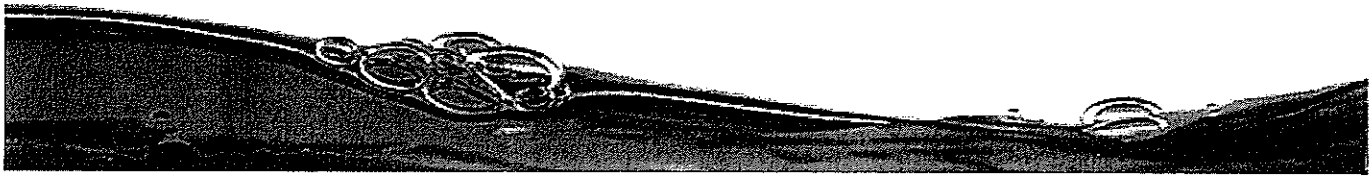
Paltar
Petroleum Limited



ACN 149 987 459

Paltar's response to objections lodged in relation to Exploration Permit Applications 240, 241, 242, 250, 251, 266, 267, 268 and 272

Table of Contents

1. Background of Paltar Petroleum Ltd

1.1 Background of the Applicant

Paltar Petroleum Ltd (**Paltar**) was incorporated in Australia under Australian law on 22 March 2011 with the objective of engaging in the exploration of conventional and unconventional oil and gas.

Paltar is managed by a team of mining, exploration and financial professionals with extensive technical, operational and financial experience in the area of oil and gas exploration and extraction. The board of Paltar comprises Messrs Marc Bruner (CEO and Chairman), Ben Law (Non-Executive Director), Darrel Causbrook (Non-Executive Director) and Hamish McIntosh (Non-Executive Director).

As noted below, Paltar's Board contains personnel with decades of experience and success within the oil and gas industry, which experience Paltar will draw upon to structure, implement and progress its proposed activities.

1.2 Paltar's Board

Marc Alan Bruner, CEO and Chairman

Mr Bruner is a leader in the development of unconventional oil and gas projects worldwide. He has a track record of identifying large unconventional projects, such as the Mako Through (40 TCF) in Hungary, the Karoo Basin (30 TCF) in South Africa, the Uinta Basin (6.2 TCF) in Utah and the Pinedale Anticline (23.5 TCF) in the Green River Basin, Wyoming and the Pennaco Energy project (2 TCF) located in the Powder River Basin, all three of these projects are located in North America, and the Beetaloo Basin (estimated recoverable potential reserves of 64 TCF and 17 Billion Barrels of Oil) located in the Northern Territory, 600 km south of Darwin, Australia.

With more than 30 years experience in the industry, Mr Bruner has worked with top geologists, Dr Ben Law and Tom Ahlbrandt to identify unconventional oil and gas opportunities in the United States of America and internationally. Mr Bruner's major successes have included the development of the Pinedale Anticline in the Green River Basin of western Wyoming, now recognised as the fourth largest unconventional natural gas field in the United States, and the exploration and development of coal bed methane properties in the Powder River Basin, one of the largest coal deposits in the world.

Mr Bruner has founded a number of successful international oil and gas companies including Ultra Petroleum Corporation in 1996, a NYSE listed company focused on the development of the Pinedale Anticline unconventional oil and gas project; Pennaco Energy, Inc in 1997, focused on the exploration and development of unconventional oil and gas leases of coal bed methane properties located in the Powder River Basin; and Falcon Oil and Gas in 2005, a TSX Venture Exchange listed company focused on acquiring, exploring and developing large acreage positions of unconventional oil and gas resources around the world.

While serving these companies as Chairman of the Board, co-founder and Chief Executive Officer and President, respectively, Mr Bruner negotiated major commercial transactions with global oil and gas companies Halliburton, Burlington Northern, Marathon Oil, Exxon Mobil, Questar Gas and Hess Corporation.

These agreements resulted in substantial growth for each company. As founding Chairman of Ultra Petroleum Corporation, Mr Bruner negotiated 37 major contracts that formed the core value and principal asset base of the company, which grew from an initial capitalisation US$1 Million to US$6.7 billion (152,573,843 shares at $44.25/share) as at February 2011. In March 2001, Pennaco Energy, Inc., a founding company of Mr Bruner's was sold to Marathon Oil for US$500 million. Falcon Oil & Gas was incorporated through a reverse merger with Mako Energy Corporation, and had an initial market capitalisation of US$500,000. As of 20 May 2011 the market capitalization was US$103,547,520.

Most recently, Mr Bruner founded Paltar Petroleum Limited to develop an extensive unconventional oil and gas play in Australia's Beetaloo Basin, potentially one of the world's largest untapped shale deposits. The Basin, located approximately 600 km south of Darwin, has been the subject of significant oil and gas exploration since 1984, with Rio Tinto subsidiary Pacific Oil and Gas drilling 12 wells and accumulating over 27,000 feet of core data. More recent technological changes in unconventional oil and gas drilling, particularly coming with the development of the Pinedale Anticline, have advanced significantly the accessibility of such deposits.

Exploration to date confirms substantial hydrocarbon quantities in sediments without trap and reservoir structures similar to the unconventional gas and oil projects North America. Earlier this year, Hess Corporation entered into an agreement with Falcon that may see them drilling up to 5 wells in the adjoining tenements. This represents the entry of a major unconventional oil and gas company in the Beetaloo Basin for the first time.

