MARSH

MARSH REPORT | February 2016

Mining Market Update

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MARSH & McLENNAN COMPANIES

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INTRODUCTION

2015 YEAR IN REVIEW AND CURRENT MARKET CONDITIONS

2015 was characterised by clear and simple themes for both mining companies and mining insurance markets. For mining companies, the continued decline of year-on-year average commodity prices maintained the pressure to minimise all overheads; for insurers, the continued abundance of insurance capacity resulted in further softening of mining insurance rates.

RATING TRENDS

The downward trend of overall property rates picked up in 2015, with the average year-on-year reduction for mining clients being 14% (prior year 9%). While property pricing softened, terms also improved; underground capacity given to Marsh clients increased by 11% year-on-year. A clear factor in the rating trend is underwriters' desire to maintain income, while the mining exposure base is eroded by both falling commodity prices and the reductions in US dollar reinstatement values brought about by the decline in relative value of the currencies of major commodity-producing nations.

Casualty rates, meanwhile, held firm, with more modest declines in international markets and increases for some risks in certain regions, such as the US.

PURCHASING TRENDS

2015 saw a return to stability in limits, with fewer changes in limits purchased by mining clients. This reflected a stark contrast with 2014, during which circa 20% of mining clients reduced their overall programme limits.

General liability (GL) limits have remained stable; however, the Samarco dam failure has shone a spotlight on whether limits purchased by mining corporations are adequate.

SAMARCO

The Samarco dam failure in the last quarter of 2015 tested the prevailing trends in mining rating, but brought about no systematic change. The event did, however, draw attention to the relatively low value of insurance protection purchased by mining clients, versus the potentially catastrophic impact of tailings dam failures.

Following the event, Marsh undertook a benchmarking exercise to establish the extent of sudden and accidental pollution coverage purchased by our mining clients within GL insurance programmes. The results were discouraging – 89% of the client group purchased GL limits of less than US$200 million, despite the ready availability of more than US$1 billion of insurance capacity. Capacity for excess of loss coverage remains a highly cost-effective hedge against catastrophic risk. The following chart illustrates the low and progressively declining cost of excess GL capacity for a representative sample of Marsh clients.

EXPECTATIONS FOR 2016

This market update provides a market-by-market overview of key mining insurers as we begin 2016. The broad theme that emerges is the continued availability of insurance capacity to the world's mining, metals, and minerals companies, with very limited exceptions. In this context, and in the context of our experience in the year to date, we expect the general continuation of 2015's trends, subject only to the occurrence of "market-changing" loss events.

The soft market has continued, and several recent technical loss events, including notable dam failures, have provided reminders of the potential severity of mining claims. It is more important than ever for mining clients to commit to high-quality risk management and arrange for the third-party review of dams and impoundments, in particular, to secure the best available terms in the world's mining insurance markets.

Matthew Gooda
Chairman, Global Mining Practice

FIGURE 1 EXCESS GENERAL LIABILITY PRICING
Source: Marsh's Mining Practice

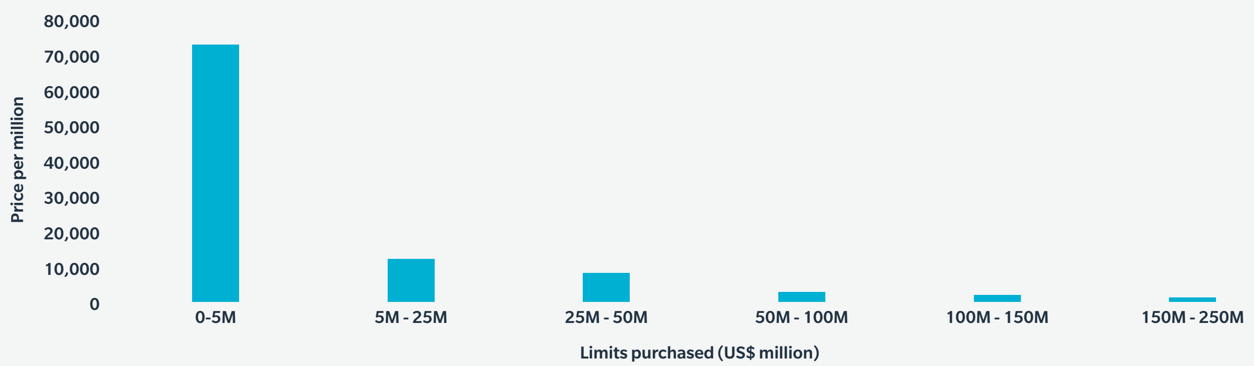


FIGURE 2 Rate Trend (from 2012 base)
Source: Marsh's Mining Practice

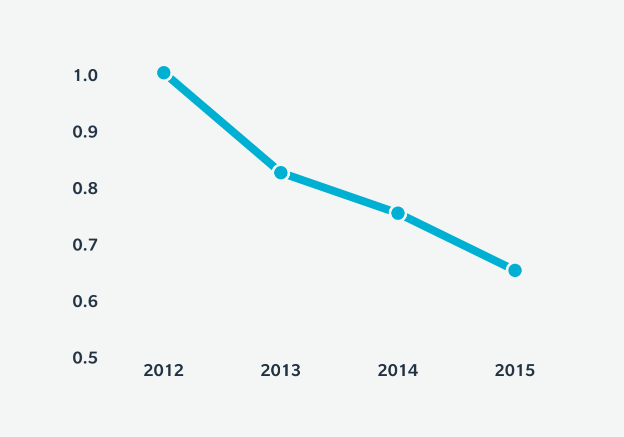


FIGURE 3 Year-on-Year Rate Change
Source: Marsh's Mining Practice

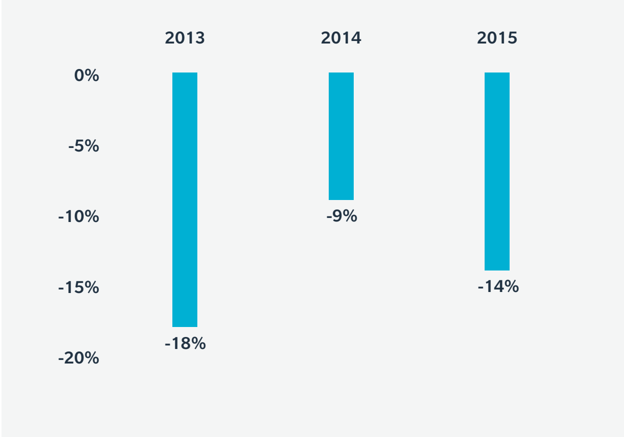


FIGURE 4 Business Interruption Exposure: A Declining Share of Total Insured Values
Source: Marsh's Mining Practice

