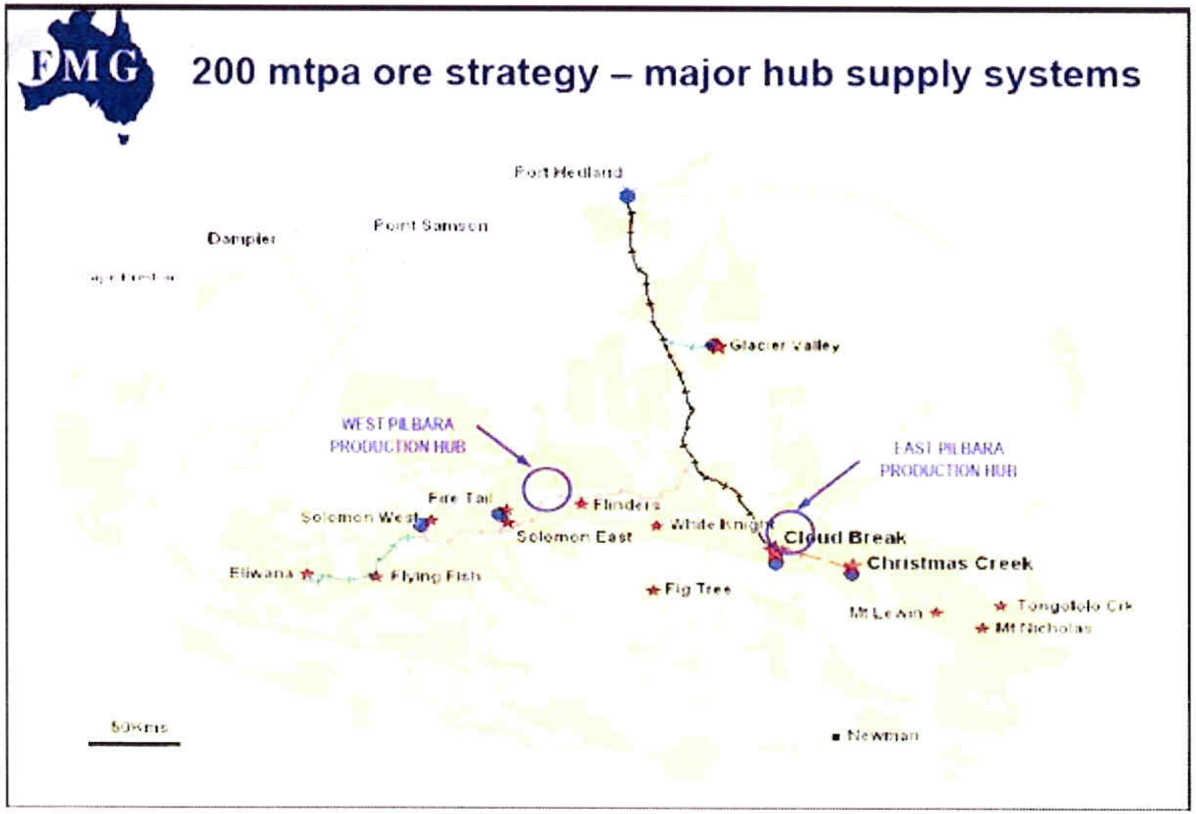
ANNEXURE 1 – INFORMATION ABOUT THIRD PARTY DEVELOPMENTS AND TENEMENTS IN THE PILBARA

Annexure 1

Information about third party developments and tenements in the Pilbara.

Part 1: FMG's Kennedy line proposals – Map 1

Map 1:

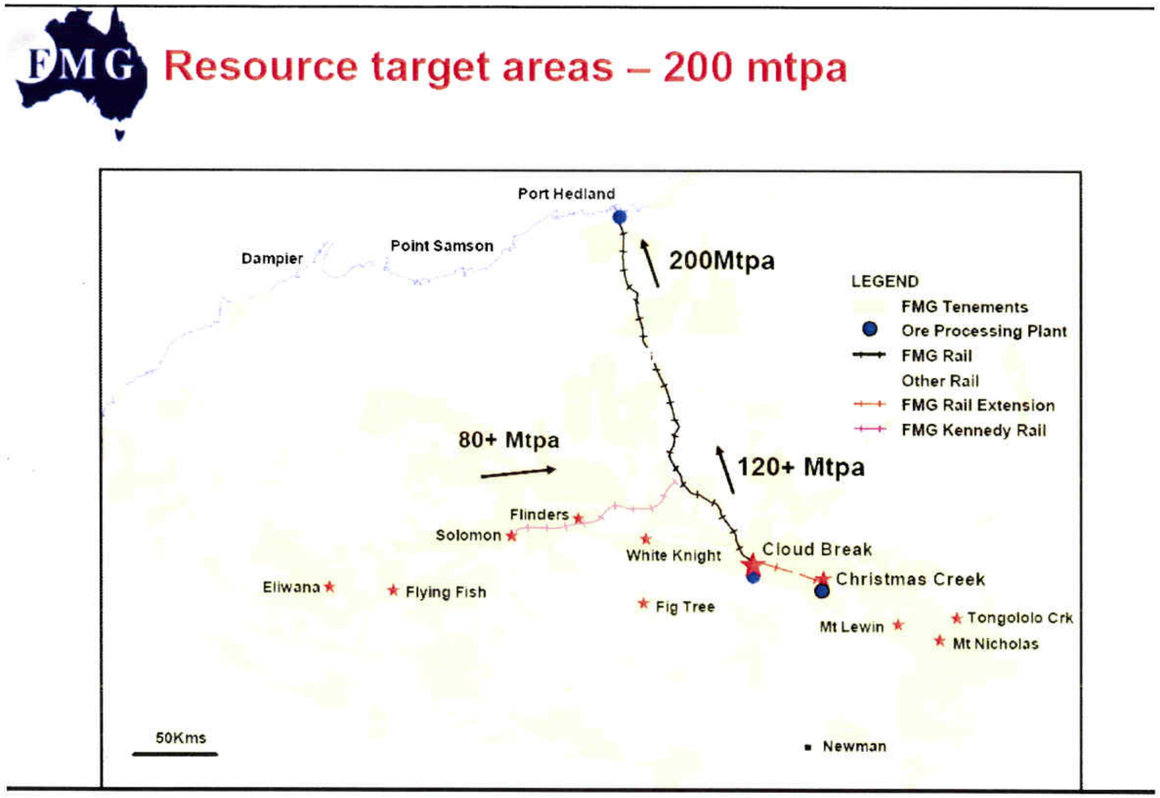


Annexure 1

Information about third party developments and tenements in the Pilbara.

Part 1: FMG's Kennedy line proposals - Map 2

Map 2:



Annexure 1

Information about third party developments and tenements in the Pilbara.

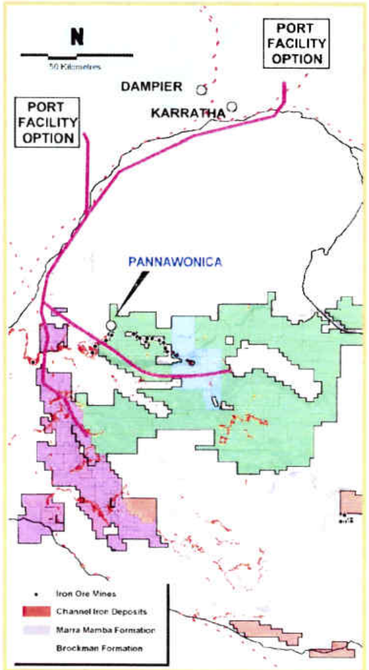
Part 2: API's potential rail and port infrastructure

West Pilbara Iron Ore Project Development Details

Aquila

- Rail Routes selected using Calibre
- Distances to port options:

  Cape Preston - 160km
  Dixon Island - 240km
- Ports under investigation using Maunsell
- Options to trans-ship to or direct load Cape sized vessels
- Significant dredging required for direct loading
- Environmental baseline studies commenced on rail and port options
- Metallurgical test work completed on processing of CID ore



ANNEXURE 2 – TENEMENTS REVIEW

Annexure 2

Tenements Review

Part 1: Tenements in vicinity of Hamersley Rail Network

1. Companies with iron ore interests — projects / resource estimates / target Mtpa / timing

Company	Project/Deposit within 50 kilometres of the Hamersley Rail Network (including tenement numbers where possible)	Resource
Derek Ammon (individual)	South Marillana Project (ELA47/1385; MLA47/1360; MLA47/1361; MLA47/1362)	(see Iron Ore Holdings)
	Mindy Mindy Project (E47/1140 and MLA47/583)	(see Pilbara Iron Ore Pty Ltd)
Aquila Resources Limited	Hardey Deposit (E47/1413)	62.9 Mt at 61.33% Fe (JORC compliant)
	East Pilbara (E47/1376; E52/1747; E47/1414; E471411; E471416; E47/1412; E47/1495)	Prospective for BID and CID
	Mt Elvire Project (includes E47/1108; E47/1110; E47/1257–61; E47/1264–67; E47/1278; E47/1282; E47/1284–87; E47/1503–06)	Prospective for BID and CID

Company	**Project/Deposit within 50 kilometres of the Hamersley Rail Network** (including tenement numbers where possible)	**Resource**
AusQuest Limited	Nameless Iron Ore Project (E47/1485)	Potential for buried iron mineralisation but significant mineralisation unlikely
	Rocklea Iron Ore Project (E47/1022; E47/1023; E47/1024)	Potential for CID mineralisation with acceptable levels of silica and alumina, and iron grade in excess of 55% Fe
Australasian Resources Limited	Balmoral South Iron Ore Project (southern portion of E08/636) Note: This Tenement is owned by Mineralogy Pty Ltd. Australasian Resources has the right to mine 1 billion tonnes of magnetite iron ore.	1,116 Mt at 31.4% Fe (JORC compliant)
	Other Relevant Tenements that may be iron ore tenements (E47/1463; P47/1247; L47/150; E47/1439; ELA47/1466; ELA47/1770)	No information identified
Brockman Iron Pty Ltd	ELA47/1822	No information identified
Brockman Resources Limited (formerly Yilgarn Mining Limited)	Marillana Project (E47/1408)	1.1 Bt (JORC compliant) • Higher grade DSO component of 56.2 Mt at 57.5% Fe • 1062 Mt at 44.2% Fe Potential to produce shipping inventory comprising DSO and beneficiated mineralisation of over 550 Mt grading +59% Fe

Company	**Project/Deposit within 50 kilometres of the Hamersley Rail Network** (including tenement numbers where possible)	**Resource**
	West Hamersley Project (includes Relevant Tenements E47/1738 and ELA47/1733)	Prospective for BID and CID
Cape Lambert Iron Ore Limited	Cape Lambert Iron Ore Project (E47/1462 is the key tenement)	2.5 Bt at 30% Fe (JORC compliant) 1.56 Bt at 31.2% Fe for Central Target Area (JORC compliant)
Cazaly Resources Limited	E47/1701 and E47/1562 (authorised for iron)	No information identified
	Other Relevant Tenements that may be iron ore tenements (E47/1560; P47/1277; P47/1276; ELA47/1561; ELA47/1617; ELA47/1795; ELA47/1791–94; ELA47/1828; ELA47/1842)	No information identified
Consolidated Minerals Limited	E47/1484 (adjacent to Mindy Mindy Project)	(see Pilbara Iron Ore Pty Ltd)
	E47/1483 (authorised for iron)	No information identified
Cullen Resources Limited	Paraburdoo Iron Ore Project (E52/1667)	No information identified
De Beers Australia Exploration Limited	Mt Elvire Project (includes E47/1108; E47/1110; E47/1257–61; E47/1264–67; E47/1278; E47/1282; E47/1284–87; E47/1503–06)	(see Aquila Resources Limited)
DFD Rhodes Pty Ltd	E47/1429 and E47/1432	(See United Minerals Corporation NL)
Flinders Mines Limited (formerly Flinders Diamonds Limited)	Hamersley (E47/882)	Targeted mineralisation of 325–390 Mt
	Hamersley West (E47/1306) (FMG has exclusive iron ore rights to this tenement)	220 Mt at 56% Fe (JORC compliant) (Note: This forms part of FMG's resource estimate for its Solomon Project)

Company	Project/Deposit within 50 kilometres of the Hamersley Rail Network (including tenement numbers where possible)	Resource
	Bold Cliff (E47/1011)	No information identified
	Other Relevant Tenements which may be iron ore tenements (P47/1288–91; M47/1407)	No information identified
Fortescue Metals Group	White Knight and Flinders	105 Mt (JORC compliant)
	Solomon Project	1716 Mt (JORC compliant)
	Mt Macleod Project	No information identified
	Eliwana Project	No information identified
	Hamersley Homestead	No information identified
Geotech International Pty Ltd	Miaree Project (E08/1350)	(see Red River Resources Limited)
Hancock Prospecting Pty Ltd (Note: According to a company presentation, the Mulga Downs Project/Wittenoom Agreement Tenements have "in excess [of] well over 1.5 Bt")	Mulga Downs Project: • Mulga Downs West (E47/1314) • Carboy Well (E47/1315)	 150 Mt (not JORC compliant) 150 Mt (not JORC compliant)
	Wittenoom Agreement Tenements (TR70/5621; TR70/5622; TR70/5615; TR70/5616; ELA47/1607; ELA47/1608)	430 Mt for TR70/5616 (230 Mt drilled mineralisation and 200 Mt potential mineralisation) (not JORC compliant)
	Roy Hill South (E47/1327)	No information identified
Helix Resources Limited	Yalleen Iron Ore Project (E47/1171)	Potential for 100 Mt at between 57% and 60%
Iron Duyfken Pty Ltd	ELA47/1841	No information identified

Company	Project/Deposit within 50 kilometres of the Hamersley Rail Network (including tenement numbers where possible)	Resource
Iron Ore Holdings Limited	South Marillana Project (including Phil's Creek Project) (E47/1237)	8.3 Mt at 58.1% Fe (JORC compliant)
	North Marillana Project (including Extension Project) (E47/1239)	46.8 Mt at 50% Fe (JORC compliant)
	Yandicoogina Creek Project (E47/1236)	Prospective for CID
	Lamb Creek Project (E47/1238)	Prospective for CID
	Other Relevant Tenements (MLA47/1353–59; ELA47/1537; ELA47/1539; ELA47/1645–48)	No information identified
Jupiter Mines Limited	Brockman Iron Project (E47/1629; PLA47/1314)	Prospective for hematite iron ore and some CID
Mineralogy Pty Ltd	Balmoral Deposit (E08/636). Comprises the Northern Deposit, George Palmer Deposit and Susan Palmer Deposit	• 4.5Bt JORC Resource defined for the entire Balmoral deposit • Potential for 60-100 Bt Resource
	• Northern Deposit	No information identified
	• George Palmer Deposit (Central Block) (CITIC has right to mine 6 Bt of magnetite iron ore)	2,503 Mt (JORC compliant)
	• Susan Palmer Deposit (Balmoral South) (Australasian Resources Limited has right to mine 1 Bt of magnetite iron ore)	(See Australasian Resources Limited)

Company	Project/Deposit within 50 kilometres of the Hamersley Rail Network (including tenement numbers where possible)	Resource
	Other Relevant Tenements (E47/1405–07; G08/74)	No information identified
Mount Gibson Iron Limited	E08/1325; E08/1324 and PLA47/1125	No information identified
Mulga Downs Iron Ore Pty Ltd	ELA47/1593, ELA47/1594, ELA47/1596, ELA45/2823 (likely to be part of Hancock Prospecting Pty Ltd's Mulga Downs Project/Wittenoom Agreement Tenements)	No information identified
Murchison Metals Limited	Rocklea Project (E47/1153 and E47/952)	Prospective for CID style mineralisation. Up to 40 strike kilometres of prospective paleo-channel identified
Pelican Resources Ltd	Bellary Springs Project (E47/1268)	Chip samples in 2007 returned values of up to 60.09% Fe
Pilbara Iron Ore Pty Ltd	Mindy Mindy Project	Initial resource of 44.8 Mt at 55.2% Fe defined, including a high grade component of 15.5 Mt at 57.1% Fe (JORC compliant)
Polaris Metals NL	Ashburton Project (E08/1511–13; E47/1528)	Targeted mineralisation of 120–240Mt of magnetite
Prenti Exploration Pty Ltd	Hamersley (E47/882)	(See Flinders Mines Limited)
	E47/1011 (part of FMG's White Knight Project)	(see Fortescue Metals Group)
Prime Minerals Limited	Tom Price Iron Ore Prospect (E47/1496; ELA47/1497; ELA47/1498)	Prospective for CID
Raptor Exploration Pty Ltd	E47/1602 (authorised for iron)	No information identified

Company	**Project/Deposit within 50 kilometres of the Hamersley Rail Network** (including tenement numbers where possible)	**Resource**
Red River Resources Limited	Miaree Magnetite Trend (E47/1309 (Kaninda East) and ELA47/1707 (Kaninda North))	Targeted mineralisation of 1.5-2 Bt of magnetite iron ore at 40–45% Fe. Potential for DSO mineralisation
Royal Resources Limited	Mount Margaret (E47/1611)	Prospective for iron ore
	Perishing (ELA47/1614)	Prospective for iron ore
	Marillana Bridge (ELA47/1613)	Chip assays have returned values of up to 63.9% Fe
	Mount Lockyer (ELA47/1612)	Prospective for iron ore
Talisman Mining Limited	Wonmunna Project (E47/1137)	Potential for significant economic iron ore mineralisation
	Tom Price Project (E47/1136)	No information identified
	Anticline Project (includes Relevant Tenement E47/1196)	No information identified
United Minerals Corporation NL	Railway Prospect (E47/1429 — currently registered to DFD Rhodes Pty Ltd)	Targeted mineralisation of 100 Mt Marra Mamba mineralisation
	Jocelyn Prospect (E47/1429 — currently registered to DFD Rhodes Pty Ltd)	Marra Mamba type ore target
	Camp Hill Prospect (E47/1429 — currently registered to DFD Rhodes Pty Ltd)	Marra Mamba type ore target

Company	Project/Deposit within 50 kilometres of the Hamersley Rail Network (including tenement numbers where possible)	Resource
	Southern Flank Prospect (E47/1432 — currently registered to DFD Rhodes Pty Ltd)	Marra Mamba type ore target
	Other Relevant Tenements (E47/1431 (authorised for iron); ELA47/1767; PLA47/1421; ELA47/1870–75)	No information identified
Total number of companies		34
Total amount of resources (including targeted mineralisation)		14,979.7 Mt
Total amount of JORC-compliant resources		11,419.7 Mt

2. List of Other Companies (where focus is unclear but there is a possibility of interest in iron ore)

- Amex Resources Limited – Relevant Tenement constitutes a gold project but Amex is interested in a diverse range of minerals, including iron ore.
- Chimenti, Matt – unlikely because size of Relevant Tenement is only 197 ha
- Clara Resources Pty Ltd – has two exploration licence applications which were made in 2001 and 2003
- Coccinella Pty Ltd – has one exploration licence in relation to an area of 9 BL very near Paraburdoo
- Croydon Gold Pty Ltd – although the name of the company suggests a gold focus
- Flint, Warwick John – has three applications for prospecting licences and two applications for exploration licences currently on foot; sold a suite of tenements in the Pilbara during the year ended 30 June 2007 to Warwick Resources Limited, a newly listed exploration company with an interest in a range of minerals, including iron ore
- Forkin, Maureen Mary – has an application for a tenement 23 BL in size on foot
- Gibson, Jodie Michel – has one exploration licence in relation to an area 6 BL in size
- Giralia Resources NL – possible that ELA47/1501 and ELA47/1502 will be the subject of an iron ore project when granted, as Giralia has an interest in iron ore
- Grange Resources Limited – possible that ELA47/1857, ELA47/1859, ELA47/1866 and ELA47/1856 (each applied for on 14/11/07) will be the subject of an iron ore project; Grange's main project is the Southdown Magnetite and Kemaman Pellet Plant Project near Albany, WA.
- Kerr, Ian – has an application for a tenement 36 BL in size on foot
- Korab Resources Limited –main focus in the Pilbara is gold and uranium but the company has not ruled out iron ore as an exploration target; tenements cover a large area of 460 BL
- Maincoast Pty Ltd – has an application for a tenement 31 BL in size on foot
- Quantum Resources Limited – has a live tenement 39 BL in size; note company has as its focus base metals, uranium and gold

- Rheingold Investments Corporation Pty Ltd – has tenement applications on foot in respect of an area about 12 BL in size; association with Korab Resources Limited, a company with a gold and uranium focus as far as the Pilbara area is concerned
- Seefingan Exploration Pty Ltd – has tenement applications on foot in respect of an area about 195 BL in size
- Spar Resources Pty Ltd – has an application for a tenement 6 BL in size on foot
- Strong, Garry Robert – has an application for a tenement 5 BL in size; is a Non-Executive Director of Red Hill Iron Limited
- Swancove Enterprises Pty Ltd – has an application for a tenement 4 BL in size on foot; Managing Director David Zohar is also a director of Red River Resources Limited
- Topgate Holdings Pty Ltd – has tenement applications on foot in respect of an area about 6 BL in size
- Voermans Geological Services Pty Ltd – has tenement applications on foot in respect of an area about 68 BL in size
- Yanyarex Pty Ltd – has tenement applications on foot in respect of an area about 585 BL in size
- Zeedam Enterprises Pty Ltd – unlikely because size of Relevant Tenement is only about 52.3 ha
- Zen Resources Pty Ltd – has tenement applications on foot in respect of an area 16 BL in size

