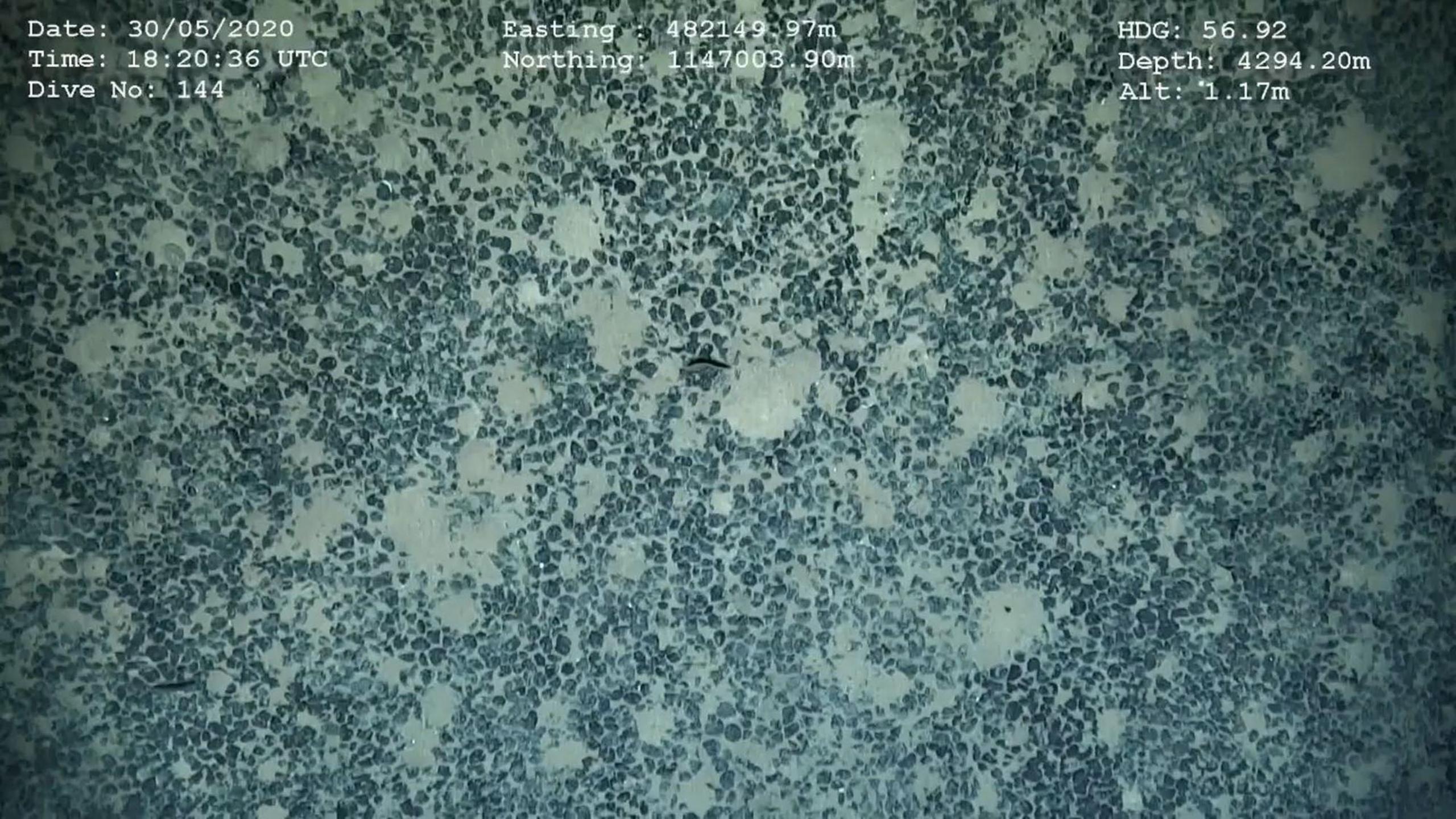


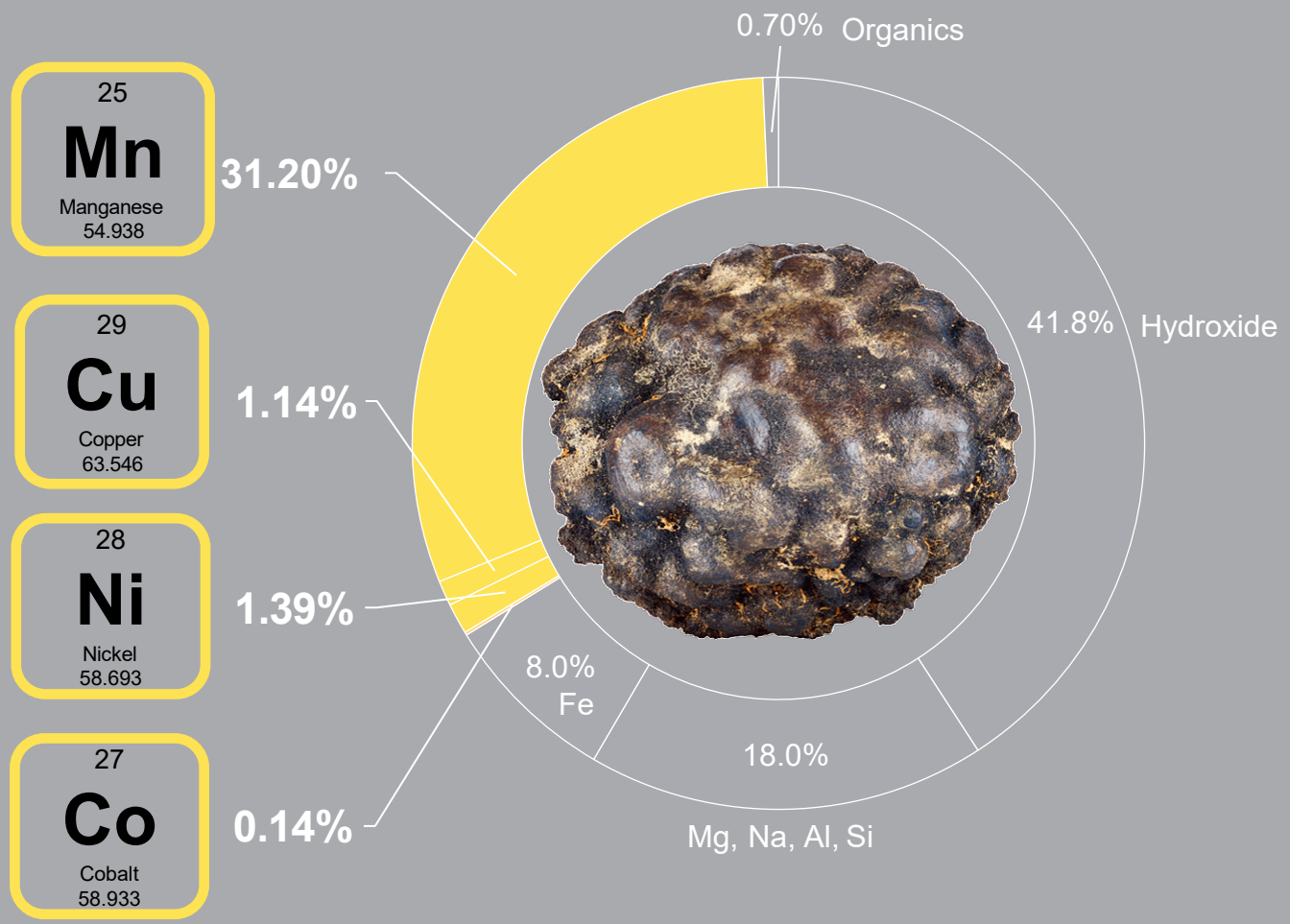
the metals company USA

Rebuilding American Supply of Four Critical Metals

The Deep Path to Mineral Independence
CRU Ferroalloys USA
October 26, 2026


Date: 30/05/2020
Time: 18:20:36 UTC
Dive No: 144
Easting : 482149.97m
Northing: 1147003.90m
HDG: 56.92
Depth: 4294.20m
Alt: 1.17m

