

# ASX Announcement



27 October 2017

ABN: 45 116 153 514

ASX: TMX

## Quarterly Activities Report: September 2017

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**Terrain Minerals Limited (ASX: TMX)**, is pleased to provide the following updates on its activities for the September quarter;

### HIGHLIGHTS

- **Complete Annual Report**
- **Great Western Gold Project**
  - Great Western Scoping Study Update & Onsite Processing
  - 12 months Works Review and Update
  - Advancement activities continue
- **New Project Applications - Red Mulga**
  - Applications Submitted - Pending Grant
- **Corporate Update**
- **Other Business**

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# Complete Annual Report

The Annual Report is now available to investors and includes a full review of all achievements and activities over the last twelve-months. The Annual Report can be viewed on the ASX and was announced on the 28th September 2017.

Also, available at [www.Terrainminerals.com.au](http://www.Terrainminerals.com.au)

## Great Western Gold Project

### Great Western Scoping Study Update & Onsite Processing

During the Quarter Terrain provided the following update on its Great Western Gold Project.

At the request of Terrain Minerals (Terrain), CSA Global undertook the process of updating the 2017 scoping study for the Great Western deposit located 76km North of Leanora along Goldfield Highway. CSA Global used Whittle open pit optimisation software to test a range of mining scenarios, all returning positive undiscounted cash flows.

Based upon earlier studies by CSA Global, that focused the optimisations on the Measured and Indicated material with onsite gravity processing only (no CIL). The comparison scenarios, that included Inferred material, showed increases of only approximately 10% in undiscounted cash flows, highlighting the minimal impact the Inferred material has on the project economics.

The optimisation parameters from CSA Global 2017 Scenario 5 have remained unchanged, except for the updated processing cost. Due to the high-level nature of the study, and the volume of tonnes involved, all cash flows are shown undiscounted.

Due to the higher grade of the deposit the option to toll treat may still be a viable option for Terrain or others. As reported Terrain is currently discussing options to advance Great Western that include the outright or partial sale, various JV arrangements or self-mining. Discussion's continue with multiple groups who have registered interest and now have the completed CSA report.

**Cautionary Statement:** The Scoping Study referred to in this announcement has been undertaken to assess the economic viability of an open pit and processing facility at Great Western gold project. It is a preliminary technical and economic study of the potential viability of the Great Western project. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further evaluation work and appropriate studies are required before Terrain Minerals Limited will be in a position to estimate any ore reserves or to provide any assurance of an economic development case.

The study is based on material assumptions that are outlined below. While Terrain considers all of the material assumptions to be based on reasonable grounds, there is no certainty they will prove to be correct or that the range of outcomes indicated in this study will be realised.

Whilst the quantum has not yet been established, additional funding will be required to meet the capital expenditure requirements of establishing the mining and processing operations. Investors should note that there is no certainty that Terrain will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Terrain's existing shares.

It is also possible that Terrain could pursue other 'value realisation' strategies such as a sale or partial sale or joint venture of the project. If it does, this could materially reduce Terrain's proportionate ownership of the project.

Given the uncertainty involved investors should not make any investment decisions based solely on the results of this study.

The study includes the existing JORC 2012 code measured, indicated and inferred resources (See ASX Release 30 March 2017). Investors are cautioned that there is low level geological confidence in inferred resources and there is no certainty that future exploration work will result in the determination of indicated minerals resources or that the production target itself will be realised.

## Optimisation Parameters

Optimisation parameters were selected by CSA Global using a combination of current/typical industry costs and recent gold pricing. Terrain provided CSA Global with technical reports and wage and power costs of \$20/t for a 250,000 tpa gravity gold circuit, including crushing. CSA Global added 20% to this figure to account for maintenance, consumables, spares and reagent costs, to arrive at a figure of \$24/t as seen in table 1 below.

A variety of scenarios, were used in the optimisation to test the viability of the Great Western deposit. Terrain indicated to CSA that onsite treating is the preferred processing option for this deposit. The parameters that change from scenario to scenario are gold price, and resource classifications used in the optimisation.

The 2017 Resource model supplied to CSA Global contains 15% Inferred material, the scenarios were also optimised on Measured and Indicated material to provide the best basis for further work leading towards a JORC 2012 Ore Reserve statement.