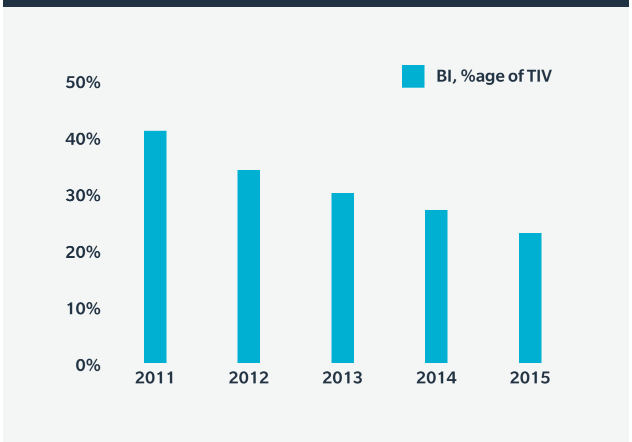


FIGURE 5 Propertion of Mining Clients Increasing/Decreasing Programme Limits
Source: Marsh's Mining Practice

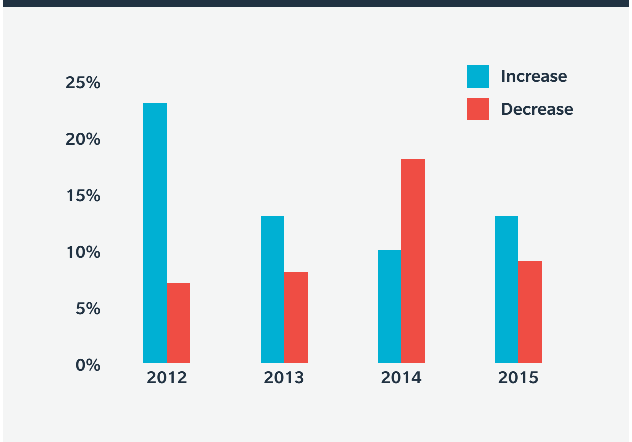
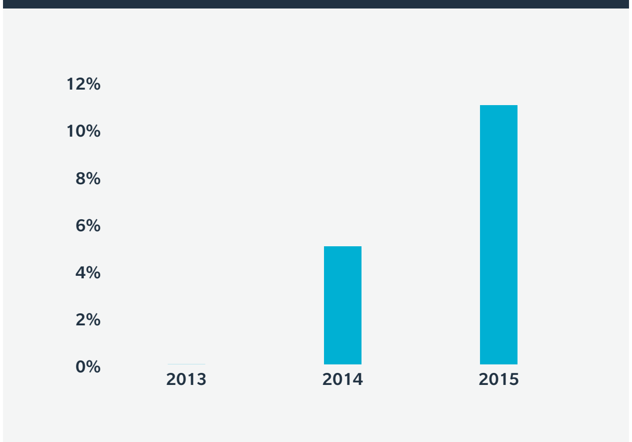


FIGURE 6 Underground Capacity Given: Year-on-Year Change
Source: Marsh's Mining Practice



* All chart data relates to clients without captive insurance/ reinsurance programmes to avoid skewing the data by the inclusion of materially varied risk retentions.

INTERNATIONAL PROPERTY UPDATE

Average rate decreases continued in the second half of 2015. This, in addition to falling commodity prices, lower business interruption and maximum foreseeable loss values, and occasionally, insureds purchasing lower policy limits has led to insurers experiencing significant year-on-year premium reductions. In some cases, insurers have managed to offset this year-on-year premium reduction with new premium income from standalone insurance programmes designed to insure non-core assets that insureds have divested or spun off.

The Samarco tailings dam failure in Brazil in November 2015, once again, brought tailings dams into underwriters' focus, which has resulted in more technical insurers requesting additional risk and operational information at renewal time. With additional mining capacity entering into the market, we expect rates to continue to decline in 2016.

The underwriting philosophy of **AIG** is consistent with previous years and with their past appetite for underwriting broad cross-class risks for multinational, multi-commodity miners, and junior mining companies. In 2015, it invested in risk engineering capacity and increased its participation in engineering surveys, often as a shadow provider. The London office has increased underwriting authority to US$150 million following some restructuring which will reduce the need to refer to the US with the same frequency as in the past.

ACE's appetite for excess layers is increasingly balanced by an enthusiasm to write additional lines with lower attachment points. Capacity is accessible in Bermuda, London, and Miami, with the Bermuda office in particular, focused on growing its mining portfolio. ACE has coordinated with **Starr Tech**, in some cases, to provide excess capacity complementing that which Starr Tech offers within primary layers.

ACE Bermuda has a total of US$200 million in capacity, which it deploys on excess layers only for mining risks. It tends to write excess of the highest probable maximum loss (PML) and limit its line size to approximately US$100 million. It will, on some occasions, offer a smaller line (US$5 million) lower in the programme within the underground limit provided this is not conflicting with any **Starr Tech** capacity.

Allianz's approach to writing mining risks remains broad and cross-class with significant available capacity, although interest and expertise vary across its global network. Identifying the correct access point to Allianz is important to getting the best outcome from the insurer. Underground capacity remains a stumbling block, although it increasingly shows signs of providing such capacity in 2016.

Allied World Assurance Company (AWAC) remains a solid primary insurer for all mining business, and Bermuda remains a centre of excellence for this class. Its normal capacity of up to US$7.5 million has been flexed upwards on occasion to provide additional capacity on certain risks for which it has written the larger primary layers.

Arch Re continues to write mining accounts for which it can generate a high rate on a line or provide a solution that is not available from the traditional markets, such as captive aggregate protection or deductible buybacks. Capacity remains at US$25 million.

Ariel Re is now owned by a joint venture between Banco BTG Pactual S.A. (BTG) and Abu Dhabi Investment Council, and has shown an increased interest in expanding its portfolio, with new capacity being offered. The majority of its business is conducted through Ariel Re Bermuda, which acts as a cover-holder for Ariel Syndicate 1910, allowing Ariel Re the benefits of issuing Lloyd's paper and not being subject to the United States Federal Excise Tax. The property team is now run by Bob Hansberry following Chris Fisher's retirement.

AXIS primarily writes excess of loss layers. It has recently closed its office in Australia and all international underwriting is taking place in its London and Singapore hubs. US risks can be considered in London or US offices.

Berkley Re UK Limited underwrites on behalf of W. R. Berkley Insurance (Europe) and is a new entrant. It is able to offer a significant capacity of up to US$/€75 million or £50 million per risk on an excess of loss basis. Line size might be reviewed depending on natural catastrophe exposures and maximum foreseeable loss (MFL) levels.