Part 2: Tenements in vicinity of Robe Rail Network

1. Companies with iron ore interests — projects / resource estimates / target Mtpa / timing

Company	**Project/Deposit within 50 kilometres of the Robe Rail Network** (including tenement numbers where possible)	**Resource**
Aquila Resources Limited	(See Cullen Resources Limited; De Beers Exploration Australia Limited; Helix Resources Limited; and Red Hill Iron Limited)	(See Cullen Resources Limited; De Beers Exploration Australia Limited; Helix Resources Limited; and Red Hill Iron Limited)
Aurox Resources Limited	Balla Balla Iron Ore Concentrate Project *(not directly on Relevant Tenements but ELA47/1344 is adjacent)*	Note: the following resources/reserves are *not* on the Relevant Tenements Resources = 300 Mt (116.8 Mt at 45.8% Fe) (JORC compliant) Reserves = 103.8 Mt at 45.7% Fe (JORC compliant)
Australasian Resources Limited	Relevant Tenements that may be iron ore tenements (MLA47/631-633; M47/567; L47/124; P47/1139-1142, P47/1148-1150, P47/1152-1153; E47/1463; P47/1247; L47/148; L47/150; LA47/149; E47/1439; ELA47/1466; E47/1227; ELA47/1769)	No information identified
BC Iron Limited	Relevant Tenements (ELA47/1887; ELA47/1888; ELA47/1889; ELA47/1890; ELA47/1891)	No information identified

Company	Project/Deposit within 50 kilometres of the Robe Rail Network (including tenement numbers where possible)	Resource
Brockman Iron Pty Ltd	ELA47/1822	No information identified
Brockman Resources Limited (formerly Yilgarn Mining Limited)	E47/1603 (part of the West Hamersley Project)	Prospective for BID and CID
Cape Lambert Iron Ore Limited	Cape Lambert Iron Ore Project (E47/1462 is the key tenement)	2.5 Bt at 30% Fe (JORC compliant) 1.56 Bt at 31.2% Fe for Central Target Area (JORC compliant)
Cazaly Resources Limited	ELA47/1828	No information identified
Cullen Resources Limited	Mt Stuart JV (including E08/1341 and E08/1135)	79.5 Mt at 55.34% Fe (JORC compliant)
	Red Hill Iron JV (including E08/1622)	No information identified
De Beers Australia Exploration Limited	Mt Elvire Project (includes E47/1107; E47/1110; E47/1129; E47/1130; E47/1256; E47/1262–65; E47/819; E47/1123; E47/1252–55; E47/1266; E47/1278–85; E47/1504–06)	Prospective for BID and CID
Dynasty Metals Australia Limited	Warramboo Project (including E08/1620)	Some testing for CID
Fortescue Metals Group Limited	Applications: E47/1383; E47/1440; E47/1449; E47/1616; E47/1657; E47/1658; E47/1659; E47/1660; E47/1661; E47/1688; E47/1771; E47/1809; E08/1814; E08/1623; E08/1624; E08/1626; E08/1585; E08/1550; E08/1439; E08/1432	No information identified

Company	**Project/Deposit within 50 kilometres of the Robe Rail Network** (including tenement numbers where possible)	Resource
Helix Resources Limited	Yalleen Iron Ore Project (E47/1169–71)	Potential for 100 Mt at between 57% and 60%
Heron Resources Limited	ELA47/1525	No information identified
Iron Ore Holdings Limited	Buckland Hills Project (E47/1538 and E08/1554)	No information identified
Mineralogy Pty Ltd	E08/691, E08/117 and E08/118 (authorised for iron); MLA08/371; ELA47/1405–07; ELA08/1451	No information identified
Mount Gibson Iron Limited	PLA47/1125	No information identified
Ord River Diamonds Pty Ltd	E08/1593 (authorised for iron)	No information identified
Polaris Metals NL	Ashburton Project (E47/1526; E47/1527)	Targeted mineralisation of 120–240Mt of magnetite
Red Hill Iron Limited	Red Hill Project (E08/1227; E08/1283; E08/1289; E08/1293; E08/1294; E08/1295; E08/1301; E08/1430; E08/1537; E47/1141)	350.2 Mt at 57.2% Fe (JORC compliant)
Red River Resources Limited	Miaree Magnetite Trend (E47/1309 (Kaninda East) and ELA47/1707 (Kaninda North))	Targeted mineralisation of 1.5-2 Bt of magnetite iron ore at 40–45% Fe. Potential for DSO mineralisation
Shirley Ann Watson	E08/1296 (authorised for iron)	No information identified
Total number of companies		22
Total amount of resources (including targeted mineralisation)		5,269.7 Mt
Total amount of JORC-compliant resources		2,929.7 Mt

1. List of Other Companies (where focus is unclear but there is a possibility of interest in iron ore)

- Bushwin Pty Ltd – has an applications for three tenements, the largest of which is 24 BL in size
- Clara Resources Pty Ltd – has two exploration licence applications which were made in 2001 and 2003; one is 6 BL in size while the other is 156 ha
- Croydon Gold Pty Ltd – has three exploration licence applications on foot which are each 70 BL in size; but the name of the company suggests a gold focus
- Gianni, Peter Romeo – has an application for a tenement 15 BL in size on foot
- Giralia Resources NL – possible that exploration licence applications E47/1501–03 will be the subject of an iron ore project when granted, as Giralia has an interest in iron ore
- JML Resources Pty Ltd – has an application for a tenement 45 BL in size on foot
- Marr, Clanan Richard – holds a tenement 3 BL in size; given the size, iron ore related activity seems unlikely
- North, Donald Kimberley – holds numerous tenements/tenement applications in the vicinity of the Cape Lambert Iron Ore Project; has previously sold tenements to Cape Lambert
- Rinaldi, Louis William – holds one tenement and several tenement applications within the vicinity of the Deepdale line; tenements are small in size, with the smallest being 104.5 ha and the largest being 6 BL
- Seefingan Exploration Pty Ltd – has tenement applications on foot in respect of an area about 195 BL in size
- Spar Resources Pty Ltd – has an application for a tenement 6 BL in size on foot
- Starmoss Holdings Pty Ltd – has an application for a tenement 9 BL in size on foot, which overlaps land reserved by the Crown
- Swancove Enterprises Pty Ltd – has an application for a tenement 4 BL in size on foot; note that MD David Zohar is also a director of Red River Resources Limited, which has iron ore interests
- Topgate Holdings Pty Ltd – has tenement applications on foot in respect of an area about 6 BL in size

- Udu Resources Limited (under external administration) – holds E08/1622 jointly with Cullen Resources Limited, a company with iron ore interests; Cullen claims it holds 100% of this tenement
- Voermans Geological Services Pty Ltd – has tenement applications on foot in respect of an area about 68 BL in size
- Yanyarex Pty Ltd – has tenement applications on foot in respect of an area 667 BL in size

ANNEXURE 3 – MARKET FOR TENEMENTS (CHANGES IN OWNERSHIP/JOINT VENTURES/OFFTAKE AGREEMENTS/NEW APPLICATIONS)

Annexure 3

Market for Tenements — changes in ownership / joint ventures / offtake agreements / new applications

Part 1: Tenements in vicinity of Hamersley Rail Network

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Aquila Resources Limited	No information identified	50/50 unincorporated JV (formed 14 February 2005) between Aquila and AMCI called Australian Premium Iron (***API***) in relation to iron ore projects, including the Relevant Tenements.	1 recently granted tenement (E47/1495 granted 18/09/07)	No information identified
AusQuest Limited	1 Relevant Tenement (E47/1206) — Transfer from Panco Pty Ltd/Rodney Bellotti to AusQuest	The Nameless Project (E47/1485) was the subject of an option farm-in and JV with Rio Tinto until Rio Tinto announced its withdrawal in October 2006.	4 recently granted tenements (E47/1485 granted 20/03/06; E47/1486 granted 18/08/06; E47/1641 granted 05/03/07; E47/1206 granted 23/01/06)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Australasian Resources Limited	No information identified	Australasian Resources has the right to mine 1 billion tonnes of magnetite iron ore from the Balmoral South Iron Ore Project, which comprises the southern portion of E08/636, a Relevant Tenement owned by Mineralogy Pty Ltd.	No information identified	• Acquisition of right to mine 1 billion tonnes from southern portion of Mineralogy Pty Ltd's Balmoral Deposit, via purchase of International Minerals Pty Ltd • Strategic alliance with Shougang Corporation, under which Shougang provides significant investment in the Balmoral South Iron Ore Project, including by financing 100% of Project funding where Shougang elects to proceed to full scale development by 20 June 2008.

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Brockman Iron Pty Ltd	No information identified	No information identified	1 recent application (E47/1822 applied for 19/06/07)	No information identified
Brockman Resources Limited	No information identified	No information identified	1 recently granted tenement (E47/1738 granted 14/10/07) 1 recent application (E47/1733 applied for 15/06/06)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Cape Lambert Iron Ore Limited	3 Relevant Tenements (E47/1233; E47/1248; E47/1271) — Transfer from Donald Kimberley North to Cape Lambert Cape Lambert has signed a memorandum of understanding with the China Metallurgical Group Corporation in relation to the sale of the Cape Lambert project for $400 million. The Group has until April 30 to complete the due diligence and obtain Chinese approvals for the acquisition. The company will also need to get FIRB approval.	No information identified	1 recently granted tenement (E47/1462 granted 24/03/06) 8 recent applications (E47/1837 and P47/1418–1420 applied for 21/09/07; E47/1760, P47/1302 and P47/1303 applied for 10/11/06; P47/1383 applied for 05/02/07) Note: On 24/01/08, Cape Lambert announced that it was progressing the grant of exploration licence application E47/1493.	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Cazaly Resources Limited	No information identified	No information identified	4 recently granted tenements (E47/1701 granted 20/03/07; E47/1560 granted 06/09/07; P47/1276 and P47/1277 granted 23/08/07) 7 recent applications (E47/1705 applied for 01/05/06; E47/1791–1794 all applied for 18/01/07; E47/1828 applied for 20/08/07; E47/1842 applied for 25/10/07)	No information identified
Consolidated Minerals Limited	No information identified	(See Pilbara Iron Ore Pty Ltd)	2 recently granted tenements (E47/1484 granted 27/10/06; E47/1483 granted 18/12/07)	No information identified
Cullen Resources Limited	No information identified	MOU with FMG allowing FMG to earn up to 80% interest in the iron ore rights in respect of E52/1667	1 recently granted tenement (E52/1667 granted 16/06/06)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
De Beers Australia Exploration Limited	No information identified	Mt Elvire JV between De Beers and API: API has farmed-in to 100% of all mineral rights excluding diamonds for a sum of $5 million	2 recently granted tenements (E47/1264–65) 2 recent applications (E47/1266–67)	No information identified
DFD Rhodes Pty Ltd	(See United Minerals Corporation NL)	No information identified	2 recently granted tenements (E47/1429 granted 29/01/07; E47/1432 granted 29/01/07)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Flinders Mines Limited (formerly Flinders Diamonds Limited)	No information identified	• JV between Prenti Exploration Pty Ltd and Flinders Mines: Flinders Mines can farm-in to 100% of equity in Relevant Tenements E47/882 and E47/1011 • JV between FMG and Flinders Mines: FMG has exclusive iron ore rights in relation to Relevant Tenements E47/1306 and E47/1011	4 recently granted tenements (P47/1288–91 granted 27/09/07) 1 recent application (M47/1407 applied for 13/09/07)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Fortescue Metals Group	7 Relevant Tenements — Transfer of E47/1392, E47/1391, E47/1390, E47/1455, E47/1480 and E47/1479 from Poondano Exploration Pty Ltd to FMG; Transfer of E47/1155 from Talisman Mining Limited to FMG	(See Cullen Resources Limited, Flinders Mines Limited and Talisman Mining Limited)	29 recently granted tenements 75 recent applications	No information identified — not in relation to deposits on the Relevant Tenements
Helix Resources Pty Ltd	No information identified	Yalleen Iron Ore Project is undertaken pursuant to a JV with Australian Premium Iron Pty Ltd (***API***), which is owned 50/50 by Aquila Resources Limited and AMCI Holdings Australia Pty Ltd. API to spend $1.5 million over 4 years to earn a 70% interest in the Project.	1 recently granted tenement (E47/1171 granted 23/01/06)	No information identified
Heron Resources Limited	(see Polaris Metals NL)	No information identified	No information identified	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Iron Duyfken Pty Ltd	No information identified	No information identified	1 recent application (E47/1841 applied for 24/10/07)	No information identified
Iron Ore Holdings Limited	Acquisition of PEL Iron Ore Pty Ltd (previously a subsidiary of Echelon Resources) — effectively resulting in transfer of 6 Relevant Tenements to Iron Ore Holdings: E47/1539, E47/1645, E47/1646, E47/1647, E47/1648 and E47/1537	No information identified	11 recent applications (M47/1353, M47/1354, M47/1355, M47/1356, M47/1359, M47/1357 and M47/1358 applied for 07/02/07; and E47/1645; E47/1646, E47/1647 and E47/1648 applied for 06/02/06)	No information identified
Jupiter Mines Limited	No information identified	No information identified	1 recently granted tenement (E47/1629 granted 29/05/07)) 1 recent application (P47/1314 applied for 12/12/06)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Mineralogy Pty Ltd	No information identified	• Australasian Resources Limited has right to mine 1 Bt of magnetite iron ore from Balmoral South Deposit. • CITIC Pacific Limited has right to mine 6 Bt of magnetite iron ore from Balmoral Central Block.	1 recent application (G08/74 applied for 24/08/07)	MOU signed with FMG in December 2007 to investigate feasibility of an ore blending project using material from Solomon Project area. Terms include investigating port facilities for exporting a variety of products at Cape Preston, where Mineralogy has an approved port. Plans involve initial export capability of 50 Mtpa.
Mount Gibson Iron Limited	Acquisition of Aztec Resources Limited — effectively resulting in transfer of 3 Relevant Tenements to Mount Gibson Iron Limited: E08/1325; E08/1324 and PLA47/1125	No information identified	2 recently granted tenements (E08/1325 granted 14/02/06; E08/1324 granted 21/12/06)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Mulga Downs Iron Ore Pty Ltd	No information identified	No information identified	4 recent applications (E47/1593, E47/1594, E47/1596 and E45/2823 applied for 09/11/05)	No information identified
Murchison Metals Limited	2 Relevant Tenements — Transfer of E47/952 from Austral Gold Limited and purchase of iron ore rights on E47/1153 from Joytell Pty Ltd.	No information identified	2 recently granted tenements (E47/952 granted 21/01/08; E47/1153 granted 03/08/06)	No information identified
Pelican Resources Limited	No information identified	No information identified	No information identified	No information identified
Pilbara Iron Ore Pty Ltd	No information identified	Farm-in agreement under which Pilbara Iron Ore Pty Ltd can earn up to 80% interest in E47/1140, which is held by Derek Ammon	2 recent applications (L47/205 applied for 16/03/07; P47/1414 applied for 22/06/07)	No information identified
Polaris Metals NL	4 Relevant Tenements (E08/1513; E08/1511; E47/1528; E08/1512) — Transfer from Ochre Resources Limited to Polaris Metals NL	No information identified	4 recently granted tenements (E08/1513, E08/1511 and E08/1512 granted 20/02/06; E47/1528 granted 02/06/07)	No information identified
Prenti Exploration Pty Ltd	No information identified	(See Flinders Mines Limited)	No information identified	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Prime Minerals Limited	Acquisition of Megaworld Pty Ltd — effectively resulting in transfer of 3 Relevant Tenements to Prime Minerals Limited: E47/1496, E47/1497 and E47/1498	No information identified	1 recently granted tenement (E47/1496 granted 08/06/07)	No information identified
Royal Resources Limited	4 Relevant Tenements (E47/1611, E47/1612, E47/1613, E47/1614) — Transfer from Ragged Range Mining Pty Ltd to Royal Resources Limited	No information identified	1 recently granted tenement (E47/1611 granted 12/06/07)	No information identified
Red River Resources Limited	No information identified	Miaree Magnetite Trend is subject to proposed JV/farm-in with Iron Mountain Mining Limited. Iron Mountain can earn up to 70% interest by spending $4.75m.	1 recently granted tenement (E47/1309 granted 04/05/07) 1 recent application (E47/1707 applied for 24/05/06)	No information identified
Talisman Mining Limited	No information identified	FMG has exclusive iron ore rights in relation to Tom Price and Anticline Projects.	No information identified	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
United Minerals Corporation NL	3 Relevant Transfers: United Minerals Corporation NL acquired E47/1429, E47/1431 and E47/1432 from DFD Rhodes in 2006. This is not reflected in the Mineral Titles Online database.	United Minerals Corporation NL has noted opportunities for ore swapping and JVs its projects offer, particularly at Camp Hill which shares a tenement boundary with BHP Billiton	7 recent applications (E47/1767 applied for 07/12/06; P47/1421 applied for 05/10/07; E47/1870–1875 applied for 26/11/07)	No information identified
			Total number of Relevant Tenements subject to changes in ownership	36
			Total number of recently granted tenements	64
			Total number of recent applications	123

Part 2: Tenements in vicinity of Robe Rail Network

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Aquila Resources Limited	(See Cullen Resources Limited; De Beers Exploration Australia Limited; Helix Resources Limited; and Red Hill Iron Limited)	(See Cullen Resources Limited; De Beers Exploration Australia Limited; Helix Resources Limited; and Red Hill Iron Limited)	(See Cullen Resources Limited; De Beers Exploration Australia Limited; Helix Resources Limited; and Red Hill Iron Limited)	(See Cullen Resources Limited; De Beers Exploration Australia Limited; Helix Resources Limited; and Red Hill Iron Limited)
Aurox Resources Limited	No information identified	No information identified	No information identified	Two 15-year supply contracts for 3 mtpa with Chinese steel makers in place
Australasian Resources Limited	1 Relevant Tenement (E47/1227) – Transfer from Fox Resources Limited to Australasian Resources Limited (70 shares) and Metals Australia Limited (30 shares)	No information identified	1 recent application (E47/1769 applied for 21/12/06) 5 recently granted tenements: L47/148 (granted 25/06/07); L47/150 (granted 25/06/07); E47/1463 (granted 28/08/06); E47/1227 (granted 06/01/06); E47/1439	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
			(granted 08/11/06)	
BC Iron Limited	No information identified	No information identified	5 recent applications (E47/1887–91 applied for 09/01/08)	No information identified
Brockman Iron Pty Ltd	No information identified	No information identified	1 recent application (E47/1822 applied for 19/06/07)	No information identified
Brockman Resources Limited	No information identified	No information identified	1 recently granted tenement (E47/1603 granted 09/03/07)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Cape Lambert Iron Ore Limited	3 Relevant Tenements (E47/1233; E47/1248; E47/1271) — Transfer from Donald Kimberley North to Cape Lambert Cape Lambert has signed a memorandum of understanding with the China Metallurgical Group Corporation in relation to the sale of the Cape Lambert project for $400 million. The Group has until April 30 to complete the due diligence and obtain Chinese approvals for the acquisition. The company will also need to get FIRB approval.	No information identified	3 recently granted applications (E47/1462 granted 24/03/06; E47/1248 granted 23/01/06; E47/1271 granted 06/09/06) 8 recent applications (E47/1837 and P47/1418–1420 applied for 21/09/07; E47/1760, P47/1302 and P47/1303 applied for 10/11/06; P47/1383 applied for 05/02/07) Note: On 24/01/08, Cape Lambert announced that it was progressing the grant of exploration licence application E47/1493.	No information identified
Cazaly Resources Limited	No information identified	No information identified	1 recent application (E47/1828 applied for 20/08/07)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Cullen Resources Limited	No information identified	Mt Stuart JV between Cullen and Australian Premium Iron Management Pty Ltd (***API***): API has 70% interest in Relevant Tenements E08/1135 and E08/1341 Red Hill JV between Cullen and Red Hill Iron: Red Hill Iron can farm-in to up to 70% interest in non-iron ore mineral rights in Relevant Tenement E08/1622	1 recently granted tenement (E52/1622 granted 21/02/07)	No information identified
De Beers Australia Exploration Limited	No information identified	Mt Elvire JV between De Beers and API: API has farmed-in to 100% of all mineral rights excluding diamonds for a sum of $5 million	5 recently granted tenements (E47/1256; E47/1262–65)	No information identified
Dynasty Metals Australia Limited	No information identified	No information identified	1 recently granted tenement (E08/1620 granted 05/03/07)	No information identified
Fortescue Metals Group Limited	No information identified	No information identified	12 recent applications	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Helix Resources Pty Ltd	No information identified	Yalleen Iron Ore Project is undertaken pursuant to a JV with Australian Premium Iron Pty Ltd (***API***), which is owned 50/50 by Aquila Resources Limited and AMCO Holdings Australia Pty Ltd. API to spend $1.5 million over 4 years to earn a 70% interest in the Project.	3 recently granted tenements (E47/1169–71 granted 23/01/06)	No information identified
Heron Resources Limited	(see Polaris Metals NL)	No information identified	No information identified	No information identified
Iron Ore Holdings Limited	Acquisition of PEL Iron Ore Pty Ltd (previously a subsidiary of Echelon Resources) — effectively resulting in transfer of 2 Relevant Tenements to Iron Ore Holdings: E47/1538, E08/1554	No information identified	2 recent applications (E47/1538 applied for 21/12/06; E08/1554 applied for 07/11/06)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Mineralogy Pty Ltd	No information identified	No information identified	No information identified	MOU signed with FMG in December 2007 to investigate feasibility of an ore blending project using material from Solomon Project area. Terms include investigating port facilities for exporting a variety of products at Cape Preston, where Mineralogy has an approved port. Plans involve initial export capability of 50 Mtpa.
Mount Gibson Iron Limited	Acquisition of Aztec Resources Limited — effectively resulting in transfer of Relevant Tenement P47/1125 to Mount Gibson Iron Limited	No information identified	No information identified	No information identified
Ord River Diamonds Pty Ltd	No information identified	No information identified	No information identified	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Polaris Metals NL	2 Relevant Tenements (E47/1527 and E47/1526) — Transfer from Ochre Resources Limited (subsidiary of Heron Resources Limited) to Polaris Metals NL	No information identified	2 recently granted tenements (E47/1526–27 granted 04/05/07)	No information identified
Red Hill Iron Limited	No information identified	• Red Hill Project subject to a joint venture between Red Hill Iron and API Management Pty Ltd, a JV vehicle owned 50/50 by Aquila Resources Limited and AMCI • (See Cullen Resources Limited)	1 recently granted tenement (E08/1537 granted 17/07/06)	No information identified