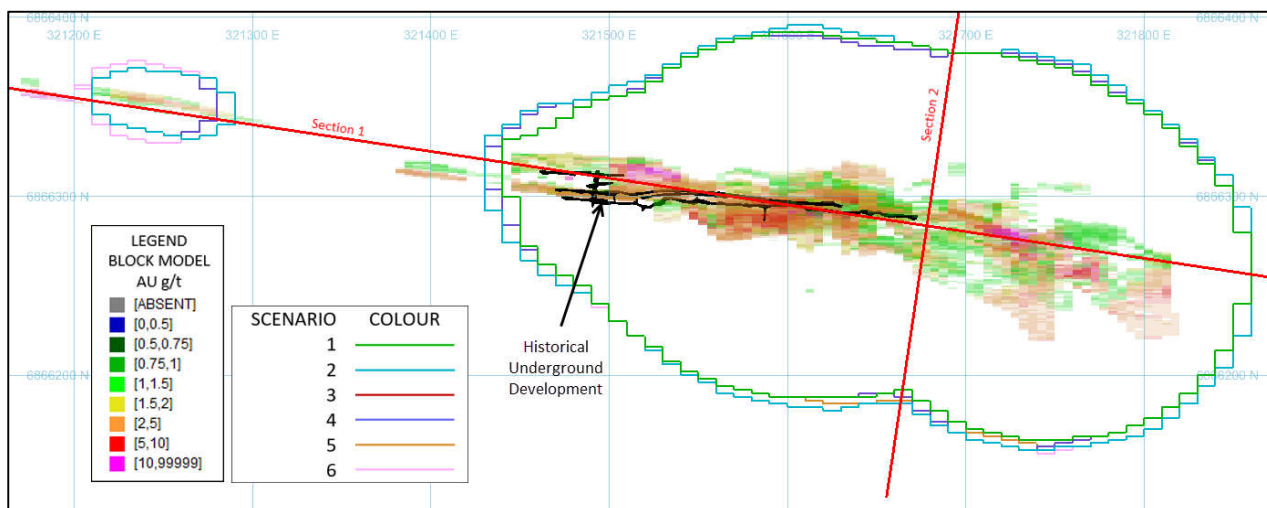
SCENARIO	GOLD PRICE	MINING		MILL PROCESSING			OPTIMISATION CLASSIFICATION
		DILUTION	RECOVERY	COST	HAULAGE	RECOVERY	
1	\$1,600/oz	10%	95%	\$24/t	\$0/t	85%	MEA + IND
2	\$1,600/oz	10%	95%	\$24/t	\$0/t	85%	ALL
3	\$1,500/oz	10%	95%	\$24/t	\$0/t	85%	MEA + IND
4	\$1,500/oz	10%	95%	\$24/t	\$0/t	85%	ALL
5	\$1,700/oz	10%	95%	\$24/t	\$0/t	85%	MEA + IND
6	\$1,700/oz	10%	95%	\$24/t	\$0/t	85%	ALL

