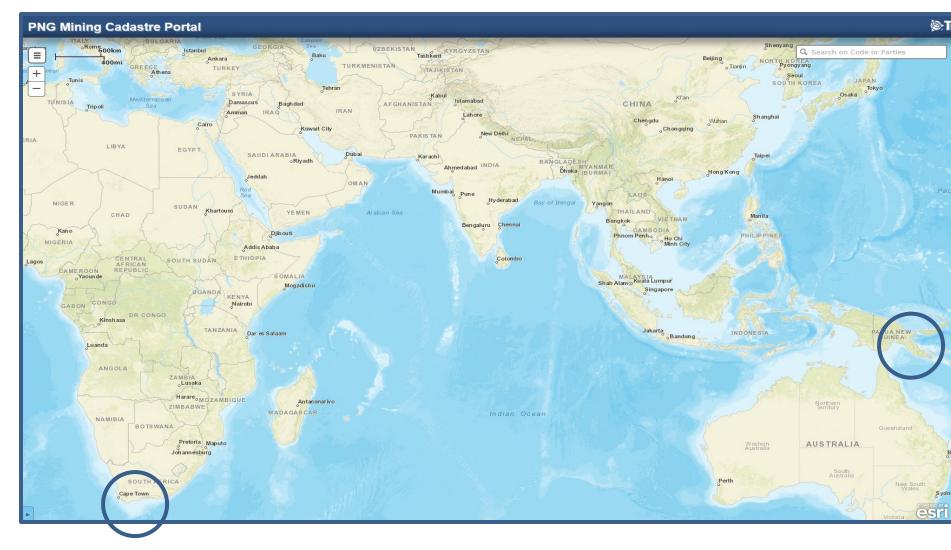


Papua New Guinea Mining Tenement System





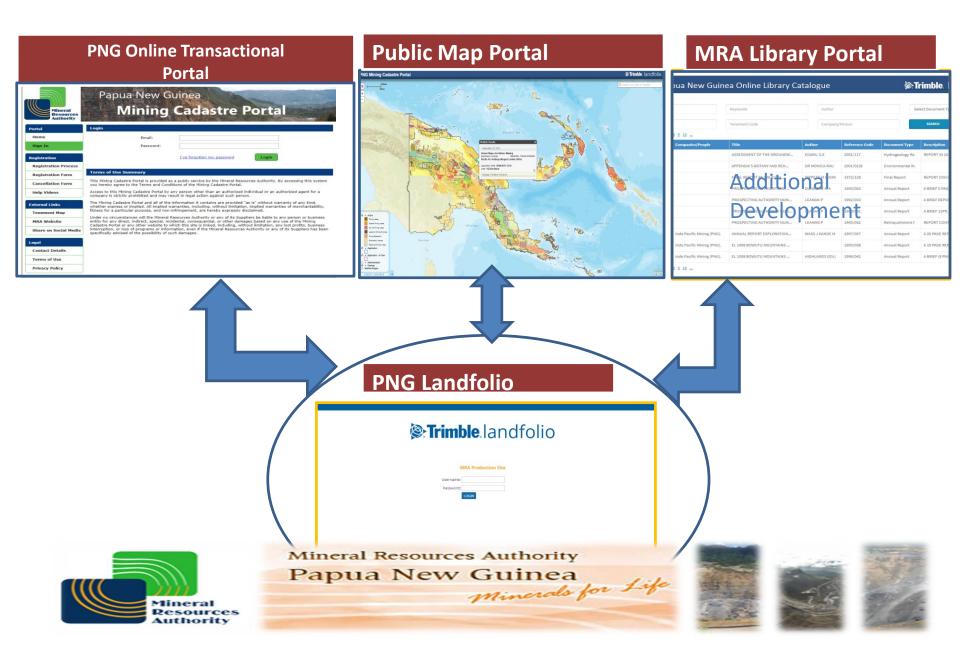


Mineral Resources Authority (MRA)

- State Own Entity that Regulates the Mining Industry in Papua New Guinea (PNG) pursuant to the Mining Act 1992
- MRA is located in the capital, Port Moresby, with a Small Scale Mining Branch and training centre in Wau Morobe Province.