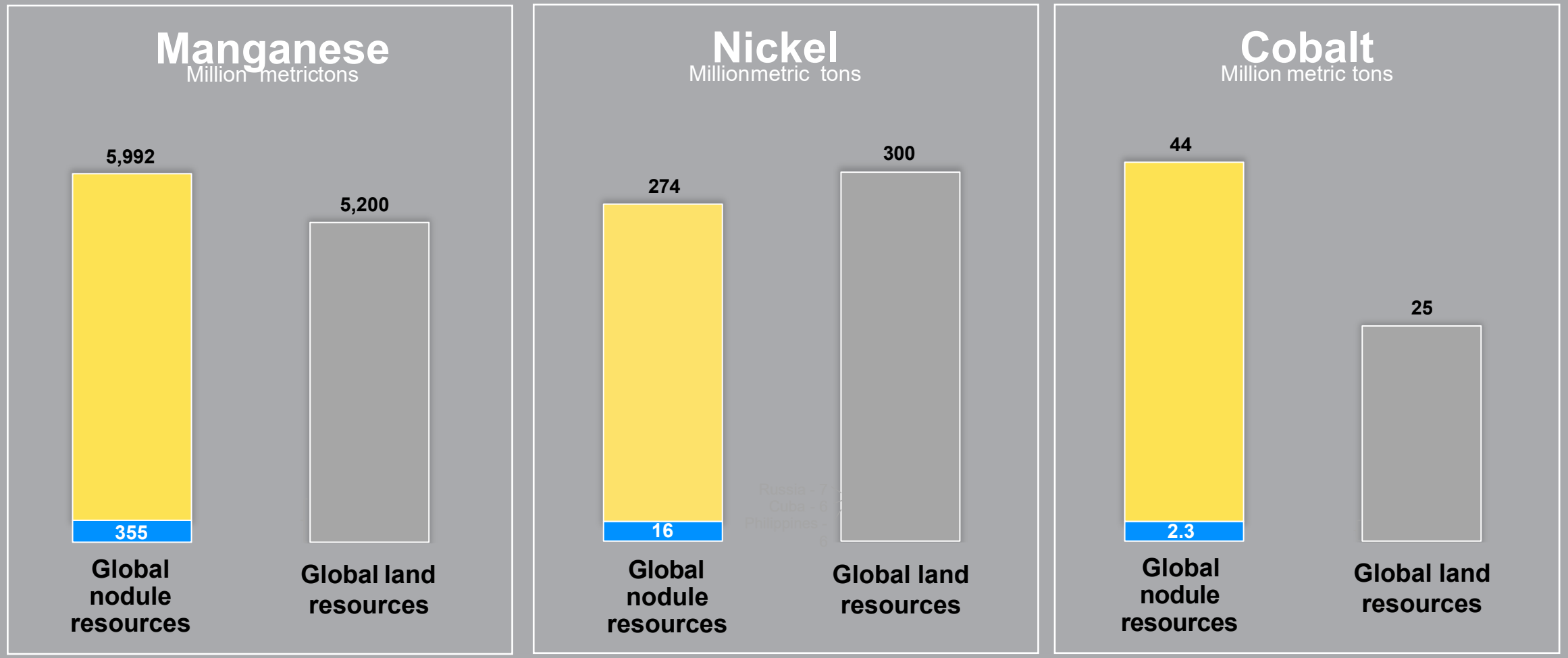
High grades of four base metals.



REEs+	ppm
Cerium (Ce)	217
Neodymium (Nd)	128
Lanthanum (La)	109
Yttrium (Y)	86
Samarium (Sm)	31
Praseodymium (Pr)	30
Gadolinium (Gd)	30
Dysprosium (Dy)	26
Erbium (Er)	13
Ytterbium (Yb)	13
Indium (In)	11
Europium (Eu)	7
Holmium (Ho)	5
Terbium (Tb)	4
Thulium (Tm)	2
Lutetium (Lu)	2
Germanium	0.5

Source: SEC Regulation S-K (Subpart 1300) Technical Report Summary of Prefeasibility Study of NORI Area D, Clarion Clipperton Zone, July 2025

CCZ nodule resources surpass global land resources.



Source: Contained-metal inventory, not recoverable reserves; based on estimates in Mizell, K., Hein, J.R., Au, M., Gartman, A. (2022). Estimates of Metals Contained in Abyssal Manganese Nodules and Ferromanganese Crusts in the Global Ocean Based on Regional Variations and Genetic Types of Nodules. In: Sharma, R. (eds) Perspectives on Deep-Sea Mining. Springer, Cham. https://doi.org/10.1007/978-3-030-87982-2_3

Date: 30/05/2020 Easting : 482149.97m HDG: 56.92
Time: 18:20:36 UTC Northing: 1147003.90m Depth: 4294.20m
Dive No: 144 Alt: 1.17m

Four critical metals for American re-industrialization.

All four metals are on
the U.S. critical minerals & materials lists.

25
Mn
Manganese
54.938

- Aluminum alloys
- Batteries
- Bricks (colorant)
- Catalysts
- Ceramic glazes
- Concrete additives
- Fertilizers
- Gasoline additives
- Glass
- Low-cost stainless steel formulations
- Paints and varnishes
- Pesticides
- Railroad tracks
- Steel alloys
- Welding rods
- Window glass (green tint)

28
Ni
Nickel
58.693

- Alloy steel
- Batteries
- Boilers
- Desalination plants
- Electric generators
- Gas turbines
- Heat exchangers
- Jet engines
- Military hardware
- Nuclear reactors
- Oil rigs
- Power grid infrastructure
- Propulsion systems
- Solar panels
- Stainless steel appliances

27
Co
Cobalt
58.933

- Aircraft engines
- Batteries
- Carbide tools
- Catalysts for petroleum
- Ceramics & pigments
- Dental prosthetics
- Electric car batteries
- Gas turbines
- Hard metals
- High-speed steels
- Industrial magnets
- Medical implants
- Paints and varnishes
- Solar panels
- Superalloys
- Tires