Ben Emmett Law – Non-executive Director and Chief Geologist

Dr Ben Law is a world-leading expert in the recognition and discovery of unconventional petroleum systems. He has extensive experience as an explorationist and research geologist with industry and the U.S. Geological Survey.

Dr Law's 40 years of research on unconventional gas systems has led to US and international recognition as an expert in basin-centred gas (Tight Gas) and coal bed methane systems. He is renowned for recognising and documenting the occurrence of numerous basin-centred gas systems worldwide, including the Powder River Basin of Wyoming, Greater Green River Basin of Wyoming, Colorado, and Utah, Colombia River Basin in Washington, Timan-Pechora Basin in Russia, Dnieper-Donets Basin in Ukraine, Taranaki Basin in New Zealand and the Beetaloo Basin in Australia.

From 2004-2011 Dr Law worked with Falcon Oil and Gas Ltd where he was responsible for the global search for unconventional hydrocarbon accumulations. During his tenure with Falcon he was instrumental in the identification and acquisition of conventional and unconventional oil and gas properties in Hungary, Romania, Australia and South Africa.

Dr Law has published more than 195 papers, books and abstracts on petroleum and coal geology. He has received numerous industry accolades including Rocky Mountain Association of Geologists Outstanding Scientist Award, 1997, Robert H. Dott, Sr. Memorial Award for best AAPG Special Publication, 2000, honorary editor for the Chinese Oil and Gas Journal from 2004 until present, and in 2010, was an invited speaker at the 376th Xiangshan Science Conference in Beijing, China.

Darrel John Causbrook (Non-executive Director)

Mr Causbrook is a Chartered Accountant with over 30 years experience in the accountancy profession, having worked for both large and mid-sized accounting firms. Over 10 years ago,

Mr Causbrook established his own accounting practice, providing business and strategic advice to a variety of industries.

He holds a Bachelor of Commerce Degree from the University of Wollongong, is a Fellow of the Institute of Chartered Accountants in Australia, CPA Australia and Taxation Institute of Australia and is a member of the Australian Institute of Company Directors.

Hamish Leslie McIntosh (Non-executive Director)

Mr McIntosh is a licensed financial planner. He has worked for a number of large and small financial advisory firms. For the last 10 years he has been the majority shareholder and managing director of KWM Financial Consultants Pty Limited. Mr McIntosh specialises in providing financial advice to high net wealth individuals and private organisations.

Mr McIntosh holds a Bachelor of Commerce Degree from the University of New England, is a Chartered Financial Planner and Member of the Financial Planning Association.

2. Paltar's exploration objective

(a) Paltar's objective is to undertake exploration programs on the areas the subject of exploration permit applications 240, 241, 242, 250, 251, 266, 267, 268 and 272 (**Applications**) to determine whether there are conventional or unconventional hydrocarbon resources present that are capable of producing large scale economically recoverable resources. If such hydrocarbon resources are found, Paltar intends to commercialize the deposits through the creation of onsite production facilities and infrastructure to assist in their transportation to either or both domestic and international markets.

(b) The proposed exploration activities are anticipated to occur across a 5 year period in accordance with Part II, Division 2, Section 22 (1) of the Northern Territory Petroleum Act, and may include hydraulic fracturing and the establishment of floating platforms.

(c) Below is a copy of the work program lodged with the Department of Minerals and Energy for each of the Applications.

Year	Work Program Details
1	During year 1 surface field work such as structural mapping, investigation of any drill holes drilled, outcrop sampling and analyses, and general lithological descriptions with thickness determinations will be conducted
2	During year 2 we will continue with most of the work initiated during year 1. We will also construct regional cross-sections based on our interpretations of the stratigraphy with appropriate overlays of thermal maturity, present-day temperature, and other interpretive data
3	During year 3 we will conduct a "Low Altitude Multispectral Image Analysis for Micro and Megascale Fracture Systems". This information will provide us with information regarding the characterization of the fracture system within the region and also identify areas, through the evaluation of hydrocarbon leakage along fractures, for potential drilling

	locations.
4	During year 4 shallow core wells (minimum depths of 500m) will be drilled and core samples will be collected and analysed in the context of petroleum exploration.
5	As a minimum drill 2 additional shallow core wells (minimum depths of 500m) and core samples will be collected and analysed in the context of petroleum exploration to determine the viability of drilling a well.

3. Previous record of Environmental and Cultural Sustainability

3.1 Proven Leaders in Environmental and Cultural Sustainability

(a) Paltar is dedicated to sustainability and transparency and accordingly intends to undertake all reasonable consultations with environmental specialists and indigenous people affected by its exploration activities.

(b) Paltar's team of experienced directors is devoted to maintaining the highest professional and ethical standards in business operations and believes that open communication with specialists and local communities is essential for enabling Paltar to fulfill such responsibilities.

(c) The international record of Paltar's CEO Mr Marc Bruner and chief geologist Dr Ben Law in the oil and gas industry strongly is evidence of their resolve to conduct Paltar's exploration activities in a manner that equally considers the economic, social and cultural interests of all parties involved.

3.2 Ultra Petroleum Corporation

(a) Mr Bruner's former leadership of Ultra Petroleum Corporation provides a powerful example of his professional commitment to adopting oilfield practices that best preserve the environment and surrounding communities. As Chairman of the Board at Ultra Petroleum from 1996-1999, Mr Bruner carefully worked to ensure the most ecologically sensitive development of the Pinedale Anticline unconventional oil and gas project in the Green River Basin of western Wyoming.

