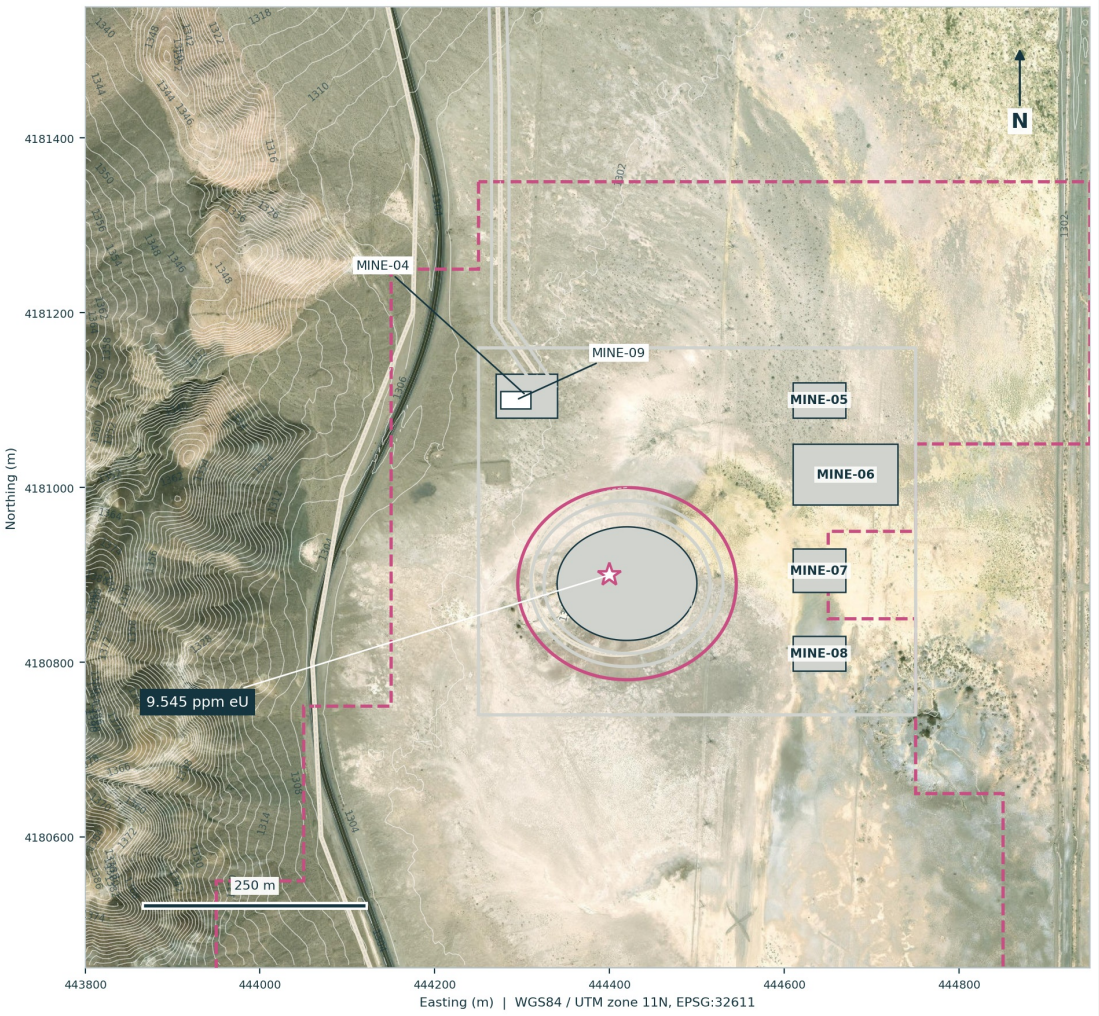
The illustrated open-cut and operating spaces test how a possible mine could fit. They do not establish a selected extraction method or mineralized depth.

Working geometry. A 250 × 220 m illustrative extraction ellipse (4.318 ha) lies within U02, alongside a 21 ha conditional land-planning reservation. Access, laydown, topsoil and controlled water spaces are identified in the A3 mine drawing.

Airborne equivalent uranium is not chemical ore grade. Mine geometry is conditional on drilling, geology, groundwater, geotechnical stability, metallurgy and an economic resource.

Four distinct things, clearly mapped

Keep observation, investigation, illustration and future engineering separate in every exhibit.



Layer	Meaning
Measured airborne response	Native 100 m interpolated eU grid; GeoDAWN Area 2 flight lines were 400 m apart. The U02 observation polygon contains 82 cells.
Mine investigation envelope	Proposed ground-investigation area over the anomaly and its setting. It is not a resource boundary.
Illustrative extraction footprint	250 × 220 m ellipse. Render-only 15 m depth is a visual assumption, excluded from resources, tonnage and cost quantities.
Future mineralized body and mine design	Not yet defined. Drilling, assays, continuity, metallurgy and engineering determine shape, depth, method and production.

U02 area median is 2.581 ppm eU, versus a 9.545 peak cell. No tonnage, grade or reserves are calculated from the response or the illustrated mine volume.

P-B: the selected local processing site

Three practical alternatives were evaluated on the road corridor, including terrain, receptor separation and delivery economics.

Candidate	School separation[1]	Core relief	Cut proxy[2]	Decision
P-A / Mid-corridor west fan	6.63 km	18.35 m	231k m³	Closer haul, but less community separation and greater core/residue grading exposure.
P-B / North corridor west fan	8.17 km	16.43 m	218k m³	Reference. Shortest highway spur; balances separation, relief and route length.
P-C / Northern high terrace	9.63 km	15.69 m	202k m³	Farther from school, modestly lower core cut proxy; longer haul and highway tie.

Why P-B leads. P-B combines an 8.17 km minimum core-to-apparent-school-grounds separation with the shortest highway spur (245 m). Its 16.43 m core relief and 218,218 m³ cut proxy improve on P-A. P-C reduces core cut by about 8%, but extends haulage and the highway tie.

What remains common to every alternative. No local prevailing wind has been established. Water availability, detailed groundwater conditions, title and utility capacity remain unverified. These factors can change the ranking before land commitment.

REFERENCE PLANT ENVELOPE

300 × 400 m, 12 ha. A separate 40 ha residue reservation enables staged containment studies without assuming capacity or a final disposal design.

SELECTED / FIELD VERIFICATION NEXT

P-B is the leading screened compromise. Field investigations and legal availability remain development gates.

[1] Straight-line distances use the documented school point/grounds basis shown in the table. [2] Full-footprint level-pad cut proxy; terrace grading and actual engineering quantities will differ.

Siting reaches beyond the distance to town

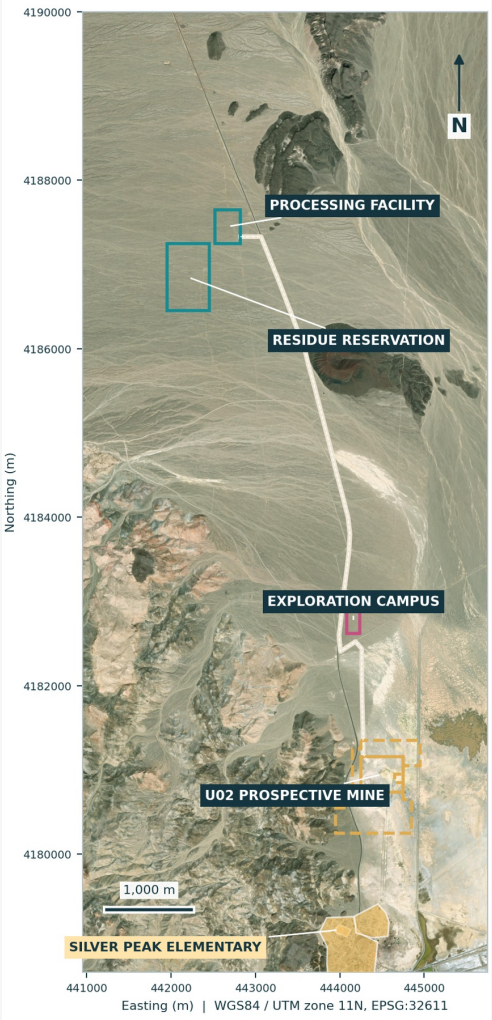
P-B has a defined comparative advantage and a specific set of field, legal and engineering gates.