**Table 1:** Optimisation scenarios

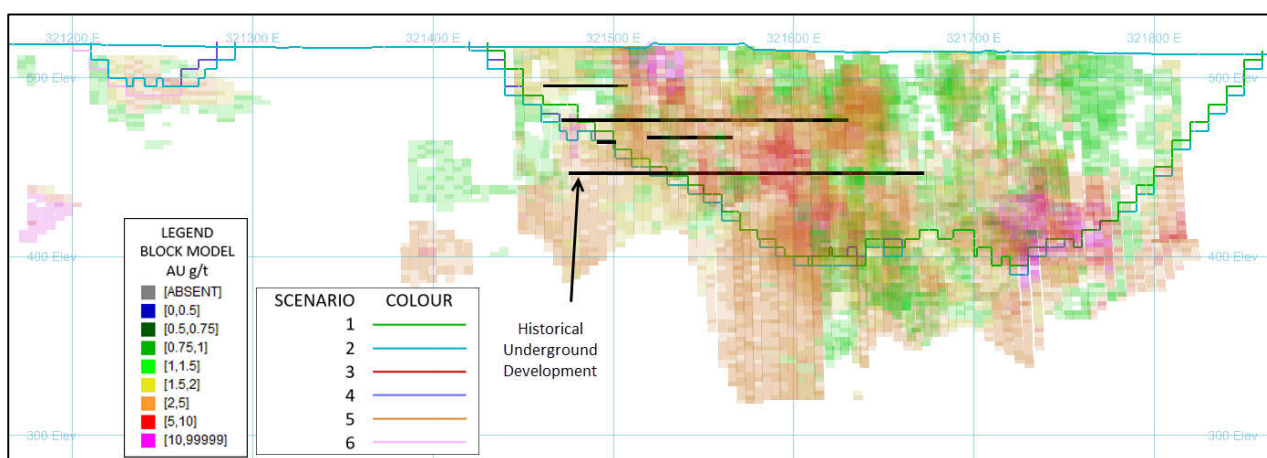
SCENARIO	ORE PROCESSED					OUNCES	WASTE	STRIP	UNDISCOUNTED CASH FLOW
	TONNES	AU g/t	MEA	IND	INF	RECOVERED	TONNES	RATIO	
1	381,200	3.0	33.8%	66.2%	0.0%	31,400	6,557,500	17.2	All Positive
2	465,300	2.8	28.1%	57.6%	14.3%	35,600	7,237,400	15.6	"
3	372,800	3.1	34.4%	65.6%	0.0%	31,200	6,501,200	17.4	"
4	436,000	2.9	29.5%	57.6%	12.9%	34,100	6,732,600	15.4	"
5	404,600	2.9	32.1%	67.9%	0.0%	32,200	6,756,700	16.7	"
6	488,300	2.7	26.9%	58.7%	14.4%	36,000	7,254,100	14.9	"

**Table 2:** Scenario output results for select pit shell. (due to early nature of report the positive cash flow numbers are not quoted due to reporting rules)

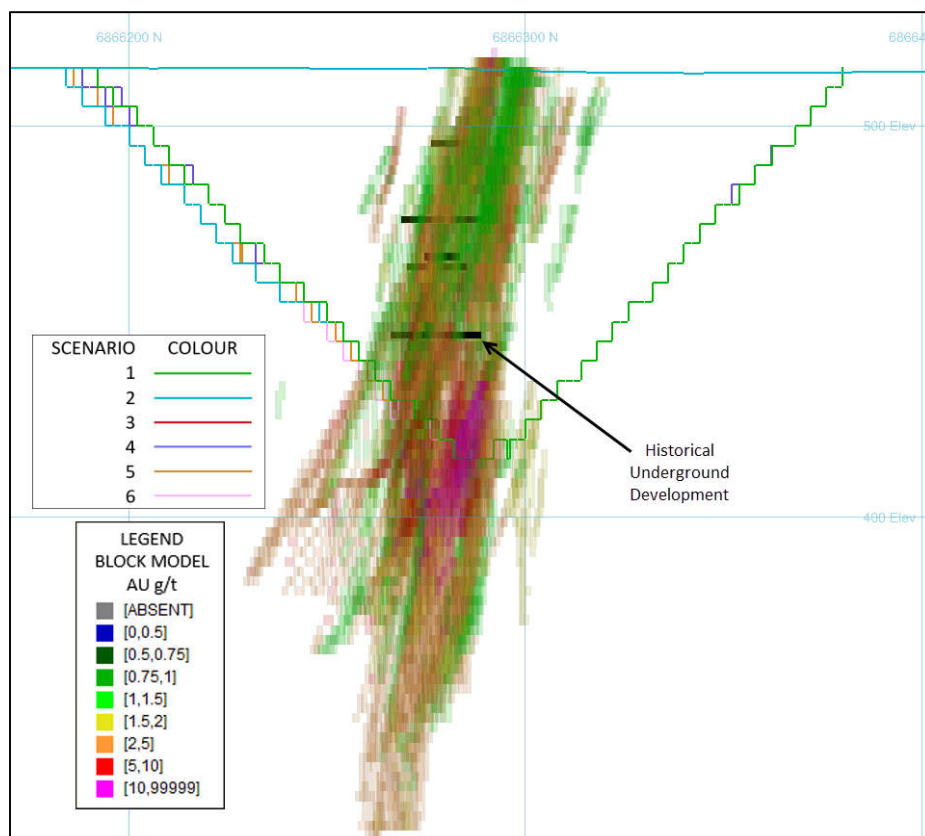
Figure 1 through to 3 show representative sections of the selected pit shells. All figures have the historical underground development wireframe displayed in black. The Figure 1 plan view shows the section lines, surface intersection of the shells, and the block model displaying gold grade above 1.0 g/t. Figure 2 and Figure 3, are vertical sections of the pit shells with the block model displaying gold grade above 1.0 g/t. Figure 4, shows the same sections with the block model displaying the Resource class to highlight the proportion of each material class in the scenarios.



