

1<sup>st</sup> April 2019

## Yerrida – A New Vanadium District Uncovered

In December 2018 Great Western Exploration Limited (“the Company”; “Great Western”) (ASX: GTE) announced that it had consolidated its strategic position in the Yerrida Basin (ASX Release 13 December 2018). The Company now believes it has identified a new vanadium district, after reconnaissance fieldwork revealed widespread vanadium over an area of approximately 1,800km<sup>2</sup>.

### Key Points:

- **New potential vanadium district identified at Yerrida, approximately 1,800 km<sup>2</sup> in area**
- **Wide spread vanadium mineralisation associated with gossan outcrops that includes high grade Vanadium up to 1.6% V<sub>2</sub>O<sub>5</sub>**
- **The Company believes some of these gossan outcrops may be derived from sulphide minerals that may include the vanadium mineral patronite (VS<sub>4</sub>)**
- **The attraction of patronite mineralisation is that a high value vanadium concentrate can potentially be produced using a less capital-intensive conventional sulphide flotation circuit, as opposed to the much higher capital costs and complexity of the more common mafic hosted Fe-V-Ti style deposits**

The Company has conducted a number of reconnaissance field trips to the Yerrida Project, on which it has encountered numerous vanadium gossans over a broad area with **vanadium grades up to 1.6% V<sub>2</sub>O<sub>5</sub>**. In addition to the gossans, the Company has located large areas of laterite with surface sampling between 0.3% to 1.0% V<sub>2</sub>O<sub>5</sub>.

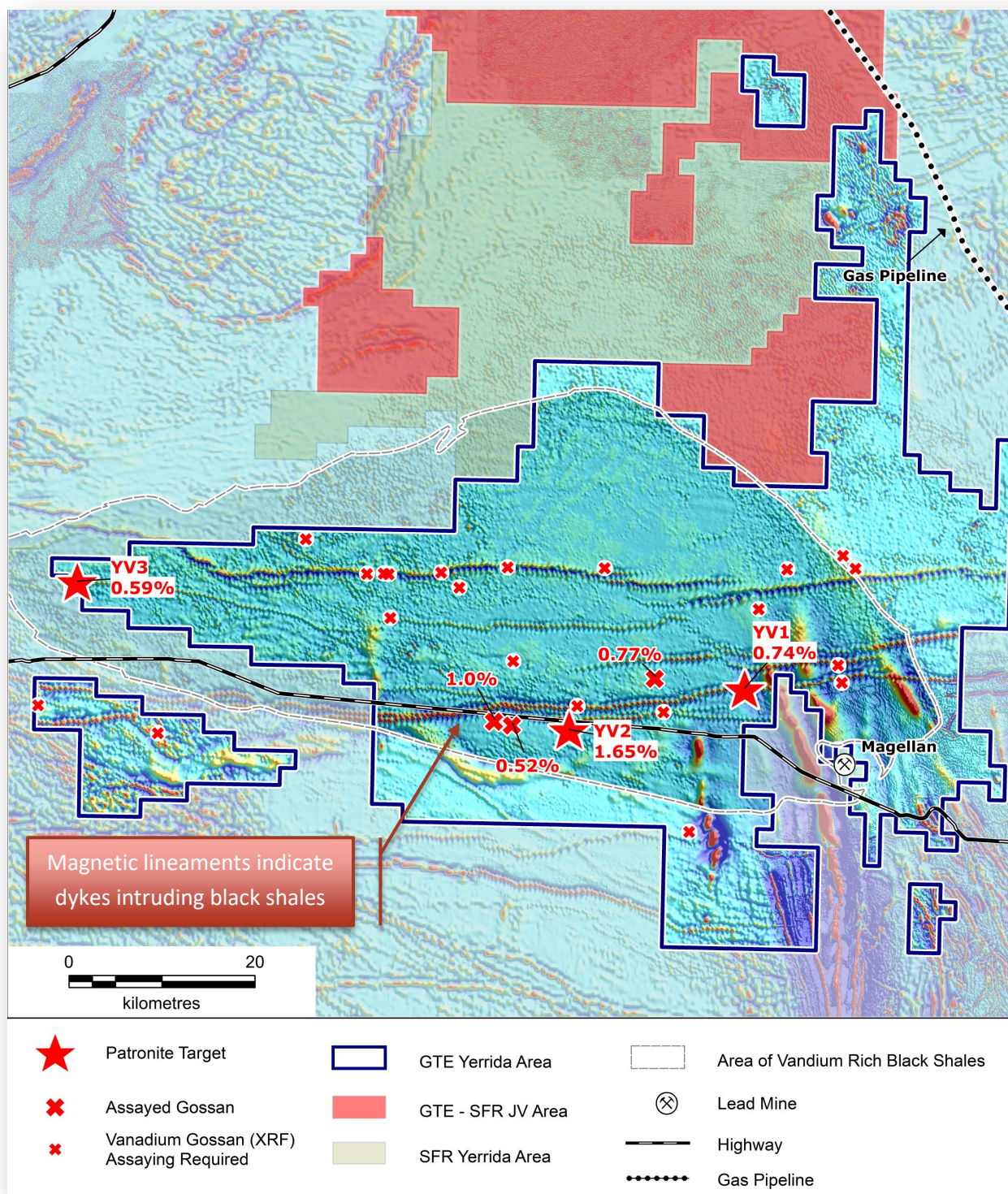
As a result of the reconnaissance work the Company believes the Yerrida basin is highly prospective for vanadium with several possible deposit styles that include shale hosted, laterite hosted, dolerite hosted, vanadium hematite and hydrothermal vanadium sulphide mineralisation.