Decision factor	Current P-B basis	Required confirmation
Terrain / geotechnical	12 ha core: 16.43 m relief, mean slope 3.27°. 40 ha reserve: 28.60 m relief, mean slope 3.60°.	Survey, ground investigation, bearing, settlement, seismic and terrace/cut-fill design.
Geology / drainage	Regional NBMG Qa unconsolidated alluvium. Alluvial-fan drainage crosses the planning area.	Detailed geological mapping, catchments, storm flows, culverts, erosion and flood assessment.
Groundwater / water	No water entitlement, groundwater separation or source capacity established.	Hydrogeological model, water rights/supply, water balance and groundwater protection.
Land / mineral rights	BLM surface-management class. No queried ACEC, wilderness, WSA or NCA intersection.	Claims, withdrawals, mineral estate, surface occupancy and legal access review.
Power / access	245 m proposed road spur. Legacy HIFLD 120 kV line about 2.37 km from core boundary.	Verify current line/owner and interconnection capacity. Supply/cost quote and junction authorization.
Receptors / wind	School and built-area screens mapped; no local prevailing wind demonstrated.	Field receptor inventory, local meteorology and dust/radon/noise/traffic/cumulative assessment.
Residues / closure	Separate 40 ha conditional reservation; initial 10 ha stage in capital screen.	Engineered capacity, stability, seepage/radon performance, final cover and closure assurance.
Commercial delivery	Local haul screen 7.01 km; model 8 km. Reconciled buildings and civil allowance.	Independent feasibility, supplier quotations, operating plan, product contracts and funding.

Regional geology 1:500,000 is not geotechnical evidence. The utility dataset has 2017 lineage, not a current capacity commitment. FEMA hazard status is undetermined. Full 14-criterion comparison is supplied.

Community separation is measurable, suitability is tested

Silver Peak Elementary School is at 500 Galena Street, Silver Peak, NV 89047.



Measured separation. P-B core to apparent school grounds: 8.17 km. Residue reservation to those grounds: 7.45 km. Closest mapped community envelope: 8.01 km from the core and 7.32 km from the reserve. These are boundary-to-boundary screening distances.

School basis. NCES 2024-25 coordinates are 37.757522, -117.635841. Apparent grounds and community built-area envelopes are imagery interpretations, not surveyed occupancy boundaries.

Wind and dust. Tonopah Airport is 57.88 km from the school. Incomplete available observations do not establish local prevailing wind. Install local meteorology and model receptor-specific emissions and terrain effects.

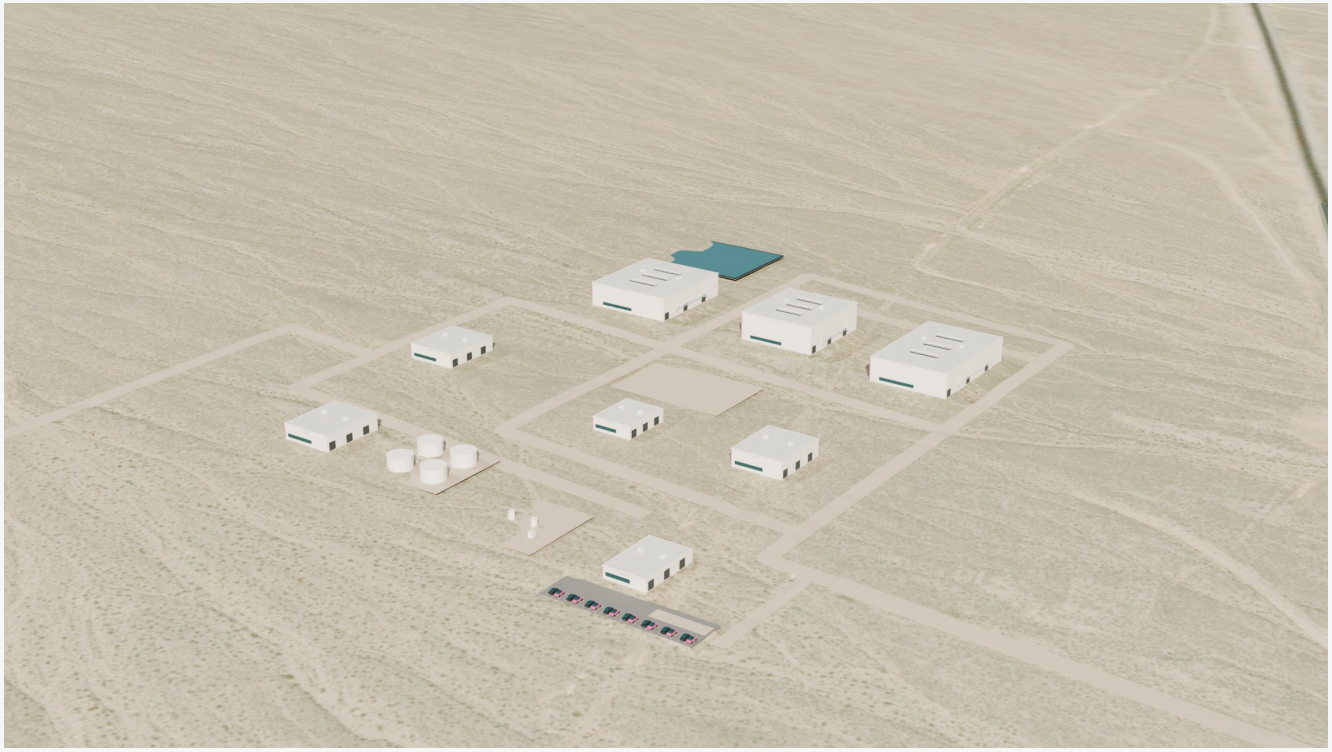
Road separation. School road point to P-B gate: 9.12 km via the routed road network and proposed spur. The school routing point is 29.9 m from the official point, not a verified entrance.

Planning buffers. Map offsets are comparison tools; they are not represented as statutory setbacks or evidence of safe exposure.

Proposed local haul movements run north from U02 toward P-B. Public-road authorization and safe junction design remain open; the mine itself is materially closer to town than P-B.

A distinct processing facility with a real operating role

P-B is a prospective receiving, preparation and uranium-recovery plant, separate from the exploration laboratory.



Preliminary role. Begin with representative testwork off site. If a deposit and flowsheet are established, develop permitted receiving and physical preparation, followed by a separately authorized recovery circuit and product dispatch.

9,800 m² / PROCESS BUILDINGS

Receiving and preparation, recovery, product management, maintenance and plant services are scheduled by permanent feature ID.

SPACE FOR SAFE OPERATION

Defined internal circulation, controlled receiving, utilities, water management and staged residue spaces. Visitors stay at the campus frontage.

TESTWORK CHOOSES THE CIRCUIT

Acid versus alkaline treatment, mineralogy, recovery, reagent demand and residue behavior remain unresolved.

Conceptual building capacity and process route are planning assumptions, not a completed metallurgical design. Shared model and A3 plant schedule govern geometry.

A clear material flow, with testing gates at each step

Local recovery is the selected strategy; the final circuit and authorization follow representative testwork.

RECEIVE
Weigh, sample, reconcile

→

PREPARE
Crush / grind if justified

→

RECOVER
Test-selected leach + separation

→

PRODUCT
Precipitate, dry, secure dispatch

Side stream / service	Preliminary provision	Confirmation required
Potential physical sorting	Optional mass rejection before recovery or off-site haul. Scenario only: 50% mass rejection and 90% uranium retention.	Representative bulk composites, mineral associations, fines, moisture, reject chemistry and equipment trials.
Water / reagents	Separate clean runoff, process-water recycling, controlled reagent storage and contact-water containment.	Water balance, rights, source yield/quality, corrosion and reagent consumption.
Residues / rejects	Characterize and segregate streams; select engineered containment and closure design for each material.	Radiological/geochemical testwork, hydrogeology, regulatory classification and long-term performance.
Product / custody	Assay-controlled packaged product through an authorized recovery and delivery chain.	Product specification, accountability, security, carrier acceptance and buyer contracts.

This is a functional block diagram, not a process-engineering flowsheet. Equipment sizing and acid/alkaline chemistry require independent metallurgical design.

Design water, residues and closure into the project

The 40 ha reservation is land for evaluation, not an assumed lifetime tailings capacity.