Company	**Changes in Ownership** (in past 2 years)	**Joint Ventures / Farm-Ins**	**New Applications / Recently Granted Tenements** (in past 2 years)	**Other** (eg, offtake agreements)
Red River Resources Limited	No information identified	Miaree Magnetite Trend is subject to proposed JV/farm-in with Iron Mountain Mining Limited. Iron Mountain can earn up to 70% interest by spending $4.75m.	1 recently granted tenement (E47/1309 granted 04/05/07) 1 recent application (E47/1707 applied for 24/05/06)	No information identified
Shirley Ann Watson	No information identified	No information identified	No information identified	No information identified
			Total number of Relevant Tenements subject to changes in ownership	9
			Total number of recently granted tenements	23
			Total number of recent applications	31

ANNEXURE 4 – REPORT OF DR BRIAN FISHER

Economic Evaluation of the Relative Efficiencies of Multi-user and Single User Rail and Port Facilities

Brian Fisher

April 2008

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1. INSTRUCTIONS

This report is in response to instructions I received on 26 March and 9 April 2008 from Allens Arthur Robinson acting on behalf of Rio Tinto Iron Ore (RTIO) in relation to applications by The Pilbara Infrastructure Pty Ltd (***TPI***) under Part IIIA of the Trade Practices Act 1974 for declaration of services provided by railway lines described by TPI as the Hamersley Rail Network and the Robe Railway. Copies of my letters of instructions are attached to this report as Appendix A. I have been requested to prepare a report addressing the following matters:

1. Focusing on seaborne trade, has there been similar growth in world demand for imported coal and world demand for imported iron ore over the recent past?

2. What has been Australia's response to any such increased demand for each commodity?

3. If Australia's response in respect of one commodity has differed significantly from its response in respect of the other commodity, what, in your opinion, is the principal reason or reasons for the difference?

4. Do the matters referred to in paragraphs 1-3 above have relevance to the application by TPI seeking declaration of the services provided by the Hamersley Rail Network and the Robe Railway pursuant to Part IIIA of the *Trade Practices Act 1974* (Cth)?

In the next section I set out my background and the basis for my expertise pertaining to the matters covered in my instructions and then I deal with each instruction in turn.

2. MY EXPERIENCE

I am currently Executive Director, Economic Analysis at Concept Economics Pty Ltd. Immediately prior to my current appointment I was Vice President and Director, Economic and Public Policy at CRA International. Until late 2006 I was Executive Director of the Australian Bureau of Agricultural and Resource Economics (ABARE). During my time at ABARE I also served as an Associate Commissioner of the Productivity Commission.

Prior to heading up ABARE, I was Professor of Agricultural Economics at the University of Sydney and became Dean of the Faculty of Agriculture at the University in 1987. I was appointed Adjunct Professor of Sustainable Resources Development in 2003.

Early in my career I specialised in the econometric analysis of market demand and supply for a range of commodities and have published over 250 papers and monographs including articles in refereed international journals. Much of the analysis in many of the quantitative papers that I have published in refereed journals relies on regression analysis, the statistical technique used later in this report.

In my role as ABARE’s Executive Director I was responsible for the production, quality and dissemination of the bureau’s commodity forecasts including short and medium term forecasts of world prices and Australian exports of the major minerals and energy commodities including coal and iron ore. These forecasts were (and still are) updated each quarter. The development of these forecasts required the detailed analysis of world supply and demand conditions as well as any production or transport constraints that impinged on Australia’s ability to move commodities into the export market. I regularly released the forecasts and regularly explained the forecasts and the reasons underlying them to stakeholders both in Australia and overseas.

As ABARE’s Executive Director I regularly updated my industry knowledge by site visits to key mining and infrastructure facilities around Australia and overseas. I visited the iron ore production, rail and port facilities in the Pilbara in 1989, 1992, 2004 and 2006.

During 2005 I was the Chairman of the Prime Minister’s Exports and Infrastructure Taskforce. This taskforce reported to the Prime Minister on the set of issues underlying the serious delays in infrastructure development in Australia that have hindered the ability of the country’s mining industry to meet rapid increases in demand for minerals and energy commodities arising from very strong economic growth in China.

As Chairman of the Taskforce I personally conducted face to face meetings with all of the major stakeholders involved in the transport and shipment of Australia’s bulk commodities including coal and iron ore and visited the major coal export ports of Dalrymple Bay and Hay Point, Gladstone and Newcastle in order to gain a full understanding of the infrastructure constraints impinging on Australia’s commodity exports.

I hold a PhD in agricultural economics from the University of Sydney. My curriculum vitae is attached at Appendix B.

3. INSTRUCTION 1:

FOCUSING ON SEABORNE TRADE, HAS THERE BEEN SIMILAR GROWTH IN WORLD DEMAND FOR IMPORTED COAL AND WORLD DEMAND FOR IMPORTED IRON ORE OVER THE RECENT PAST?

Over the past decade there has been rapid growth in the demand for commodities in world markets. This growth has been particularly strong since 2003 as a result of both strong world economic growth and the rapid industrial transformation in China. Since 2003, world economic output (calculated by weighting individual country GDP growth using IMF purchasing power parity valuations) has grown at 4.0 per cent per annum or greater. In my experience of world commodity markets, world economic growth rates above 4.0 per cent calculated on this basis are sufficient to stimulate very strong demand for commodities, typically leading to rapid rises in minerals and energy prices.

Australian exporters are interested in the levels of seaborne trade in commodities. But ultimately, Australian exporters are more interested in the growth in world demand for commodities and whether they can profitably increase their market shares.

Growth in trade in coal and iron ore since 1998 is shown in Table 1.

Table 1: Global trade in coal and iron ore, 1998-2006

Exports (Mt)	1998	1999	2000	2001	2002	2003	2004	2005	2006
World – coal	543.3	549.7	615.8	671.7	674.0	727.3	779.3	789.4	854.6
World – seaborne coal	464.5	471.6	534.7	568.7	582.1	626.0	653.2	688.7	755.6
World – iron ore	453.9	437.5	499.0	493.3	533.9	581.6	672.5	735.9	762.9
World – seaborne iron ore a	354.5	349.2	389.7	390.2	423.9	470.6	518.5	598.0	624.1

Source: Australian Commodity Statistics (2006) and Kate Penney, Research economist, ABARE (pers. com. 5 and 13 November 2007)

a Exports from the major seaborne exporters, Australia, Brazil, India, South Africa, Mauritania and Venezuela

Over the period from 1998 to 2006, total world trade in coal grew by 57.3 per cent while world seaborne coal trade grew by 62.7 per cent.

Total world trade in iron ore grew by 68.1 per cent from 1998 to 2006. Over the same period, trade in iron ore sourced from the major seaborne exporters grew by 76.1 per cent.

I conclude that there has been substantial growth in the total demand for both coal and iron ore over the recent past driven principally by strong world economic growth that has been underpinned by the industrial transformation of China. In recent years the strong growth in demand has been accompanied by a sharp increase in real (adjusted for inflation) prices for both coal and iron ore. This increase can be clearly seen by inspection of Figures 1 and 2 (see p.8 of this report). While the overall growth in the demand for iron ore was slightly larger than that for coal, the strong growth for both commodities provided Australian suppliers in both industries with significant opportunities to increase the rate of growth in their exports if they were in a position to exploit the opportunity.

4. INSTRUCTION 2:

WHAT HAS BEEN AUSTRALIA'S RESPONSE TO ANY SUCH INCREASE IN DEMAND FOR EACH COMMODITY?

Total exports of coal and iron ore from Australia for the period 1998 to 2006 are shown in Table 2.

Table 2: Australian exports of coal and iron ore, 1998-2006

Exports (Mt)	1998	1999	2000	2001	2002	2003	2004	2005	2006
Australia – coal	167.7	164.0	182.3	192.2	204.3	210.9	218.6	232.6	232.1
Australia – iron ore	136.4	139.3	157.4	156.7	165.9	187.7	209.8	239.3	247.4

Source: Australian Commodity Statistics (2006) and Kate Penney, Research economist, ABARE (pers. com. 5 November 2007)

Over the period from 1998 to 2006, total Australian coal exports grew by 38.4 per cent, less than the growth in world seaborne coal trade. As a result, Australia lost market share in world seaborne coal trade as shown in Table 3.

Over the same period, Australian exports of iron ore grew by 81.4 per cent, slightly more than the growth in total trade and, as a consequence, Australia's market share was maintained at close to 40 per cent (see Table 3).

Table 3: Australian market shares of seaborne coal and iron ore trade, 1998-2006 (%)

	1998	1999	2000	2001	2002	2003	2004	2005	2006
Australian market share – seaborne coal	36.1	34.8	34.1	33.8	35.1	33.7	33.5	33.8	30.7
Australian market share – seaborne iron ore	38.5	39.9	40.4	40.2	39.1	39.9	40.5	40.0	39.6

Greater statistical detail on country market shares for coal and iron ore over the period from 1998 to 2006 is provided in Appendix C. In addition, in table C1 (Appendix C) I have disaggregated black coal supply into that for thermal and metallurgical coal. Over the recent past Australia's share of seaborne trade in metallurgical coal has grown substantially while Australia's share in seaborne thermal coal has fallen and, as mentioned above, Australia's overall share of total seaborne coal trade has fallen. The price per tonne of metallurgical coal is much higher than that for thermal coal. Faced with a binding transport constraint but production flexibility in its mines and strongly growing world demand, a producer that has the opportunity to ship both thermal and metallurgical coal will tend to increase its share of metallurgical coal shipped in order to maximise its profit.

To explore how Australia's coal and iron ore industries have responded to the recent commodity price boom and each industry's response to price signals over a longer timeframe I have examined statistically coal and iron ore exports and prices for Australia. Of specific interest is whether there have been significant changes in not only the levels of exports and prices but also in growth rates over time.

To investigate structural shifts in price and volume trends, I have run time series regressions to identify shifts in the level of export volumes or prices and the growth rate in export volumes and prices over time. Such shifts may occur in isolation or jointly. However, in general, I would expect to observe a positive response in exports of a commodity to any real increase or anticipated increase in that commodity's price. Descriptions of the data series that I have used, the modelling methodology employed and the statistical test results are provided in Appendix D.

Coal

An export quantity and a real export price series for Australian coal are shown in Figure 1.

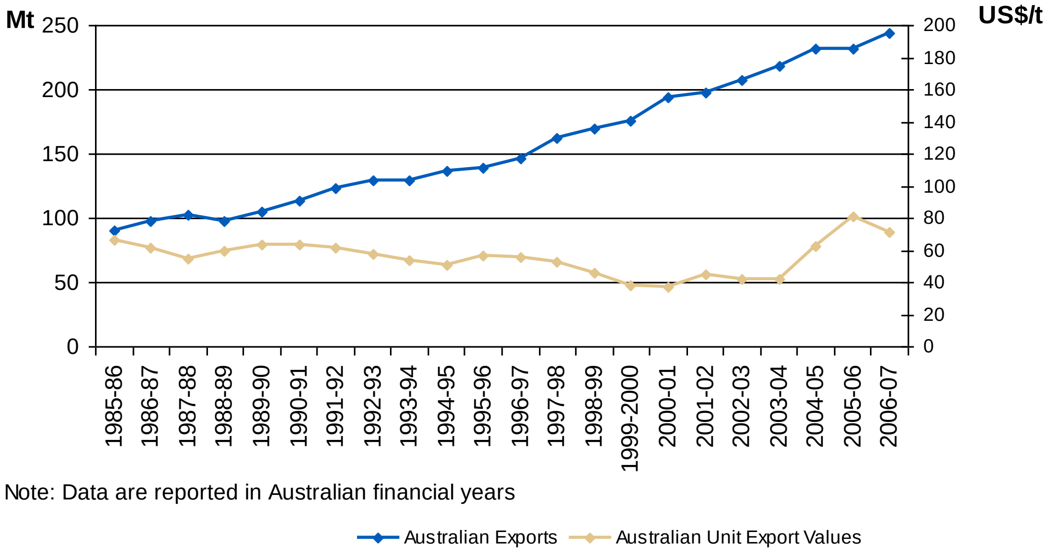
Following analysis of Australian coal exports for the period 1985-86 to 2006-07, I conclude that there was one statistically significant break in the series. This break is a shift in the level of the series in 1996-97. Despite this shift in the level of the series there is no evidence of a statistically significant change in the growth trend in the series over the whole period examined. The results show that the growth rate for Australian coal exports was 4.5 per cent per annum with no statistically significant deviation from this rate over the whole period analysed.

A break in the black coal unit export value trend was found to have occurred after 2003-04. The break is highly statistically significant and consists of both a change in level in the series and a change in trend. Before the break in the series the unit value of Australian black coal exports was declining at a rate of 2.7 per cent per annum. After the break the unit value of Australian black coal exports was increasing at a rate of 6.9 per cent per annum.

In addition to the analysis of the aggregate coal export and prices data I have also conducted an analysis of data for thermal coal and metallurgical coal separately. The results of these analyses are reported in Appendix D. Although the breaks in the disaggregated series occur in some cases at different points than for the aggregate series the conclusion about the responsiveness of coal exports to price changes remains the same.

I conclude that there is no statistical evidence to suggest that Australian coal exporters have responded positively in terms of total coal shipped to the positive price signal from the international market in the early part of this decade.

Figure 1: Australia black coal exports and unit values

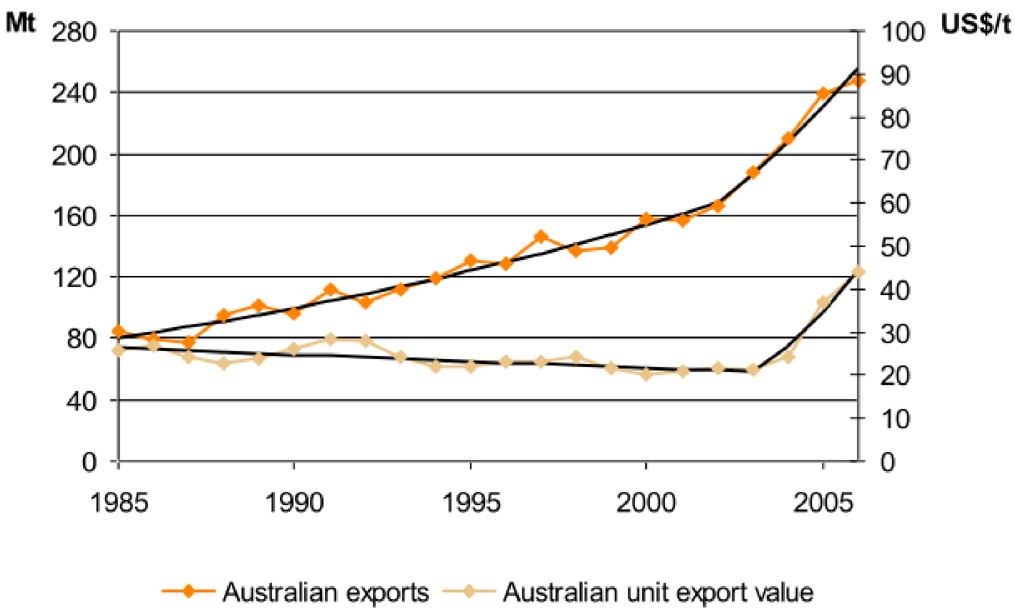


Sources: Australian Commodity Statistics (various issues) and Kate Penney, Research economist, ABARE (pers. com. 5 November 2007); Reserve Bank of Australia; U.S. Bureau of Labour Statistics.

Iron ore

The regression analysis revealed that the rate of growth in the iron ore exports series after 2002 was significantly different from the trend prior to 2002 (Figure 2).

Figure 2: Australian iron ore exports and unit export values



Sources: Australian Commodity Statistics (various issues) and Kate Penney, Research economist, ABARE (pers. com. 5 November 2007); Reserve Bank of Australia; U.S. Bureau of Labor Statistics.

The results show that before the trend break occurred, Australian iron ore exports increased at a rate of 4.4 per cent per annum. After 2002, the rate of growth increased to 10.5 per cent per annum.

A significant trend break was also found to have occurred in the iron ore unit export value series in 2003 (Figure 2). The rate of growth after 2003 was found to be significantly different from the growth trend prior to 2003. The results show that before the trend break occurred, the unit value of Australian iron ore exports decreased at a rate of 1.3 per cent per annum. After 2003, the rate of growth increased to 25.1 per cent per annum.

I conclude that iron ore exporters responded to the anticipated price increases associated with the increasing demand from China in the early part of this decade by expanding production capacity and exports. The response in export volume was not as strong as the price increase but there has been a statistically significant shift in the trend rate of growth in iron ore exports in response to the China related minerals boom.

5. INSTRUCTION 3:

IF AUSTRALIA'S RESPONSE IN RESPECT OF ONE COMMODITY HAS DIFFERED SIGNIFICANTLY FROM ITS RESPONSE IN RESPECT OF THE OTHER COMMODITY, WHAT, IN YOUR OPINION, IS THE PRINCIPAL REASON OR REASONS FOR THE DIFFERENCE?

It is possible to postulate a number of reasons why two mining industries might respond differently to real world price increases for their products. The industries may face different reserve or other physical production constraints, they may face different internal capital constraints, they may face constraints regarding the international acceptability of their product or they may face constraints in transporting their product to overseas markets. I deal with each of these possibilities in turn.

Examination of Australia's coal reserves clearly indicates that the availability of Australian coal does not constitute a near term constraint. In 2006, Australia's economic demonstrated black coal resources were 39.6Gt. This equates to a reserves to production ratio of around 130 years. Queensland (53 per cent) and New South Wales (42 per cent) had the largest share of recoverable resources within Australia. Brown coal resources were estimated at 37.3Gt, with Victoria accounting for more than 96 per cent of Australia's demonstrated brown coal resources (Australian Mines Atlas 2007). Brown coal is not exported but the resource is a close substitute for black thermal coal so the brown coal resource could be used for domestic consumption in the event of shortages of black coal, thus liberating black coal for the export market.

In 2005 Australia's economic demonstrated resources of iron ore were estimated at 16.4 Gt. This equates to a reserves to production ratio of around 63 years. Western Australia has almost all of Australia's iron ore resources with over 90 per cent in the Pilbara district. Magnetite ore currently constitutes 15.6 per cent (2.6Gt) of Australia's economic demonstrated resource (Australian Mines Atlas 2007).

In my opinion it is therefore not plausible to mount an argument that Australia's response to global demand for these two commodities differs on the basis of reserves.

In my opinion, internal capital constraints are unlikely to be the source of the difference in response by the coal and iron ore industries. The reason for this is that major international mining companies are involved in both industries in Australia and overseas. Key companies such as BHP Billiton, Rio Tinto, Vale Inco, Anglo American and Xstrata have the financial capability to make very large capital investments in both mining and infrastructure projects and, in particular, Rio Tinto Limited and BHP Billiton are key exporters of both coal and iron ore from Australia.