In 2015, **Berkshire Hathaway** refined its business model, and opened local offices in Singapore, Canada, and Australia. With significant capacity available of up to US$100 million on several major programmes and all mining risks, including underground, it is becoming a leading insurer for mining risks.

Bowring Marsh, in conjunction with Lloyd's syndicates, has developed a mining facility which provides up to US$21.5 million Lloyd's capacity on a line-slip basis. The flexibility and pooling arrangement of this facility allow Lloyd's insurers to offer larger consolidated participations, providing the benefits of Lloyd's A+ rating by mirroring traditional quota-share share participations by an individual syndicate.

Endurance completed its acquisition of **Montpelier Re** on July 31, 2015. Jon Hughes remains with the insurer to write its direct and facultative property portfolio, and is keen to renew the existing Montpelier Re portfolio. Maximum capacity remains at US$50 million with limitations on underground exposures. With existing Endurance offices in London and the US, the new entity now can potentially allow for additional capacity from the various access points.

With a flexible underwriting approach, **FM Global** offers significant capacity for mining risks, notably for Canadian and North American underground coal mining risks. Its participation in the mining sector remains subject to a client's loss prevention engineering and risk management philosophies.

Hannover Re has broadened its portfolio throughout 2015 and remains focused on writing all commodities as well as surface and underground risks. On programmes where both Hannover Re and **International Mining Industry Underwriters (IMIU)** participate, its preference is to combine the two capacities, which often results in IMIU providing longer "stretches". This is achieving some success with clients but does reduce flexibility. Underwriting is based on IMIU engineers' reports with IMIU targeting the first US$75-100 million of a placement, with up to US$15 million of capacity (although the full underwriting capacity of €75 million is available from Hannover Re).

With a decentralised underwriting authority model, **HDI Gerling** underwrites risks dependent upon a client's head-office location. With a strong engineering focus, significant capacity is available for the right risk — excluding underground risks.

Houston Specialty is one of the leading primary mining insurers, particularly for larger global diversified miners and remains focused on raising its profile and expanding its mining portfolio.

Ironshore is now a wholly owned subsidiary of Fosun International after Fosun's US$1.84 billion acquisition of the company in 2015. With a "business as usual" mandate, there has been no change in its underwriting approach or performance to date. Ironshore remains consistent in its strategy, expanding its mining portfolio and participating in larger quota-share layers where possible. Capacity remains stable at US$35 million.

Last year **Liberty Specialty Markets** announced a focus on heavy industries, including mining. Liberty has a technical and engineering focused approach, with account acceptance being dependent on a thorough engineering risk review. Capacity available is in excess of US$100 million for above ground risks. Liberty is yet to demonstrate a serious appetite for predominantly underground risks and offers limited underground capacity of approximately US$5 million.

Lloyd's has more than 30 syndicates writing mining risks, including Probitas, Standard, Hamilton, and Pioneer – which recently started writing mining accounts. The trend for larger and mid-tier clients requesting more quota share participation and/or longer stretches means it is becoming more of a challenge to build a multi-layered programme utilising Lloyd's lines. Nevertheless, underwriters remain keen on providing capacity for both primary and excess of loss layers.

Over the past 12 months, **Mapfre** has increased its capacity and writes international mining risks. It has now employed a specialised mining underwriter in London, Chris Nunn. While underwriting authority is provided in London, final sign-off continues to be provided by its Madrid head office.

Markel Bermuda continues to be a strong player in the mining space. With Barry Marren's recent departure from Markel Dublin, the Bermuda office has been chosen as the main platform for all mining accounts, including international and US, with maximum capacity at US$25 million. Underground risks are limited to US$2.5 million and critical natural catastrophe peril to US$15 million.

With a dedicated mining team, **Munich Re CIP** maintains its risk-focused approach to large and technically complex risks. It will provide quota share lead-type participation provided that detailed risk exposure information is available and is committed to supporting its long-term clients. Current market conditions have proved challenging to a degree, but Munich Re is proving capable of maintaining its participation on a majority of accounts.

Novae is the latest entrant into the Bermuda marketplace, writing direct and facultative North American domiciled property business as of 1 November 2015. Nik Lucking (formerly Montpelier Re) is heading the property team with US$50 million of capacity. Its appetite in the mining space is predominantly focused on excess layers, but will consider small complementary lines in the primary layers if retentions are significant.

Oil Casualty Insurance Limited (OCIL) continues to develop its mining business, with this sector now representing circa 40% of its portfolio. After a second full year of operation, it has successfully grown a very profitable property book, and in the first half of 2015 has increased its capacity to US$50 million. OCIL will now consider ground-up/quota share participations in addition to its historic excess of loss participations.

The proposed merger between **Partner Re** and **AXIS** that was mooted for third quarter of 2015 did not take place with Partner Re, subsequently being purchased by **EXCOR**. Partner Re continues to operate as "business as usual." Typically, technical and conservative Partner Re has, however, shown flexibility in 2015 and prefers to focus on single-site operations rather than multisite, multi-commodity operations.

QBE's exclusive facility with **Bowring Marsh** continues to offer reserved capacity for Marsh clients up to US$80 million per insured capacity, with a line size of up to 20%. Using superior A+ security, the facility provides automatic capacity at lead terms.

R & V Versicherung AG has recently expressed a desire to re-enter the mining and power markets after a three-year withdrawal. For mining risks, it prefers to allocate capacity on a high-excess basis. Based in Zurich, staff changes have facilitated this change of approach with the return of its previous underwriter.

Sirius International is a Lloyd's syndicate that has started up a new division in November 2015, offering up to US$50 million capacity on a primary and excess of loss basis for property and mining. The team is ex Montpellier Re and is looking to rebuild a similar portfolio. It has a maximum capacity of US$5 million on primary layers with the balance on excess of loss.

SCOR has been a long-term mining insurer. It remains active and strong demonstrating an interest in participating on quota share or large primary stretches, and both with significant underground coal and hard rock capacity. Its knowledgeable underwriters can be approached in regional and domestic markets, with final decisions for key or high-profile risks being referred to Paris. Its portfolio is diverse, ranging from single-mine sites to the multinational majors.

Starr Underwriting Agencies (CVS/1919) continues to expand its mining portfolio, and offers increased capacity as well as allowing CVS to develop a larger profile. It tends to exclude certain mining risks, such as dewatering expenses, haul roads, and open pits; however, with the provision of the sufficient underwriting information, these items can be considered as discussion points rather than absolute barriers. CVS has recently hired a specialist mining engineer and it has aspirations of providing engineering surveys on accounts it participates on.

Swiss Re Corporate Solutions (CorSo) energy team continues to be committed to providing competitive support to long-term clients during the current soft-market cycle. Its dedicated global mining team continues to provide solid and meaningful capacity to mining clients globally.