(b) After achieving tremendous success in operations in the Green River Basin from 1997-1998, Ultra supported the creation of an Environmental Impact Statement (EIS) by the U.S. Bureau of Land Management (**BLM**) on the potential environmental effects of a proposed 700 well drilling programs in southwestern Wyoming. Under Mr Bruner's direction, the company, which owned 70% of the lease holdings of the area, welcomed information that would enable a modified drilling program to minimise air and land pollution. This was demonstrated by working alongside atmospheric specialist Laurie Goodman, local environmentalists, the Wyoming Fish and Game Commission and the BLM to ensure that Ultra's natural gas exploration activities were conducted in accordance with safe environmental practice.

(c) In particular, Mr Bruner negotiated a joint plan with PacifiCorp to develop an initiative to improve the air quality in south western Wyoming by decreasing its nitrogen oxide omissions.

(d) Additional environmental achievements of Ultra Petroleum under Mr Bruner consist of the company having financially supported ecological research and advocated the importance of the publication of chemicals used in mining projects.

(e) Mr Bruner was instrumental in ensuring Ultra Petroleum's funding of three major studies to improve wildlife management in south western Wyoming, including the 'Jackson Hole Pronghorn Study' by Hall Sawyer and Fred Lindzey.

(f) Mr Bruner also highlighted his strong commitment to employing biodegradable products and publically disclosing all such materials used for their exploration activities. Mr Bruner worked closely with the Ground Water Protection Council's (GWPC) hydraulic fracturing registry and the Wyoming Oil and Gas Conservation Commission to keep the Pinedale community well informed of the environmentally conservative procedures and materials used in their oil and gas projects.

3.3 Falcon Oil and Gas

(a) Paltar's commitment to environmental and cultural sustainability is further supported by Marc and Ben's previous demonstration of good oilfield practice through the direction and management of Falcon Oil and Gas.

(b) In 2005 Mr Bruner founded Falcon Oil and Gas, a TSX Venture Exchange listed, global energy company focused on acquiring, exploring and developing large acreage positions of unconventional and conventional oil and gas resources.

(c) Emulating the high ethical and professional standards of Ultra Petroleum, Marc and Ben ensured Falcon's strict adherence to various international environmental laws and regulations at a federal, state, provincial and local level.

(d) From exploration activities in the Central Pannonian Basin in the Makó Trough of Hungary to the Karoo basin in South Africa, Falcon Oil and Gas has a strong record of strictly complying with jurisdictional regulations regarding emissions as well as the importation, transportation, processing and removal of materials employed in its operations.

3.4 Indigenous Relations in South Africa and Australia

(a) Mr Bruner and Dr Law are also proud of their successful experience in engaging indigenous populations and local communities to develop exploration operations that produce mutually beneficial outcomes.

(b) For example, in late 2010 Falcon pursued extensive discussions with landowners within its 7.5 million acre Technical Cooperation Permit in the Karoo Basin of South Africa to gain information that would enable its adoption of measures to most effectively protect natural habitats and sacred cultural sites.

(c) The process involved public consultations held in both English and Afrikaans, the publication of reports and the creation of newspaper advertisements to realize a sustainable and culturally respectful exploration program.

(d) Likewise, the unconventional oil and gas pioneers proved their capacity to facilitate effective indigenous relations through obtaining Exploration Permits EP 99, 98, 117, and 76 in the Australian Beetaloo Basin after an open negotiation process similar to that undertaken in the Karoo Basin.

4. Environment and Cultural Concerns

4.1 Good Oilfield Practice

(a) Paltar acknowledges its environmental and cultural responsibilities and is deeply committed to conducting all exploration activities in accordance with good oilfield practice. This refers to Paltar's intention to adopt the safest and most ecologically conservative practices in the oil and gas industry for its exploration operations, which includes:

(i) complying with:

A. recognised Australian standards;

B. the provisions of all relevant laws and in accordance with the requirements of all relevant authorities; and

(ii) taking all reasonable steps to ensure that:

A. adequate materials, resources and supplies are available;

B. sufficient experienced and trained operating personnel are available to undertake Paltar's responsibilities; and

C. consultations are undertaken with environmental experts, affected indigenous people and any other affected people as appropriate.

(b) The Australian oil and gas industry through Australian Petroleum Production and Exploration Association (**APPEA**) aims to produce energy in an environmentally responsible way, and operates under a detailed Environmental Code of Practice. Paltar, although not yet a member of this Association, will operate under the principles established by APPEA.

(c) There are various Sea Country Plans and Management Plans that have been developed for northern Australian waters, and Paltar welcomes the opportunity of working together, in a real and meaningful fashion with the various stakeholders, particularly the Saltwater People Network (which includes Traditional Owners from the Kimberley, across the Top End of the Northern Territory through to Cape York and the Torres Strait Islands).

(d) At this point in time, the objections responded to are for tenements that are still under application, no exploration has occurred. Exploration activities and associated infrastructure are not on the scale of production requirements. This is essential to consider in the light of the objections raised.

(e) We have enclosed a copy of Paltar's Environmental Policy dated 8 October 2012[1].

