



Fourth Affidavit of Sean Nelson Costello

WAD 37 of 2022

Federal Court of Australia

District Registry: Western Australia

Division: General

YINDJIBARNDI NGURRA ABORIGINAL CORPORATION RNTBC

Applicant

STATE OF WESTERN AUSTRALIA & ORS

Respondents

Affidavit of: **Sean Nelson Costello**

Address: c/ Fortescue Metals Group, Level 2, 87 Adelaide Terrace, East Perth WA
6004

Occupation: Geospatial Analyst

Date: 16 February 2024

Filed on behalf of (name & role of party)	FMG Pilbara Pty Ltd, Pilbara Energy (Generation) Pty Ltd, Pilbara Energy Company Pty Ltd, Pilbara Gas Pipeline Pty Ltd and The Pilbara Infrastructure Pty Ltd		
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Two handwritten signatures in blue ink are present at the bottom right of the page. The first signature is a stylized 'A' or 'B' shape, and the second is a more complex cursive signature.

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I, Sean Nelson Costello, c/- Fortescue Metals Group, Level 2, 87 Adelaide Terrace, East Perth WA 6004, geospatial analyst, make oath and say as follows:

1. I am currently employed by Fortescue Metals Group Ltd (**FMGL**) as Lead Geospatial Analyst. FMGL is the holding company of a number of related companies including the 2nd to 6th respondents (**FMG Respondents**) in this case (together **FMG**).
2. I am authorised to make this affidavit on behalf of the FMG Respondents.
3. Unless otherwise stated, the facts contained in this affidavit are within my own knowledge and are true.
4. This is my fourth affidavit in these proceedings. The purpose of this affidavit is to outline the source of certain data which was prepared by FMG for provision to FMG’s expert witnesses in these proceedings.

Information regarding FMG Tenements

5. I have been shown a spreadsheet titled “20230821 FMG – Tenement Data and EL Overlap Change Analysis.xlsx” (**August Spreadsheet**). A copy of the August Spreadsheet is attached and marked “SNC-17”.
6. I did not create the August Spreadsheet. The August Spreadsheet contains data that was extracted from FMG’s records by a member of FMG’s Geographical Information System (**GIS**) team who is currently on maternity leave.



7. Shortly after the preparation of the August Spreadsheet, I was asked to review the August Spreadsheet for the purpose of confirming that the data contained within that spreadsheet was correct. Save for the errors identified at paragraph 10 below, I consider that the data contained within that spreadsheet is correct.
8. In relation to each of FMG's mining leases, miscellaneous licences and prospecting licences in the Solomon Mine area, the August Spreadsheet set out the size of each individual tenement, and the extent to which those tenements fell within the Yindjibarndi compensation application area, as at the date of grant of the relevant tenement. That information is set out in the worksheets named "Mining Leases", "Miscellaneous Licences", and "Prospecting Licences".
9. In relation to FMG's exploration licences, the August Spreadsheet relevantly set out (in the worksheets named by reference to the relevant exploration licence), amongst other matters, the size of each exploration licence, and the extent to which that exploration licence fell within the compensation application area, as at the date on which the relevant exploration licence was granted.
10. As part of my review of the August Spreadsheet referred to in paragraph [7] above I became aware of several errors which I corrected when preparing the spreadsheet which is annexed to my third affidavit in these proceedings and marked "SNC-16", and to which I refer to as the "Final Spreadsheet" in that affidavit. Specifically:
 - (a) the grant date of exploration licence E47/1319 is incorrectly listed (in cell B21) as 2 June 2007, rather than the correct date of 16 March 2012 (as listed in cell B3);
 - (b) the area of mining lease M47/1475 is incorrectly identified as 809 ha, rather than 525.4 ha; and
 - (c) the area of tenement L 1SA which fell within the compensation application area as at its date of grant is incorrectly identified in the August Spreadsheet. Tenement L 1SA was first granted on 29 November 2006, but at that time no part of L 1SA fell within the compensation application area. This is because the tenement area of L1SA changed over time as the relevant mining project areas (to be serviced by the railway) became more precisely defined and developed.