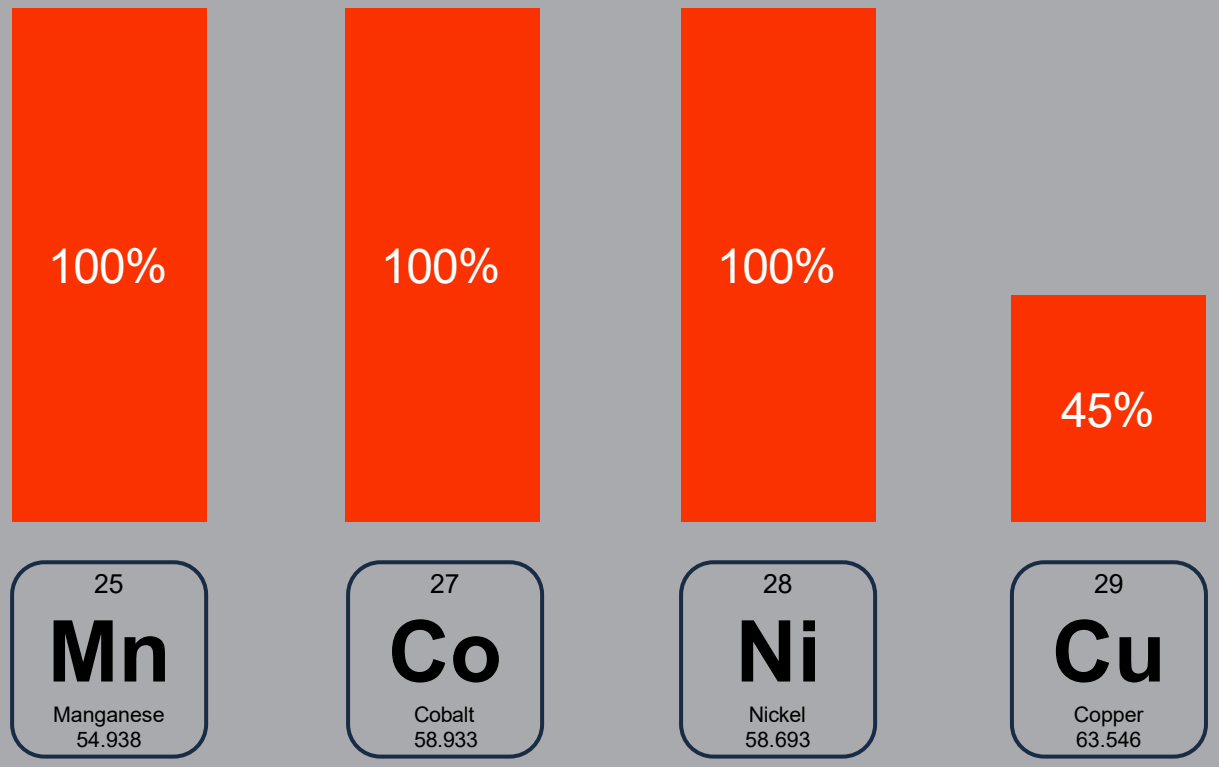
29
Cu
Copper
63.546

- Air conditioners
- Automobile radiators
- Building wire
- Circuit boards
- Electric motors
- Electrical switches
- Heat exchangers
- Microwaves
- Piping (plumbing)
- Power cables
- Refrigerators
- Roofing & guttering
- Ship propellers
- Solar panels
- Telecom cables
- Transformers
- Water heaters
- Wiring

Source: *Critical Materials List*, U.S. Department of Energy, 2023

A solution to America's strategic weakness.

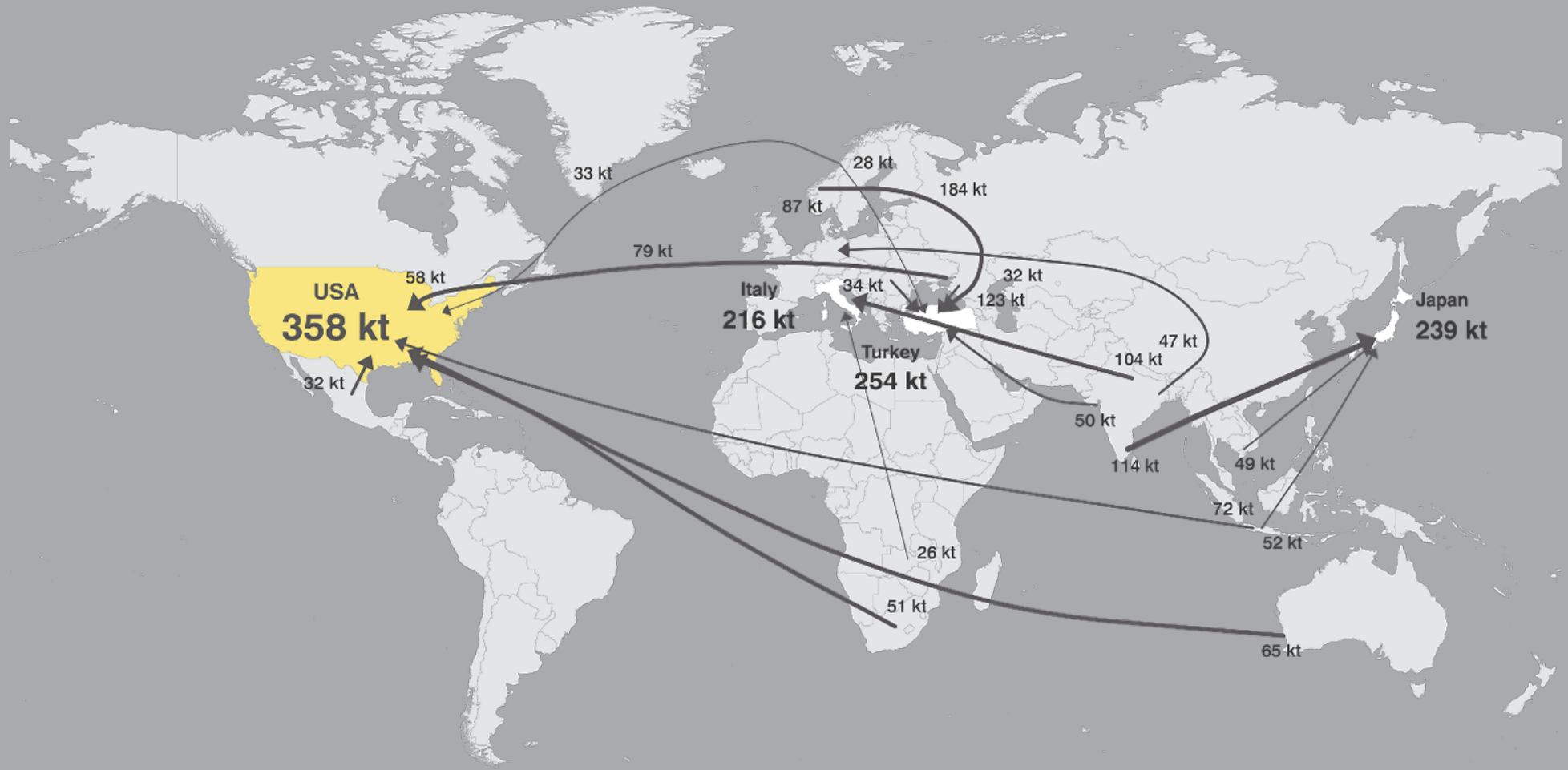
Net imports of primary metal tonnage
as % of U.S. apparent consumption, 2025
All four metals on U.S. Critical Minerals List



Source: USGS Commodity Summaries 2025; Final 2025 List of Critical Minerals, Department of Interior, https://public-inspection.federalregister.gov/2025-19813.pdf

And potential solution to midstream steel dependence.

American steel supply chain is
reliant on imports, ahead of proposed expansion.



Note: Silico-manganese imports (kt) Line weights reflect flow size; Source: International Manganese Institute, Market Research Report, April 2025.



Video available at: https://www.youtube.com/watch?v=8gJLI8ADEWU

Offshore minerals are a national priority for the United States and American companies.

EO 14285 *Unleashing America's Offshore Critical Minerals and Resources*, April 2025

