

January 31, 2024

News Release 24-03

# Dakota Gold Discovers Rare Earth Mineralization up to 12.9% over 4.9 feet in new TD Zone at the Richmond Hill Gold Project

**LEAD, SOUTH DAKOTA –** Dakota Gold Corp. (NYSE American: DC) ("Dakota Gold" or the "Company") is pleased to announce it has discovered Rare Earth Elements ("REE") in the new TD Zone in its exploration and development drilling program on its Richmond Hill Gold Project ("Richmond Hill") in South Dakota. Our preliminary evaluation has identified high-grade REE in and around the Twin Tunnels Breccia Pipe near surface and at depth, and within the gold resource areas being defined in its upcoming S-K 1300 compliant maiden resource, scheduled for completion in Q1 2024. Although REE will not be evaluated in the upcoming maiden resource, work has begun to characterize the distribution of REE as well as the mineralogy of the system, which may be useful in assessing the potential economic contribution to the Richmond Hill Gold Project.

# **Highlights:**

- Cerium and lanthanum anomalies Dakota Gold first identified in early 2023 have been confirmed to contain high levels of REE (up to 12.9% of total Rare Earth Oxides (REO) over 4.9 feet). In the limited drilling completed, REO concentration over 1% occurs intermittently in an area 1,000 feet by 1,000 feet and to depths over 1,000 feet. These anomalies occur within the same area as previously reported gold mineralization at Richmond Hill.
- Significant concentrations of neodymium and praseodymium (maximum values over 1% combined) are present and could be primary economic drivers for beneficiation of the material. Neodymium and praseodymium are key components of REE magnets. We are also evaluating the potential presence of xenotime as a source for the heavy REE dysprosium and terbium. Neodymium, praseodymium, dysprosium, and terbium are all critical minerals in the Department of Energy's 2023 Critical Materials Assessment based on their high importance and high supply chain risk.
- Next steps will be to conduct additional REE sampling using more sensitive REE analyses, conduct comprehensive mineralogical studies and refine the geometry and quantity of the various REO at Richmond Hill, particularly in relationship to a future anticipated gold mineral resource estimate.

James Berry, Vice President Exploration of Dakota Gold, said, "We are initiating the evaluation of REE at Richmond Hill. The recognition of enriched REE within the gold resource area may indicate the potential coproduction of commodities and, if these initial indicators are supported by future work, could add significant value to the project through either potential additional mineralization or potential reduction of permitting timelines. Further evaluation is undoubtedly warranted especially given the strategic value of magnet rare earth elements."

Patrick Malone, Chief Sustainability Officer of Dakota Gold said, "REE, particularly magnet REE like neodymium and praseodymium, are critical raw materials for many types of high technology - everything from smart phones to renewable energy and defense technologies. The United States is heavily reliant on sourcing and processing

these materials from other countries, primarily China. Dakota Gold is very excited about the prospect of creating new, domestic supplies of these critical minerals from the same deposits at Richmond Hill that we know are rich in gold and silver. The potential to provide the critical materials to facilitate the clean energy transition, creating both environmental and shareholder benefits, is precisely in line with Dakota Gold's values and purpose." Mr. Malone continued, "The United States has begun prioritizing the permitting of critical mineral exploration and mining projects to help the country secure its domestic supplies."

# **Exploration Update:**

Dakota Gold's exploration at the Richmond Hill Gold Project identified relatively high-grade concentrations of rare earths mixed with potentially economic gold and silver mineralization (Figures 1 and 2). Core drilling has intersected values as high as 12.9% total REO including neodymium oxide concentrations over 1% and praseodymium oxide over 0.4%. Neodymium and praseodymium both received screening scores of 27 in Department of Energy's 2023 Critical Materials Assessment because of their use in permanent magnets, representing two of the highest risk materials on this list. While drilling is limited and there has been no metallurgy and processing work completed to determine potential economics, REO concentration over 1% occurs roughly in an area 1,000 feet by 1,000 feet and to depths over 1,000 feet.

Preliminary thin sections for SEM analysis were taken from intervals returning high cerium and lanthanum values based on our standard multielement geochemical analyses (Figures 3 and 4). Later re-analyses using fusion digestion specifically designed for REE returned comparable results to the standard multielement procedures routinely used and suggest confidence that anomalous REE are not being missed by our standard sampling procedures (Figure 5).

