Pipeline fabrication site within Mardie Station Pastoral Lease

SubSea International Australia Inc

Report and recommendations
of the Environmental Protection Authority

Environmental Protection Authority
Perth, Western Australia
Bulletin 861
June 1997

ISBN 0 7309 8042 1
ISSN 1030 - 0120
Assessment No. 1065

Summary

This report is to provide the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment, about the proposal to construct a pipeline fabrication site within the existing Mardie Station Pastoral lease and existing Vacant Crown Land Reserve, approximately 45km south west of Dampier.

The site will be used to weld 12 metre steel pipe joints to form continuous pipeline lengths up to 2500 metres long which will then be towed off-shore to oil and gas extraction facilities. The site consists of a facilities area of 100 metres by 100 metres and a graded fabrication corridor 2100 metres long by 12 metres wide. The proposal also includes the near shore 'tow zone' which extends approximately 1200 metres beyond the high water mark.

The fabrication site will be utilised for periods of between 30 and 60 days per year. Access to the fabrication site will be via a public road to be constructed by the Shire of Roebourne.

The report is based on the environmental factors relevant to the proposal.

It is the EPA's opinion that the following are the environmental factors relevant to the proposal which require evaluation by the EPA:

(a) Mangroves;

(b) Foreshore;

(c) Intertidal and subtidal zone; and

(d) Marine water quality

and the EPA's environmental objectives for these factors can be met subject to the conditions and procedures being enforceable should the project be implemented.

The conditions and procedure, in the EPA's opinion, to which the proposal should be subject if implemented are in summary:

(a) the proponent's commitments should be made enforceable;

(b) the proponent should be required to report on progress and performance of the Environmental Management Plan annually to the EPA; and

(c) the proponent should be required to put an environmental management system in place.

In addition to this, the EPA considers that there should be an agreement between the proponent and the Shire of because of the temporary and intermittent use of the site by SubSea.

The EPA submits the following recommendations to the Minister for the Environment:

Recommendation 1

That the Minister for the Environment note the relevant environmental factors and EPA objectives set for each factor (Section 3).

Recommendation 2

That subject to the satisfactory implementation of the EPA's recommended conditions and procedures (Section 4), including the proponent's environmental management commitments, the proposal can be managed to meet the EPA's objectives.

Recommendation 3

That the Minister for the Environment imposes conditions and procedures set out in Section 4 of this report.

Recommendation 4

That the Minister for the Environment notes the EPA's view on the need for an agreement between the Shire of Roebourne and the proponent as presented in Section 5 of this report.

Contents

Tables

Appendices

1. Introduction

This report is to provide Environmental Protection Authority (EPA) advice and recommendations to the Minister for the Environment on the environmental factors relevant to the proposal by SubSea International (Australia) Inc to construct a pipeline fabrication site within the existing Mardie Station Pastoral lease and existing Vacant Crown Land Reserve, approximately 45km south west of Dampier (Appendix 1: Figure 1).

The proposal was referred to the EPA in May 1996, and the level of assessment was set at Consultative Environmental Review (CER). The CER report entitled "Stag Development Project, Installation of Product Export System, Consultative Environmental Review, Shore-based Fabrication Site" referred to here as the CER, was made available for public review between 24 March and 21 April 1997.

Further details on the proposal are given in Section 2 of the report. Section 3 discusses environmental factors relevant to the proposal.

Conditions and procedures to which the proposal should be subject if the Minister determines that it may be implemented are set out in Section 4. Section 5 presents the EPA's recommendations to the Minister.

Appendix 1 provides maps relevant to the proposal. A list of people and organisations that made submissions is included in Appendix 2 and published information is listed in Appendix 3. The recommended conditions and procedures are set out in full in Appendix 4.

The proponent has released as a separate document the DEP's summary of public submissions and the proponent's responses to the relevant issues raised (SubSea International, 1997)

2. The Proposal

The proposal is to construct a pipeline fabrication site within the existing Mardie Station Pastoral lease and existing Vacant Crown Land Reserve, approximately 45km south west of Dampier and 15km east of Cape Preston is detailed in the CER.

Site Selection

Other sites were considered during the site selection process, however it was considered the selected site on Mardie Station Pastoral lease proved superior to alternative sites as:

- no existing industrial zones were identified with characteristics suitable for assembling and towing pipe strings;
- the site allowed continuous pipeline lengths of 2500m to be fabricated. This is important as it enables the entire pipeline to be pressure tested with fresh water prior to launch and because it enables the launch duration to be greatly reduced as the weld in of successive pipe lengths is not required;
- there were no tow route obstructions that exist at King Bay. The launching and towing of long pipelines was seen as undesirable the pipeline would need to negotiate access to the open ocean through the Port of Dampier;
- a tanker mooring zone at the Port of Dampier could be avoided;
- the boat ramp could be used by the community on a long term basis;
- the site was close to existing road access suitable for upgrade;
- the near shore bathymetry was suitable to facilitate launching and towing; and
- the site was essentially devoid of established trees or shrubs.

Proposal Description

The fabrication site will be utilised for periods of between 30 and 60 days per year. For the remainder of the year, the site will be left vacant. Access to the fabrication site will be via a public road to be constructed by the Shire of Roebourne (Appendix 1: Figure 2).

The site will be used to weld 12 metre long steel pipe joints to form continuous pipeline lengths up to 2500 metres long. These are then proposed to be launched off the beach and rolled across the intertidal reef platform for approximately 150 metres. The pipes are then 'floated' approximately 1.5 metres from the sea floor through the use of floats and chains. The pipes will pass across the subtidal reef area and then be towed off-shore to oil and gas extraction facilities in the "off-bottom" mode (Appendix 1: Figure 3).