Nor is it probable that the difference in response is explained by differences in product quality and therefore market acceptability. From my past experience having been involved in many discussions with overseas customers for Australian resource exports, international buyers perceive that Australian coal and iron ore are of high quality and are delivered within the described specification. In other words, consumers receive the product that they expected at the quality specified. In addition, Australia's large share in both seaborne trade in iron ore and coal is consistent with broad product acceptance.

In my opinion, what is far clearer, as evidenced by recent experience in the two industries, is that infrastructure constraints in the coal chain have impeded Australia's ability to respond to elevated world demand. However, in the case of iron ore, the ability in single operator systems to respond quickly to the changing market, has allowed the Australian export industry to expand quickly and capitalise on higher commodity prices.

Indeed, the fundamental difference in this respect between the coal and iron ore industries in Australia is that coal exporters rely on multi-user, regulated infrastructure whereas the major iron ore exporters utilise single-user, owner operated integrated infrastructure.

Although it is the case that there are several variants within multi-user systems, for example with respect to independent or joint user ownership, the common denominator is that these facilities have not been expanded as rapidly as the single user facilities to meet the surge in global commodity demand.

This observation is consistent with my findings as Chairman of the Prime Minister's Exports and Infrastructure Taskforce. As Chairman of the taskforce I was personally responsible for conducting numerous meetings in Queensland, New South Wales, Victoria and Western Australia in which I sought views on the reasons for under-performance in Australia's export infrastructure. During stakeholder consultations and the subsequent analysis of the responses it became apparent to the Taskforce that in cases where logistics chains are vertically integrated and are subject to little regulation the response to increases in global demand were both timely and efficient. In contrast, in circumstances where multi-user infrastructure facilities are used and where economic regulation plays a dominant part in investment decisions, lengthy delays in expansion of port and rail infrastructure occurs (Fisher *et al*. 2005, p.2).

While delays in infrastructure investment in response to demand signals may occur due to the large and lumpy nature of such investments, the Taskforce highlighted certain situations in which investment in infrastructure can be further delayed as a result of difficulties associated with coordination. Where the owner of an infrastructure asset is different from the users, coordination of decisions on investment in expansion may not readily occur if the transactions costs it entails are high. Divergent interests of different users of multiple access facilities may stem from different hurdle rates or priorities for investment, poor information flows between parties, or even strategic competitive reasons for one user delaying investment that would assist another user of the shared infrastructure. In addition, there may be disagreement as to the distribution of gains from additional investment between parties that can hinder more timely or efficient development of infrastructural assets (Fisher *et al*. 2005, pp.17-18).

Of particular interest in the case at hand, the Taskforce compared and contrasted the situation in the Australian iron ore industry with the situation in the coal industry. The observation was clearly that the single user infrastructure system of the iron ore industry had demonstrated a capacity to respond in a more timely and efficient manner than the multi-user coal infrastructure system (Fisher *et al*. 2005, p.30). As Chairman of the Taskforce I observed that while there were some capacity problems in iron ore ports, there was every indication that there have been few difficulties in allocating scarce resources to the expansion of mines, railways and port facilities, in stark contrast to the difficulties experienced in the coal infrastructure chain.

In my report on the state of play on export infrastructure 12 months after the release of the Taskforce report I make similar observations about the differences in performance of the coal and iron ore export chains. In particular, I observe that in the case of multi-user systems the scope of gaming and tactical behaviour is almost endless and that there appears to be no means of efficiently correcting this problem (Fisher and Rose, 2006, p.392).

Having undertaken detailed consultations with industry stakeholders as Chairman of the Prime Minister’s Taskforce on Exports and Infrastructure my observation is that, apart from the difficulty in achieving consensus amongst divergent interests, there is an added reason for the under-investment in multi-user infrastructure. Private firms are reluctant to invest in infrastructure if others are likely to gain access or to crowd the investor out in some other way, as is likely to occur in open access multi-user regimes. It follows that expansion in multi-user regimes is unlikely to be as rapid in response to a positive price signal as occurs in a vertically integrated supply chain. This practical observation has support in the economic literature as discussed below.

A mining firm will invest in delivery capacity in excess of its current production capabilities if it has the expectation that it will expand production in the future and that it is more cost effective to make one large investment as opposed to a series of smaller investments. The two main features of the mining industry that lead to substantial efficiency gains from vertical integration compared with the situation in multi-user situations are first that infrastructure investments are large and, for the most part, irreversible and second that demand, and therefore price, is subject to a high level of uncertainty.

Under these circumstances, private infrastructure investment should be considered as an option. As noted by Pindyck (2001, p.969) if an investment is irreversible or costs are uncertain then investment expenditure involves either exercising or ‘killing’ an option. Once the investment is undertaken the firm cannot reverse the expenditure if market conditions change for the worse and the firm has given up the option of waiting for new market information. At the same time, additional infrastructure capacity can be seen as a real option over the ability to expand production at short notice.

The efficiency gains from vertical integration rest largely with a private firm’s ability to maximize the value of this option, largely through improved managerial control over the structure and timing of the investment. In particular, a vertically integrated firm has good information flows and is better able to resolve trade-offs in the timing of and access to infrastructure; holds a clear right to exercise the infrastructure option in full and has the capacity to exercise the option as new information becomes available and uncertainties are resolved.

In a multiple user or shared infrastructure situation, where again these investments are large and irreversible, forward investments are hindered by a range of factors. First, participants are unlikely to share information on the likelihood that they will be seeking to expand in the future, in the expectation that they gain future flexibility at the expense of others – leading to an overall reduction in investment and second, participants are likely to have different preferences for the location and timing of infrastructure developments that can be difficult to resolve in collective negotiations. For example, a firm facing greater uncertainty over the likelihood of finding, or the costs of developing, future resources may seek to delay or limit the extent of shared infrastructure.

Grenadier and Wang (2005) conclude that conflicting objectives and the capacity to withhold information or to take unobserved actions can substantially alter the option value of investment. Further, a lack of alignment between the investment decision and the collective interests of shareholders can lead to what Grenadier and Wang refer to as investment inertia.

Where there are shared infrastructure investments, firms do not necessarily have a clear right to exercise the option in which they have invested. Radhakrishnan and Balachandran (1995) examine how shared infrastructure resources tend to become congested when demand is uncertain. That is, greater access is sought than was originally planned for when the investment was made. This crowding out effect can impose substantial delay or congestion costs. Radhakrishnan and Balachandran state that a franchise contract over the shared infrastructure is not sufficient to eliminate the problem, so long as firms can increase their effort to gain access. This is consistent with my observations of the congestion and delays in investment in Australia's major east coast coal ports as Chairman of the Prime Minister's Taskforce.

Triantis and Hodder (1990) state that managerial control can add substantial value to a real option, such as an irreversible investment in transport infrastructure. They define managerial control as the ability to affect the course of a project in response to the resolution of uncertainties over time. With shared infrastructure, actions of others may limit a firm's ability to respond, if for example bottlenecks are created between a potential mine site and a port facility.

Under conditions where a private firm faces uncertain demand and has to make investment decisions that are lumpy the presence of idle capacity does not equate to having capacity in excess of what will maximize the net returns to the firm. In other words there is a positive option value associated with having the idle capacity and compromising the firm's right to exercise that option will lead the firm to under-invest in capacity ex-ante. Any access granted ex-post to an existing firm's transport or handling infrastructure will reduce the incentive of the incumbent to invest in additional capacity to manage market fluctuations. Further it will add to the risk of taking advantage of the cost savings associated with making a larger initial infrastructure investment to meet planned development needs.

I conclude that the difference in Australia's response to the recent boom in the demand for minerals and energy by the coal and iron ore industries lies largely, if not entirely, in the differences in the way in which the transport infrastructure is managed and controlled, thereby affecting investment decisions and operating performance in respect of each category of infrastructure.

It is my opinion that multi-user regulated infrastructure is clearly associated with a disaggregation of interests compared with the single user model. This disaggregation of interests is a fundamental flaw in the multi-user systems because parties invariably look after their own welfare even if this is against the interest of the industry/facility as a whole.

The disaggregation of interests may stem from any number of sources, including differences in production and risk profiles, differences in market expectations, differences in access to capital, required rates of return on investment and hurdle rates, and/or informational asymmetries. There may also be strategic competitive reasons why one firm or user may wish to delay expansion projects while another may wish to proceed forthwith. As noted by the Prime Minister's Exports and Infrastructure Taskforce, disagreement over the distribution of gains from additional investment will also hinder efficient, profitable and timely development of infrastructure in multi-user systems. No such issue exists in single owner vertically integrated systems.

6. INSTRUCTION 4:

DO THE MATTERS REFERRED TO IN PARAGRAPHS 1-3 ABOVE HAVE RELEVANCE TO THE APPLICATIONS BY TPI SEEKING DECLARATION OF THE SERVICES PROVIDED BY THE HAMERSLEY RAIL NETWORK AND THE ROBE RAILWAY PURSUANT TO PART IIIA OF THE *TRADE PRACTICES ACT 1974* (CTH)?

In my opinion the matters referred to above have direct relevance to the applications seeking declaration of the services provided by the Hamersley and Robe rail facilities (collectively the ***RTIO Rail Facility)***. I believe that the granting of such access will result in delays in future expansions.

As I have demonstrated above, the granting of access to existing privately owned and operated infrastructure carries with it the likelihood that higher cost firms will crowd out the expansion plans of existing lower cost firms. In the current circumstances of surging demand, if the RTIO Rail Facility is declared then the expansion plans of the owner will be disrupted. Effectively, ore from a small higher cost firm or firms will displace output from an integrated operation. In my opinion, such an outcome would be welfare reducing and to the overall detriment to Australia. As far as I can determine no empirical analysis has been conducted by competition authorities on this matter.

In addition to any welfare losses from access associated with the loss of option values by the incumbent firm, access by another operator to the RTIO Rail Facility would lead to additional losses arising from the need to coordinate operations in my opinion.

Whether vertical integration is a feature of the declared facility or not, the introduction of additional interest groups as users of the infrastructure will result in a requirement for the interests of additional parties to be taken into account when making decisions about the facility. Wherever this is the case, it is my observation and experience that there will be inefficiencies and delays in the process compared to a situation where only one party is involved. Differences in interests may arise simply by virtue of users having different market expectations, production objectives (for example, one party might be resource and capital constrained while another is not) or hurdle rates. Disaggregation of interests can also result from different parties having an entirely different focus (for example as the National Competition Council (***NCC***) postulates in its final recommendation in relation to the Mt Newman Service (NCC, 2006) in paragraph 6.261(d), there could be a haulage operator on the line whose objective of profit from service provision would be distinct from a producer whose objective is profit from iron ore sales).

Whether the chain is vertically integrated or not, in practice expansions will still need to be approved by all parties and the investment shares and benefits divided between those parties. Again, this requirement for negotiation and agreement on timing, expenditures and returns between parties necessarily imposes an additional hurdle to timely and efficient investment decisions compared with the case where the infrastructure asset is owned, regulated and used by just one party.

In NCC, 2006 at paragraph 6.279, the NCC discounts the impact of diseconomies by postulating that, if access were granted, BHPB would have the ‘ability to make reasonable decisions on capacity expansion, technological change, maintenance and scheduling’ under the access terms of the declaration agreement. But, as discussed above, the cost of access arises as a result of the incumbent firm losing an option value as a result of the uncertainty associated with the future behaviour of the access seeker. It is my opinion that, even if the facility owner is free to make decisions about capacity expansion, the loss of its option value would be likely to lead to a reduction in economic welfare and that it is not possible to mitigate this loss ex post.

In addition, without knowing the terms of the arbitrated outcome, it is impossible to assert that the diseconomies imposed as a result of declaration are minimal or of no concern. Once the notion of ‘reasonableness’ is imported there is endless scope for disputes and gaming - all of which result in inefficiencies and delays. Moreover, it is difficult to conceive that the facility owner would be allowed the right to act in its own self interest, in blatant disregard of the rights or interests of third party users. As such, the terms of the declaration will, with high probability, introduce delays and inefficiencies into the system.

In NCC, 2006 at paragraph 6.265-6.270 the NCC seeks to demonstrate why access to coal infrastructure differs from access to the Pilbara facilities and concludes by stating that ‘there is little value in extrapolating’ to a declared BHPB facility. The NCC employs the lack of vertical integration in the Hunter and Dalrymple facilities as a key differentiator and suggests that as a result there will be significant differences in the types of diseconomies of scope arising at those facilities *vis a vis* the Mt Newman facility.

Whilst there may be some differences in the ways in which the Pilbara and east coast coal transport and handling systems would work in a multi-user environment if access were to be granted to the Pilbara single user systems the most important element leading to delay would be introduced – namely, multiple players with different aims and constraints would be required to negotiate an agreed outcome before any significant changes to the facility (whether of a capital or operating nature) could be implemented. This will inevitably lead to delays in taking such decisions similar to those that have been observed in the east coast coal facilities. This view is consistent with the findings of the Prime Minister’s Export Infrastructure Taskforce. In addition, the granting of access ex post will not only reduce the efficiency of the system for individual users but will also lead to the loss of real option values and the crowding out of low cost exports thus resulting in a further reduction in economic welfare for Australia as a whole.

7. REFERENCES

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APPENDIX A: INSTRUCTIONS

Allens Arthur Robinson

Date	26 March 2008
From	Emily Howie / Craig Phillips
To	**Dr Brian Fisher**, Kingston
Email	bfisher@crai.com.au

ABN 47 702 595 758

530 Collins Street
Melbourne VIC 3000
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Fax 61 3 9614 4661

Correspondence
GPO Box 1776Q
Melbourne VIC 3001
Australia
DX 30999 Melbourne

www.aar.com.au

Confidential Email

Strictly Privileged & Confidential

Dear Dr Fisher

Please see attached.

Attach

Our Ref EWHM:CWPM:305720851

kydm A0110080603v1 305720851 26.3.2008

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Brisbane
Hanoi
Ho Chi Minh City
Hong Kong
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Melbourne
Perth
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Shanghai
Singapore
Sydney

Allens Arthur Robinson

26 March 2008

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Correspondence
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Australia
DX 30999 Melbourne
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Dr Brian Fisher
27 Jardine Street
Kingston ACT 2604

By Email

Strictly Privileged & Confidential

Dear Dr Fisher

Application by Pilbara Infrastructure Pty (*TPI*) for declaration of the services provided by the Hamersley Rail Network

As you know, we act for Hamersley Iron Pty Limited (***Hamersley***). TPI has applied to the National Competition Council for a recommendation that the Service provided by use of Hamersley's rail network in the Pilbara be declared pursuant to Part IIIA of the Trade Practices Act 1974 (Cth) (the ***TPI Application***).

We confirm that you have been retained in your individual capacity by Allens Arthur Robinson (***AAR***) to provide expert evidence on behalf of Hamersley in the TPI Application. Your evidence will relate to the relative efficiencies of multi-user rail and port facilities when compared with single user rail and port facilities.

This letter sets out the scope of your retainer and the matters on which we ask you to provide expert evidence in the TPI Application. It also sets out the basic terms of your retainer.

1. Instructions

Please prepare a report addressing the following matters:

1. Focusing on seaborne trade, has there been similar growth in world demand for imported coal and world demand for imported iron ore over the recent past?
2. What has been Australia's response to any such increased demand for each commodity?
3. If Australia's response in respect of one commodity has differed significantly from its response in respect of the other commodity, what, in your opinion, is the principal reason or reasons for the difference?
4. Do the matters referred to in paragraphs 1-3 above have relevance to the application by TPI to the NCC seeking a recommendation for declaration of the service provided by the Hamersley Rail Network pursuant to Part IIIA of the *Trade Practices Act 1974* (Cth)?

Our Ref EWHM:CWPM:305720851

kydm A0110080603v1 305720851 26.3.2008

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2. Confidentiality and privilege

(a) You agree that:

- all reports and memoranda (including any drafts, notes or working papers) prepared by you in connection with your retainer; and
- all other correspondence, e-mails, file notes, memoranda and other records of communications with us in connection with your retainer,

are confidential and subject to a claim of legal professional privilege by our client.

(b) Please ensure that all such documents contain the following header:

'Confidential & Privileged: Prepared for the Dominant Purpose of obtaining legal advice and in contemplation of Litigation'

(c) You also agree that all such documents and any other documents which we may subsequently provide to you, and any copies made of those documents, will be returned to us or destroyed upon termination of your retainer.

3. Your fees

(a) We confirm that your rate is $600 per hour exclusive of GST.

(b) We confirm that Rio Tinto will be responsible for the payment of your fees, as agreed, in relation to the tasks outlined in this letter of engagement. Please send to us your invoice/s of fees for the attention of Craig Phillips.

Please confirm your agreement with the above terms by signing and returning a copy of this letter.

If you have any queries, please contact either Craig Phillips or Emily Howie.

Yours sincerely

Emily Howie
Senior Associate
Emily.Howie@aar.com.au
Tel 61 3 9613 8655

Craig Phillips
Partner
Craig.Phillips@aar.com.au
Tel 61 3 9613 8951

I agree with the above terms.

____

Brian Fisher

Date: ______________________

Allens Arthur Robinson

Date	9 April 2008
From	Craig Phillips
To	**Dr Brian Fisher**, Kingston
Email	bfisher@concepteconomics.com.au

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Dear Dr Fisher

Please see attached.

Attach
Our Ref EWHM:CWPM:305720851

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Allens Arthur Robinson

9 April 2008

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Dr Brian Fisher
27 Jardine Street
Kingston ACT 2604

By Email

Strictly Privileged & Confidential

Dear Dr Fisher

Application by The Pilbara Infrastructure Pty Ltd (*TPI*) for declaration of the services provided by the Hamersley and Robe Railways

We refer to our letter of instruction dated 26 March 2008.

As you are aware, TPI has also lodged an application for declaration of the service provided by the Robe River Iron Associates (***Robe***) railway in the Pilbara. If you do not already hold a copy of this application, it can be accessed via the National Competition Council website at www.ncc.gov.au. We confirm that, for the purpose of addressing issue 4 referred to in our letter of 26 March, your analysis should proceed in respect of RTIO Pilbara rail network, comprising both the Hamersley and Robe rail lines, rather than the Hamersley rail line alone.