Zurich Global Corporate UK provides both direct and reinsurance solutions to a range of mining companies and acts as the single referral point for Zurich's mining business generated within the EMEA region. It has significant capacity (up to US$150 million) and can write all classes of mining, including underground risks. A consistent long-term participant in the mining sector, Zurich strives to create long-term partnerships with an interest for well-engineered risks. It fully engages with its mining risk engineers to assess risk quality so early engagement is recommended. Generally it can be approached in a client's domestic market or through international hubs.

CASUALTY MARKET

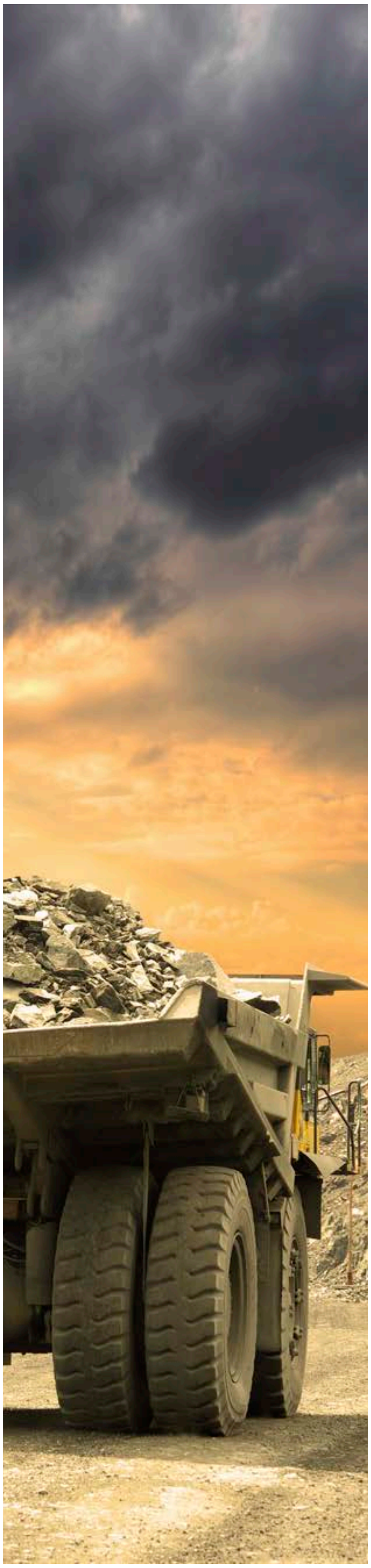
The soft market trend of recent years continued in 2015. While the market shows no signs of hardening, casualty markets for mining risks have been more stable than property markets. In 2015, some reductions were available depending on the type of exposure and localised claims. Insurers' appetites for mining risks have increased, in general, resulting in new capacity but has been tempered by some underwriting restrictions.

In particular, underwriters' levels of scrutiny have significantly increased following four major tailings failures in the last 30 months (Alberta, Mexico, British Colombia, and Brazil). Global insurers are seeking to ensure that up-to-date engineering reports/surveys are readily available for review. In an isolated case, insurers have restricted coverage for an acquired entity where sufficient evidence of structural integrity was not forthcoming. However, for the most part, there are no immediate coverage restrictions and premiums remain stable. Tailings and waste storage information certainly will remain items for review throughout 2016, and clients consider engineering updates on tailing facilities a requirement for continuity.

In 2016, we expect little general change in coverage conditions for occupational disease. This current standard exclusion is a result of the litigation related to asbestosis illnesses in the 1980s and 1990s, as well as silicosis and black lung claims. There has been some easing of occupational-related exclusions, and insurers are prepared to consider occupational-related incidents that are not related to respiratory disease(s).

Employers liability, in general, is an area of focus. Since the 2010 San Jose mine incident in Chile, the London marketplace has seen a rise in incidents and employee claims. As a result, the number of insurers willing to consider this coverage is limited, and sub-limits and/or increased clients' retentions are common.

Traditionally, medical malpractice coverage has been included within casualty placements depending on the exposure. Exposures range from first aid stations to large hospitals complete with maternity wards; however, some local African markets have scrutinised this exposure due to local losses in this class. In new cases, insurers have looked to restrict coverage in the liability policies, which requires engagement of medical malpractice insurers.



ACE's appetite continues to vary from region to region, mining method, and attachment point, although its underwriting philosophy remains consistent. It offers limits up to US$50 million, but typically with limitations on underground exposures.

Allianz has in excess of US$50 million available capacity. There are gold and cyanide exposure restrictions for its European offices and limits can differ depending upon region.

With an appetite for high attachment points, **Allied World Assurance Company (AWAC)** offers up to US$25 million in capacity. Additionally, specific coverage forms, such as occurrence reported, can impact both the nature and extent of its participation.

Chubb's underwriting philosophy remains consistent, with Chubb providing a comprehensive and global policy with supporting local arrangements and up to US$25 million capacity. Its pollution wording should be reviewed carefully, as it is somewhat restrictive when compared with that of its competitors.

Lloyd's has upwards of US$500 million available liability capacity, depending on mining type and location. Its total capacity is offered across its many syndicates, which write sudden and accidental pollution with a blended pollution (named perils and time element) coverage for North American exposures. There is considerable scrutiny of occupational disease and/or health hazards coverage and the majority of syndicates are now excluding this as standard.

While not a particularly active participant in the mining casualty marketplace, **Munich Re** offers up to US$50 million capacity on a selective basis.

As a leading mining insurer in London, **QBE** also has a global presence. Its international solutions are offered from a centralised London platform. Up to US$150 million in capacity is available but this can be restricted where US exposures are involved.

Swiss Re Corporate Solutions is a consistent leading insurer for mining risks and offers a maximum capacity of up to approximately US$100 million. It can support limits at relatively low excess points, however, in some cases it has demonstrated inflexibility on wordings.

W.R. Berkley's approach to writing mining risks remains steady and competitive, with an appetite to write the more difficult aspects of mining, although it is yet to make a stronger presence in the sector. It has US$20 million capacity that is not reduced by underground risks or US-domiciled operations.

XL Catlin can write limits of US$75 million and now with a global appetite from a Lloyd's platform, which is a first. It is a market leader for non-US risks with few restrictions. The post-merger entity has begun testing its global capabilities and is a genuine rival to Zurich.

An established key insurer in the sector, **Zurich** writes global primaries (with the ability to administer complex, locally admitted programmes for global clients), and lead umbrella in cases where it writes the primary.

It offers limits up to US$100 million, depending on mining type and location, and can reinsure mining risks to Zurich Global Energy in London, which offers a less restrictive pollution wording. Recent pollution losses and employers liability in Latin America has seen Zurich adopt some increased caution in terms of both limits and coverage.

