

ASX: MRD | OTC: MRDMF RESEARCH NOTE

Mount Ridley Mines

Selectro Test 3: scandium recovery to 91.8%, heavy rare earths to 84%, at half the reagent dose

* Last close A\$0.042 and market capitalisation A\$58.4m as at 16 September 2026.

RATING
SPEC. BUY
reiterated

PRICE TARGET
A\$0.144*
maintained

WHAT HAPPENED

On 17 September 2026 Mount Ridley reported the third and final leach test of its initial Selectro programme on the Grass Patch composite. Test 3 halved the reagent dose used in Tests 1 and 2 and still produced the best recoveries of the programme: **scandium 91.8% (from 80.0%), heavy rare earths up to 86% averaging 84% (from 78.5%), and light rare earths up to 81% averaging 77% (from 72.5%)**. Gallium fell to 41.5% from 55.8% at the lower dose, still against zero recovery under the HCL baseline.

The test ran on the same unbeneficiated 8-sample T3803 composite from five historical diamond holes, at Nagrom's Kelmscott laboratory, with no process optimisation applied. Leaching was at low temperature and atmospheric pressure, with maximum recoveries reached in under four hours of a 24-hour test. The company has not yet found the lower limit of reagent concentration and expects further gains may be available at a lower dose again.

OUR READ

- 01

Recovery went up while cost went down. That is the unusual part. In leach testwork the trade-off normally runs the other way: less reagent, less metal. Test 3 lifted scandium recovery by nearly 12 percentage points and every rare earth element but terbium (flat at 83.1%) while consuming half the reagent. Selectro is already designed as a closed loop with lower reagent cost than HCL; a halved dose also halves the volume that needs recycling. Both sides of the operating cost equation moved in the company's favour in a single test.
- 02

The process is tunable, which matters more than any single number. Three tests have moved scandium recovery from 62.1% to 80.0% to 91.8% by adjusting the leaching regime, not the feed. Gallium responded the other way at the lower dose. Individual elements clearly answer to reagent concentration differently, which means the company can steer the process toward whichever metal the economics favour. None of this has yet been run on beneficiated feed; flotation testwork on the phosphate-hosted mineralogy confirmed by TIMA on 6 August is underway.
- 03

We valued Grass Patch on 80% scandium recovery and Selectro at nothing. Our A\$0.144 target of 26 August rested on the resource and the 12 August metallurgy. Test 3 improves the inputs to that view, and the company intends to fold the result into updated process economics and scoping assumptions. We hold the target pending those numbers and the bulk sample programme. A 91.8% recovery process that runs at ambient conditions on a 946Mt scandium resource, with licensing to third-party feed now an explicit next step, is not reflected in a A\$58.4m market capitalisation.

SNAPSHOT

Last close*	A\$0.042
Price target	A\$0.144
Implied upside	~243%
Shares on issue	1,390.3m
Market cap*	A\$58.4m
Contained Sc	47,357t
Sc recovery, T3	91.8%
Risk	High

RECOVERY BY TEST, %

ELEMENT	HCL	T1	T2	T3
Scandium	27.6	62.1	80.0	91.8
Dysprosium	39.4	54.4	77.3	85.0
Terbium	45.7	62.6	83.1	83.1
Yttrium	46.8	61.1	80.2	86.3
Neodymium	30.2	55.2	75.2	81.7
Praseodymium	30.8	48.9	73.6	81.3
Gallium	0.0	57.3	55.8	41.5

Selected elements. Same T3803 composite in all four tests; T3 at approximately half the reagent dose of T1 and T2. Source: MRD ASX, 17 September 2026, Table 2.

NEXT STEPS

Test 3 folded into process economics and scoping assumptions	next
Reagent floor and Sc / REE / Ga balance optimisation	next
Flotation testwork to set beneficiation for bulk sample	underway
Bulk sample: reduced-reagent and flotation-beneficiated feed	follows
Validate Selectro on third-party feed	planned

91.8%

scandium recovery, from 80.0%

84%

average HREE recovery, from 78.5%

1/2

reagent dose vs Tests 1 and 2

<4hrs

to maximum recovery, ambient pressure

Where Test 3 Leaves The Thesis

Our 26 August initiation called Selectro "the second asset" and valued it at nothing. This page sets Test 3 against how competitors extract the same metals, and against what a licensing business would need.

BACK TO THE INITIATION

Point 03 of our initiation said metallurgy was the gate and that it moved on 12 August at 80% scandium. Our "what is not yet proven" box listed reagent consumption, impurity behaviour, downstream separation and capital cost. Test 3 closes the first: the dose has halved and the floor is not yet found. At 91.8% recovery, Grass Patch's 47,357t of contained scandium yields about 43,500t of recoverable metal, against roughly 37,900t at 80%. That extra 5,600t is more than half of Rimfire Pacific's entire attributable resource, obtained without drilling a hole.

