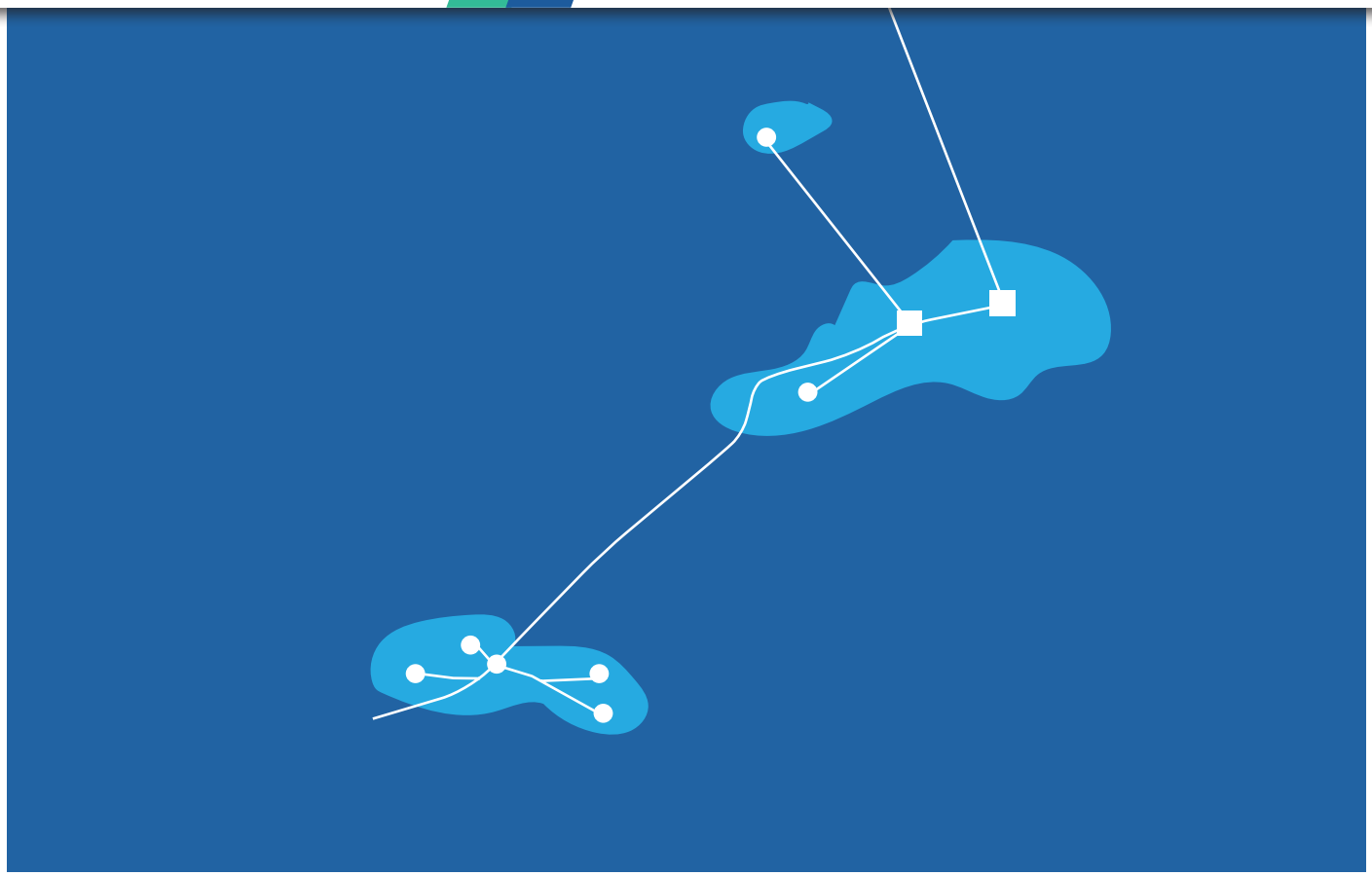
KINSALE ENERGY

Kinsale Area Decommissioning

Decommissioning Plan – Kinsale Head Petroleum Lease (OPL 1) Consent Application No.2



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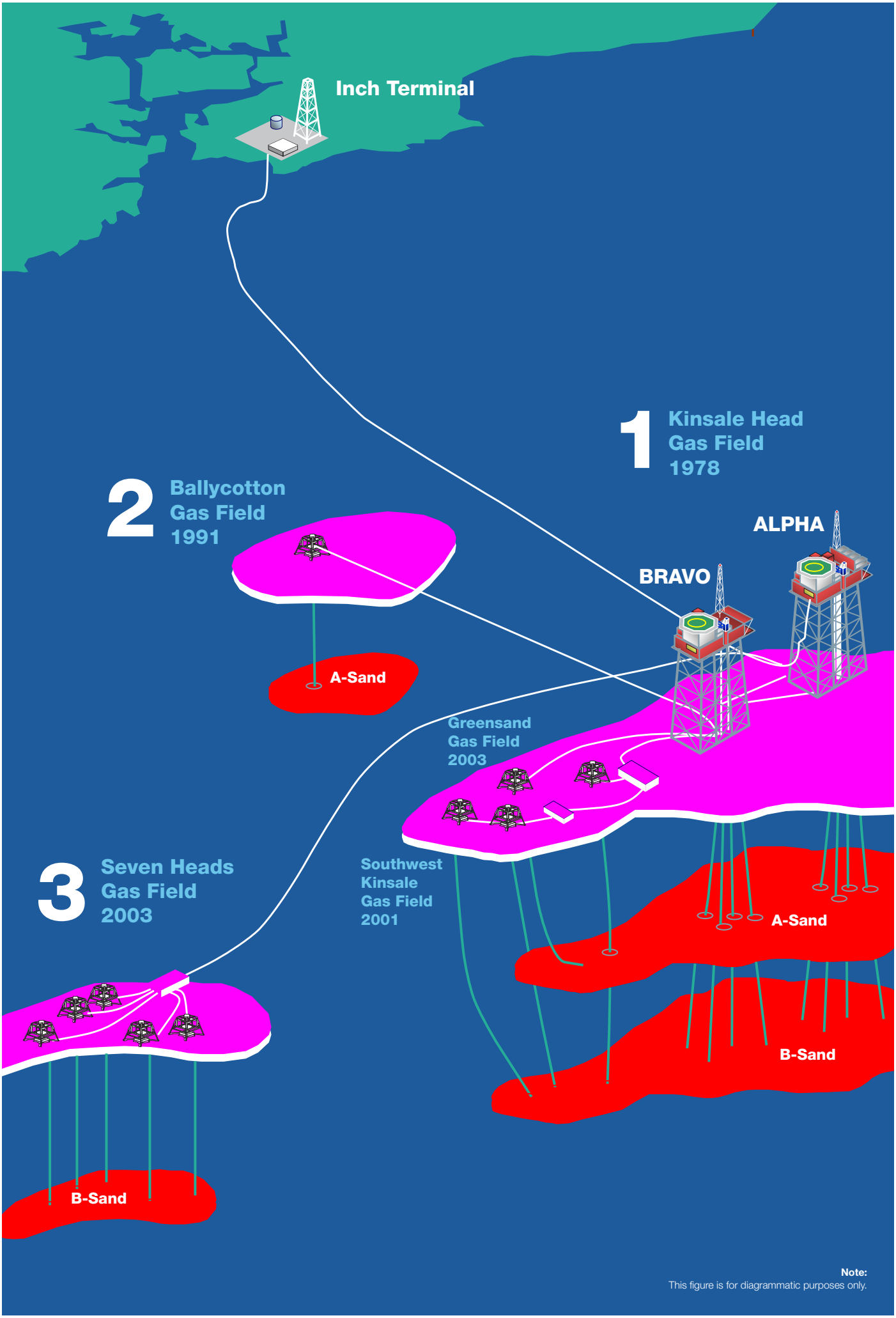
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Glossary of Terms

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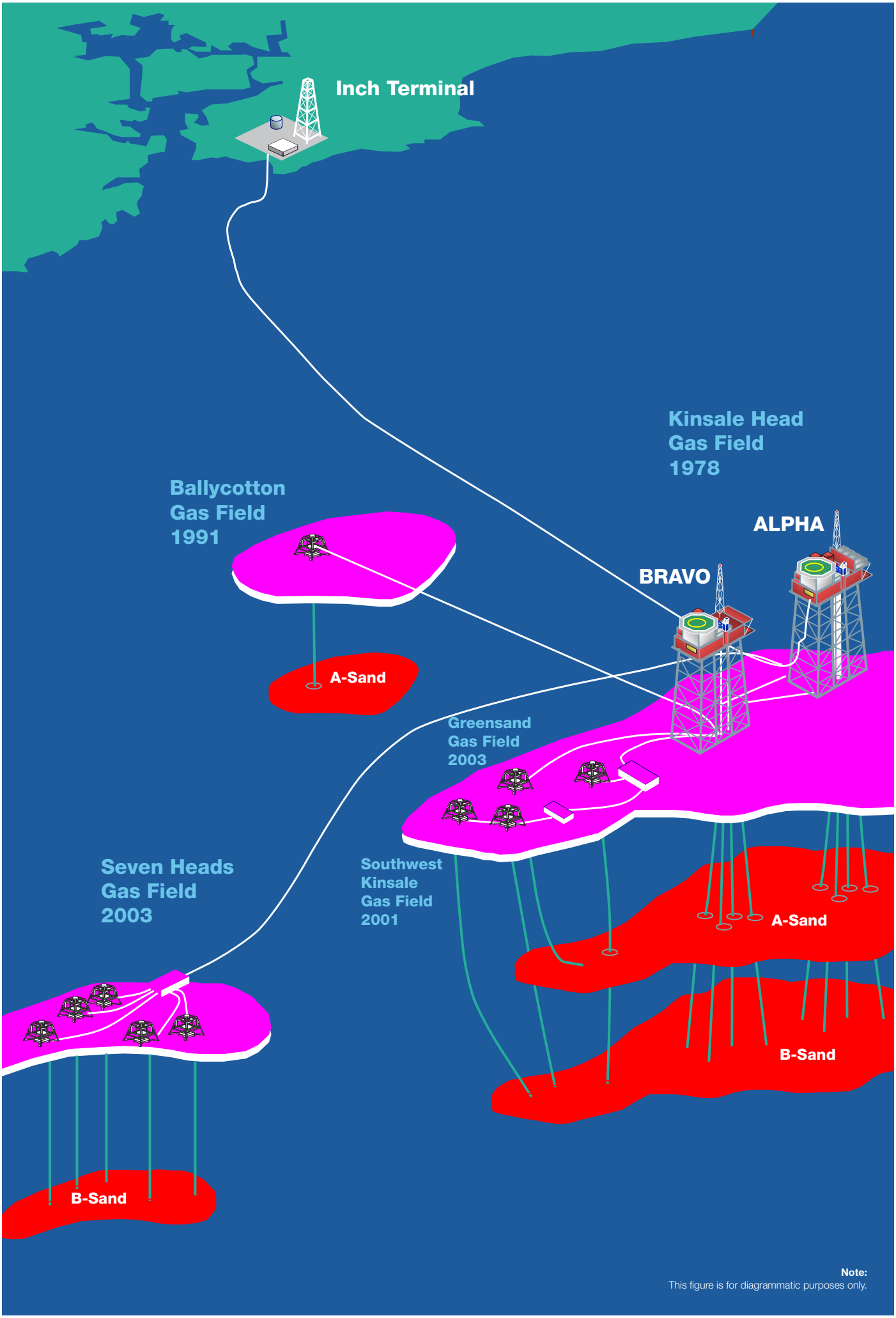
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Glossary of Terms

Term	Explanation
AA	Appropriate Assessment
ALARP	As Low As Reasonably Practicable
AHV	Anchor Handling Vessel
Buoyancy tank	An enclosed air-filled section of a boat or ship designed to keep it afloat and prevent it from sinking
Bunkering	Supply of fuel for use by ships in a seaport
CA	Comparative Assessment
Cantilever	Structural element anchored at only one end to a support from which it is protruding
CCS	Carbon Capture and Storage
Concrete mattress	A series of concrete blocks usually connected by polypropylene ropes resembling a rectangular mattress, used for the weighting and/or protection of seabed structures including pipelines
CoP	Cessation of Production: the stage at which, after all economic development opportunities have been pursued, hydrocarbon production ceases.
CRU	Commission for Regulation of Utilities
CSV	Construction Support Vessel
DAA	Dublin Airport Authority
DCCAE	Department of Communications, Climate Action and Environment
DCENR	Department of Communications, Energy and Natural Resources
DECC	Department of Energy & Climate Change (UK)
Decommissioning	Planned shut-down or removal of a building, equipment, plant, offshore installation etc., from operation or usage offshore.
Diesel	A low viscosity distillate fuel
DSV	Diving Support Vessel
DTTAS	Department of Transport, Tourism and Sport
ER	Environmental Report
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
FEAS	Marine Institute's Fisheries Ecosystems Advisory Services
Flowline	Pipeline carrying unprocessed oil/gas within the oil or gas field area
Freespan	A free span on a pipeline is where the seabed sediments have been eroded, or scoured away leaving a void under the pipeline so that the pipeline is no longer supported on the seabed
Grout	Particularly fluid form of concrete used to fill gaps, generally a mixture of water, cement, and sand
HES	Health, Environment and Safety
HFCs	Hydrofluorocarbons

Term	Explanation
HWM	High Water Mark
HLV	Heavy-Lift Vessel
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IMO	International Maritime Organisation
In situ	In the original place.
Interconnector	Structure which enables energy to flow between networks, refers to international connections between electricity and natural gas networks
IOSEA	Irish Offshore Strategic Environmental Assessment
IWDG	Irish Whale and Dolphin Group
Jacket	The structure comprising the "legs" of the offshore platform connected together by horizontal and diagonal trusses and usually made of welded tubular steel. The jacket is typically secured to the seabed by piles
KA	Kinsale Alpha platform
KADP	Kinsale Area Decommissioning Project
KB	Kinsale Bravo platform
KPIs	Key Performance Indicators
km	Kilometre: 1,000m, equivalent to 0.54 nautical miles
LPP	Layer Polypropylene
Manifold	A pipe or chamber branching into several openings.
MARPOL	The International Convention for the Prevention of Pollution from Ships
MRCC	Marine Rescue Co-ordination Centres
Natura 2000 sites	Natura 2000 is a network of nature protection areas in the territory of the European Union. It is made up of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated respectively under the Habitats Directive and Birds Directive.
NIS	Natura Impact Statement
nm	Nautical Mile (1852m = 1 minute of latitude = 1/60 degree of latitude)
NPWS	National Parks and Wildlife Service
NUI	Normally Unmanned Installation: an installation with minimal facilities which is not permanently crewed and is controlled from a remote location (e.g. other platform or shore)
OGUK	Oil & Gas UK
OSPAR	Oslo and Paris Convention
P&A	Plug and Abandon (wells)
PAD	Petroleum Affairs Division of the Department of Communications, Climate Action and Environment
PEP	Project Execution Plan
PETRONAS	Petroliam Nasional Berhad
PLEM	Pipeline End Manifold

Term	Explanation
PSV	Platform Supply Vessel
PUDAC	Permit to Use or Discharge Added Chemicals
ROV	Remotely Operated Vehicle: a small, unmanned submersible used for inspection and the carrying out of some activities such as valve manipulation
SAC	Special Area of Conservation: established under the Habitats Directive
Seafastening	Action of fastening/securing cargoes on ship with the aim of preventing them from movement while the ship is in transit
Semi-submersible rig	A floating mobile drilling rig supported on a number of pontoons, and typically anchored to the seabed while on station
SFPA	Sea Fisheries Protection Authority
Shears	Cutting instrument in which two blades move past each other
SPA	Special Protection Area: established under the Birds Directive
Subsea manifold	Large metal piece of equipment made up of pipes and valves, designed to transfer oil or gas
SWK	South West Kinsale
TEG	Triethylene Glycol
Tie-backs	Link between a satellite field and an existing production facility
Topsides	The collective name for the many drilling, processing, accommodation and other modules which when connected together make up the upper section of the platform which rests on the jacket
Umbilical	Cable and/or hose which supplies required electrical power and chemicals for subsea well control
WDC	Western Drill Centre
Wet Gas	Any gas with a small amount of liquid present

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 1

Introduction

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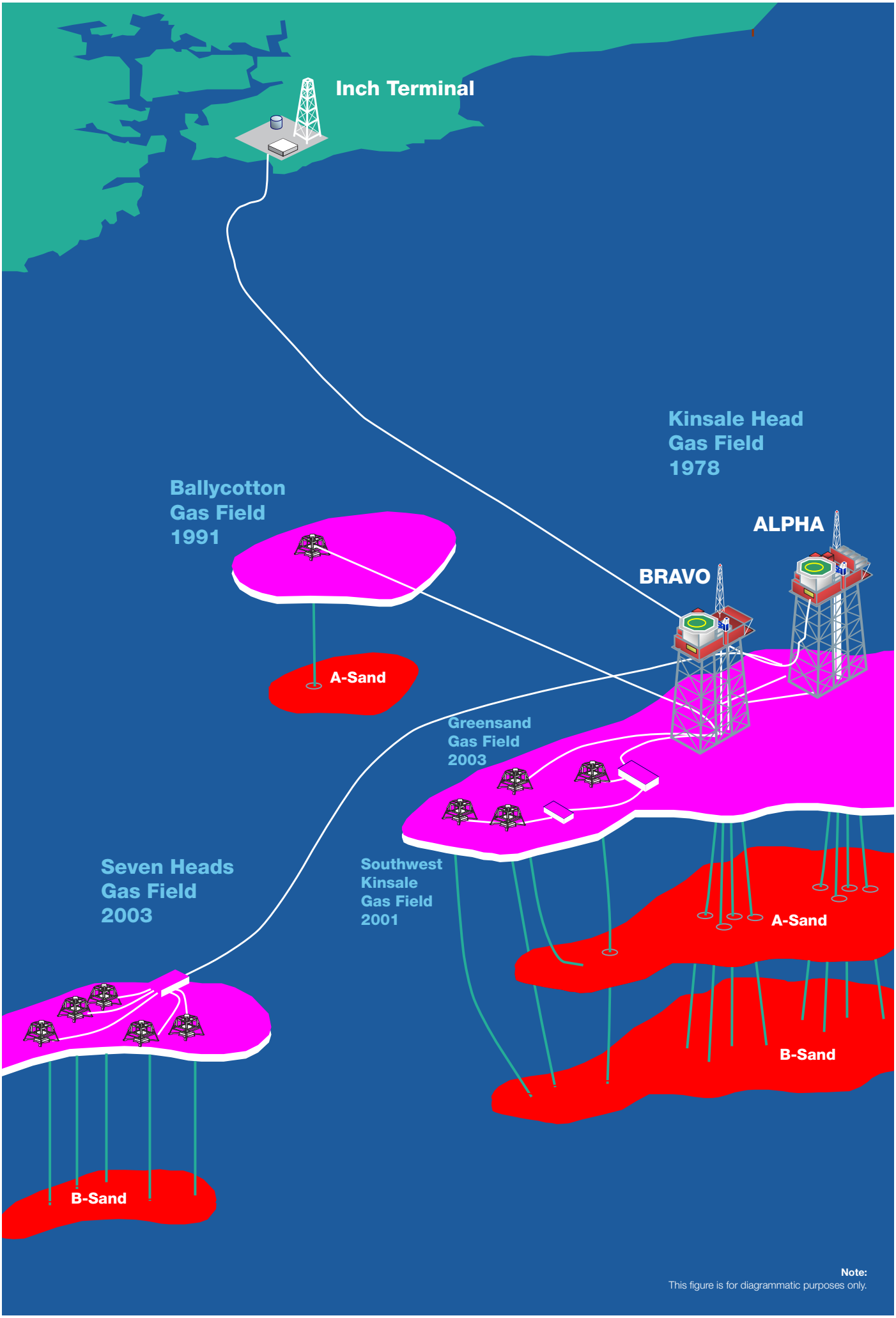
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1 Introduction

1.1 Introduction and Background

PSE Kinsale Energy Limited (Kinsale Energy) is preparing for the decommissioning of the Kinsale Area gas fields and facilities (incorporating the Kinsale Head gas fields and facilities and the Seven Heads gas field and facilities), which are coming to the end of their productive life. Together the decommissioning of the entirety of the Kinsale Area gasfields and facilities is collectively referred to as the Kinsale Area Decommissioning Project (KADP).

Pursuant to Section 13 of the Petroleum and Other Minerals Development Act 1960 as amended (1960 Act), Kinsale Energy propose to submit Decommissioning Plans as addenda to the existing plans of development relevant to the Kinsale Area and Seven Heads Leases; which were submitted to and agreed with the then Minister under the terms of the Petroleum Leases under section 13 of the 1960 Act.

The entire KADP plan consists of:

- Facilities preparation: disconnect and degas process plant and pipelines (pipelines displaced with seawater, and inhibited seawater in the case of the 24" export pipeline).
- Wells: plug and abandon all platform and subsea wells and removal of any surface component of these wells, including wellhead structures and platform conductors.
- Platform topsides: complete removal in accordance with OSPAR Decision 98/3.
- Subsea structures: (e.g. manifolds, wellhead protection structures): full removal in accordance with OSPAR Decision 98/3, including the removal of connecting spool pieces, umbilical jumpers and protection materials.
- Platform jackets: complete removal in accordance with OSPAR Decision 98/3.
- Offshore pipelines and umbilicals: rock cover of freespans and/or remaining exposed sections and remaining in situ protection materials.
- Export pipeline (offshore and onshore section): fill onshore section with grout (if a viable re-use option is not identified) and rock cover of freespans and/or remaining exposed sections in offshore section.
- Decommissioning the Inch Terminal (full removal and reinstatement to agricultural use, as per the terms of the site planning permission, Cork County Council planning reference 2929/76).

To reflect project scheduling requirements and to facilitate studies on the potential for any re-use options for the Kinsale Area facilities, a two stage consent application process for the Decommissioning Plans was originally proposed by Kinsale Energy. Decommissioning Plans covering the first stage (Consent Application No. 1) were submitted on 28th June 2018 covering the following works:

- Facilities preparation: disconnect and degas process plant and pipelines (pipelines displaced with seawater, and inhibited seawater in the case of the 24" export pipeline and the 18" Seven Heads pipeline).

- Wells: plug and abandon all platform and subsea wells and removal of any surface component of these wells, including wellhead structures and platform conductors.
- Platform topsides: complete removal in accordance with OSPAR Decision 98/3.
- Subsea structures: (e.g. manifolds, wellhead protection structures): full removal in accordance with OSPAR Decision 98/3, including the removal of connecting spool pieces, umbilical jumpers and protection materials.