The Company intends to initially focus on the search for highly sought-after vanadium sulphide mineralisation (“**patronite**”; VS<sub>4</sub>) and to date has identified three areas of interest; YV1, YV2 & YV3 targets (**Fig 1**).

At the YV1 target there is a gossan trend that is approximately 1,200m of strike with an assay of 0.74% V<sub>2</sub>O<sub>5</sub>; at YV2 target there is a 400m x 400m area of gossan outcrop with assays up to 1.6% V<sub>2</sub>O<sub>5</sub>; and at YV3 there is a gossan trend at least 600m strike with assays up to 0.59%.

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**Figure 1.** Location of vanadium gossans found using XRF, with Assays and patronite targets. The aeromagnetic image shows the many dykes intruding into the Maralooou vanadium rich black shale. It is the areas around the dykes that are prospective for patronite (at least 250km combined strike). Assays shown are % V<sub>2</sub>O<sub>5</sub>



### Exploration Target

Vanadium sulphide deposits (referred to as patronite vanadium deposits) are the formation of patronite mineral ( $VS_4$ ) within a hydrothermal system that may be formed when a dyke intrudes a vanadium rich shale sequence.

At Yerrida there are numerous dolerite dykes and dyke swarms that intrude the vanadium rich Maraloou black shale formation with over 250km of combined strike that could potentially create the conditions suitable for the formation of patronite mineralisation.



**Figure 2.** Examples of vanadium gossans at Yerrida

The significant benefit of a patronite mineralisation is that a high value vanadium concentrate can potentially be produced without the need for high capital costs associated with processing of the more common mafic

hosted Fe-Ti-V deposits. Vanadium sulphides may be concentrated using conventional sulphide flotation in common with other sulphide deposits such as VMS or nickel sulphide ores.

Managing Director Jordan Luckett comments on the potential of vanadium sulphide deposits at Yerrida:

*"We do believe there is potentially a large tonnage vanadium exploration target at Yerrida located in the laterites if we were to follow the more traditional path of exploring for iron associated vanadium, but it is the potential to discover patronite mineralisation that excites us, and our initial efforts will be focussed on discovering this style of mineralisation."*

There is also excellent infrastructure in the region with both a gas pipeline and highway that traverses through the project area and the Wiluna township is nearby.

### Next Steps

The Company is targeting outcropping vanadium with a focus on vanadium sulphide mineralisation and anticipates that progress can be made with simple low-cost exploration and small high impact shallow drill programmes.

The gossan search and assessment will continue (**Fig 2**), and the Company is planning to drill test the three current patronite targets YV1, YV2 and YV3 during the next quarter.

### Lake Way Potash and Lithium Brine Project

In 2017 the Company pegged the southern drainage area of Lake Way that is located adjacent to a number of the Company's new tenements applications as part of the Yandal West Gold project (**Fig 3**). The applications were made based on Geoscience Australia's study to identify potential Lithium brine resources across Australia which highlighted this area as being prospective for lithium brines. These tenements are not yet granted so the Company has not carried out any work on the project to date.