During periods of pipeline fabrication, portable support plant equipment, site offices and amenities will be located within the facilities area. During periods of non-use, these facilities will be removed from the facilities area. The rail track and boundary fencing however will remain. An approved septic system with leach drains will be used for treatment of domestic effluent. Pressure testing of the pipeline will be conducted on site using fresh potable water from 'Boundary well' without additives and will be discharged to ground. All potential contaminants will be contained and disposed of in an approved manner.

A summary of the key proposal characteristics are outlined in Table 1. It should be noted that the facilities area, launchway width and fabrication corridor have been reduced in size, since the release of the CER.

Table 1. Summary of key elements of the Proposal

Aspects	Description
Site utilisation	• 30 days per year (minimum) • 60 days per year (maximum) • access to the fabrication site will be via a public road to be constructed by the Shire of Roebourne.
Life of Project	10 years
Area of disturbance: • Facilities area • Fabrication Corridor	 • 100m by 100m: fenced • 2100m long by 12m wide. The corridor will be graded, compacted and gravel covered over a 10m width: fenced • Standard gauge railway will extend the length of the fabrication corridor and terminate 20m above high water mark. Apart from rail the rail track and boundary fencing, the facilities area and fabrication corridor will be cleared of construction materials, support equipment, buildings and pipeline launching aids on completion of each pipeline project.

• Launch ramp • Intertidal zone and subtidal zone	• 92m long by 15 m wide • Pipeline will pass through the intertidal zone supported on rollers that extend 150m from the shoreline. • A total of 7 roller supports will be set at 25m intervals extending seaward from the highwater mark. • Rollers will be built into concrete blocks. The roller blocks will be set on skimmed rock. All support roller blocks will be removed after pipeline launching. • During launching pipeline ballast/ drag chains will be deployed to the seabed as the pipeline passes the last roller at 150m from high water mark. • Drag chains will remain deployed for the complete duration of pipeline tow. • rock protuberances will be skimmed over a 150m long by 20 m wide corridor from the toe of the sandy beach seaward. Rock high spots will also be skimmed in the intertidal zone extending between 500-650m from highwater mark to a width of 35m. This skimmed material will be recovered to shore. The high spots will be blasted at spring low water, which will minimise the impact on the marine environment as this work will be done in air rather than in the water.
Estimated in-fill materials: • Sand cut and fill • Crushed rock/gravel	 • 14,000m^3 • 3,700m^3
Maximum cut depth on fabrication corridor	1.5m
Maximum fill depth on fabrication corridor	1.5m
Water required: • Road dampening and fabrication corridor • Pipe pressure testing • Domestic use • Mangrove washdown	installed water tank, reticulation and septic system 120,000L/project 60,000L/project 10,000L/project as required.

3. Environmental Factors

3.1 Relevant Environmental Factors

In the EPA's opinion, based on the public and government submissions (Appendix 2) and material listed in Appendix 3, the following are the environmental factors relevant to the proposal:

(a) Mangroves; (Section 3.2)

(b) Foreshore; (Section 3.3)

(c) Intertidal and subtidal zone; and (Section 3.4)

(d) Marine water quality. (Section 3.5)

These relevant factors are discussed in the following Sections 3.1- 3.4 of this report, and summarised in Table 2.

Table 2. Summary of relevant environmental factors

Relevant Environmental Factor	EPA Objective	Proposal characteristics	Proponent's commitments	EPA Opinion
Mangroves.	To maintain the abundance, diversity, geographic distribution and productivity of mangrove ecosystems.	A fringing mangrove assemblage lies approximately 200m to the west of the fabrication corridor and extends for approximately 2500m.	• An EMP will be prepared for site preparation work and all site pipeline fabrication and operational activities. The management plan will identify impact mitigation activities. • Mangrove preservation will be achieved by erecting suitable flagging tape to designate the area as a total "no-go" zone. Fabrication corridor dust suppression methods will be employed if prevailing conditions create significant dust intrusion into the mangrove community.	Given the commitments by the proponent, the EPA believes that the abundance, diversity, geographic distribution and productivity of mangrove ecosystems can be maintained.
Foreshore.	To maintain the integrity, function and environmental values of the foreshore area.	The proposed fabrication corridor intersects the coastline within the vicinity of the launch ramp and where the standard gauge railway that extends over the length of the fabrication corridor terminates 20 metres above the high water.	• Develop and implement an effective EMP. A site specific EMP will be developed for site preparation work and all site pipeline fabrication and operational activities. The management plan will identify all personnel responsibilities, induction procedures, impact mitigation activities and audit procedures necessary to implement the plan. A specific EMP will be prepared for each pipeline fabrication and launch project and submitted to the DEP for review and approval prior to the commencement of site works. The EMP will also include: - design features to reduce environmental impacts; - a blasting protocol for the removal of rock high spots; and - waste management and disposal provisions. • The proponent will prepare a rehabilitation plan detailing: - shrub planting and reticulation to screen and improve the facilities area and fabrication corridor; - rehabilitation and stabilisation of any disturbed portion of the dune; - rehabilitation of turnaround areas created during construction; and - monitoring of rehabilitation progress. • The proponent will undertake to assist the Shire of Roebourne with management of the dune area.	Given the commitments by the proponent, the EPA believes that the integrity, function and environmental values of the foreshore area can be maintained.
Intertidal and sub-tidal zone.	To maintain the abundance, diversity and geographical distribution of marine flora and fauna within the intertidal and subtidal zone.	Pipeline will go through the intertidal zone supported on rollers clear of the seabed. At a distance of approximately 150m from highwater mark, the pipeline will clear support rollers and ballast chains and be deployed to the seabed. The pipeline will then be towed in the "off-bottom" mode to the offshore installation site.	• Baseline marine fauna and flora, identification and distribution data will be obtained during a detailed survey of the intertidal and subtidal zones associated with the proposed pipeline tow route. Subsequent surveys will be undertaken following each pipeline launch to determine the impact of pipeline launches on the benthic communities. • An EMP will be prepared for site preparation work and all site pipeline fabrication and operational activities. The management plan will identify impact mitigation activities.	Given the commitments by the proponent, the EPA believes that impacts can be managed to maintain the abundance, diversity and geographical distribution of marine fauna and flora.