Terrain and drainage. Preserve clean drainage routes, terrace the plant, and avoid conveying uncontrolled upslope flow through receiving or residue areas. One-metre terrain supports a screening layout; catchment modelling and hydraulic design remain necessary.

Groundwater and water supply. Clayton Valley conditions and existing uses make lawful supply and hydrogeological separation fundamental. No groundwater depth, spare water entitlement or permissible discharge is inferred from imagery.

Residue decision. Test filtration/dewatering, seepage and radon performance, transport and staged storage alternatives. Required footprint depends on residue generation, density, stack geometry, water balance and permitted operating life.

UTILITY ALLOWANCES

Model: 37.5 GWh/year; about 4.69 MW operating load and 7.03 MW connection screen. Fresh water 300,000 m³/year at 0.6 m³/t. No supply or capacity commitment.

MONITORING AND COMMUNITY

Baseline and operating sensors, mill laboratory and controls have a $4M capital allowance. Plant environmental/radiation roles and fixed costs support monitoring; a detailed community and compliance scope is still needed.

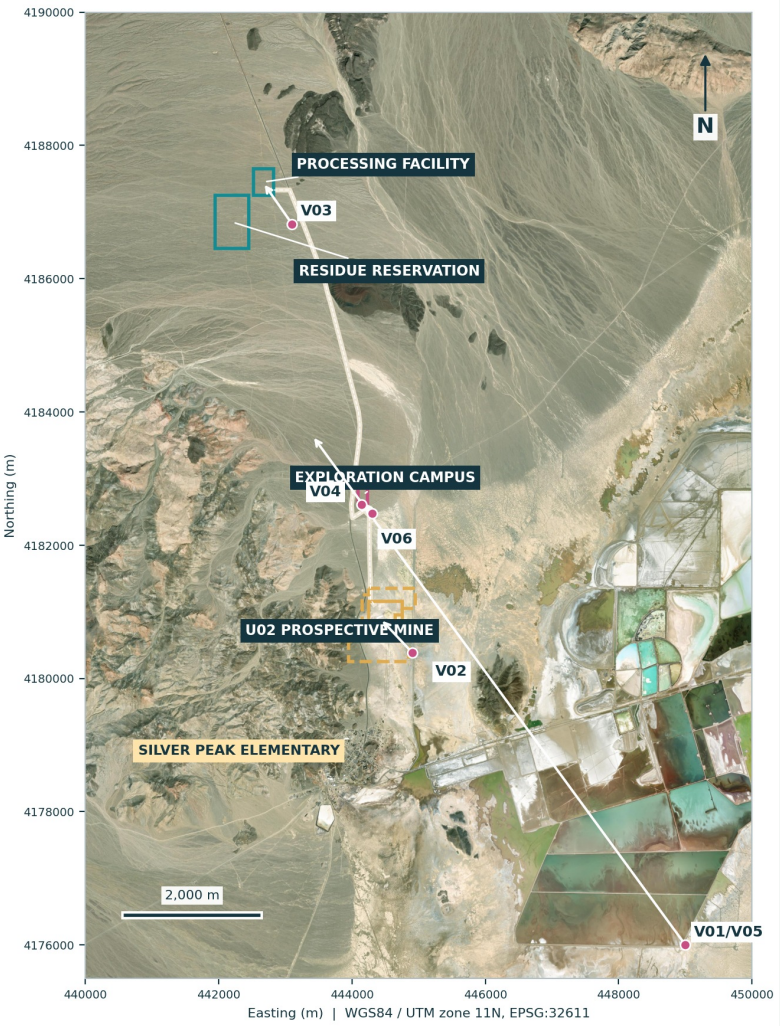
PLAN AND FUND CLOSURE FROM THE START

Local model includes $28M combined mine/mill closure security. Initial residue development has a $15M allowance; later expansion is part of sustaining planning, subject to design.

FEMA screening does not establish absence of flood risk. Residue and water features are indicative containment reservations, not engineered designs or approved capacities.

One master model. Every view stays in place.

Changing the camera changes the view; it does not change the buildings, terrain or development geometry.



Authoritative geometry. SP-INT-GEO-01 records permanent IDs, coordinates, footprint dimensions, orientation, heights, phase, materials and preliminary finished-floor elevations.

Six recorded cameras. Integrated aerial, mine, processing, campus entrance, phased overview and campus aerial are generated from the same scene. Camera positions, targets and fields of view are provided.

Terrain-informed architecture. USGS terrain supplies ground and regional mountain relief. Surface imagery is a display texture. Neither creates survey detail or additional analytical resolution.

Change control. Update the register first, regenerate GIS and views, then reconcile quantities and financial allowances. Legacy imagery is retained as source material; current views use the coordinated model.

Preliminary floor elevations are terrain-based assumptions. The camera and geometry hashes are recorded in the package; the A3 drawings define the spatial proposal.

Advanced imagery, with a traceable purpose

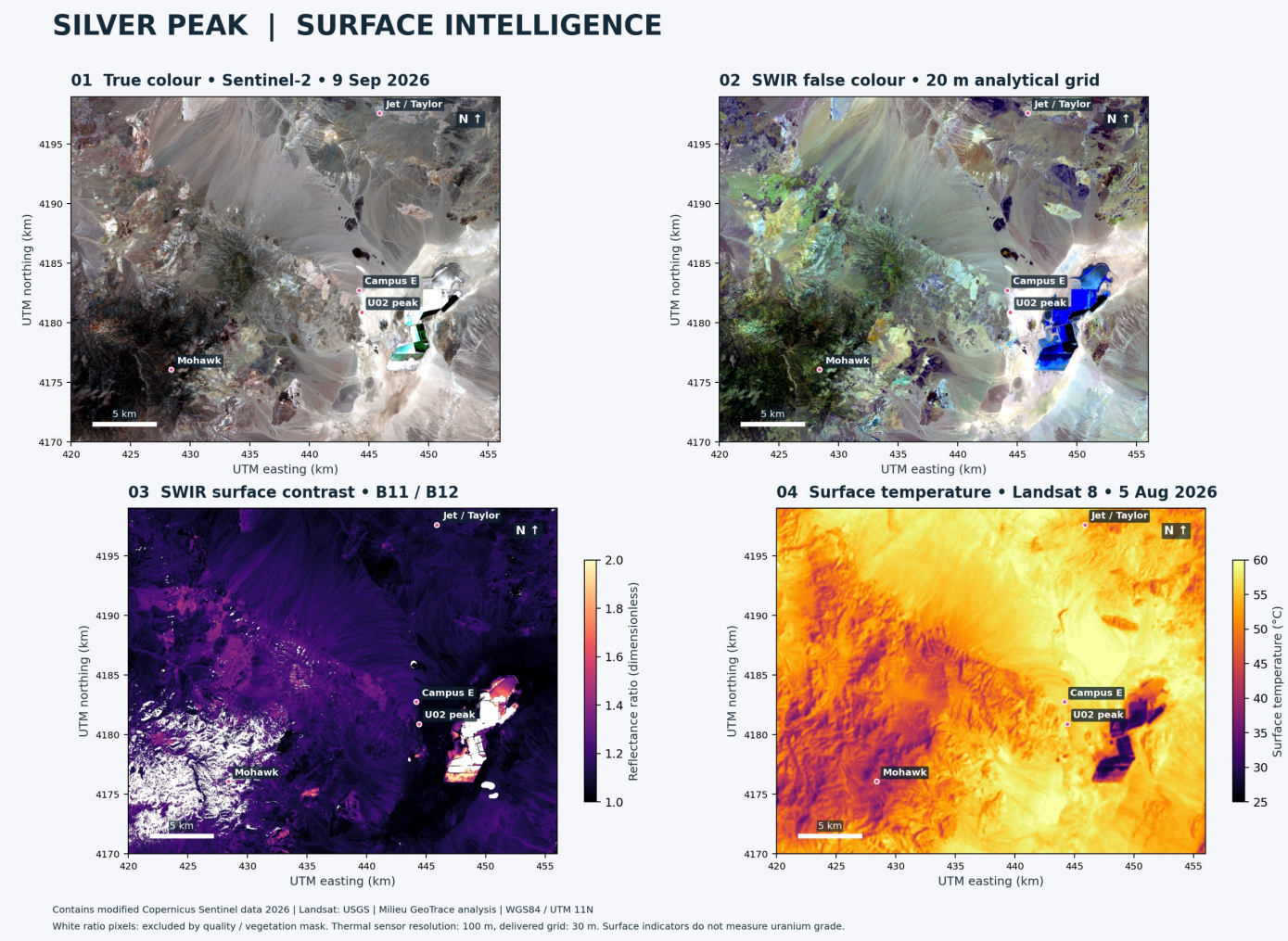
Use each sensor for the decision it can support. Preserve the original resolution and the limits of the evidence.