In the US, mining rates are bending the global trend and are rising, albeit, at a measured pace. In the overall market, global risk management accounts saw flat rates through most of 2014 and slightly reduced rates in 2015.

However, domestic market rate changes of +5% to +10% are not unusual for loss-free accounts within the US mining sector. Insurers remain apprehensive about the volume and concentration of underground coal/soft rock workers and contractor miners, and drawing out clients' risk management strategies is critical to manage their concerns.

The number of insurers willing to lead umbrella mining clients remains limited, and this is particularly true for larger accounts seeking to transfer risk at levels the market deems aggressive. Excess markets continue to seek a better understanding of accounts with any exposures related to well installation/fracking, railroad operations, and cyber liability/unauthorised access to computer systems as well as the use of unmanned aircraft systems (drones).

West Virginia employers liability remains a concern for underwriters, with lead insurers often seeking attachments at a minimum of US$5 million each accident, versus the typical attachment of US$1-2 million each accident in other US regions.

Bermuda, London, and European markets continue to provide large blocks of stable capacity at attachment points greater than US$50 million.

Marsh has approximately US$1.5 billion of market capacity agreeing to use the Marsh Xsellence excess casualty form and there has been greater acceptance of the form from insurers willing to write mining accounts.

Options increase significantly above a US$25 million attachment which, at this point, includes **ACE**, **Aspen**, **Argo**, **Endurance**, **Great American**, **Ironshore**, **Liberty**, **Lloyd's Syndicates (Aegis**, **Novae**, **Torus**, **ANV**, **Apollo**, **etc.**), **Munich Re**, **Scor Re**, **Swiss Re**, **XL Catlin**, and **Zurich**.

Historically, **AIG Energy** was the predominant insurer; however, it has been less influential in the past year as it continued to move away from the lead umbrella segment, insisting on higher attachment points, limitations in coverage, and curtailing of capacity particularly in the large risk industry. This culminated in the closing of its Global Energy's National accounts division in early 2015, with the larger risks now handled by the Lexington divisions of AIG.

To varying degrees, **ACE**, **Zurich**, and **Berkshire Hathaway** have been willing to fill the void left by AIG's position.

Axis Bermuda excess casualty group closed their operation late 2015, citing a highly competitive marketplace, its lack of scale, and difficulty in obtaining profitable growth in the current excess casualty market.

Starr Indemnity has increased their capacity from US$25 million to US$50 million with a preference for using the capacity with existing clients.

In the US, there is no evidence of an impact on the marketplace of last year's two big mergers, **ACE/Chubb** and **XL/Catlin**.

Zurich announced that it would limit coverage and capacity committed to lead umbrella policies, and some hardening of the mining and energy lead marketplace may result. In addition to reducing capacity and increasing attachments points, it is also considering curtailing pollution coverage (granted as an amendment to its lead umbrella) due to adverse losses in what it has characterised as a problematic industry for it to continue to write.

TERRORISM

The terrorism market remained free of major market losses in 2015. This trend has brought in new market entrants and underwriters' rates, therefore, are continuing to decrease. With a steady increase in new mining construction projects in the Middle East, Asia, and South America, it can be expected that detailed risk management strategies will be required by insurers and will be subject to greater focus.

Downward pressure continues to be applied on premium levels and while renewal and new business results vary account to account, it is evident that loss-free accounts will benefit from falling rates. Furthermore, additional premium benefits can be achieved for clients with detailed information, risk surveys, cross-class insurances, and excellent social and corporate responsibility programmes.

SPOTLIGHT ON PERU

Peru is the third-largest copper producer in the world and community activism against investment projects in mining (as well as hydrocarbon, infrastructure, and energy and utilities) remains a defining feature of Peru's operating environment. Concerns over environmental and social impacts have been aggravated by resentment over the government's failure to turn record mining profits into improved living standards.

Other conflicts are a result of problems in relations between the communities and the companies or the perceived failure by the government and the companies to meet their commitments. A sharp increase in anti-mining activism and the persistent protests in 2015 have led to two "state of emergency" orders and a continued suspension of operations. The insurance market has, however, continued to support terrorism and political violence programmes for mining risks in Peru.

SPOTLIGHT

In 2015, Bowring Marsh's terrorism team launched its exclusive Terrorism and Political Violence Facility, which can offer up to US$500 million of capacity. By accessing the facility through Bowring Marsh, we provide five competing markets that have the ability to provide terms on each risk submitted and the capability to write up to US$250 million.

A further US$250 million can be secured through supporting pre-placed quota share markets. In addition, Bowring Marsh's Terrorism and Political Violence Construction Lineslip offers up to 60-months coverage and US$500 million capacity for all risks, including mining projects.

DOMESTIC MARKET CONDITIONS

The following is market commentary from the key mining hubs of Australia, Canada, South Africa, Latin America, and the US.

AUSTRALIA

2015 saw general insurance market conditions continue to improve as insurers were required to offer increased capacity if they wished to maintain their expiring premium volume and preserve their renewal business. As a result, the mining market saw new capacity being offered from a number of non-traditional mining insurers.

Berkshire Hathaway commenced Australian operations in May 2015 with a broad appetite for mining risks and partnered with Marsh to participate on the majority of placements. While this sounds like an aggressive approach, to date, it has deployed capacity cautiously, aiming for accounts where it can maximise its rate on line and manage natural catastrophe exposures. As a net underwriter (it does not buy reinsurance), it is difficult for Berkshire to generate meaningful lead capacity on large limit placements, and is generally participating as co-insurer on most accounts. Equally, being a new entrant, Berkshire does not necessarily receive its offered capacity on all accounts, providing flexibility heading into 2016.

Zurich has increased capacity and has converted some primary layers into quota share lines. **Chubb's** appetite has developed beyond open cut mines and will now consider underground risks, with the exception of coal where Australian domestic market capacity remains limited to **QBE**, **Zurich**, **Berkshire**, **Starr**, **Swiss Re**, and **Munich Re**.

While only a recent event, in renewals post Samarco, some underwriters – including **Swiss Re**, **AIG**, and **Starr** – flagged a requirement for increased tailings dams information in order to either maintain current coverage or negate the need for a tailings dam sublimit. On the majority of renewals this was held over for a discussion on the 2016 renewal. The likelihood of this coverage becoming an issue and the level of cover obtained will be dependent on market conditions and the quality of risk exposure information provided.

