

**ASX RELEASE** ABN: 45 116 153 514

ASX: TMX

**18 December 2019** 

# Smokebush Exceptional Historic Drilling Results Identified During Project Due Diligence

**Terrain Minerals Limited (ASX: TMX)** is pleased to announce that based on the findings of the due diligence and data review over the Smokebush Gold Exploration package that it has elected to proceed with the earn in as announced to ASX on 2 December 2019.

The data review has identified extensive untested surface gold geochemical anomalies as well as highlighting significant RC and RAB gold drilling intersections from sparse first pass drilling.

The best historical results include:

#### Monza:

- 2m @ 11.3g/t Au from 70m (MMRC162 RC)
- 2m @ 9.2g/t Au from 24m (MMRC154 RC)

## **Hurley & T17:**

- 10m @ 1.4g/t Au from 15m (MM084 RAB)
- 2m @ 2.5g/t Au from 51m (MMRC074 RC)

## Wildflower:

15m @ 1.4g/t Au from 10m (MM110 - RAB)

The historic drilling is considered sparse and requires follow up exploration activities to property test these significant results. Terrain is now planning a site visit to gain a better understanding of the possible controls of mineralisation before designing the next stage of exploration activities.

**Refer to ASX release: 02 December 2018 -** Farm-in Agreement for the Smokebush Gold Project at Mt Mulgine, 65km West of Paynes Find WA.



## **Location & Access**

The Smokebush Project Area is located approximately 85 kilometres east northeast of the Perenjori township and 65 kilometres west of Paynes Find within the Yalgoo Mineral Field.

The project is contained within four contiguous Prospecting Licenses (P59/2125, P59/2126, P59/2127 & P59/2128) and one Exploration Licence (E59/2234) enclosing a total area of approximately 1,254 hectares (Figure 1).

The tenements can be accessed via the unsealed Perenjori - Warriedar Road, and thence via extensive historical exploration grid lines, station tracks and fences lines.

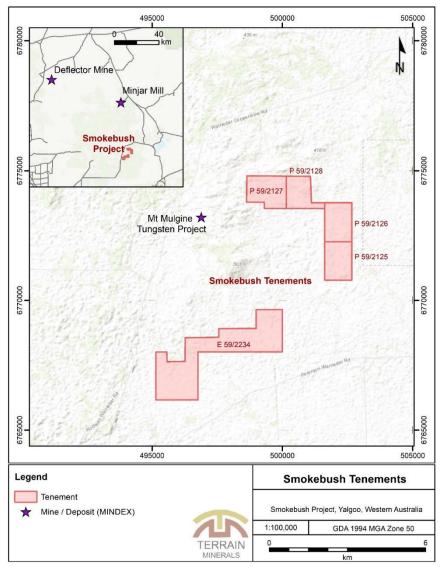


Figure 1: SmokeBush Project Location (Tenements outlines in Red)



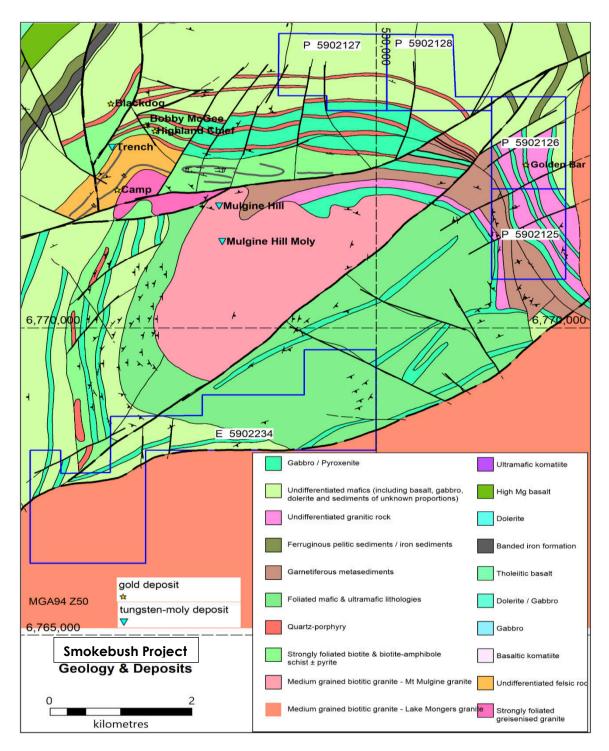


Figure 2: Interpreted Geology Mt Mulgine with the Smokebush tenements in blue outlines



# **Geochemical Targets**

Substantial historical surface geochemical sampling programs have been conducted across the area of the tenements (Figure 4). The majority of geochemical data generated during the historic gold exploration programs consistently analysed gold, arsenic and copper (Figures 5, to 11). Analysis for tungsten and its stablemate, molybdenum, were less frequent (Figure 8), and the appearance of analysis for those particular refractory elements seems to have been a function of trends in the tungsten market.

The historic publicly open file surface geochemical gold and chalcophile assays (As, Cu) were imported and gridded using Mapinfo (Inverse Distance Squared interpolation) to generate geochemical images for gold, arsenic and copper (Figure 9 to 11). Rock chip samples were also included in this review.

The historical gold exploration targets at T13, Monza, Hurley, Wildflower and T16 are defined by elevated gold soil geochemistry >19ppb (0.019 ppm). Elevated arsenic >20ppm is coincident with all of the gold anomalies, however the elevated arsenic geochemistry on the western part of E59/2234 is pervasive and a broad zone of +80ppm arsenic in that area seems to be associated with a major structural contact between granite and greenstone (Figure 2 & 10).