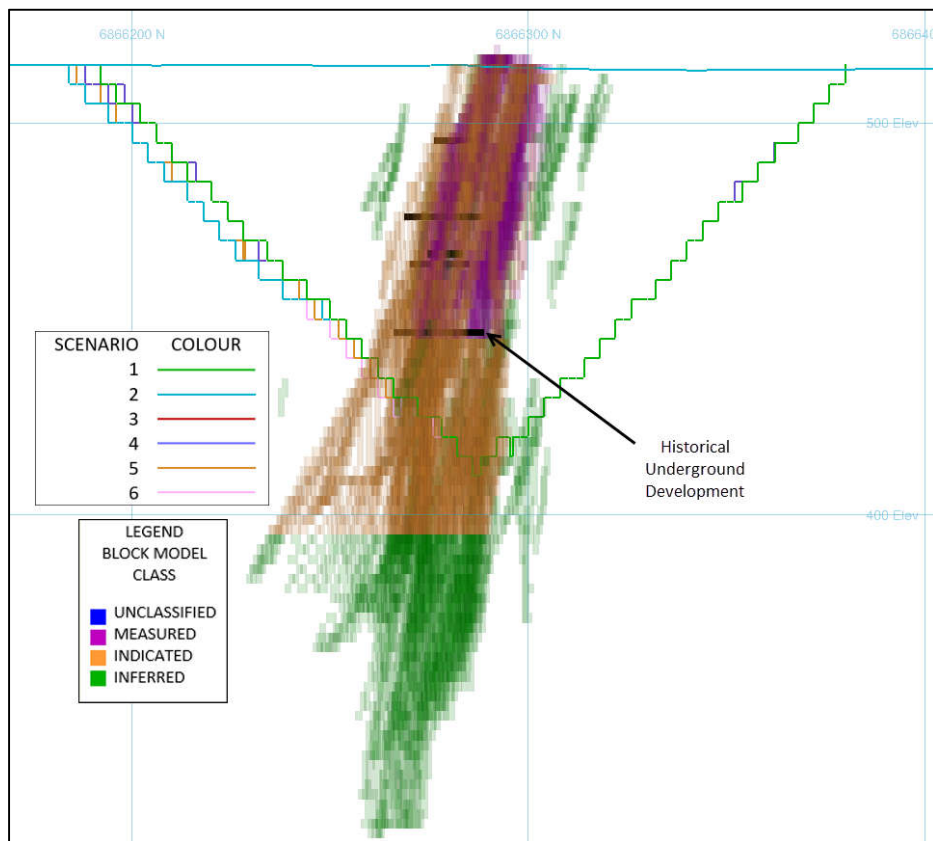
**Figure 1:** Plan view showing AU>1.0 g/t, pit shell intersections at 515 mRL and pit shell section lines



**Figure 2:** Section 1 – Pit shell intersections for all scenarios with block model grade AU>1.0 g/t



**Figure 3:** Section 2 – Pit shell intersections for all scenarios with block model grade AU>1.0 g/t



**Figure 4:** Section 2 – Pit shell intersections for all scenarios with block modes Resource class and AU>1.0 g/t

Figure 4 highlights the resources categories and highlights further drilling is required to upgrade deeper mineralisation and is required to test the open depth extensions.

## Conclusion

All pit shell optimisation scenarios analysed return positive undiscounted cash flow, indicating that the Great Western deposit is likely to be a viable deposit for a small scale open cut mining operation.

The conclusions of this report are made based on the latest Mineral Resource model (DataGeo, 2017) which accounts for estimated depletion from historical underground workings.

Installing a small gravity recovery facility onsite, to mine and treat ore onsite is indicated to be a viable scenario. With limited capital costs which are under review, which cover processing plant, site establishment, contractor mobilisation, and permitting, it is likely that this option will return a reasonable return on invested capital.

**Refer to original ASX release:** 14/09/2017 – 12 Month Works Review and Update

## Onsite Gold Processing Studies

As part of the preliminary scoping studies, Terrain has been examining both toll treatment options and onsite processing options.