11. Other than these issues, I consider that the data contained in the August Spreadsheet is correct.

Groundwater Map

12. On or around 31 January 2024, I was requested by Mr Michael Carroll, a member of FMG's Hydrogeology team to prepare a map showing the geological surrounds of the Solomon Hub Mine, as well as the locations of certain monitoring bores and flora sampling species. Mr Carroll provided me with a project package file containing spatial data specifying flora species locations, the native title determination boundary, and the locations of bores containing groundwater data. This data was depicted on a raster geology base map. I explain raster data at paragraph 8 of my affidavit dated 30 June 2023 (**First Affidavit**).
13. To prepare that map, I opened the project package provided by Mr Carroll in the GIS software, ArcGIS Pro, and copied the data (other than the raster geology base map) from the project package into a new project file to generate a new map. In the new map, I added the equivalent geology vector data to ensure that the geological formations could be identified in the legend and then I formatted the labels to ensure that they were clear and identifiable. I explain vector data at paragraph 8 of my First Affidavit.
14. On 1 February 2024, I issued a map titled "*Regional Groundwater Level Monitoring*" in accordance with the request from Mr Carroll. I have been shown a map titled "*Regional Groundwater Level Monitoring*", which I am informed will be produced by FMG as an annexure to an affidavit in these proceedings. I confirm that the map titled "*Regional Groundwater Level Monitoring*" is the map I prepared at the request of Mr Carroll.



Sworn by Sean Nelson Costello)
At East Perth)
in the State of Western Australia)
on 16 February 2024)



Signature of deponent

Before me:



Signature of witness
KALK WELKER

a legal practitioner who has held a practice certificate for at least 2 years and who holds a current practice certificate.

“SNC-17”

WAD 37 of 2022

Federal Court of Australia

District Registry: Western Australia

Division: General

YINDJIBARNDI NGURRA ABORIGINAL CORPORATION RNTBC

Applicant

STATE OF WESTERN AUSTRALIA & ORS

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This is the annexure marked **SNC-17** referred to in the affidavit of Sean Nelson Costello sworn on 16 February 2024.



Signature of witness

KARL WELKER

a legal practitioner who has held a practice certificate for at least 2 years and who holds a current practice certificate.

Core Details	
Tenement ID	E47-1333
Grant Date	28/07/2007 0:00
Type	Exploration Licence
Holder	FMG Pilbara Pty Ltd

At Grant	
Tenement Area within YIN (ha)	666.89595
Area within YIN not overlapped (ha)	666.895874
Area within YIN overlapped (ha)	0.00007

At Current	
Tenement Area within YIN (ha)	527.60969
Area within YIN not overlapped (ha)	527.60968
Area within YIN overlapped (ha)	0.00001

Timeline	Date	Date (extracted)	Ten Area	Increase of Decrease	Impact on Ten Area (Govt)	Ten Area Post-Impact (Govt)	Ten Area within YIN	Increase of Decrease	Impact on Ten Area within YIN (FMG)	Ten Area within YIN post-Impact (FMG)
Grant	28/07/2007 0:00	4/12/2008 0:00	16039.73117	N/A	0.00000	16039.73117	666.89595	N/A	0.00000	666.89595
Conversion	3/02/2011	6/08/2011 0:00	12457.34169	Decrease	3582.38949	12457.34169	531.97812	Decrease	134.91783	531.97812
Conversion	10/12/2021	30/03/2022 0:00	10847.97093	Decrease	1609.37076	10847.97093	527.61080	Decrease	4.36732	527.61080
CURRENT	1/06/2023	25/04/2023 0:00	10847.95585	Decrease	0.01508	10847.95585	527.60969	Decrease	0.00111	527.60969

Core Details

Tenement ID E 47/1334
 Grant Date 2/08/2007 0:00
 Type Exploration Licence
 Holder FMG Pilbara Pty Ltd

At Grant

Tenement Area within YIN (ha) 9514 28937
 Area within YIN not overlapped (ha) 5273 725566
 Area within YIN overlapped (ha) 4234 56397

At Current

Tenement Area within YIN (ha) 1198 79537
 Area within YIN not overlapped (ha) 726 62402
 Area within YIN overlapped (ha) 472 17136