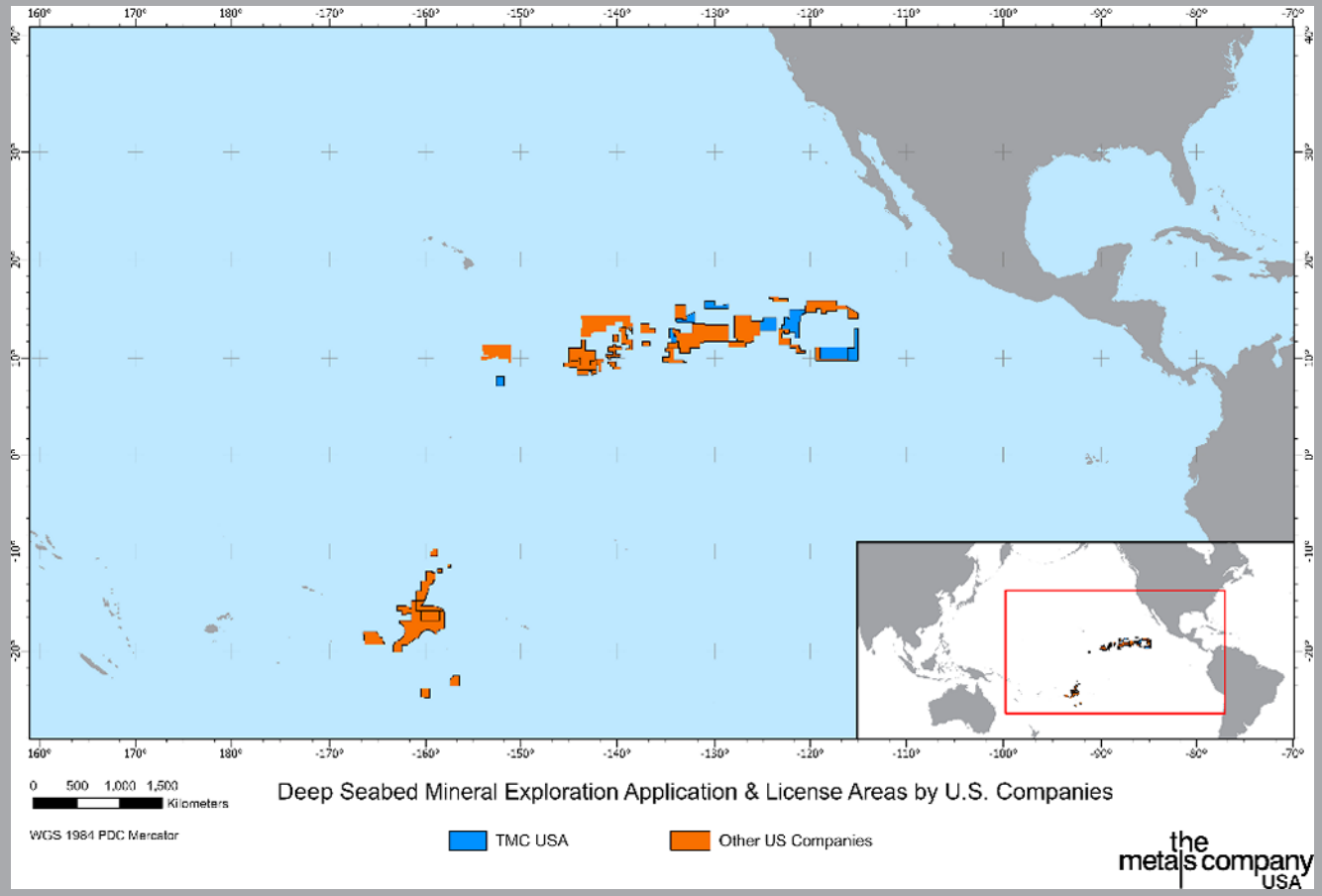
10+ American companies focused on offshore minerals in the high seas & EEZ, including 4 public companies ($TMC, $LMT, $OMEX / AOMC, $SEAS)

12 properties under NOAA license or application

1.6+ billion resource estimate plus 200+ million resource potential in TMC USA application areas

$5-8 trillion in estimated contained mineral value across American-held licenses / applications

Potential for U.S. mineral ~~dependence~~ dominance in base metals & rare earths



Source: Company press releases and NOAA announcements; TMC analysis of resource exploration potential

Two economic studies show the value and commercial viability of our projects.

Valuable.

$5.5 B
PFS NPV

$18.1 B
IA NPV

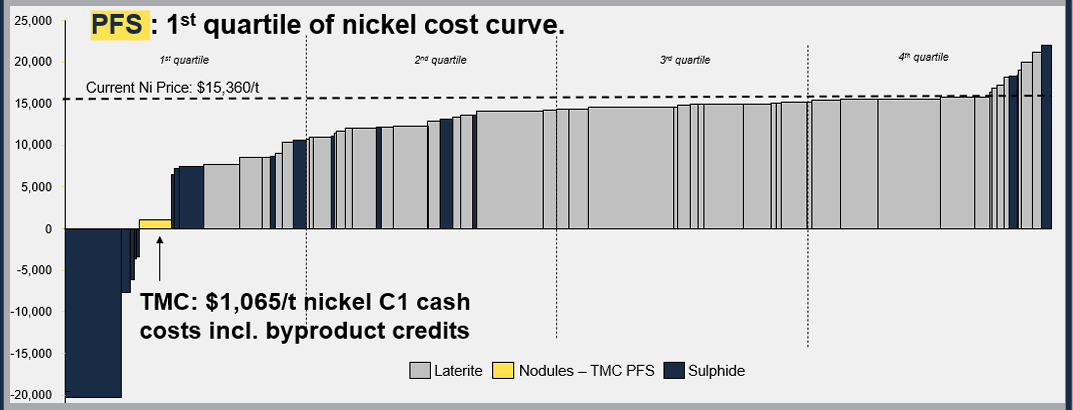


Commercially viable.

51 Mt
probable
reserves,
1.6 Bt resource



Low cost.

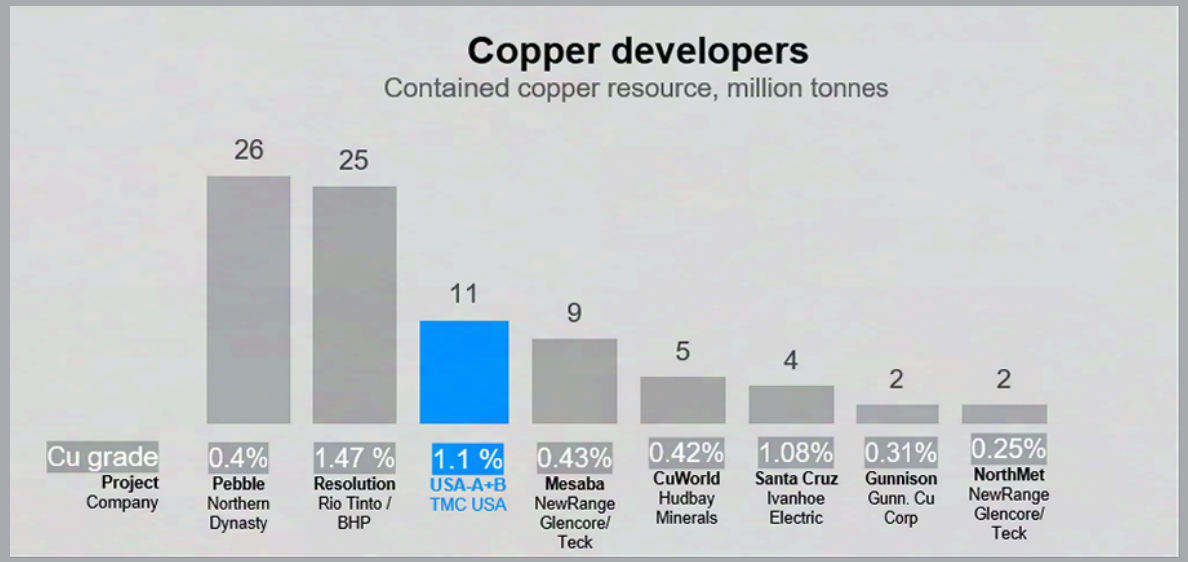


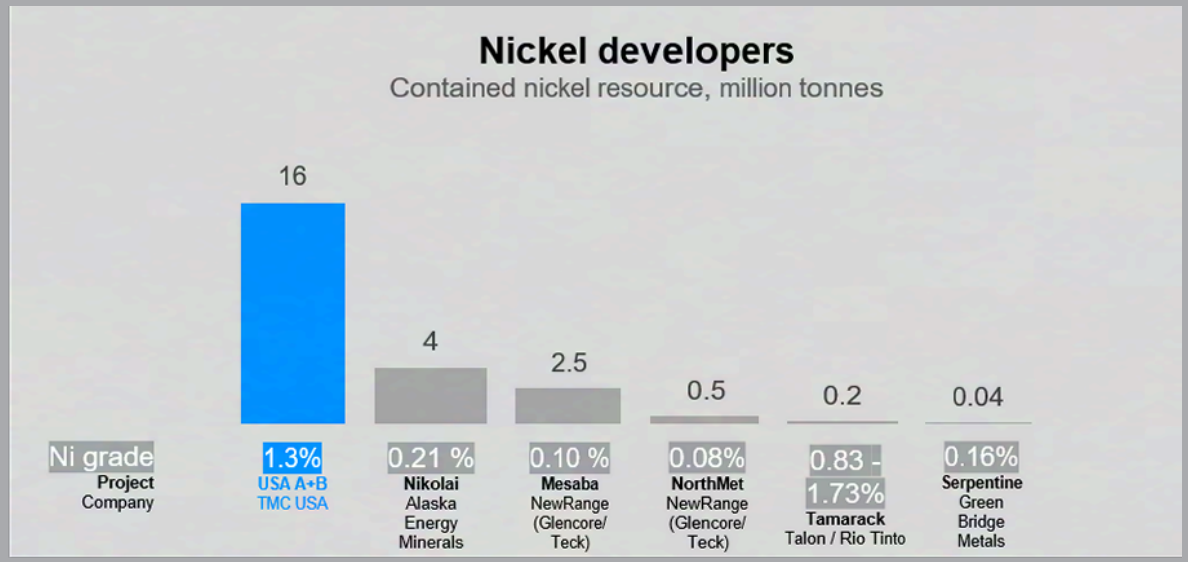
Starting soon.