A subsequent application was proposed to cover the remaining works required to complete the KADP. A separate planning application will be made for the decommissioning of the onshore gas terminal at Inch.

In accordance with section 13A of the 1960 Act, an Environmental Impact Assessment Report (**EIAR**) was prepared to accompany the Decommissioning Plans. That EIAR provided an assessment of all likely significant environmental impacts of the decommissioning of the Kinsale Area gas fields to enable the Minister for Communications, Climate Action & Environment to undertake an Environmental Impact Assessment to determine whether the proposed decommissioning of the offshore and onshore facilities associated with the Kinsale Area fields would or would not be likely to have significant effects on the environment.

In addition and also in accordance with Section 13A of the 1960 Act, an Appropriate Assessment Screening Report ("**AA Screening Report**") is also required to accompany the Decommissioning Plans, in accordance with the provisions of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). The AA Screening Report informs and assists the competent authority, the Minister for Communications, Climate Action and the Environment (the "**Minister**"), in carrying out its screening for Appropriate Assessment as to whether or not the Project is likely to have any significant impacts on any European sites, either alone or in combination with other plans and projects, taking into account their conservation objectives in light of the best scientific knowledge in the field. Accordingly, an AA Screening Report was submitted with Consent Application No. 1.

Following a request for further information from the Minister, and a second request for supplementary information, both of which were formally responded to by Kinsale Energy, Ministerial consent for Consent Application No. 1 was received on 26th April 2019.

Subsequent to the above consent being granted, and following ongoing discussions with potential users of the facilities and information received from potential decommissioning contractors, it has become apparent that there is no viable option for future re-use of the platform jackets. However, there are ongoing studies by others which may result in a future re-use of one or more of the subsea pipelines. To allow these studies to be concluded, it is proposed that Consent Application No.2 will consist of the decommissioning of the platform jackets only. Consent Application No. 2 incorporates the conditions stipulated in Consent Application No.1, where relevant.

The pipelines and associated umbilicals will be included in a future application or applications, as required. The scope of work to be covered by this and future applications is therefore:

- **Works covered in Consent Application 2:**
  - **Platform jackets:** complete removal in accordance with OSPAR Decision 98/3.
- **Works covered in future applications:**

- **Offshore pipelines and umbilicals**: rock cover of freespans and/or remaining exposed sections and remaining *in situ* protection materials.
- **Export pipeline (offshore and onshore section):** fill onshore section with grout (if a viable re-use option is not identified) and rock cover of freespans and/or remaining exposed sections in offshore section.

1.2 Consent Applications

The facilities to be decommissioned under the various consent applications for the KADP are set out below.

1.2.1 Previous Applications

1.2.1.1 Consent Application No.1 - Kinsale Head Petroleum Lease (OPL 1)

- This application was submitted to the Minister on 28 June 2018 and Ministerial Consent was received on 26 April 2019 and includes the following:
- The Kinsale Alpha (KA) and Kinsale Bravo (KB) topsides,
- All infield subsea infrastructure associated with the OPL-1, including the subsea manifold, PLEMs, valve skid, intermediary tee skid, pipeline/umbilical terminations and associated protection materials.
- All OPL-1 subsea and platform wells including the wellhead structures, as detailed in **Table 1**.
- 3 previously abandoned exploration wells

Table 1: Well Details

Well no.	Location/associated development	Present status
Platform Wells		
49/16-A1	Kinsale Head (KA)	Gas Producer
49/16-A3	Kinsale Head (KA)	Gas Producer
49/16-A4	Kinsale Head (KA)	Gas Producer
49/16-A5	Kinsale Head (KA)	Gas Producer
49/16-A6	Kinsale Head (KA)	Gas Producer
49/16-A7	Kinsale Head (KA)	Gas Producer
49/16-A9	Kinsale Head (KA)	Gas Producer
49/16-B1	Kinsale Head (KB)	Gas Producer
49/16-B3	Kinsale Head (KB)	Gas Producer
49/16-B4	Kinsale Head (KB)	Gas Producer
49/16-B5	Kinsale Head (KB)	Gas Producer
49/16-B6	Kinsale Head (KB)	Gas Producer

Well no.	Location/associated development	Present status
49/16-B7	Kinsale Head (KB)	Gas Producer
49/16-B9	Kinsale Head (KB)	Gas Producer, shut in.
Subsea Wells		
48/20-2	Ballycotton	Gas Producer; shut-in
48/25-3	SW Kinsale	Gas Producer
48/25-4	SW Kinsale (WDC)	Gas Producer
48/25-5	SW Kinsale (WDC)	Gas Producer
48/25-6	Greensand	Gas Producer
Previously abandoned exploration wells		
48/25-2	Kinsale Head	Plugged and abandoned.
49/16-2	Kinsale Head	Plugged and abandoned.
48/20-1A	Kinsale Head	Plugged and abandoned.

1.2.1.2 Consent Application No.1 - Seven Heads Petroleum Lease

- This application as submitted to the Minister on 28 June 2019 and Ministerial consent was received on 26 April 2019 and includes for the following facilities under the Seven Heads Petroleum, Lease:
- Five Seven Heads Field subsea development wells including the wellhead structures, i.e.:
  - Well 48/24 - 5A
  - Well 48/24 - 6
  - Well 48/24 – 7A
  - Well 48/24 - 8
  - Well 48/24 – 9
- One previously abandoned exploration well:
  - Well 48/23-3 (Wellhead Removal only)
- All infield subsea infrastructure associated with the Seven Heads gas field, including the subsea manifold, pipeline/umbilical terminations and associated protection materials.

1.2.2 Current Application

1.2.2.1 Consent Application No.2 - Kinsale Head Petroleum Lease (OPL 1) (This Decommissioning Plan)

- The Kinsale Alpha (KA) and Kinsale Bravo (KB) jackets

Pursuant to section 13 of the Petroleum and Other Minerals Development Act 1960 as amended (1960 Act), a petroleum lease was granted in respect of the Kinsale Head gas fields and facilities in May 1970 (Offshore Petroleum Lease No. 1 (**OPL-1**)). The Kinsale Head Plan of Development was submitted and agreed with the then Minister in respect of the Kinsale Head gas fields and facilities pursuant to the terms of the OPL-1.

1. Application for approval of an addendum to Kinsale Head Field Plan of Development under Section 13 of the 1960 Act

The Kinsale Head gas fields are coming to the end of their productive life and Kinsale Energy is applying to the Minister for Communications, Climate Action and the Environment (the "Minister") for approval for an addendum to the Kinsale Head Plan of Development for the decommissioning of certain facilities as set out in this document. Kinsale Energy has prepared this Decommissioning Plan – Kinsale Head Petroleum Lease (OPL 1) – Consent Application No.2 (the "**Decommissioning Plan**") which sets out the details for the decommissioning[1] of certain facilities in the Kinsale Head gas fields.

In accordance with section 13A of the 1960 Act, an Environmental Impact Assessment Report (EIAR) has been prepared to accompany this application. An Appropriate Assessment (AA) Screening Report has also been prepared to accompany this application.

2. Application for Consent under Section 5 of the Continental Shelf Act 1968 (as amended)

Pursuant to Section 5(2) of the Continental Shelf Act 1968, as amended, the consent of the Minister is also sought by Kinsale Energy to alter and remove certain facilities from the area designated pursuant to Article 2 of the Continental Shelf Designated Areas Order 1993 SI 92 of 1993.

1.2.3 Future Applications

Further applications will be submitted for the following:

Seven Heads Petroleum Lease

- All infield pipelines and umbilicals associated with the Seven Heads gas field
- The 18" Seven Heads export pipeline and umbilical

Kinsale Head Petroleum Lease (OPL 1)

- All infield pipelines and umbilicals associated with the Kinsale Head gas fields

[1] Meaning the removal, part removal or leaving in place of any installation or facility.

- The 24” export pipeline (offshore and onshore section)

1.2.4 Environmental Assessment

Addendums (253993-00-REP-24 and 253993-00-REP-25) to the EIAR and AA Screening Report has been produced to reflect the additional information provided to the Minister on 14th November 2018 and 12th December 2018 during the Consent Application No. 1 process, and additional relevant environmental information which has been published in the interim. These documents should be read in conjunction with the Decommissioning Plan which have also been submitted as part of this consent application process.

The EIAR (plus addendum) and AA Screening Report (plus addendum) enclosed with this application have been prepared to assess the environmental impacts of the entirety of the proposed decommissioning of the Kinsale Area gas fields and facilities including the decommissioning of the Inch onshore gas terminal.

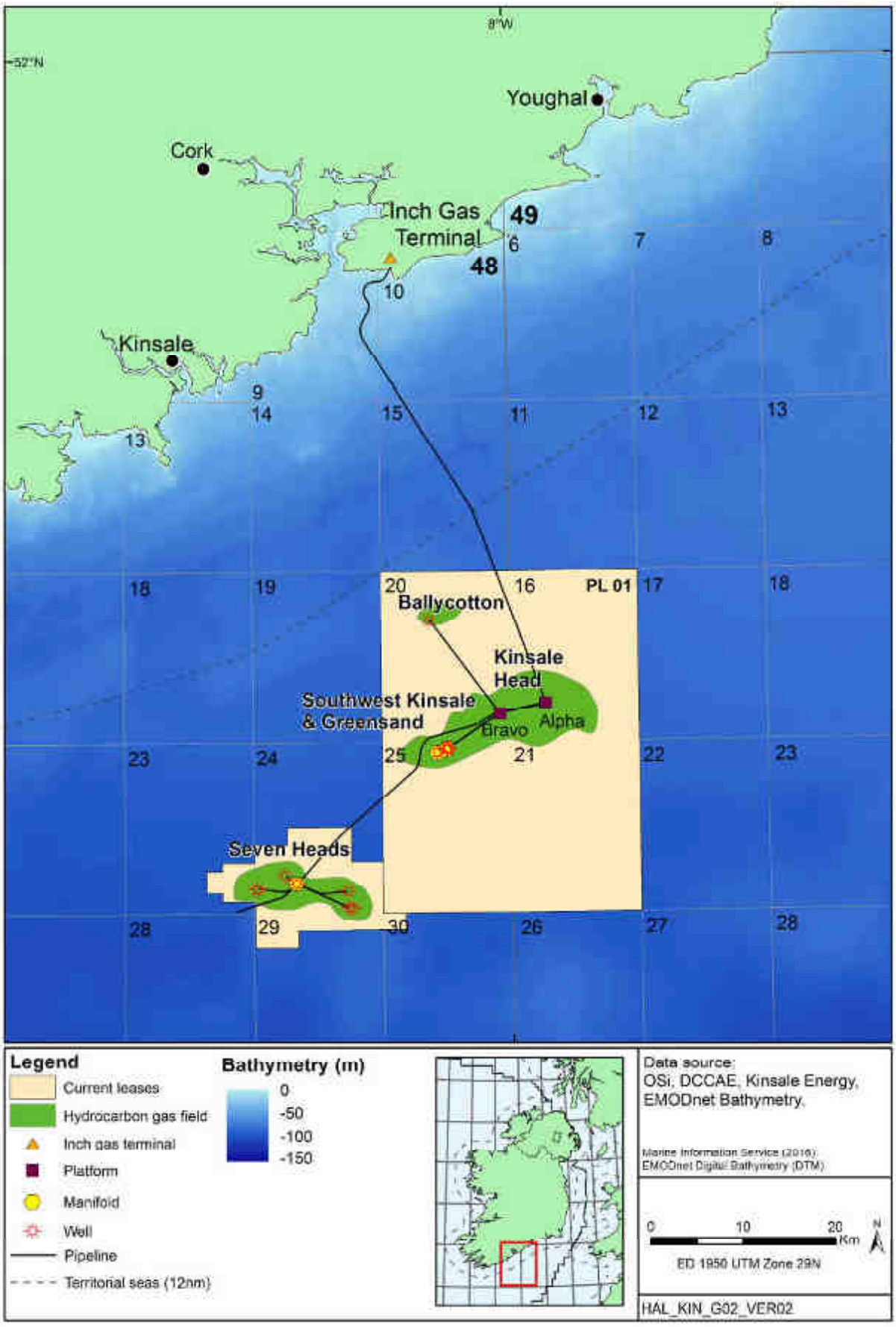

Figure 1: Location of the Kinsale Area fields and facilities

1.3 OPL-1

The Offshore Petroleum Lease No. 1 (OPL-1), details are summarised in **Table 2** below.

Table 2: Lease details

Lease	Commencement Date	Block No.	Area (km²)	Participants (* = Operator)	% Interest
Offshore Petroleum Lease No. 1:	7 May 1970	48/20, 48/25, 49/16 & 49/21	1,003.03	*PSE Kinsale Energy Limited	100%

1.4 Overview of Facilities

The Kinsale Area contains several natural gas fields as shown in **Figure 2** below.

The Kinsale Head, Southwest Kinsale, Greensand and Ballycotton gas fields are all located within Kinsale Head Petroleum Lease (OPL-1).

The adjacent gas field, Seven Heads gas field is located within Seven Heads Petroleum Lease.

The Kinsale Head facilities were installed between 1977 and 2003 with gas production commencing in 1978 and seasonal gas storage operations taking place between 2001 and 2017. The fields are coming to the end of their productive life and are expected to become uneconomic around 2020/2021.

See **Section 2** for details of the facilities.

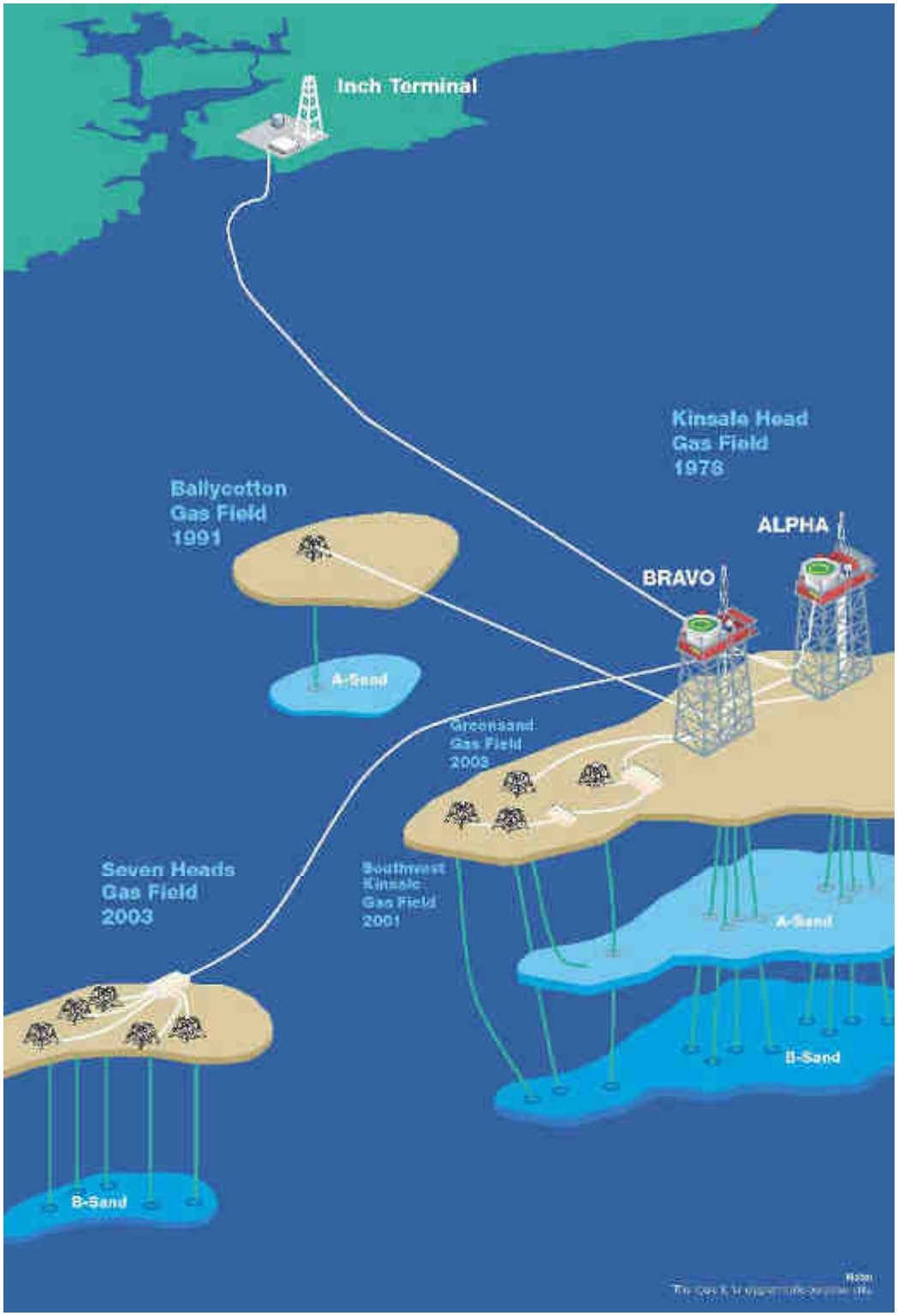

Figure 2: Kinsale Area Facilities

1.5 Overview of Statutory Background

Certain international conventions and European and national legislation form the legal framework in which the decommissioning of offshore facilities, such as the KADP, must be undertaken.

The most relevant conventions and legislation which impose a requirement for a consent for decommissioning relevant to this Decommissioning Plan and/or an obligation or restriction on decommissioning options are outlined below.

Details of all relevant International Conventions and European Legislation is included in **Appendix A1**.

1.5.1 Relevant National Legislation

Petroleum and Other Minerals Development Act, 1960, as amended

The Petroleum and Other Minerals Development Act, no 7 of 1960, as amended, (the "1960 Act") regulates offshore petroleum (including gas) exploration and production activities in Ireland. The Minister for Communications, Climate Action and Environment is the competent authority under the 1960 Act.

A petroleum lease is the authorisation, issued under Section 13 of the1960 Act, to allow the exploitation of a commercial petroleum discovery. The Kinsale Area facilities operate under two petroleum leases.

- Petroleum Lease No 1 (OPL 1 - 1970): Kinsale Head, Southwest Kinsale and Ballycotton Gas Fields, and
- Seven Heads Petroleum Lease (2002): Seven Heads Gas Field.

Following consultation with the Department of Communications, Climate Action and Environment, Kinsale Energy is submitting an EIAR to accompany the Decommissioning Plan pursuant to section 13A of the 1960 Act.

This EIAR assesses the impact of the entirety of the KADP and includes an assessment of all likely significant environmental impacts for decommissioning of the onshore gas terminal at Inch.

Continental Shelf Act

The Continental Shelf Act 1968, as amended (the "1968 Act") is the legislative regime applying to the Continental Shelf. The Continental Shelf is the area of sea and seabed between the 12 nautical mile limit and the 200 nautical mile limit.

Section 5 (2) of the 1968 Act imposes the requirement to obtain consent from the Minister to "*construct, alter or improve any structure or works in or remove any object or material from a designated area."*

The Continental Shelf Designated Areas Order 1993 SI 92 of 1993, Section 2, defines the "*designated area*" as the "*The area set out in paragraph 1 of the Schedule to this Order is hereby designated as an area within which the rights of the State outside the territorial seas over the sea bed and subsoil for the purpose of exploring such sea bed and subsoil and exploiting their natural resources are exercisable*." The Schedule provides a list of points specified by latitude and longitude to define the Continental Shelf.

Apart from the Inch Terminal and the parts of the export pipeline on land and on the Foreshore, the Kinsale Area gas fields and facilities are located on the Continental Shelf. The KADP will involve altering or removing objects or material from the seabed of the Continental Shelf. Consequently, consent under the 1968 Act will be required for the KADP.

The 1992 Licensing Terms

The 1992 Licensing Terms address the surrender of a petroleum lease in Section 33[2]. The abandonment of wells is covered in Section 57[3]. The abandonment of fixed facilities is covered in Section 71[4].

Under Section 28 of the 1992 Licensing Terms, Kinsale Energy must apply for the Minister for approval under Section 13/13A of the 1960 Act, as amended, for any plan of development.

The requirements of the 1992 Licensing Terms, as they relate to the decommissioning of facilities, can be summarised as follows:

- The Minister must be given at least 12 months' notice of the intention to determine the petroleum leases,
- An abandonment plan must be submitted in writing to the Minister,
- The plan must contain information on the abandonment and removal of any facilities,
- The plan must contain technical, economic and financial information, as will enable the Minister to evaluate the proposals fully and to assess their economic, social, safety and environmental implications.

These requirements, where appropriate, have been addressed in the within this Decommissioning Plan.

1.5.2 OSPAR Convention (1992)

The OSPAR Convention, OSPAR (1992), is the current legislative instrument regulating international cooperation on environmental protection in the North-East Atlantic. It replaces the 1972 Oslo Convention on dumping waste at sea and the 1974 Paris Convention on land-based sources of marine pollution. Ireland has ratified the OSPAR Convention.

The OSPAR Convention applies to the internal waters and the territorial seas of the Contracting Parties, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal State to the extent recognised by international law, and to the high seas, including the bed of all those waters and its subsoil, situated within specified limits of the Atlantic and Arctic Oceans.

Decisions 98/3, OSPAR (1998), amended the OSPAR Convention in 1998. Under paragraph 2 of the Decisions 98/3, the dumping, and leaving wholly or partly in place, of disused offshore installations is prohibited within the OSPAR maritime area.

[2] DMNR (1992), page 28.
[3] DMNR (1992), page 41.
[4] DMNR (1992), page 38.

1.5.3 Summary of key relevant National and European legislation

Table 3 below summarises the relevant key National, European and International legislation and the associated consents and requirements for decommissioning of infrastructure relevant to the KADP.