4.2 Local environment

(a) Paltar begins the process with doing background environmental searches for species (both plant and animal) of significance within their tenements (including those under application). These data searches include threatened/endangered plants and animals as well as weed and introduced species. Obtaining background information

is done prior to beginning any exploration, so that Paltar is aware of the environmental setting and any potential issues early in the process.

(b) There is a range of legislation, both for the Commonwealth and the Northern Territory that Paltar must comply with to minimize any potential impacts to the environment. Environmental Plans must be submitted to the Northern Territory Government and other agencies as required by law for review and assessment prior to any works occurring.

(c) Paltar will develop Environmental Management Plans specific to tenements once tenements are granted.

(d) Management Plans in general include:

(i) Identifying and describing potential environmental impacts from activities;

(ii) Describing recommended management activities for impacts;

(iii) Stating environmental performance objectives;

(iv) Describing roles and responsibilities for environmental compliance; and

(v) Reporting requirements.

(e) General measures that are included in such plans may include (for example):

(i) Avoiding drilling/seismic survey activities in known breeding/nesting sites during the breeding/nesting seasons;

(ii) Buffer zones around offshore drill rigs for monitoring cetacean activity and stop work procedures in the event cetaceans are seen within these zones; and

(iii) Soft-start procedures for offshore seismic surveys.

4.3 Indigenous hunting and fishing grounds

(a) For general safety reasons, safety exclusions zones will be placed around drilling operations. This is a standard procedure in all forms of exploration drilling, whether on or offshore, and whether for oil and gas or mineral drilling.

(b) During exploration, any potential impacts to traditional hunting and fishing practices are anticipated to be minimal. This is inclusive of both the marine environment as well as the near-shore/intertidal environments.

(c) Exploratory activities are both highly localised, and of limited duration, and so any displacement of species that may be hunted or fished for is anticipated to be temporary. As part of the Environmental Management Plans for Paltar's exploration activities in the region, Paltar would avoid known breeding and nesting grounds (such as turtle nesting beaches) during the season, as much as is practically possible. Development of the plans and management measures would be undertaken in consultation with the relevant stakeholders to ensure minimal impacts to the environment and traditional hunting practices. It is Paltar's intent that by working closely together in partnership with local Aboriginal groups that

appropriate Management Plans can be developed to maintain the environmental and cultural integrity of the region.

4.4 Guided fishing industry and tourism

(a) Drilling is not anticipated for the first couple of years of exploration, and, when/if targets are identified for drilling, it is envisaged that only a few holes per tenement would be required. Each well-hole would take in the order of 45-60 days.

(b) Research (although limited) has shown that many fish species exhibit avoidance behaviour of an area where seismic surveys are occurring. In the initial phases of exploration Paltar is not anticipating doing seismic surveys, as their priority is to look for unconventional resources.

(c) Paltar welcomes the opportunity to engage with the representatives in the guided fishing industry to discuss and work through any potential issues prior to working in the region.

4.5 Recreational fishing and the marine environment

(a) Recreational fishing is one of the most popular pastimes in the Northern Territory. There are a range of fish that are caught, with the most popular species (noted from the Northern Territory Department of Primary Industries and Fisheries) being the Barramundi (*Lates calcarifer*), the Golden Snapper (*Lutjanus johnii*), the Black Jewfish (*Protonibea diacanthus)*. The snapper and jewfish are known to be not suitable for recreational fishing such as catch and release due to the poor survivability from trauma, (as are many species), Spanish Mackeral (*Scomberomorus commerson)* and various sharks. There are of course, other species that are popular with recreational fishers. Mudcrabs (*Scylla spp.*) are also highly sought after.

(b) There are different spawning times for the various species, and there are a range of spawning and nursery areas. Some species are more vulnerable to potential impacts on breeding and spawning times, such as the Golden Snapper, who take years to reach sexual maturity, and once mature are not considered a very mobile species. Drilling is not anticipated for the first couple of years of exploration, and, when/if targets are identified for drilling, it is envisaged that only a few holes per tenement would be required. Each well-hole would take in the order of 45-60 days. With these limitations, it is anticipated that there would be minimal impacts to recreational fishing activities.

(c) As part of the Environmental Management Plans for Paltar's exploration activities in the region, Paltar would avoid known breeding and spawning grounds during the season, as much as possible. Development of the plans and management measures would be undertaken in consultation with the relevant stakeholders.

4.6 Environmental assessment in relation to exploration activities

(a) Prior to any exploration activities, Paltar undertakes background environmental searches for species of significance within their tenements. These data searches include threatened/endangered plants and animals as well as weed and introduced species. Obtaining background information is done prior to beginning any exploration, so that Paltar is aware of the environmental setting and any potential issues early in the process.

(b) Paltar submits Environmental Plans to the Northern Territory Government and other agencies as required by law for review and assessment prior to any works occurring. These Environmental Plans contain information such as:

(i) Existing natural physical environment including geography, geology, climate, hydrogeology, hydrology, soils etc;

(ii) Existing natural biological environment including bioregions, flora and fauna, birds, fishes, reptiles, mammals, feral animals etc;

(iii) Cultural environment including Indigenous, European and others; and

(iv) Current socio-economic environment including recreational and commercial and tourism.

And also include (where relevant):

(v) Sacred and Cultural Heritage sites;

(vi) Protected areas/Conservation Areas;

(vii) Rare or endangered flora and fauna;

(viii) Areas of significant habitat; and

(ix) Fire regime.