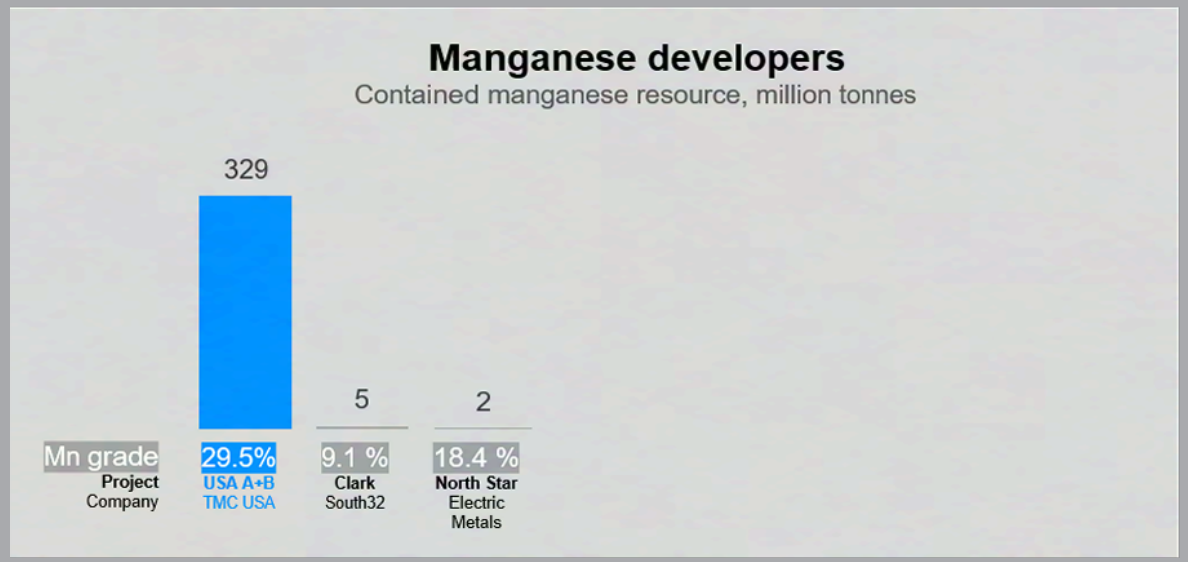
Q4 2027
Offshore
commissioning

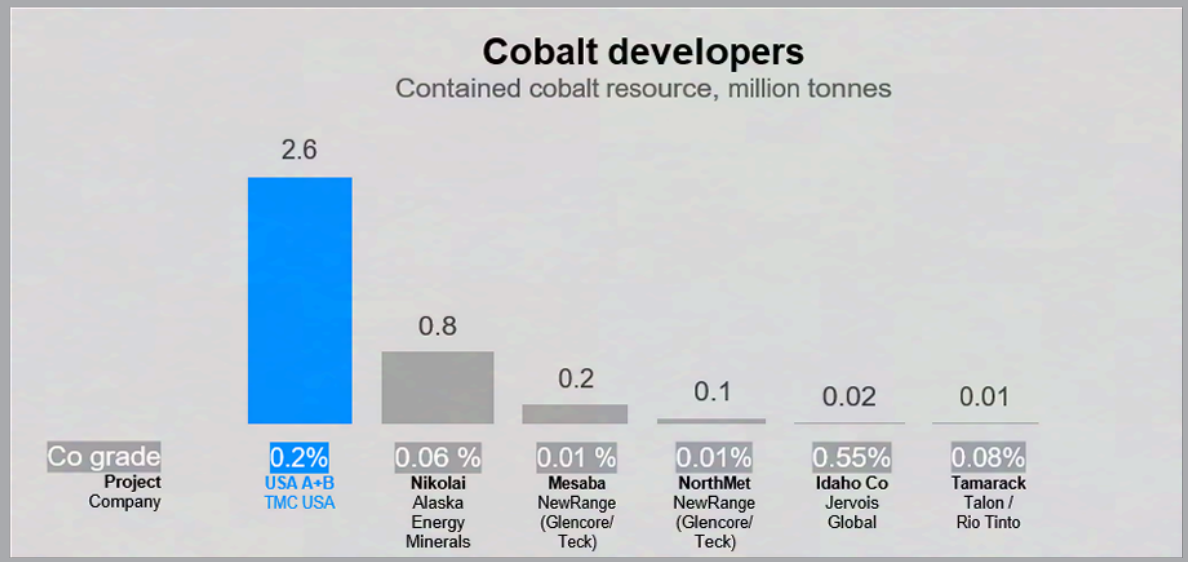


Bringing quality feedstock to the United States.





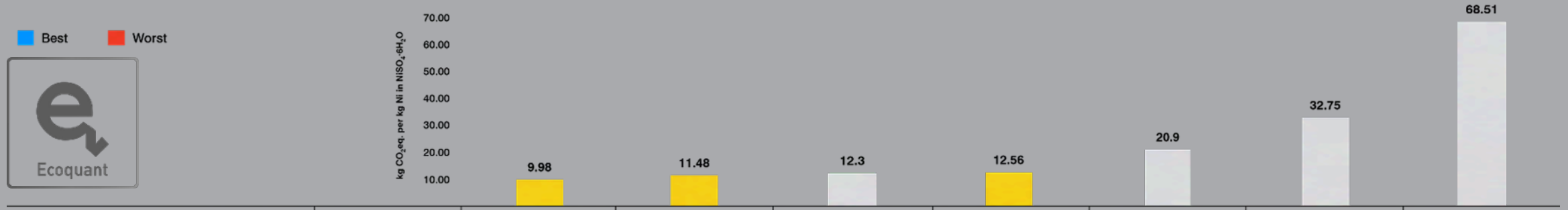




Source: Standards compliant resource statements; companies' press releases and websites.

With significantly lower environmental footprint.

1kg Ni in $NiSO_4 \cdot 6H_2O$ (22% Ni) – **Climate Change Impact** by processing technology and location