Table 2. Summary of relevant environmental factors

Relevant Environmental Factor	EPA Objective	Proposal characteristics	Proponent's commitments	EPA Opinion
Marine water quality.	To meet requirements of the EPA's Environmental Water Quality Objectives (EQO) and draft Western Australian Water Quality Guidelines for Fresh and Marine Waters (EPA Bulletin 711).	Wastewater could potentially impact on the mangroves and near shore marine environment.	• An EMP will be prepared for site preparation work and all site pipeline fabrication and operational activities. The management plan will identify impact mitigation activities. • Site operational procedures will include: - storage of all paints and solvents in approved storage containers; - designated and approved fuel and oil storage areas with approved contingent containment systems; and - all process fluids, residues and solid wastes to be contained and disposed of in an approved manner.	Given the commitments by the proponent, the EPA believes that marine water quality can be managed to meet requirements of the EPA's Environmental Water Quality Objectives (EQO) and draft Western Australian Water Quality Guidelines for Fresh and Marine Waters (EPA Bulletin 711).

3.2 Mangroves

Aspects of mangroves

Mangroves are a relevant environmental factor (EPA, 1996) because they:

- support other habitats through carbon production (detritus) and export;
- provide shelter to other parts of the food web used as breeding grounds;
- provide a habitat for other primary producers;
- provide coastal protection; and
- assist nutrient recycling and sediment

The extent of mangrove distribution is shown in Appendix 1: Figure 3. Figure 3 indicates that the fringing mangrove assemblage (*Avicennia marina* var. *marina*) lies approximately 200m to the west of the fabrication corridor and extends for approximately 2.5km (CER).

Immediately to the west of the fabrication corridor there exists a belt of low scrub (approximately 200m) wide which forms a buffer between the fabrication corridor and the mangrove community. The vegetation on the site is predominantly mixed low grassland, ground covers and succulents. Introduced weed types (kapok bush and buffel grass) are also widely distributed across the proposed fabrication site.

There are no mangroves that will be directly affected by this proposal. However, the mangrove community may be affected by the proposal if vehicles are allowed to drive over exposed pneumatophores or dust plumes are allowed to settle on the mangrove assemblages (CER).

Assessment

The area considered for assessment of this environmental factor is the western edge of Forty Mile Beach extending south-west for 2.5km as shown in Appendix 1: Figure 3.

The EPA's objective is to "maintain the abundance, diversity, geographic distribution and productivity of mangrove ecosystems". This objective is consistent with the EPA's strategy for protection of arid zone mangroves as outlined in the draft policy document (EPA, 1996).

The EPA notes that the proponent has made a commitment to mitigate any effects on the mangroves by excluding all vehicles from the mangrove. On completion of site fabrication activities the mangroves will be washed down with fresh water. Access by vehicles will be required. Mangrove preservation will also be achieved by erecting suitable flagging tape to designate the mangrove area as a total 'no-go' zone. The 'no-go' zone will also be stipulated in contract documents.

The EPA also notes that the proponent has made a commitment to exclude all vehicles from the scrub zone which lies in between the mangroves and the fabrication corridor. The scrub zone will also undergo rehabilitation, significant tree planting and reticulation will be undertaken to improve this zone.

Having particular regard to:

(a) the commitments made by the proponent; and

(b) the fact that the mangroves will not be directly disturbed,

it is the EPA's opinion that the proposal is unlikely to compromise its objective to maintain the abundance, diversity, geographic distribution and productivity of mangrove ecosystems.

3.3 Foreshore

Aspects of foreshore

The foreshore is a relevant environmental factor because it is dynamic and an ecologically sensitive area.

The proposal has the potential to impact on the foreshore where the proposed fabrication corridor intersects the coastline, at the western end of Forty Mile Beach, in the vicinity of the launch ramp (Appendix 1: Figure 3). The onshore length of disturbance will be approximately 50m with the balance of the ramp length being 20m across the sandy beach. The proposal could also impact on the broad primary dune of low relief which slopes gently down inland to a flat grassy plain. The launching ramp will be cut to provide a smooth transition for the pipeline launch.

The Forty Mile Beach area is currently utilised as a camping and recreational fishing site. There are a number of rough unformed tracks traversing the foredunes and beach, and several cleared camping and barbecue areas (Astron Environmental, 1997 b).

The sand beach at the western edge of Forty Mile is relatively short and rises gently from high water mark. The beach is open to the ocean but offshore reefs protect inshore waters from open ocean waves. It is also important to note that although the proposed fabrication site does not include a high dune zone, an extensive dune system (Appendix 1: Figure 2) occurs 1km to the east of the proposed pipeline fabrication corridor and facilities area, and extends approximately 4km parallel to Forty Mile beach (CER).