(c) The Environmental Plans must contain a substantive amount of environmental information that must be assessed prior to any exploration occurring.

(d) The Commonwealth Government may also become involved in the assessment process, and if they do, then they are also required to assess plans and approval from them will be required prior to any exploration work occurring.

4.7 Oil spill prevention

(a) Although data in Australian waters indicates that all of the major oils pills to date were from shipping incidents, Paltar strongly believes prevention is better than remedy, and as discussed previously, only uses the best available technology to avoid oil spills occurring in the first instance. Spill prevention and response procedures are an industry standard.

(b) The Commonwealth legislation *Offshore Petroleum and Greenhouse Gas Storage Act (2006)* states than an accepted emergency response plan must be in place before any offshore petroleum activities can occur. This plan must also include an oil-spill contingency plan.

(c) Oil spills are well known to be damaging to mangrove ecosystems, through short-term mortality from fresh oil and through long-term effects of the oil in the sediment. Mangrove areas that are actively flushed through tidal activity have been shown to recover faster from oil spills than where tidal activity is limited. Research demonstrates that the methods of reducing the impacts from oil spills on mangrove communities are of strategic importance. Such methods may include the use of chemical dispersants, which is a high priority response to spills in open waters.

(d) It must be noted however, that spills from offshore exploration and production in Australia is minimal, with the majority of spills occurring from shipping incidents and outflows from industrial facilities.

(e) With appropriate design for drilling wells, spills are highly unlikely, and most particularly in relation to significant or major spills. Paltar takes environmental considerations very seriously and acknowledges the concern in relation to the potential damaging effects of an oil spill into the environment.

(f) Spill cleanup technology and techniques have improved considerably in the past decade, and continues to do so. For example, new technology such as magnets that separate the oil from the water and the oil can then be lifted out. This occurs by mixing water-repellent ferrous nanoparticles into the oil plume, and then the magnets are used.

(g) Spills and the necessary cleanup methods vary, for example, dependent on whether it was a diesel spill, or a product spill (i.e. from the well). Methods for cleanup vary, with many factors to be considered, for example, the time of year/tides/weather conditions (prevailing wind direction) for spill movement and dispersal.

4.8 Blasting

There is no blasting in Paltar's proposed work program.

4.9 Dredging

(a) As the tenements are at this stage only under application, meaningful discussions relating to dredging cannot be made. Dredging will not be required during exploration.

(b) If product was discovered there would have to be significant preliminary investigations, such as environmental and for economic feasibility. Dredging may or may not then be required.

(c) In the scenario that dredging may be necessary, this would be anticipated to be required only during the construction phase of the project. However, such as activity would be included within an Environmental Impact Statement for assessment, and substantial consultation with the various stakeholders would occur.

4.10 Land and sea

(a) Locations of access tracks and other infrastructure required for exploration activities are dependent on many variables, such as access routes and environmental considerations. Paltar would prefer to use pre-existing access tracks where possible, and not create new ones, as this creates unnecessary environmental impacts (for example, additional clearing of vegetation). If new tracks are required, then these would be openly discussed at Work Program meetings. New tracks would be created with as minimal impact to the environment as possible (i.e. created with blade up to minimize soil disturbance and mature trees would be avoided as much as possible) and closed at the end of the field season.

(b) For any offshore drilling, the drill rig would be most likely transported to site via barge. The offshore drill rig would probably be a small approximately 20-30 m

square platform. For a well intended for commercialization, a much larger platform would obviously be necessary.

(c) Exploration camps are relatively small and self-contained. This means that all waste from the camp would be self-contained (i.e. human waste) and removed from site (general waste). Camps would be located in areas that are agreed on at Work Program meetings, and would only be present during the field season, they would not be a permanent fixture.

4.11 Seismic surveys

(a) As described above, Paltar does not intend to do seismic surveys in the initial phases of exploration as their priority is to look for unconventional resources. However, limited surveys may be needed further into the exploration program.

(b) Seismic surveys involve rapid release of compressed air to produce an impulse, and these signals are directed downwards at the seabed, and a signal is reflected back. There has been considerable research over the years in relation to seismic exploration and potential affects on the marine environment. There are also a number of legislative controls in Australia to ensure that seismic exploration will only occur when the designated government bodies determine that any potential impacts will not be significant to the marine environment. Cetacean permits must also be obtained from the Commonwealth Government if an activity is likely to interfere with a cetacean (i.e. whale and dolphins). There are a range of mitigation measures that can be implemented to minimize potential impacts, these will be discussed in the sections below.

(c) APPEA commissioned an independent scientific review in 1994 in relation to environmental implications in the industry. One of the findings from this review was that given the nature and scale of seismic activity, the wider implications of disruption to marine fauna appears to be small for most species. Documentation and guidelines from the Western Australian Government also states that seismic firing affects only a few faunal groups, and those affects appear to be of limited duration. Research into human-induced noise impacts on fish and other marine species is very limited, but is increasing.

(d) Seismic surveys would only require a few weeks. In the event that seismic work on the land is required, there would be a vibrator truck rolling along to create a signal below the surface to reflect off of subsurface rocks, and this would be done only once in an area. The information presented below indicates that every proposed seismic survey should be assessed on a case-by-case basis, as there are many species and variables to be considered, such as locations of sensitive receptors like breeding/nesting/nursery grounds, and as such, specific management plans and measures (which may include no surveys during nesting times for example) may be required for each tenement.