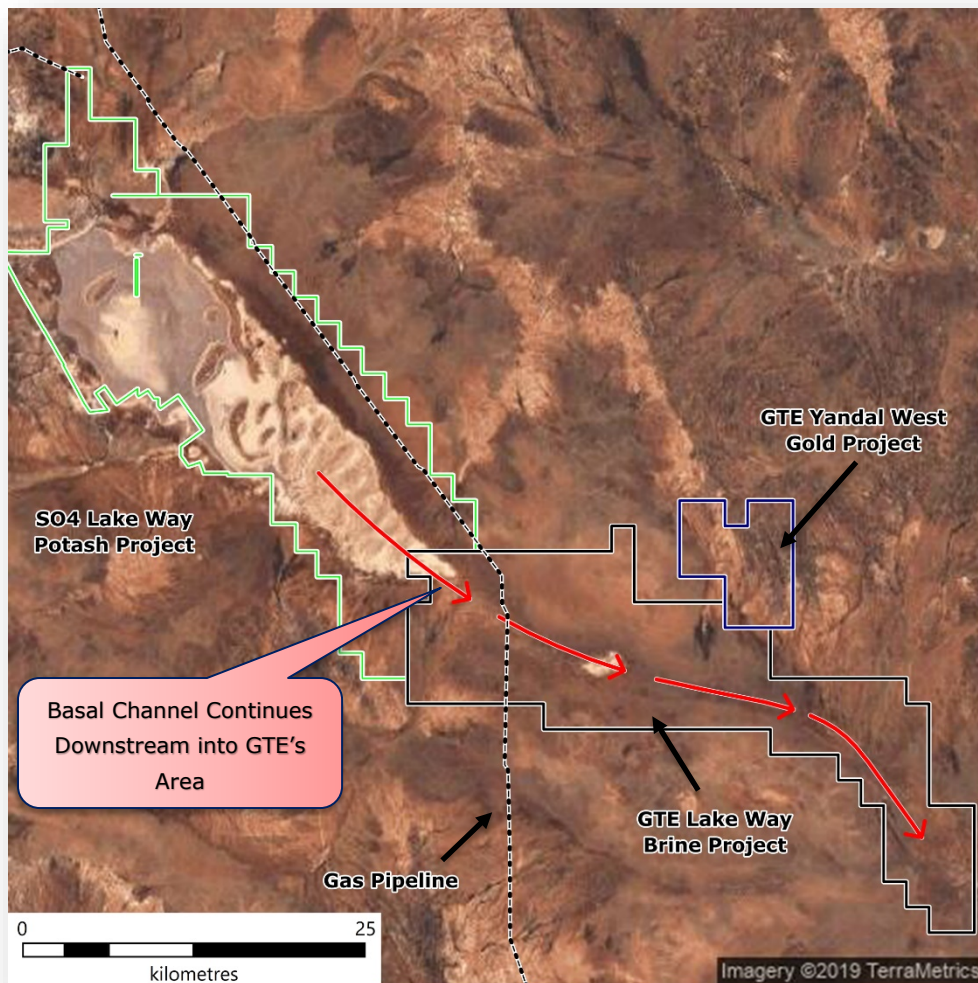
However, the Company has noted with interest the progress of Salt Lake Potash Limited (ASX: "SO4") which has recently announced a large high-grade potash resource at Lake Way and have made significant progress towards development. Historical drilling shows the main basal channel that contains SO4 resources does continue downstream to the south into the Company's project area (**Fig 3**).

The Company will continue to monitor the SO4 developments and consider its strategic options at Lake Way.



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**Figure 3.** The basal channel that contains SO4's potash resources continues downstream into Great Western's area.

## Appendix 1. Details of rock chips reported in Figure 1

Sample	Easting	Northing	Type	Target	V2O5_%	Al_%	Fe_%	Si_%	Ti_%
FWSR026	763645	7067282	gossan	patronite	1.65	2.04	39.7	11.6	0.13
FWSR034	755624	7068374	ironstone nodules	Laterite	1.009	2.16	52.1	2.83	5.27
FWSR036	757556	7067950	ironstone nodules	Laterite	0.518	9.01	35	9.85	0.68
FWSR038	782539	7071701	gossan	patronite	0.741	0.8	36.5	17.9	0.31
FWSR039	772958	7072991	gossan	patronite	0.768	Not Assayed			
FWSR098	710648	7083246	gossan	patronite	0.59	3.72	49.8	5.04	0.36
-	-	-	-	-	-	-	-	-	-

### *Methodology and Terminology Referred in Report*

Vanadium Gossans: Gossans that have that have tested 1000ppm V or more using the Company's handheld XRF.

XRF: The Company uses a Niton XL hand held XRF unit for field reconnaissance. The unit has not been calibrated specifically for vanadium and therefore the company treats the results as indicative only. The Company does not like to report XRF results as they can vary widely when compared to the final definitive assays.