Concerns were expressed in public submissions that the provision of a public access road and boat ramp would detract from the isolation and naturalness of the area and that it would encourage visitors to the area. It was also suggested that increased access and facilities will cause more environmental degradation and the amenity of the area will decrease once accessibility has been increased.

The Shire of Roebourne in its submission indicated that the proposed development will have both positive and negative impacts on the amenity and accessibility of the area for users. The Shire commented that the development of the access road will enhance access to the Forty Mile beach area but access to the rock point at the western limit of the beach will be occasionally reduced by activities at the development site. The Shire also indicated that the main focus for recreational users is on the sandy beach area, as opposed to the rocky point and mangrove area where the development is proposed to be located.

Assessment

The area considered for assessment of this environmental factor is that part of the shore that extends landward from the high water mark to the broad primary dune.

The EPA's environmental objective in regard to this factor is to "maintain the integrity, function and environmental values of the foreshore area".

In relation to coastal management of the area EPA notes that the proponent has made the a commitment to prepare a rehabilitation plan that will detail:

- shrub planting and reticulation to screen and improve the facilities area and fabrication corridor;
- rehabilitation and stabilisation of any disturbed portion of the dune; and
- rehabilitation of turnaround areas created during construction immediately following construction; and
- monitoring of rehabilitation progress.

The EPA also notes that the proponent has made an additional commitment to assist the Shire of Roebourne with management of the high dune area behind the Forty Mile Beach. This dune area is not within the proposed pipeline fabrication area or facilities area, however the EPA notes that the proponent has worked closely with the Shire of Roebourne to progress coastal

management issues, associated with the proposed site development, as the beach area is a popular recreational and camping location.

The EPA also notes that ultimately the Shire of Roebourne will be responsible for the management of the Vacant Crown Land Reserve and associated high dune behind the Forty Mile Beach. This is discussed further in Section 5 of this report. It is also noted that the draft 1985 coastal management plan for the area will form the basis of management to be undertaken by the Shire in co-operation from .

Having particular regard the commitments made by the proponent it is the EPA's opinion that the proposal is unlikely to compromise its objective to maintain the integrity, function and environmental values of the foreshore area.

3.4 Intertidal and subtidal zone

Aspects of intertidal and subtidal zone

This factor is a relevant environmental factor because the intertidal and subtidal zones support a diverse range of marine flora and fauna.

There is potential for impact on the intertidal and subtidal zone during:

- the installation of support rollers. The seven roller supports will be set at 25m intervals extending seaward from the highwater mark. Rollers will be built into concrete blocks and these will be set on skimmed rock.;
- launching when ballast/ drag chains are deployed to the seabed; and
- the removal of rock protuberances.

The removal of rock is to ensure the safety of the pipeline during launch and involves:

- skimming of rock protuberances over a 150m long by 20m wide corridor from the toe of the sandy beach seaward. Standard excavation equipment will be used and all rock recovered to shore; and
- removal of rock high spots in the intertidal zone extending between 500-650m from highwater mark to a width of 35m. These high spots are exposed at spring tide low water and the proponent intends to blast the high spots at spring low water to minimise the impact on the marine environment. This work will be done in air rather than in water. Rock debris will be removed to shore using a front end loader and truck;

It should be noted that the corridor width for rock skimming allows for the movement of the tow vessel 20-30m, when it is positioned 1000m offshore.

The marine habitats associated with the site's near shore waters are intertidal and shallow water habitats, consisting of sandy beaches and intertidal spits, intertidal beach and rock platforms, intertidal reefs and subtidal sand flats (CER, 1997).

A preliminary survey conducted by SubSea International (CER) indicates that the intertidal and subtidal zone is devoid of extensive coral reef areas with the only evidence of coralline fauna restricted to isolated coral colonies generally less than 300mm in diameter. No seagrass swards were evident, however localised accumulations of macro algae were present with general accumulations of filamentous algae present on most rock surfaces.

A marine survey conducted by Astron Environmental (1997 a) indicated that the seafloor from the beach to the 350m marker is relatively flat pavement area. It is exposed regularly and most biota was found in nearshore pools, the pools were deeper and some corals resistant to exposure were present. However all corals were small and only found occasionally. The sand cover on the pavement increased with distance from the shore. At 150m the brown algae Sargassum was the dominant feature. At about 300-350m from shore a rocky outcrop was exposed. Between 400 and 950 m from the shore the seafloor consisted of gently sloping sand veneer on pavement. When rocks or pavement were exposed, the brown algae were present and occasional sponges and small corals were noted. At 1000m and 1150m areas of pavement

outcrop were higher than the surrounding sand. Medium-sized coral are on the edges of the pavement. Many of the corals had shell grit on their upper surfaces and often had signs of damage. Many reef fish were present on these rocks.

Concerns were expressed in public submissions that an adverse environmental impact would be experienced whilst towing the pipeline offshore as the area.

Assessment

The area considered for assessment of this environmental factor is the intertidal and shallow subtidal zone from the shore seaward to 1.2km.

The EPA's environmental objective in regard to this factor is to "maintain the abundance, diversity and geographical distribution of marine flora and fauna within the intertidal and subtidal zone".

The EPA notes that the proponent in its CER made a commitment to undertake a detailed marine flora and fauna survey and that Astron Environmental undertook this survey in April 1997. This survey covered the inshore tow route corridor over a width of 10 metres and extended between the high watermark and 1200m seaward. It is noted that the results indicate that the habitat is extremely widespread in the region. It is anticipated that the localised disturbance during pipeline fabrication is unlikely to be significant.