PNG Landfolio Design



MRA Library Portal:

- Geological Reports
- Exploration Reports
- Map Files
- Historic tenement data including annual reports, drill-hole & core analysis, hydrology, social & landowner agreements, etc

| | Mineral Resource | - | |
|---------|---------------------|-----|---------|
| | Mineral Resource | | |
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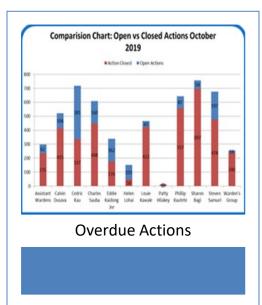
| 113, 610 | Indo Pacific Mining (PNG). | EL 1008 BOWUTU MOUNTAINS . |
|-------------------|----------------------------|----------------------------|
| Mineral Resources | Authority | |
| Papua New | Guinea | 1.10 |
| 1 | minerals f | or type |

| | Keywords | Author | | S | elect Document 1 | |
|----------------------------|---------------------------|------------------|----------------|------------------|-----------------------------|--|
| | Tenement Code | Company, | | SEARCH | | |
| 2 10 | | | | | | |
| Companies/People | Title | Author | Reference Code | Document Type | Description REPORT IN 20 | |
| | ASSESSMENT OF THE GROUNDW | EGARA, S.S | 2001/117 | Hydrogeology Re | | |
| | APPENDIX 5-BOTANY AND REH | DR MONICA RAU | 2001/013E | Environmental Re | | |
| | FINAL REPORT PA 100 KUTU | TIPPETT M C SIMI | 1972/128 | Final Report | REPORT DISC | |
| | PROSPECTING AUTHORITY NO | DUGMORE M A | 1993/003 | Annual Report | A BRIEF 5 PAG | |
| | PROSPECTING AUTHORITY NUM | LEAMAN P | 1992/033 | Annual Report | A BRIEF REPO | |
| | PROSPECTING AUTHORITY NUM | LEAMAN P | 1993/001 | Annual Report | A BRIEF 13PF | |
| | PROSPECTING AUTHORITY NUM | LEAMAN P | 1993/002 | Relinquishment F | REPORT CON | |
| Indo Pacific Mining (PNG). | ANNUAL REPORT EXPLORATION | WASS J KANDE M | 1997/057 | Annual Report | A 20 PAGE RE | |
| Indo Pacific Mining (PNG). | EL 1008 BOWUTU MOUNTAINS | | 1995/038 | Annual Report | A 19 PAGE RE | |
| Indo Pacific Mining (PNG). | EL 1008 BOWUTU MOUNTAINS | HIGHLANDS GOLI | 1996/042 | Annual Report | A BRIEF (6 PA | |





Landfolio Experiences: Benefits and Challenges





Landfolio Users





Landfolio Experiences – Benefits & Challenges

| Papua New Guinea Extractive Industries Transparency Initiative (PNG EITI) Executive Summary Report for 2018 | Where inificeit hates 0 | | BRIFINENT HATE BRITANS GIVEN | Replace Paper based Tenement Application Hard Copy Registry 80 registered users |
|--|---|------------------|---|---|
| EITI | Mine and Exploration Reporting | Online Portal | Passing of New Mining Bill (Q2,2020) | Human error – Users attending to & closing actions IT connectivity (constant power & server issues) No Current Legislative Support No audit capacity of production and revenue |