(e) Fish population, dolphin whales and other marine life

(i) Research to date has shown that many fish species avoid an area while seismic work is being undertaken. There is no evidence available that suggests that seismic surveys have resulted in either physical injury or damage to hearing of marine mammals.

(ii) Recent research indicates that there are a range of behaviours,

particularly in relation to whale species that may be exhibited during seismic surveys that may need specific management measures. For example, research is showing that there is little disturbance to migratory pods, they will avoid the area of disturbance, or go around the survey vessels. Males, particularly if in search of a sexually available mate that is close by appear not to be concerned by the seismic survey activity. Females with calves, particularly if in an area where they rest are of higher risk of being potentially impacted by the survey activity.

(iii) Dolphins appear to react in a similar way to seismic survey activity as whales do, often avoiding an area where this activity is occurring. However, research to date has not been able to determine whether this is due to the dolphins themselves choosing to avoid the area or if it is in response to their prey moving away from the area. Dolphins are well known to use echolocation to detect and capture their prey, and there is evidence to suggest that this may be affected through masking from underwater noise from seismic surveys. In relation to dolphin and whale activity, different management methods would be required, dependent on the scenario and time of year. Some examples of management methods that may be used to minimize potential impacts to whales and dolphins may include wider exclusion zones around the drilling activity (where if the animals are seen within the zone work stops until they have moved on), longer 'soft-start' periods, or not doing the work during the calving period (if relevant to the area proposed for exploration).

(iv) Where fish species are exposed to seismic simulation in a confined area, damage to hearing has been observed in experimental conditions. It must be noted that these experiments had the fish in cages, where they could not escape the noise, although they tried to. Most fish species are assumed to exhibit avoidance behaviour and would temporarily leave the noise producing zone.

(v) Many sea turtles breed in areas often a great distance from their feeding grounds and so have a large migratory area. They are also a long-lived animal. Little work looking into the effects of seismic surveys on turtles has occurred. What has been done involved the Green Turtle (*Chelonia mydas*) and Loggerhead Turtle (*Caretta caretta*). This research has shown that turtle swimming time increased (this may be an alarm response) in areas where noise levels from the air guns (used to simulate seismic sound) occurred. Turtles do seem to exhibit avoidance behaviour.

(vi) Dugong are another species where very little research in relation to potential impacts from seismic firing has occurred, but, is a species of not only environmental significance, but of cultural significance, for both spiritual and hunting purposes for Aboriginal people.

(vii) Dugong normally occur in shallower water, where there are extensive seagrass meadows for feeding. Dugong are likely to have a low sensitivity to seismic survey activity. Due to the lack of research in this area, a natural management method would be to avoid undertaking any seismic work in areas of seagrass meadows during the breeding and calving seasons.

(viii) Squid appear to show an increase in alarm behaviour, avoiding the sound source, but there is only the one instance of squid behaviour being reported in the literature.

(f) Bays and estuaries support wildlife known to be affected by seismic surveys; and

(i) The oil and gas industry in Australia has a history work working in sensitive environments in an environmentally responsible manner.

(ii) Paltar acknowledges the importance of environmental aspects of significance (i.e. species in, and estuary ecosystems) have the potential to be impacted upon from oil and gas exploration activities. Management controls need to be in place to protect conservation values.

(iii) Paltar welcomes the opportunity to work together with stakeholders to develop appropriate management measures to be successful in operating in these sensitive environments.

(g) Snapper population

(i) Snapper are a well-known superb eating fish and so are highly sought after by recreational fishers, commercial fishers and from traditional fishing activities. Most people when they refer to 'snapper' are referring to the Golden Snapper, *Lutjanus johnii*. This species has a wide distribution and occurs in schools to depths of 80m (although most commonly to depths of 30m). The Northern Territory Government, through the Fisheries Department (Northern Territory Department of Primary Industries and Fisheries) have conducted studies on this species over many years. Preliminary (published) research indicates that spawning occurs between September to April and that the fish may live for over 20 years.

(ii) Research into this species is showing that once these fish have reached maturity and leave the nursery areas (creeks, rivers and estuaries) at about five years of age, they move onto the reef systems and as a population, do not move much. Although many fish species may display avoidance characteristics in areas of seismic and drilling activities, these fish may not. This is an area that Paltar is aware may require additional research and specific management measures to avoid negatively impacting on populations within an exploration zone.

4.12 Shallow marine environment

(a) Paltar supports the Australian industry standard of employing conservation management tools/plans where environmental aspects of significance (i.e. species and ecosystems) have been assessed as having the potential to be impacted upon. Management controls need to protect conservation values.

(b) Paltar welcomes the opportunity to work together with stakeholders to develop appropriate management measures to be successful in operating in a sensitive environment.

(c) The oil and gas industry in Australia has a history work working in sensitive environments in an environmentally responsible manner.

4.13 Noise

(a) Noise from operations is both localised (restricted to a small area) and of limited duration while the drilling/seismic activities are underway. All refuse generated from exploration activities will be removed from site, so there will be no rubbish pollution.

(b) The only waste product from the exploration program that would not be removed from site are the drill cuttings that would be discharged to the environment, as part of standard practice. These drill cuttings are what is removed from the natural seabed, such as rock and sand (or from the ground, if the drilling is on land). Some drilling muds (additives to assist in the drilling process) may be discharged with the cuttings. These muds may be water based or synthetic.