Terrain has previously appointed consulting metallurgist Mr Adrian Hall of Metallurgy Matters to design and cost onsite gravity milling solutions for Great Western. His concepts and designs have been based on the following early stage assumptions:

- Gravity recovery of ~85%
- ~400,000 ton of material\*
- Grade ~2.9g/t\*\*
- 25 to 40 ton per hour milling capacity

**Gravity Recovery\*\*\*** has been based on these early stage results:

SAMPLE	Weight (g)	Au (ppm)	Gravity Au %
GW MET 01	309.5	77.6	90.36
GW MET 02	316.3	198	92.36
GW MET 03	313.6	25.1	80.83

Gravity Recovery Amdel 16/07/2009

**Quote:** from Amdel report 16/07/2009 "Surprisingly a significant amount of "free gold" was recovered at this stage".

The option of onsite processing is attractive and potentially has a number of advantages over batch treating at third party plants. One of the principle advantages is the potential to create a constant cash flow rather an erratic one that may result from third party treatment in batches. The proposed onsite gravity processing design (No CIL circuit) has the potential to lower Opex costs.

Preliminary work suggests gravity tails are amenable to CIL processing and possibly other viable processing alternatives or on-selling of this material. No economic studies have been carried out on this material to date.

As this early stage, metallurgy work has indicated the gold is of a coarse nature, which suits the suggested onsite gravity treatment option. This also eliminates potential metal reconciliation issues often encountered when utilising third party plants.

Hall has suggested the following conceptual on-site lay-outs illustrated in Figure 5 and Figure 6:



**Figure 5:** Sepro Systems 75t/h three stage crushing circuit





**Figure 6:** Sepro Systems 40 tph grinding and gravity plant (dual stream mills and centrifugal

The additional cost of earth work and other establishment costs could be reduced by securing used machinery such as track mounted crushes and screens which will also reduce earth works. As smaller plants will also be considered so to better align processing with production rates.

This scoping level work and the results will be used in further studies, including detailed pit design work and preparation of an Ore Reserve.

### Footnotes:

**\*~ 400,000 ton material** The material estimate has been taken from several in-house scoping level studies of various pit designs and the recent JORC 2012 compliant mineral resource. Refer to ASX Announcement released on 24/08/2015.

**\*\*Grade ~2.9g/t** Grades are from an undiluted resource estimation, and various in-house pit designs at scoping study level and the JORC 2012 compliant resources; Refer to Announcement released on 24/08/2015 – “Great Western Gold Resource, Now JORC 2012 Compliant & Project Update”.