Source / coverage	Completed work	What it changes
WorldView-3 via Esri 31 Aug 2023; 0.31 m source	Verified citation, road/track interpretation and campus layout	Places buildings and access on real terrain; 8.47 m reported accuracy requires survey control.
USGS LiDAR-derived DEM Oct-Nov 2020; native 1 m	Six-site relief, slope, cut/fill proxies, contours and flow convergence	Supports a smaller, terraced campus and identifies drainage work.
Sentinel-2B L2A 9 Sep 2026; native 10 / 20 m	1,044 km² optical and SWIR analysis; quality mask; six-band PCA	Separates broad surface variation and guides field traverses.
Landsat 8 L2SP 5 Aug 2026; 100 m thermal	Calibrated temperature baseline on delivered 30 m grid	Adds surface moisture/heat context; cannot measure uranium grade.
GeoDAWN / foundation 2021-22 airborne; 100 m grid	Native eU/K, background residuals, magnetic/gravity context	Prioritizes U02 and records evidence that does not corroborate it.
NBMG state geology 1978 compilation; 1:500,000	Campus: alluvial deposits. U02: playa, marsh and alluvial-flat deposits.	Surficial cover strengthens the case for ground sampling and geotechnical work; it does not establish an ore host.

Dates are acquisitions, not retrieval dates. Source calibration, usage conditions and uncertainties are recorded in the package registers. A sharper display never creates measured detail.

Surface intelligence across 1,044 km²

Quality-screened optical, SWIR and thermal observations put exploration targets in their physical setting.



98.23%

Sentinel-2 analytical area retained by the land-quality screen. Salts and disturbed surfaces remain interpretation risks.

99.29%

Variance captured by the first three standardized PCA components. This describes surface variation, not prediction accuracy.

NO ORE GRADE INFERENCE

Single-date thermal patterns depend on moisture, weather, emissivity and cover. Use them for context and monitoring design.

The 9 September scene covers the entire analytical window and replaces the initially considered 12 September scene. Full-size baseline spectral maps are in E04; current infrastructure overlays are in INT-01 to INT-08 and the viewer.

The U02 signal survives a useful challenge

Potassium-associated background does not explain the strongest airborne equivalent-uranium observation.

PEAK AIRBORNE RESPONSE

9.545 ppm eU

100 m cell centred at 37.773748, -117.631339.

LOCAL BACKGROUND

5.06×

Peak divided by the 2-10 km annulus median of 1.888 ppm eU.

AFTER K ADJUSTMENT

+7.572 ppm

Peak residual from the district robust background model.

What was done. A Huber background model relates eU to K% at 9,315 regularly spaced locations. Full-resolution values are retained. U02 remains an extreme positive residual; seven connected residual groups provide additional field observation areas.

What the wider area says. The earlier U02 polygon contains 82 native cells, covers 0.82 km² and has a median 2.581 ppm eU, only 1.37 times local background. The peak and the whole area should not be presented as equivalent evidence.

The independent checks matter. U02 is at approximately the 3rd district percentile for magnetic horizontal gradient and 24th for gravity horizontal gradient. Those channels do not independently corroborate a structural uranium target.

The immediate decision. Prioritize ground gamma traverses, paired chemical assays and geological mapping. Test surface salt, transported-material and disequilibrium explanations before drilling. No discovery claim is made.

Equivalent uranium is an airborne geophysical response, not a laboratory ore assay. It cannot be substituted into the mine model as feed grade.

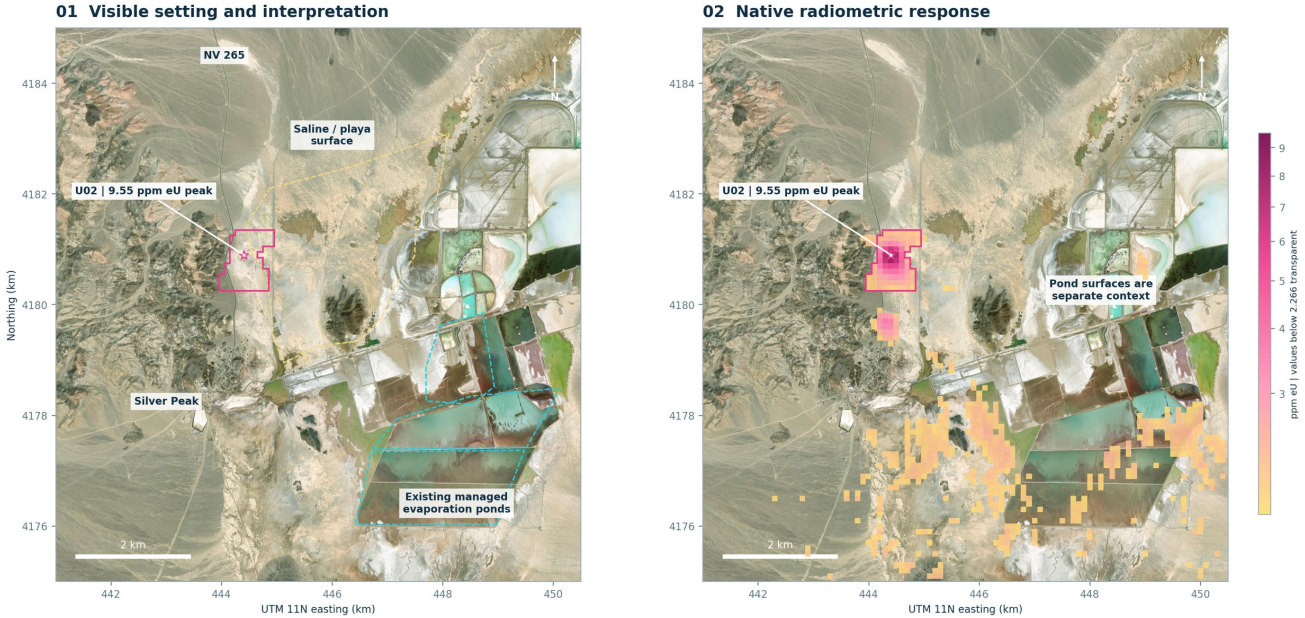
A campus serving a district exploration program

A compact support facility near U02, with a separate district-scale verification program.

MILIEU MINERALS / MILIEU GEOTRACE

From airborne signals to a focused ground program

Silver Peak, Nevada | U02, the road corridor and the surrounding surface environment



Pink outline: U02 observation area (0.82 km²). White star: peak grid cell. Dashed cyan: selected visible pond interiors.

Dashed gold: approximate saline/playa interpretation. Surface masks support field checks and are not property or permit boundaries.

FIELD PRIORITY

Verify the gamma response, identify its physical source and reconcile chemical uranium assays before selecting extraction or processing equipment.

Imagery: Esri, Maxar, Earthstar Geographics and the GIS User Community; retrieved 17 September 2026. Mosaic acquisition date not established.

Radiometrics: USGS GeoDAWN DOI 10.5066/P93LGLVQ; 2021-22 acquisition, Area 2 lines 400 m, interpolated grid 100 m. Image clarity adds no analytical detail.

E-03 | A3 LANDSCAPE | EPSG:32611

U02 / first verification. The target lies south of the campus near the road and playa margin. Its strongest native cell differs from the earlier representative map pin. Both are identified explicitly in the GIS.

Historical geological leads. Jet / Taylor / Utron and Weepah merit archive reconciliation and field mapping. Their service-coordinate eU values are about 1.74 and 1.75 ppm, not strong airborne hotspots.

Additional residual groups. Seven district observation areas and four proposed field stations help sequence reconnaissance. Historical records can be duplicated or imprecisely located; none defines a mineral resource.

Drawing E03 uses a local Esri imagery mosaic with acquisition date unestablished; retrieval was 17 September 2026. Pond/saline outlines are interpreted, not ownership boundaries.

Milieu GeoTrace turns evidence into action

Expert mapping, prospectivity analysis, sensors, data and integrations create a durable operating capability.