(c) By industry standards, water-based muds are classified as inert and have no toxic impact on the marine environment. Synthetic-based muds are considered to be toxic to organisms at only high concentrations, which is extremely unlikely to occur. Paltar only intends to use water-based muds in their exploration program.

5. Sacred Sites and sites of cultural significance

5.1 Sensitive and sacred sites

(a) Paltar supports an inclusive approach with the Northern Land Council, AAPA and Aboriginal land and sea custodians. There are two main approaches that Paltar will utilise prior to any activities occurring:

(i) Paltar will apply for Sacred Sites clearances through either the NLC or AAPA, and where appropriate, apply for an Avoidance Certificate; and

(ii) Additionally, if the Aboriginal custodians support the concept of providing 'Cultural Monitors" to oversee work related activities then Paltar will be supportive of this role.

(b) Once tenements are granted and prior to work activities commencing, Paltar intends to (through consultation with the relevant agencies such as the NLC and AAPA) work with Aboriginal custodians to develop a Cultural Heritage Management Plan (CHMP). This Plan will be part of the overall strategy to avoid sensitive and sacred sites and limit any potential impacts to such sites.

5.2 Indigenous way of life

(a) It is Paltar's intent that by working closely together in partnership with local Aboriginal groups that appropriate Management Plans can be developed to maintain the environmental and cultural integrity of the region.

(b) Paltar fully supports open and transparent communication with all stakeholders, and supports the use of translators so people are provided with information in both English and in their own language. Effective consultation both informs and educates, and Paltar sees this as a two-way street – it goes both ways.

5.3 Near shore areas

(a) Paltar appreciates the importance of the coastal areas for both cultural and

environmental purposes. It is Paltar's intent that by working closely together in partnership with local Aboriginal groups that appropriate Management Plans can be developed to maintain the environmental and cultural integrity of the region.

(b) Several Sea Country Management Plans have been developed for some of the regions that have tenements under application (such as the Dhimmurru *Yolŋuwu Monuk Gapu Wäŋa* Sea Country Plan and the *Barni-Wardimantha Awara Yanyuwa* Sea Country Plan), and Paltar welcomes the opportunity to work together with people to achieve the aspirations stated in these Plans of combining economic development in the region with environmental and cultural matters of importance.

(c) The AAPEA Environmental Code of Practice, which Paltar operates under is very detailed and has a number of objectives. For example, one objective in the planning phase is:

"*Activities are planned to avoid areas that are environmentally or culturally significant, or, where this is not possible, to minimise the impact to as low as reasonably practical and to a level that is acceptable*". One of the performance criteria for this objective is "*the incorporation of new knowledge into the choice of areas to be avoided*"

Paltar sees this as an example of how a partnership arrangement, working together with the relevant bodies and stakeholders can incorporate traditional ecological and cultural knowledge into the exploration process.

5.4 Estuaries adjacent to Maningrida

(a) The estuaries adjacent to Maningrida are a well known area of conservation significance.

(b) Paltar acknowledges the importance of environmental aspects of significance in this region and welcomes the opportunity to work together with stakeholders to develop appropriate management measures to be successful in operating in these sensitive environments.

5.5 Unregistered sacred sites

(a) Under the *Northern Territory Sacred Sites Act* the Aboriginal Areas Protection Authority (AAPA) is responsible for the registration of sacred sites. Where there are unregistered sacred sites, Paltar supports the mapping of and registration of such sites.

(b) Paltar appreciates that sites have significance, whether they are registered or not. Working with the Traditional Owners to develop an appropriate Cultural Heritage Management Plan will be an important part of both avoiding and preserving sites of cultural significance.

5.6 Song lines

(a) Song lines are an involved and dynamic cultural element of Aboriginal Australia, which may have many layers of meaning and interpretation, depending on many variables (such as the location of the songline, landmarks it may connect to, what Dreaming or other spirit stories may be involved, different Aboriginal groups who may have overlapping stories/songlines and knowledge).

(b) Consultation with the Traditional Owners and custodians, utilising the specialist skills of an experienced anthropologist will be essential to understand and work through any issues in relation to songlines in the areas under application. If a songline may be affected by Paltar's proposed activities, then close consultation to develop appropriate management plans will occur.

6. Exploration close to communities

6.1 Closeness to communities

(a) The works program of proposed exploration activities is detailed in paragraph 2 above. The first 3 years involves very little physical presence. In year 1, Paltar will certainly need to make a regional surface reconnaissance of the entire area. Much of that reconnaissance work can be accomplished by foot and in some areas, in the company of an Indigenous person. Some of the work in the first three years will be done using satellite remote sensing and consequently will not require a physical presence and hence no impact on the land will occur.

(b) During years 4 and 5, Paltar will have identified 4-6 drill sites. Potential drill hole locations will most likely be located on islands and will not require the presence of barges. At that time drill rigs will be utilised to drill shallow holes (500-2000m). These holes will be drilled with the intent of acquiring rock samples for various analytical work. The results of those analyses, in conjunction with any additional exploration work will then be used to evaluate the desirability of drilling a well for commercial production.

(c) During the exploration activity, Paltar will carefully consider proximity to Indigenous communities and wherever possible avoid disruptive activity near communities and sacred sites.