Table 3: Key National, European and International legislation relevant to the KADP

Relevant Legislation	Consents / requirements for Decommissioning
Section 13 of The Petroleum & Other Minerals Development Act 1960	Application will be made pursuant to Section 13 for decommissioning.
Section 5 of The Continental Shelf Act 1968	Application for the consent to "alter/construct/improve" works or structure in 'or remove any object or material from' the Continental Shelf designated area.
Part IIA of the Electricity Regulation Act 1999	Section 13D renders the decommissioning of petroleum infrastructure and the abandoning of any well as a "designated petroleum activity". Section 13E requires a safety permit to carry out designated petroleum activity.
Section 3 of the Petroleum (Exploration and Extraction) Safety Act 2010	KEL's current safety permit does not include decommissioning. Approval of Safety Case required for decommissioning.
Energy (Miscellaneous Provisions) Act 1995, Section 17	Minister shall not approve abandonment without consent of Minister of Marine.
European Communities (Birds and Natural Habitats) Regulations 2011 – 2015	Screening to be undertaken by competent authority to determine whether actions will affect European site. Screening appraisal report to be submitted to competent authority. Transposes Habitats Directive (92/43/EEC) and Birds Directive (2009/147/EC) into Irish Law.
Environmental Impact Assessment Directive 2011/92/EU amended by Directive 2014/52/EU	EIA Screening, and EIA if required, to be undertaken by competent authority.
Decisions 98/3, OSPAR (1998)	The dumping, and leaving wholly or partly in place, of disused offshore installations is prohibited within the OSPAR maritime area.

1.6 Methodology

This Decommissioning Plan has been prepared in line with the legislation as detailed in **Section 1.5,** and in absence of specific decommissioning guidance documents in Ireland, taking cognisance of the following guidance documents for decommissioning projects:

[1] PAD (2004). Rules and Procedures Manual for Offshore Petroleum Production Operations Rev 4.4, 2004, Petroleum Affairs Division, Department of Communications, Marine and Natural Resources, Dublin.

[2] PAD (2011), Rules and Procedures Manual for Offshore Petroleum Exploration and Appraisal, 2011, Petroleum Affairs Division, Department of Communications, Marine and Natural Resources, Dublin

[3] DMNR (1992). Licensing Terms for Offshore Oil And Gas Exploration, Development & Production 1992, Department of the Marine and Natural Resources, Dublin

[4] EPA (2014). Guidance on assessing and costing environmental liabilities 2014.

[5] CER (2017). Safety Case Requirements. Part of the Safety Case Guidelines under the Petroleum Safety Framework. CER/16/024.

[6] DECC (2011). Decommissioning of Offshore Oil and Gas Installations and Pipelines under the Petroleum Act 1998. Version 6, 134pp.

[7] OGUK (2013). Long-term degradation of Offshore Structures and Pipelines Decommissioned and left *in situ*. Commissioned by Oil & Gas UK, 41pp.

1.7 Overview of Decommissioning Plan

This Decommissioning Plan details a range of selected options for the decommissioning of certain facilities within the Kinsale Head gas fields.

A number of options were initially considered to carry out the decommissioning of the facilities, including the consideration of alternative uses of the facilities (refer to **Section 3.3**), as well as a number of different options to carry out the physical decommissioning (refer to **Section 4**).

No feasible alternative uses for the facilities have been identified and the different methods to carry out the decommissioning have been assessed, which resulted in the identification of a number of preferred methods for the decommissioning of each facility.

The broad scope of work involved in decommissioning the facilities (covered by this Decommissioning Plan) is the removal of the platform jackets and their recycling/disposal onshore, in accordance with OSPAR decision 98/3.

Table 4 sets out a summary of the proposed decommissioning options considered, as well as any alternative option which was considered to be technically feasible.

As there is no alternative but to remove the platform jackets; the only alternative options available are those associated with the different methods of removing the facilities, for example, in a single lift or multiple lifts by different vessel types. Section 6.1 provides further detail in the variations in these different methodologies

Table 4: Summary of proposed decommissioning options for the OPL-1 Facilities (Consent Application No.2)

Facility	Decommissioning Option Assessed	Method	Vessel Type[5]	Alternative Options Initially Considered
Platform Jackets	Full Removal	Single Lift	Specialist HLV	The options initially considered were:

[5] Note that only the principal vessels involved are listed in this table, however other vessels, for example construction support (CSV), anchor handling (AHV), platform support (PSV) and guard vessels will also be used and are listed in full in relevant sections below.

Facility	Decommissioning Option Assessed	Method	Vessel Type[5]	Alternative Options Initially Considered
			Conventional HLV	1. Partial removal 2. Leave *in situ* or 3. Toppling in current location
			Flotation	
		Multiple Lift	Conventional HLV	Due to legal obligations for the complete removal of structures (OSPAR Decision 98/3 – refer to **Section 1.5 and Appendix A of this Document**) no alternative other than full removal was considered further. However, the methodology of full removal can differ depending on vessel type – refer to Section 6.1 of this document.

1.8 Objective of Decommissioning Project

The objective of this Decommissioning Plan is to ensure that the decommissioning is undertaken in a safe, environmentally friendly and cost efficient manner. The Kinsale Area Decommissioning Project will ensure minimum impact on the environmental and residual risks and liabilities will be managed appropriately. The Decommissioning Plan will ensure that the necessary measures are identified, managed and monitored to lead to successful decommissioning.

The criteria which define the successful decommissioning of the facilities are as follows:

- Compliance with the Minister's consent requirements.
- All decommissioning activities completed safely and with due regard to the environment.
- All activities undertaken in compliance with laws and regulations.
- All works carried out in accordance with good oilfield practice.
- All facilities will be safely decommissioned using standard procedures and appropriately licensed contractors.
- All disposal of wastes, materials and substances will comply with regulatory requirements.
- All records relating to decommissioning and the disposal or recycling of wastes, materials and substances retained throughout the closure process and made available for inspection thereafter through the DCCAE.
- Hazards and environmental risks addressed and the Minister satisfied that the Kinsale Area has minimum impact on the Environment.
- An Environmental Management System in place and actively implemented during the decommissioning period.
- Residual (post-decommissioning) risks reduced to a satisfactory level.
- Appropriate funds in place to cover the costs.

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 2

Facilities Description

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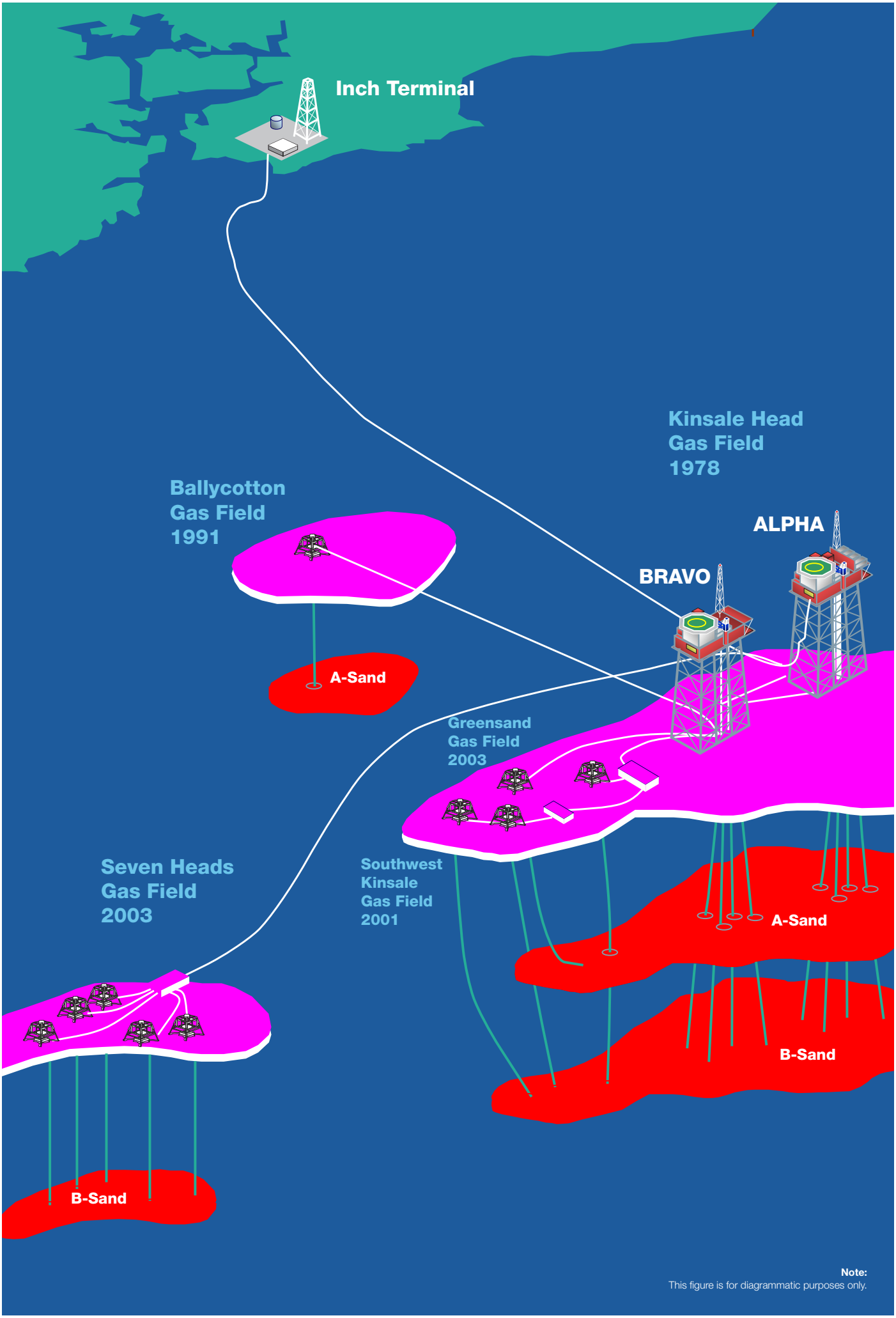
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This figure is for diagrammatic purposes only.

2 Facilities Description

2.1 History of Operations

The Kinsale Head Gas Field was discovered in 1971 and was brought on-stream in 1978 under a Plan of Development approved by the then Department of Industry and Commerce. The Kinsale Head field was developed with two fixed steel platforms (Kinsale Alpha and Kinsale Bravo) with gas exported by pipeline from Kinsale Alpha to the onshore Inch Terminal. The discovery of the field was the basis for the development of the natural gas industry in Ireland and Kinsale Head was Ireland's only source of gas until the installation of an interconnector pipeline from Scotland in 1993.

Following the Kinsale Head discovery, there was extensive exploration of the Celtic Sea with ~90 wells drilled, the last was the Midleton well in Block 49/11 drilled by Kinsale Energy in 2015. However, despite the intensive exploration effort, no other large fields have been discovered, although a number of smaller gas fields have been commercially exploited as subsea tie-backs to Kinsale Head, including the Seven Heads field, which was the last development in the area.

The development of the smaller gas fields, which would not have been economic on a stand-alone basis, and technical modifications to the Kinsale Head facilities (e.g. installation of compression), have prolonged the life of the main field which has allowed continued production from satellite fields, even at very low flowrates. This has effectively extended the economic life of the satellite fields beyond a level that would be sustainable on a stand-alone basis.

The Kinsale Area fields, infrastructure and production status are summarised in **Table 5,** for information.

Table 5: Summary of Development History for the Kinsale Area Fields

Lease	Field	No. of Wells	Facilities	Date/First Production	Status (2017)
OPL-01	Kinsale Head	14	Kinsale Alpha (Manned Platform with production, drilling & accommodation) 7 x Platform Wells	1978	Producing
			Compression added	1992	
			Kinsale Bravo (Manned Platform with production, drilling & accommodation) 7 x Platform Wells	1979	Producing (1 Well Shut-In)
			Compression added	1993	
			Converted to Normally Unmanned Installation	2001	
	Ballycotton	1	1 x Subsea Well	1991	Shut-In
	Southwest Kinsale *	3	3 x Subsea Wells	1999 – 2001	Producing
	Greensand	1	1 x Subsea Well	2003	Producing

Lease	Field	No. of Wells	Facilities	Date/First Production	Status (2017)
Seven Heads	Seven Heads	5	1 x Subsea Manifold 5 x Subsea Wells	2003	Producing (1 Well Shut-In))

The Seven Heads field was developed by a group led by Ramco Energy in 2003; Ramco's interest (86.5%) was subsequently acquired by Marathon in 2006 and is now operated by PSE Seven Heads Limited, a subsidiary of PSE Kinsale Energy Limited. A separate Decommissioning Plan is being submitted for the Seven Heads facilities.

The Kinsale Head reservoirs do not produce sand, and the water associated with the gas is "water of saturation" and is fresh water. Although the Kinsale Head field has no condensate associated with it, the Seven Heads field, which is tied back to Kinsale Alpha, produces very small, non-commercial amounts of light condensate which is extracted on the Kinsale Alpha platform and sent to shore in tote-tanks, with no associated discharges.

No solid sample taken from the Kinsale Area platforms or associated wells, has ever been classed as positive for low specific activity (LSA) or Naturally Occurring Radioactive Material (NORM). This demonstrates that there is no LSA or NORM associated with the Kinsale Area platforms.

There are no well cutting piles associated with any of the drilling locations in the Kinsale Head area. This was confirmed by the 2017 seabed survey.

Oil-Based Muds were only used in the drilling of one of the Kinsale Area wells, the Greensand well 48/25-6; however all cuttings from this well were collected and shipped ashore, so there were no associated overboard discharges.

2.2 Inventory of Facilities

The facilities to be decommissioned, relevant to this Decommissioning Plan, are illustrated (**Figures 3 to 6**) and summarised in **Table 6**.

This Decommissioning Plan is only for the Kinsale Alpha (KA) and Kinsale Bravo (KB) platform jackets.

Layout drawings of all facilities within OPL-1 are included in **Appendix A2**.