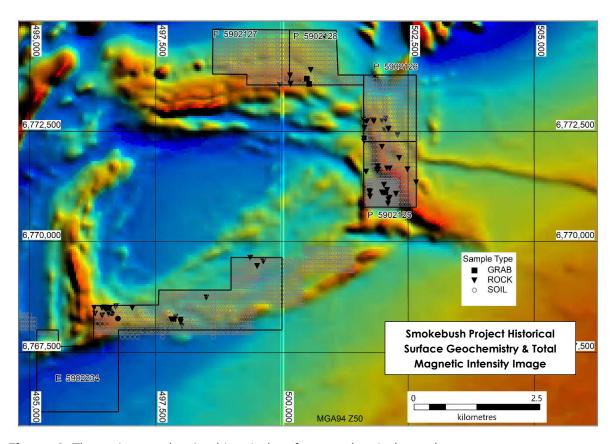
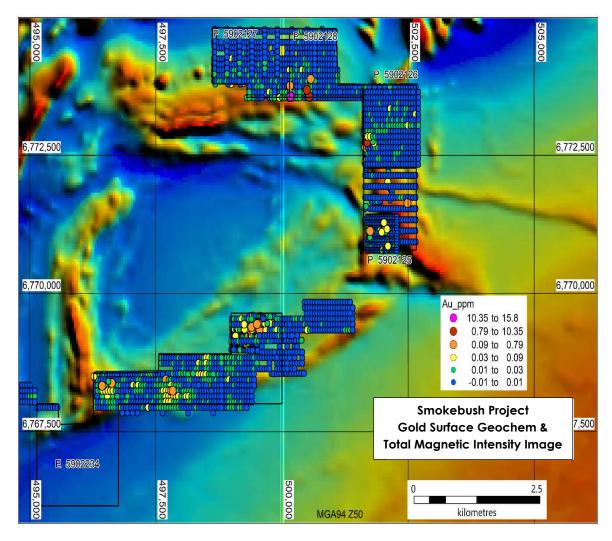