01 / OBSERVE

Versioned imagery, geophysics, geology and field sensors. Store units, dates, calibration and permissions.

02 / TEST

Compare independent evidence; investigate confounds; commission ground truth and accredited assays.

03 / DECIDE

Rank work by expected information value. Link each budget release to a defined result and decision.

04 / MONITOR

Track sampling, access, environmental baselines and operating changes in an auditable map and data system.

Commercial benefit to measure. Track cost per verified target, field revisits avoided, assay turnaround, data-reconciliation hours, access failures and monitoring exceptions. Establish the baseline during the first 90 days. Savings are objectives to measure; none is pre-booked as project profit.

The ArcGIS viewer preserves the existing mineral evidence and adds coordinated campus, mine, processing, receptor, route and phase controls.

Use advanced methods when the evidence supports them

Completed analysis is separated from methods that need better inputs, access or independent training labels.

Method	Status and intended decision	Validation requirement
Robust eU/K residuals and connected groups	Executed. Tests background explanation and defines field-priority shapes.	Ground gamma, chemical uranium and lithology; scores are not probabilities.
Multimodal evidence comparison	Executed. Radiometric, magnetic, gravity, terrain and optical context are compared.	Retain conflicting evidence and original sensor support.
PCA and spectral contrasts	Executed. Describes unsupervised surface variation and broad spectral differences.	Spectral field measurements and mineralogy before mineral identification.
Image segmentation / self-supervised features	Assessed. Could map terrain, disturbance and alteration patterns.	Independent annotated examples, holdout areas and human error review.
Prospectivity ensembles	Deferred. Combine models only after defensible uranium labels exist.	Spatially blocked validation, class-bias checks and calibrated uncertainty.
SAR / InSAR monitoring	Coverage assessed; no processing claimed. Could test surface movement.	Suitable SLC time series, coherent stable ground and reference control.

Mapped-fault labels were not reused as uranium labels. No trained uranium prediction model or calibrated discovery probability is represented as completed work.

The next acquisitions should answer specific questions

Acquire the smallest useful dataset that can change a field, engineering or investment decision.

Priority / acquisition	Verified availability or gap	Likely decision benefit
1 / Survey control, geotechnical and drainage	Native 1 m DEM acquired; raw point clouds and field survey not acquired.	Set pads, drainage, access geometry and actual civil quantities.
1 / Ground spectrometry + paired assays	Proposed calibrated traverses and independent chemical/radiological assays.	Determine whether the U02 surface response merits drilling.
2 / EMIT mineral product	25 campus-covering granules verified; latest 26 Jul 2026. Pixels require Earthdata login.	Test broad surface mineral signatures and salt/alteration alternatives; native ~60 m support.
2 / EnMAP L2A	Campus-covering 21 Mar 2024 scene, metadata 0% cloud/cirrus. Download requires DLR login.	30 m hyperspectral context after atmospheric and mineral-library checks.
3 / PRISMA + licensed commercial imagery	PRISMA pixel access/scene not verified. Fresh commercial tasking needs a license and quote.	Fill spectral or current-footprint gaps where a documented decision justifies cost.
3 / SAR time series / targeted airborne survey	Sentinel-1 coverage metadata assessed. No SAR, InSAR or new flight acquired.	Monitoring baseline or higher-resolution geophysics after field confirmation.

Acquisition costs are not vendor quotations. Use the $250k data/imagery and $350k ground-geophysics work packages to procure prioritized scope after a competitive review.

Customers, counterparties and a route to revenue

The first customer is the proposed Milieu development program, subject to funding. External services and product contracts follow evidence.

Customer / partner	Offer and route to contract	Commercial test
Milieu Minerals development program	Core photography and logging, secure inventory, sensors and integrated evidence. The internal program anchors early work.	Funded work packages; no internal recharge is counted as external project revenue.
Regional exploration operators	GeoTrace mapping, field technology, data integrations and authorized core/sample support.	Paid pilots and repeat orders before expanding service staffing.
Strategic uranium producer / processor	Joint exploration, testwork, an earn-in, conditional feed agreement or local-plant joint venture.	Title diligence, independent geology and metallurgy, clear capital and liability allocation.
Utilities / qualified fuel counterparties	Potential future product offtake through an authorized recovery and delivery chain.	Contractable production, product specification, credit support and dependable delivery.

Campus economics. The later five-FTE campus has a $925k annual operating allowance. At an assumed 55% gross margin, approximately $1.682M external service revenue would cover that run rate. Forecast service revenue is zero until customer evidence supports it.

Milieu GeoTrace is the geospatial awareness services arm. No customer commitment, processor offer or product offtake is held through this planning study.

Local processing leads the development strategy

P-B is selected. Off-site routes remain transparent commercial benchmarks and contingencies.

Reference case	Direct off-site	Sorting + off-site	Local recovery
Feed / hypothetical grade	500kt/y / 0.15% U3O8	500kt/y / 0.15% U3O8	500kt/y / 0.15% U3O8
Material to recovery	500,000 t/y	250,000 t/y at 0.27%	500,000 t/y
Annual cash after sustaining	$3.1M	$23.7M	$41.1M
Future development funding	$115.0M	$133.6M	$309.6M
Five-year simple funding grade	0.176%	0.154%	0.178%
Long-haul loaded departures[1]	67 / day	33 / day	Product / supplies only
Principal trade-off	Smallest initial funding; high bulk haul cost	Lower transported mass; unproven sorting response	Strongest reference annual cash; highest capital and local residue obligation

Selected strategy. Advance P-B local recovery for stronger reference operating cash, short ore haul and integrated operating control. Sorting and off-site recovery remain benchmarks and contingencies. Sorting has a lower capital hurdle if proved; local construction requires an independently supported return, licensed scope and funded long-term obligations.

[1]25 t loads, 300 dispatch days; empty returns add movements. All grades hypothetical. Sorting assumes 50% mass rejection, 90% U retention; 85% recovery, 97% payability, $85/lb, 2% royalty.

Local recovery: the reference operating model

A transparent annual cash bridge separates mine costs, local haulage, process costs and sustaining capital.

Reference planning input	Selected local route
Dry feed / hypothetical feed grade	500,000 t/year / 0.15% U3O8
Uranium price / recovery / realization	$85/lb /85% /97%
Royalty assumption	2% of gross sales
Mine / short haul / process variable	$35.00 /$4.28 /$51.05 per feed tonne
Common fixed / incremental plant fixed	$8.0M /$9.3M per year
Common / added sustaining capital	$5.0M /$5.0M per year
Payable product	1.363M lb/year, hypothetical steady-state case

Annual cash bridge	USD million
Gross sales	115.88
Less royalty	(2.32)
Mining	(17.50)
Local haulage	(2.14)
Variable processing	(25.53)
Common + incremental fixed	(17.31)
EBITDA	51.08
Sustaining capital	(10.00)
Annual cash before tax / finance	41.08

Purpose. This is an editable development screen. Resource continuity, dilution, mining method, reagent consumption, utility costs and residue design can change the result substantially. The assumptions define testwork priorities; they do not forecast an established mine.

All costs are unquoted2026 planning allowances. No airborne eU value enters the grade input. No mine life or resource-based production forecast is assumed.

Local recovery changes the logistics equation

The regional route screen to White Mesa vicinity is about 1,096 km one way. P-B is the selected nearby processing location.

REGIONAL BULK HAUL

$120 / t

1,100 km × $0.105/t-km + $4.50/t dispatch; carrier return positioning included by assumption.

LOCAL HAUL ALLOWANCE

$4.28 / t

8.00 km screening distance; loading, road use and short-haul operations remain unquoted.

ADDED LOCAL INVESTMENT

$194.6M

Incremental annual cash versus direct off-site: $38.0M. Simple recovery of incremental funding: 5.1 years.

Contract or route issue	Evidence needed before a commercial commitment
Processor acceptance	Representative mineralogy, chemical assays, impurities, reagent consumption, recovery and variability; acceptable lots and moisture.
Campaign and commercial terms	Reserved availability, assay/umpire procedures, recovery versus payability, penalties, tolls, royalties and delayed-receipt liability.
Transport and custody	Authorized route and carriers, material classification, receiving gate, loading, packaging, insurance and title/risk transfer.
Partner structures	Testwork agreement first; conditional feed/earn-in/plant JV only after evidence, capital contributions and residue/closure responsibility are explicit.