Timeline	Date	Date (extracted)	Ten Area	Increase of Decrease	Impact on Ten Area (Govt)	Ten Area Post-Impact (Govt)	Ten Area within YIN	Increase of Decrease	Impact on Ten Area within YIN (FMG)	Ten Area within YIN post-Impact (FMG)
Grant	2/08/2007	4/12/2008 0:00	17118 64081	N/A	0 00000	17118 64081	9514 28937	N/A	0 00000	9514 28937
Conversion	28/11/2010	6/06/2011 0:00	9972 57706	Decrease	7146 06375	9972 57706	4400 63907	Decrease	5113 65030	4400 63907
Conversion	8/07/2011	21/09/2011 0:00	8666 77476	Decrease	1305 80230	8666 77476	3094 93206	Decrease	1305 70701	3094 93206
Partial Expiry	22/11/2012	8/01/2013 0:00	5726 09520	Decrease	2936 67956	5726 09520	3089 36024	Decrease	5 57162	3089 36024
Conversion	17/01/2013	29/01/2013 0:00	5002 79834	Decrease	725 29686	5002 79834	2364 06417	Decrease	725 29607	2364 06417
Conversion	29/08/2014	12/06/2015 0:00	4429 48435	Decrease	573 31399	4429 48435	1791 98144	Decrease	572 08273	1791 98144
Partial Expiry	3/12/2018	5/12/2018 0:00	3799 40621	Decrease	630 07814	3799 40621	1109 35036	Decrease	682 63106	1109 35036
CURRENT	1/06/2023	25/04/2023 0:00	3928 09185	Increase	128 68564	3928 09185	1198 79537	Increase	89 44498	1198 79537

Core Details

Tenement ID E47-1398
 Grant Date 8/07/2011 0:00
 Type Exploration Licence
 Holder FMG Pilbara Pty Ltd

At Grant

Tenement Area within YIN (ha) 21511.69342
 Area within YIN not overlapped (ha) 18356.51853
 Area within YIN overlapped (ha) 3153.17407

At Current

Tenement Area within YIN (ha) 21390.05415
 Area within YIN not overlapped (ha) 18424.51563
 Area within YIN overlapped (ha) 2965.53857

Timeline	Date	Date (extracted)	Ten Area	Increase of Decrease	Impact on Ten Area (Govt)	Ten Area Post-Impact (Govt)	Ten Area within YIN	Increase of Decrease	Impact on Ten Area within YIN (FMG)	Ten Area within YIN post-impact (FMG)
Grant	8/07/2011 0:00	21/09/2011 0:00	21619.19206	N/A	0.00000	21619.19206	21511.69342	N/A	0.00000	21511.69342
CURRENT	1/06/2023	25/04/2023 0:00	21497.55145	Decrease	121.64061	21497.55145	21390.05415	Decrease	121.63927	21390.05415

Core Details

Tenement ID E47-1399
 Grant Date 8/07/2011 0:00
 Type Exploration Licence
 Holder FMG Pilbara Pty Ltd

At Grant

Tenement Area within YIN (ha) 6203.47034
 Area within YIN not overlapped (ha) 6004.729981
 Area within YIN overlapped (ha) 198.74036

At Current

Tenement Area within YIN (ha) 6203.47034
 Area within YIN not overlapped (ha) 6013.85791
 Area within YIN overlapped (ha) 189.61243

Timeline	Date	Date (extracted)	Ten Area	Increase of Decrease	Impact on Ten Area (Govt)	Ten Area Post-impact (Govt)	Ten Area within YIN	Increase of Decrease	Impact on Ten Area within Y	Ten Area within YIN post-impact (FMG)
Grant Date	8/07/2011 0:00	21/09/2011 0:00	21565.47903	N/A	0.00000	21565.47903	6203.47034	N/A	0.00000	6203.47034
Partial Expiry	15/08/2019	29/08/2019 0:00	19699.11852	Decrease	1866.36052	19699.11852	6203.47034	Nil	0.00000	6203.47034
Current	1/06/2023	25/04/2023 0:00	19699.11956	Increase	0.00104	19699.11956	6203.47034	Nil	0.00000	6203.47034

Core Details

Tenement ID E47-1447
 Grant Date 2/06/2007 0:00
 Type Exploration Licence
 Holder FMG Pilbara Pty Ltd

At Grant

Tenement Area within YIN (ha) 10153.41186
 Area within YIN not overlapped (ha) 7439.945801
 Area within YIN overlapped (ha) 2713.46607

At Current

Tenement Area within YIN (ha) 7598.94814
 Area within YIN not overlapped (ha) 7153.37549
 Area within YIN overlapped (ha) 445.57266

