

# Estelle Gold & Critical Minerals Project Overview

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## Executive Snapshot

### Location and scale

Estelle sits ~150 km NW of Anchorage, Alaska, on 803 State of Alaska mining claims totaling about 127,102 acres (~514 km<sup>2</sup>) across a 35 km mineralized corridor within the Tintina gold province.

### Ownership/operator

Nova Minerals Limited (ASX: NVA; NASDAQ: NVA) holds 85% via AK Custom Mining LLC; AK Minerals Pty Ltd holds 15% and a 2% NSR. In Nova's June 30, 2025 Form 20-F, AK Custom Mining LLC was still shown as the titleholder under the 85/15 JV. Nova's wholly owned U.S. subsidiary, Alaska Range Resources LLC (ARR), leads U.S. antimony initiatives.

### Project status

Advanced exploration and evaluation with an SEC S-K 1300 Initial Assessment (TRS) effective January 31, 2024; fully permitted for exploration with an established 80-person, all-season camp and 4,000-ft Whiskey Bravo airstrip.

### Deposit styles/domains

Reduced intrusion-related gold system (IRGS) hosted in and around the late Cretaceous Mount Estelle pluton. Key deposits are Korbel Main and Cathedral (bulk-tonnage), and RPM North/South (higher-grade), with additional prospects including Train, Shoeshine, Shadow, Stoney, Trumpet, and Stibium (antimony).

### Latest resources

- S-K 1300 (effective Jan 31, 2024): 5.17 Moz Au total (0.18 Moz Measured, 2.54 Moz Indicated, 2.45 Moz Inferred); 85% attributable to Nova = 4.41 Moz. Estimation by MIK and pit shells at US\$2,000/oz. Cut-offs: RPM 0.20 g/t Au; Korbel/Cathedral 0.15 g/t Au.
- JORC (ASX, April 11, 2023): 9.9 Moz global resource across four deposits.

### Development/processing concept

Scoping-level basis: conventional open-pit truck/shovel; process flowsheet of crushing–sorting (Korbel)–flotation–regrind–leach; pre-production capital ~US\$385M; pre-tax NPV5% ~US\$654M; IRR ~53% (study-level assumptions; no reserves).

### Strategic alignment and federal interest

ARR received a US\$43.4M Defense Production Act Title III award to advance a domestic antimony supply chain (stibnite-to-Sb<sub>2</sub>S<sub>3</sub>) and holds a Port MacKenzie land-use permit site for a proposed refinery; targeted military-spec Sb by 2026/27.

# **Project History**

## **Early reconnaissance and staking**

USGS mapping from early 1900s; AMAX staked at least four claims at Mount Estelle "Lower Discovery" in 1982; Cominco explored in the late 1980s, sampling and drilling across Train, Shoeshine, Shadow, Discovery Creek.

## **2000s consolidation and project generation**

Work by Hidefield Gold Plc., International Tower Hill Mines (ITH), and Millrock (2011–2012) established multiple IRGS targets and first modern drilling at Oxide/Korbel and RPM. Teck American JV'd with Millrock in 2011 to earn in (55% first option), funding programs.

## **2017 acquisition**

Nova (then through AKCM JV with AK Minerals) acquired the Estelle mineral rights and began aggressive drilling and resource delineation.

## **2019–2023 resource growth**

Maiden JORC (2.5 Moz, 2019), followed by multiple upgrades to 9.9 Moz JORC (2023); high-grade discoveries at RPM North/South underpin S-K 1300 TRS (2024) totaling 5.17 Moz gold (pit-constrained).

## **2023–2025 permitting/infrastructure**

AIDEA submitted the CWA Section 404 application for the West Susitna Access Road, initiating NEPA review; State support emphasized.

## **2025 strategic U.S. interest**

ARR awarded US\$43.4M under DPA Title III for antimony; Estelle noted by RFC Ambrian as one of few near-term U.S. antimony opportunities; senior federal/state engagement noted.

# **Geology & Mineralisation**

## **Regional setting**

Estelle is in the southwestern Tintina Gold Province on State land, straddling the Mount Estelle composite pluton (68–78 Ma) intruding Kahiltna basin sediments; IRGS characteristics akin to Fort Knox and Dublin Gulch. Alteration includes quartz–sericite–pyrite with arsenopyrite, pyrite, chalcopyrite common.