White Mesa capacity and announced campaigns do not reserve Milieu capacity. OSRM/OSM route is a car-routing screen, not an approved carrier route; local mapped route and distances are documented separately.

Capital is released when the evidence earns it

Discovery, campus, definition, mine and processing decisions remain separately governed.

Gate	Funding basis	Release condition
1 / Discovery program	$6.0M over 24 months	Lawful access, QA plan, progressively verified geology and accountable budgets.
1B / Campus option	$2.0M separate capital	Site control, access, civil/utility design, local pricing and funded operating role.
2 / Integrated definition	$4.0M advance, credited within local mill indirect capital	Chemical confirmation, supported drill targets, resource-definition path and representative recovery tests.
3 / Mine development	$95.0M common mine/surface capital allowance	Resource, mine design, economic life, permits, infrastructure and funded closure.
4 / Local processing	$171.6M added development capital	Proven flowsheet, water/power supply, residue design, licensing and superior return relative to alternatives.
4 / Security and liquidity	$28.0M combined closure security + $15.0M working capital	Agency-approved security and a financing plan; neither is assumed available as operating cash.

Total local-route funding. $309.6M future mine-and-mill funding, or $317.6M including the separate discovery and campus decisions. The $4M definition advance is credited, not added twice. The later campus operating run rate is not fully covered by these early capital totals.

All amounts USD 2026, unquoted planning allowances. No incentive, external service revenue or government award reduces the requirement. Screening development-capital range is ±50%.

Release capital in stages

The immediate ask is a $6M discovery authorization. The $2M campus is a separate conditional decision.

24-month discovery work	USD
Data, GIS and imagery	$0.25M
Title / access / legal	$0.40M
Environment / community baseline	$0.40M
Field mapping and sampling	$0.35M
Independent assay / QA-QC	$0.30M
Ground geophysics / survey	$0.35M
Conditional drilling: 3,000 m × $500/m	$1.50M
Metallurgy / processor testwork	$0.30M
Two-year core team	$0.85M
Leased base / field logistics	$0.30M
20% contingency on $5M base	$1.00M
DISCOVERY TOTAL	$6.00M

CAMPUS ALLOWANCE

$1.12M buildings and fitout
$0.45M civil, access and utilities
$0.43M design, permits and contingency

Total: $2.00M

DO NOT DOUBLE COUNT

The $850k discovery team is already inside the $6M authorization. The later $925k annual campus run rate is a separate gate. Any mine integration must reconcile reused campus assets.

These are unquoted screening allowances. The $1,600/m² building rate assumes economical modular accommodation and limited laboratory fitout. Utility extension, specialty containment and civil findings can materially change cost; request local contractor pricing before release.

All amounts USD, 2026 planning basis. Campus capex order-of-magnitude range: approximately $1M-$3M. No tax credit, grant, concessionary debt or external service revenue reduces the ask.

What the local plant allowance actually buys

Geometry-linked buildings and explicit process, utility and residue work packages support the capital screen.

Direct work package	USD
Core bulk earthworks (cut plus fill)	$7.7M
Roads, drainage and site civil works	$4.5M
Building shells and structural slabs	$17.6M
Receiving and comminution equipment	$12.0M
Wet recovery process equipment	$24.0M
Product recovery, finishing and security	$7.0M
Reagent receiving and containment	$4.0M
Water supply, recycle and treatment	$10.0M
Power connection and plant distribution	$9.0M
Initial engineered residue cell	$15.0M
Controls, sensors and mill laboratory	$4.0M

DIRECT / INDIRECT / CONTINGENCY

Direct works $114.8M
Engineering, owner and licensing $17.2M
Contingency $39.6M

GEOMETRY AND QUANTITY BASIS

700 m² campus and 9,800 m² process buildings reconcile to the register. Plant civil uses a 450,000 m³ combined cut/fill allowance, rounded above the 436,437 m³ full-core flattening proxy. Terrace design may reduce or redistribute work.

COSTS THAT NEED QUOTES

Utility supply and tariffs, water rights/source works, earthworks and ground treatment, buildings, installed process equipment, residue containment and closure are major procurement and study priorities.

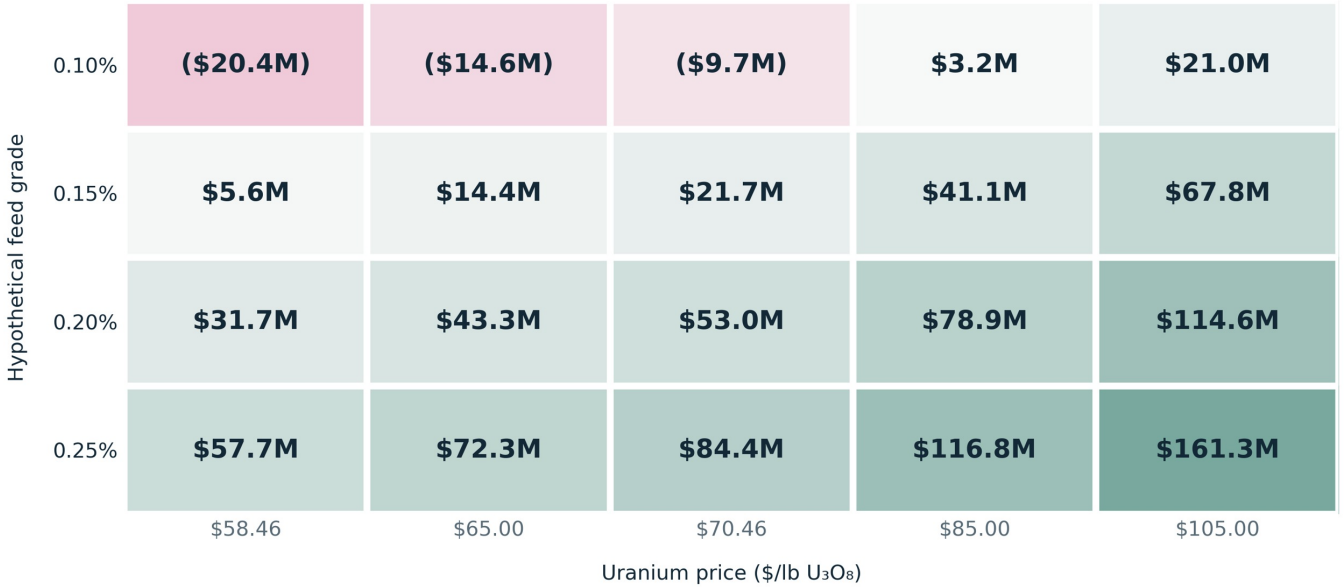
The process allowance is not an engineering estimate class. Rates, material compatibility, installed capacities and ground conditions require independent review before release.

Know the grade and price thresholds

Hypothetical feed cases show what a future deposit must support; the airborne measurements are never used as feed grade.

Grade and price shape operating cash.

Silver Peak local recovery | annual cash before tax and financing ($M) | other reference inputs held constant



Reference cash break-even grade: 0.096% | **Five-year funding hurdle: 0.178%**

$58.46 and $70.46 are EIA historical 2025 delivery benchmarks. Other prices are planning scenarios.
Five-year hurdle is pre-tax, undiscounted and excludes the early $8M program. No resource or mine life is established.

DOWNSIDE

-$14.6M

0.10% U3O8 / $65 per lb.

REFERENCE

$41.1M

0.15% U3O8 / $85 per lb.

UPSIDE

$161.3M

0.25% U3O8 / $105 per lb.

Reference interpretation. Local annual cash is $41.1M; simple future-funding recovery is 7.5 years. At hypothetical 0.20% feed, cash is $78.9M and the ratio improves to 3.9 years. No such feed has been measured.