2.2.1 Kinsale Head Development

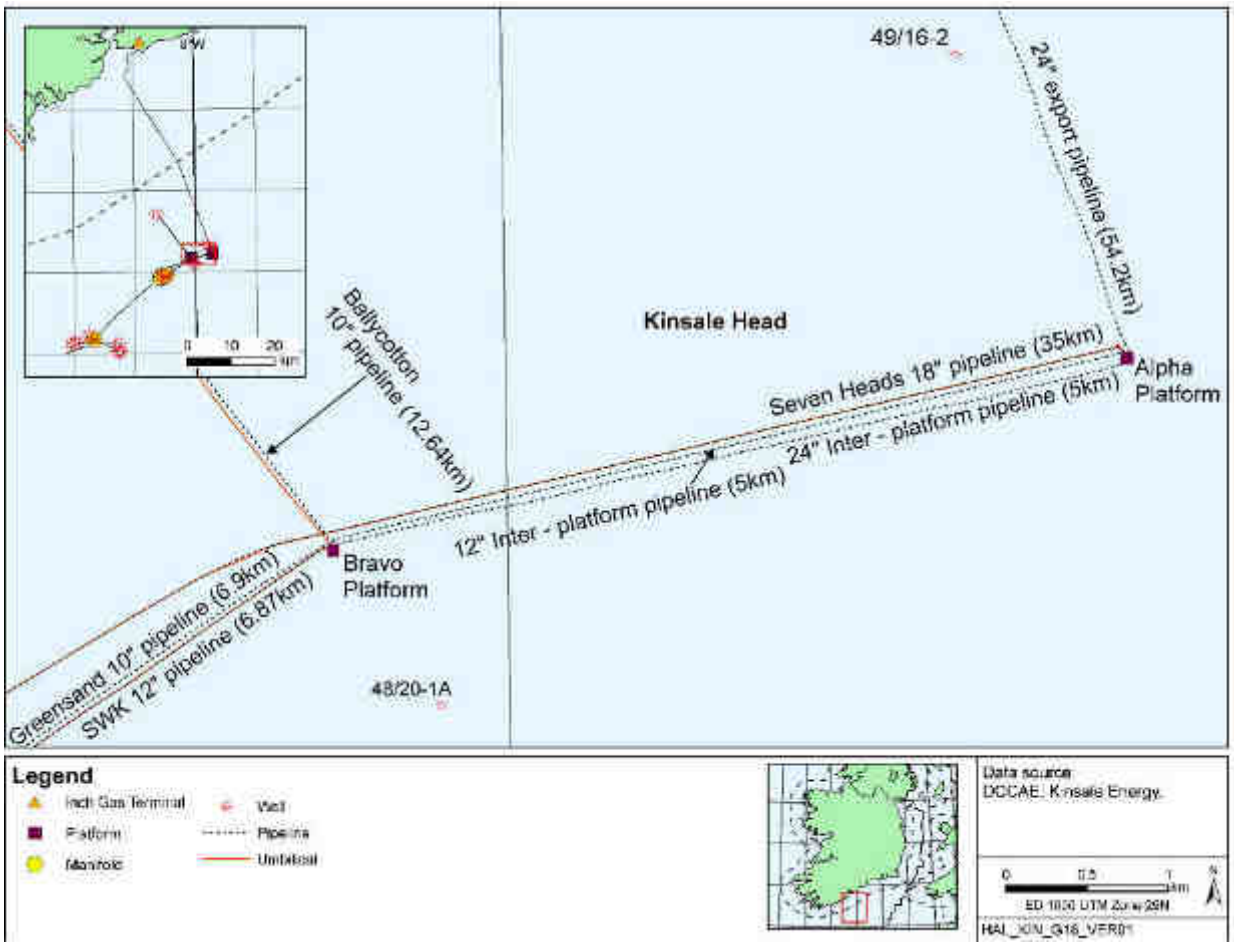

Figure 3: Overview of the Kinsale Head Facilities

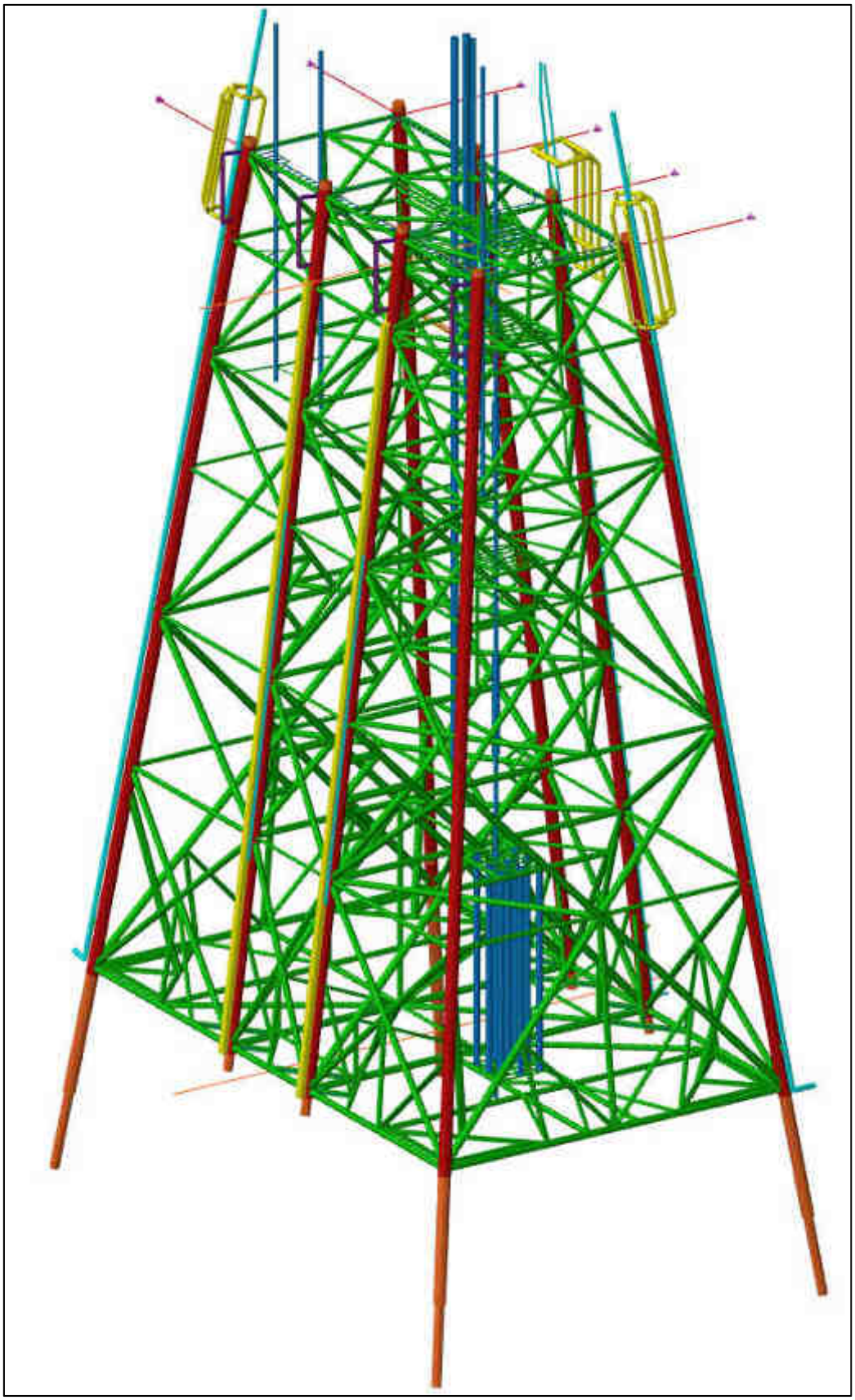

Figure 4: Typical Jacket Elevation

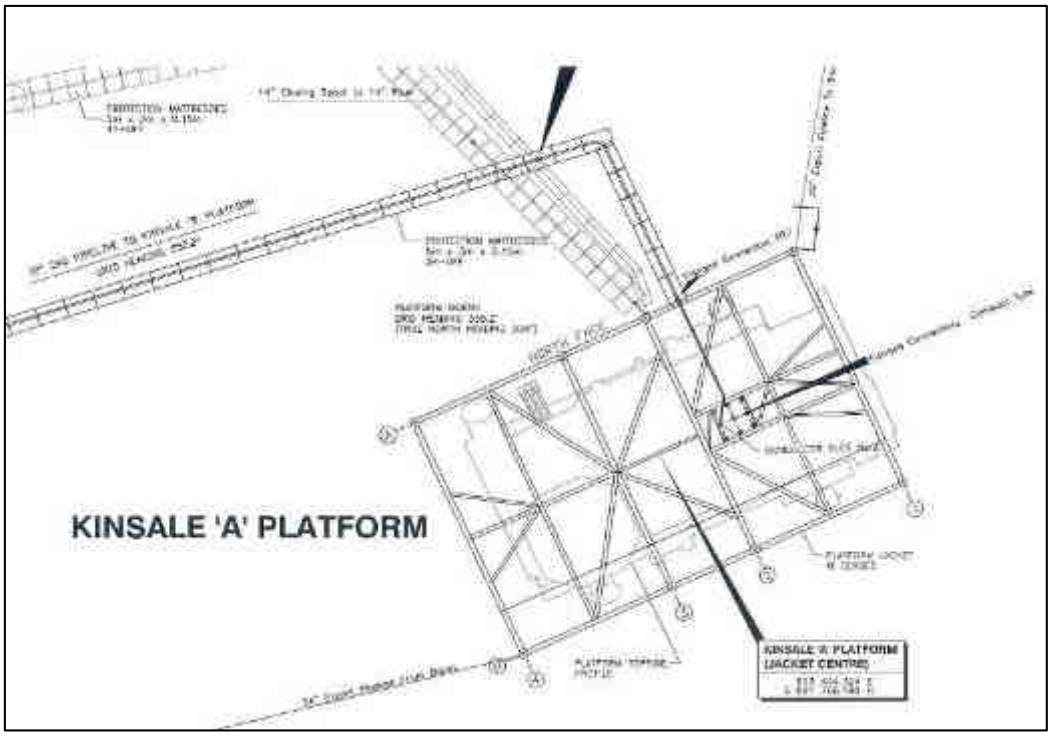

Figure 5: Overview of the Kinsale Head Alpha Jacket

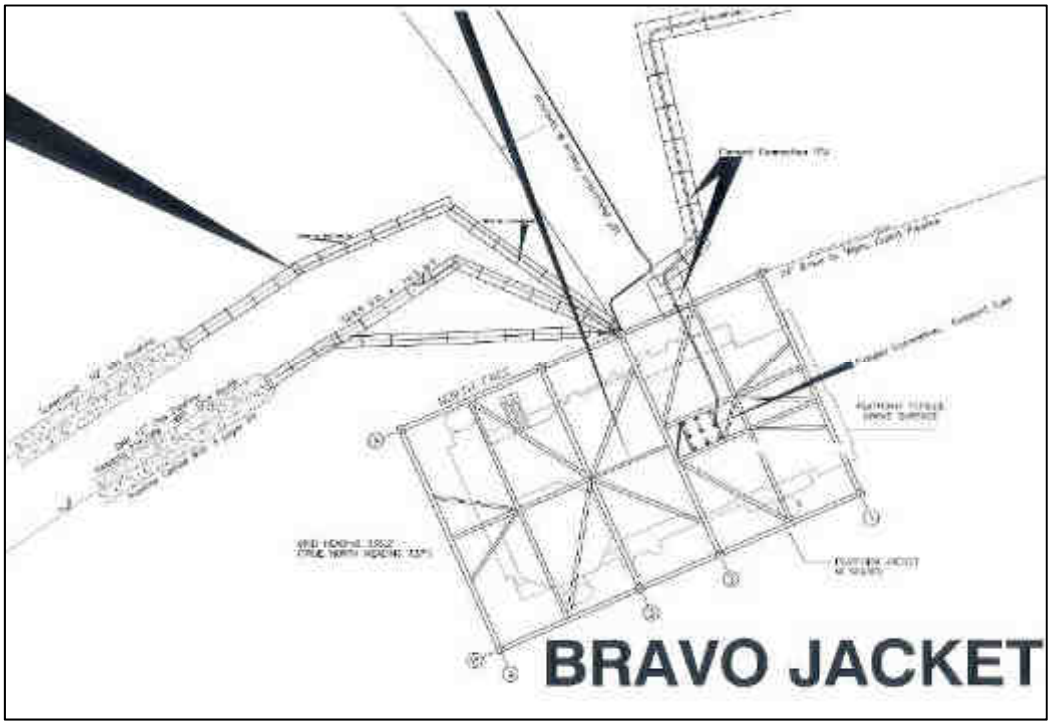

Figure 6: Overview of the Kinsale Head Bravo Jacket

Kinsale Alpha Jacket

Installed in 1977, Kinsale Alpha (**Figure 7**) jacket comprises of an eight-leg piled steel lattice structure with a footprint of 70 x 44m and height 98m, with piles driven to an approximate 50m below the seabed. Including main members, risers, casissons, marine grouth, piles to seabed level, grout, mudmats and anodes, the structure has a total weight of ca. 8,100 tonnes.

There is an exclusion zone (ref S.I. No. 285/1977), for other sea users, bounded by a line which is 500 metres at all points from a straight line joining the KA and KB platforms. This results in an elongated 500 metre exclusion zone around the KA, KB platforms and the entire stretch between them.

Figure 7: Kinsale Alpha

Kinsale Bravo Jacket

Kinsale Bravo (**Figure 8**) was installed in 1977 and was originally almost identical to KA. An eight-leg piled steel jacket with a total weight in air of some 7,600 tonnes including main members, risers, caisssons, marine growth, piles to seabed level, grout, mudmats and anodes.

As noted above there is an elongated 500 metre exclusion zone around the KB platform and the entire stretch between the KA and KB platforms.

Figure 8: Kinsale Bravo

2.2.2 Summary of OPL-1 Lease Facilities (Consent Application 2)

Tables 6 summarises the OPL-1 facilities to be decommissioned as detailed herein.

Table 6: Platform Jackets to be decommissioned

Structure	Description	Dimensions	Weight (in air)
Kinsale Alpha Jacket	Jacket standing in approximately 89.9m of water. Jacket details: • 8-legged piled steel lattice structure, with piles driven to an approximate depth of 50m below the seabed • 9 conductor slots (7 conductors) • Risers / J-tubes	Jacket: Base 70m x 44m, Height 98m, 7 plan bracing levels	Jacket: 8,100Te approx. (including main members, risers, caissons, marine growth, piles to seabed level, grout, mudmats & anodes)

Structure	Description	Dimensions	Weight (in air)
Kinsale Bravo Jacket	Jacket standing in approximately 90.5m of water Jacket details: • 8-legged piled steel lattice structure, with piles driven to an approximately depth of 50m below the seabed • 9 conductor slots (7 conductors) • Risers / J-tubes	Jacket: Base 70m x 44m, Height 98m, 7 plan bracing levels	Jacket: 7,600Te approx. (including main members, risers, caissons, marine growth, piles to seabed level, grout, mudmats & anodes)

Source: Genesis (2011), Xodus (2016c)

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 3

Cessation of Production

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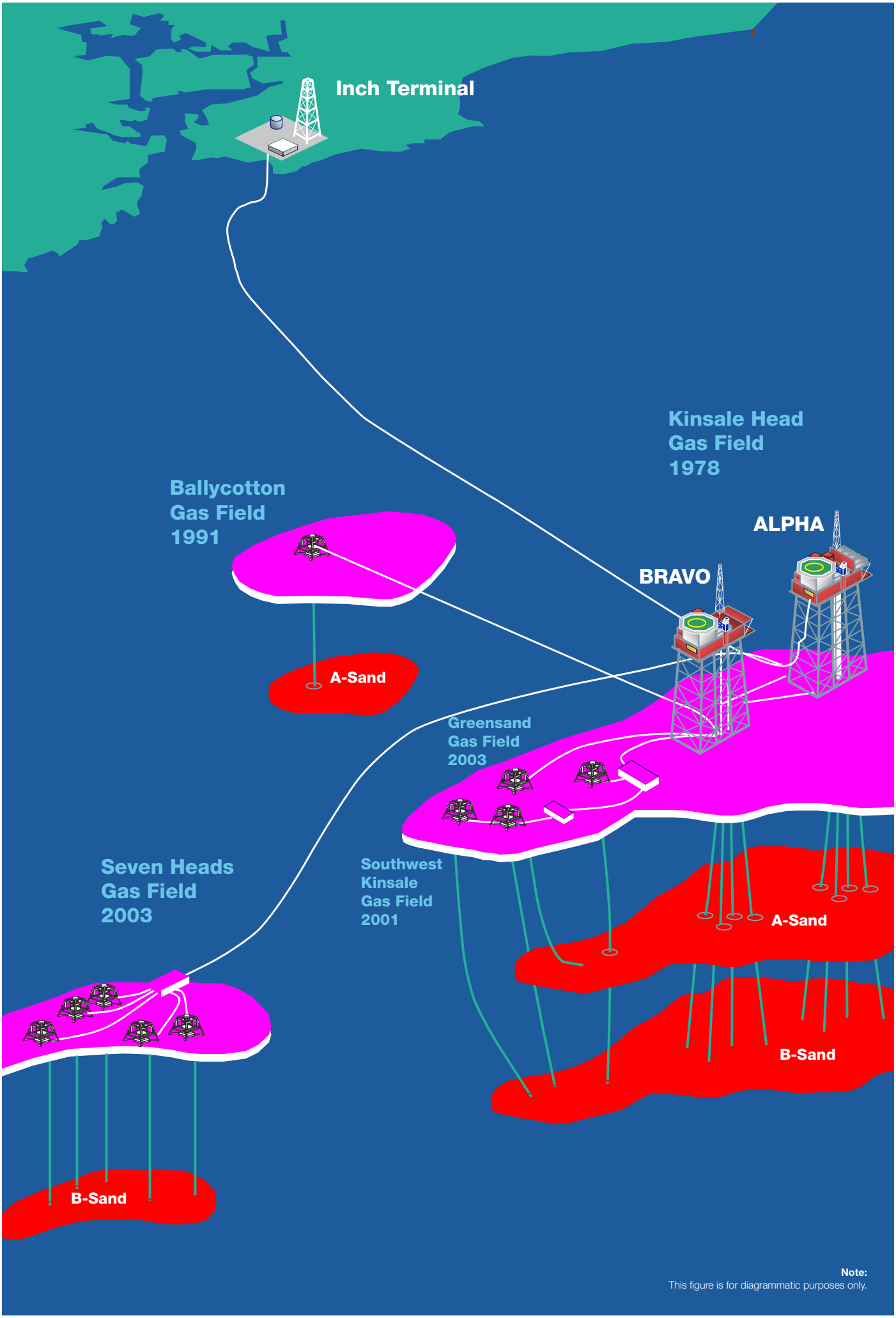
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3 Cessation of Production

3.1 Reasoning

The Kinsale Area gas fields have been in production since 1978 (Kinsale Head) and it is expected that the economic extraction of gas will no longer be viable by 2020, whereupon the fields will be shut-in, the wells plugged and abandoned and the associated facilities decommissioned as described below.

The main producing reservoirs in the Greensand ("A" Sand) and Upper Wealden ("B" Sand) formations have been drawn down to extremely low pressures and shut in reservoir pressure will be less than 50 psia at cessation of production, such that there are no further cost-effective production technology modifications that can be applied. The offshore production wells are operating with bottom-hole pressures which are sub-hydrostatic and the Kinsale Alpha first-stage compressor suction pressure is less than 5psig, which is approaching a technical limit for offshore natural gas.

The original Kinsale Head Field Development Plan envisaged a 20 year production profile with a total ultimate recovery of 0.915 TCF corresponding to a Recovery Factor (RF) of ~70%.

The Kinsale Head gas field has produced ~1.76TCF of gas since start up to the end of 2016 and is ultimately expected to produce ~1.77TCF or approx. 96% of the estimated Gas in Place in the reservoir. High recovery factors are also expected for the other fields which have been developed via the Kinsale Head facilities.

Peak production levels were achieved in the mid-1990's and since then gas production levels have decreased significantly – current (2019) daily average rates are less than 5% of peak rates. **Figure 9** is a graph showing daily average gas production from the fields to date. Field and facility performance have been carefully and pro-actively managed to maximise and extend economic production. However, given the continuing declines in gas rates, no economically sustainable investment program or technical improvements can be implemented to extend economic production.

An application for consent to cease operations in accordance with section 8.8 of the PAD Rules & Procedures Manual for Offshore Petroleum Production Operations will be submitted to DCCAE at least 12 months prior to the proposed CoP date.

3.2 Technical and Economic Evaluations

Kinsale Energy will separately submit to the Minister a report detailing its technical and economic evaluations that support the CoP timeframe proposed in this Decommissioning Plan.

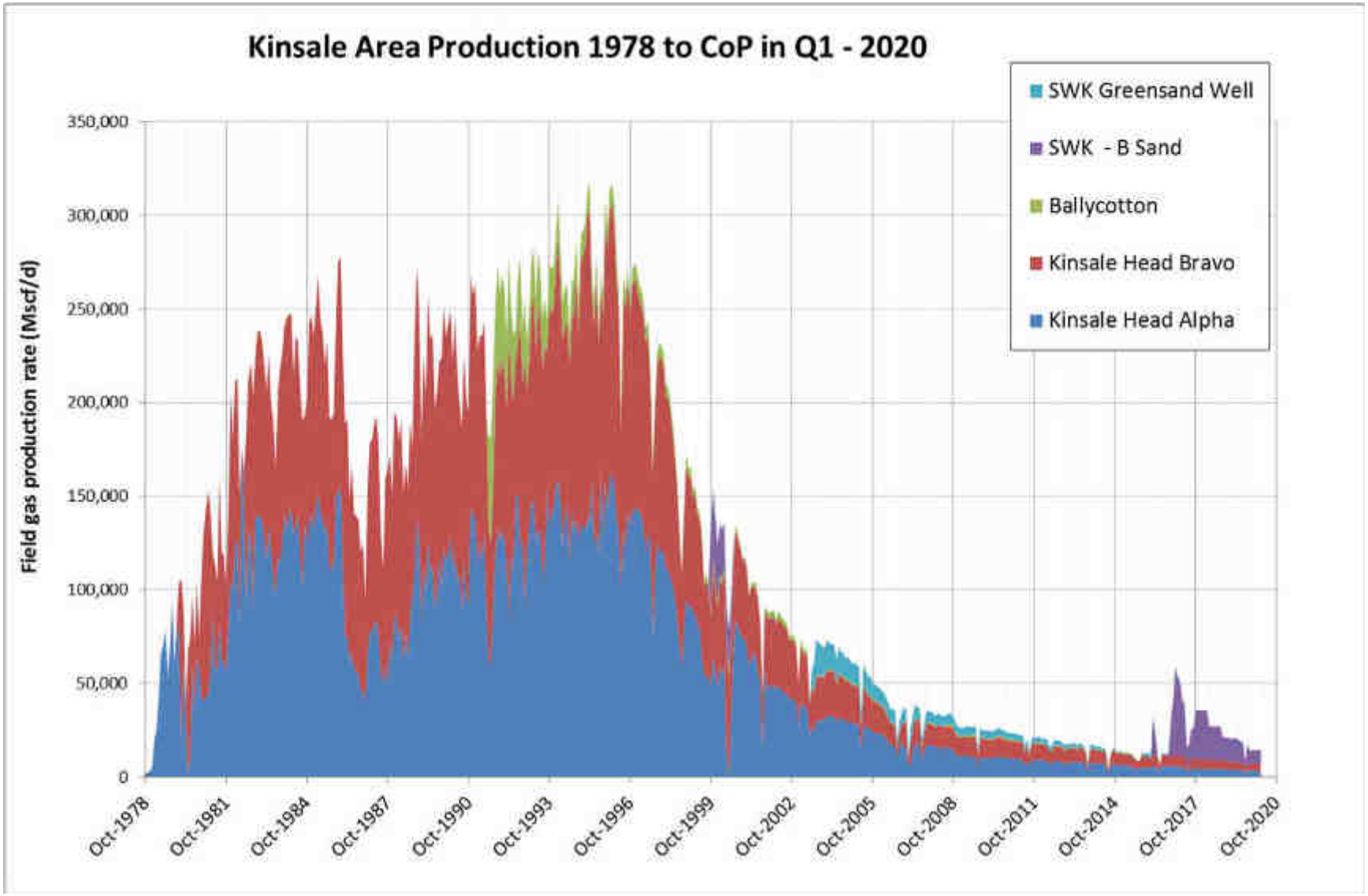

Figure 9: Kinsale Area gas fields – production rates

3.3 Other Uses Considered

The Kinsale Area facilities have been designed for dry gas production and processing, and the majority of the facilities are now close to or beyond their original design lives. Nevertheless, parts of the facilities may be suitable for re-use, depending on the service, particularly the main Kinsale and Seven Heads export pipelines and the platform jackets.

Three potential re-uses have been considered at a high level. These are hydrocarbon production, carbon capture and storage (CCS) and offshore wind energy production. An assessment of the alternatives and other uses are outlined in full at **Sections 3.3 and 3.4 of the EIAR**.

Hydrocarbon Production

The Kinsale Area facilities are not designed for liquid hydrocarbon or wet gas production and are unlikely to be suitable for such use. Some of the facilities could potentially be re-used for a future dry gas development as host infrastructure. However, there are currently no known commercial dry gas discoveries in the vicinity nor is Kinsale Energy aware of any firm drilling plans for dry gas prospects within tieback distance of any of the facilities. There are a number of appraisal wells planned in the Barryroe field and the 18” pipeline from Seven Heads to Kinsale Alpha, could be used for export of associated gas from a potential development of that field.

Carbon Capture and Storage

Kinsale Energy has carried out technical studies which would indicate that the main Kinsale Head reservoir may be suitable for CCS and also that some of the Kinsale Area facilities may be suitable for CO_2 transportation, particularly the 24” export pipeline and the jackets.

There is currently no commercial case for a merchant CCS service as CO_2 prices are too low to justify the required investment, however, this may change in the coming years. It is also noted that there is a proposal in Ireland’s current National Mitigation Plan (July 2017) for DCCAE to explore the feasibility of utilising suitable reservoirs for CO_2 storage within the next 5 years. Preliminary studies into the use of the Kinsale Head reservoir and facilities for CCS have been undertaken by Ervia and these indicate that re-use of the platform jackets as part of a CCS project is not viable, although the 24” export pipeline could possibly be re-used.

Offshore Wind Energy Production

The main 24” export pipeline and landfall could possibly have a use as a cable conduit, for either fibre optic or high-voltage direct current (HVDC) cables (for example as part of a windfarm). Use of the platform jackets to support HV convertor stations has been considered in a study, but is unlikely to be economic. Kinsale Energy is not aware of any wind farm development being considered for the vicinity of any of the Kinsale Area facilities, so no proposal currently exists at this time.

Conclusion

No other re-use options have been identified at present. As re-use of the platform jackets is not now considered viable, and there is no identified schedule or cost efficiency in deferring removal, it is planned to remove them at the same time as the

topsides. Notwithstanding this, a leave *in situ* option, particularly with regard to the 18" Seven Heads export pipeline and the main 24" export pipeline and landfall, could facilitate the re-use of the pipeline infrastructure in the future.

The above considerations inform a staged approach to the consent application process for the project, such that the wells, platform topsides, and subsea structures comprise the first consent application, platform jackets comprise the second consent application with pipelines and umbilicials to form future applications.

Should any of the potential re-use proposals be taken forward, they would be subject to the requisite environmental assessments and consents at the appropriate time, which would also include a cumulative assessment of the decommissioning of the Kinsale Area facilities.

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 4

Decommissioning Options

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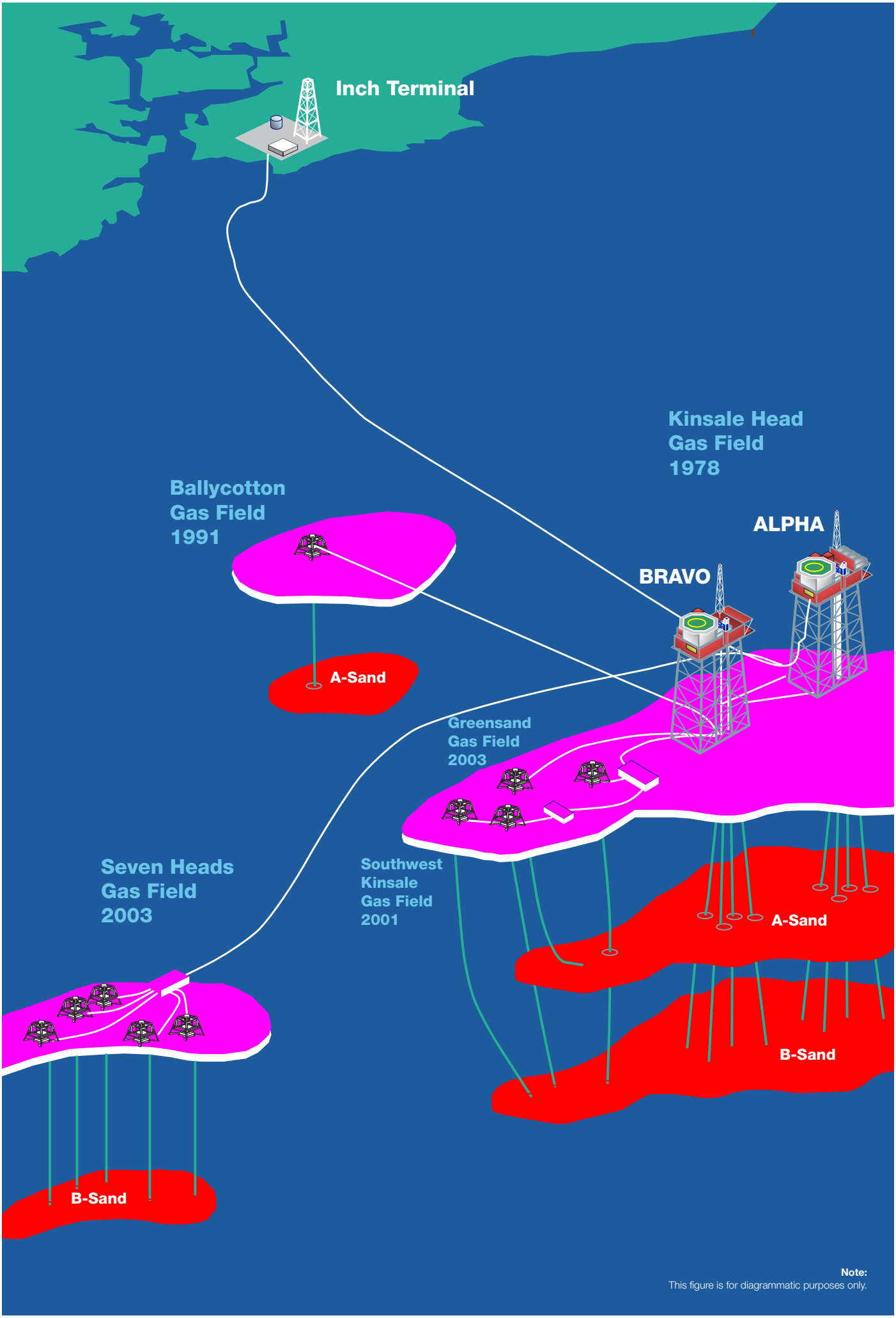
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4 Decommissioning Options

As no feasible alternative uses for the Kinsale Head platform jacket structures have been identified currently, they will be decommissioned. This section details the various decommissioning options which were considered for the Kinsale Head platform jackets (**Section 2.2**) and the reasoning for the identified preferable options included in this Decommissioning Plan (**Section 1.7**). An assessment of the alternatives and other uses are outlined in full at **Sections 3.3 and 3.4 of the EIAR**.