2010 Min and Duadoutta

Mineral Resources Authority Papua New Guinea Minerals for Life

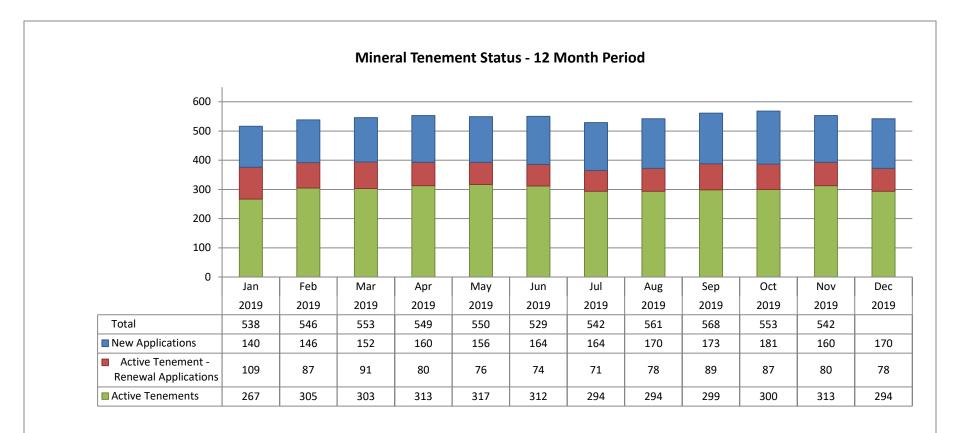
REPORTING EXAMPLE: MINE PRODUCTION

& REVENUE DATA

| 2019 Mineral Production | | | | | | | | | | | | | | | |
|--|----------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------|
| Mines | | Commodity | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Total YTD |
| | | gold (oz) | 18,004 | 22,786 | 23,535 | 20,086 | 27,278 | 19,192 | 23,720 | 29,953 | 27,323 | 42,696 | 28,506 | 23,249 | 306,328 |
| | PRODUCED | silver (oz) | 93,205 | 87,457 | 119,518 | 125,734 | 113,689 | 83,392 | 84,956 | 183,186 | 151,219 | 152,973 | 157,971 | 113,914 | 1,467,214 |
| | | copper (t) | 6,083 | 7,585 | 8,154 | 7,769 | 9,027 | 6,158 | 7,013 | 9,987 | 8,670 | 11,418 | 9,523 | 7,581 | 98,968 |
| | | gold (oz) | 23,340 | 25,930 | 19,901 | 12,046 | 31,899 | 29,707 | 32,646 | 33,126 | 27,551 | 13,967 | 52,639 | 36,340 | 339,092 |
| k Tedi (SML 1 0) | SHIPPED | silver (oz) | 99,988 | 116,689 | 77,360 | 68,276 | 150,730 | 136,538 | 134,308 | 172,098 | 132,657 | 83,780 | 265,362 | 192,632 | 1,630,418 |
| | | copper (t) | 7,464 | 8,616 | 6,413 | 4,508 | 10,676 | 9,428 | 9,521 | 10,642 | 8,325 | 3,975 | 15,581 | 12,272 | 107,421 |
| | | gold (pgk) | 112,194,178 | 110,623,956 | 75,115,690 | 51,699,706 | 138,828,088 | 166,309,618 | 149,663,352 | 175,281,640 | 131,551,506 | 68,817,756 | 249,197,782 | 193,813,793 | PGK 1,623,097,065 |
| | FOB | silver (pgk) | 5,776,298 | 5,265,594 | 3.327.418 | 3,170,269 | 6,666,105 | 7,496,548 | 7,038,059 | 9,389,996 | 7,002,554 | 4,703,414 | 13,861,921 | 12,669,238 | PGK 86,367,414 |
| | | copper (pgk) | 161.604.831 | 203.142.576 | 129.517.959 | 85,233,272 | 155.483.567 | 189.452.653 | 182,655,451 | 167.385.408 | 162,224,376 | 78.945.701 | 302,454,089 | 276.028.082 | PGK 2,094,127,96 |
| | | | | | | | | | | | | | | | PGK 3,803,592,44 |
| | | gold (oz) | 49.531 | 34.093 | 55.317 | 26.077 | 47,976 | 53.371 | 44.961 | 50.734 | 63.602 | 45.736 | 64.698 | 61.340 | 597.436 |
| | PRODUCED | silver (oz) | 39.638 | 26,608 | 39,506 | 23,899 | 40,736 | 42.501 | 52.243 | 13,179 | 17.878 | 13,564 | 19.054 | 27.341 | 356,147 |
| | | gold (oz) | 52.837 | 34.809 | 51,026 | 37,088 | 39.814 | 56.091 | 38.010 | 58,364 | 60,989 | 44.000 | 72,424 | 56,977 | 602,429 |
| Porgera (SML 1 P) Lihir(SML 6) Kurumbukari (SML 8) Tolukuma (ML 104) Eddie Creek (ML 144,ML 384,ML 384, ML 402, ML 462) Simberi (ML 136) | SHIPPED | silver (oz) | 64.010 | 30,795 | 40.600 | 29,565 | 27,019 | 49,596 | 36,787 | 41,450 | 26,735 | 43,654 | 16,257 | 25,882 | 432,350 |
| | | | 225,906,946 | 152,179,205 | 226,459,612 | 158,929,637 | 173,705,017 | 255,387,603 | 180.842.021 | 291,731,338 | 314,893,464 | 218,565,388 | 365,476,064 | 287,673,140 | PGK 2,851,749,43 |
| | FOB | gold (pgk) | | | | | | | | | | | | | |
| | | silver (pgk) | 2,255,202 | 1,313,280 | 2,069,730 | 1,135,334 | 1,087,844 | 2,048,622 | 1,572,718 | 2,282,480 | 1,462,684 | 2,020,588 | 979,091 | 1,358,306 | PGK 19,585,879 |
| | | | | | | | | | | | | | | | PGK 2,871,335,31 |
| | | gold (oz) | 97,028 | 80,237 | 61,014 | 90,329 | 105,060 | 65,891 | 66,359 | 68,004 | 83,143 | 56,776 | 38,640 | 68,578 | 881,059 |
| hir(SML 6) | | gold (oz) | 78,684 | 100,394 | 87,993 | 81,769 | 108,822 | 87,926 | 54,331 | 55,502 | 73,838 | 66,303 | 44,239 | 50,375 | 890,176 |
| | FOB | gold (pgk) | 342,158,404 | 446,181,426 | 386,739,467 | 354,474,240 | 471,924,854 | 406,488,099 | 261,088,403 | 285,146,685 | 472,957,984 | 335,458,518 | 219,907,921 | 257,148,378 | PGK 4,239,674,37 |
| | | | | | | | | | | | | | | | PGK 4,239,674,37 |