The EPA notes that a video survey conducted by Astron Environmental (1997 a) from 200m to 1500m offshore illustrates a uniform wave cut rock platform with shallow sand cover from 150m to 1500m along the launch corridor. It is noted that this video will provide good baseline data and that given the absence of regionally significant marine flora and fauna in the intertidal and subtidal zones the environmental effect of drag chains will be minimal.

It is also noted that the proponent has made commitments to:

- undertake subsequent surveys following each pipeline launch to determine the impact of pipeline launches on benthic communities;
- design all track and intertidal pipeline launching support fixtures to minimise environmental impact (for example building rollers into concrete blocks instead of drilling and grouting foundations).

The EPA notes that intertidal support rollers has been reduced from 1000m to 150m from the shoreline and that all support rollers will be removed after pipeline launching.

The EPA notes that pipeline tow vessels will not approach closer to shore than 1000m from the pipeline launch point. It is noted that the launching of the pipeline will be undertaken at hightide resulting in maximum under keel clearances for the tow vessel and launched pipeline assembly. Launching of the pipeline will only be undertaken where sea states are less that 0.5m, wind speeds less than 10 knots, and cross currents are less than 0.2m/s

A pipeline launch will take between 4 and 6 hours and be confined to a width of less than 10m (typically a 2m wide effect zone) over a 1200m length of the intertidal and subtidal rock platform. The launch process will be slow, about 10m per minute which will enable free swimming fauna to avoid the pipeline as it slowly moves seaward.

The proponent has also indicated that prior to launching personnel will relocate obvious marine fauna such as starfish, bivalve molluscs and gastropod molluscs off the launch route to prevent these animals being injured during the launch.

The proponent has also made a commitment to prepare an environmental management plan for site preparation works and all site pipeline fabrication and operational activities. The management plan will identify impact mitigation activities. It is also noted that to ensure that the design, construction and operation activities are conducted with the lowest level of impact that is practically achievable that the proponent has made a commitment to include within the environmental management plan the design approaches and a blasting protocol for removal of high rock spots. This plan will be to the requirements of the DEP.

The EPA notes that Astron Environmental (1997) concluded that the disturbed area along the towing route would be rapidly recolonised from adjacent areas following the decommissioning of the project.

Having particular regard to:

(a) the marine survey carried out;

(b) the limited extent of impact;

(c) the widespread distribution and relatively low environmental significance of the habitat affected;

(d) the reasonable expectation of recolonisation following decommissioning and:

(e) the proponent's commitments, particularly the preparation of an EMP,

it is the EPA's opinion that the proposal can be managed to meet its objective to maintain the abundance, diversity and geographical distribution of marine flora and fauna within the intertidal and subtidal zone.

3.5 Marine water quality

Aspects of marine water quality

Marine water quality is a relevant environmental factor because of the reliance of the marine ecosystem on the quality of marine waters.

The proposal could potentially affect marine water quality by discharging wastewater into the environment during site operations and by means of fuel or oil spills.

SubSea International has confirmed that potable water with no chemicals will be used in relation to hydrotesting of pipelines.

Assessment

The area considered for assessment of this environmental factor are the near shore waters adjacent to the proposal.

The EPA's objective is to "meet requirements of the EPA's Environmental Water Quality Objectives (EQO) and draft Western Australian Water Quality Guidelines for Fresh and Marine Waters (EPA Bulletin 711)".

The Environmental Protection Authority notes that the proponent has committed to undertake the following:

- fuel and oil containers will be of an approved type and installed with a contingent containment system in case of spillage;
- potable water (without additives) will be used to pressure test the pipestring and tow heads, and be discharged to ground;
- all paints and solvents will be stored in an approved container. No spray painting will be undertaken on site;
- waste oil will be collected in approved containers and removed from site;
- no fuel or oils will remain on site during periods when the site is unattended;
- fluid chemicals and residues will not be released into the site environment. All fluid chemicals and residues will be disposed of in an approved manner at an approved site;
- all site solid waste will be contained within closed receptacles removed from site and disposed of in an approved manner at an approved location;

- use of site toilets will be mandatory. A site septic system will be used for domestic waste only. An approved septic system with leach drains will be used for treatment of domestic effluent. The septic system receiving tank will be emptied by a licensed waste management contractor and the waste disposed of in an approved manner. [It should be noted that septic system should be to the satisfaction of the shire and Health Department of Western Australia];
- all line pipe coat applications will be conducted off site at an approved location. If epoxy paint coatings, rust or other adhesions have to be striped from pipe surfaces, only an approved system will be used. No residues will be allowed to remain on site; and
- tow vessels will not progress closer than 1000m offshore from the high water mark. As per Australian Maritime Safety Authority codes, no shipborne wastes will be discharged to the marine environment unless approved.

The EPA also notes that that the proponent has made a commitment to develop a site specific Environmental Management Plan for site preparation work and all site pipeline fabrication and operational activities. This EMP will address the above mentioned waste management issues.

Having particular regard to the proponent's commitments, it is the EPA's opinion that the proposal is capable of being managed so that the environmental water quality objectives can be met for marine water quality.

4. Conditions and procedures

4.1 Proponent's Commitments

The proponent's commitments made in the CER and summarised in Table 2, should be made enforceable conditions.

4.2 Environmental Management Plan

The proponent should be required to report on progress and performance of the EMP annually to the EPA.

4.3 Environmental Management System

In order to manage the relevant environmental factors, to meet the EPA's environmental objectives set out in Section 3 of this report, the proponent shall prepare and implement environmental management system documentation with components such as those adopted in Australian Standards AS/NZS ISO 14000 series, to the requirements of the Environmental Protection Authority.