The final decommissioning methodology will be determined in conjunction with the selected removal contractor, however, for the purposes of this Decommissioning Plan and the environmental assessment a number of decommissioning options, as indicated in **Table 4** of this report, have been considered in order to provide an assessment of the worst case scenario of the potential associated impact and inform this Decommissioning Plan.

4.1 Platform Jackets

As indicated in **Section 1.7**, the Kinsale Area platforms will be removed in line with OSPAR Decision 98/3.However, Kinsale Energy initially considered a number of alternatives for the decommissioning of both KA and KB jackets including:

- Full removal
- Partial removal
- Toppling of jackets in situ

Leave in situThese decommissioning alternatives were considered to identify the preferred decommissioning option for the Kinsale Area platforms. Several studies have previously been carried out to inform the options selection for the decommissioning of the KA and KB platforms (Genesis 2011, Allseas 2012a, Xodus 2016d).

Partial removal of the jackets down to the top of footings or removal to -55m below sea level in accordance with the International Maritime Organisation (IMO) guidelines relevant to maritime security were considered as technically feasible, for example. However, both these options would not be in accordance with OSPAR Decision 98/3 and therefore were not considered further.

Toppling of the jackets is technically feasible, but due to the depth of water and size of structures 55m clear draught between the top of the structures and the water surface would not be provided in accordance with the IMO guidelines. Therefore, this alternative was also not considered further.

Similar to the platform topsides, no re-use options have currently been identified for the platform jackets (referto **Section 3.3 of EIAR**), such that they could be left in situ.

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 5

Decommissioning Project Management

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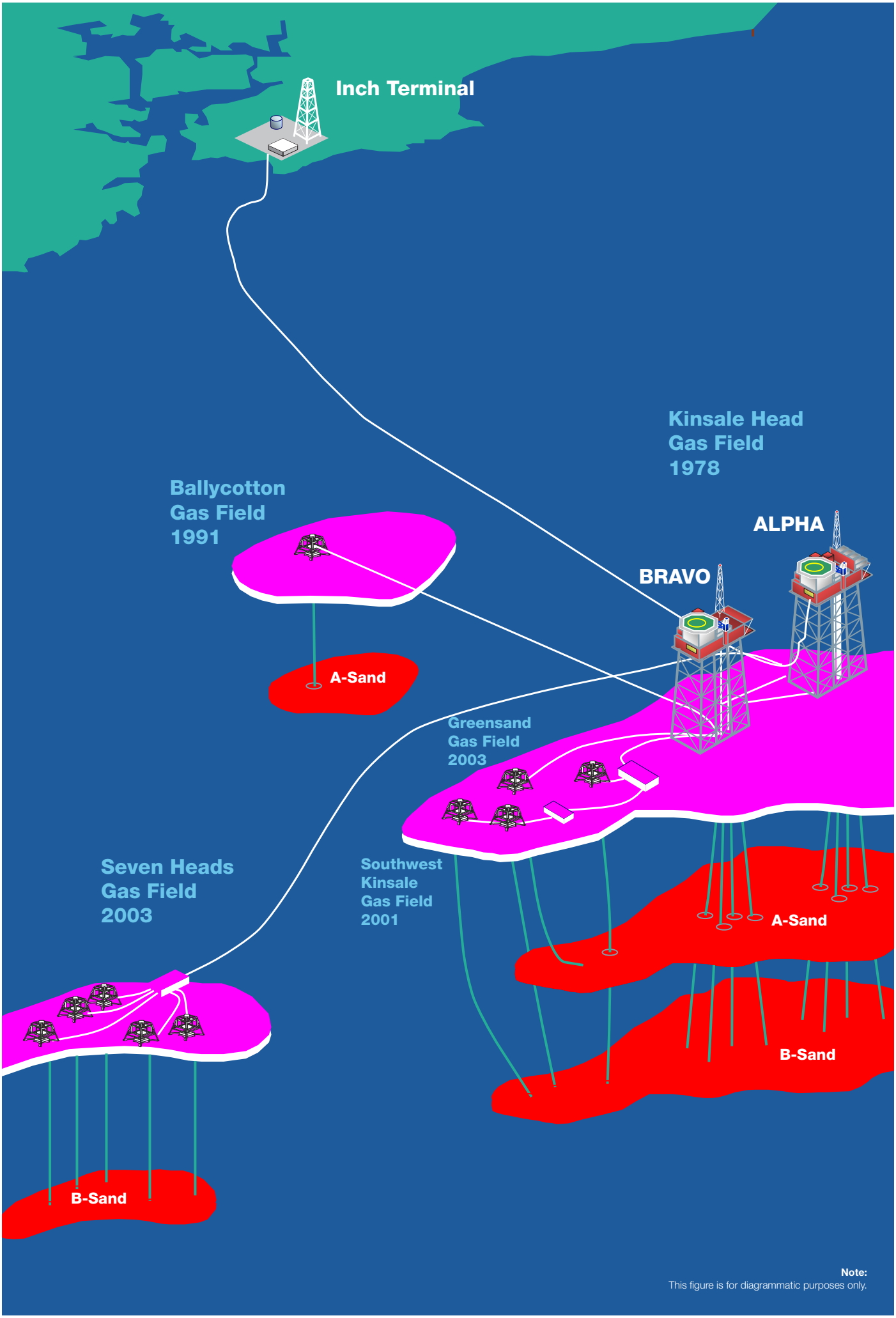
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5 Decommissioning Project Management

5.1 Project Management Approach

The decommissioning project will be carried out in accordance with the PETRONAS Project Management System (PPMS). The PPMS is a gated process which segregates a project's life cycle into distinct phases.

The key objective of the PPMS document is to promote consistency in application and approach when undertaking projects managed by PETRONAS.

PETRONAS have developed a PPMS system specifically for decommissioning projects as detailed in **Figure 10** below.

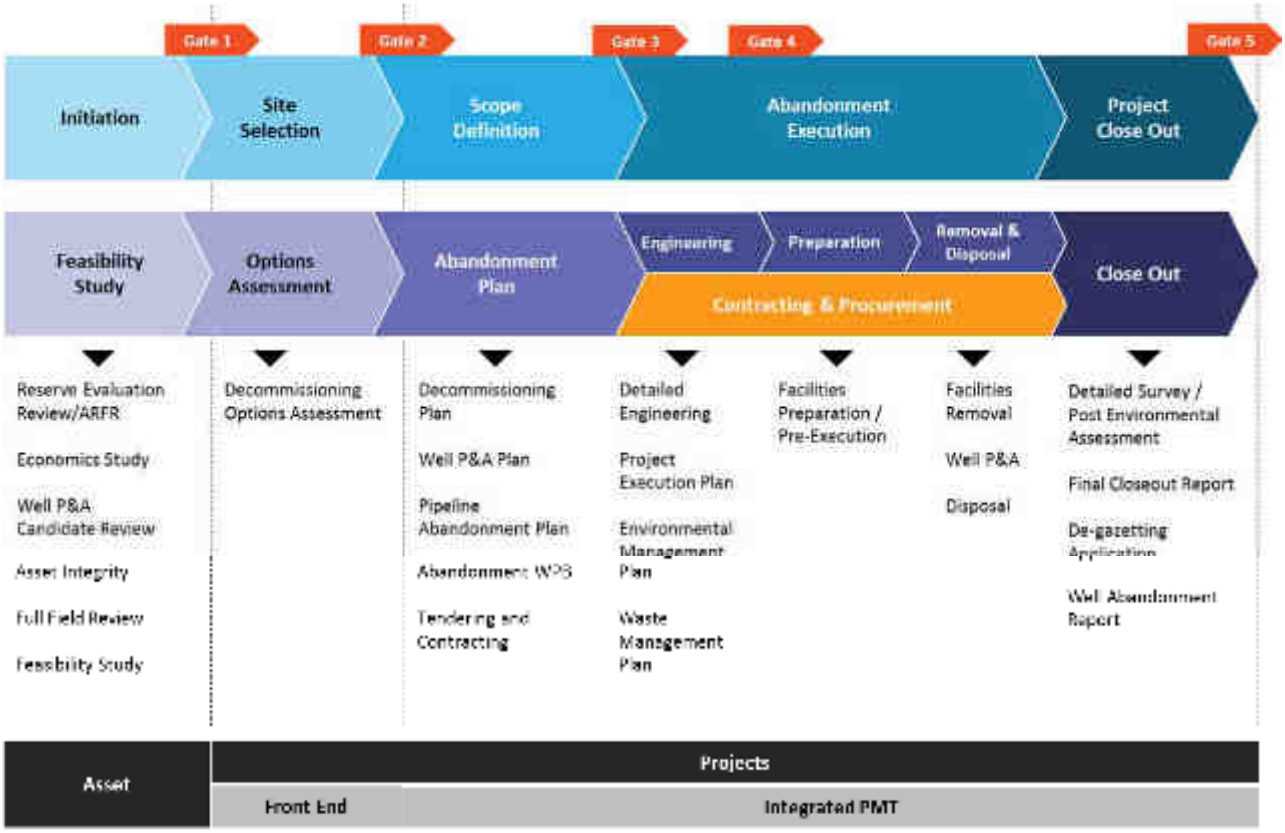

Figure 10: PETRONAS Project Management System for decommissioning projects

Completion of this Decommissioning Plan, managing all permitting, licences, authorisations, notices, consents and consultations and nomination of the decommissioning works contractors fall within Gate 1, 2 and 3 of the overall KADP, for which Kinsale Energy will also be responsible.

The selection of the final decommissioning methodology will fall within Gate 4 which will be the responsibility of the selected removal contractors, in conjunction with Kinsale Energy. Execution, management of the works and project close-out will be the responsibility of the selected removal contractors.

5.2 Organisation

The project organisation will change through the life of the project to reflect the work scope. Initially, a small in-house Kinsale Energy team will manage the regulatory and permitting process of the KADP.

This team will be expanded in line with the Project Execution Plan (PEP) with existing KEL personnel being augmented as required by specialist contract personnel or by secondees from PETRONAS. The overall project organisation of the execution phase is expected to be as shown in **Figure 11.**

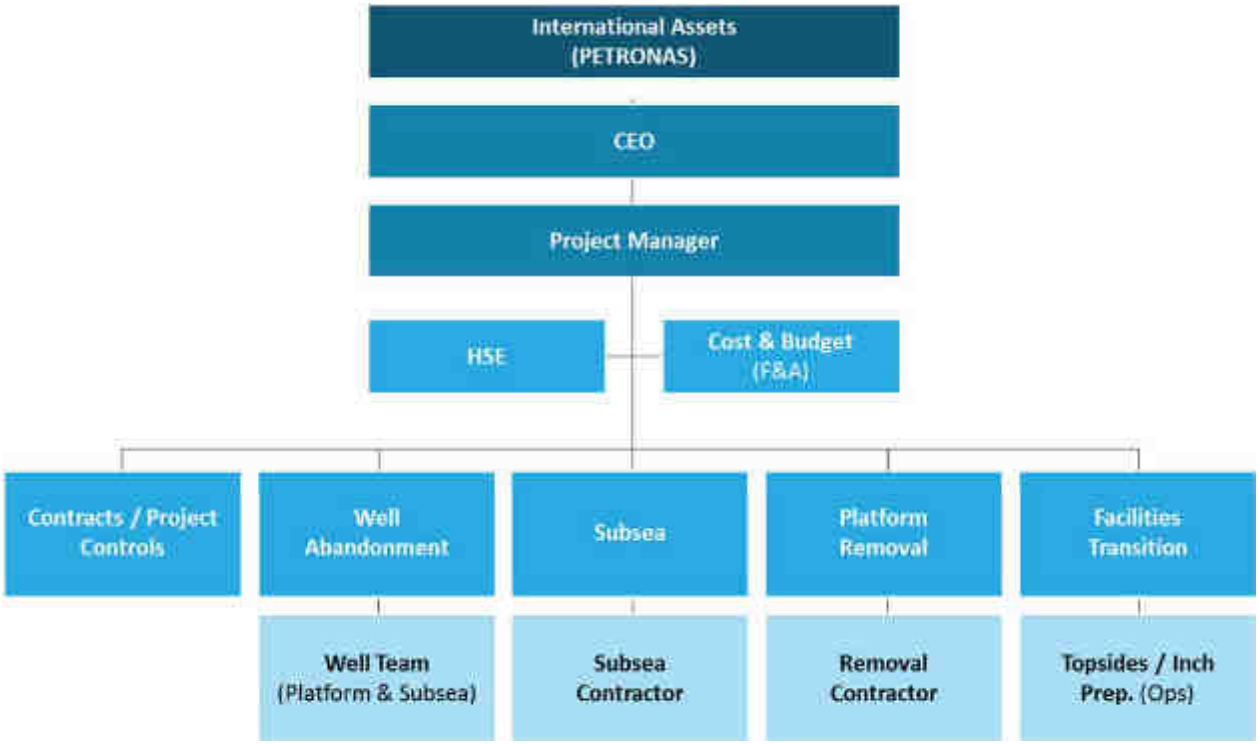

Figure 11: Project Team – Execution Phase

5.3 Resources

The following key positions are critical for project success and will be filled by Kinsale Energy/PETRONAS for the duration of the decommissioning works schedule:

- Head of Decommissioning
- Project Controls Manager
- Topsides Facilities Decommissioning Coordinator
- Subsea Infrastructure Decommissioning Coordinator
- Well Abandonment Coordinator
- Onshore Site Decommissioning Coordinator
- Project Engineers
- HES Manager
- Decommissioning Contracts Manager
- Project Planner

Additional external support may also be required from 3rd party organisations and consultants:

- Wells Engineering Team

Other (public relations, marketing, legal advice etc.

It should be noted that all of the offshore project activities up to the point where the platforms are “hydrocarbon free” will be carried out within the existing KEL operations framework and the platforms will be manned by KEL and contractor personnel under the control of the platform Offshore Installation Manager (OIM). Following handover to the removal contractor, an offshore decommissioning management team will be put in place by the contractor, with overall project supervision and monitoring being maintained by the KEL project team.

5.4 Costs

An indicative estimate of the overall cost will be provided separately to the PAD.

Subsequent to this, the monthly reports provided to the Minister will include details of cost, as per Condition 7 of [Consent No.1].

5.5 Reporting

Reports to be issued during the decommissioning process will be agreed with the regulators (PAD, CRU and other regulatory bodies) at the Regulatory Approval stage; however, the following reports are proposed.

Monthly Progress Report

Following approval of the Decommissioning Plan a Monthly Decommissioning Progress Report will be submitted to PAD; it is intended that this will be the primary reporting mechanism throughout the project, supplemented by other reports as required, e.g. operational site reports etc.

The purpose of the Monthly Progress Report is to notify to the PAD details of:

a) the status and progress of decommissioning, including engineering, planning and operations and

b) any unusual occurrences, including accidents, pollution and other HS&E incidents.

c) update on cost

Each Monthly Project Progress Report will:

a) cover one calendar month and

b) will be submitted within 25 days of the end of the report period.

The Format for the Monthly Project Progress Report will generally be in accordance with the requirements set out in Appendix D of the Rules & Procedures for Offshore Production Operations

Operational Reports

During the course of decommissioning operations, a number of additional reports may be generated, depending on the specific activity in progress, e.g.:

- Well abandonments – Daily Operations Summary
- Subsea/marine operations – weekly activity summary

Post-Decommissioning Reports

- Decommissioning Close Out Report (refer to **Section 7.3**) including;
  - Seabed Clearance Survey Report
  - Well Status Report
  - Environmental Summary Report
  - Decommissioning Operations Report
  - Verification report by an independent party

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 6

Decommissioning Activities and Schedule

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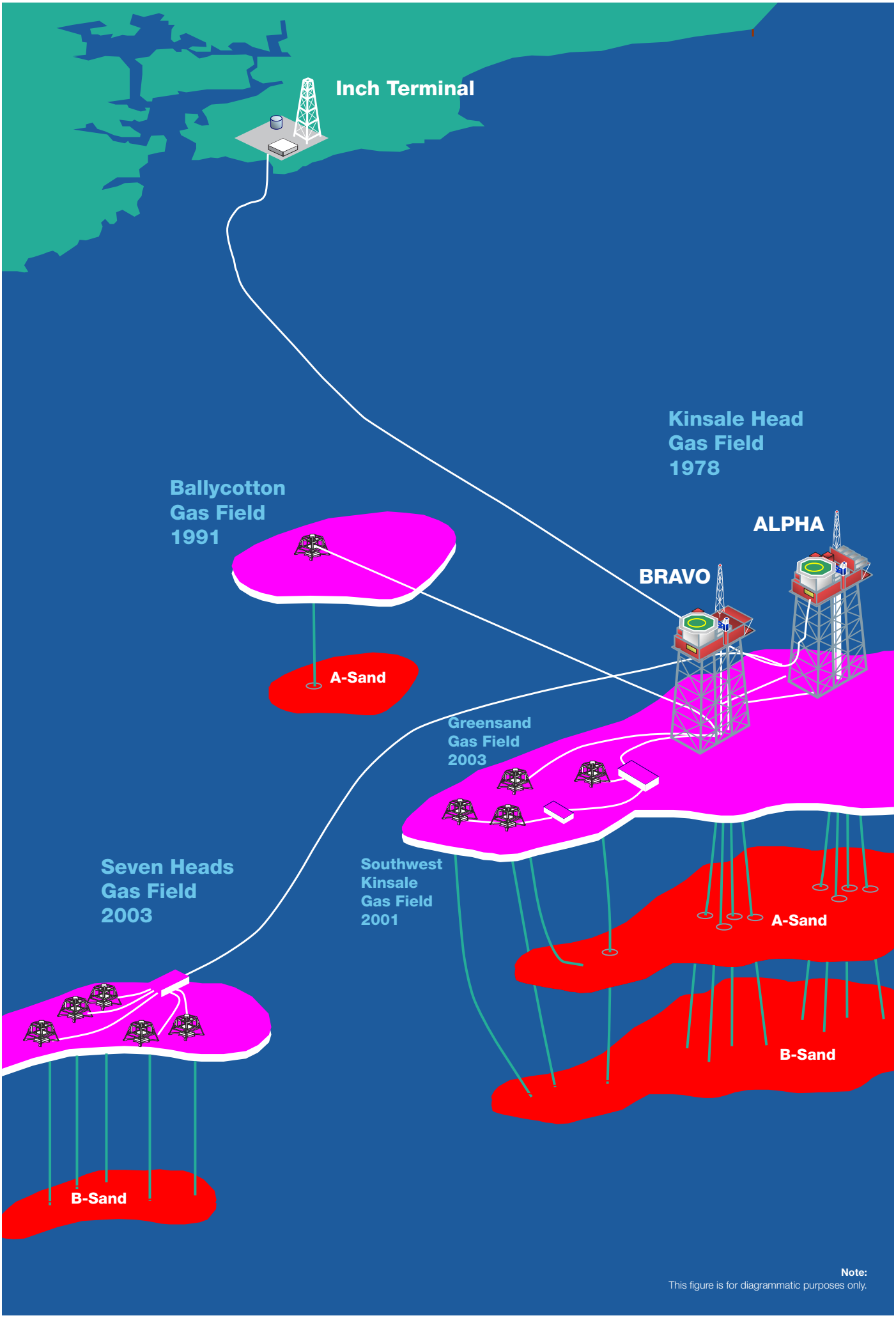
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6 Decommissioning Activities and Schedule

6.1 Consent Application No. 2 Decommissioning Activities

6.1.1 Jacket Removal

The separation of the jacket structures from pipelines and umbilicals on the seabed will be undertaken by ROV tooling wherever possible, or using divers and a DSV where required. It will not be necessary to uncouple at flanges so they will be cut using an external cutting tool, e.g. hydraulic shears. Spool pieces will be cut into recoverable sections of approximately 24m in length and lifted by a suitably equipped support vessel and transported to shore for recycling or disposal.

For a conservative assessment of the associated impact it is assumed that approximately 100m of spool pieces will be recovered at all platform tie-ins. In total, it is estimated that some 0.85km of spool pieces will be recovered during the jacket decommissioning, taking into account all pipeline connection points to the KA and KB jackets.

Protection materials covering these spool pieces will also be removed where required for access (134no. mattresses with each mattress assumed to be approximately 10Te). The method of removal for these items may include speed loaders or cargo nets. A number of other novel methods are also emerging in the market, as decommissioning activity increases (see Jee Ltd. 2015).

Once removed, the concrete mattresses will be returned to shore, where they will either be recycled or disposed of in landfill if recycling is not possible. In keeping with a waste-hierarchy approach, where possible, this material will be recycled as aggregate, but it may be necessary for some/all to be disposed of in landfill. For the purposes of this assessment it is assumed that all concrete mattresses returned to shore will be disposed of in landfill as this represents the worst case scenario for assessment purposes.

The removal of protection materials and the cutting and lifting of spool pieces will involve the use of a number of vessels including a CSV and PSV. The number of vessel days associated with these operations as part of the jacket decommissioning are included in **Table 7,** with the overall schedule for the removal of spool pieces and protection material and their transport to the disposal yard estimated at 71 days (including a 25% contingency).

Table 7: Estimated timing (days) for removal of spool pieces, umbilical jumpers and protection materials at the platform jackets

Vessel	Mob/ Demob/ Transit	Removal of protection material	Cut spool pieces & umbilical jumpers	Recover spool pieces	Total Duration	Total with Contingency
CSV	32	9	10	6	57	71
PSV	16	-	-	2	18	23

Source: Based on CA method statements (modified after Ramboll 2017a,b)

Regardless of the lift technique to be employed the jackets will be cut from the pile foundations at, or close to, seabed level using either an internal or external pile cutting tool. Internal leg surveys have been undertaken to confirm access for an internal pile cutting tool if they are to be cut internally. External cuts of the legs and piles could be made using diamond wire cutting tools, using remote tooling as far as possible, or diver intervention only if necessary.

The cutting tool will cut the legs at seabed level, as future exposure is not expected due to the hard strata at seabed level. In the worst case, it may not be possible to cut a leg at seabed level. If this situation arises, a short (~1m) section may be left exposed, and rock cover would be applied as part of the wider seabed remediation campaign.

Following removal of the jackets, all significant debris on the seabed, which has accumulated around the jackets following years of operations, will be confirmed by the post-decommissioning survey (as detailed in **Section 3.5.5 of the EIAR**) and will be removed using an ROV and grab. Larger items will be removed using a crane on a construction support vessel. Existing items known to be on the seabed include scaffolding boards and tubes, deck grating and miscellaneous construction debris, with no hazardous materials known to be present.