## **Deposit areas**

### **Korbel Mining Complex (Korbel Main + Cathedral ~550 m apart)**

Large, bulk-tonnage IRGS from surface, low strip; significant Indicated inventory at Korbel Main; high-grade feeder targets at Cathedral.

### **RPM Mining Complex (North/South)**

High-grade gold from surface; resource remains open with potential for linkage along strike; numerous thick, high-grade intercepts at RPM North.

## District prospects

Train, Shoeshine, Shadow, Stoney, Trumpet, Discovery, Rainy Day, T5, Tomahawk, Trundle, West Wing, Wombat; plus critical-minerals prospects Stibium and Styx with outcropping stibnite lenses and antimony-rich veins.

## Resource estimation and classification

S-K 1300 TRS uses Multiple Indicator Kriging within US\$2,000/oz pit shells; RPM cut-off 0.20 g/t Au; Korbel/Cathedral 0.15 g/t Au; effective date Jan 31, 2024. QA/QC protocols align with industry standards.

# Infrastructure, Approvals & ESG

## Access/logistics

Current access by air (Whiskey Bravo airstrip) and winter road; West Susitna Access Road (AIDEA) advanced to permitting with USACE 404 application submitted; construction has been proposed to start post-permitting.

## Permitting framework and status

### Exploration

Nova/ARR indicate the project is fully permitted for exploration; historic APMA drill programs were obtained for Korbel in 2018.

### Large Mine Permitting

Nova engaged Jade North/Axiom to scope baseline and coordinate State LMPT path (wetlands, hydrology/water quality, APDES; DNR Plan of Operations, Water Rights or TWUAs; USACE 404; ADEC 401/WQC among others).

**Note:** USACE 404 application for the AIDEA road is filed; mine-specific 404/401 for site facilities will follow later in mine permitting.

### ESG posture

Nova details environmental commitments, ongoing baseline studies, and intends to align with LMPT processes. The TRS outlines a multi-disciplinary baseline/NEPA dataset required prior to mine permitting.

### Critical-minerals policy linkages

ARR's DPA Title III funding to establish a domestic antimony trisulfide supply chain; Port MacKenzie site secured for a proposed refinery (Sb<sub>2</sub>S<sub>3</sub>, Sb<sub>2</sub>O<sub>3</sub>, Sb metal).

## Green Flags

- **Federal alignment and funding:** ARR awarded US\$43.4M under DPA Title III to fast-track a U.S. antimony supply chain anchored at Estelle and Port MacKenzie.
- **Tier-1 district scale:** ~514 km<sup>2</sup>, 803 State claims, 35 km mineralized corridor; four defined Au deposits plus 20+ prospects; Stibium highlights co-incident antimony.
- **Resource endowment and upside:** 5.17 Moz Au S-K 1300 (2024) with a larger 9.9 Moz JORC global inventory (2023); new drilling at RPM/Train and maiden antimony drilling at Stibium underway/planned.
- **Processing route de-risking:** Established testwork indicates conventional flotation-regrind-leach with ore sorting at Korbel; scoping-level economics robust (NPV5% ~US\$654M; IRR ~53%).

- **Infrastructure vector:** AIDEA's West Susitna Road in permitting; proximity to Anchorage labor/logistics; Port MacKenzie site for refining.
- **Jurisdiction:** U.S. State land tenure (no federal/nativetitle lands at site); supportive State leadership and agencies; LMPT provides coordinated path.

## Red Flags

- **JV structure and title chain:** SEC filings to June 30, 2025 still show AK Custom Mining LLC as titleholder (85% Nova / 15% AK Minerals + 2% NSR). Confirm any post-mid-2025 conveyances to ARR in the Alaska Recorder.
- **Permitting complexity:** Mine development will require overlapping State and Federal approvals (USACE 404/NEPA; ADEC 401/WQC; APDES; DNR plans, water rights/TWUAs). Current 404 filing relates to the AIDEA road, not a mine.
- **Infrastructure dependency:** Economic case strengthens with West Susitna road; schedule and approvals remain external to Nova.
- **Capital intensity and stage:** No DFS or construction decision; economics to date are scoping/IA-level and include forward-looking assumptions.
- **ESG scrutiny for antimony:** New U.S. refining and Sb processing (Sb<sub>2</sub>S<sub>3</sub>) will face emissions, water/solid-waste permitting and community review at both mine and port sites.