Our A\$0.144 target was built on A\$4,000 per tonne of contained scandium, modestly above Rimfire's same-stage A\$3,400, with no value for gallium, rare earths or the process. Test 3 does not change the resource, so it does not change the target arithmetic. It changes the probability that the resource converts into a project, the step worth A\$15,000 to A\$24,000 a tonne at peers who have taken it.

HOW COMPETITORS GET THE METAL OUT

Is 91.8% the best in the world? Among listed scandium developers, yes. Sunrise's March 2026 Syerston feasibility study assumes 88% recovery on 656ppm feed; Scandium International's Nyngan work returned 70 to 80% overall, and its atmospheric acid-bake tests averaged 75%. Both use high-pressure acid leaching: sulphuric acid in autoclaves at around 250°C, the nickel laterite flowsheet, which buys recovery with capital, acid and two-year ramp-ups. Laboratory studies on red mud have reported 90 to 95% scandium extraction in hot strong acid, but none has reached commercial scale. We cannot find a published result that matches 91.8% under Selectro's conditions.

Selectro reached 91.8% at atmospheric pressure and low temperature, in under four hours, on 50ppm feed, with a recyclable reagent at half the dose of a month ago. No autoclave, no acid make-up. If it survives beneficiated feed and bulk scale, it is the lowest-intensity route to high scandium recovery any listed developer has published, on ore one-eighth the grade of Syerston's.

The rare earth comparison is similar. Chinese and Brazilian ionic clay projects desorb rare earths with ammonium or magnesium sulphate at 80 to 90%, but only where the rare earths are adsorbed to clay. A 2025 survey found Australian clay-hosted deposits typically hold 0 to 3% ionic rare earths, which is why they have struggled to match those recoveries. Grass Patch is not an ionic clay: TIMA on 6 August showed the rare earths sit in xenotime, crandallite and monazite, minerals that ordinarily need high-temperature acid cracking. Recovering 84% of heavy rare earths from phosphate minerals at ambient conditions is the result that makes metallurgists stop, more than the scandium number.

DOES THIS OPEN THE DOOR TO LICENSING?

It moves licensing from a line in the announcement to a plausible business, and the company has named it a formal next step. Almost every scandium-bearing stream in the world is low grade: Chinese titanium and nickel by-product liquors at 10 to 20ppm, red mud from alumina refining, nickel laterite tailings across New Caledonia, the Philippines and Indonesia. Nobody builds an autoclave for 20ppm. A closed-loop atmospheric leach pulling 90% scandium from 50ppm feed is the first process we know of that could make those streams worth treating, and their owners are large industrial companies who would pay a royalty rather than reinvent chemistry. The rare earth side has the same shape: Australian clay-hosted deposits that failed the ionic test hold rare earths in the same phosphate minerals as Grass Patch, which Selectro has just leached at 84%. Ionic Rare Earths shows what a technology arm can be worth to a junior: its Belfast separation and recycling IP anchored a 50/50 Brazilian refining venture selected for a R\$5bn government funding programme.

What still has to happen. First, the process has to work on feed that is not Grass Patch. Every result to date is from one 8-sample composite; the planned third-party validation is the test that matters, and the Oak Ridge and Fraunhofer programmes disclosed in August are the first external checks. Second, the reagent has to stay secret or be patented in full. The provisional filing buys until August 2027 to file internationally, and a licensee will want granted claims, not a priority date. Third, bench recoveries have to survive a bulk sample and a pilot, with impurities and downstream separation quantified; a 91.8% leach recovery is not a 91.8% recovery to oxide. Our view: the door is open, and Test 3 is the result that gets third-party material sent to Kelmscott. We carry Selectro at zero and will not change that until a test on someone else's ore is published. A single announced third-party trial would be the trigger.

RECOVERABLE SCANDIUM

~43,500t

at 91.8% of 47,357t contained, against ~37,900t at the 80% used in our initiation. Cashu Research estimate.

SCANDIUM EXTRACTION ROUTES		
PROJECT / ROUTE	CONDITIONS	SC REC.
MRD Selectro, T3	Ambient	91.8%
SRL Syerston, HPAL (DFS 2026)	~250°C	88%
SCY Nyngan, HPAL	~250°C	70–80%
SCY Nyngan, acid bake	Atmos.	~75%
Red mud, lab studies	Hot acid	90–95%
Grass Patch, HCl baseline	Atmos.	27.6%

Cashu Research from company disclosures and feasibility studies. Syerston 88% is the March 2026 DFS assumption on 656ppm plant feed; Nyngan 70–80% is company-disclosed overall recovery on 409ppm feed. Red mud figures are academic bench results, not commercial. None is directly comparable to a bench test on 50ppm feed.

LICENSING READINESS	
IP	Provisional, 19 Aug
PCT deadline	Aug 2027
Owner	MRD Tech, 100%
Validation	ORNL, Fraunhofer
Third-party feed	Not yet tested
Scale	Bench