Removal – Single lift

Three options are potentially available to remove the jackets in a single lift. Two involve the use of specialist heavy lift vessels such as a twin hulled ship shape heavy-lift vessel (HLV) or a more conventional semi submersible HLV to lift the jackets, in a manner similar to topside removal, and transport them to a barge in sheltered water, prior to onward transport to a disposal yard. The third option is the use of a system involving attaching buoyancy caissons to the jacket, such that it can be floated and towed away using tugs.

Single Lift using specialist HLV

The following describes the procedure for a single lift based on a study by AllSeas (2012c & 2012d) using a specialist HLV, such as a twin hulled ship shape heavy-lift vessel (HLV). The HLV uses a Jacket Lift System (JLS), comprising a hoist and tilting lift beams with skids, which are used to rotate the jacket on removal onto its side, and manoeuvre it onto the vessel deck. **Figure 12** illustrates the HLV lifting a jacket from the seabed and aligning and tilting it onto the vessel deck for removal.

Weight will be minimised by ensuring that as much water as possible from flooded jacket members is allowed to escape, which can be facilitated by the drilling of holes in these members.

The barge with the jacket will be towed to the disposal yard and moored at the disposal yard quayside. It will be ballasted to the appropriate elevation, and the jacket will be skidded onto the quayside.

Source: https://allseas.com

Figure 12: Specialist HLV, in this case, Pioneering Spirit, with jacket lifted from the seabed and tilted towards the vessel deck

The overall schedule for the lift of both jackets together and their transport to the disposal yard is estimated at approximately 110 days (including a 25% contingency). This is based on the estimated guard vessel duration which is assumed to be required for the duration of the HLV and CSV infield works as a worst case scenario. A high level estimate of the vessel timings is provided in **Table 8**.

Table 8: Estimated removal timing (days) of KA and KB jackets in a single lift using a specialist HLV

Vessel	Mob/ Demob	Transit	Work	Total Duration	Total with Contingency
HLV	3	6	22	31	39
Barge	7	6	11	24	30
CSV	2	6	57	65	81
Tugs (4no.)	8	24	44	76	95
Guard Vessel	6	3	79	88	110

Source: based on Allseas (2012c & d), and vessels and durations provided by Kinsale Energy

Single lift using conventional HLV

Similar to the topsides removal a conventional HLV could also be used for the removal of the jackets in a single lift. The overall schedule for the lift of both jackets and their transport to the disposal yard using this method is also estimated at 118 days (including a 25% contingency). This is based on the estimated guard vessel duration which is assumed to be required for the duration of the HLV and CSV infield works as a worst case scenario. A high level estimate of the vessel timings is provided in **Table 9**.

Table 9: Estimated removal timing (days) of KA and KB jackets in a single lift using conventional HLV

Vessel	Mob/ Demob	Transit	Work	Total Duration	Total with Contingency
HLV	3	6	28	37	46
Barge	7	6	11	24	30
CSV	2	6	57	65	81
Tugs (4no.)	8	24	44	76	95
Guard Vessel	6	3	85	94	118
AHV	8	6	28	37	46

Source: based on vessels and durations provided by Kinsale Energy

Single lift using flotation

An alternative approach to jacket removal in a single lift is to use buoyancy tanks to float the jacket into a vertical mid-water position, in which it is towed to a sheltered location close to the disposal yard using tug vessels. On arrival, the ballast of the tanks is adjusted to rotate and lift the jacket to a horizontal position at the water surface where to can be towed and lifted onto the disposal yard quayside. A high level estimate of the vessel timings is provided in **Table 10,** with an overall schedule of 109 days for both jackets**.** This is based on the estimated guard vessel duration which is assumed to be required for the duration of the CSV and tug infield works as a worst case scenario.

Table 10:: Estimated removal timing (days) of KA and KB jackets in a single lift using flotation

Vessel	Mob/ Demob	Transit	Work	Total Duration	Total with Contingency
CSV	2	6	57	65	81
Tugs (4no.)	8	12	84	104	130
Guard Vessel	6	3	78	87	109

Source: based on vessels and durations provided by Kinsale Energy

Removal – Multiple lift

If this methodology for removal was used, the KA and KB jackets would be cut into approximately 3 sections (see **Figure 13**) and removed in separate lifts, using a HLV, onto a waiting barge before being transferred to shore. Jacket members (legs and braces) will be cut using a combination of hydraulic shears for smaller cuts and abrasive water jet or diamond wire cutting for larger cuts.

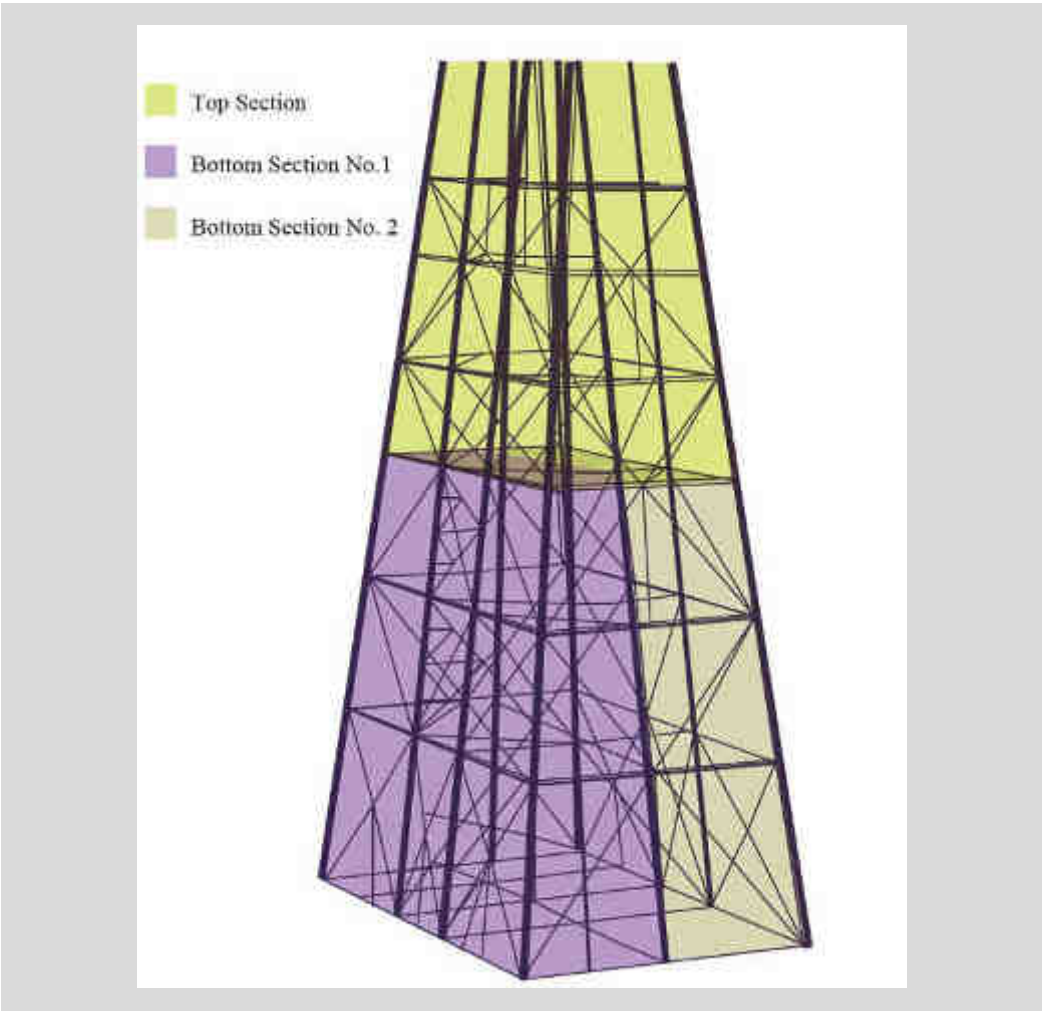

Figure 13: Kinsale Alpha jacket schematic showing possible jacket sections

Preparatory work to lift the jackets will involve the same steps as for the single lift (above) with the drilling of holes into flooded members to allow water drainage to minimise weight, plus the installation of lifting points on the upper jacket section and the cutting of the jacket legs. The upper section would then be cut from the lower jacket sections, prior to these being separated and lifted using an internal lifting tool, which will be deployed into the jacket legs and secured.

For this assessment, it is assumed the preparatory works will be undertaken from the HLV and a DSV, however, a PSV and/or CSV may be used for some of the preparatory works rather than the HLV depending on availability of vessels.

Each jacket section will be backloaded onto the HLV before being transferred to a barge where it will be seafastened for transport to the disposal yard.

The estimated vessel times for the multiple lift jacket removal procedure are indicated in **Table 11**, with the overall schedule for the lift of both jackets and their transport to the disposal yard using the multiple lift option estimated at 149 days (including a 25% contingency). This is based on the estimated guard vessel duration (vessel which is working for the longest duration) which is assumed to be required for the duration of the infield works being undertaken by the HLV, DSV and survey vessel as a worst case scenario.

Table 11: Estimated removal timing (days) of KA and KB platform jackets using the multiple lift jacket procedure

Vessel	Mob/ Demob	Transit	Working	Yard	Total Duration	Total with Contingency
HLV	4	6	58		68	85
DSV	3	6	40		49	61
Cargo Barges (3no.)	54	36	76	14	180	225 (75 per barge)
Tugs (3no.)	12	36	15		74	93
Supply Boat	8	4			12	15
AHV	8	24	58		90	113
Survey Vessel	2	6	12		20	25
Guard Vessel	6	3	110		119	149

Source: Based on Xodus (2016d) and vessels and durations provided by Kinsale Energy

6.2 Decommissioning Schedule

An indicative project programme for the entire KADP is shown in **Figure 14**. The final decommissioning project construction schedule will be completed once all decommissioning contracts have been awarded; where the timing of platform removal and subsea well abandonments may vary depending on availability of specialised marine construction and drilling vessels (crane barges, MODU's etc.).

Post CoP, the subsea pipelines connecting the platforms to the onshore terminal and subsea wells will be displaced with seawater into the wells. Following this the platform well plug and abandonment will be completed in order to achieve hydrocarbon free status on the Kinsale Alpha and Bravo platforms. Upon completion of platform well P&A and subsea pipeline displacement activities, both Alpha and Bravo platforms are then available for removal operations.

A subsea programme of works to decommission all relevant subsea structures, including the removal of spool pieces, umbilical jumpers and protection materials, will be completed in advance of subsea well plug and abandonment activities.

There are other uncertainties which may affect the decommissioning schedule, including:

Marine vessel availability: the specialised vessels required, for example CSV's/DSV's, may not be available in the time windows planned, due to market conditions or over-runs on other projects; the contracting strategy will be flexible to allow for re-scheduling if required.

Weather: many of the key operations are weather sensitive, e.g. topsides and jacket lift, and the program may be delayed due to extreme weather conditions. The time estimates and durations used for planning purposes are based on historical performance data, and include some allowance for weather downtime, based on previous experience.

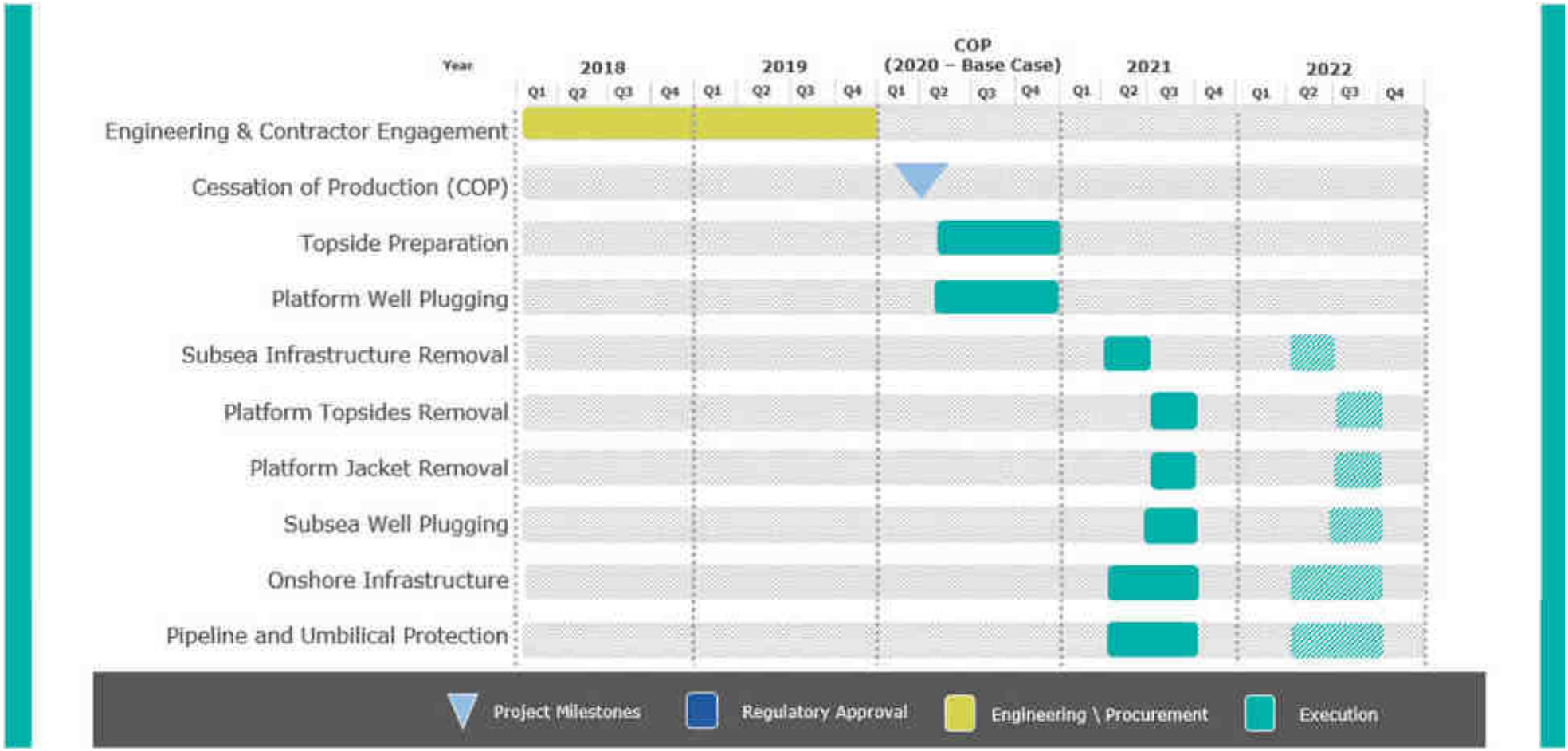

Figure 14: Indicative Project Schedule

Note: The timing of activities may also vary depending on company strategy and availability of specialised marine vessels.

6.3 Materials and Waste Management

6.3.1 Waste Management Objectives

Kinsale Energy will follow the principles of the waste hierarchy for the KADP. Taking into account key resource and waste management policy and legislation and the likely waste generation from the relevant decommissioning activities, the resource and waste management objectives for KADP are as follows:

- Maximise reuse and recycling;
- Minimise disposal of waste to landfill; and
- Minimise environmental impacts of waste management.

6.3.2 Materials Generated

The following table summarised the approximate quantity of materials generated from the facilities covered by this Decommissioning Plan.

Table 12: Materials Generated

Material Type	Kinsale Alpha Jacket	Kinsale Bravo Jacket
Steel	4590Te	4383Te
Concrete	1567Te Grout (including grout in mudmats, grouted members & grout between pile and jacket legs)	1383Te Grout (including grout in mudmats, grouted members & grout between pile and jacket legs)
Non-ferrous Metals	108Te Anodes	108Te Anodes
Asbestos	N/A	N/A
Other Hazardous Waste	N/A	N/A
Other Non-hazardous Wastes	1450Te Marine Growth	1450Te Marine Growth
Total		

6.3.3 Waste Management Strategy

The following sections summarise the strategy for each particular facility and their materials.

Jacket Waste Management

Due to the high recyclability of steel (the dominant jacket material) the jackets will be recycled. The jackets will be removed to a dismantling yard, and recycling and waste facilities, which will be fully licensed for the relevant activities, will be selected by the removal contractor.

Marine growth comprising of a variety of hard- and soft-bodied organisms are present on the platform jackets, and it is proposed that the marine growth will be removed onshore following the removal and transport of the jackets to the disposal yard. A proportion of the marine growth will be removed offshore at cut locations, or will fall off in transit.

6.3.4 Resource and Waste Management Plan

The decommissioning contractor will be responsible for developing and implementing appropriate procedures, securing the relevant authorisations and agreements to ensure appropriate management and disposal of waste and resources throughout the KADP. The Contractor will also be required to employ staff with skills, qualifications and experience appropriate to the needs of the works to be carried out during the KADP.

An outline Resource and Waste Management Plan has been developed in **Section 7.7.3 of the EIAR,** as well as a draft Waste Management Plan provided as additional information to the previous Consent Application No.1. This document is also included in the **EIAR Addendum** submitted as part of this Consent Application, to establish the minimum standards that the contractor must apply during the decommissioning phase.

A detailed Resource and Waste Management Plan will be prepared by the contractors undertaking the decommissioning works on appointment. Their detailed Resource and Waste Management Plan will set out the following:

- Detailed analysis of the waste arisings/material surpluses including programmes and method statements to support detailed surveys where required;
- How the project resource and waste management objectives in this Decommissioning Plan will be achieved including proposed methods for reuse and recycling of wastes;
- The name, address and authorisation information of proposed recovery, recycling and disposal facilities which will be used for all wastes generated from the KADP;
- Proposals to educate the workforce and disseminate the Resource and Waste Management Plan to responsible staff member(s) for implementation; and
- Records that will be maintained relating to resource and waste management, including the identification of the records required to be kept, responsible staff member(s) for gathering and maintaining these records and the duration that these records will be maintained for.
- The detailed plan prepared by the contractor will be submitted to KEL for their approval prior to commencement of the KADP. In view of the conditions associated with the approval of Consent Application No. 1, it is anticipated that these would also be applied to any approval for Consent Application No. 2, and therefore , pursuant to Condition 4 of Consent No.1this detailed Resource and Waste Management Plan shall be provided to DCCAE for approval by the Minister in advance of any works on site].

Written approval from KEL must be obtained prior to commencement of any decommissioning works. The contractor will be responsible for managing environmental issues through appropriate risk management, mitigation, auditing, licensing and monitoring and will be required to ensure compliance with legislative and commercial standards.

6.3.5 Waste Transportation

The contractor will be required to comply with the relevant legislation governing storage, transfer, treatment and disposal of all wastes and need to develop method statements and procedures for transporting waste as part of their detailed Resource and Waste Management Plan.

Further, the contractor will be obligated to effectively manage waste streams throughout the decommissioning process and demonstrate their ability to deliver innovative recycling options in accordance with the principles of the waste hierarchy. Where feasible, wastes will be managed in Ireland, however it may be necessary to transfer wastes both within and outside the EU for reuse, recovery and/or disposal (particularly for the platform topsides and jackets).

Waste generated from the decommissioning works will be removed from the Kinsale fields and transported by vessels for dismantling prior to onshore reuse, recovery and/or disposal. The dismantling yard for the offshore infrastructure is yet to be selected, however, it will be an established yard, licenced for the recovery and/or disposal of decommissioned offshore structures where the dismantling, transport and disposal of materials represent an increment to ongoing activities.

Prior to the removal of any wastes, the contractor will put in place all relevant waste authorisations and permits required, and maintain a register of this information throughout the KADP. Authorisations may be required for the transfer of waste (waste carriers), any off-site waste management facilities (permitted or exempt sites) to which waste is taken to and any requirements for hazardous waste premises notification. All documentation will be retained and regularly updated (where required) by the contractor throughout the KADP.

All waste transfers will be undertaken by designated waste collection permit holders. The onshore waste facilities chosen by the contractor must demonstrate proven disposal track records and have appropriate licenses in place.

The trans-frontier shipment of waste to other EU countries will be subject to the TFS Regulations and relevant approvals will be obtained in advance from the National TFS Office at Dublin City Council. The trans-frontier shipment of waste to countries outside of the EU would also be subject to the Basel Convention and OECD Council Decision C(92)39/FINAL.

6.4 Health and Safety

6.4.1 KEL Health, Safety and Environment Risk Management System

In addition to the legislative basis set out above, and adhering to the OSPAR Convention requirement to protect the maritime area against the adverse effects of human activities, Kinsale Energy (as a wholly owned subsidiary of PETRONAS) operates a Health, Safety and Environment Management System (HSEMS) based on the requirements of internationally accepted standards for Environmental Management (ISO14001) and for Occupational Health and Safety (OHSAS18001).

Kinsale Energy's Health, Environment and Safety (HES) policy commits the company to take all reasonable and practical steps to prevent and eliminate risks of injuries, occupational illness, damage to property and the conservation of the environment. This policy is applicable to Kinsale Energy's activities and those of its contractors. All contractors must adhere to all Kinsale Energy HES policies and procedures.

The Kinsale Energy HSEMS is structured around 8 elements which are summarised below:

Leadership and Commitment: addresses top-down commitment and company culture necessary for success in the systematic management of HES.

Policy & Strategic Objectives: a written HES Policy is required as a minimum.

In setting strategic objectives and developing a HES Plan, management is required to consider the overall risk levels of its business activities taking into consideration the legal requirements, technological change, emerging issues and key stakeholders expectations.

Organisation, Responsibilities, Resources, Standards & Documents: addresses the organisation of people within Kinsale Energy, and the resources and documentation for sound and sustainable HES performance. Requires that the organisation and resources are adequate for its purpose, and that responsibilities for safety critical positions at all levels are clearly described, communicated and understood. It requires that staff based offshore are developed following structured competency assessment and training systems.

Hazards and Effects Management Process (HEMP): describes the identification of hazards and evaluation of HES risks for all activities, products and services, and the development of control and recovery measures to reduce HES risks to as low as reasonably practicable (ALARP).

Planning and Procedures: addresses asset integrity, procedures and work instructions, work permit system, management of change, contingency and emergency planning expectations, legislation compliance, process safety management, purchasing and procurement.

Implementation and Monitoring: addresses how activities are performed and monitored, and how corrective action is taken when necessary.

Audits: puts in place a programme to review and verify the effectiveness of the management system. It includes audits by independent auditors of processes or facilities.

Management Review: a formal process for management to review the effectiveness and suitability of the Management System in managing HES risks and ensuring continual improvements in HES performance. A management review occurs every 2 months at the HES Management Committee meeting.