Timeline	Date	Date (extracted)	Ten Area	Increase of Decrease	Impact on Ten Area (Govt)	Ten Area Post-Impact (Govt)	Ten Area within YIN	Increase of Decrease	Impact on Ten Area within	Ten Area within YIN post-impact (FMG)
Grant Date	2/06/2007 0:00	4/12/2008 0:00	10153.41691	N/A	0.00000	10153.41691	10153.41186	N/A	0.00000	10153.41186
Conversion	8/07/2011	21/09/2011 0:00	8058.66258	Decrease	2094.75432	8058.66258	8058.65911	Decrease	2094.75274	8058.65911
Conversion	29/08/2014	29/05/2015 0:00	7598.95817	Decrease	459.70441	7598.95817	7598.95443	Decrease	459.70468	7598.95443
Current	1/06/2023	25/04/2023 0:00	7598.95256	Decrease	0.00561	7598.95256	7598.94814	Decrease	0.00629	7598.94814

Core Details

Tenement ID	E47-3205
Grant Date	21/09/2016 0:00
Type	Exploration Licence
Holder	FMG Pilbara Pty Ltd

At Grant

Tenement Area within YIN (ha)	5117.99744
Area within YIN not overlapped (ha)	5117.998047
Area within YIN overlapped (ha)	-0.00061

At Current

Tenement Area within YIN (ha)	613.92601
Area within YIN not overlapped (ha)	613.92603
Area within YIN overlapped (ha)	-0.00002

Timeline	Date	Date (extracted)	Ten Area	Increase of Decrease	Impact on Ten Area (Govt)	Ten Area Post-Impact (Govt)	Ten Area within YIN	Increase of Decrease	Impact on Ten Area within YIN (FMG)	Ten Area within YIN post-impact (FMG)
Grant Date	21/09/2016 0:00	21/09/2016 0:00	5118.57003		N/A	0.00000	5118.57003		N/A	0.00000
Voluntary Partial Surrender	11/09/2020	16/09/2020 0:00	614.32691	Decrease	4504.24312	614.32691	613.92601	Decrease	4504.07144	613.92601
Current	1/06/2023	25/04/2023 0:00	614.32723	Increase	0.00032	614.32723	613.92601	Nil	0.00000	613.92601

Core Details

Tenement ID E47-3464
 Grant Date 24/02/2017 0:00
 Type Exploration Licence
 Holder FMG Pilbara Pty Ltd

At Grant

Tenement Area within YIN (ha) 773.73549
 Area within YIN not overlapped (ha) 594.9066772
 Area within YIN overlapped (ha) 178.82881

At Current

Tenement Area within YIN (ha) 903.27058
 Area within YIN not overlapped (ha) 713.65094
 Area within YIN overlapped (ha) 189.61964

Timeline	Date	Date (extracted)	Ten Area	Increase of Decrease	Impact on Ten Area (Govt)	Ten Area Post-impact (Govt)	Ten Area within YIN	Increase of Decrease	Impact on Ten Area within YIN (FMG)	Ten Area within YIN post-impact (FMG)
Grant Date	24/02/2017 0:00	13/03/2017 0:00	1996.78987	N/A	0.00000	1996.78987	773.73549	N/A	0.00000	773.73549
Current	1/06/2023	25/04/2023 0:00	2133.58926	Increase	136.79939	2133.58926	903.27058	Increase	129.53509	903.27058

TENEMENT ID	TENEMENT STATUS	HOLDER	GRANT DATE	DATA EXTRACT DATE	AREA OF TENEMENT (Ha) AS AT GRANT DATE	AREA OF TENEMENT WITHIN COMPENSATION APPLICATION AREA (Ha) AS AT GRANT DATE
M 47/1409-I	LIVE	FMG PILBARA PTY LTD	26/11/2010 0:00	6/06/2011 0:00	6838.03986	5061.54188
M 47/1411-I	LIVE	FMG PILBARA PTY LTD	26/11/2010 0:00	6/06/2011 0:00	3500.46909	174.22627
M 47/1413-I	LIVE	FMG PILBARA PTY LTD	26/11/2010 0:00	21/09/2011 0:00	1037.11515	1037.09801
M 47/1431-I	LIVE	FMG PILBARA PTY LTD	8/07/2011 0:00	21/09/2011 0:00	2964.65640	2964.59224
M 47/1453-I	LIVE	FMG PILBARA PTY LTD	17/01/2013 0:00	29/01/2013 0:00	725.26216	725.25855
M 47/1473	LIVE	FMG PILBARA PTY LTD	29/08/2014 0:00	9/09/2014 0:00	485.12898	485.12786
M 47/1475	LIVE	FMG PILBARA PTY LTD	29/08/2014 0:00	9/09/2014 0:00	809.09491	809.09606
M 47/1513-I	DEAD	FMG PILBARA PTY LTD	3/12/2018 0:00	5/12/2018 0:00	700.07001	700.05836
M 47/1570	LIVE	FMG PILBARA PTY LTD	31/03/2020 0:00	1/04/2020 0:00	1032.39996	1032.36677