| | | nickel (t) | 2,449 | 2,652 | 2,562 | 2,845 | 2,920 | 3,001 | 2,905 | 2,576 | 2,908 | 2,244 | 2,704 | 2,954 | 32,720 |
| | PRODUCED | cobalt (t) | 217 | 236 | 250 | 263 | 259 | 271 | 261 | 236 | 243 | 181 | 237 | 262 | 2,916 |
| | | Chromite (t) | 7,111 | 7,165 | 8,399 | 10,667 | 11,000 | 11,271 | 13,305 | 10,690 | 7,866 | 6,876 | 9,912 | 11,311 | 115,573 |
| | | nickel (t) | 1.338 | 1,166 | 4.084 | 2,233 | 2,046 | 5,178 | 5,528 | 4,885 | 4.118 | 4,371 | 3,333 | 2.477 | 40,757 |
| urumbukari (SML 8) | SHIPPED | cobalt (t) | 128 | 106 | 374 | 205 | 185 | 472 | 507 | 448 | 374 | 362 | 292 | 217 | 3.670 |
| | | Chromite (t) | 12,742 | 5,598 | 11,936 | 8.817 | 6.372 | 15,088 | 17.775 | 10.577 | 12.571 | 10,118 | 17.024 | 8,118 | 136,736 |
| | | nickel (pgk) | 38,530,052 | 32,832,016 | 134,351,542 | 75.611.009 | 62,921,999 | 156,182,292 | 182,388,179 | 185,848,025 | 212,842,077 | 228,361,287 | 144,746,489 | 78,198,081 | PGK 1,532,813,04 |
| | FOB | cobalt(pgk) | 18.644.266 | 8,722,461 | 20.019.440 | 13,882,367 | 13,346,009 | 32,855,928 | 34,233,576 | 29,223,183 | 31,796,367 | 32,535,353 | 24,870,189 | 13,539,256 | PGK 273,668,395 |
| | 100 | | 361.404 | | | | | | | | | | | | PGK 49,909,276 |
| | | Chromite (pgk) | 301,404 | 164,027 | 621,852 | 367,301 | 268,853 | 593,284 | 27,959,370 | 2,489,959 | 4,465,149 | 2,417,835 | 8,496,074 | 1,704,168 | |
| | | | _ | | | | | | | | | | | _ | PGK 1,856,390,71 |
| | PRODUCED | gold (oz) | | - | | | | | | | | | _ | | 0 |
| | | silver (oz) | | | | | | | | | | | | | 0 |
| olukuma (MI_104) | SHIPPED | gold (oz) | | | | | | | | | | | | | 0 |
| | | silver (oz) | | | | | | | | | | | | | 0 |
| | FOB | gold (pgk) | | | | | | | | | | | | | PGK 0 |
| | 100 | silver (pgk) | | | | | | | | | | | | | PGK 0 |
| | | | | | | | | | | | | | | | PGK 0 |
| | PRODUCED | gold (oz) | 17.80 | 0.00 | 2.60 | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 | 4.90 | | | | 26 |
| | FRODUCED | silver (oz) | 16.20 | 0.00 | 2.40 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 4.10 | | | | 23 |
| | 0100000 | gold (oz) | 17.80 | 0.00 | 2.60 | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 | 4.90 | | | | 26 |
| аане стеек (ML 144,ML 384,ML 384, ML 402, ML 462) | SHIPPED | silver (oz) | 16.20 | 0.00 | 2.40 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 4.10 | | | | 23 |
| | FOR | gold (pgk) | 74,057.00 | 0.00 | 10,999.00 | 2,919.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19,106.00 | | | | PGK 107,081 |
| | FOB | silver (pgk) | 793.00 | 0.00 | 134.00 | 35.00 | 0.00 | 0.00 | 0.00 | 0.00 | 212.00 | | | | PGK 1,174 |
| | | VF 211/ | | | | | | | | | | | | | PGK 108,255 |
| | PRODUCED | gold (ozt) | 8,880 | 15.513 | 9,709 | 12,151 | 10,417 | 13,676 | 9.844 | 8,763 | 8.454 | 8,005 | 6,913 | 8,153 | 120,478 |
| | | silver (ozt) | 2,368 | 850 | 4,846 | 3.873 | 3,051 | 2,626 | 3,989 | 3,415 | 3,339 | 3.045 | 4,921 | 3.016 | 39,339 |
| | | | | 5.354 | 4,846 | 12,743 | | | | 9,014 | 8,417 | 7,737 | | 6,441 | 120,268 |
| imberi (ML 136) | SHIPPED | gold (oz) | 7,703 | | | | 10,216 | 10,993 | 11,180 | | | - | 10,881 | | |
| | | silver (oz) | 2,368 | 850 | 4,846 | 3,873 | 3,051 | 2,626 | 3,989 | 3,415 | 3,339 | 3,045 | 4,921 | 3,016 | 39,339 |
| | FOB | gold (pgk) | 32,687,384 | 23,108,060 | 84,609,540 | 54,041,731 | 43,301,085 | 49,924,029 | 52,255,028 | 38,133,282 | 42,943,067 | 38,319,928 | 53,218,707 | 31,373,058 | PGK 543,914,899 |
| | | silver (pgk) | 121,503 | 44,168 | 248,752 | 272,736 | 147,544 | 156,894 | 206,668 | 188,238 | 199,092 | 177,124 | 282,164 | 167,893 | PGK 2,212,776 |
| | | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | 1 | 1 | 1 | | PGK 546,127,675 |