6.4.2 Safety Case

In accordance with the requirements of the Petroleum Safety Framework, as established under the Petroleum (Exploration and Extraction) Safety Act 2010, and as amended by the Petroleum (Exploration and Extraction) Safety Act 2015, Kinsale Energy will develop a number of Safety Cases, as follows:

- Decommissioning Safety Case – covers platform based activities up to “hydrocarbon-free” status
- Well Work Safety Cases – covers all well abandonments
- Non-Production Installation Safety Case – covers well intervention vessels/drilling rigs (prepared by NPI Owner)

These Safety Cases will be submitted to the Commission for Regulation of Utilities (CRU) for approval.

The CRU will issue a safety permit in respect of the designated petroleum activity, on acceptance of each of the Safety Cases. Safety Cases submitted to the CRU will be prepared in accordance with the Safety Case Guidelines, including CRU18183 'Requirements of the Petroleum Safety Framework', CER/16/024 'Safety Case Requirements', CER/16/106 'ALARP Guidance' and CER/16/016 'Compliance Assurance System'.

Each Safety Case shall demonstrate that the Kinsale Energy has carefully considered all available data in the planning of the proposed activities and that the risks associated with the design and execution of the activity have been reduced to ALARP.

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 7

Post-Decommissioning Phase

Hartley Anderson

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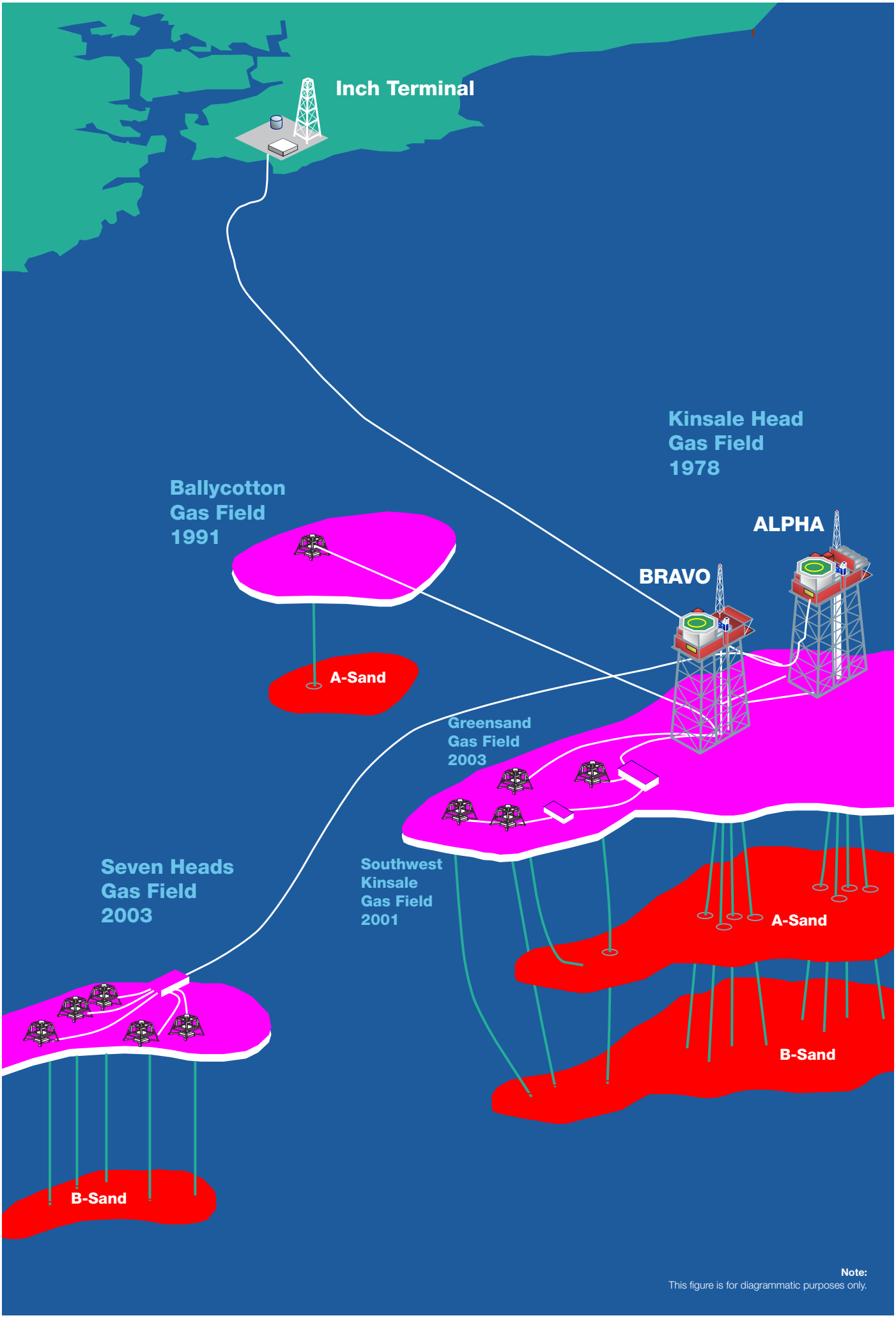
Inch Terminal
Kinsale Head
Gas Field
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Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
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Gas Field
2003
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
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7 Post-Decommissioning Phase

7.1 Post Decommissioning Status

The OPL-1 Lease (Consent Application 1) will result in all wells being plugged and abandoned and subsea structures being removed.

The KA and KB topsides will also be fully removed.

The OPL-1 Lease (Consent Application 2) will result in both KA and KB jackets being fully removed to as close as practical to the mudline.

A short section (~1m) of pile may be left expoted after cutting of the jackets from the foundations, rock cover would be applied as part of the wider seabed remediation scope (See **Section 7.3.2 of the EIAR**).

A consent application for the decommissioning of the remaining pipelines, umbilicals and associated protection material will be made in a further consent application to the Minister.

7.2 Post Decommissioning Survey

A post decommissioning survey will be carried out to ensure that no debris is left in place around the jackets. Any significant debris found will be removed.

7.3 Decommissioning Close-out Report

A close out report will be submitted to the PAD within 6 months of completion of the offshore decommissioning scope covered by this Decommissioning Plan. Pursuant to Condition 8 of [Consent No.1],tThe close out report will contain the following information:

- Confirmation of completion of decommissioning works included within this Decommissioning Plan.
- Details of the decommissioning works undertaken including:
  - Equipment & vessels used,
  - Materials used,
  - Cost,
  - Construction drawings, and
  - An explanation of any variations (approved during the works) to the original approved Decommissioning Plan.
- Details of resource and waste management undertaken.
- Verification/Survey Reports to confirm everything completed in accordance with the Decommissioning Plan

7.4 Residual Liability

This is not applicable to the facilities associated with this Decommissioning Plan as no facilities will be left in place.

As per Section 1.2.1.2, the remaining pipelines and associated umbilicals will be included in a future decommissioning application or applications, as required."

7.5 Post Decommissioning Monitoring

No decommissioning monitoring is proposed for this Decommissioning Plan as the plan involves the removal of facilities only.

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 8

Environmental Assessment

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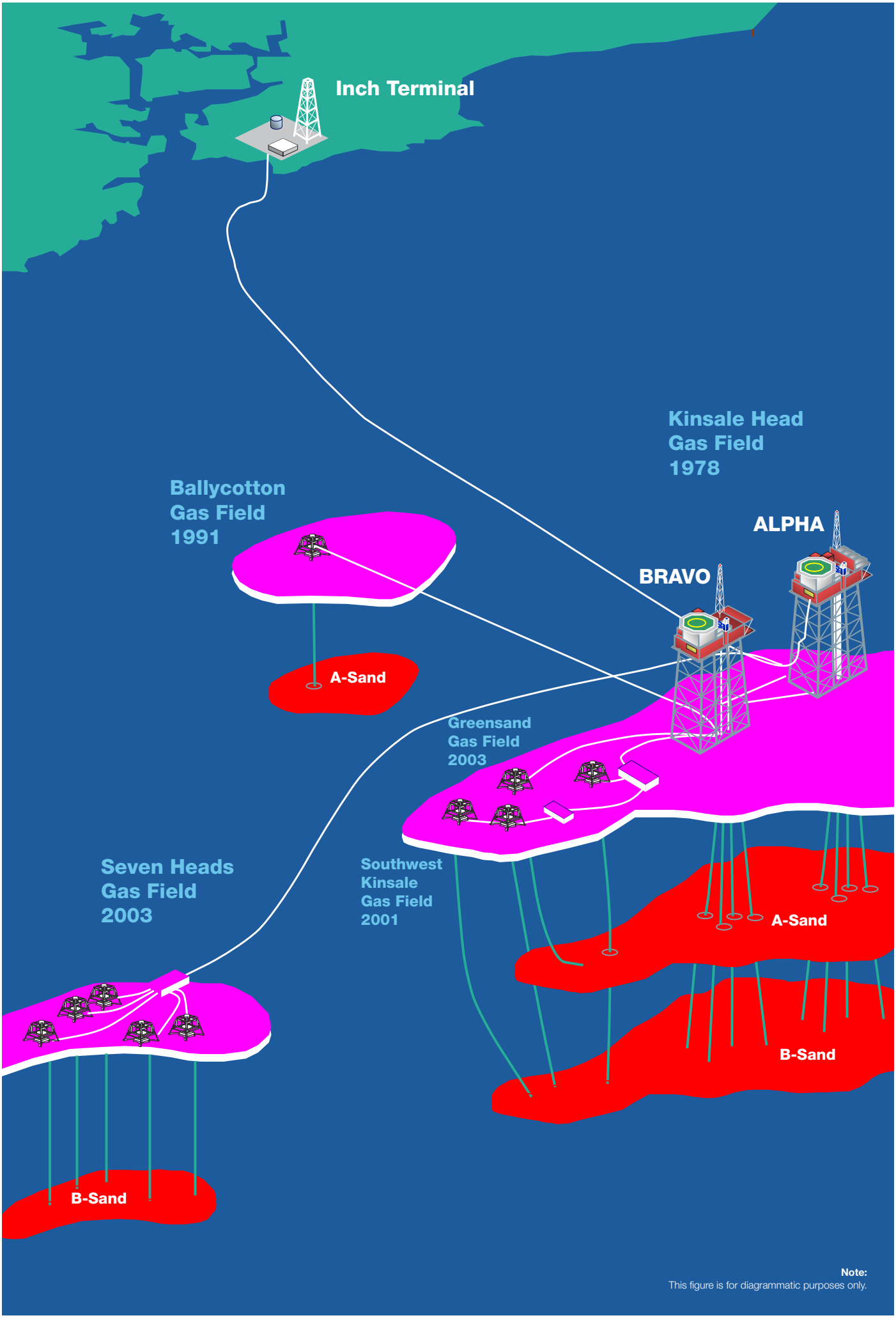
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Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
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Note:
This figure is for diagrammatic purposes only.

8 Environmental Assessment

An Environmental Impact Assessment Report (EIAR) and AA Screening Report have been prepared for the entire KADP project, to provide the necessary environmental appraisal information to enable the Competent Authority, in this case the Minister for Communications, Climate Action & Environment to undertake an Environmental Impact Assessment (EIA) for the decommissioning of the Kinsale Area facilities. This includes the facilities associated with this Decommissioning Plan.

An EIAR addendum (Ref: 253993-00-REP-08) and AA Screening Addendum ((Ref: 253993-00-REP-25) have been prepared to reflect additional information provided to the Minister during the consent process for Consent No.1 and any new or additional relevant environmental information which was published since the preparation of the EIAR.

The following summarises the key points of the EIAR and EIAR Addendum.

8.1 Environmental Baseline and Sensitivity

Since 2002, there have been a series of seabed baseline and monitoring surveys undertaken in the Kinsale Area associated with exploration wells, field and pipeline developments and operations. Together with geophysical mapping undertaken as part of rig site and pipeline route surveys, and seabed survey undertaken in 2017 for the KADP, these surveys provide a good understanding of the seabed topography, sediments and their dynamics, fauna and contaminant status.

Section 4 and 5 of the EIAR details the environmental baseline for the terrestrial and offshore Kinsale Area and its sensitivity. The EIAR addendum summarises any new and relevant information that has been published since the EIAR was completed, for example the results of the ObSERVE programme of surveys of bird and marine mammals off Ireland.

8.2 Environmental Assessment Methodology and Identification of Potentially Significant Effects

Effects which could arise from the activities associated with the KADP were identified on the basis of the nature of the project (including its location, physical and operational characteristics, residues, emissions and wastes), considered against the description of the offshore and terrestrial environment, and the understanding of impact pathways from a range of sources, including:

- Regional and site specific environmental data, including a pre-decommissioning environmental survey carried out in May 2017, and a site walkover at the Inch terminal site in June 2017
- Typical vessel specifications (e.g. for support, heavy lifts and rock placement)
- Estimates of materials and wastes arising from the decommissioning work
- Decommissioning planning studies and indicative information provided by decommissioning contractors and engineering consultants

- Typical drilling rig and vessel specifications
- Experience of relevant aspects and operations of analogous projects in the Celtic Sea, Irish Sea, North Sea and elsewhere
- Peer reviewed scientific papers describing the effects of specific and analogous interactions
- Other publicly available “grey” literature
- The Irish Offshore Strategic Environmental Assessment (IOSEA) 4 Environmental Report and Irish Offshore Strategic Environmental Assessment (IOSEA) 5 Environmental Report
- Conservation site designations, potential designations, and site advice etc. where relevant
- Applicable legislation, guidance and policies
- A number of EIAR workshops involving Kinsale Energy and the report authors
- Input to the EIA process through consultation with relevant stakeholders.

Potential effects of the KADP were identified on the basis of defined severity criteria, and allow for the consideration of effect likelihood, scale and frequency. The identification of potential effects (positive or negative) also considered those which are direct and indirect, which could lead to cumulative or transboundary effects, as well as their likely duration.

Potential effects were identified against a range of relevant environmental receptors within the broad environmental factors which must be considered under the EIA Directive, namely: population and human health; biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; land, soil, water, air and climate; material assets, cultural heritage and the landscape; and interaction between the factors. Additionally, effects from the vulnerability of the project to risks of major accidents and/or disasters were also considered.

Potentially Significant Environmental Effects to be Considered Further

A number of environmental effects were identified as being of potential significance and/or with potentially moderate or more severe impacts. Those decommissioning activities identified to likely, directly or indirectly, affect one or more relevant environmental factors have been grouped together by major source of effect as summarised in **Table 13** below. These potential effects are considered in Section 7 of the EIAR.

Table 13: Summary of potential significant environmental effects

Source of Potential Significant Effect	Activity	Relevant Environmental Factor				
		Population and human health	Biodiversity	Land, soil, water, air and climate;	Material assets, cultural heritage and the landscape;	interaction between the factors r
Consent Application 1						
Physical presence: decommissioning operations	Physical presence in field and in transit of supply vessels, barge/or heavy lift vessels and drilling rig	✓	✓		✓	
Physical disturbance	Drill rig positioning and vessel anchoring. Mattress removal, cutting of spool pieces and umbilical jumpers and their subsequent removal. Removal of manifolds and wellheads.		✓	✓	✓	✓
Underwater noise	Mechanical cutting well conductors and removal of well surface casings. Rig and vessel noise.		✓			✓
Discharges to sea	Cementing and other chemicals associated with well abandonment operations. Hydraulic fluid release during umbilical cutting.		✓	✓		
Energy use and atmospheric emissions	Power generation (rig and vessel) Materials recycling			✓	✓	✓
Waste: materials recycling, reuse and disposal	Solid and liquid wastes to shore Removal of hazardous materials Materials recycling Onshore waste treatment, landfill of residual waste/materials Offloading and storage/dismantling of offshore structures onshore Road transport Hazardous material handling.	✓		✓	✓	
Accidental events	Dropped objects Vessel collision risk Accidental spills of fuel/lubricants.	✓	✓	✓	✓	✓
Consent Application 2						

Source of Potential Significant Effect	Activity	Relevant Environmental Factor				
		Population and human health	Biodiversity	Land, soil, water, air and climate;	Material assets, cultural heritage and the landscape;	interaction between the factors r
Physical presence: decommissioning operations	Physical presence in field and in transit of supply vessels, barge/ or heavy lift vessels.	✓	✓		✓	
Physical presence: legacy materials (left *in situ*)	Presence of jacket stumps and protection materials post decommissioning	✓			✓	
Physical disturbance	Vessel anchoring. Excavation of jacket piles/leg stump remediation and removal of jacket. Recovery of large items of debris from the seabed. Remedial rock placement at jacket		✓	✓	✓	✓
Underwater noise	Mechanical cutting of jacket legs and structural members. Vessels. Post-decommissioning survey.		✓			✓
Discharges to sea	Release of inhibited water from export pipelines.			✓		
Energy use and atmospheric emissions	Materials recycling			✓	✓	✓
Waste: materials recycling, reuse and disposal	Offloading and storage/dismantling of offshore structures onshore Road transport. Materials recycling Onshore waste treatment Landfill of residual waste/materials.	✓			✓	
Accidental events	Dropped objects Accidental spills of fuel/lubricants and chemical spills.	✓	✓	✓	✓	✓
Future Applications						
Physical presence: decommissioning operations	Physical presence in field and in transit of supply vessels, barge/ or heavy lift vessels.	✓	✓		✓	

Source of Potential Significant Effect	Activity	Relevant Environmental Factor				
		Population and human health	Biodiversity	Land, soil, water, air and climate;	Material assets, cultural heritage and the landscape;	interaction between the factors r
Physical disturbance	Presence of pipeline, umbilicals and protection materials post decommissioning	✓			✓	
Underwater noise	Vessel anchoring. Recovery of large items of debris from the seabed. Remedial rock placement of pipelines.		✓	✓	✓	✓
Discharges to sea	Vessels, including rock placement. Post-decommissioning survey.		✓			✓
Energy use and atmospheric emissions	Release of inhibited water from export pipelines.			✓		
Waste: materials recycling, reuse and disposal	Materials recycling			✓	✓	✓
Accidental events	Offloading and storage/dismantling of offshore structures onshore Road transport. Materials recycling Onshore waste treatment Landfill of residual waste/materials.	✓			✓	
	Dropped objects Accidental spills of fuel/lubricants and chemical spills.	✓	✓	✓	✓	✓

A consideration of KADP activities or issues judged to have positive, minor or negligible environmental effects is given in **Appendix D of the EIAR**.

8.3 Management of Residual Effects and Conclusions

Through a systematic evaluation of the activities relating to the proposed KADP and their interactions with the environment, a variety of environmental effects were identified, the majority of which were of limited extent and duration and considered minor. Those activities identified as being of potentially greater concern were described and assessed further in the EIAR.

A number of potential effects are mitigated through mandatory requirements (e.g. as required by legislation) and project scope of works (e.g. rock placement on pipelines remaining *in situ*). Such mandatory control measures and additional mitigation measures identified are listed in **Table 14**, and will be included in detailed design and final project planning and execution.

These are fully detailed in the EIAR, Section 8.

Table 14: Summary of commitments and actions

Issue	Action
Environmental Management Commitments	
Compliance assurance	Ensure management of the applications for and monitoring of compliance with the requirements of project environmental permits and consents.
Procurement	Ensure requirement to meet MARPOL standards for special areas included in procurement of vessels and rigs used in decommissioning operations.
Contractor management	All vessels and the rig to be used during decommissioning will be subject to audit. Contractor performance will be monitored throughout the decommissioning operations
Activity planning	Wherever possible, seek to minimise vessel days by making using of vessel synergies and careful activity phasing.
Interaction with other users: decommissioning operations	Notices to Mariners will be issued to cover all phases of decommissioning work to communicate the nature and timing of the activities. All vessels used in the decommissioning operations will meet applicable national and international standards (e.g. in terms of signals and lighting) and would follow established routes to ports. Should the jackets be placed in “lighthouse mode” for a period of time following topside removal, navigational aids of a type agreed with the Commissioner of Irish Lights will be deployed. Consult will take place with fisheries organisations and relevant marine authorities in accordance with legislation.
Discharges to sea:	Ensure chemical risk assessment is undertaken as part of final well decommissioning chemical selection and apply for relevant chemical permits (Permit for Use and Discharge of Added Chemicals – PUDAC).
Waste production	Implement a detailed Resource and Waste Management Plan which maximises the potential for reuse and recycling, including source segregating waste where appropriate. Management of all waste will be undertaken in accordance with the relevant waste legislation and only permitted and licensed waste facilities will be used.
Atmospheric emissions	As part of the decommissioning waste management plan (above), the benefit of materials returned to shore will be maximized through preferential reuse and recycling wherever possible.
Accidental events: Seabed debris from dropped objects	All lifting operations will be risk assessed.

Issue	Action
Accidental events: loss of diesel inventories	Undertake audit of vessel bunkering procedures. Bunkering to be conducted in favourable sea states and during daylight hours so far as practicable. Procedure to be agreed with DTTAS.
Mitigation measures and residual effects	
Interaction with other users: decommissioning operations	Guard vessels will be used to minimise the potential for interaction between decommissioning vessels and other users.
	Residual effect: *The use of guard vessels would reduce the risk of other user interaction with certain activities associated with the decommissioning project (e.g. heavy lifts). Noting that these would take place in existing and charted surface exclusion zones, with all vessels subject to mandatory lighting and marking controls, the addition of a guard vessel will result in a minor risk reduction to other users. The residual impact from interactions with other users is temporary and minor.*
Interaction with other users: legacy materials left *in situ*	Rock cover remediation will be used to mitigate the potential snagging risk associated with decommissioning pipelines and umbilicals *in situ*, and the rock will be designed to be overtrawlable.
	Residual effect: *On application of rock cover following removal of exclusion zones around relevant infrastructure, there remains a low risk to other users (primarily fishing) from interactions with pipelines and umbilicals. The option to rock cover all exposed pipeline sections would further reduce risks to third parties.*
	Pipelines and umbilicals will be surveyed post-decommissioning to establish their exact position and this information will be included into navigational charts
	Residual effect: *The post-decommissioning survey will confirm/update the position of the pipelines and umbilicals and inform any update to their charted location to ensure other users are aware of their accurate position, and therefore contribute to risk reduction from interaction.*
Physical disturbance: sensitive seabed features	The minimisation of rig and vessel movements which require anchoring, and the use of dynamic positioning (DP) on most vessels, where practicable (note that sensitive features (e.g. wrecks, Annex I habitats) have not been recorded in previous surveys within the working area). Pipeline decommissioning options (rock placement) which minimise physical disturbance will be selected subject to wider environmental, safety, technical and economic considerations. For each option involving rock placement, efforts will be made to minimise the volume of rock deployed.
	Residual effect: *The measures have the potential to reduce the significance of effect by minimising seabed footprint of activities. The predicted effect of seabed disturbance is negligible and short-term.*

8.3.1 Conclusion

The overall conclusion of the Environmental Impact Assessment Report is that, in view of the predicted scale, intensity and duration of the activities, with the implementation of the proposed mitigation and risk reduction measures and commitments in **Table 14**, the KADP will not result in significant adverse effects on the environment, other users, or population and human health.