## Exploration & Ownership History

Years	Owner / JV Partner	Exchange / Ticker	Key Actions / Notes
1982	AMAX	–	Staked at least four claims at Lower Discovery, Mt Estelle.
Late 1980s	Cominco American	–	Regional mapping/sampling and drilling near Train, Shoeshine, Shadow, Discovery Creek.
2007–2012	Hidefield; ITH; Millrock (with Teck American option 2011)	TSX-V/NYSE: TECK	Defined IRGS targets; first modern drilling at Oxide/Korbel and RPM; Teck optioned to 55%.
2017–2025	Nova via AK Custom Mining LLC (AKCM JV 85/15; 2% NSR)	ASX:NVA; NASDAQ:NVA	Aggressive drilling; JORC growth to 9.9 Moz (2023); S-K 1300 TRS (2024); 20-F confirms 85/15 JV.
2025–present	Alaska Range Resources LLC (ARR) (Nova 100% U.S. sub.)	–	DPA Title III award US\$43.4M for Sb; proposed Port MacKenzie refinery site. Ownership transfer of mineral title not evidenced in filings; verify.

## Political & Market Context

- **U.S. strategic focus:** ARR's DPA Title III award underpins the antimony defense-supply chain narrative and aligns Estelle with national security priorities.
- **State and federal visibility:** Public statements and meetings (Governor Dunleavy; Alaska delegation; Australian Consul) show support for West Susitna and Port MacKenzie logistics.
- **National attention:** Post-election statement by President-elect Trump emphasized enabling Alaska resource development; executive orders in 2025 cited as accelerating U.S. mineral production initiatives.
- **Strategic significance:** RFC Ambrian 2025 identified Estelle among a handful of near-term Sb projects (U.S. peers include Perpetua's Stibnite).

## Recommended Next Steps

- **Title/ownership confirmation:** Run an Alaska Recorder chain-of-title check (post-June 2025) to confirm any transfer from AK Custom Mining LLC to ARR; reconcile NSR and JV residuals.
- **Water and wetlands:** Confirm current water baseline datasets, TWUAs/Water Rights, and ADEC 401/WQC planning status; map mine-site vs. road 404 scopes to avoid gaps.
- **Benchmarking:** Compare Estelle's Au and Sb development cases with Alaskan peers (e.g., Whistler for Au/Cu, Perpetua for Sb processing standards) leveraging S-K 1300 TRS sensitivity tables.
- **Engineering:** Advance PFS trade-offs for RPM starter and integrated Korbel+RPM flowsheet (ore sorting, gravity, flotation/leach); update costs and power options as road timing clarifies.

- **Au-Sb co-development modeling:** Build an integrated Au-Sb scenario reflecting DPA-enabled Sb pricing/offtake assumptions and refinery schedule at Port MacKenzie; include ESG permitting critical path and CAPEX.

## Appendix: Key Facts

### Claims and ADLs

803 State claims; detailed ADL ledger (Oxide/Korbel/Stoney/Styx/Emerald/Estelle series) included in S-K 1300 TRS Appendix (Table 26-1).

### Processing concept

Flotation–regrind–leach; Korbel ore sorting uplift; RPM gravity/flotation testwork under expansion.

### Key cut-offs used in TRS

0.15 g/t (Korbel/Cathedral), 0.20 g/t (RPM); US\$2,000/oz Au pit shells; MIK resource methodology.

### Road status

AIDEA has filed USACE CWA 404 for West Susitna; environmental studies and NEPA review initiated; separate mine-site permits to follow.

### Green/Red Flag Summary

**Green:** DPA Title III funding; 514 km<sup>2</sup> tenure; 5.17 Moz S-K 1300 + 9.9 Moz JORC; ore sorting in flowsheet; AIDEA road in permitting; State-land tenure; refinery site secured at Port MacKenzie.

**Red:** JV/title clarity (ARR vs. AK Custom Mining LLC); multi-agency permit stack (404/401/APDES/DNR); road dependency; scoping/IA-level economics; Sb processing ESG/permitting scrutiny.

### Note on data sources

This profile synthesizes Nova's 2025 Form 20-F and ASX/SEC disclosures, the S-K 1300 TRS (Jan 31, 2024), historical technical reports and Millrock-era records, AIDEA road filings status, and Nova/ARR federal-funding announcements. Resource and permitting statements are as cited above; economic figures are study-level and subject to change with PFS/DFS outcomes.