Figure 4: Thematic map showing historical surface geochemical samples





**Figure 5:** Thematic map of surface gold geochemistry.



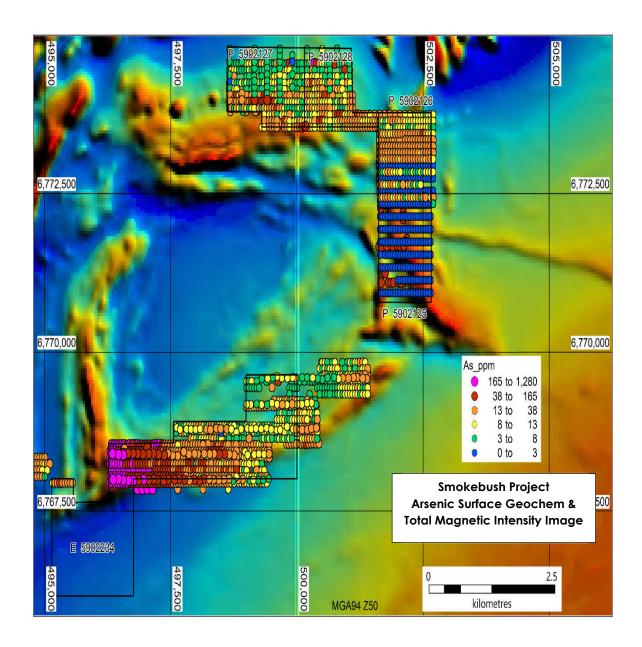


Figure 6: Thematic map of surface arsenic geochemistry



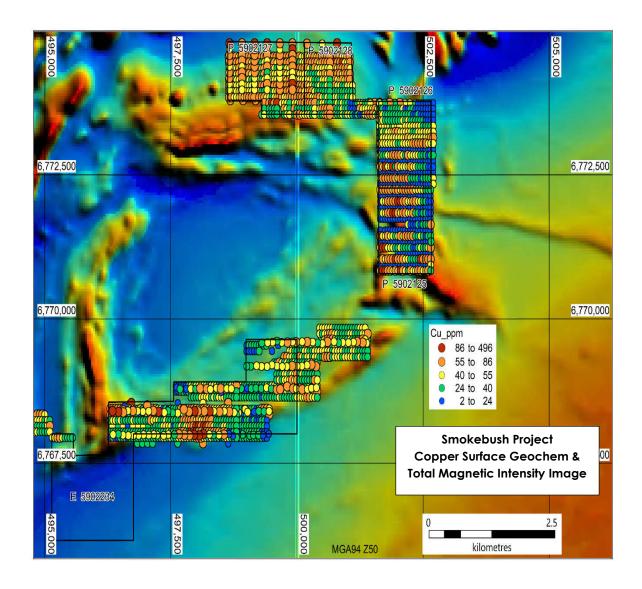


Figure 7: Thematic map of surface copper geochemistry



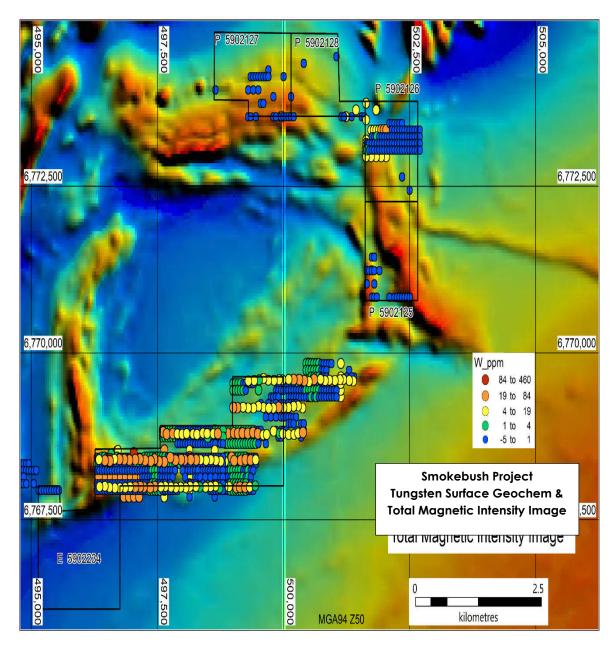


Figure 8: Thematic map of surface tungsten geochemistry



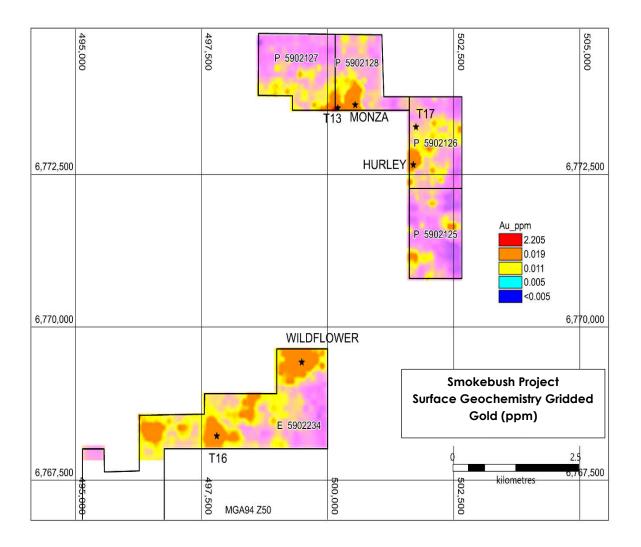


Figure 9: Surface geochemical image for gold and target areas



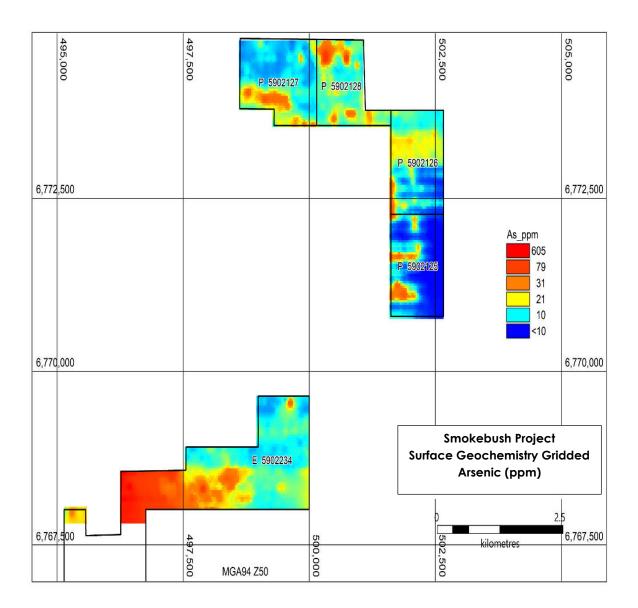


Figure 10: Two Surface geochemical image for arsenic



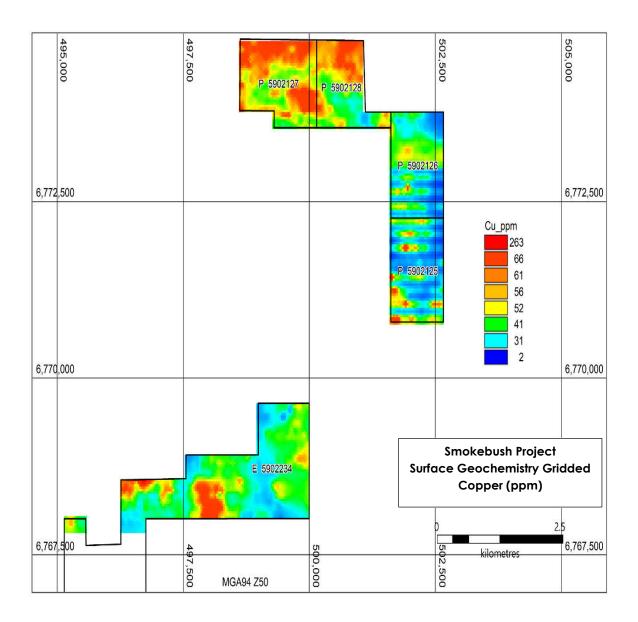


Figure 11: Surface geochemical image for copper



# **Review of Historic Drilling Data**

A compilation of all open file historical drilling was compiled as part of the project due diligence. This was conducted over the entire project area. To date drilling has focussed mainly on the six prospect area's depicted in Figure 9. Significant gold interceptions >0.5 ppm were calculated and tabulated (Tables 1 to 4).

## Monza & T13 Targets

The Monza and T13 targets occur within a 750m x 500m gold soil geochemical anomaly >19 ppb in the southwestern corner of P59/2128 (Figure 12). A "bullseye" of >2 g/t Au on the geochemical image is due to significant rock chip surface samples (peaking at 10.37g/t Au). The soil anomalies have been drill tested by 12 angled RC drill holes (drilled towards the west and Southwest).