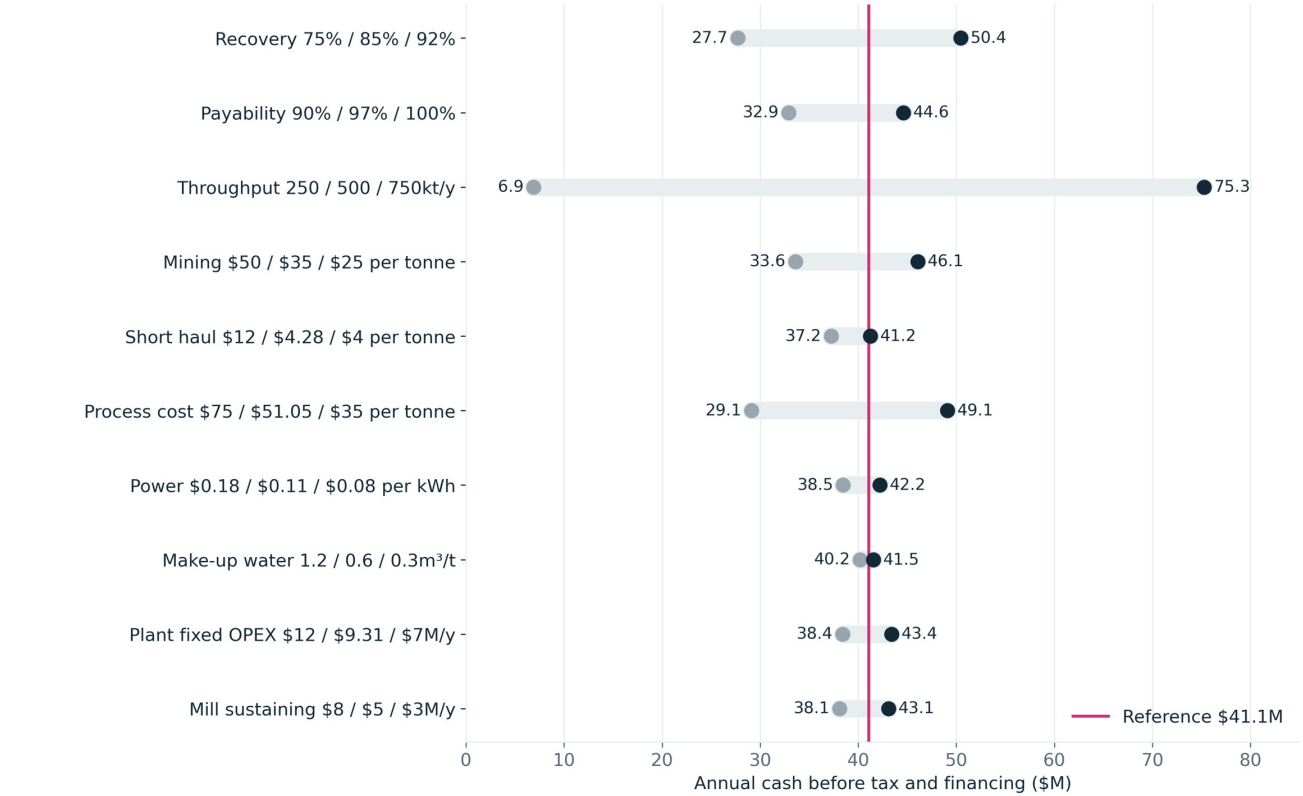
Annual cash after sustaining capital, before tax/finance. All feed grades hypothetical. No mine life, NPV, IRR or production forecast is established; sensitivity is not probability.

Stress-test the assumptions that drive the choice

Independent changes show the effect of recovery, throughput, payability, transport, operating cost and capital.

What changes annual operating cash.

Local recovery | one driver at a time | all other inputs held at reference | 2026 USD planning ranges



Each row shows downside / reference / upside input values. Effects are independent and should not be added together.
Throughput holds plant capital and fixed cost unchanged; 750kt/y is a sensitivity, not verified capacity.

OPERATING BREAK-EVEN

At the reference price and costs, local cash break-even is 0.096% U3O8. A viable investment must also recover capital and support financing.

CAPITAL RETURN HURDLE

Five-year simple recovery of future funding needs 0.178% U3O8. Including early $8M raises it to 0.180%.

DO NOT ASSUME SCALE IS FREE

Throughput sensitivity holds the cost structure constant to expose a lever. Capacity, buildings, residue cells and staffing need redesign before adopting a higher production rate.

Editable workbook includes separate capital sensitivities. A simple funding/cash ratio is not discounted payback and excludes taxes, finance and a resource-life constraint.

People and milestones matched to the operating phase

Staff the authorized work, then expand against verified scope and a funded plan.

Stage / indicative timing	Work and people	Decision milestone
Months 0-3	3 paid FTE equivalent discovery team: geology, GeoTrace, technical support and fractional HSE/admin. Title, access, baselines and QA.	Lawful investigation route and evidence plan.
Months 3-9	Ground spectrometry with paired assays, geological mapping, survey, geotechnical scoping and processor dialogue.	Reconcile airborne response with chemistry and host.
Months 6-24 / campus option	Retained 700 m² modular campus, after approvals and contractor pricing; later 5 FTE allowance.	Funded utility/access solution and operating program.
Months 9-24 / conditional drilling	3,000 m initial drill allowance, mineralogy, recovery/variability and staged environmental work.	Continuity and a credible economic recovery route.
After discovery / definition	Resource definition, mine design, flowsheet, residue/water studies and licensing basis; $4M first definition allowance.	Independent technical/economic case and financing decision.
Construction and operations	Mine staffing by selected method/contract;47 incremental plant FTE screen across operations, maintenance, metallurgy, HSE, laboratory and logistics.	Permits, signed supply/offtake/service terms and commissioning readiness.

Plant staffing allowance. Loaded payroll $6.2M/year is included within $9.3M incremental plant fixed OPEX. Mine variable and common fixed costs are separate. Campus reuse must be reconciled in a detailed operating plan.

Schedule is a work sequence, not a promised permitting or construction duration. Mine FTE cannot be defensibly fixed before the extraction method is selected.

Make community and environmental performance visible

Invite engagement early and use measured baselines to shape the development.

Topic	Basis now	Next required decision
Community receptors	Official school point and approximate imagery-based grounds/built-area envelopes. P-B is farther north; mine is closer to town.	Confirm occupied receptors in the field; local meteorology, dust/radon/emission assessment, traffic, noise and cumulative effects.
Land and access	Mapped surface management and PLSS. Proposed boundaries are planning reservations.	MLRS case/withdrawal and mineral-title review; occupancy authority and NDOT/county junction and road-use decisions.
Water and residues	Native terrain screen and separately mapped process/contact-water/residue spaces. No water allocation established.	Hydrogeology, lawful supply, engineered containment, water balance, storm design and long-term closure performance.
Mining and recovery authorizations	Conventional mining and chemical recovery have distinct regulatory scopes.	Confirm NRC/state jurisdiction in writing; federal land review, Nevada mining/water/air/reclamation authorizations and financial assurance.
Accountability	GeoTrace can publish clear baseline and operating dashboards.	Agree reporting cadence, community contact, complaint response, independent checks and emergency coordination.

NDEP states WPCPs precede mining/milling/beneficiation construction. NRC describes separate recovery/tailings oversight; exact Nevada authority depends on the proposed scope. No permits are represented as issued.

Domestic relevance and disciplined funding

Uranium joined the final U.S. List of Critical Minerals on 7 November 2025.

46.9M lb

U.S. civilian nuclear operator purchases in 2025, according to EIA.

7% U.S. ORIGIN

Share of 2025 uranium deliveries from domestic origin. Historical data, not a Milieu market share.

ZERO SUPPORT BOOKED

The financial model includes no grant, abatement or concessional funding.

Potential financing pathway	Use and gating requirements
Private equity / strategic earn-in	Preferred early route: release discovery capital against title, assay, geological and processor milestones. No funding commitment exists.
DOE Energy Dominance Financing	May 2026 Title 17 guidance supports screening of eligible, commercially ready critical-mineral projects with repayment prospects. Later production phase only after evidence.
DoD Office of Strategic Capital	Original equipment-finance application window closed 3 Feb 2025. A pre-revenue applicant needs a creditworthy sponsor guarantee and category eligibility. Monitor future offerings.
USDA B&I / Nevada GOED	Possible rural lender guarantee or state abatements, subject to project-specific use, credit, employment, investment and approval tests. No eligibility or award assumed.

Primary sources: Federal Register final list; EIA report revised 13 August 2026; DOE May 2026 guidance; OSC, USDA and GOED program pages. Listing does not award money or establish permits.

A phased development the community can understand

The shared model records what happens first, what is reserved, and what must be reclaimed.



FIRST / VERIFY AND SUPPORT

Discovery work and a gated campus. Install baselines and community contact before expanding disturbance.

NEXT / DEFINE AND DECIDE

Resource and process definition, land/water control, alternatives, licensing and independent economics.