Table 1 contains results from the preliminary, first pass follow-up sampling program initiated in late 2023. Cerium and Lanthanum are reported routinely in our standard trace element analyses along with gold and silver. However, detection limits of 10,000 ppm require re-assay of overrun values using a more sensitive analytical procedure with a fusion digestion. This fusion procedure also returns results for the heavier REE. Dakota Gold is conducting a detailed review of REE at Richmond Hill involving re-sampling and re-assay of earlier drill holes. Future results will be reported periodically when significant milestones are reached with the REE evaluation. Lanthanum and cerium show a very high degree of correlation using standard and sensitive analytical procedures. Cerium correlates very well with the magnet rare earths neodymium and praseodymium which can only be identified with the sensitive fusion analytical methods (Figures 6 and 7). The high correlation results can be used to identify concentrations of high value REE in the system.

Table 1. A selective sampling of results for calculated Total REO % in Drill Holes RH22C-003, RH22C-004, RH22C-005, RH22C-006, RH22C-011, RH22C-012, RH23C-014 and RH23C-032 (imperial / metric)

|           |      | From   | To     | Int.  | Total REO | Au    | Major Rare Earth Oxides %      |                  |                               |           |                                |                                 |  |
|-----------|------|--------|--------|-------|-----------|-------|--------------------------------|------------------|-------------------------------|-----------|--------------------------------|---------------------------------|--|
| Hole_ID   |      | feet   | feet   | feet  | %         | opt   | La <sub>2</sub> 0 <sub>3</sub> | CeO <sub>2</sub> | Y <sub>2</sub> O <sub>3</sub> | $Nd_2O_3$ | Dy <sub>2</sub> O <sub>3</sub> | Pr <sub>6</sub> O <sub>11</sub> |  |
| RH22C-003 |      | 58.8   | 135.0  | 76.2  | 2.71      | 0.006 | 1.139                          | 1.221            | 0.029                         | 0.202     | 0.003                          | 0.089                           |  |
|           | inc. | 63.4   | 108.0  | 44.6  | 3.79      | 0.005 | 1.581                          | 1.708            | 0.040                         | 0.288     | 0.005                          | 0.125                           |  |
|           |      | 139.0  | 161.0  | 22.0  | 0.73      | 0.054 | 0.328                          | 0.310            | 0.010                         | 0.048     | 0.001                          | 0.022                           |  |
|           |      | 166.7  | 205.0  | 38.3  | 1.31      | 0.052 | 0.572                          | 0.580            | 0.018                         | 0.089     | 0.002                          | 0.040                           |  |
| RH22C-004 |      | 239.0  | 257.0  | 18.0  | 3.06      | 0.017 | 1.244                          | 1.342            | 0.068                         | 0.239     | 0.008                          | 0.104                           |  |
| RH22C-005 |      | 553.2  | 643.5  | 90.3  | 0.60      | 0.031 | 0.247                          | 0.256            | 0.018                         | 0.046     | 0.002                          | 0.019                           |  |
|           |      | 1069.1 | 1168.0 | 98.9  | 3.44      | 0.014 | 1.363                          | 1.439            | 0.133                         | 0.289     | 0.015                          | 0.115                           |  |
|           | inc. | 1104.0 | 1158.8 | 54.8  | 4.66      | 0.016 | 1.835                          | 1.928            | 0.184                         | 0.395     | 0.022                          | 0.155                           |  |
| RH22C-006 |      | 1312.6 | 1372.2 | 59.6  | 0.38      | 0.004 | 0.167                          | 0.169            | 0.007                         | 0.025     | 0.001                          | 0.011                           |  |
| KH220-000 |      | 1535.5 | 1577.5 | 42.0  | 0.37      | 0.005 | 0.151                          | 0.163            | 0.008                         | 0.026     | 0.001                          | 0.011                           |  |
| RH22C-011 |      | 1018.1 | 1045.3 | 27.2  | 0.98      | 0.009 | 0.395                          | 0.433            | 0.028                         | 0.079     | 0.002                          | 0.031                           |  |
|           |      | 1093.0 | 1113.7 | 20.7  | 0.96      | 0.010 | 0.384                          | 0.416            | 0.032                         | 0.075     | 0.003                          | 0.029                           |  |
|           |      | 1158.1 | 1210.6 | 52.5  | 1.48      | 0.015 | 0.560                          | 0.636            | 0.067                         | 0.126     | 0.006                          | 0.047                           |  |
|           |      | 2108.4 | 2117.9 | 9.5   | 0.59      | 0.001 | 0.205                          | 0.287            | 0.012                         | 0.057     | 0.001                          | 0.022                           |  |
| 5         |      | 2201.8 | 2212.6 | 10.8  | 0.51      | 0.022 | 0.166                          | 0.252            | 0.010                         | 0.051     | 0.001                          | 0.019                           |  |
| RH22C-012 |      | 19.6   | 57.3   | 37.7  | 1.88      | 0.060 | 0.760                          | 0.850            | 0.028                         | 0.153     | 0.004                          | 0.059                           |  |
| RH23C-014 |      | 683.0  | 729.8  | 46.8  | 3.23      | 0.019 | 1.291                          | 1.375            | 0.108                         | 0.265     | 0.011                          | 0.105                           |  |
|           |      | 757.2  | 777.0  | 19.8  | 3.17      | 0.006 | 1.236                          | 1.328            | 0.151                         | 0.262     | 0.014                          | 0.101                           |  |
|           |      | 1307.0 | 1346.5 | 39.5  | 1.91      | 0.010 | 0.752                          | 0.815            | 0.066                         | 0.165     | 0.008                          | 0.061                           |  |
|           |      | 1380.0 | 1497.0 | 117.0 | 3.47      | 0.011 | 1.390                          | 1.464            | 0.114                         | 0.301     | 0.014                          | 0.113                           |  |
|           |      | 1527.9 | 1545.2 | 17.3  | 2.87      | 0.015 | 1.153                          | 1.227            | 0.078                         | 0.244     | 0.010                          | 0.094                           |  |
|           |      | 1644.9 | 1702.2 | 57.3  | 2.15      | 0.022 | 0.867                          | 0.933            | 0.047                         | 0.182     | 0.006                          | 0.071                           |  |
|           |      | 1742.2 | 1788.5 | 46.3  | 3.43      | 0.010 | 1.364                          | 1.525            | 0.078                         | 0.282     | 0.009                          | 0.110                           |  |
|           | inc. | 1752.1 | 1757.0 | 4.9   | 12.90     | 0.008 | 5.220                          | 5.840            | 0.203                         | 1.030     | 0.020                          | 0.410                           |  |
|           |      | 1824.5 | 1839.0 | 14.5  | 1.56      | 0.009 | 0.619                          | 0.691            | 0.038                         | 0.125     | 0.005                          | 0.048                           |  |
|           |      | 1862.1 | 1874.0 | 11.9  | 0.61      | 0.005 | 0.220                          | 0.249            | 0.039                         | 0.055     | 0.004                          | 0.019                           |  |
| RH23C-032 |      | 593.8  | 629.0  | 35.2  | 4.28      | 0.021 | 1.625                          | 1.856            | 0.157                         | 0.371     | 0.017                          | 0.148                           |  |