Terrain's due diligence review of historic data at the Monza target has identified the possible narrow high grade plunging mineralised zone that is open to the north under the existing drilling. Significant intercepts include 2m @ 11.3g/t Au from 70m in hole MMRC162 and 2m @ 9.2g/t Au from 24m in hole MMRC154 (Table 1). Further RC drilling is required to confirm geometry of this high-grade plunging zone and test the potential down plunge potential to the north.

Hole ID	Туре	TD (m)	Easting (MGA94Z50)	Northing (MGA94Z50)	RL (m)	Dip (°)	Azimuth (°)	Fro m (m)	To (m)	Interva I (m)	Au (g/t)
MMRC032	RC	96	500191	6773609	386	-60	270	41	42	1	2.54
								75	76	1	0.75
MMRC034	RC	120	500220	6773558	383	-60	270	3	6	3	0.88
MMRC036	RC	100	500180	6773659	388	-60	270	88	89	1	1.36
MMRC070	RC	66	500528	6773642	381	-60	250	29	30	1	0.60
								36	39	3	0.55
MMRC154	RC	132	500551	6773598	379	-60	250	24	26	2	9.20
MMRC155	RC	120	500575	6773605	379	-60	250	69	71	2	0.70
MMRC157	RC	120	500536	6773698	381	-60	250	62	65	3	1.22
MMRC162	RC	132	500551	6773650	381	-60	250	63	65	2	4.21
								70	72	2	11.34
								80	83	3	0.65
								108	110	2	0.58
MMRC235	RC	120	500515	6773693	382	-60	250	30	44	14	0.69
MMRC238	RC	132	500569	6773656	381	-60	250	101	103	2	2.71

**Table 1:** Monza & T13 Summary of significant gold intercepts (>0.5g/t Au)



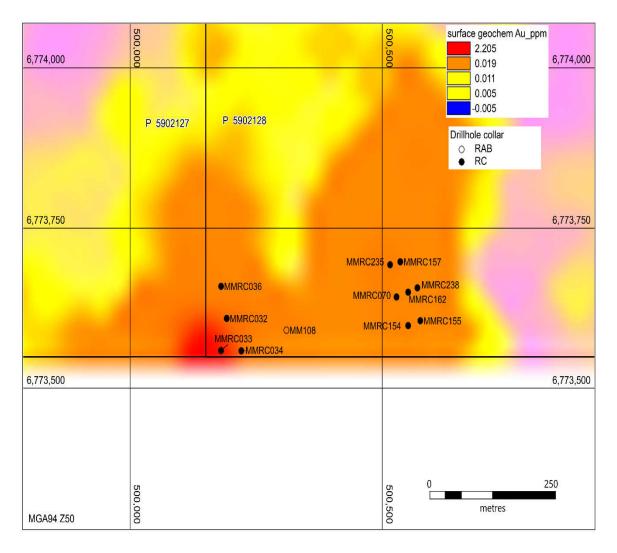


Figure 12: Monza and T13 target area drill hole location and soil gold geochemistry



## **Hurley & T17 Targets**

The Hurley and T17 Targets occur on the western part of P59/2126 (Figure 13), within a broad zone of elevated arsenic in soil (>20ppm). The Hurley target is defined by a 250 m x 250 m gold soil anomaly (>19 ppb) that peaks at 1.33g/t Au. T17 does not express any surface gold anomalism and was targeted based on a geophysical structural interpretation of the area. A total of 5 angled RAB and 14 angled RC holes (drilled towards the west and northwest) have been completed over these targets. Significant interceptions >0.5g/t Au include 5m @ 6.1g/t Au from 55m in hole MMRC004 and 2m @ 2.5g/t Au from 51m in hole MMRC074 (Table 2).

The due diligence data review has highlighted questions around the historic drilling drill orientation and collar locations that need to be field examined prior to any drill testing.

Hole ID	Туре	TD (m)	Easting (MGA94Z50)	Northing (MGA94Z50)	RL (m)	Dip (°)	Azimuth (°)	From (m)	To (m)	Interval (m)	Au (g/t)
MM084	RAB	40	501690	6773250	362	-60	290	15	25	10	1.40
MMRC004	RC	147	501727	6773268	361	-60	270	55	60	5	6.14
MMRC048	RC	138	501770	6773228	359	-60		43	44	1	0.50 (0.47)
								116	117	1	0.72
MMRC050	RC	150	501653	6773228	360	-60	328	32	33	1	0.78
MMRC074	RC	90	501728	6772650	369	-60	324	51	53	2	2.47

**Table 2:** Hurley & T17 summary of significant gold intercepts (>0.5g/t Au)



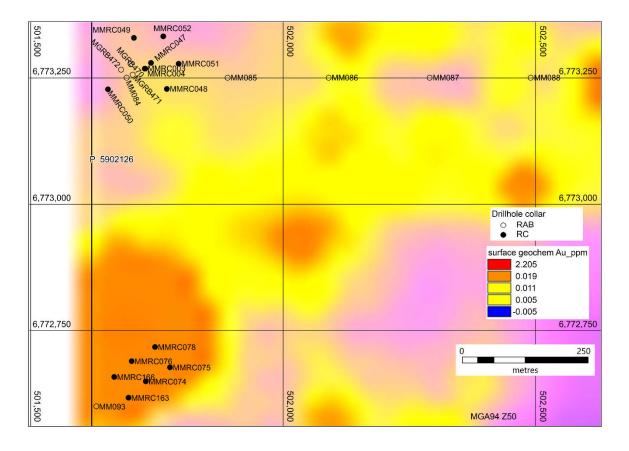


Figure 13: Hurley & T17 target area drill hole location and gold geochemistry

# **T16 Target**

The T16 target is defined by a 750m x 500m zone of anomalous (>19ppb Au) gold in soil (peaking 280 ppb Au) located in the central part of tenement (E59/2234) (Figure 14). T16 has been tested by five angled RC holes (drilled towards the north), four of which have returned significant gold values.