Impact Category	Unit	Nodules NORI-D Texas RKEF	Nodules NORI-D Japan RKEF	Sulfides Canada Norway Smelting	Nodules NORI-D Indonesia RKEF	Limonite Indonesia-China HPAL	Saprolite Indonesia-Japan RKEF	Saprolite Indonesia-China RKEF
Climate Change	kg CO_2eq	9.98	11.48	12.30	12.56	20.90	32.75	68.51
Freshwater + Terrestrial Acidification	mol H+ eq	0.064	0.082	0.072	0.088	0.465	1.000	0.577
Eutrophication Freshwater	kg P eq	0.004	0.004	0.026	0.008	0.032	0.006	0.092
Terrestrial Eutrophication	mol N eq	0.051	0.088	0.055	0.104	0.381	0.433	0.966
Freshwater Ecotoxicity	CTUe	-260.0	-259.0	539.0	-252.0	383.0	57.8	242.0
Marine Eutrophication	kg N eq	0.003	0.007	0.006	0.009	0.034	0.042	0.106
Ionising Radiation	kg U235eq	0.42	0.79	19.90	0.58	0.74	0.43	0.41
Photochemical Ozone	kg NMVOCeq	0.02	0.03	0.03	0.04	0.13	0.16	0.27
Human Toxicity, Cancer Effects	CTUh	-3.11E-10	2.35E-10	6.69E-09	7.96E-10	2.63E-08	9.26E-09	3.65E-08
Human Toxicity, Non-Cancer Effects	CTUh	9.18E-08	9.45E-08	1.39E-07	1.32E-07	1.50E-06	5.83E-04	7.10E-07
Particulate Matter Formation	Disease incidence	3.67E-07	4.60E-07	1.83E-06	6.34E-07	2.58E-06	1.44E-03	6.94E-06
Ozone Depletion	kg CFC-11eq	5.15E-08	1.01E-07	9.43E-08	8.76E-08	1.34E-07	3.77E-07	2.67E-07
Resource Use, Minerals+Metals	kg Sb eq	-2.34E-05	-2.09E-05	2.72E-04	-2.11E-05	1.93E-03	1.30E-04	1.34E-04
Resource Use, Fossils	MJ	114	142	379	148	206	344	831
Water Use	m^3	1.2	2.1	46.0	2.3	20.2	45.4	11.4
Land Use	Pts	10.0	17.7	34.5	15.6	93.3	31.4	119.0

Environmental impacts ahead of commercial operations are well defined and manageable.

100+ studies

Seabed-to-surface ocean research program

Surface biology
Surface fauna logbook (PelagOS)
Remote Sensing, Hydrophone Acoustics

Pelagic biology
Microbial Community Characterization
Phytoplankton Community Characterization
Zooplankton Community Characterization
Gelatinous Zooplankton Characterization
Micronekton Characterization
Trophic Analysis (Stable Isotopes)
Temporal Variability of Pelagic Communities
Trace Element Profiles in Water Column
Particulate Profiles in Water Column
Discharge Plume Characterization (Physical)
Discharge Plume Characterization (Biological)
Midwater Discharge (food webs particle composition)

Benthic biology
Megafauna Characterization (Photo transects)
Megafauna Characterization (Time Lapse)
Macro Fauna Characterization
Micro Fauna Characterization
Meso Fauna Characterization
Macro Fauna Characterization

Sediment analysis
Baited camera and traps
Benthic respiration and nutrient cycling
Seafloor metabolic activities
Bioturbation, sediment characteristics
Porewater sampling
Exposure toxicology studies
Metals determination by ICP analysis
Induction of gene transcripts (metals)

Collector impact studies
Met ocean studies
Bathymetry (seabed mapping)
Habitat mapping
Database development
Digital twin development
Collector test nearfield studies
Collector test far-field modeling
Plume modeling
Existing Resource Utilization Study
Noise & Light Study
Meteorology & Air Quality Study
Hazard & Risk Assessment
Emergency Response Planning
Cultural & Historical Resources
Waste Management
Cumulative Impacts

















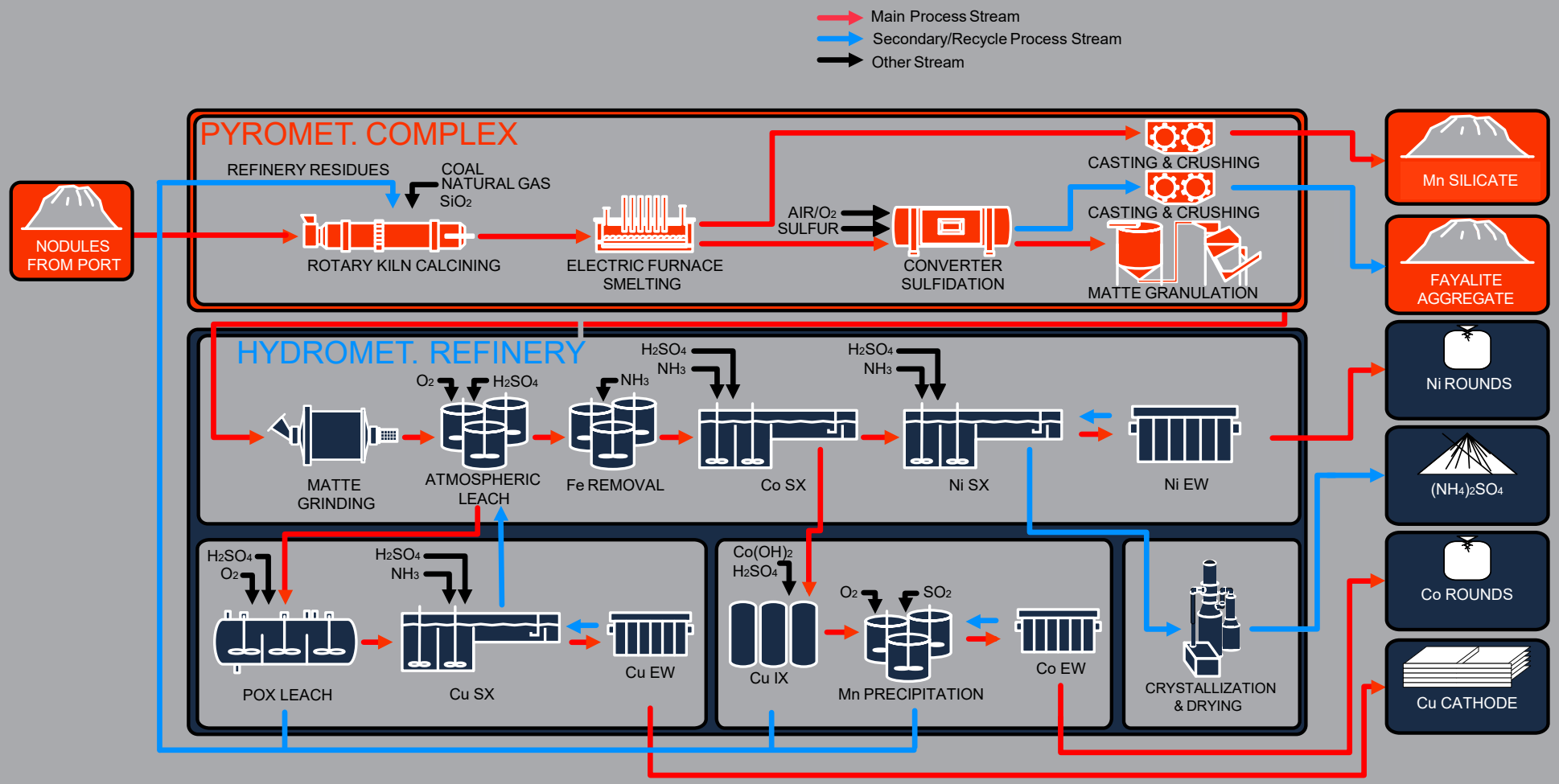








Low risk flowsheet, conventional equipment generating near-zero waste.




Video available at: https://vimeo.com/1068987527



TMC Mn Silicate generated through pilot plant operations

Mn silicate is well-suited for silicomanganese production.

600+ t

Medium-grade Mn silicate produced (Mn > 40%)

Mn:P > 1,000

Favourable impurity profile; Mn:Fe of 40 gives SiMn producers blending optionality

up to 17%

Higher value-in-use; dry, pre-reduced

- On-spec SiMn alloy samples in the Sintef study, with high reduction rates and kinetics similar to conventional Mn-rich slags
- Strong, dense; crushed and screened to customer spec (nominally 6–75 mm)
- Current testing underway by commercial operators
- Phase 1 production can support domestic SiMn sufficient to *double* domestic steelmaking

Compound		Elemental	
MnO	51.9%	Mn	40.2%
SiO_2	24.1%	Si	11.3%
Al_2O_3	5.6%	Al	7.5%
FeO	2.1%	Fe	1.7%
MgO	4.1%	Mg	2.5%
CaO	3.2%	Ca	2.3%
Other	8.9%	Other	34.6%

Source: Sintef analysis

NiCuCo intermediates can be toll treated or refined at designated facility.