- True thickness is unknown.
- The major rare earth elements reported above include lanthanum (La), cerium (Ce), yttrium (Y), neodymium (Nd), dysprosium (Dy) and praseodymium (Pr).
- Rare Earth oxide values (REO%) were calculated from REE ppm results using conversions from: Rare Earth Elements, Goode, JR, 2019, SME Minerals Processing and Extractive Metallurgy Handbook; Dunne, RC, Kawatra, SK, and Young, CA, Eds: pp 2049 – 2075.







Figure 2. Cross Section along RH22C-005 and RH23C-014 Looking Northwest

# Figure 3. Core Photo – RH23C-014 REE Zone

|             |        |        |      |           |       | C.                             |                  |                               | è                              |       | Ĩ                               |
|-------------|--------|--------|------|-----------|-------|--------------------------------|------------------|-------------------------------|--------------------------------|-------|---------------------------------|
| SEM Section | on     |        |      |           |       |                                |                  |                               |                                |       |                                 |
| 1           |        |        |      | era       |       |                                |                  | V                             |                                |       |                                 |
|             |        |        |      |           |       |                                | Carlos A         |                               |                                |       | 1.158.1                         |
|             | From   | То     | Int. | Total REO | Au    |                                | Major R          | are Far                       | th Oxide                       | s %   |                                 |
| Hole_ID     | feet   | feet   | feet | %         | opt   | La <sub>2</sub> 0 <sub>3</sub> | CeO <sub>2</sub> | Y <sub>2</sub> O <sub>3</sub> | Nd <sub>2</sub> O <sub>3</sub> |       | Pr <sub>6</sub> O <sub>11</sub> |
| RH23C-014   | 1752.1 | 1757.0 | 4.9  | 12.90     | 0.008 | 5.220                          | 5.840            | 0.203                         | 1.030                          | 0.020 | 0.410                           |