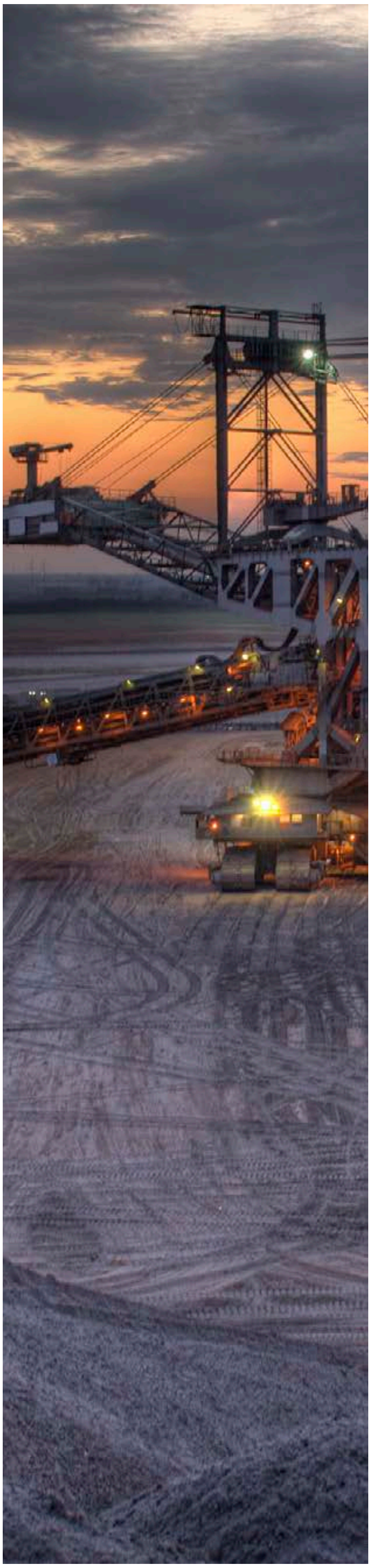
For clients where tailings dam coverage is an issue, quality of information will be critical to procure required levels of coverage. We will need to thoroughly demonstrate that a client's risk controls and exposures are well managed, and we will be working with clients to ensure this is available prior to renewal.

Over the past few years, we've been successful in increasing sub-limits and are now finding contingent BI exposures have reached underwriters' maximum limits, particularly for rail and port aggregation risks. Most clients are able to obtain adequate sub-limits for exposures, however, this could prove to be an issue if commodity markets turn and maximum foreseeable loss estimates begin to increase.

From a casualty perspective, the market continues to soften with new entrants being **Berkshire**, **HDI**, and **ACE** providing capacity of US$100 million and US$50 million, respectively, and existing players like **QBE** now offering US$100 million for underground programmes.

ACE has been particularly competitive on single-site risks. The largest reductions are being seen on well-managed risks, single-commodity/single-site miners. There is also downward pressure on deductibles with worker-to-worker liability now being achieved regularly at US$100,000.

This year, soft market conditions are likely to continue, however, with the majority of accounts being successfully remarketed over the last 24 months, the level of reductions available will begin to fall and we are expecting average rate reductions in the range of 5-10% for both property and casualty markets in the Australian domestic market.



CANADA

The Canadian insurance market for mining risks has remained soft through to the end of 2015, with competitiveness driven by insurers' generally strong underwriter results and serious commitment to the sector. This is keeping available property capacity abundant and despite insurer premium volume, primarily driven by reductions in business interruption values. The Canadian mining underwriting ranks did not see considerable change in 2015, as companies settled into the business plans that accompany moves that occurred in late 2014.

In the short term, modest rate reductions remain attainable – depending on factors such as timing of renewals, claims' histories, engineering track records, and maintained investments in loss control.

With high profile tailings incidents such as Mount Polley and Samarco, property and third party liability placements with elements of pollution and clean-up coverage will continue to be scrutinised. This includes review of cover and increased underwriter demands for additional information particularly in respect to tailings storage facilities. Stability reports, audit protocols, safety measures, and emergency planning documents may become a staple of renewal information requests. Deductible levels have remained steady on both property and casualty programmes.

The Canadian mining industry is seeing a reclamation bond comeback. Surety support exists with a spectrum of cost and credit capacity depending on credit quality of each client. There are approximately 15 surety markets with capabilities in this space. Quebec, the Northwest Territories, and British Columbia have all recently agreed to accept a surety bond as financial assurance for reclamation obligations and Marsh Canada has been an integral part of these changes. Clients should be made aware that there is an off balance sheet, unsecured alternative to posting bank instruments (letters of credit).

It has become harder to secure surety underwriter buy-in as the financial strength of the mining sector continues to deteriorate – underwriters are being increasingly cautious about taking on new risk in this space. This has more to do with balance sheet erosion and thinner margins than surety market appetite. Bond support for investment grade mining companies is still easy to garner and the pricing remains very competitive. Fewer insurers participate in the mining space and often structure their surety support with a collateral component and may underwrite the asset itself – not just the balance sheet.

SOUTH AFRICA

While South African general insurers remain financially strong, Fitch Rating has recently downgraded the country from BBB to a BBB- and Standard & Poor's rating remains unchanged at BBB-. GDP growth performance and estimates of growth potential have weakened further due to electricity shortages, continued weak business confidence, and ongoing labour disputes, as well as the reshuffle of the finance ministry in late 2015, which caused the South Africa Rand to hit an all-time low against the US dollar. This factor has, however, provided some relief to mining clients. Notwithstanding, the cushion provided by the depreciated South African Rand has most mines aggressively cutting costs and paying debt in order to survive. Various mines have entered care and maintenance, and mergers and acquisitions are increasing.

In this context, there has been a reduction in premiums received within the South African property market as a result of decreased sums insured and lower loss limits. South African insurers are also providing additional capacity for African risks generally, notably for the DRC, Zambia, Namibia, and Botswana. Insurers are under increasing pressure to demonstrate growth providing rate reductions where additional capacity is available; mines with 100% loss ratios are, therefore, still receiving reduced rates. Broader coverage is also available with domestic coverage now including additional cover for tailings dams and now comprises of rebuilding costs and contents of the dams.

Carriers remain focused on risk management improvement and are steadfast that all recommendations be carried out.

In each case, cost reduction is driven by active marketing pressure. Additionally, Marsh has designed a new product for smaller mines, which will still provide all risks cover but at reduced limits and sub-limits with higher deductibles.

Casualty insurers continue to provide reduced or unaltered rates on claim free accounts. As a result of a US$3 million liability claim, (the largest mining claim in the last 10 years), new insurers prefer not to quote mining business. Capacity is still readily available at very competitive terms. Since the Samarco incident, Marsh is negotiating separate limit for costs associated with clean-up.

LATIN AMERICA

BRAZIL

Since the Samarco dam failure on 5 November 2015, Brazilian insurers have changed underwriting guidelines considerably. Previously, a competitive marketplace, the current momentum is challenging with reactive, restrictive terms or exclusions on tailing dams, in addition to an increase in price and deductibles on an individual basis. As to be expected, the level of scrutiny has significantly augmented for tailings storage facilities and underwriters are requesting more detailed risk exposure information.