5. Other advice

The EPA considers that there should be an agreement between the Shire of Roebourne and SubSea International because of intermittent and temporary use of the site by SubSea International. The responsibility of the Shire should also be clarified when the facility is not in use or when the site is decommissioned. Similarly coastal management of the area should also be clarified.

The Shire in its response to public comments indicates that "some management needs to be put in place". The EPA notes the Shire's efforts, encourages a management plan for the area and offers its assistance.

6. Recommendations

The EPA submits the following recommendations:

Recommendation 1:

That the Minister for the Environment note the relevant environmental factors and EPA objectives set for each factor (Section 3).

Recommendation 2:

That subject to the satisfactory implementation of the EPA's recommended conditions and procedures (Section 4), including the proponent's environmental management commitments, the proposal can be managed to meet the EPA's objectives.

Recommendation 3:

That the Minister for the Environment imposes conditions and procedures set out in Section 4 of this report.

Recommendation 4:

That the Minister for the Environment notes the EPA's view on the need for an agreement between the Shire of Roebourne and the proponent as presented in Section 5 of this report.

Appendix 1

Figures

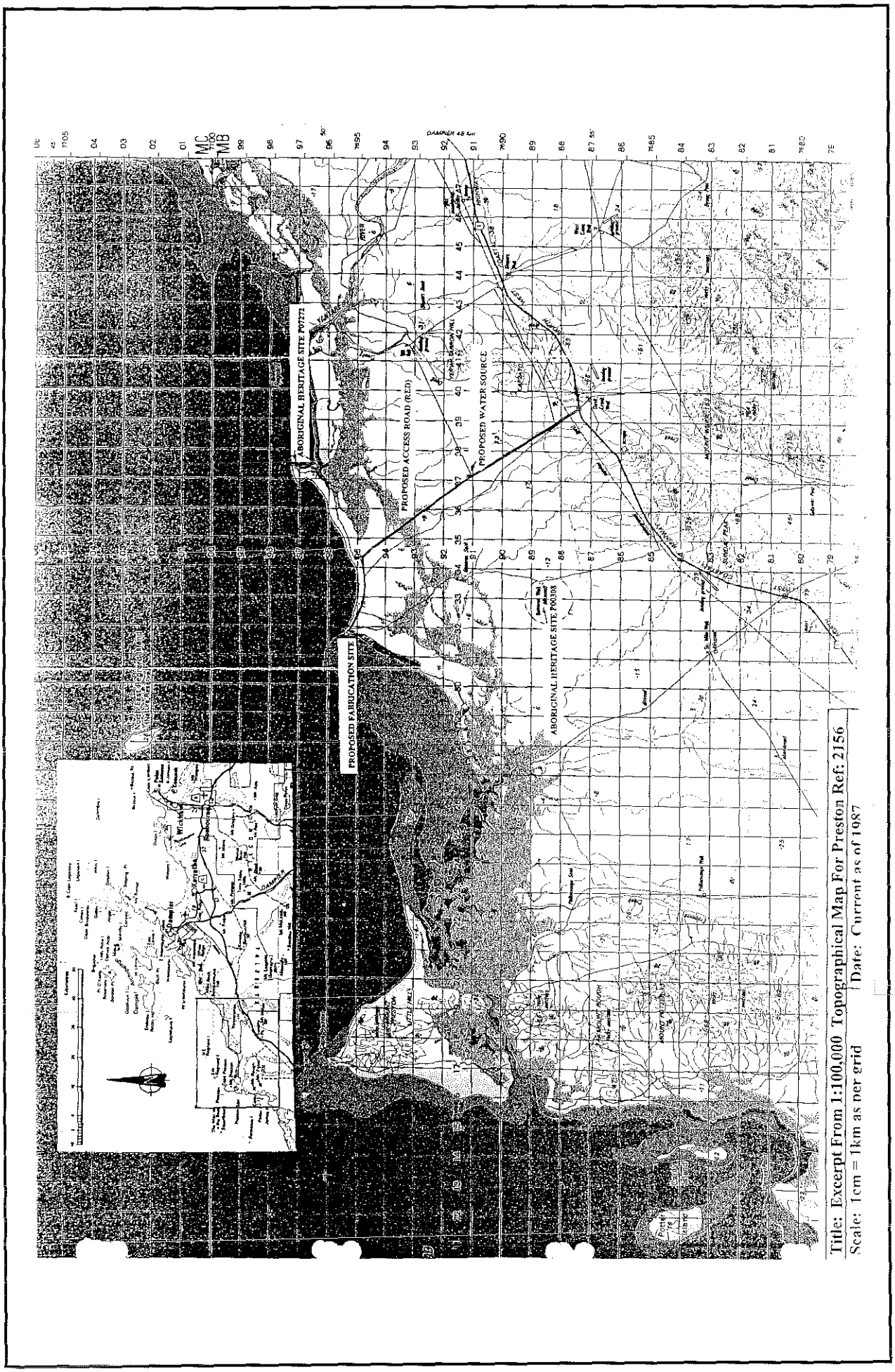

Figure 1. Project location (SubSea International, 1997).