Yours sincerely

Craig Phillips
Partner
Craig.Phillips@aar.com.au
Tel 61 3 9613 8951

Our Ref EWHM:CWPM:305720851

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APPENDIX B: CURRICULUM VITAE - BRIAN S. FISHER

DEGREES

BScAgr (Hons I)	University of Sydney, 1973
PhD	University of Sydney, 1978

STAFF POSITIONS HELD

1973 to 31-12-75	Commonwealth Postgraduate Scholar in the Department of Agricultural Economics, University of Sydney
1-1-76 to 31-12-81	Lecturer in Agricultural Economics, University of Sydney
1-1-82 to 19-2-84	Senior Lecturer in Agricultural Economics, University of Sydney
6-7-82 to 19-2-84	Head, Department of Agricultural Economics, University of Sydney
20-2-84 to 16-5-85	Chief Research Economist, Bureau of Agricultural Economics (BAE), Canberra
17-5-85 to 27-10-85	Deputy Director, BAE, Canberra
28-10-85 to 21-8-88	Head, Department of Agricultural Economics, University of Sydney
28-10-85 to 21-11-88	Professor of Agricultural Economics, University of Sydney
1-8-87 to 21-11-88	Dean, Faculty of Agriculture, University of Sydney
21-11-88 to 19-2-95	Executive Director, Australian Bureau of Agricultural and Resource Economics (ABARE), Canberra
20-2-95 to 3-12-95	Executive Director, Agriculture and Forests Group, Department of Primary Industries and Energy, Canberra
4-12-95 to 15-9-06	Executive Director, ABARE, Canberra
25-9-06 to 24-3-08	Vice President, CRA International
25-3-08 to present	Executive Director, Economic Analysis, Concept Economics

CONCURRENT STAFF APPOINTMENTS

5-3-01 to 31-3-02	Chief Operating Officer, Department of Agriculture, Fisheries and Forestry, Australia
14-4-03 to 30-4-04	Associate Commissioner, Productivity Commission, Australia
18-3-05 to 20-5-05	Chairman, Prime Minister's Taskforce on Exports and Infrastructure

PROFESSIONAL ACTIVITIES, COMMITTEES AND BOARD MEMBERSHIPS

1976-83, 1986-87	Committee Member, NSW Branch, Australian Agricultural Economic Society
1980	President, NSW Branch, Australian Agricultural Economics Society
1981-1990	Member, Federal Council, Australian Agricultural Economics Society
1984-1985	Committee Member, ACT Branch, Australian Agricultural Economics Society
1986-1989	Member, Wool Research and Development Council and Chairman Economic Research Advisory Committee of the Council
1987	Economic Consultant to the Royal Commission into Grain Storage, Handling and Transport
1988	President Elect, Australian Agricultural Economics Society
1989	President, Australian Agricultural Economics Society
1989-2002	Member, Executive Board, Department of Primary Industries and Energy, Australia (and from 1998 Department of Agriculture, Fisheries and Forestry); member, Audit Committee (1995-1999); and Chairman, Year 2000 Management Committee (1998-1999)
1989-1995	Member, CSIRO Agricultural Sector Advisory Committee
1992-1994	Member, Board of the Australian Centre for Mineral and Energy Economics, University of Newcastle
1992-1993	Member, Board of the Australian Wool Realisation Commission
1995-1997	Chairman, Board of the Australian Animal Health Laboratory
1995-1997	Member, Board of Wool International and member, Pricing Committee
1996-1997	Member, Board of the Australian Animal Health Council Limited and Chairman, Audit Committee

1996-2002	Member, Australian Academy of Science's National Committee for Climate and Global Change
1996-1998	Member, CSIRO Wool Textile Advisory Committee
1996-2001	Member, Australian Climate Change Negotiating Team
1998-1999	Member, Australian Experts Group on Emissions Trading
1999- 2004	Member, Asia Pacific Energy Research Centre (Institute of Energy Economics, Japan) Advisory Board
2003- 2006	Security Executive and member, Executive Management Team, Department of Agriculture, Fisheries and Forestry, Australia
2003- 2004	Member, Australian Government Oceans Policy Science Advisory Group

EDITORIAL POSITIONS HELD

1981-83	Member, Editorial Committee, Australian Journal of Agricultural Economics
1984-87	Joint Editor (with Carolyn Tanner), Australian Journal of Agricultural Economics
1985-86	Associate Editor, The Scientific Basis of Modern Agriculture (1988), Sydney University Press, Sydney
1988	Member of the Sydney University Press/Oxford University Press Joint Editorial Board
1993-2002	Member, Editorial Board, Resources Policy
1995-2000	Member, Editorial Advisory Board, Agricultural Economics, The Journal of the International Association of Agricultural Economists
1997- 2002	Member, Editorial Board, Australian Journal of Agricultural and Resource Economics
2003- 2006	Member, Editorial Board, Journal of Mitigation and Adaptation Strategies for Global Change

ACADEMIC OR PROFESSIONAL AWARDS AND DISTINCTIONS

1974	Editor's prize for the best article published in Australian Journal of Agricultural Economics
1976	Australian Agricultural Economics Society's travel grant for attendance at the 16th International Conference of Agricultural Economists, Nairobi, Kenya
1983	Editor's prize for the best paper published in the Australian Journal of Agricultural Economics (shared with Dr Robyn Munro)

1991-1992	Visiting Professor, Department of Agricultural Economics, University of Sydney
1993-1995	Appointed as Convening Lead Author in the area of assessment of policy instruments for the mitigation of climate change for Working Group III of the UN Intergovernmental Panel on Climate Change
1994	Awarded the Farrer Memorial Medal for 'outstanding contribution to agricultural economics in the field of research and education'
1995-	Fellow, Academy of the Social Sciences in Australia
1998-2000	Appointed as Lead Author in the area of assessment of the impacts of climate change and climate change policy for Working Group III of the UN Intergovernmental Panel on Climate Change
2002	Awarded the Public Service Medal for 'outstanding public service in the field of agricultural and resources policy development'
2003-	Distinguished Fellow, Australian Agricultural and Resource Economics Society
2003-2006	Adjunct Professor of Sustainable Resources Development, Faculty of Food, Agriculture & Natural Resources, University of Sydney
2003-2007	Appointed as Coordinating Lead Author in the area of assessment of emission scenarios for Working Group III of the UN Intergovernmental Panel on Climate Change
2007	Appointed an Officer of the Order of Australia for service to agricultural economics, international trade and climate change through research and public policy analysis

MEMBERSHIP OF PROFESSIONAL SOCIETIES

American Agricultural Economics Association
American Economics Association
Australian Agricultural and Resource Economics Society
Economic Society of Australia
International Association of Agricultural Economists
International Association of Energy Economics

PUBLICATIONS

<u>Book</u>

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APPENDIX C: COAL AND IRON ORE OUTPUT AND TRADE – SELECTED COUNTRIES

Table C1: Market shares by country – coal (Mt)

Metallurgical coal	1998	1999	2000	2001	2002	2003	2004	2005	2006
Australia	84.1	85.3	96.8	105.5	105.8	107.8	111.7	124.9	120.5
Canada	28.4	28.9	28.4	26.9	23	23.7	23.8	27.8	27.4
China	4.9	5.2	6.5	11.4	13.3	13.1	5.8	5.3	4.8
Poland	6.5	6.6	5.3	3.8	3.5	2.7	3	3.2	3.1
Russia	6.4	6.4	7.3	14.4	9.2	9.5	11.9	12.1	15.8
USA	42.7	29.1	29.8	23.1	19.5	20	24.3	26	25.8
World	178.2	175.2	184.5	193.3	181.3	192.5	205.9	211.4	219.4
Seaborne	171.7	168.8	177.8	183.6	174.4	177.1	179.6	196	209.9
% share seaborne trade									
Australia	0.49	0.51	0.54	0.57	0.61	0.61	0.62	0.64	0.57
Canada	0.17	0.17	0.16	0.15	0.13	0.13	0.13	0.14	0.13
China	0.03	0.03	0.04	0.06	0.08	0.07	0.03	0.03	0.02
Poland	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.01
Russia	0.04	0.04	0.04	0.08	0.05	0.05	0.07	0.06	0.08
United States	0.25	0.17	0.17	0.13	0.11	0.11	0.14	0.13	0.12
Seaborne	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Thermal coal	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Australia	83.6	78.7	85.5	86.7	98.5	103.1	106.9	107.6	111.6
Canada	4.8	5	4.1	2.7	2.1	1.3	1.9	1.5	3.2
China	27.4	32.2	48.6	78.7	70.6	80.9	80.9	65.7	58.9
Columbia	30.1	29.9	35.6	39.1	35.5	45.5	50.9	54.6	59.7
Indonesia	47.2	55.3	57.4	65.3	74.2	84.9	96.2	125.4	170.0
Poland	21.5	17.5	18	19.2	19.1	17.4	16.6	16.2	13.1
Russia	17.6	21.3	29.4	27.1	34.3	45.2	56.7	69.7	81.7
South Africa	61.3	66.2	69.9	68.2	68.5	70.9	67	71.9	67.7
United States	29.4	23.9	23.2	21	16.3	18.9	19	19.1	19.9
World	365.1	374.5	431.3	478.4	492.7	534.8	573.4	578.0	635.2
Total seaborne	292.8	302.8	356.9	385.1	407.7	448.9	473.6	492.7	545.7
% share seaborne trade									
Australia	0.29	0.26	0.24	0.23	0.24	0.23	0.23	0.22	0.20
Canada	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01
China	0.09	0.11	0.14	0.20	0.17	0.18	0.17	0.13	0.11
Columbia	0.10	0.10	0.10	0.10	0.09	0.10	0.11	0.11	0.11
Indonesia	0.16	0.18	0.16	0.17	0.18	0.19	0.20	0.25	0.31
Poland	0.07	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.02
Russia	0.06	0.07	0.08	0.07	0.08	0.10	0.12	0.14	0.15
South Africa	0.21	0.22	0.20	0.18	0.17	0.16	0.14	0.15	0.12
United States	0.10	0.08	0.07	0.05	0.04	0.04	0.04	0.04	0.04
Total seaborne	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Australian Commodity Statistics (2006) and Kate Penney, Research economist, ABARE (pers. com. 5 November 2007)

Table C2: Market shares by country – iron ore (Mt)

Iron ore	1998	1999	2000	2001	2002	2003	2004	2005	2006
Australia	136.4	139.3	157.4	156.7	165.9	187.7	209.8	239.3	247.4
Brazil	143.2	140.2	160.1	155.7	170	184.4	200.9	223.4	246.6
Canada	30.6	26.9	26.5	22	25.6	27.1	23.1	27.9	27.7
India	32.8	31	32.9	37.3	46.6	57.3	62.7	89.6	86.4
Mauritania	11.4	11	11.1	10.1	10.5	9.6	11	10.6	10.7
Russian Federation	14.6	10.8	17.4	23.3	13.0	16.2	17	20.1	22.8
Sth Africa	22.1	21.1	21.4	23.5	24.3	24.1	24.7	27.4	27.4
Sweden	16	13.9	16	13.6	14.2	15.6	17.3	17.8	18.2
Ukraine	18.2	14.4	19.5	18.1	18.7	20.2	18.1	19.6	20.2
Venezuela	8.6	6.6	6.9	6.9	6.7	7.4	9.3	7.6	5.6
Other	20.0	22.4	30	26.1	38.3	31.9	78.8	62	49.8
Total	453.9	437.6	499	493.3	533.9	581.6	672.5	735.9	762.9
% share total export market									
Australia	0.30	0.32	0.32	0.32	0.31	0.32	0.31	0.33	0.32
Brazil	0.32	0.32	0.32	0.32	0.32	0.32	0.30	0.30	0.32
Canada	0.07	0.06	0.05	0.04	0.05	0.05	0.03	0.04	0.04
India	0.07	0.07	0.07	0.08	0.09	0.10	0.09	0.12	0.11
Mauritania	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Russian Federation	0.03	0.02	0.03	0.05	0.02	0.03	0.03	0.03	0.03
Sth Africa	0.05	0.05	0.04	0.05	0.05	0.04	0.04	0.04	0.04
Sweden	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02
Ukraine	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.03
Venezuela	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Other	0.04	0.05	0.06	0.05	0.07	0.05	0.12	0.08	0.07
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Australian Commodity Statistics (2006) and Kate Penney, Research economist, ABARE (pers. com. 13 November 2007)

APPENDIX D: REGRESSION ANALYSIS

DESCRIPTION OF DATA SERIES

The iron ore export series is the quantity (in tonnes) of iron ore and pellets exported from Australia. The Australian iron ore unit export value series is the historic average value per tonne of iron ore exported from Australia. Both series were reported on a calendar year basis and cover the period 1985 to 2006. The series were both obtained from ABARE (2006), with the final year in each series was obtained from ABARE (Kate Penney, pers. com. 10 August 2007).

The Australian coal export series is the quantity (in tonnes) of black coal exported from Australia. The unit value of Australian coal exports series is the historic average value per tonne of black coal exported from Australia. Both series were reported on an Australian financial year basis and cover the period 1985-86 to 2006-07. The series were compiled from ABARE (1992, 1997, 2001 and 2006). The final year for each data series were obtained directly from ABARE (Kate Penney, pers. com. 10 August 2007).

Each of the export unit value series were converted to US dollars using the historical exchange rates obtained from Table F11 of the Reserve Bank of Australia's Exchange Rates (AUD) series. The exchange rates were reported on a quarterly basis and the average exchange rate for the year was used. The averages of the March, June, September and December quarters were used for calendar year data and the averages of September, December, March and June quarters were used for the financial year data.

The export value series were then deflated using an all commodities US PPI (Producer Price Index) obtained from the US Department of Labor. The PPI was reported on a monthly basis. The average of the relevant months was used to create an annual index on both a calendar year and Australian financial year basis.

The iron ore unit value series, in US dollars, was then converted to 2006 US dollars using the calendar year index. The black coal unit value series, in US dollars, was converted to 2006-07 US dollars using the financial year index.

MODELING METHODOLOGY

A semi-log regression was run for each of the data series and a break was fitted in each of the models. The model equations took the forms:

$$\ln(y) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3,$$

$$\ln(y) = \beta_0 + \beta_1 x_1 + \beta_3 x_3, \text{ or}$$

$$\ln(y) = \beta_0 + \beta_1 x_1 + \beta_2 x_2.$$

Where x_1 is the year, x_2 is a dummy that takes the value unity if the date is greater than the break date and zero otherwise and x_3 is equal to unity in the year after the break and then increases by one each year.

The break in the series occurs between two years. When reporting the break year either the last year of the initial series or the first year of the new series may be used. My convention is to use the last year of the initial series.

The most likely break was found by adjusting the break year and including either or both x_2 and x_3, to find the year and model at which the adjusted R-squared of the regression was maximised. After the optimal break was found, an F-test was conducted based on the restricted regression where $\beta_2=\beta_3=0$, to test the significance of the break (Johnston, 1984, p.207; Greene, 2003, p.130).

STATISTICAL RESULTS FOR IRON ORE AND BLACK COAL

Table D1: Australian iron ore exports

Break year			**2002**
Adjusted R-squared			**0.9756**
P-value of break			**0.0002**
	Coefficients	**Standard error**	**P-value**
Constant	-82.3888	4.517	0
Year	0.0437	0.0023	0
Year*Dummy	0.0614	0.0134	0.0002

Data from 1985 to 2006 were used in the regressions

Table D2: Australian iron ore export unit value

Break year			**2003**
Adjusted R-squared			**0.8344**
P-value of break			**0**
	Coefficients	**Standard error**	**P-value**
Constant	29.2714	6.088	0.0001
Year	-0.0131	0.0031	0.0004
Year*Dummy	0.2643	0.0258	0

Data from 1985 to 2006 were used in the regression

Table D3: Australian black coal exports; with trend break

Break year			**1996-97**
Adjusted R-squared			**0.9927**
P-value of break			**0.016**
	Coefficients	**Standard error**	**P-value**
Constant	-84.1475	3.5928	0
Year	0.0447	0.0018	0
Dummy	0.0608	0.023	0.016

Data from 1985-86 to 2006-07 were used in the regression

Table D4: Australian black coal unit export value

Break year			**2003-04**
Adjusted R-squared			**0.7621**
P-value of break			**0.0000**
	Coefficients	**Standard error**	**P-value**
Constant	58.5317	8.1819	0
Year	-0.0274	0.0041	0
Dummy	0.4117	0.1558	0.0165
Year*Dummy	0.0962	0.0694	0.1825

Data from 1985-86 to 2006-07 were used in the regression

STATISTICAL RESULTS FOR THERMAL AND METALURGICAL COAL

Table D5: Australian metallurgical coal exports; with trend break

Break year			**1998-99**
Adjusted R-squared			**0.9947**
P-value of break			**0**
	Coefficients	**Standard error**	**P-value**
Constant	-73.7204	2.589	0
Year	0.0391	0.0013	0
Dummy	0.0932	0.0171	0

Data from 1985-86 to 2006-07 were used in the regression

For metallurgical coal exports the most likely break in the series occurred in 1998-99. The break was a change in level with no significant change in the growth trend after the break occurred. The results show that the growth trend for Australian metallurgical coal exports was 3.9 per cent per annum over the entire period analysed.

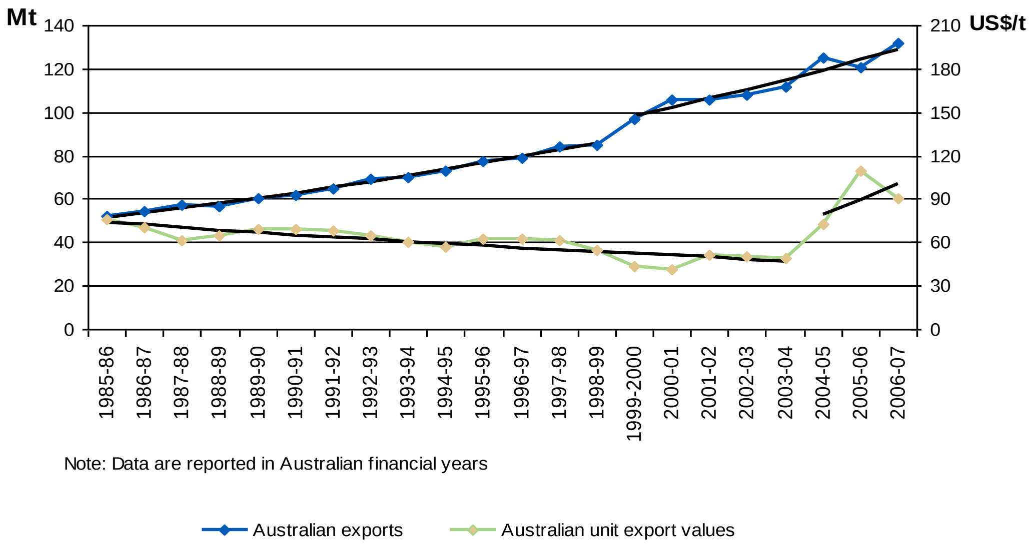
Table D6: Australian metallurgical coal unit export value

Break year			**2003-04**
R-squared			**0.763**
P-value of break			**0**
	Coefficients	**Standard error**	**P-value**
Constant	53.3297	8.9736	0
Year	-0.0247	0.0045	0
Dummy	0.4097	0.1708	0.0275
Year*Dummy	0.1375	0.0761	0.0875

Data from 1985-86 to 2006-07 were used in the regression

For the metallurgical coal unit export value series, a break occurs in 2003-04. When tested, the break is highly significant. This break was both a change in level and a change in trend. The results show that before the break occurred, the unit value series decreased at a rate of 2.5 per cent per annum. After 2004-05, the unit value increased at a rate of 11.3 per cent per annum. However, due to limited number of data points after the break the estimate of the growth trend has a high degree of error for the latter period.

Figure D1: Australian metallurgical coal exports and unit values



Sources: ABARE, *Australian Commodities Statistics*, Canberra; Reserve Bank of Australia; U.S. Bureau of Labour Statistics.

Table D7: Australian thermal coal exports

Break year			**1989-90**
R-squared			**0.978**
P-value of break			**0.0529**
	Coefficients	**Standard error**	**P-value**
Constant	-34.688	32.836	0.3048
Year	0.0193	0.0165	0.2571
Dummy	0.1261	0.0484	0.0178
Year*Dummy	0.0315	0.0167	0.0759

Data from 1985-86 to 2006-07 were used in the regression

For thermal coal exports, the most likely break occurred in 1989-90. The break was both a change in level and a change in trend. The results show that before the break occurred, Australian thermal coal exports increased at a rate of 1.9 per cent per annum. After 1990-91, the rate of growth increased to 5.1 per cent per annum.

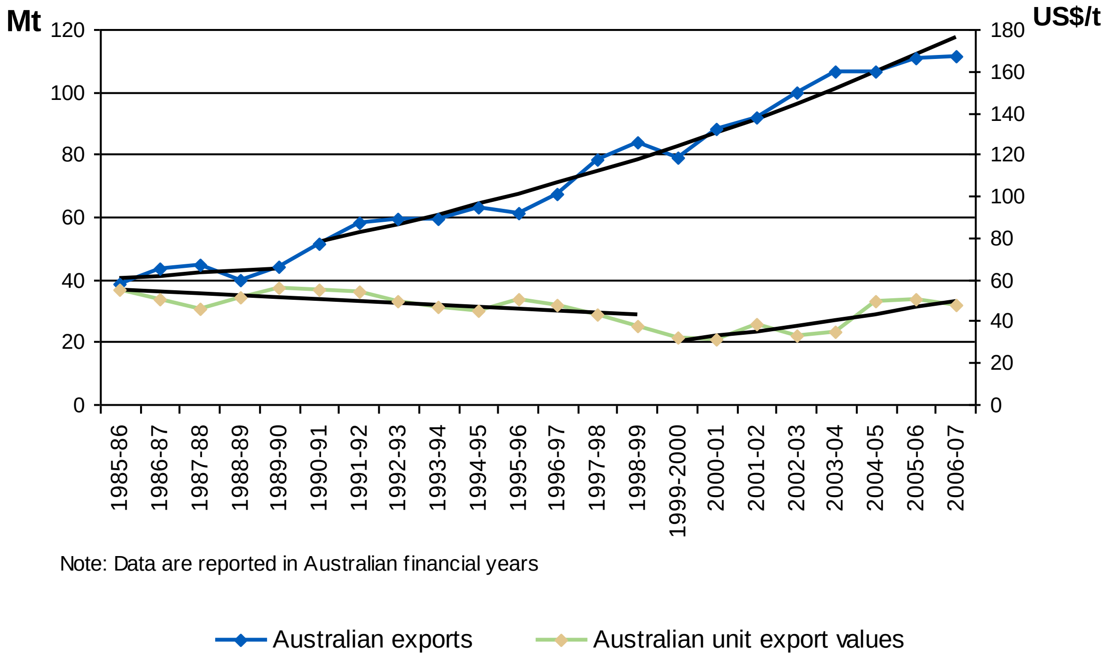
Table D8: Australian thermal coal export unit value

Break year			**1998-99**
R-squared			**0.7284**
P-value of break			**0.0001**
	Coefficients	**Standard error**	**P-value**
Constant	39.5803	12.6648	0.0058
Year	-0.0179	0.0064	0.0114
Dummy	-0.4295	0.0892	0.0001
Year*Dummy	0.089	0.0161	0

The data from 1985-86 to 2006-07 was used in the regression

A break in the thermal coal unit export value trend was found to have occurred 1998-99. The break was highly significant. The break was a both a change in level and a change in trend. Before the break occurred the unit value of Australian thermal coal exports was declining at a rate of 1.8 per cent per annum. After the break occurred the unit value of Australian thermal coal exports was increasing at a rate of 7.1 per cent per annum.