Significant results >0.5g/t Au include 1m @ 1.4g/t Au from 97 m in hole MMRC044 and 2m @ 0.83g/t Au from 86m (Table 3). At a lower cut-off grade (>0.1g/t Au) the T16 target drilling highlights some wide zones of lower gold anomalism (13m @ 0.39g/t Au from 84m in hole MMRC123 and 16m @ 0.29g/t Au from 94m in hole MMRC044) that suggest that the current drilling may be on the edge of a wider zone of significant mineralisation. Drilling along strike of these wider zones of mineralisation is being planned.



Hole ID	Type	TD	Easting	Northing	RL	Dip	Azimuth	From	То	Interval	Au
		(m)	(MGA94Z50)	(MGA94Z50)	(m)	(°)	(°)	(m)	(m)	(m)	(g/t)
MMRC043	RC	102	497742	6768320	352	-60	350	70	71	1	0.66
MMRC044	RC	138	497754	6768200	353	-60	350	20	21	1	0.53
								97	98	1	1.40
								106	107	1	0.53
MMRC045	RC	95	497781	6768084	349	-60	350	84	85	1	0.50
MMRC123	RC	140	497881	6768102	349	-60	350	86	88	2	0.83

**Table 3:** T16 summary of significant gold intercepts >0.5g/t Au

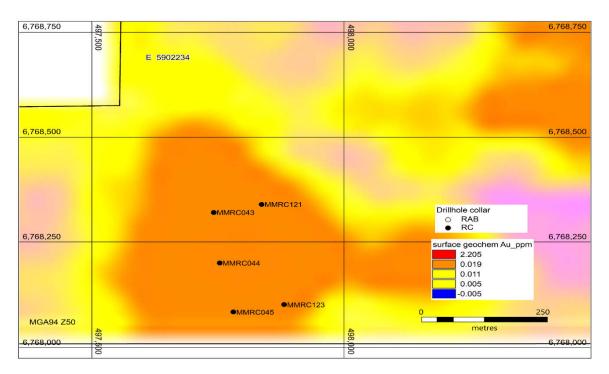


Figure 14: T16 target drill hole location and gold geochemistry

# **Wildflower Target**

Wildflower comprises a 1.0 km x 500 m gold in soil anomaly (>19ppb Au) located in the north-eastern part of Butler Tenement (E45/2234) (Figure 15). The target has had limited drilling completed to date with 35 RAB holes (mostly less than 5m depth) and one angled RC hole (drilled towards the west) completed. Significant results (>0.5g/t Au) include  $5m \oplus 1.0g/t$  from 100m in hole MMRC001 and  $15m \oplus 1.49g/t$  from 10m in hole MM110 (Table 4). Those results are based on five metre composite samples; the author was unable to locate any data on re-splits of those intervals to provide better resolution.



The current level of drilling was completed on 270m line spacing, which is considered to be wide spaced and not adequately tested the widespread gold anomaly (peaking at 226 ppb Au). Given that the above-mentioned gold anomalism intersected in the limited drilling is open at depth and along strike further drilling is required to delineate the extents to this gold mineralisation.

Hole ID	Type	TD	Easting	Northing	RL	Dip	Azimuth	From	То	Interval	Au
		(m)	(MGA94Z50)	(MGA94Z50)	(m)	(°)	(°)	(m)	(m)	(m)	(g/t)
MGRB428	RAB	4	499539	6769474	406	-90		0	4	4	0.43
MGRB430	RAB	2	499639	6769470	401	-90		0	2	2	0.77
MGRB474	RAB	30	499446	6769393	370	-60	360	28	30	2	1.09
MM110	RAB	40	499416	6769394	370	-60	270	10	25	15	1.49
MMRC001	RC	141	499465	6769395	370	-60	270	100	105	5	1.03

**Table 4:** Wildflower summary of significant gold intercepts >0.5g/t Au

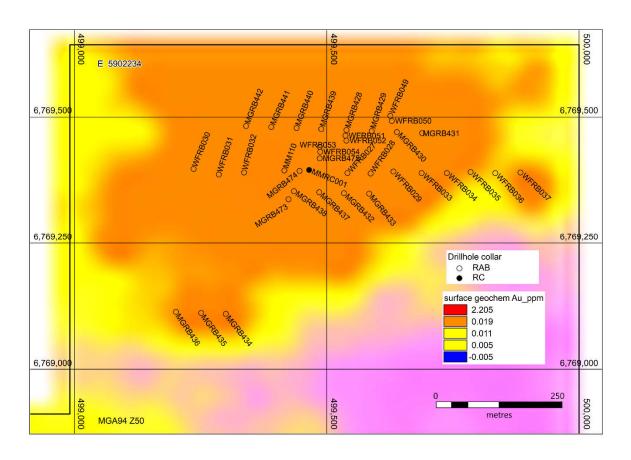


Figure 15: Wildflower target drill hole location and gold geochemistry

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## **Conclusions & Recommendations**