LATER / OPERATE AND CLOSE

Stage the mine and local plant only if justified. Reclaim completed areas and maintain funded long-term obligations.

Phasing is conditional; no mine life or production schedule is established. Map phase numbers describe physical development; financial gates are separate funding decisions. Permanent IDs link both.

A Silver Peak success that can travel

Repeat the verified operating method, while making each new site earn its own business case.



Milieu Minerals builds the operating platform. Milieu GeoTrace supplies the geospatial awareness services arm: mapping, prospectivity, sensors, data and integrations. Together they can connect discovery, site choice, investment decisions and ongoing performance.

FIRST / DELIVER LOCALLY

Resolve the U02 signal, establish a useful campus, and develop the selected local recovery strategy with the community and relevant land managers.

THEN / REPEAT IN THE U.S.

Carry forward auditable data, field QA, staged design, contractual discipline and measured monitoring performance.

LATER / PARTNER GLOBALLY

Expand through qualified local partners with project-specific geology, rights, water, permitting, processing and market access.

A new discovery is described as such only when independent evidence establishes one. National and international expansion is a business ambition, not forecast production.

Technical basis and reproducibility

Measured evidence, proposed geometry and hypothetical economics are separate data products.

Workstream	Basis and practical limits
Foundation and geophysics	Original source archive integrity and 128 provided SHA256 checks were verified. Original 19-band raster retains 100 m storage cells. GeoDAWN 400 m flight lines, 100 m interpolated eU grid; no grade or tonnage from airborne response.
Preserved surface analysis	Sentinel-2B 9 Sep 2026 reflectance calibration and QA; Landsat 8 5 Aug 2026 temperature QA. Native visible 10 m / SWIR 20 m; Landsat thermal 100 m sensor on 30 m delivery grid. PCA variance is not accuracy.
Terrain and site engineering	Native 1 m USGS LiDAR-derived DEM, EPSG26911/NAVD88; planning EPSG:32611 with documented 4 m transform accuracy. Relief/cut proxies are screening measures, not civil quantities.
Shared geometry and rendering	Permanent features and camera register govern all current views. Native terrain is simplified only for display. Render-only extraction depth never becomes a resource or earthwork quantity.
Economics	All grades, throughput, recovery, payability and project costs are assumptions. No quotations, mine life, NPV or IRR. Workbook formulas and independent reference arithmetic are checked.
Interactive delivery	Standalone ArcGIS HTML requires internet for SDK and basemaps. Embedded geometries and retained evidence layers are tested by scripts; actual browser-render status is documented in the viewer QA report.

Analysis cutoff 17 September 2026. Source originals and previous analytical outputs are retained. Geospatial precision and architectural polish do not establish engineering accuracy or entitlement.

A source trail investors and engineers can follow

Primary sources underpin the research. The full registers retain acquisition dates, rights notes and saved service responses.

01 USGS GeoDAWN radiometric source

https://doi.org/10.5066/P93LGLVQ

02 USGS 3DEP 1m EarthMRI elevation

https://www.usgs.gov/3d-elevation-program

03 Esri World Imagery service and provider citations

https://server.arcgisonline.com/ArcGIS/rest/services/World_Imagery/MapServer

04 BLM PLSS cadastre

https://gis.blm.gov/arcgis/rest/services/Cadastral/BLM_Natl_PLSS_CadNSDI/MapServer

05 BLM surface-management screening

https://gis.blm.gov/arcgis/rest/services/lands/BLM_Natl_SMA_LimitedScale/MapServer

06 BLM MLRS legal case research

https://mlrs.blm.gov/

07 FEMA National Flood Hazard Layer

https://hazards.fema.gov/arcgis/rest/services/public/NFHL/MapServer

08 NBMG / USGS historical mineral records

https://gisweb.unr.edu/nbmg/rest/services/MineralsAndEnergy/MRDS_NV/MapServer

09 Copernicus Sentinel-2 mission

https://sentiwiki.copernicus.eu/web/s2-mission

10 USGS Landsat surface-temperature products

https://www.usgs.gov/landsat-missions/landsat-collection-2-surface-temperature

11 NASA EMIT data access

https://earth.jpl.nasa.gov/emit/data/data-portal/coverage-and-forecasts/

12 EnMAP data access

https://www.enmap.org/data_access/

13 NBMG Nevada geology, 1:500,000 compilation

https://gisweb.unr.edu/nbmg/rest/services/Geology/NV_500k_Geology/MapServer/3

Detailed source IDs and analysis lineage: Site_Sources.json; Imagery_Availability_Register; Uranium_Evidence_Analysis.json; foundation_integrity.json.

New siting and design references

The integrated update extends the source trail to school receptors, processing alternatives and the shared model.

NCES EDGE 2024-25 school locations

School identifier 320015000145; official point 37.757522, -117.635841. Grounds are separate imagery interpretation.

Esmeralda County School District

Current district school listing. Published state school-address source corroborates 500 Galena Street.

Nevada Legislature school address list

Published address corroboration; it is not a survey of occupied school grounds.

NOAA NCEI surface observations

Tonopah KTPH / USW00023153 regional proxy. Available recovered 2025 legacy series incomplete; no local prevailing-wind conclusion.

BLM PLSS section cadastre

Mine pit Sections 10/15, T2S R39E. Plant core Sections 21/28, T1S R39E. Surface/rights availability is a separate question.

NRC uranium recovery overview

Chemical recovery, mill/ISR and tailings oversight. Written scope determination is required for the proposed Nevada activity.

10 CFR Part 40 Appendix A

Recovery waste, closure and assurance criteria inform the future design/licensing basis; no compliance approval claimed.

NDEP Mining Regulation Branch

Water-pollution-control permits precede mining/milling/beneficiation construction; reclamation and other authorizations also need scope review.

USGS EarthMRI LiDAR-derived 1 m DEM

NV_WestCentral_EarthMRI_2020_D20, acquired Oct-Nov 2020. Original source and native derived windows retained.

Esri World Imagery citation service

Local school/mine/plant context uses cited WorldView-3 imagery, 31 Aug 2023 where verified. Display exports do not improve positional accuracy.

Full retrieved service responses, footprints, source dates, coordinate systems and interpretation notes accompany the delivered GIS and analysis files.

Commercial references and deliverables

One consistent package links the development proposition to its geometry, evidence and assumptions.

Final 2025 Critical Minerals List

Uranium added to final list on 2025-11-07; designation does not award funding.

EIA 2025 Uranium Marketing

Revised 2026-08-13: 46.9Mlb purchases, $58.46 weighted price, 7% U.S. origin; $70.46 new signed-and-delivered subset.

Energy Fuels White Mesa

Operating conventional mill; licensed 8+Mlb/y. Capacity does not establish third-party availability.

Energy Fuels Q2 2026 results

2026-08-05 release: next run planned Q4 2026/early 2027 conditional on stockpiles; no Milieu agreement.

OSC equipment finance

Initial application window closed 2025-02-03. Pre-revenue borrower needs creditworthy sponsor repayment guarantee.

DOE EDF Title17 May2026 guidance

Critical mineral supply projects may fit; commercial readiness, repayment and category-specific requirements apply.

USDA Business and Industry

Rural-business lender guarantee, not grant; borrower/area/eligible-use/collateral and repayment review required.

Nevada GOED incentives

Apply through RDA; board approval and agreement required. No abatement booked in model.

NRC uranium recovery

Chemical uranium recovery triggers mill/ISR regime. Nevada Agreement State scope must be checked for proposed activity.

NDEP mining regulation

Mining, water, reclamation and closure pathways depend on actual activity and footprint.

10 CFR Part40 Appendix A

Mill tailings, financial assurance and closure requirements must enter the license/design basis.

Deliverable	Contents
Business plan	Integrated site proposition, evidence, operating strategy and commercial thresholds.
A3 georeferenced atlas	Coordinated campus, mine, plant, community/haulage, phasing and camera drawings; preserved evidence exhibits.
ArcGIS explorer	Direct campus/mine/processing navigation; evidence, receptor, candidate, phase and source layers.
Editable financial model	Three operating routes, staged capital, utilities, staffing and sensitivities with documented assumptions.
Shared scene / renderings	Six coordinated perspectives, editable scene, master feature and camera registers.
GIS / reproducible package	Native analytical source preservation, source references, analysis/build scripts, hashes and QA.

The README explains package extraction, dependencies, rendering, source access and validation limits. Existing native source data remains unchanged.