Figure D2: Australia thermal coal exports and unit values



Sources: ABARE, *Australian Commodities Statistics*, Canberra; Reserve Bank of Australia; U.S. Bureau of Labour Statistics.

ANNEXURE 5 – REPORT OF PORT JACKSON PARTNERS

Economic Evaluation of the Impact of Lost Iron Ore Production and Share

Report by
Port Jackson Partners Limited

April 2008

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ANNEXURE A 33

1. INTRODUCTORY MATTERS

1.1. Instructions

1.1.1. By letter dated 8 April 2008, Port Jackson Partners Limited (PJPL) was retained by Allens Arthur Robinson (AAR), solicitors for Rio Tinto Limited, to model, and provide expert evidence on the economic impact of third party access to the Hamersley Iron (HI) and Robe Railway Networks. Specifically, PJPL was asked to estimate the economic impact of delays to the expansion program of Rio Tinto Iron Ore (RTIO) in the Pilbara that are assumed would arise if RTIO's rail network were a multi-user facility through declaration under Part IIIA of the Trade Practices Act 1974.

1.1.2. This document will form a submission to the National Competition Council (NCC) in relation to:

a) the *Application under Part IIIA of the Trade Practices Act 1974 for eclaratio o t e er ice ro i e a ersle ro t t's il ara Rail Network* submitted by The Pilbara Infrastructure Pty Ltd dated 16 November 2007 and

b) the *Application under Part IIIA of the Trade Practices Act 1974 for Declaration of the Service Provided by the Robe River Joint Ventures Pilbara Railway*, submitted by the Pilbara Infrastructure Pty Ltd dated 19 January 2008

1.1.3. Attached as Annexure A is a copy of the letter of instruction from Allens Arthur Robinson dated 8 April 2008.

1.2. Port Jackson Partners Limited

1.2.1. Port Jackson Partners Limited is a Management Consulting firm, founded in July 1991 by Terrey Arcus and Fred Hilmer. The firm specialises in the area of business analysis and is regularly consulted by senior executives of large corporations for advice on strategic and organisational issues. Adopting a long-term perspective, the firm typically works with the CEO, Board and top management team to help set leadership priorities and programmes. This is based on a thorough understanding of the economics of the business, the organisation's strengths and weaknesses and the market environment. Although one Director of Port Jackson Partners, Angus Taylor, led the work in preparing this expert opinion, the full resources of the Firm were available as required to reach the conclusions.

1.2.2. Port Jackson Partners Limited has served clients in a broad range of industries. Industries in which the firm has recently worked include mining, steel, construction materials, building and construction, defence contracting, media, professional services, investment banking, financial services (market participants, regulators and exchanges) and commodity marketing.

1.2.3. Port Jackson Partners Limited, like most other consulting firms of its type, undertakes consulting in three major areas: Strategy, Organisation and Operations.

1.2.4. Included in strategic analysis is the planning of corporate direction and strategy, the development of strategies for specific business units, and the assessment of acquisition candidates or the best approach to maximising value when divesting a business unit.

1.2.5. Organisation studies encompass the design of corporate and business unit organisation structures, assisting with the design and implementation of supporting management processes (performance measurement, incentive arrangements and the like), and cost reduction programmes.

1.2.6. Operational studies typically involve the development of improvement programmes in one or more functional areas, such as manufacturing, distribution, sales and marketing, or logistics.

1.2.7. There is no single model for the type of work the firm undertakes, each study is tailored to meet the client's specific needs.

1.2.8. The Directors of the Firm have broad experience across many industries and functional areas of expertise. Five of the eight current Directors of Port Jackson Partners were previously employed at McKinsey Company (McKinsey), one of the world's largest and most respected firms in the area of business analysis. Unlike some other firms, the Directors are heavily involved in the day-to-day diagnosis of client situations and the problem solving process.

1.2.9. Angus Taylor's academic and professional qualifications and experience are as follows:

- Angus Taylor Graduated with a Bachelor of Economics (Honours and University Medal) and Bachelor of Laws (honours) from the University of Sydney. He subsequently gained an M.Phil in Economics from the University of Oxford, majoring in industry economics.

- Angus worked at McKinsey in Australia, North America and Asia from 1994 – 2001. In 2002 he began working with Port Jackson Partners Limited.

- In his time at McKinsey and Port Jackson Partners he has focused on working with companies in the resources and industrial sectors. During this time his major clients have included BHP, Rio Tinto, as well as 3 of the leading steel producers in the region, including POSCO in South Korea, BHP Steel prior to becoming Bluescope and Smorgon Steel.

- From 1998-2001 he was a leader in the Mining and Metals Practice at McKinsey. He was involved with a number of leading research efforts, focused particularly on the structure of mining and metal sectors and growth strategies in those sectors.

- In his time working in the sector his engagements and research work have included:

    - Working with leading steel industry players, including reviewing their procurement strategies in relation to iron ore, and the application of different ores to blast furnaces. This work helped to outline how different iron ore sourcing strategies might impact business performance.

    - A comparative analysis of all major metal sectors and the relative industry dynamics of each of these sectors. This work involved assessing how each of the different metal and mining sectors are structured (number, size, cost structure, expansion options), and how this impacts industry conduct (production, capacity expansions). This work has given him and his team insights into how different players in the various sectors might be expected to respond to a range of possible scenarios.

    - Competitive gaming simulation for a range of different metals sectors. This work typically involves developing a detailed database of each major player and their attributes (sites, costs, resources etc), and then using advanced simulation tools to assess likely responses of each player to the actions of other players.

    - Assessment of growth potential in various metals sectors. This work has built from expert and analyst growth projections to assess likely growth strategies for a range of players in the sector.

    - Evaluating and identifying improvement opportunities for a range of major mining and metal growth projects across the world. These engagements have spanned most major mining sectors, and typically involve applying a deep understanding of industry dynamics to specific resource projects. In some cases this has extended to sophisticated real options valuation of high potential resources.

- Angus regularly teaches strategy and strategic analysis in the resources sector through the Australian Graduate School of Management. He is recognised as a leading authority on the subject.

2. SUMMARY OF CONCLUSIONS

2.1. Framework for Evaluation of Economic Impact of Delays

2.1.1. Assuming that the expansion program of RTIO in the Pilbara were to be delayed by virtue of RTIO's rail network becoming a multi-user facility through declaration under Part IIIA of the Trade Practices Act 1974, we have been asked to estimate the economic impact of such delays.

2.1.2. In order to measure the impact we assume that the RTIO rail network is a multi-user facility through declaration under Part IIIA of the Trade Practices Act 1974, for a 20 year modelling period.

2.1.3. In estimating the economic impact of such delays, we first estimated the economic impact on RTIO itself of its own expansion program being delayed. We then extrapolated, based on our analysis and experience of the global iron ore market, the impact that such delays would have on Australia's iron ore exports more broadly.

2.1.4. To assess the economic impact on RTIO of its expansion program being delayed, we modelled a base case impeded expansion path for RTIO over a 20 year modelling period. The impeded case assumes that an expansion that would take 2 years if unimpeded takes an extra year (a total of 3 years). The economics of this impeded expansion path were then compared to the economics of RTIO's unimpeded (and currently expected) expansion path.

2.1.5. To understand the relationship between the quantum of the economic impact on RTIO and the degree to which its expansion path has been impeded, we modelled three alternative impeded expansion path scenarios as sensitivities. These sensitivities range from more aggressive outcomes (that is, more volume is lost to Australia than the base case) to much more conservative outcomes (that is, less volume is lost to Australia than the base case). These sensitivities allows us to test the robustness of the base case conclusions.

2.1.6. To understand the economic impact on Australia's iron ore exports of RTIO's expansion program being delayed, we estimated the proportion of the total volume lost by RTIO that is captured by offshore iron ore producers. This estimation is based on our analysis and experience of the global iron ore market.

2.2. Methodology

2.2.1. A spreadsheet based model was developed by PJPL to simulate the total production, share of sales and resulting financial impact of iron ore production in Australia under several different scenarios. The model uses analysts' estimates for global iron ore demand and iron ore pricing and also incorporates forecast share of sales and product mix. The model calculates expected future capacity expansion projects based on forecast demand and share of sales of the participants, with certain constraints on the size and frequency of expansion projects.

2.2.2. The model was then calibrated for actual historical production volumes in Australia as well as current ongoing and announced capacity expansion projects. Once the model was calibrated, the base case scenario was modelled. When the base case was completed, several assumptions were varied and delays of expansions were modelled to determine their net effect on production and share of sales as well as their financial impact on RTIO and the iron ore industry in Australia in general. The results were then checked for consistency and reasonableness and minor adjustments were made if needed.

2.3. Summary of Findings

2.3.1. Australian iron ore producers require flexibility to initiate expansion projects, change existing expansion plans and adjust operating practices with few impediments. Even relatively short delays to expansion projects will place a significant burden on Australian iron ore producers and the Australian economy. This conclusion is driven by a number of market, strategic and financial considerations:

- Due to the rapid economic development in China in recent years, China has become a significant importer of iron ore. RTIO and many industry analysts are predicting continued strong Chinese demand; RTIO forecasts that global cross-border iron ore shipments will need to grow by more than 1.2 billion tonnes over the next 20 years in order to meet that demand. This represents an average increase in global production of 60 million tonnes per annum, in contrast to increases of around four million tonnes per annum during the 1990s. Based on strong demand forecasts, industry analysts are predicting relatively high iron ore prices for the foreseeable future.

- For Australia to meet producers' medium-term growth forecasts, and then to maintain Australia's market share, the industry will need to invest in at least an additional 700 million tonnes of annual production capacity over the next 20 years. These expansions will need to be implemented in a timely and structured manner and will require capital investments close to A$80 billion.

- Any failure by Australian producers to respond to market changes, or delay in response, raises the risk that overseas producers will establish low cost production facilities and permanently take share of sales away from Australia.

- In our view, 80% is a reasonably conservative estimate of the proportion of RTIO's lost volume that would be captured by offshore producers.

- Any impediment to RTIO's expansion program has enormous economic consequences for Australia. Our modelling shows that if every two year expansion takes three years to complete, Australia could lose as much as 1,134 million tonnes of production over the 20 year modelling period. This assumes that 80 of RTIO's lost production is captured by offshore producers and equates to lost revenues (to Australia) of A$63.8 billion over the 20 year period.

- To demonstrate the significant negative impact any impediments to this expansion program could have on iron ore volumes and revenues, three different sensitivities have been analysed:

  - RTIO experiences ongoing delays that cause every two-year expansion to take six months longer than planned. Over a 20 year period this scenario could result in 680 million tonnes of lost iron ore production in Australia, equating to lost revenues of A$38.3 billion. This assumes that 80 of RTIO's lost production is captured by offshore producers.

  - RTIO experiences ongoing delays that cause every two-year expansion to take eighteen months longer than planned. Over a 20 year period this scenario could result in 1,458 million tonnes of lost iron ore production in Australia, equating to lost revenues of A$82.0 billion. This assumes that 80 of RTIO's lost production is captured by offshore producers.

  - RTIO experiences ongoing delays that cause every two-year expansion to take six months longer than planned, however, only 50 of RTIO's lost production is captured by offshore producers. This is an extremely conservative sensitivity; however, the economic impact remains enormous. Over a 20 year period this scenario could result in 425 million tonnes of lost iron ore production in Australia, equating to lost revenues of A$23.9 billion.

3. BACKGROUND AND CONTEXT – A FAST GROWING INDUSTRY DRIVEN PRIMARILY BY RAPID GLOBAL AND CHINESE GROWTH

3.1. Introduction

3.1.1. In the past five years the iron ore industry in Australia has seen a significant change in its fortunes. In a short period of time, it has gone from being a relatively slow growing, low priced industry into a high growth industry with prices that encourage relatively rapid expansions. For a low cost producer like Australia, these circumstances present an extraordinary opportunity – if Australian iron ore producers are able to maintain the pace and flexibility in their expansion plans necessary to capture the opportunity. Moreover, while the very high prices are expected to moderate somewhat, industry analysts expect continued rapid growth supporting prices well above historical trends. These developments are largely driven by the continued growth of the global economy, and in particular the rapid growth and industrialisation of China.

3.2. Continued Rapid Iron Ore Demand Growth

3.2.1. The rapid economic development and industrialisation of China, and to a lesser extent India, has resulted in a surge in demand for raw materials. A fundamental factor in China's growth has been the development of its steel industry, requiring large quantities of iron ore for its production. Currently China does not have sufficient natural resources or infrastructure required to produce the iron ore needed for its steel industry. As a result, Chinese steel mills have been importing increasing amounts of iron ore, resulting in a sharp increase in the global cross-border trade in iron ore (Exhibits 1 and 2). In the last five years global demand for iron ore imports has grown at a compound annual growth rate of 9.1 . Excluding China, the rest of the world global iron ore import demand rose at a compound annual growth rate of only 1.1% for the same period.

3.2.2. The emergence of China as a dominant force in the global iron ore trade is showing no signs of slowing down. Most industry analysts are predicting a continued strong growth in Chinese demand for iron ore into the foreseeable future. Additionally, historical projections show that global demand for iron ore has outstripped industry analysts' forecasts, (Exhibit 3), mostly due to the unprecedented demand from China. For example, in 2007, the increase in global demand for cross-border iron ore trade was 61 million tonnes (or 170%) above analysts' estimates of the increase made earlier in the year. Based on the last several years' experience, global demand could easily continue to exceed analysts' estimates in the future.

3.2.3. In 2007, cross-border trade in iron ore was approximately 840 million tonnes per annum. According to industry analysts, cross-border iron ore shipments will need to grow by more than 1.2 billion tonnes over the next 20 years in order to meet global demand (Exhibit 4). This represents an average increase in global production capacity of 60 million tonnes per annum, a stark contrast to the 1990s when global production grew by less than four million tonnes per annum on average.

3.2.4. Wealth accumulation and industrialization in Asia, especially in China and India, make it unlikely that this trend will dramatically slow down or change. As China and India continue to develop and per capita GDP increases, it is reasonable to expect a significant increase in per capita steel (and therefore, iron ore) consumption (Exhibit 5). Combined with the enormous population of these countries, this has resulted in a marked increase in global demand growth for iron ore, pushing growth rates to historically high levels. While short-term fluctuations are likely, only a long term collapse in the Chinese or Indian economies could precipitate a change in this trend.

3.3. Higher Prices Driven by Rapid Demand Growth and a Shift in the Cost Curve

3.3.1. A combination of strong global demand and an upward shift in the iron ore cost curve has driven prices higher, and real prices are likely to remain above the long-term trendline in the near future, even though they are likely to eventually reduce from today's levels. In 2005 iron ore producers were able to secure a record 71.5% increase in prices, in part to recoup capital investments required to expand capacity to meet future demand. Although not as large, additional price increases occurred in both 2006 and 2007. Currently, the spot iron ore price is trading at levels that are more than double the reference price; significant price increases are now forecast for 2008. With demand continuing to grow, industry analysts are forecasting long term real prices that are substantially higher than the historical trendline prices (Exhibit 6).

3.3.2. These higher prices are being supported by a shift in the iron ore cost curve in recent years (Exhibit 7). Three factors have driven this and will likely continue to support prices above long term trends in the future:

- First, rapid growth in demand has allowed higher cost non-Australian producers to gain market share, despite lacking the world class resources and infrastructure that exist in Australia and Brazil.

- Second, producer countries have generally experienced appreciation of their exchange rates, in line with the upswing in commodity prices. While this may moderate in the future, the growth in demand for commodities in general is likely to support relatively high exchange rates.

- Third, increased oil prices and a shortage of bulk shipping capacity are driving up iron ore sea freight costs. Some moderation of freight rates is inevitable, but a complete reversal is unlikely in the near future.

3.4. Australian Producers Are Well Positioned to Leverage This Opportunity, But Must Compete With Brazil

3.4.1. Australia is the lowest cost producer of iron ore delivered into Asia (Exhibit 8). This low cost position is driven by:

- Low operating costs to mine and transport the ore to port. This is in large part due to a significant investment in mine, rail and port infrastructure by RTIO and BHP Billiton Iron Ore (BHPBIO). Australian iron ore resources, mining operations and infrastructure are considered to be world class, and this is evident in their position on the cost curve.

- Australia's proximity to the Asian markets, providing an advantage in delivery costs to customers. Vale Inco (Vale , formerly known as Companhia Vale do Rio Doce, or CVRD) in Brazil has lower FOB costs than Australian producers, but depending on freight costs, this advantage is lost once delivery costs are taken into account.

3.4.2. This low cost production means that Australian producers are well positioned to capture opportunities created by rapid Asian demand growth. However, responding quickly to changes in demand is critical to realising the opportunity. Any failure to respond to the market raises the risk that other producer countries, such as Brazil or India, will establish low cost production facilities in competition with Australia. The longer the delay, the greater the risk. To date, the responsiveness of Australian producers to market opportunities has helped them maintain and even grow their share of global cross-border iron ore sales (Exhibit 9) over the long term. In recent years, Australian producers reached 32% share of global iron ore cross-border trade and nearly 40% of the global seaborne iron-ore trade (seaborne iron-ore trade defined as exports from Australia, Brazil, Mauritania, South Africa and Venezuela), which is the highest it has ever been. As outlined below, however, the Brazilians are a formidable force in global iron ore, and have a number of clear advantages.

3.5. Huge Investments and Rapid Expansion Paths Are Required to Capture This Opportunity

3.5.1. The capacity expansions and capital investments required to meet this surge in demand are extremely large and will need to be made in a timely manner. In fact, the three largest iron ore producers, RTIO, BHPBIO and Brazilian miner Vale, have all outlined plans and commitments to increase their capacity significantly over the next four to eight years to meet the anticipated increase in demand:

- RTIO has announced expansion planning for its Pilbara operations: targeting 320 million tonnes annual production by 2013 and is considering further expansions to 420 million tonnes thereafter.

- BHPBIO has outlined plans to expand its Pilbara operations to 300 million tonnes per annum by 2015.

- Vale has announced a massive increase in iron ore capacity[1] by 2011, adding 185 million tonnes of additional annual capacity over the next four years to meet rising demand. These expansions will bring Vale's total capacity up to 450 million tonnes per annum in 2011, of which 419 million tonnes per annum are expected to be exported.

3.5.2. Assuming that RTIO and BHPBIO expand their Pilbara production capacity as per the timelines described above and hold share thereafter, they need to invest in an additional 700 million tonnes of annual production capacity over the next 20 years (given current demand growth projections).

3.5.3. The types of investment required to reach this capacity include substantial upgrades to existing port and rail facilities, establishment of new deep water ports, expansion of existing mine sites and development of numerous new mines. At a conservative average cost of around A$120 per tonne in capital expenditure required for the additional capacity this amounts to approximately A$80 billion in additional capital investments required over the next 20 years.

3.6. Overseas Producers Ready to Capture Additional Share of Sales

3.6.1. If the major Australian iron ore producers fail to expand their production capacity quickly enough they will permanently lose share of sales to low cost overseas producers.

3.6.2. Brazil in particular is exceptionally well positioned to rapidly expand its capacity. Vale, the world's largest iron ore miner, has increased its production capacity by more than 100 million tonnes since 2002, a compound annual increase of 9 (Exhibit 10). Vale's resource position of more than 18 billion tonnes is larger than either of RTIO's or BHPBIO's resource positions. In addition, the concentration of Vale's resources within small geographic areas, with critical infrastructure already in place, allows Vale to conduct rapid, relatively low cost expansions in the future.

3.6.3. In addition, India has shown an extraordinary ability to react quickly to changes in the market and has now become a major global exporter of iron ore (Exhibit 11). In 2000, India supplied China with 16% of its total iron ore imports. By 2006 India was supplying China with 26% of its total (and now much larger) iron ore imports. So far, India has been opportunistic in its growth in volumes and has little infrastructure such as rail and port facilities to sustain its expansion. The surprising pace of growth in China has caught the industry by surprise and the Indian producers have filled the gap in the short term. If the Indian producers believe there are long-term opportunities in the global iron ore

[1] Vale presentation to Merrill Lynch Global Metals, Mining and Steel Conference, 14 May 2007.

industry due to underinvestment elsewhere in the world, they are likely to move forward with substantial infrastructure projects to secure a long term position in the global market.

3.7. Shares of Sales Lost to Competitors is Likely to be Permanent

3.7.1. Production increases involve two broad categories of costs, the capital expenditure required for mine equipment and development, rail infrastructure and port facilities and the ongoing operating costs incurred during production. Capital expenditure is typically expressed as dollars per tonne of new capacity and operating costs are typically expressed as dollars per tonne of current production. For iron ore producers with low operating costs, margins are relatively high even at low prices, but expansions are typically capital intensive. To put this into perspective, low cost producers might incur capital costs of A$100-120 per tonne, and operating costs of A$10-15 per tonne.