6.2 Economic impact on local communities

(a) Paltar is keenly aware of the importance of fishing to Indigenous people. Paltar firmly does not believe the exploration activity identified in the Applications will adversely affect tourism and fishing.

(b) In the US, where significant petroleum exploration activity has occurred, such as the Gulf of Mexico, California or Alaska, tourism and fishing has not been adversely affected.

7. Hydraulic fracturing

7.1 History

(a) Until the early 1990s, the low flow rates of the vast majority of unconventional reservoirs made the oil and gas contained within un-economic to extract. However with the introduction of new technologies, such as horizontal drilling and fracture stimulation, these previously-overlooked sources of gas became more and more economically feasible.

(b) These new methods were pioneered in the United States, notably on the Barnett Shale of Texas, which is now one of the largest unconventional gas-producing basins in the United States, and the Pinedale Anticline, where Ultra Petroleum (then

led by Marc Bruner) put together a substantial asset position prior to it becoming the third largest natural gas field in the United States.

7.2 Horizontal Drilling and Fracture Stimulation

(a) In order to successfully produce hydrocarbons from poor quality, unconventional reservoirs it is necessary to expose as much of the potential reservoir as possible to the bore hole. That process is accomplished through the process of drilling a vertically directed well down to the desired reservoir depth, then deviating the vertical hole to a horizontal or lateral hole within the objective interval. After the lateral hole has been completed, the lateral portion of the drill hole is effectively fractured.

(b) Generally, horizontal wells can produce up to four times as much as vertical wells, but only cost around three times as much.

(c) Fracture stimulation, however, increases gas flow rates by fracturing the source rock through the high pressure injection of a fluid. This fluid contains a 'propant', such as sand, to keep the fractures open when the fluid is extracted, allowing the oil and/or natural gas to flow.

7.3 An Environmentally Safe Method of Extraction

(a) Utilising current drilling and completion technologies in an environmentally safe and responsible manner is Paltar's most important objective. In order to accomplish this objective details of the intervals penetrated in the bore hole are needed, such as rock type (sandstone, shale etc.) and the location of aquifers or water-bearing intervals.

(b) This information is reliably gained through downhole well logs that include electric, gamma ray, neutron and density logs as well as drilled rock samples. The process also requires a good cementation job between the drillhole and completion pipe, assuring that no drilling or fracturing fluids can leak out of the drill hole into the adjacent undrilled areas adjacent to the drill hole.

(c) In horizontally drilled holes, the length of the fractures produced during the fracturing treatment are calculated to penetrate only the objective reservoir and not extend into adjacent rocks above or below the objective interval, thus eliminating the possibility of contamination by the fracture fluids. This process assures the elimination of possible water contamination in regional aquifers.

(d) Another precautionary method involves the depth of the objective interval with respect to the depth of an aquifer. The objective reservoir interval occurs most often at a depth of more than 1,000m. That depth is, in most cases greater than the water table and greater than regional aquifers.

(e) By virtue of the probability that the objective interval is considerably deeper than the aquifer makes it highly unlikely that any fractures created by drilling or the fracture stimulation process intersect or damage the aquifer.

(f) In addition, any oil and gas well is required by law to set surface casing. Surface casing is defined as a cementing procedure that assures relatively shallow rocks (250-300m) will not be damaged by drilling fluids.

8. Objectors that section 18(3) applies to

A number of the objections appear to be from persons that do not have an estate or interest in the land comprised in, or land contiguous with land comprised in, the areas the subject of the Applications, and therefore have no right to object (section 18(3) of the Petroleum Act). Those objectors include Anne Marett (NSW), Gerry Watt (NSW), Norma Lee (WA) and Jodie Ahrens (Vic).

---

[1] Environmental Policy

PALTAR PETROLEUM LIMITED

(ACN 149 987 459)

ENVIRONMENTAL POLICY

Our environmental vision: "Environmental Excellence"

At Paltar Petroleum Limited (**Paltar**) we are committed to the protection of the environment in which we work. To exemplify that commitment we will:

1. minimise environmental impact through effective environmental planning and management, minimising project footprint and the best rehabilitation practices.

2. develop and maintain management systems to identify, control and monitor risks and comply with government regulations and industry guidelines;

3. enable employees through adequate training and require contractors to adopt environmentally responsible work practices and to be aware of their stewardship responsibilities;

4. communicate openly with government, non-government bodies and the public in a timely manner on environmental issues which relate to Paltar's operations;

5. at a minimum, comply with applicable laws, regulations, standards and guidelines for the protection of the environment and in their absence adopt the best practicable means available to prevent or minimise adverse environmental impacts;

6. develop emergency plans and procedures so that incidents can be responded to in a timely and effective manner;

7. ensure that adequate waste management practices are carried out based on the prevention, minimisation, recycling, treatment and disposal of wastes;

8. monitor environmental effects and assess environmental performances at all stages of exploration, development, production and rehabilitation; and

9. in Joint Ventures, where we do not operate, we will actively work to achieve an environmental protection performance that is in harmony with the above.

RESPONSIBILITIES

The Chief Executive Officer of Paltar Petroleum Limited is responsible for the local development and implementation of this policy.

APPLICATION

This policy applies to all of Paltar's areas of activity.

MARC BRUNER
CHIEF EXECUTIVE OFFICER

8 October 2012