TMC alloy (top, gran-shots or ingots) and matte (bottom, granulated) generated through pilot operations

- NiCuCo matte similar to intermediates produced from magmatic sulphide ores
- Can be refined using conventional hydrometallurgical techniques
- Toll treatment at existing facilities with plans to construct designated refining infrastructure

NiCuCo Alloy	
Ni	15.8%
Cu	12.5%
Co	1.5%
Fe	62%
Mn	4 to 6%

NiCuCo Matte	
Ni	42%
Cu	32.1%
Co	3.4%
Fe	5.0%
S	20%

Conventional hydrometallurgical refining with product format optionality.

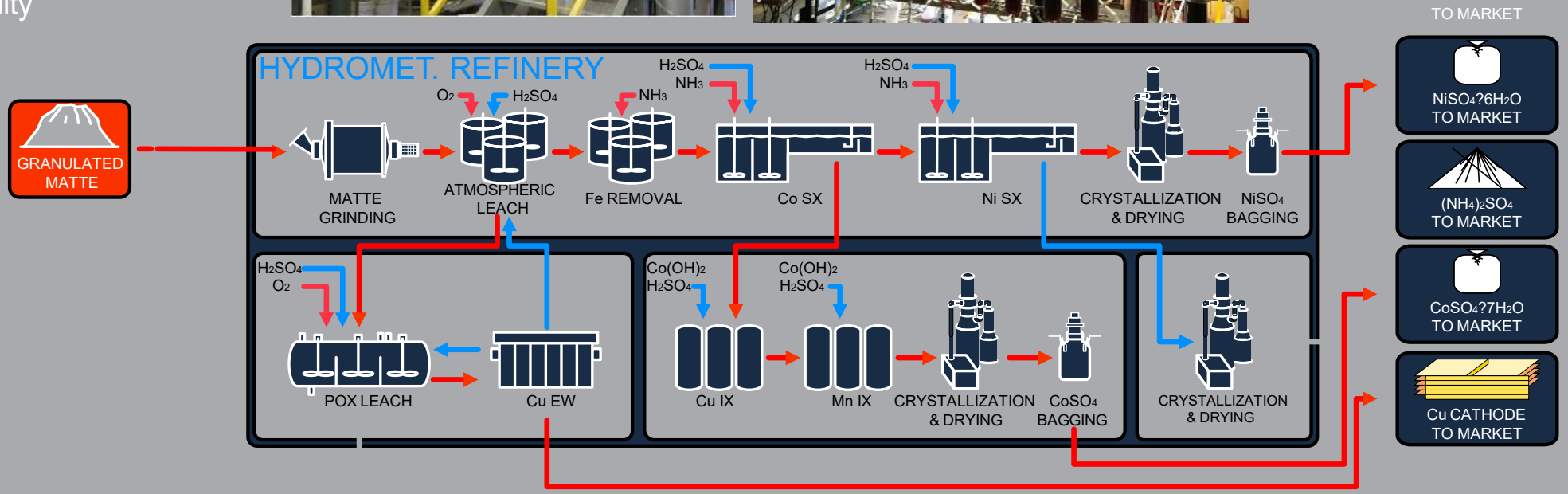
- High metal recoveries
- Battery grade purity profiles, analytics results validated in potential customer facility