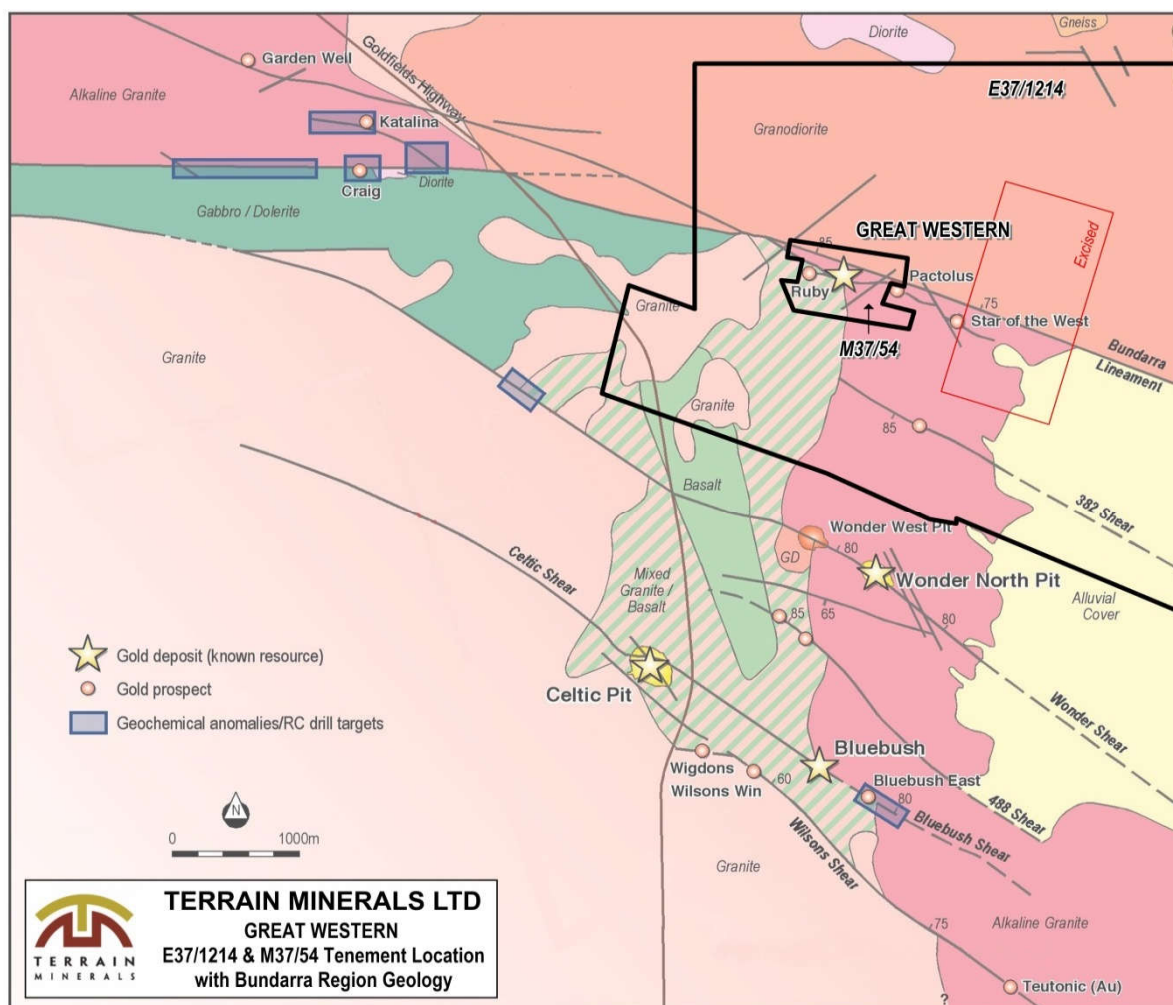
**\*\*\*Gravity Recovery** Sample material is presentive of oxide and transitional material of limited volume. Additional bulk testing is required. This material will be collected from the drilling campaign announced on the 03/10/2016.

**Refer to original ASX release:** 10/08/2017 - Great Western Scoping Study Update & Onsite Gold Processing

### About Great Western:

The 100% owned project is located 68km north of Leonora and 1km from the Goldfields Highway on Weebo pastoral leases and forms part of the historic Wilsons Patch mining area (Figure 7). Terrain considers it as an advanced opportunity which is possibly still open down plunge and along strike to the west.

The current model envisages that exploration for the down plunge extensions to the known mineralisation underneath the current pit limits, will most likely be conducted from anticipated cash flow.



**Figure 7:** Great Western Project Location Map Highlighted in Black

## 12 months Works Review & Update

Headings of the works undertaken this year:

- Key Findings from JORC 2012 and Scoping Study Findings (2015/16)
- Design RC Drill Program Aimed to Lift Inferred Material Categories
- Successful Execution of Drilling Campaign
- JORC 2012 Resource Upgrade at Great Western
- Onsite Processing Study Completed
- Updated Scoping Study Focusing on Site Processing
- Regional Exploration at Great Western
- Great Western Corporate & Development Initiatives

Full details of the above eight heading can be read in the original ASX release on the 14/09/2017 - Great Western - 12 Month Works Review and Update

## Advancement Activities Continue

Terrain is currently planning and prioritising activities and seeking costing for the next round of works at Great Western. The aim is to advance the project to a production ready status.

## New Project Applications - Red Mulga

Three new tenement applications have been submitted. The Tenements are located ~170km NNE of the city of Geraldton in Western Australia and are situated on Yallalong Station. The four months advertising period for native title has begun and must be completed before tenements are granted.

Desktop studies and planning for initial low impact field reconnaissance works have begun.



## Corporate

Terrain is continuing discussions on advancing Great Western with a number of groups who are showing genuine interest in acquiring Great Western, along with continuing discussions with a number of others who are showing genuine interest in a joint venture to develop the project. The Terrain board will consider all options on their individual merits and has not ruled out mining Great Western and continuing its regional expansion itself. The Company will keep the market updated as appropriate.