## **JORC Code, 2012 Edition – Table 1 report**

### **Section 1 Sampling Techniques and Data**

**(Criteria in this section apply to all succeeding sections.)**

<i>Sampling techniques</i>	<i>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 down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>  <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Surface rock chips and grab samples
<i>Drilling techniques</i>	<i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details.</i>	Not applicable
<i>Drill sample recovery</i>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Not applicable

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	<p><i>Measures taken to maximize sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred to potential loss/gain of fine/coarse material.</i></p>	
Logging	<p><i>Whether core and chip samples have been geologically and geotechnically 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, channel etc) photography.</i></p>	Not applicable
Sub-sampling techniques and sample preparation	<p><i>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.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality Control procedures adopted for all sub-sampling stages to maximize representivity of</i></p>	Not applicable

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	<p><i>samples.</i></p> <p><i>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.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	
<p><i>Quality of assay data and laboratory tests</i></p>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>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</i></p>	<p><b>Lab:</b> Bureau Veritas</p> <p>Samples fused with sodium peroxide then dissolved dilute HCl acid and determined by ICP-OES</p>
<p><i>Verification of sampling and assaying</i></p>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to</i></p>	<p>Not applicable</p>



	<i>assay data.</i>	
<i>Location of data points</i>	<p><i>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.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<p>Sample locations recorded with handheld GPS</p> <p>The grid system used is MGA 94 (Zone 50).</p> <p>Various topographic data was noted for mapping purposes.</p>
<i>Data spacing and distribution</i>	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>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.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<p>Selective sampling based on lithological features. No set spacing has been applied. No compositing has been applied.</p>
<i>Orientation of data in relation to geological structure</i>	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>If the relationship between the drilling orientation and the orientation of key</i></p>	<p>Not applicable</p>

	<i>mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	Not applicable
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Not applicable

## Section2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

<i>Mineral tenement and land tenure status</i>	<p><i>Type, reference name/number, location and ownership including agreements or material issues with third parties including joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></p> <p><i>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.</i></p>	<p><b>Project Name:</b> Yerrida South</p> <p><b>Tenement No:</b> E51/1727, E51/1732, E51/1733, E51/1734, E51/1755, E51/1756, E51/1807, E51/1855, E51/1856, E51/1877, E51/1878, E51/1879, E53/1713, E53/1730, E53/1740, E53/1894, E53/1917, E53/1948, E53/1982, E53/1986, E53/1987</p> <p><b>Ownership:</b> 100% GTE</p> <p><b>Native Title Agreements:</b> Yes</p> <p>Tenements is in good standing</p> <p><b>Project Name:</b> Lake Way Potash and Lithium Brines</p> <p><b>Tenement No:</b> E53/1949, E53/2017, E53/2026.</p> <p><b>Ownership:</b> 100% GTE</p> <p><b>Native Title Agreements:</b> Pending</p> <p>Tenements not granted.</p>
<i>Exploration done by other parties</i>	<i>Acknowledgement and appraisal of exploration by other parties</i>	No historical vanadium exploration
<i>Geology</i>	<i>Deposit type, geological</i>	Proterozoic rocks of the Yerrida Basin, Northern Yilgarn WA

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	<i>setting and style of mineralisation.</i>	Targeting vanadium sulphide mineralisation
<i>Drill hole Information</i>	<p><i>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:</i></p> <p><i>Easting and northing of the drill hole collar.</i></p> <p><i>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></p> <p><i>Dip and azimuth of the hole.</i></p> <p><i>Down hole length and interception depth.</i></p> <p><i>Hole length.</i></p> <p><i>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.</i></p>	Not applicable
<i>Data aggregation methods</i>	<i>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.</i>	Not applicable



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	<i>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.</i>	
<i>Relationship between mineralisation widths and intercept lengths</i>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>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')</i></p>	Not applicable
<i>Diagrams</i>	<i>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.</i>	Not applicable
<i>Balanced reporting</i>	<i>Where comprehensive reporting of all Exploration Results is not practicable representative reporting of both low and high grades</i>	Not applicable

	<i>and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	
<i>Other substantive exploration data</i>	<i>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.</i>	None
<i>Further work</i>	<i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions large-scale step-out drilling).</i>	See main body announcement

## Competent Person Statement

*The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Jordan Luckett who is a member of the Australian Institute of Mining and Metallurgy. Mr Luckett is an employee of Great Western Exploration Limited and 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 Luckett consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*