A review of the publicly available open-file data on the Smokebush Project tenement package identified exploration targets that have not adequately been followed up. Historic exploration geochemical surface sampling programs has defined a number of gold and chalcophile soil anomalies within the area of the tenement package that have not been either drill tested or the limited drilling that has been conducted is considered still open. Drilling by previous operators, including some RC drilling conducted as recently as 2014, returned significant gold intersections >0.5g/t Au from all of those geochemical anomalies. There are further well define gold and arsenic surface soil anomalies that have yet to been drill tested. This provides Terrain an opportunity to properly test these anomalous soil anomalies and follow up on already identified gold mineralisation in historic drilling. A structural geological investigation should be prioritised, to develop an exploration model and a program of works filed to enable on-going drill testing of the multiple geochemical targets.

Of the limited amount of drilling completed on the above-mentioned exploration targets a field reconnaissance trip is planned in the first quarter of 2020 to determine if the historic drilling orientation is optimal to the underlying geology and surface footprint of anomalism. This trip will also comprise historic drill hole collar position verification and mapping of any areas of subcropping mineralisation. Further soil sampling over the south western corner of tenement E59/2234 is planned over an area that has prospective aeromagnetic features that has no historic soil samples completed. This is considered to be high priority as this will generate further surface anomalies for future drill testing.

Several gold open pit mines have been developed on the western parts of the Mt Mulgine Anticline, however the eastern parts, corresponding with the Smokebush Project tenement package, are relatively under-explored.

Justin Virgin

**Executive Director** 

## For further information, please contact:

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Phone: +61 8 9381 5558

## **Authority**

This announcement has been authorised for release by Justin Virgin, Executive Director of Terrain Minerals Limited



#### **ABOUT TERRAIN MINERALS LIMITED:**

Terrain Minerals Limited (ASX:TMX) is a minerals exploration company with a Western Australian based asset portfolio consisting of:

- **Great Western (Sold Subject to Due Diligence).** Option Agreement executed with Red5 Limited (ASX:RED) (includes a \$300,000 non-refundable option fee, now received). Option period is for 5 months and allows for Red5 to conduct due diligence drilling. If exercised Terrain will receive \$2,200,000 worth of Red5 shares issued at a 5-day VWAP. If not exercised all expenditure and data will become the property of Terrain. Refer to the first page of this announcement for further details.
- Smokebush WA Gold Exploration Project; Refer to above announcement.
- **Wild-Viper** Exploration continues to increase Terrain knowledge of this highly prospective gold exploration property. A six-hole RC drill program and trenching has been recently conducted at different locations and further follow up work on newly identified areas will continue into the next field season.
- **Red Mulga** Red Mulga project is situated ~170km NNE of Geraldton in the Yilgarn Craton, Western Australia's Murchison region located on Yallalong station. An RC drill program as conducted in 2018 which identified the presence of mineralisation.
- **Project Review:** Terrain Minerals is currently searching and has been assessing potential projects: Gold, Copper, Nickle and industrial minerals in Australia, Africa, North & South America and Asia, other regions are also being considered. Several jurisdictions of interest have now been identified. All economic commodities are being considered as indicated in previous Quarterly reports. Currently Terrain is assessing an exciting WA based gold project.

#### **Compliance Statement:**

The Company notes that within the announcement all the information is referenced directly to the relevant original ASX market releases of that technical data.

Terrain would like to confirm to readers that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and, in the case of the estimates of mineral resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

## **Disclaimer:**

Information included in this release constitutes forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue" and "guidance" or other similar words, and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate environmental conditions including extreme weather conditions, staffing and litigation.

Forward looking statements are based on the company and its management's assumptions made in good faith relating to the financial, market, regulatory and other relevant environments that exist and effect the company's business operations in the future. Readers are cautioned not to place undue reliance on forward looking statements.

Forward looking statements are only current and relevant for the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the



company does not undertake any obligation to publicly update or revise any of the forward-looking statements or advise of any change in events, conditions or circumstances ono which such statement is based.

## **Competent Person Statement:**

The information in this report that relates to historic exploration activities are based on information compiled by Mr. S Nicholls, who is a Member of the Australian Institute of Geoscientists and full time employee of Apex Geoscience Australia Pty Ltd. Mr Nicholls has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Nicholls consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