TENEMENT ID	TENEMENT STATUS	HOLDER	GRANT DATE	DATA EXTRACT DATE	AREA OF TENEMENT (Ha) AS AT GRANT DATE	AREA OF TENEMENT WITHIN COMPENSATION APPLICATION AREA (Ha) AS AT GRANT DATE
L 47/302	DEAD	FMG PILBARA PTY LTD	5/06/2009 0:00	23/08/2010 0:00	246.91476	246.91546
L 47/361	LIVE	FMG PILBARA PTY LTD	11/10/2011 0:00	6/02/2012 0:00	4433.12437	4292.16950
L 47/362	LIVE	FMG PILBARA PTY LTD	3/05/2011 0:00	5/12/2011 0:00	3492.14137	3492.14201
L 47/363	LIVE	FMG PILBARA PTY LTD	3/05/2011 0:00	9/11/2011 0:00	720.17012	720.22519
L 47/367	LIVE	FMG PILBARA PTY LTD	2/03/2012 0:00	9/04/2012 0:00	1225.08793	1225.08481
L 47/396	DEAD	FMG PILBARA PTY LTD	23/05/2012 0:00	4/06/2012 0:00	215.68139	215.68045
L 47/472	LIVE	FMG PILBARA PTY LTD	18/07/2014 0:00	21/07/2014 0:00	962.44899	962.44405
L 47/697	LIVE	PILBARA GAS PIPELINE PTY LTD	2/12/2013 0:00	9/12/2013 0:00	96.00682	94.94868
L 47/801	LIVE	THE PILBARA INFRASTRUCTURE PTY LTD	24/05/2019 0:00	29/05/2019 0:00	651.63537	570.41506
L 47/813	LIVE	THE PILBARA INFRASTRUCTURE PTY LTD	6/04/2018 0:00	11/04/2018 0:00	577.63264	428.79206
L 47/814	LIVE	THE PILBARA INFRASTRUCTURE PTY LTD	6/04/2018 0:00	11/04/2018 0:00	931.04347	875.83820
L 47/859	LIVE	PILBARA ENERGY COMPANY PTY LTD	6/02/2019 0:00	6/02/2019 0:00	5.97230	5.97230
L 47/901	LIVE	PILBARA ENERGY (GENERATION) PTY LTD	26/06/2019 0:00	10/07/2019 0:00	10.56293	10.56294
L 47/914	LIVE	PILBARA ENERGY COMPANY PTY LTD	15/11/2019 0:00	20/11/2019 0:00	294.92738	209.39820
L 47/919	LIVE	FMG PILBARA PTY LTD	10/01/2020 0:00	15/01/2020 0:00	931.04347	875.83820
L 1SA	LIVE	THE PILBARA INFRASTRUCTURE PTY LTD	29/11/2006 0:00	16/04/2007 0:00	20535.56682	3052.35119

TENEMENT ID	TENEMENT STATUS	HOLDER	GRANT DATE	DATA EXTRACT DATE	AREA OF TENEMENT (Ha) AS AT GRANT DATE	AREA OF TENEMENT WITHIN COMPENSATION APPLICATION AREA (Ha) AS AT GRANT DATE
P 47/1945	LIVE	FMG PILBARA PTY LTD	11/08/2021 0:00	11/08/2021 0:00	166.01307	140.30751
P 47/1946	DEAD	FMG PILBARA PTY LTD	11/08/2021 0:00	11/08/2021 0:00	165.86915	146.16320
P 47/1947	DEAD	FMG PILBARA PTY LTD	11/08/2021 0:00	11/08/2021 0:00	149.16670	145.25317

NOTICE OF FILING

Details of Filing

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8721 AND STATE OF WESTERN AUSTRALIA & ORS
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Sia Lagos

Registrar

Important Information

This Notice has been inserted as the first page of the document which has been accepted for electronic filing. It is now taken to be part of that document for the purposes of the proceeding in the Court and contains important information for all parties to that proceeding. It must be included in the document served on each of those parties.

The date of the filing of the document is determined pursuant to the Court's Rules.