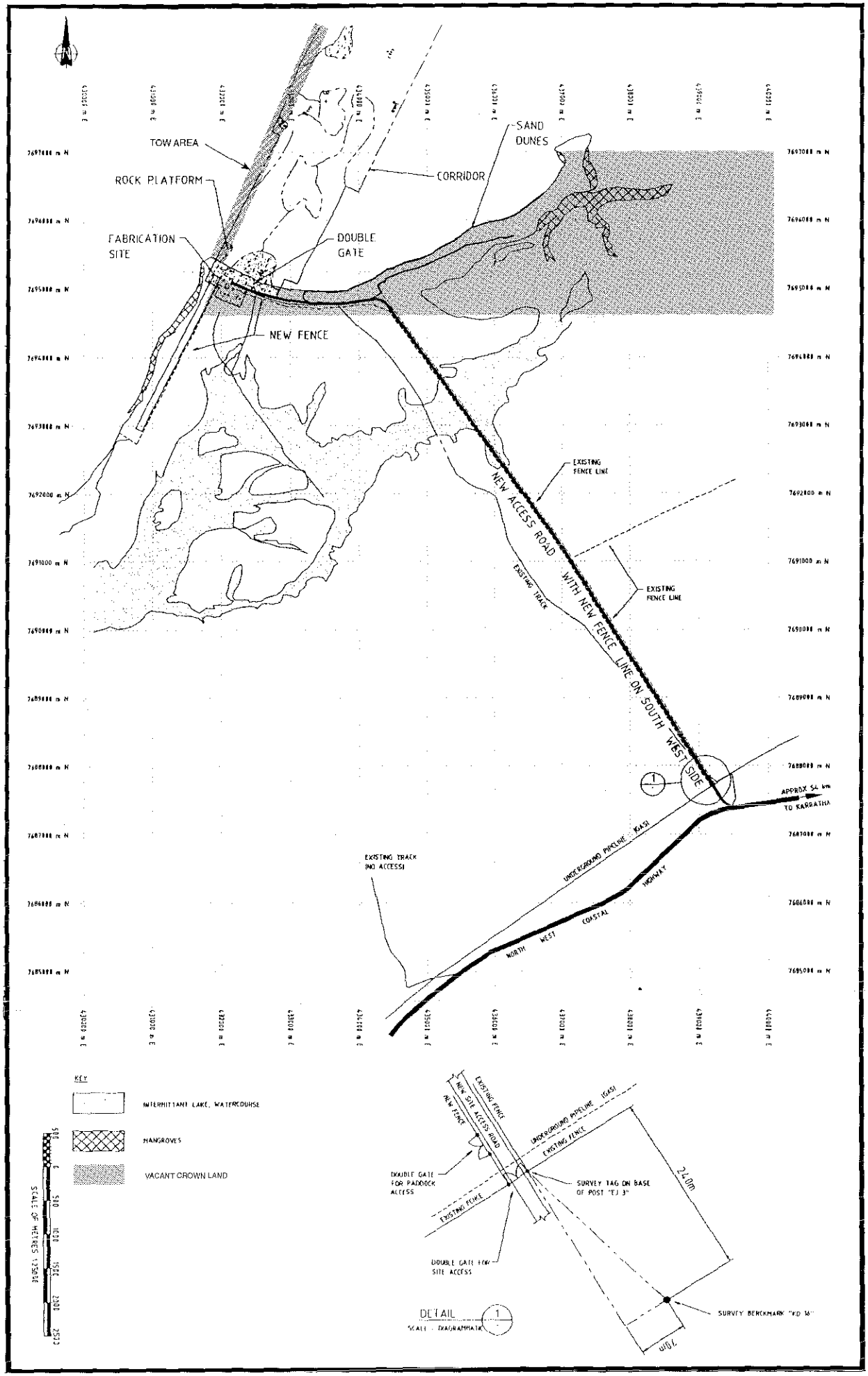

Figure 2. Pipeline fabrication site (SubSea International, 1997).