## Other Business

Terrain Minerals is currently searching and has been assessing potential projects: Gold, Cobalt/copper Lithium and base metals in Australia. The Red Mulga tenements applications form part of this strategy. Terrain has continued to assess opportunities in several off-shore jurisdictions including, Africa, South America and Asia, with opportunities examined during the quarter. All economic commodities are being considered as indicated in previous Quarterly reports.

### For further information, please contact:

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Phone: +61 8 9381 5558

### Compliance Notice

The Company notes that the following technical information on its Great Western Gold Project is referenced directly to the relevant original or updated ASX market releases of that technical information.

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

Refer ASX Releases of 10 August 2017 and 14 September 2017. All referenced articles can be found on the ASX web page and at [www.terrainminerals.com.au](http://www.terrainminerals.com.au)

### 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** 100% TMX (Au)- near term development opportunity, resource estimation and economic study have shown positive outcomes. Work is now underway to prepare data and work towards getting all mining approvals;
- **Great Western advancement process** is underway with several groups who have interest in acquiring or Joint venturing the Great Western gold project. The board will consider all proposals and has not ruled out mining Great Western itself and continuing regional exploration to add to its gold inventory.
- **Project Review:** Terrain Minerals is currently searching and has been assessing potential projects: Gold, Cobalt/copper Lithium and industrial minerals in Australia, Africa, South America and Asia also including other regions. Several jurisdictions of interest have now been identified. All economic commodities are being considered as indicated in previous Quarterly reports.

End.

## Appendix 5B

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

### Name of entity

TERRAIN MINERALS LIMITED

### ABN

45 116 153 514

### Quarter ended ("current quarter")

30 September 2017

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers		
1.2 Payments for		
(a) exploration & evaluation	(22)	(22)
(b) staff costs	(52)	(52)
(c) administration and corporate costs	(50)	(50)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	1	1
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other (Refund of Tenement Rents)	22	22
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(101)</b>	<b>(101)</b>

<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>-</b>	<b>-</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of shares	-	-
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	-	-
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>-</b>	<b>-</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	748	748
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(101)	(101)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5	Effect of movement in exchange rates on cash held	-	-
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>647</b>	<b>647</b>

<b>5. Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1 Bank balances	647	748
5.2 Call deposits	-	-
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>647</b>	<b>748</b>

**6. Payments to directors of the entity and their associates**

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

<b>Current quarter \$A'000</b>
33

Director fees including superannuation

**7. Payments to related entities of the entity and their associates**

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

<b>Current quarter \$A'000</b>
-
-

8. <b>Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

9. <b>Estimated cash outflows for next quarter</b>	<b>\$A'000</b>
9.1 Exploration and evaluation	35
9.2 Development	-
9.3 Production	-
9.4 Staff costs	52
9.5 Administration and corporate costs	50
9.6 Other (provide details if material)	-
<b>9.7 Total estimated cash outflows</b>	<b>137</b>

10. <b>Changes in tenements (items 2.1(b) and 2.2(b) above)</b>	<b>Tenement reference and location</b>	<b>Nature of interest</b>	<b>Interest at beginning of quarter</b>	<b>Interest at end of quarter</b>
10.1 Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	Refer Table On page 5			
10.2 Interests in mining tenements and petroleum tenements acquired or increased				

**Schedule of Exploration Tenements held as at 30 September 2017 - Listing Rule 5.3.3**

**Interests in Mining Tenements**

<b>Project/Tenements</b>	<b>Location</b>	<b>Held at end of quarter</b>	<b>Acquired during the quarter</b>	<b>Disposed during the quarter</b>
Great Western	Western Australia	100%	-	-
ML 37/0054		100%	-	-
M37/1214	Western Australia			
Red Mulga		100%	All Applications Pending Grant	
E09/2246		100%		
E09/2247		100%		
E70/5011				


<b>Farm-in Agreements / Tenements</b>	<b>Location</b>	<b>Held at end of quarter</b>	<b>Acquired during the quarter</b>	<b>Disposed during the quarter</b>

<b>Farm-out Agreements / Tenements</b>	<b>Location</b>	<b>Held at end of quarter</b>	<b>Acquired during the quarter</b>	<b>Disposed during the quarter</b>



### **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here:  .....

(Company secretary)

27 October 2017

Date: .....

Print name: Winton Willesee

### **Notes**

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.