## JORC Tables 1 & 2 of the historic exploration work completed at the Smoke bush tenement package

	Section 1: Sampling Techniques and Data						
Criteria	JORC Code Explanation	Commentary					
Sampling Technique	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Drilling and Soil sampling information for the Smokebush project has been compiled by Apex Geoscience Australia Pty Ltd (Apex). Drilling and Soil sampling Information has been sourced from historical WAMEX reports.  Drilling across the Smokebush project area was originally carried out by; Minjar, GGR and Gindalbie ranging from 1980 through 2017.  Drilling samples collected by Minjar were submitted to ALS for analysis. Techniques used include; Au Fire assay Atomic Absorption Spectroscopy finish, Au, Pt, Pd by Lead collection fire assay with ICPAES and Trace level of 27 Elements by 4 Acid (HF-HNO3-HCIO4 digestion HCI leach) (near total) digestion ICPAES. Samples collected by Gindalbie were analysed via Aqua Regia digest. GGR Samples were collected as successive four meter composite from top to bottom of the hole. Assaying of these samples was carried out by ALS Perth. Only Au was analysed using 50g fire assay/AAS finish  Soil sampling across the Smokebush project area was originally carried out by; Minjar Gold Pty Ltd (Minjar), Renison Goldfields Consolidated (RGC), Monarch Gold Mining Pty Ltd (Monarch), Gindalbie Gold NL (Gindalbie), Golconda and General Gold Resources (GGR) and range from 1970 through to 2017. Soil samples referred to in this announcement were collected by; Minjar, RGC, Monarch, Gindalbie, Golconda and (GGR).  Soil Samples collected by Minjar were sent to Analytical Laboratory Services Ultrafrace Perth (ALS) for analysis of Au by Aqua Regia digest with ICPMS finish directly from acid solution, Trace Level Au Aqua Regia digest with graphite furnace AAS or IPCMS finish and Additional elements by Aqua Regia digest with ICPMS finish and Additional elements by Aqua Regia digest with ICPMS finish and Additional elements by Aqua Regia digest with ICPMS finish and Additional elements by Aqua Regia digest with ICPMS finish of Au by Aqua Regia digest with ICPMS finish of Au by Aqua Regia digest with ICPMS finish of Au by their B/ETA method of digestion (aqua-regia) and analysis via single stage mix and g					
Drilling	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Reverse Circulation and RAB drilling completed by Minjar was conducted by Laynec Drilling Pty Ltd and McKay Drilling. Drilling by Gindalbie was conducted by Peak Drilling Services and Swick Drilling Australia. Drilling by GGR was conducted by Drillex using their RCD 100 rig with a 750 CFM, 300 psi compressor. An RC hammer was used to					



		produce a 135mm hole. Unable to verify other drill specifications from historical geological reports.
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed.  Measures taken to maximise sample recovery and ensure representative nature of the samples.  Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Details of historic RAB, Aircore and RC drilling sample recoveries are not clearly reported in the historical data.  No information on sample recoveries has been recorded.  No relationship between recovery and grade can be determined at this stage.
Logging	Whether core and chip samples have been geologically and geotechnical logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.  Whether logging is qualitative or quantitative in nature. Core (or costean/Trench, channel, etc) photography.  The total length and percentage of the relevant intersections logged.	Qualitative logging exists over the total historic meterage drilled.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.  If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.  For all sample types, the nature, quality and appropriateness of the sample preparation technique.  Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.  Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.  Whether sample sizes are appropriate to the grain size of the material being sampled.	GGR RAB drill samples were collected with successive four meter composite from top to bottom of the hole. Assaying of the samples was carried out by ALS Perth. Only Au was determined using 50g fire assay/AAS finish. RAB drill samples taken by Gindalbie were collected as two to four metre composites, and one metre, samples, approximately 2 to 3 kilograms in weight. These were submitted for analysis of Au, As, Ag, Cu, Ni, Pb, Pt and Zn.  GGR soil samples collected approximately 0.5 kg of samples from a depth of some 5-10cm below the surface. The samples were roughly screened of the larger than pebble sized particles in the field, then submitted to Genalysis Laboratory services Perth for preparation and analysis.  Gindalbie collected samples of approximately 3 to 4 kilograms in weight, sieved to a 1 millimetre size fraction, Samples were then submitted for Au, Ag, As, Cu, Ni, Pb and Zn analysis. Golconda samples weighing between 0.5 and 1 kg were analysed by Classic Laboratories of Perth for Au by fire assay after total fine pulverisation, and for arsenic by AAS, detection limits were 0.001ppm and 50ppm respectively.  Unable to verify sample preparation technique from historical reports.  Unable to verify if representative sampling was carried out from historical reports.  Unable to verify if sample sizes were appropriate to the grain size of the material being sampled from historical reports.  QAQC and sampling protocols for previous RAB/RC drill exploration in the project area is unknown.



Quality of Assay Data and Laboratory Tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Drilling samples collected by Minjar were sent to ALS for analysis. Techniques used were; Au Fire assay Atomic Absorption Spectroscopy finish, Au, Pt, Pd by Lead collection fire assay with ICPAES and Trace level of 27 Elements by 4 Acid (HF-HNO3-HClO4 digestion HCl leach) (near total) digestion ICPAES. Samples collected by Gindalbie were analysed via Aqua Regia digest. GGR Assaying was carried out by ALS Perth. Only Au was determined using 50g fire assay/AAS finish. Although no documentation of the use of standards and blanks was recorded in the wamex reports it is assumed that there was QAQC measures adopted for the RC drilling.  Soil samples collected by Minjar were analysed at ALS Ultratrace Perth. GGR and RGC samples were analysed by Genalysis Laboratory services Perth. Internal quality control on 10% of the samples was also carried out. Unable to verify from historical geological reports laboratories used by Monarch, Gindalbie and Golconda.  There are no QA/QC records relating to the historical exploration. No mention of QA/QC issues affecting the results were made, but cannot be verified based on
Verification of Sampling and Assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes The verification of significant intersections by either independent or alternative company personnel. Discuss any adjustment to assay data	results were made but cannot be verified based on available data.  Primary data for the reported historic soil sampling at the Smokebush project was collated from historic WAMEX reports by Apex. Historic procedures are unknown. Significant drilling intersections were cross checked with the original company wamex report that completed the work, where possible.  No known adjustments or calibrations are made to any assay data form the Smokebush project.
Location of Data points	Accuracy and quality of surveys used to locate drill holes (collar and down- hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.  Specification of the grid system used Quality and adequacy of topographic control	Drill hole collar locations by Minjar used a DGPS to an accuracy of $\pm$ 0.5m. Collar locations by Gindalbie used a handheld GPS to an accuracy of $\pm$ 5m. The grid system used was MGA94 zone 50. There is no detailed information regarding the accuracy of the topographic elevation control. Soil sample locations recorded by Minjar and Monarch used a handheld GPS with an accuracy of $\pm$ 5m. Apex is unable to verify from historical geological reports the location verification used by RGC, Gindalbie, Golconda and (GGR). The grid system used was MGA94 zone 50. There is no detailed information regarding the accuracy of the topographic control.
Data Spacing and Distribution	Data spacing for reporting of Exploration Results Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	All drill hole locations are shown in tables 1 to 4.  Drillhole spacing varies from prospect to prospect but is typically in the order of 20m to 50m centres with 50m line spacing for the RC and 40m centres along 90m line spacing for RAB.  Due to the historic nature and the lack of documentation the historic data does not demonstrate sufficient continuity in both geological and grade continuity to support the definition of Mineral Resource, and the classification applied under the 2012 JORC code.  Soil sampling was completed on regular 50 m x 100 m spacing across the majority of the tenement package.