Despite the effect the dam failure has had, the local market continues to be competitive when compared to the traditional international markets due to local currency depreciation.

Local representatives of **ACE**, **AIG**, **Allianz**, **IRB**, **Mapfre**, **Munich BR**, **Swiss Re**, **Tokio Marine**, and **Yasuda** continue to review their mining portfolios and exposures, however, standard domestic wordings and coverage are more limited. Domestic markets offer a small percentage of capacity, and more often than not, underutilise full treaty capacity due to business strategies. Local and international reinsurance markets continue to provide facultative reinsurance to support local insurers. It's important to bear in mind that historically, the local market has been volatile during catastrophic events. Utilising international capacity provides clients with greater stability and a level of detachment when these events occur.

The same hardening trend applies to the third party liability markets, with **ACE**, **AIG**, **Allianz**, **Fairfax**, **HDI**, and **Tokio** reviewing their portfolios but mostly focussing on the tailings dam exclusion.

Competition is limited with few insurers writing underground risks, and deductibles are now subject to review. Coverage remains broad and the number of insurers approving their own wordings with local authorities is rising, bringing about reduced standardisation; additional consideration is required to ensure the suitability of all aspects of the insurance contract.

Environmental liability remains limited to four insurers, which offer approved products but with limited authority to write mining risks. Due to the size of the market, coupled with overall invariable pricing, there is little competition relative to the international market in this regard.

CHILE

Chile, the world's largest copper producer, is a region aligned not only to inherent mining risks but also has natural perils with both seismic and the southern oscillation index impacting the region.

An 8.3 magnitude earthquake in September 2015 and heavy rains in the Antofagasta and Atacama regions in March 2015 had little effect on both the local insurance market and on Chile's mining operations, with no important losses suffered. Despite these challenges, the insurance marketplace remains very competitive and, in general, rates continue to decline.
Reductions are typically around 10% or more for physical damage/ business interruption rates depending on the quality, loss record, and evidence of strong loss control.

The softening trend continues for the third party liability market with rate reductions continuing despite the Samarco dam failure. Within any third party cover, employer's liability extension remains a key cover.

In September 2015, **RSA** Insurance Group announced the sale of its Latin American operations to **Suramericana**, the insurance subsidiary of Colombia's Grupo Sura, for US$614 million. Operations span Chile, Mexico, Colombia, Uruguay, Brazil, and Argentina and with this acquisition, Suramericana will consolidate its position in the Latin American insurance market and in Chile. In addition, both **Liberty International's** acquisition of Penta Security and **HDI's** purchase of Magallanes Seguros (the fourth-largest company in Chile) demonstrate the optimism around the expected growth and opportunities within the region.

PERU

Peru's lack of significant loss activity is reflected in a stable market environment, and the Peruvian insurance market has followed the international market trend with rate reductions. However, after the Samarco dam failure, local insurers responded with increased scrutiny and requests for more detailed information to underwrite dams. December renewal rates reduced, nonetheless.

With this decline in rates, local companies' results have not been as expected and the local market is keen to avoid reducing rates in the first half of 2016. Competition is, therefore, key and domestic markets will have to continue to align with international market trends.
This process of alignment has led to the availability of broader coverages and increased limits and sub-limits for clients, in addition to improved rating. The combination of the local and international markets has proven to be the best option for median mining clients, while for small mining clients, domestic insurer options are limited and the terms for coverage are not materially softening.

Risk analysis is increasingly more important due to clients' decreasing cash flow, efforts to retain risk and reduce expenses. In November last year, Marsh participated in a regional RIMS Risk Forum held in Lima, providing expertise on how clients can proactively manage their insurance expenses and where mining companies need to focus their attention in terms of emerging risks and risk-financing optimisation.

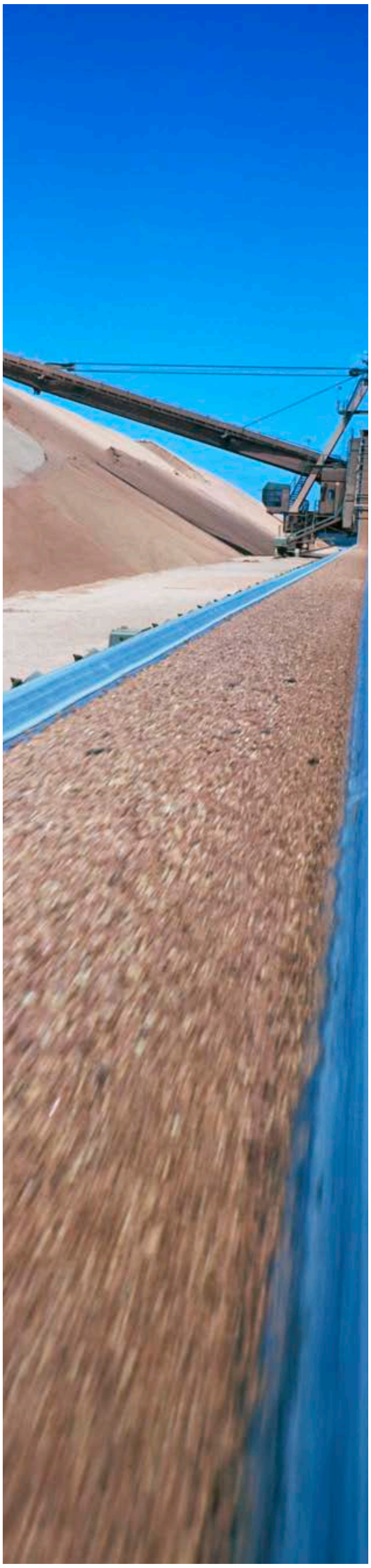
Generally speaking, domestic markets' exposure on medium and large mining risks has increased (supported by the increase of the capacity of insurers' treaties).

In general, deductibles are aligning to international market norms for medium and large mining companies but are still lower than international norms for small operations.

RIMAC remains the leading domestic insurer offering broad capacity by using its automatic treaty for mining risks. **La Positiva** uses its treaties for small mining operations. However, it has not been easy for Positivia to win new business as it provides limited options. **Pacifico** writes mining risks on an exceptional basis, while **Mapfre** is an option for large risks with global support. The co-location of Marsh placement colleagues with Mapfre's head office in Madrid allows Marsh to drive for the best available results from this important insurer for the region.

For liability risks, local markets place limits with small treaty support, with the exception of **ACE**, which is able to offer broader capacity. Local market conditions have been traditionally soft relative to the international markets, but more and more domestic insurers are willing to renew mining portfolios on a rating basis in to order to align with higher international market premiums. The tendency is for rates to increase, or at least remain stable.