3.7.2. Basic economics dictate that once the new capacity is built, the capital expenditure is treated as a sunk cost. However, producers wishing to increase production to take share of sales from an entrenched producer, must incur both capital and operating costs, resulting in a higher cost production than the entrenched producer (Exhibit 12). Therefore, the only way to regain share once it is lost to a competitor is to successfully compete for future demand growth or to build additional capacity and incur significant capital costs that are not incurred by the incumbent. It is highly unlikely that the latter option will ever be a commercially attractive proposition. Once low cost production and transportation capacity is built, it is in place for the long term and any new capacity is likely to be considerably more costly than the entrenched producers' established capacity.

3.7.3. In addition, in the current and projected environment where demand for construction resources and capital equipment is at an unprecedented levels, it is likely that it would not be possible for a producer to accelerate expansions to recapture lost share (even if available). If a producer's expansion plans require each new expansion project to be commenced immediately after the completion of the previous project (as the demand projections envisage) there is little or no ability to regain market share lost due to expansion delays.

3.7.4. The result is that market share lost to a competitor is unlikely to ever be regained.

4. THE HIGH COSTS OF DELAYED INVESTMENTS

4.1. Introduction

4.1.1. Given the size of the opportunity facing the Australian iron ore industry in general, and RTIO in particular, it is reasonable to expect that even a modest delay to expansions will have a large impact. To test this it is necessary to model a base case unimpeded expansion path for RTIO based on reasonable price and volume assumptions, and to compare the economics of this expansion path with a number of impeded expansion paths.

4.2. Expansion Delays Cause Permanent Loss of Share to Offshore Producers

4.2.1. Delays that lead to an impeded expansion program for RTIO will result in a permanent loss of iron ore market share and thus, lost tonnes to RTIO.

4.2.2. In order for a company to begin expanding capacity it must be reasonably confident there will be a market for its additional production once the expansion is complete. Each year, the expected demand growth generates an amount of industry growth (expansion) in order to meet the increase in demand. Part of this future demand growth, however, is absorbed each year by companies committing to expanding capacity in the future.

4.2.3. For example, if demand is expected to grow by 100 million tonnes per annum in three years time and new or existing producers have already committed to expanding their production capacity by 90 million tonnes per annum within that timeframe, then there are 10 million tonnes per annum available for another producer wanting to expand. If the producer expands by more than 10 million tonnes per annum there will be oversupply in the market and he will be unable to sell all of his additional production (Exhibit 13). That producer may come to the view, however that the expansion plans of one of its competitors is not credible. That is, the producer does not believe that its competitor can actually increase its production by the stated amount by the stated time. If so, the producer may still move ahead with an expansion of more than 10 million tonnes per annum in the belief that there will be a gap in the market when the competitor fails to complete its expansion.

4.2.4. Given the track record of multi-user facilities failing to achieve their expansion aspirations, if an announced expansion involves multiple users, it is much more likely that competitors will not regard the expansion announcement as credible (at least insofar as timing is concerned) and therefore proceed with an expansion to fill the gap that will be created by the failure of the multi-user facility to deliver the expansion as announced.

4.2.5. Recently we have seen announcements and commitments being made for longer and longer time horizons. For example, RTIO is now in the process of implementing expansion plans to increase capacity between 2007 and 2013 by 150mtpa and has announced that it is considering a further 100mtpa expansion thereafter.

4.2.6. As the announcement and commitment time horizons get longer it is increasingly difficult for companies to adjust their plans 'on the fly' to deal with delays or impediments to their expansion plans. When an expansion delay occurs, other producer countries such as India can react quickly to fill the gap in the short term and major capital intensive producers such as Vale can react to capture the opportunity in the longer term. The company incurring the delay will have lost its expansion opportunity and must wait for the next available gap in industry expansions before it can expand beyond its current plan (Exhibit 14). That is, the company must wait until such a time that future market demand is expected to be greater than will be supplied by the already announced commitments. With the long expansion commitments currently in the market place it could take ten years or more until such a gap opens up, and then only for that producer's share of the total growth opportunity.

4.2.7. As a result, as long as the industry expansion pipeline remains full in the short and medium term, any delay on an expansion forces all subsequent expansions by that company to be pushed back as well. This results in an effective permanent loss of share that is unlikely to ever be regained.

4.2.8. Therefore, if RTIO is unable to meet its expansion commitments as a result of the inherent inefficiencies associated with a multi-user rail line, its shortfall will be made up by other low cost producers. Vale is particularly well placed to fill any supply/demand gap created by constraints on RTIO's ability to expand as rapidly as is needed to hold share. As previously illustrated, Vale has a large resource base, high product quality, a low cost structure and a fairly simple expansion path. They would quickly fill any volume void left by RTIO. Of course, Australian producers would also attempt to fill the gap left by delays to RTIO's expansion program, and might do so to some extent. However, they may also experience delays to their expansion programs flowing from their rail systems being subject to multi-user access arrangements, and they have ambitious expansion plans in place already. Thus it is fairly certain that a large proportion of the volume lost by RTIO would be lost to Australia, not just transferred to other Australian producers.

4.3. Base Case RTIO Expansion Program

4.3.1. To analyze the impact of any impediment to RTIO's capacity expansions, it is necessary to establish a baseline demand forecast. In RTIO's base case unimpeded expansion path, RTIO production increases are assumed to average 5.2 per annum over 20 years. This scenario is based on RTIO's announced plans for capacity increases by 2013 and then a hold share constant assumption for the remainder of the analysis period (shown in Exhibit 15).

4.3.2. As outlined earlier, this analysis assumes that the RTIO rail network is a multi-user facility throughout the 20 year modelling period, through declaration under Part IIIA of the Trade Practices Act 1974.

4.3.3. This analysis is not concerned with estimating the economic impact on RTIO from initially accommodating third-party access. This analysis is only concerned with evaluating the economic impacts that would occur if RTIO's expansion path were impeded by delays, occasioned as a result of the multi-user status of its rail facilities.

4.3.4. In the base case it is assumed that (see appendix for further detail):

- Iron ore prices increase modestly in 2009 and then decline through to 2015. Post 2015 prices remain steady at the expected long term price derived from the midpoint of industry analyst forecasts.

- Total RTIO production will equal total RTIO capacity in the future. It is also assumed that the total production will be sold in the same period it was produced. In reality, periodic mismatches in production and demand will typically result in fluctuating inventory levels, but the medium to long term impact is small enough to ignore for the purpose of this analysis.

4.4.

4.4.1. Given this context, it is appropriate to consider an impeded RTIO expansion scenario resulting from a series of ongoing delays. This paper compares the economics of RTIO's unimpeded expansion path to an impeded expansion path scenario where every two-year expansion takes three years to complete. In this scenario, 80 of RTIO's lost production is captured by offshore producers.

4.4.2. To understand the relationship between the quantum of the economic impact on RTIO and the degree to which its expansion path has been impeded, we modelled three alternative impeded expansion path scenarios as sensitivities:

- RTIO experiences ongoing delays that cause every two-year expansion to take six months longer than planned. Of RTIO's total lost production, 80 is captured by offshore producers.

- RTIO experiences ongoing delays that cause every two-year expansion to take eighteen months longer than planned. Of RTIO's total lost production, 80% is captured by offshore producers.

- RTIO experiences ongoing delays that cause every two-year expansion to take six months longer than planned. Of RTIO's total lost production, only 50% is captured by offshore producers.

4.4.3. All of the above scenarios will have profound economic implications for RTIO and the Australian iron ore industry. The implications are summarised in the section below.

4.5. Impact of a Delayed Expansion Path

4.5.1. An impeded expansion path resulting from ongoing delays would have significant economic impacts to RTIO, and indeed, Australia.

4.5.2. As noted earlier, our analysis assumes that the imposition of ongoing delays results in RTIO taking three years to complete each two-year planned expansion.

4.5.3. The impact of ongoing delays would have a major impact on RTIO's production and sales. The imposition on RTIO's expansion path would result in a loss of 1,418 million tonnes and A$79.7 billion in revenue to RTIO over the 20 year analysis period. The present value of the lost revenues would be approximately A$39.0 billion, as shown in Exhibit 16.

4.5.4. As noted earlier, it is likely that most of RTIO's lost volume would be captured by offshore producers.(see 4.2 above). In our view, 80% is a reasonably conservative estimate of the proportion of RTIO's lost volume that would be captured by offshore producers. Under this assumption, the impact on Australian exports from ongoing delays to RTIO's expansion program is a loss of 1,134 million tonnes and A$63.8 billion in Australian exports over the 20 year analysis period. The present value of the lost revenues would be approximately A$31.2 billion.

4.5.5. As sensitivities to the above impeded expansion path scenario, we ran three alternative scenarios of ongoing delays to RTIO's expansion path:

- RTIO experiences ongoing delays that cause every two-year expansion to take six months longer than planned. Over a 20 year period this scenario could result in 680 million tonnes of lost iron ore production in Australia, equating to lost revenues of A$38.3 billion (NPV A$18.7 billion). This assumes that 80 of RTIO's lost production is captured by offshore producers, as shown in Exhibit 17.

- RTIO experiences ongoing delays that cause every two-year expansion to take eighteen months longer than planned. Over a 20 year period this scenario could result in approximately 1,458 million tonnes of lost iron ore production in Australia, equating to lost revenues of A$82.0 billion (NPV A$40.2 billion). This assumes that 80 of RTIO's lost production is captured by offshore producers, as shown in Exhibit 18.

- RTIO experiences ongoing delays that cause every two-year expansion to take six months longer than planned, however, only 50 of RTIO's lost production is captured by offshore producers. Over a 20 year period this scenario could result in 425 million tonnes of lost iron ore production in Australia, equating to lost revenues of A$23.9 billion (NPV A$11.7 billion), as shown in Exhibit 19. This is an extremely conservative sensitivity, but is included to demonstrate how even short delays to expansions have enormous economic consequences for Australia.

5. APPENDIX

5.1. Assumptions

Key assumptions used in the model include:

- Iron ore prices increase modestly in 2009 and then decline through to 2015. Post 2015 the prices remain steady at the forecast long term price. All price estimates are derived from the midpoint of expected analyst forecasts, adjusted conservatively for the minimum increase expected to be forecast by analysts for 2008 (i.e. only the 71% increase achieved by Vale).

- Total RTO production will equal total RTO capacity in the future. That is, when additional capacity is brought online it will be fully utilised right away. It is also assumed that the total production will be sold in the same period it was produced.

- The product mix between fines and lump production, as well as the relative moisture content remains constant in the future. Ferrite (Fe) content is assumed to decrease gradually over the modelling period as many high quality deposits are depleted.

- All present values were calculated using a long term growth rate of 3.5% per annum and a real discount rate of 7.0% per annum based on average industry analyst discount rates.

6.2 References

As well as data that was provided by RTIO, the following public reports were used as part of the described analysis:

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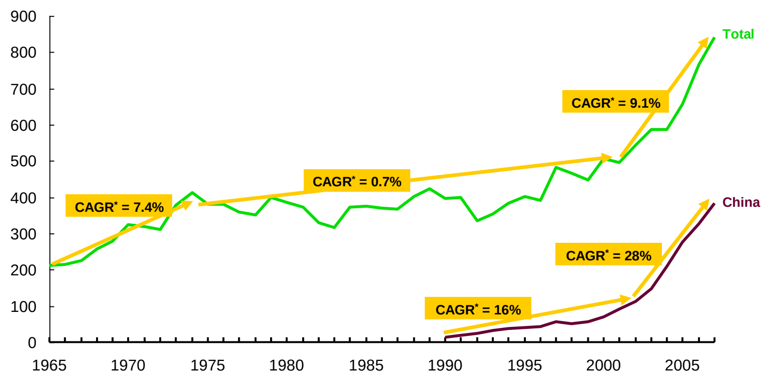
- UBS, (May 2004), Commodity Price & Currency Revisions
- UBS, (July 2007), Iron Ore Price Upgrade
- UBS, (January 2008), Australian Resources

5.2. Glossary

ABARE	– Australian Bureau of Agricultural and Resource Economics
BHPBIO	– BHP Billiton Iron Ore Pty Ltd
CAGR	– Compound annual growth rate
CFR	– Cost and freight. Industry term describing the cost of a product including all freight charges to the destination port of the purchaser
dmtu	– Dry metric tonne unit. A unit of measure that adjusts for water and ferrite (Fe) content of iron ore
DoIR	– Department of Industry and Resources, Western Australia
FMG	– Fortescue Metals Group Ltd
FSU	– Former Soviet Union
GDP	– Gross domestic product
HI	– **Hamersley Iron Pty Ltd, a wholly owned subsidiary of Rio Tinto Iron Ore**
MT	– Million tonnes
MTPA	– Million tonnes per annum
NCC	– National Competition Council
PJPL	– Port Jackson Partners Limited
ROW	– Rest of the world. All other countries/regions not specifically mentioned in the context in which used
RTIO	– Rio Tinto Iron Ore Pty Ltd
Vale	– Vale Inco Limited. A large Brazilian iron ore producer formerly known as Companhia Vale do Rio Doce

Exhibit 1

CROSS-BORDER IRON ORE TRADE
Million Tonnes Per Annum

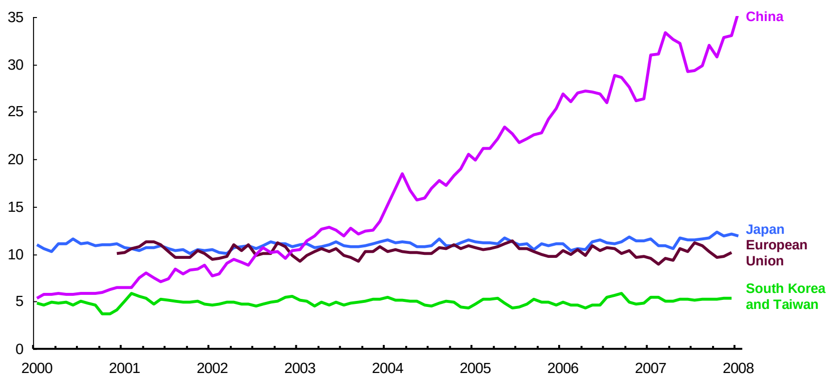


* CAGR = Compound Annual Growth Rate.

Source: ABARE; PJPL Analysis

Exhibit 2

IRON ORE IMPORTS (3 MONTH MOVING AVERAGE)
Million Tonnes Per Month

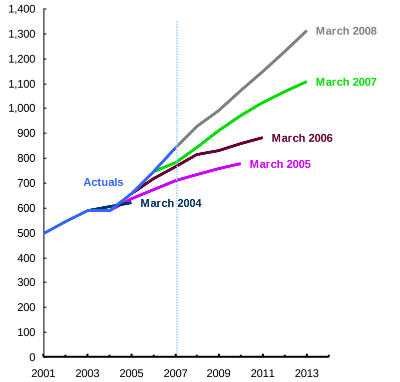


Note: Includes all cross-border seaborne and overland iron ore trade.
Source: Global Trade Atlas

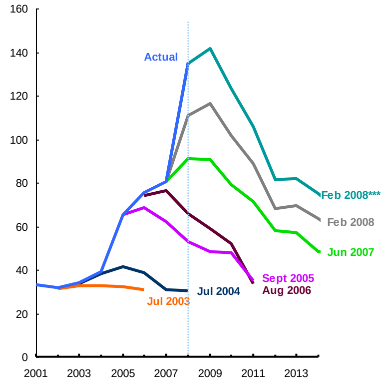
Exhibit 3

HISTORICAL FORECASTS OF IRON ORE DEMAND AND PRICES

Historical cross-border iron ore demand estimates*
Million Tonnes Per Annum



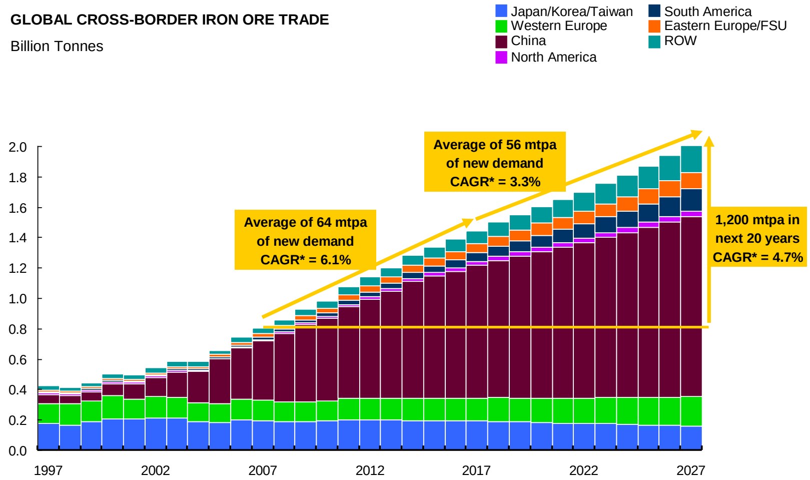
Historical iron ore price estimates**
c/dmtu; Real 2007 US Dollars



* As forecast by ABARE Economics.
** Average of broker forecasts as of series line date.
*** Minimum increase likely to be forecast by analysts for 2008 (only the 71% Vale increase).
Source: ABARE - Australian Commodities ; Miscellaneous Broker Reports

Exhibit 4

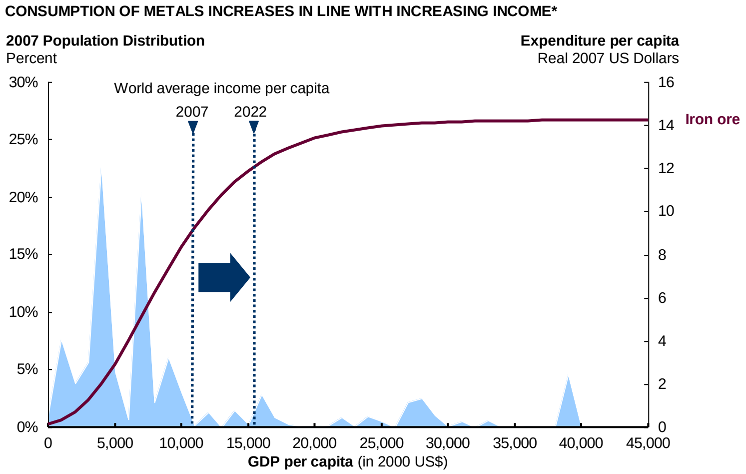
GLOBAL CROSS-BORDER IRON ORE TRADE
Billion Tonnes



* CAGR = Compound Annual Growth Rate.

Source: Industry analyst and PJPL demand forecast

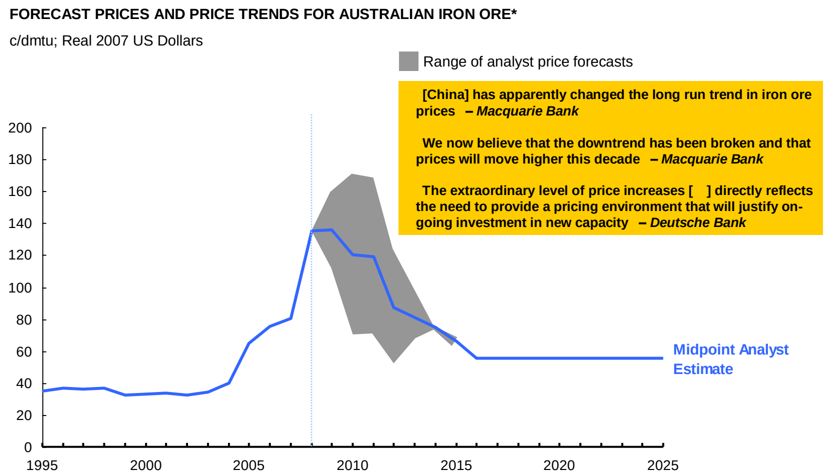
Exhibit 5



* Note: expenditure profiles are based on Rio Tinto estimates of global income and consumption relationships and average real terms prices between 1990-2006. Iron ore expenditure is calculated based on crude steel demand projections, assuming all met by blast furnace production at historic average export prices.

Source: Global Insight for population distribution; Rio Tinto estimates for commodity expenditure profiles

Exhibit 6



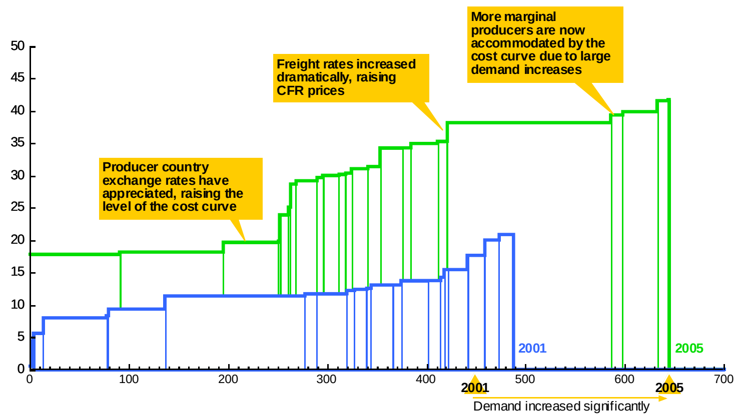
* Prices for Hamersley Fines are used as proxy for Australian iron ore pricing. Broker forecasts also reflect minimum 2008 increase as per Exhibit 3.