Tenement Status 2019







SUPPORT & MAINTENANCE

- PROVIDES CRITICAL 'BACKROOM' CONNECTION & TECHNICAL BACK-UP
- 2 X SITE VISITS PER YEAR FOR USER TRAINING, TROUBLESHOOTING & DEVELOPMENT
- ENABLES CLOUD HOSTING AMAZON
- PROVIDES FOR KEY ADMINISTRATOR TRAINING IN CAPETOWN
- ENABLES ANTICIPATION OF FUTURE DEVELOPMENTS i.e. REGULATORY REVISION
- ENABLES IDENTIFICATION OF SYSTEM WEAKNESSES, BOTH TECHNICAL AND HUMAN





REVISED MINING LEGISLATION New legislation will trigger a complete Landfolio review and upgrade

- Both old and new systems may require to operate in parallel for a transitional period up to 5 years
- New aspects include social mapping & land identification date, new tenement types i.e. Retention Licence & mine area extensions, new tenement terms, extensive enforcement & penalty powers
- Accordingly, work plans and processes will have to be re-scoped and re-built
- Extensive user training and user numbers





NEW DEVELOPMENTS

- MAP & DATA SALES
- CAPTURE OF REAL TIME PRODUCTION & GEOLOGICAL DATA – PROVIDED DIRECT FROM MINES
- SAFETY DATA
- ALLUVIAL SPECIFIC DATA
- DRILL-HOLE CADASTRAL LOCATION



Thank You