Orientation of Data in Relation to Geological Structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Drill orientation is variable between the different programs however angled RAB/RC holes by Minjar and Gindalbie were drilled broadly perpendicular to suspected mineralised structures. Drilling by General gold resources was done vertically. No comment can be made at this point on whether the dip and direction of dip has resulted in biased sampling due to insufficient information. Field verification of the optimal drill orientation is planned for the first site visit.
Sample Security	The measures taken to ensure sample security.	The chain of custody of the samples taken was not detailed in the historic reports. It is assumed that it was collected and dropped off to the laboratory by company representatives.
Audits or Reviews	The results of any audits or reviews of sampling techniques and data.	No QAQC or sample audit information was found in the historic WAMEX reports.

	Section 2 Reporting of Ex	ploration Results
Mineral Tenement and Land Tenure Status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.  The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Smokebush project comprises five granted tenements; E59 02234, P5902125, P5902126, P5902127 and P5902128. Terrain Minerals are in the process of finalising a joint venture with D. Watts-Butler.  Tenements P59/2127, P59/2128, P59/2126 and the northern portion of P59/2125 are situated on a proposed conservation estate (FNA 13402) and managed by the Department of Parks and Wildlife.
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	Historic Gold Exploration across the Smokebush project area was originally carried out by; Minjar, RGC, Monarch, Gindalbie, Golconda and GGR ranging from 1970 through 2017.  1983 Golconda, undertook regional geochemical exploration and drill testing. Soil sampling returned anomalous gold and arsenic in the wildflower prospect area.  1991-1993 GGR drilled an RC program and conducted soil sampling detailing significant gold mineralization at the Trench and Hill prospects.  1993-1996 RGC in joint venture with GGR, through RAB and RC relogging and additional drilling delineated small gold resources at highland chief, trench and camp.  1997-1999 Normandy exploration carried out RAB and RC drilling with initially encouraging RAB results followed by disappointing RC results.  1999- 2004 Gindalbie carried out soil geochemical exploration identifying several gold arsenic anomalies in tenements E59/2234, P59/2125 &P59/2126.  2007 Monarch conducted soil geochemistry exploration.  2013-2016 Minjar conducted significant resource definition through soil geochemistry exploration followed by RAB and RC drilling identifying several gold and arsenic anomalies in tenements P59/2125-2128 and E59/2234.



Geology	Deposit type, geological setting and style of mineralisation.	The Smokebush project area is situated within the southern Yalgoo-Singleton Greenstone Belt of the Archaean Yilgarn Craton. This greenstone belt comprises supracrustal greenstone rocks, including mafic and felsic volcanic rocks, banded iron formation (BIF) and clastic sedimentary rocks. The belt strikes north-south and broadens to the south where it has been intruded by multi-phase granitoids which have consequently metamorphosed the surrounding greenstone sequence comprising the Mt Mulgine Anticline.
Drill Hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  • easting and northing of the drill hole collar  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  • dip and azimuth of the hole  • down hole length and interception depth  • hole length  • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Significant drill holes and their intersections have been included in tables 1, 2, 3 and 4.
Data Aggregation Methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.  The assumptions used for any reporting of metal equivalent values should be clearly stated.	No aggregation or metal equivalents were used.  No samples have been capped or had top cuts applied.
Relationship Between Mineralisation Widths and Intercept Lengths	These relationships are particularly important in the reporting of Exploration Results If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	All drill hole intersections are based on down hole meters and therefore may not reflect the true thickness of mineralization or host lithology. Ground truthing the optimal drill orientation is planned for 2020.  Due to the limited amount of drilling over each prospect the mineralization, geometry and extent of potential ore bodies cannot be readily modelled at this stage.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Relevant diagrams are included in the main body of text.
Balanced Reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Only selected RAB/RC drill intercepts have been mentioned and due to their limited coverage, they are considered indicative only and not material.



Other Substantive Exploration Data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All meaningful and material information has been included in the body of the text.
Further Work	The nature and scale of planned further work (eg tests for lateral extensions or large scale step out drilling.  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Field reconnaissance program and soil sampling is planned for the first quarter of 2020. This will involve collecting soil samples over portions of E59/2234 where there is no soils. Each prospect will be visited to determine optimal drill orientations, historic drill hole pick ups and general mapping.

End.