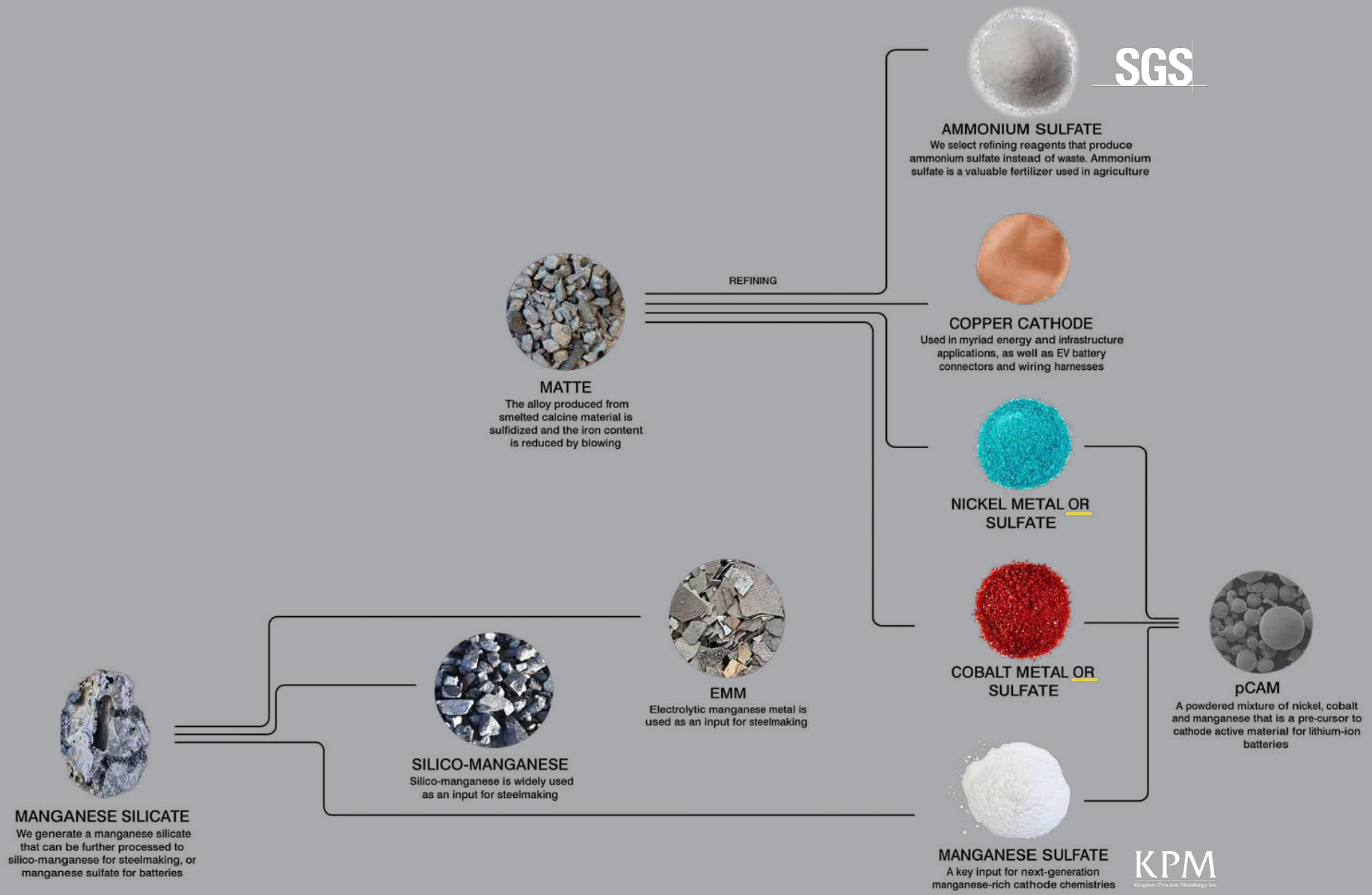


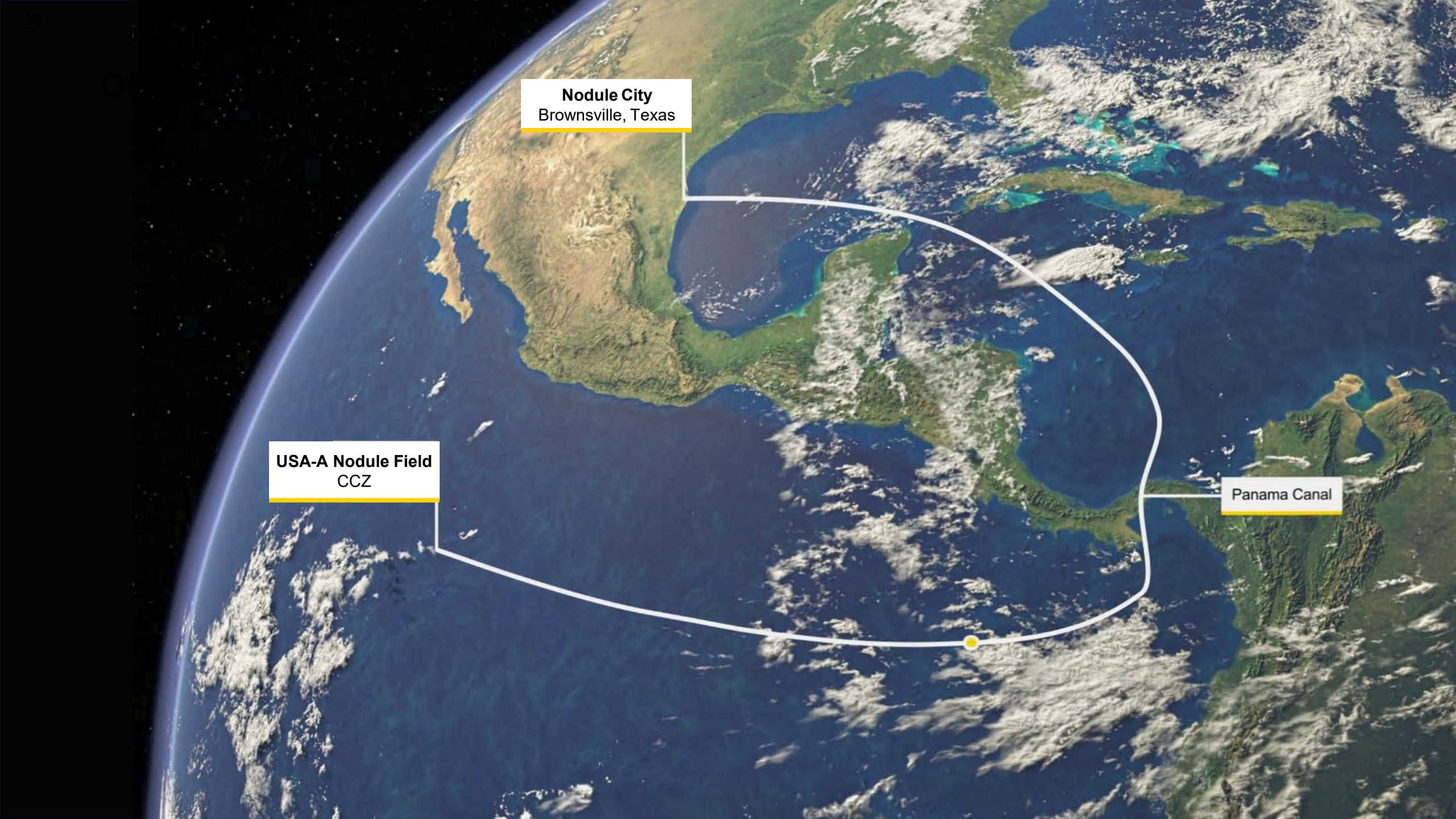
SGS

Hydromet bench scale refining
Atmospheric leach, autoclave, SX, IX and crystallization
Lakefield, ON, Canada



High purity products, with format optionality.




Nodule City
Brownsville, Texas
USA-A Nodule Field
CCZ
Panama Canal

Prefeasibility study completed, pending U.S. Government investment.

Primary site under consideration is in the Port of Brownsville, Texas where TMC USA holds an exclusive right of negotiation on a lease option for land sufficient to develop a domestic processing and refining ecosystem for TMC USA and other American operators, with the ultimate decision conditional on U.S. government support.

The area covers a total of 1,466 acres of land in two separate land parcels (735 acres on the Brownsville Shipping Channel and an adjacent 731 acres).

- Internal prefeasibility-level engineering for a 12 Mtpa industry park is near completion

- Feasibility-level engineering for the first smelting stage is underway, led by Mariana Minerals

- No capital commitment now, and future capital commitment would be contingent on gov't support



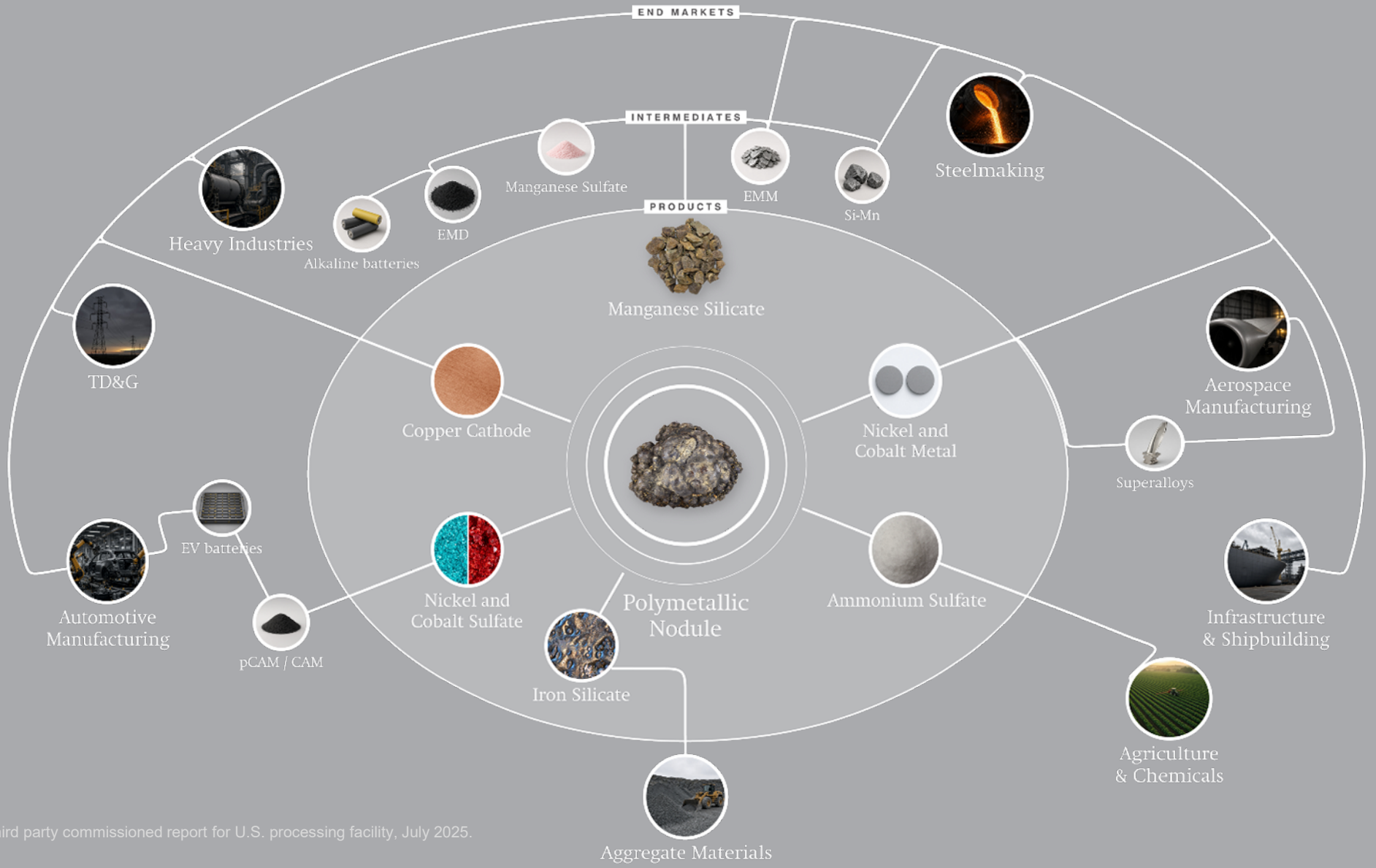
TMC USA has an exclusive right of negotiation on a lease option for ‘Nodule City’ in Brownsville, Texas.



A closer look at Nodule City.



The potential to power American reindustrialization.



Source: Third party commissioned report for U.S. processing facility, July 2025.



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