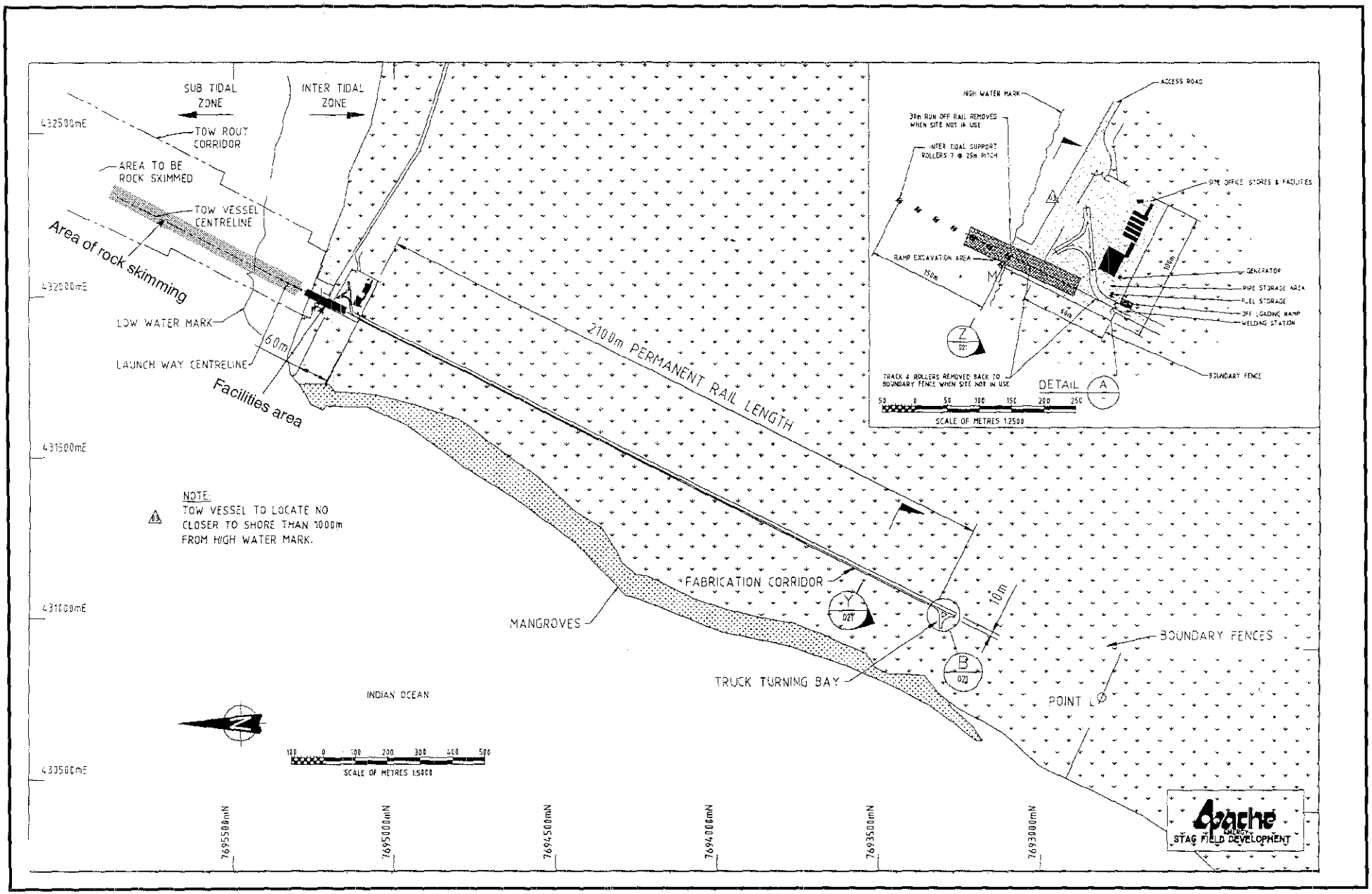

Figure 3. Proposed pipeline fabrication site layout (SubSea International, 1997).

Appendix 2

List of submitters

State and local government agencies:

- Department of Land Administration
- Shire of Roebourne

Members of the Public:

- Miss C A Carmichael

Appendix 3

References

References

Astron Environmental, 1997 (a), 40 Mile Beach Pipeline Fabrication Facility Marine Survey, prepared for SubSea International Australia Inc., Perth.

Astron Environmental, 1997 (b), 40 Mile Beach Pipeline Fabrication Facility, Fauna Survey Report, April 1997, prepared for SubSea International Australia Inc., Perth.

Astron Environmental, 1997 (c), 40 Mile Beach Pipeline Fabrication Facility, Vegetation and Flora Report, prepared for SubSea International Australia Inc., Perth.

Environmental Protection Authority (1996) *Protection of Arid Zone Mangroves: Draft Policy*, EPA. Perth.

SubSea International (Australia) Inc, 1997, *Stag Development Project, Installation of product Export System, Consultative Environmental Review, Shorebased Pipeline Fabrication Site Cable Sands* ,SubSea International (Australia) Inc, Perth.

SubSea International (Australia) Inc, 1997(b), Response to Submissions.

Appendix 4

Draft Conditions and Procedures

PIPELINE FABRICATION SITE WITHIN MARDIE STATION PASTORAL LEASE,
SHIRE OF ROEBOURNE (1065)
SUBSEA INTERNATIONAL (AUSTRALIA) INC

1 Proponent Commitments

The proponent has made a number of environmental management commitments in order to protect the environment.

1-1 In implementing the proposal, the proponent shall fulfil the commitments made in the Consultative Environmental Review and subsequently during the environmental assessment process conducted by the Environmental Protection Authority and those made as part of the fulfilment of the requirements of conditions in this statement requiring the preparation of an environmental management plan provided that the commitments are not inconsistent with the conditions or procedures contained in this statement. In the event of any inconsistency, the conditions and procedures shall prevail to the extent of the inconsistency.

The attached environmental management commitments (June 1997) form the basis for consideration by the Chief Executive Officer of the Department of Environmental Protection for auditing of this proposal in conjunction with the conditions and procedures contained in this statement.

2 Implementation

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

2-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal.

2-2 Where, in the course of the detailed implementation referred to in condition 2-1, the proponent seeks to change the designs, specifications, plans or other technical material submitted to the Environmental Protection Authority in any way that the Minister for the Environment determines, on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

3 Proponent

These conditions legally apply to the nominated proponent.

3-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

4 Environmental Management System

The proponent should exercise care and diligence in accordance with best practice environmental management principles.

4-1 In order to manage the relevant environmental factors, to meet the environmental objectives in Environmental Protection Authority Bulletin 861, and to fulfil the requirements of the conditions and procedures in this statement, prior to construction, the proponent shall prepare environmental management system documentation with components such as those adopted in Australian Standards AS/NZS ISO 14000 series, to the requirements of the Environmental Protection Authority.

4-2 The proponent shall implement the environmental management system referred to in condition 4-1.

5 Time Limit on Approval

The environmental approval for the substantial commencement of the proposal is limited.

5-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced.

Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period to the Minister for the Environment.

Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

6 Compliance Auditing

To help determine environmental performance and compliance with the conditions, periodic reports on the implementation of the proposal are required.

6-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit programme prepared by the Department of Environmental Protection in consultation with the proponent.

Procedure

1 Unless otherwise specified, the Department of Environmental Protection is responsible for assessing compliance with the conditions contained in this statement and for issuing formal clearance of conditions.

2 Where compliance with any condition is in dispute, the matter will be determined by the Minister for the Environment.

Note

1 The Environmental Protection Authority reported on the proposal in Bulletin 861 (June 1997).