There has been little change with the Peruvian regulatory environment and it continues to allow the writing of Peruvian-domiciled risks on a non-admitted basis. The framework for fronting and loss remains favourable and, therefore, continues to merit consideration even where international insurers are the ultimate risk transfer providers.



UNITED STATES

With falling commodity prices, the US mining industry is experiencing historic lows with some companies on the verge of bankruptcy, fighting to stay marginally solvent and striving to contain risk and insurance costs. As a consequence, reduced demand for capacity continues, and coincides with abundant insurance capacity supply, keeping rates competitive with 5% to 15% reductions in the last quarter of 2015.

In this environment of "thinner" rates, individual underwriters are carefully reviewing the amount of capacity deployed to individual risks and monitoring underwriting outcomes closely (for underground coal risks in particular), and while capacity in the aggregate is plentiful, there remains the potential that a significant loss could lead to a sharp decline in available capacity. Nevertheless, the current high level of competitive tension has meant that rate relief has been achieved with consistency, even for clients with attritional or modest claims activity.

Insurers are demonstrating a strong willingness to support long-term clients and approximately US$200 million of underground and US$1 billion of surface capacity remains available for both the hard and soft rock producers in the US.

Business interruption values continue to decline, driving reductions in the base programme premium, and influencing the level of competition in the marketplace. There is great determination amongst insurers to maintain premium income, and with this comes selective offers of additional capacity intensifying the pressure on rate.

Mining clients have typically avoided increasing deductibles to secure further savings, due to the limited and subjective nature of premium credits. Waiting periods on business interruption coverage and conversion to flat-dollar deductibles continue to be reviewed by clients, although the ultimate adoption of this type of change has been extremely limited. A trend that emerged in 2015 was the number of clients taking quota share percentage retentions of the primary layer of insurance. Although this increased their retained risk, it had a greater reduction in transfer costs. Moreover, lower time-element deductibles continue to be evaluated due to the significantly lower exposure from depressed mineral pricing, particularly in coal.

Although no new coverage restrictions or exclusions have been imposed in recent months, policy language is carefully reviewed in order to confirm the scope and intent of coverage for catastrophic perils such as flood, and is likely as result of current conditions. Existing policy forms are being renewed without issue, with some acceptance of broader manuscript policy language by the market.

RISK ANALYSIS MODELLING PLATFORM (RAMP)

The size and diversity of our global portfolio has enabled us to develop a market-leading Risk Analysis Modelling Platform. This helps us benchmark property damage and business interruption insurance programmes.

Using data points such as critical catastrophe, deductibles, key sub-limits, loss limit, loss ratio, principal ore and type of risk (open pit or underground), type of power generation, and cargo type, we can provide important in-depth management information on a confidential basis.

FEATURES AND BENEFITS OF THE RISK ANALYSIS MODELLING PLATFORM

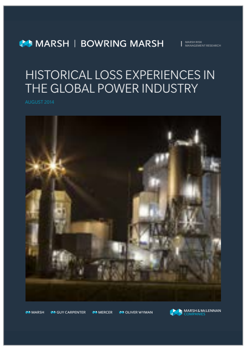
FEATURE	BENEFIT
Consolidated global database providing historical rates, limits, deductibles, and programme structures.	A clear visual representation of how any insurance programme compares to that of others in the same industry.
Access to terms and conditions offered by both local and international markets.	The ability to compare local programmes (in the same region as the insured) to those available from international markets.
Provision of real time average and median rate analysis for any given timeframe (i.e. Comparing specified quarters and/or years).	The ability to provide quick "ball-park" estimates for either new or renewing business based on historical trends.
Quality printed output.	Aids executive decision-making.
Historical record of renewals for clients.	Enables elements of premium increases/decreases for divestitures/ acquisitions.

TAILORED REPORTS FOR CLIENTS AND PROSPECTS

Using the Risk Modelling Analysis Platform (RAMP), Bowring Marsh develops confidential, tailored reports to compare local programmes, provide "ball-park" estimates based on historical trends and a clear representation of insurance programmes.

THOUGHT LEADERSHIP

Bowring Marsh uses the combined knowledge and experience of our brokers and our proprietary claims data to provide regular, thought-provoking, industry-focused research papers for clients and prospects.



BOWRING MARSH FACILITIES

Bowring Marsh offers specially-negotiated facilities, specifically for mining clients, which facilitates the speedier quotation and placement of client risks.

MINING FACILITY	Offers up to US$21.5 million in capacity and writes all mining activities without exclusion – including underground which can be difficult to place. It brings in new quality Lloyd's capacity and covers all perils without exclusion – including natural catastrophe.
QBE AND ARGO PROPERTY FACILITY	Two facilities which offer up to US$80 million capacity per insured using superior A+ rated security.
TERRORISM AND POLITICAL VIOLENCE FACILITY	Offers long-term pricing stability and up to 50% of each slip with a discount of 10% off the lead market premium.
UK TERRORISM FACILITY	Jointly led by Catlin Syndicate 2003 and Talbot Syndicate 1183 and backed by other Lloyd's insurers, offers £150 million loss limit per insured available, with quick turnaround times and a broader definition of an act of terrorism when compared against Pool Re.

Detailed information on the above facilities is available from your usual Bowring Marsh contact, or from fleur.giraud@marsh.com.

SPOTLIGHT

THE BOWRING MARSH ADVANTAGE

With the size of our portfolio and our global network of Bowring Marsh offices, we can offer a real advantage to clients who are in need of an international placement solution. Some of our attributes which we live by and share are:

- Our energy.
- Our enthusiasm.
- Our global network.
- Our industry and technical knowledge.
- Our ability to have face-to-face negotiation with decision makers.
- Our proprietary facilities.
- Our Risk Analysis Modelling Platform.
- Our results from our 2013 underwriter survey.

About Marsh

About Bowring Marsh

Bowring Marsh is the dedicated, specialist international placement broker for Marsh. Working seamlessly with Marsh, Bowring Marsh provides you with risk transfer solutions, benchmarking, and claims advocacy wherever you are in the world through its global insurance placement network of 11 offices in the United Kingdom, Ireland, Continental Europe, Asia, the Middle East, Latin America, and Bermuda.

With more than 300 insurance brokers located across all the major international insurance hubs, Bowring Marsh provides international placement options that suit your business risk and exposures. We use our comprehensive portfolio experience, our in-depth knowledge of your risks, our ability to have face-to-face negotiations with decision makers, and our industry knowledge to innovate, customise, design, and place your insurance programmes with international insurers.

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MARSH IS ONE OF THE MARSH & McLENNAN COMPANIES, TOGETHER WITH GUY CARPENTER, MERCER, AND OLIVER WYMAN.