Source: Industry research reports as of March 2008

Exhibit 7

IRON ORE COST CURVE 2001 VERSUS 2005

US Dollars Per Tonne, CFR*



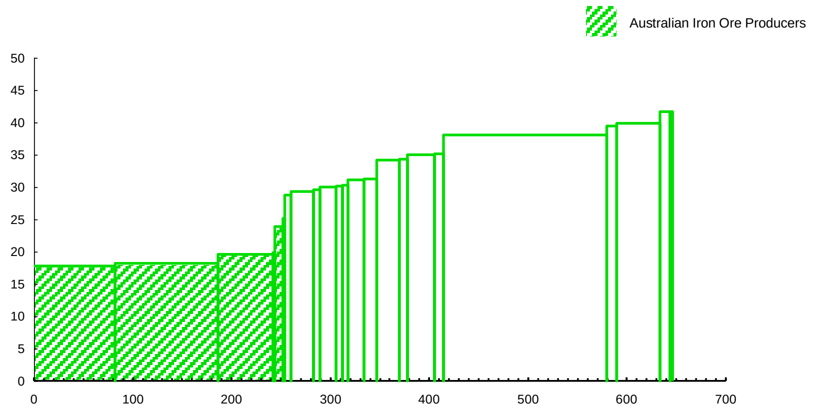
* 2001 cost curve assumes freight to Japan, 2005 cost curve assumes freight to China.

Source: RTIO; PJPL analysis

Exhibit 8

IRON ORE COST CURVE 2005

US Dollars Per Tonne, CFR*



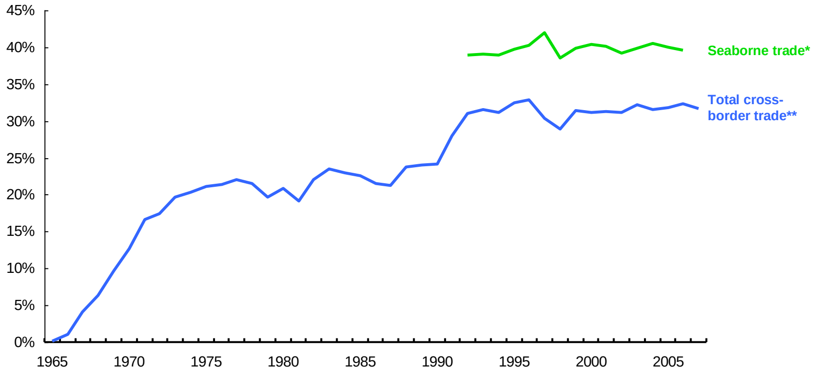
* Assumes freight to China.

Source: RTIO; PJPL analysis

Exhibit 9

AUSTRALIAN HISTORICAL SHARE OF SALES OF CROSS-BORDER IRON ORE TRADE

Share of Sales



* Seaborne trade includes exports from the following countries: Australia, Brazil, India, Mauritania, South Africa and Venezuela. Data only available from 1992 onwards.

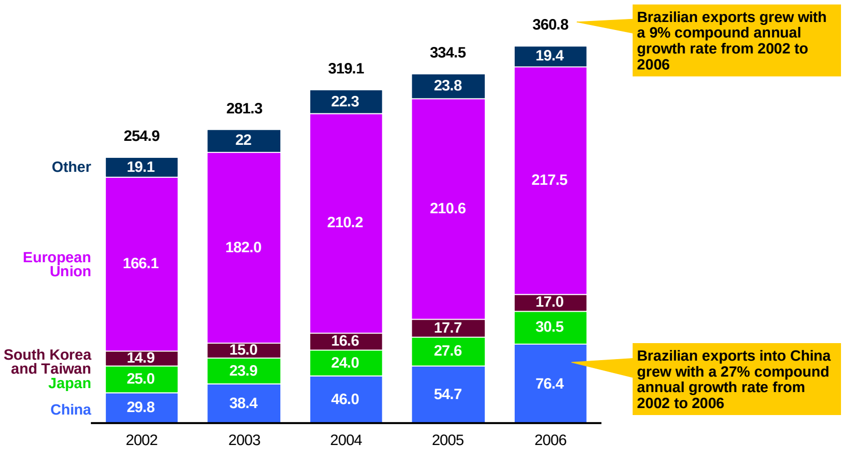
** Total cross border trade includes all seaborne and overland trade.

Source: ABARE – Australian Commodities

Exhibit 10

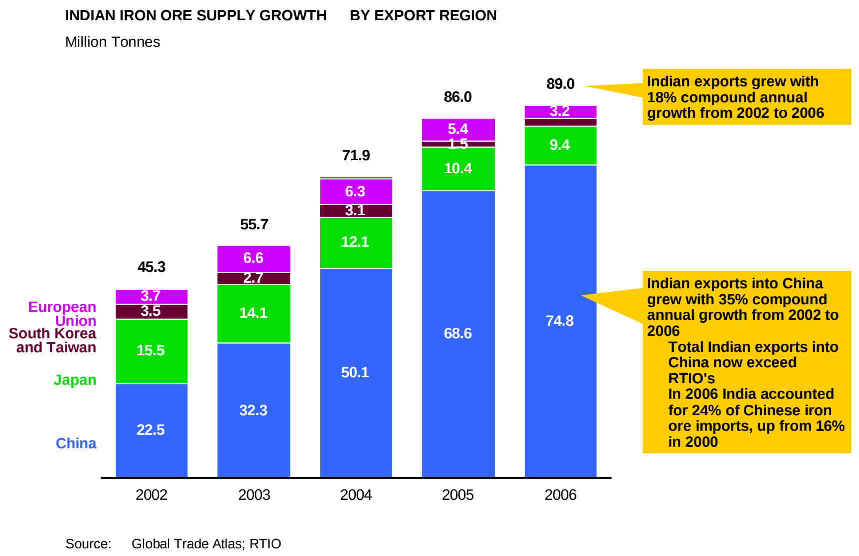
BRAZILIAN IRON ORE SUPPLY GROWTH BY EXPORT REGION

Million Tonnes



Source: Global Trade Atlas; RTIO

Exhibit 11



Source: Global Trade Atlas; RTIO

Exhibit 12

ILLUSTRATIVE

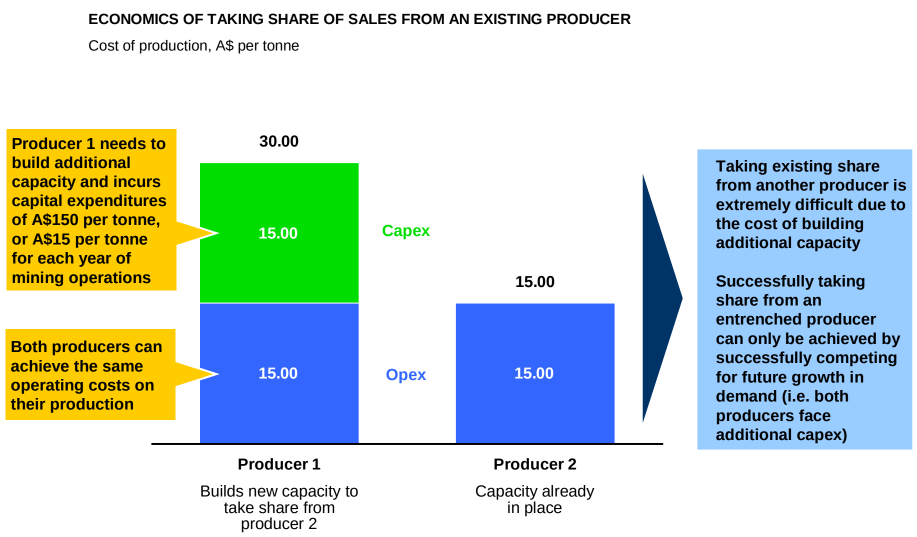


Exhibit 13

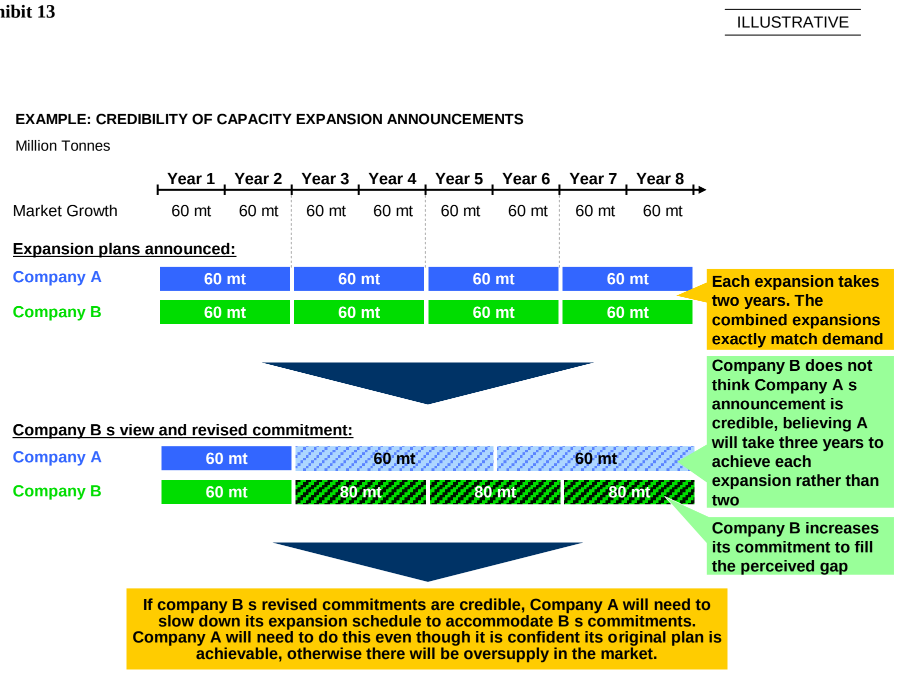


Exhibit 14

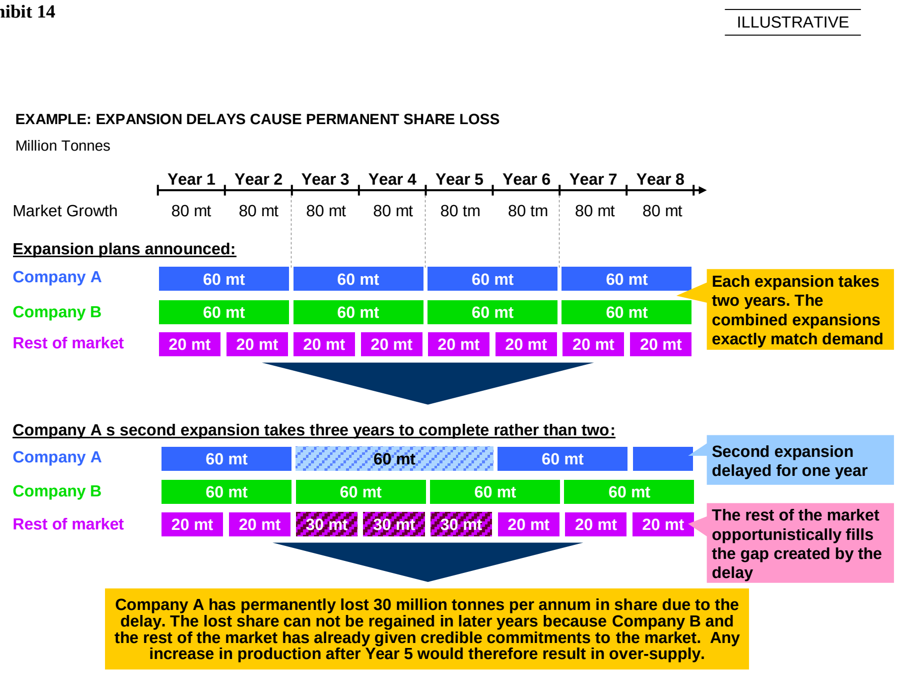
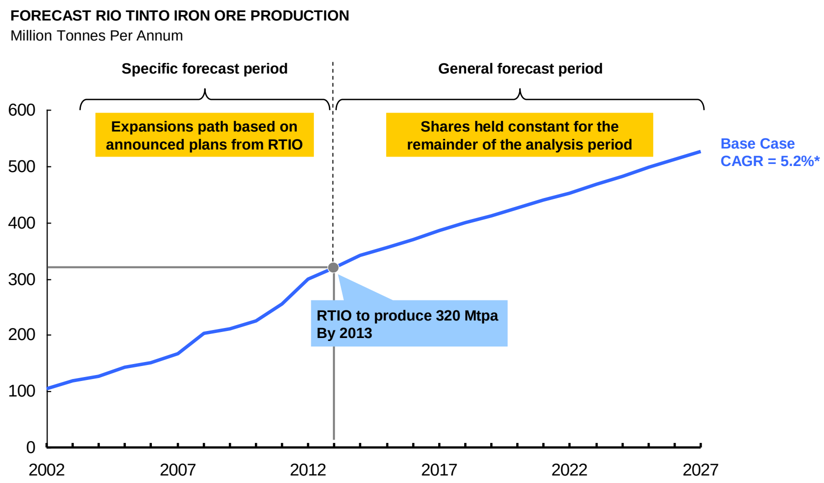


Exhibit 15



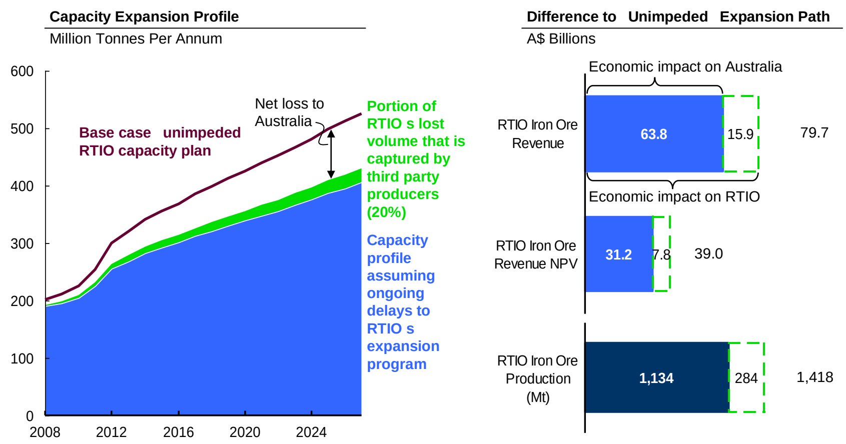
* CAGR calculated for the years 2008-2027.

Source: RTIO public announcements; PJPL analysis

Exhibit 16

ECONOMIC IMPACT OF ONGOING DELAYS TO RTIO S EXPANSION PROGRAM

Twelve month delay every two years (33% reduction)
20% Captured by third party producers

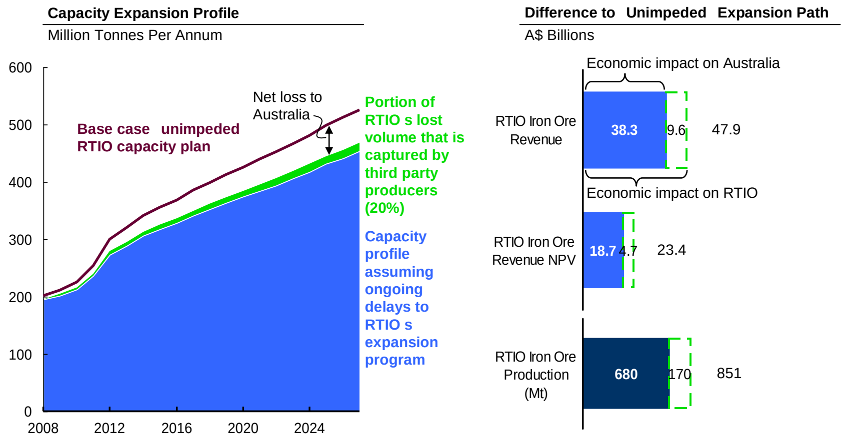


Source: RTIO; Team Analysis

Exhibit 17

ECONOMIC IMPACT OF ONGOING DELAYS TO RTIO S EXPANSION PROGRAM

Six month delay every two years (20% reduction)
20% Captured by third party producers

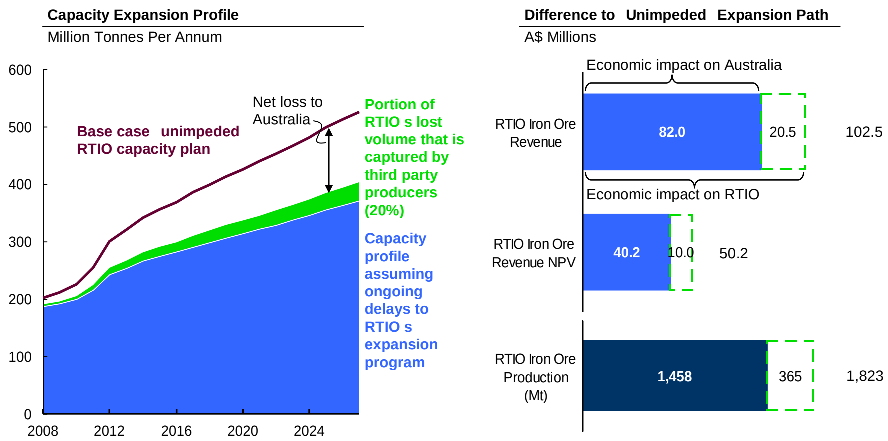


Source: RTIO; Team Analysis

Exhibit 18

ECONOMIC IMPACT OF ONGOING DELAYS TORTIO S EXPANSION PROGRAM

Eighteen month delay every two years (43% reduction)
20% Captured by third party producers

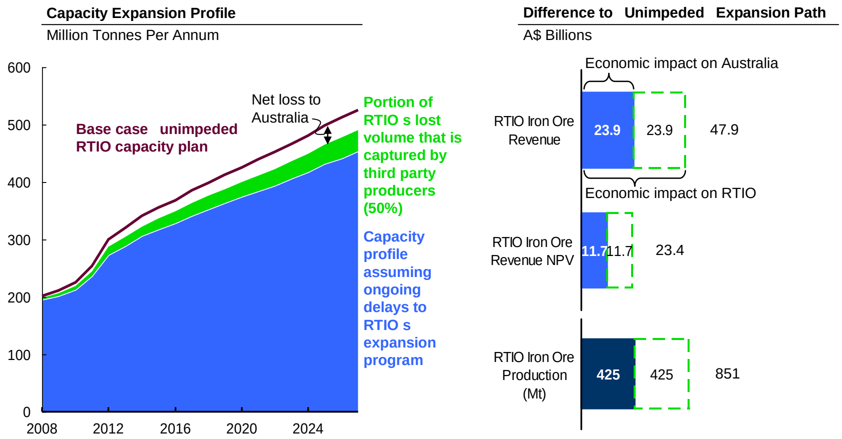


Source: RTIO; Team Analysis

Exhibit 19

ECONOMIC IMPACT OF ONGOING DELAYS TO RTIO S EXPANSION PROGRAM

Six month delay every two years (33% reduction)
50% Captured by third party producers



Source: RTIO; Team Analysis

ANNEXURE A

Allens Arthur Robinson

8 April 2008

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Philip Stern
Port Jackson Partners
Level 32
50 Bridge Street
Sydney NSW 2000

By Email

Strictly Privileged & Confidential

Dear Philip

Applications by Pilbara Infrastructure Pty (*TPI*) for declaration of the services provided by the Hamersley and Robe Rail Networks in the Pilbara

We refer to our letter dated 28 March 2008 confirming the retainer of Port Jackson Partners Limited (***PJPL***).

As you are aware from our discussion, we are in the process of preparing a submission to the National Competition Council (***NCC***) in relation to applications lodged by the Pilbara Infrastructure Pty Ltd (***TPI***) for declaration of the services provided by means of specified rail infrastructure of Hamersley Iron Pty Ltd (***Hamersley***) and Robe River Iron Associates (***Robe***). Copies of the TPI applications for declaration, as supplemented, have been provided to you. In this letter this rail infrastructure is referred to as the 'RTIO Pilbara rail network'.

For the purpose of the submission to the NCC, PJPL is requested to model and assess the economic impact of third party access to the RTIO Pilbara rail network. This analysis should include an estimate of the economic impact of delays to the expansion programmes of Rio Tinto Iron Ore in the Pilbara which are assumed would arise if the RTIO Pilbara rail network were a multi-user facility by reason of any access declaration.

We will, of course, continue to discuss the scope of this exercise as your analysis progresses. In the meantime, if you have any queries or require any further information, please do not hesitate to contact me.

Yours sincerely

Craig Phillips
Partner
Craig.Phillips@aar.com.au
Tel 61 3 9613 8951

Our Ref EWHM:CWPM:605369950

cwpm A0110186673v2 605369950 8.4.2008

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