## Figure 4. SEM images of REE Minerals - RH23C-014



Figure 5. Comparison of 4-acid versus fusion digestion of lanthanum







Figure 7. Praseodymium – Cerium Plot



The Company currently has four drills on site on its properties in the Homestake District of South Dakota at Maitland and Richmond Hill Gold Project (Richmond Hill). Richmond Hill is located 2.3 miles west of Maitland and 1.5 miles north of Coeur Mining, Inc.'s Wharf Mine. Based on Coeur Mining, Inc.'s Form 10-K Full-Year 2022 Reported Results, the Wharf Mine produced 79,768 ounces at 0.021 oz/ton gold in 2022.

### About Dakota Gold Corp.

Dakota Gold (NYSE American: DC) is a South Dakota-based responsible gold exploration and development company with a specific focus on revitalizing the Homestake District in Lead, South Dakota. Dakota Gold has high-caliber gold mineral properties covering over 46 thousand acres surrounding the historic Homestake Mine.

The Dakota Gold team is focused on new gold discoveries and opportunities that build on the legacy of the Homestake District and its 145 years of gold mining history.

Subscribe to Dakota Gold's e-mail list at <u>www.dakotagoldcorp.com</u> to receive the latest news and other Company updates.

#### Shareholder and Investor Inquiries

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#### **Qualified Person and S-K 1300 Disclosure**

James M. Berry, a Registered Member of SME and Vice President of Exploration of Dakota Gold Corp., is the Company's designated qualified person for this news release as defined in Subpart 1300 - Disclosure by Registrants Engaged in Mining Operations of Regulation S-K and has reviewed and approved its scientific and technical content.

The ranges of potential tonnage and grade (or quality) disclosed above in respect of the Richmond Hill Gold Project are conceptual in nature and could change as the proposed exploration activities are completed. There has been insufficient exploration of the Richmond Hill Gold Project to allow for an estimate of a mineral resource and it is uncertain if further exploration will result in the estimation of a mineral resource. The disclosure above in respect of the Richmond Gold Project therefore does not represent, and should not be construed to be, an estimate of a mineral resource or mineral reserve.

Quality Assurance/Quality Control consists of regular insertion of duplicate samples and blanks into the sample stream. Assay results are reviewed, and discrepancies are investigated prior to incorporation into the Company database. Samples are submitted to the ALS Geochemistry sample preparation facility in Winnipeg, Manitoba. Gold and multi-element analyses are performed at the ALS Geochemistry laboratory in Vancouver, British Columbia. ALS Minerals is an ISO/IEC 17025:2017 accredited lab.

#### **Forward-Looking Statements**

This communication contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Any express or implied statements contained in this announcement that are not statements of historical fact may be deemed to be forward-looking statements, including, without limitation, the timing of release of a resource estimate on the Richmond Hill Gold Project, the potential use for and value-add of REE identified at Richmond Hill Gold Project, and future evaluation plans for REE identified at Richmond Hill Gold Project. These forward-looking statements are based on assumptions and expectations that may not be realized and are inherently subject to numerous risks and uncertainties, which could cause actual results to differ materially from these statements. These risks and uncertainties include, among others, the execution and timing of our planned exploration activities, our use and evaluation of historic data, our ability to achieve our strategic goals, the state of the economy and financial markets generally and the effect on our industry, and the market for our common stock. The foregoing not exhaustive. list is

For additional information regarding factors that may cause actual results to differ materially from those indicated in our forward-looking statements, we refer you to the risk factors included in Item 1A of the Company's Annual Report on Form 10-KT for the nine-month transition period ended December 31, 2022, as amended, as updated by annual, quarterly and other reports and documents that we file with the SEC. We caution investors not to place undue reliance on the forward-looking statements contained in this communication. These statements speak only as of the date of this communication, and we undertake no obligation to update or revise these statements, whether as a result of new information, future events or otherwise, except as may be required by law. We do not give any assurance that we will achieve our expectations.