8.4 Conclusions of the Appropriate Assessment Screening

A separate Appropriate Assessment Screening Report (reference, 253993-REP-14) plus addendum has been prepared for the entire KADP to provide the necessary information required by the consenting authority, the Minister, to undertake screening (Stage 1) to determine if a full Appropriate Assessment of the decommissioning of the Kinsale Area gas fields and facilities is required.

The report concludes that the site of the proposed project is not directly connected with or necessary to the management of any Natura 2000 sites.

The screening assessment identified 13 SACs and 15 SPAs within approximately 100km of the proposed project. Based on the information provided above, and by applying the precautionary principle, it is determined that it is possible to rule out likely significant impacts on the integrity of any Natura 2000 site and therefore it is not deemed necessary to undertake any further stage of the Appropriate Assessment process.

KINSALE ENERGY

Kinsale Area Decommissioning Project

Section 9

Stakeholder Engagement

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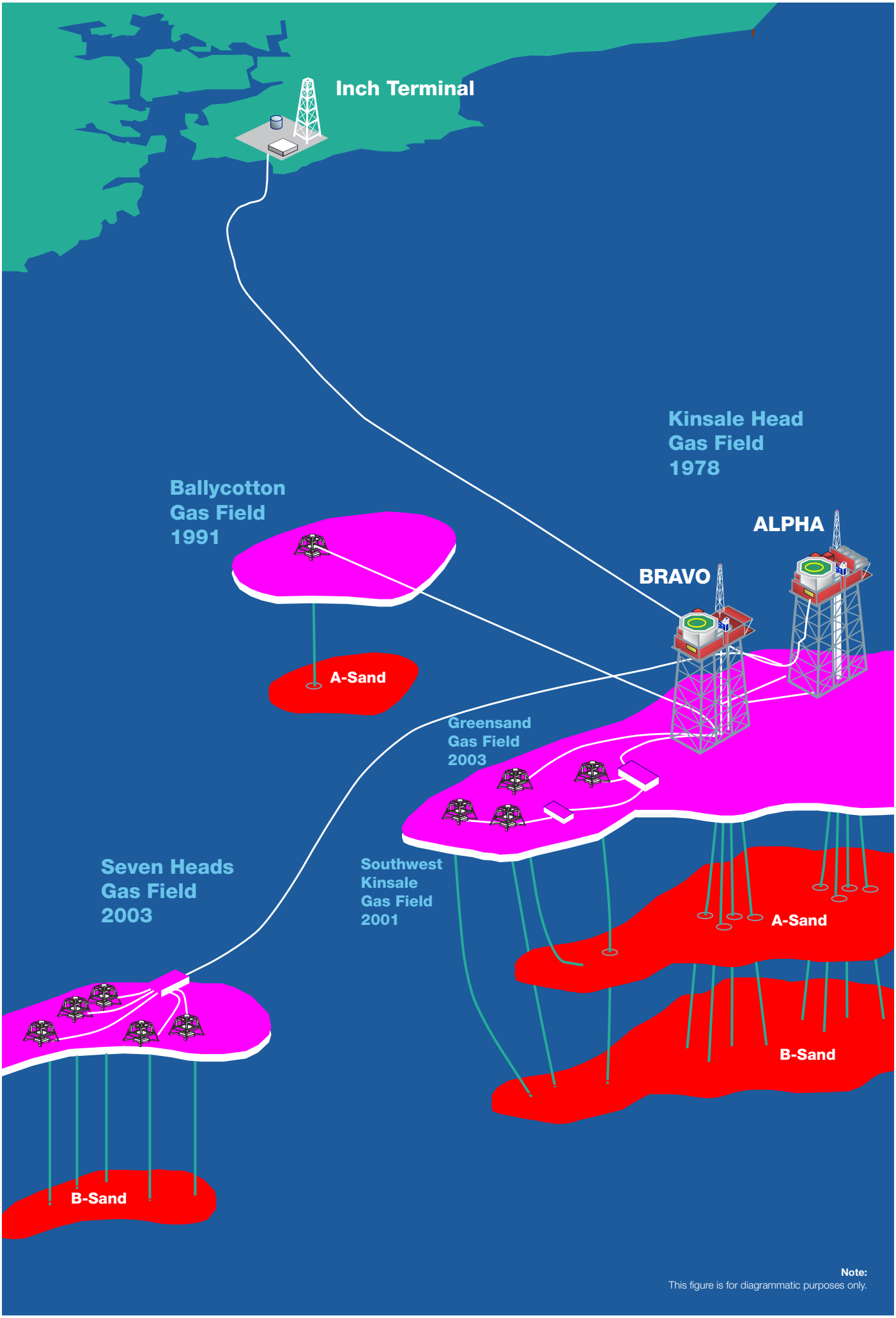
Inch Terminal
Kinsale Head
Gas Field
1978
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

9 Stakeholder Engagement

9.1 Introduction

A systematic, documented process has been put in place to manage the stakeholder consultation requirements and we have set out below our approach to this process.

The overarching approach that has been adopted for stakeholder management on the project is as follows:

- Any party outside of the project participants are considered a stakeholder.
- All stakeholders will be consulted with and updated on the project as appropriate
- Ensure stakeholders have had the opportunity to input into the project as appropriate

To achieve the above:

- A stakeholder manager will be nominated for the project. Their role is to:
  - co-ordinate stakeholder communications, and
  - maintain a register of all stakeholder communications.
- A live stakeholder register is being maintained and which records historic and planned stakeholder engagement and communications.
- The register will be maintained throughout the development of the project.

9.2 Stakeholder Engagement Activities

During the preparation of the earlier Decommissioning Plan and associated EIAR under Consent Application 1, discussions were had and/or correspondence made with statutory and non-statutory bodies and other interested parties in order to ensure that issues relating to the proposed KADP were addressed. The parties consulted include the following:

- Petroleum Affairs Division (PAD) - Department of Communications, Climate Action and Environment,
- Commission for Regulation of Utilities (CRU),
- Marine Planning and Foreshore Unit – Department of Housing, Planning and Local Government,
- Cork County Council,
- National TFS (Trans Frontier Shipments) Office, Dublin City Council,
- National Parks and Wildlife Service (NPWS),
- National Monuments (NM),
- Ervia,
- Gas Networks Ireland (GNI),
- ESB,
- Cork Port Operations,

- Naval Operations (Cork),
- South West Regional Fisheries Forum,
- South East Regional Fisheries Forum,
- Birdwatch Ireland,
- Irish Whale and Dolphin Group (IWDG),
- Cork City Council,
- TDs and local councillors.

For a full list of consultees, please refer to Appendix F of the EIAR.

A consultation response was received from the Irish Whale and Dolphin Group (IWDG) noting the need to ensure that the decommissioning works will not disturb or degrade the marine habitat for cetaceans.

The proposed decommissioning scope of work and the environmental assessment has had due regard to the concerns regarding the protection of cetaceans and ensures that potential adverse effects are minimised.

A written response was also received from Dublin Airport Authority (DAA) stating that DAA has no observations to make on the KADP.

A meeting was held between Kinsale Energy, Arup/Hartley Anderson and NPWS during the consultation process. At this meeting Kinsale Energy outlined the proposed decommissioning project as well as detailing the methodology being used to assess ecological impacts and impacts on Natura 2000 sites. NPWS requested that the following was also considered:

- To consult with the IWDG for data on cetaceans.
- To consider the Marine Institute's Fisheries Ecosystems Advisory Services (FEAS) survey data, in particular marine mammal and seabird observations made during the Celtic Sea herring and ground fish surveys.

Subsequent to the meeting, useful information was obtained from both the IWDG and FEAS publications which has been reflected in the KADP EIAR.

A response was also received from the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht regarding the underwater archaeology assessment. The environmental assessment has had due regard to underwater archaeology.

In addition to the above, two public consultation sessions were undertaken with invitations made to all key stakeholders and interested members of the local community. The first information session took place at the Clayton Hotel, Cork City on 18th April 2018. An advertisement was placed in the local newspapers and letters sent to key stakeholders. The second public information session was hosted in the Aghada Community Centre, East Cork on 19th April 2018. This was arranged to facilitate residents living in the area of the onshore Inch terminal. Letters of invitation were individually delivered to residents in the Inch area in advance of the information session.

Both public information sessions were well received, with a total attendance of 45 people across both sessions. Feedback received from stakeholders has been positive and will be monitored and managed for the duration of the project.

As part of this Decommissioning Plan and associated EIAR (Consent Application 2), additional consultantion has taken place with ERVIA in relation to the planned removal of the platform jackets.

9.3 Further Stakeholder Engagement

Stakeholder management will continue throughout the decommissioning works and may extend beyond completion, if there are any long term monitoring or maintenance requirements imposed as conditions of the consents (refer to **Section 7**).

Taking into consideration the stakeholder consultation which has been completed as part of the preparation of the Decommissioning Plan (refer to **Section 9.2**), the following stakeholders are included on Kinsale Energy's current stakeholder register as requiring further consultation prior to, during and/or following the decommissioning works:

- Petroleum Affairs Division (PAD) - DCCAE
- Commission for Regulation of Utilities (CRU)
- Gas Networks Ireland/Ervia
- Marine Planning and Foreshore Unit - DHPLG
- Cork County Council
- TFS Office, Dublin City Council
- NPWS & National Monuments - DAU - DAHRRG
- The Irish Coast Guard (IRCG)
- Irish Maritime Operations Centre (NMOC) of the Irish Coast Guard - (Marine Rescue Co-Ordination Centre (MRCC) of the Irish Coast Guard)
- Marine Radio Affairs Unit of the Maritime Safety Directorate
- Maritime Safety Policy Division of the Maritime Safety Directorate
- Ship Source Pollution Prevention Unit Irish Maritime Administration (Formerly - Marine Environmental Division of the Maritime Safety Directorate)
- Marine Institute
- Commissioners of Irish Lights (CIL)
- Naval Operations – Department of Defence
- Cork Port Operations
- Environmental Protection Agency
- RNLI Ballycotton
- Sea Fisheries Protection Authority
- Sea Fisheries Policy Division
- South & West Fishermen's Organisation
- Irish South & West Fish Producer Organisation (IS&WFPO)
- Irish South & East Fish Producer Organisation (IS&EFPO)
- South West Regional Fisheries Forum / (Regional Inshore Fisheries Forum)
- South East Regional Fisheries Forum / (Regional Inshore Fisheries Forum)
- National Inshore Fisheries Forum (NIFF)
- Irish Fish Producers Organisation (IFPO)
- Bord Iascaigh Mhara
- Irish Fish Producers Organisation
- Irish Whale and Dolphin Group
- Birdwatch Ireland

- Landowners of onshore pipeline & wayleave
- Local Residents – Inch
- General Public

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Appendix A

Further Information

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Appendix A1

Relevant International Conventions and European Legislation

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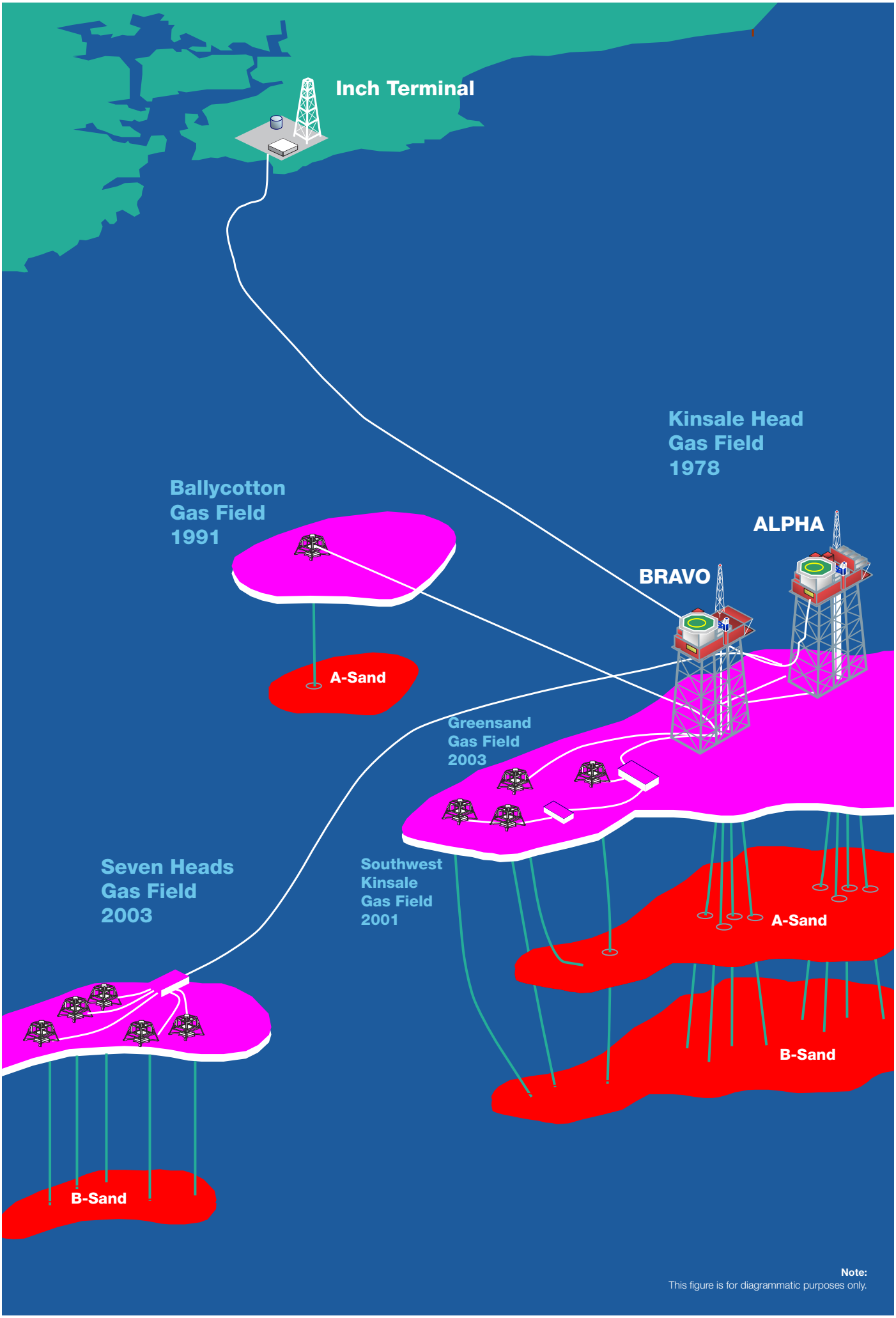
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Note:
This figure is for diagrammatic purposes only.

A1.1 Relevant International Conventions and European Legislation

Table A1 below summarises the key international conventions and European legislation relevant to the KADP. **Section A1.2** and **Section A1.3** provide further detail.

Table A1: Key International legislation relevant to the KADP

Relevant Legislation	Consents / requirements for Decommissioning
OSPAR Convention (1992)	The KADP shall take all possible steps to prevent and eliminate pollution and apply the necessary measures to protect the maritime area against the adverse effects of human activities during works. Under paragraph 2 of the Decisions 98/3, the dumping, and leaving wholly or partly in place, of disused offshore installations is prohibited within the OSPAR maritime area – Kinsale Area platforms and subsea structures to be removed as part of the KADP.
MARPOL Convention, International Maritime Organisation (1978)	Ireland ratified the Convention, the requirements of which are transposed in Sea Pollution Act, 1991 (No. 27 of 1991). The Convention will apply to all shipping operations associated with the KADP ensure the prevention of pollution of the marine environment.
UN Convention on the Law of the Sea (1982)	The Convention will apply to the granting by the competent authority of an authorisation for the KADP.
Basel Convention	Any waste generated by the KADP, which has to be exported from Ireland, will be subject to the Convention.
Espoo Convention	Assessment required of the potential for the proposed activity to result in significant transboundary effects.
OECD Decision on the Control of Transboundary Movements of Waste	Any waste generated by the KADP, which will be exported from Ireland, will be subject to the OECD Decision.
Ballast Water Convention	All vessels associated with the KADP are required to manage their ballast water and sediments to a certain standard, according to a ship-specific ballast water management plan. All ships vessels also have to carry a ballast water record book and an international ballast water management certificate.
Water Framework Directive (2000/60/EC)	The Water Framework Directive, EC (2000), sets the objectives for water protection for the future and applies to inland surface waters, groundwater, transitional waters and coastal waters. Most of the KADP activities will be located outside 'coastal waters', as defined in the Directive. The Directive requirements will apply only to near shore and onshore decommissioning activities.

Relevant Legislation	Consents / requirements for Decommissioning
Marine Strategy Framework Directive (2008/56/EC)	The Directive aims to achieve good environmental status for the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. Most of the KADP activities will be located within the marine area, to which the Directive applies. The Directive requirements will apply to KADP activities.
Waste Framework Directive (2008/98/EC)	Waste activities arising from the KADP must comply with the Directive.
Commission Decision 2000/532/EC on the list of wastes, as amended by Commission Decision 2014/955/EU	Waste, arising from the KADP, must be classified in accordance with the Decision.
Regulation (EC) No 1013/2006 on Shipments of Waste	The management of waste, arising from the KADP, must comply with the requirements of the Regulation.
Aarhus Convention (Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters) (1998)	The relevant requirements of the Aarhus Convention, in relation to public participation in decision making on environmental matters, have been incorporated into the EIA Directive 2011/92/EU.

A1.2 Relevant International Conventions

MARPOL Convention

MARPOL Convention, International Maritime Organisation (1978), is the main international convention covering prevention of pollution of the marine environment. It was developed in an effort to minimise pollution of the oceans and seas and to preserve the marine environment. Its aim is to eliminate planned discharge of pollutants to the marine environment and to minimise accidental spillage of deleterious substances.

The MARPOL Protocol was developed and adopted in 1978 in response to a number of tanker accidents in 1976 and 1977. As the 1973 Convention had not yet entered into force, the 1978 Protocol absorbed the parent Convention. It entered into force in 1983 and was updated by amendments over the years. In 1997, a new Protocol was adopted to amend the Convention and a new Annex VI added.

The Convention includes regulations aimed at preventing and minimising pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes.

Ireland ratified the Convention, the requirements of which are transposed in Sea Pollution Act, 1991 (No. 27 of 1991).

The Convention will apply to all shipping operations associated with the KADP.

UN Convention on the Law of the Sea (1982)

The UN Convention on the Law of the Sea (UNCLOS), UN (1982), defines the exclusive economic zone (not greater than 200 nautical miles from the low water mark) where the rights and jurisdiction of the coastal State are governed by the Convention. Within the exclusive economic zone, the convention gives a State the sovereign right to the exploitation of resources and exclusive jurisdiction over authorisation and regulation of

any installations or structures (refer to Article 56, paragraph 1(a) and 1(b) and Article 60, paragraph 1 and 2).

Article 193 of UNCLOS further references the granting of exclusive rights to Coastal States to explore and exploit the natural (non-living) resources and states the following with regard to environmental protection:

"States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment".

With regard to disused installations or structures, Article 60, paragraph 3, states the following:

"Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization [such as the International Maritime Organisation (IMO)]. *Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed".*

The ambiguity between the requirement to remove abandoned or disused installations and reference to publicity for structures not entirely removed has led to debate and different interpretations of the decommissioning requirements of UNCLOS.

UNCLOS also makes provision for the protection and preservation of the marine environment (Part XII, Articles 192 to 237 inclusive).

Coastal states are obliged to adopt national laws and take measures to prevent, reduce and control pollution of the marine environment, arising from, or in connection with, the exploration or exploitation of the natural resources of the seabed and subsoil, and from dumping within their jurisdiction.

A number of other articles are relevant to the proposed KADP, including the following:

- Article 194 – Measures to Prevent, Reduce and Control Pollution of the Marine Environment.
- Article 206 – Assessment of Potential Effects of Activities.
- Article 208 – Pollution from seabed activities subject to national jurisdiction
- Article 210 – Pollution by Dumping.
- Article 214 – Enforcement with respect to pollution from seabed activities.

Ireland and the European Union have ratified the Convention.

The Convention will apply to the granting by the competent authority of an authorisation for the KADP.

Basel Convention (1989)

The Basel Convention, UN (1989), is a comprehensive global environmental agreement on the management of hazardous and other wastes. The Convention aims to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movement and disposal of hazardous and

other wastes. The Basel Convention was adopted in 1989 and entered into force in 1992. Ireland has ratified the Convention.

The Convention regulates the transboundary movements of hazardous and other wastes by applying the "Prior Informed Consent" procedure (shipments made without consent are illegal). The Convention obliges its Parties to ensure that hazardous and other wastes are managed and disposed of in an environmentally sound manner. To this end, Parties are expected to minimise the quantities that are moved across borders, to treat and dispose of wastes as close as possible to their place of generation, and to prevent or minimise the generation of wastes at source. Strong controls have to be applied from the moment of generation of a hazardous waste to its storage, transport, treatment, reuse, recycling, recovery and final disposal.

In 1995, an amendment to the Basel Convention ("the Ban Amendment") was adopted. The amendment provided for the prohibition of:

- All transboundary movements to States, which are not included in Annex VII, of hazardous wastes covered by the Convention that are intended for final disposal, and
- All transboundary movements to States, which are not included in Annex VII, of hazardous wastes covered by paragraph 1 (a) of Article 1 of the Convention that are destined for reuse, recycling or recovery operations.

In 1998, Annexes VIII and IX were added to provide further elaboration as to the wastes regulated by the Convention as listed in Annexes I and III. Since then, various changes to these Annexes VIII and IX have also been adopted.

The Basel Convention has been implemented in European Union and Irish legislation.

Any waste generated by the KADP, which has to be exported from Ireland, will be subject to the Convention.

Espoo Convention (Convention on Environmental impact Assessment in a Transboundary Context) (1991)

Ireland is a Contracting Party to the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo 1991) and thus an assessment is needed of the potential for the proposed activity to result in significant transboundary effects. The relevant requirements of the Espoo Convention, in relation to the environmental assessment of transboundary effects, have been incorporated into the EIA Directive 2011/92/EU.

OECD Decision on the Control of Transboundary Movements of Waste

Since March 1992, transboundary movements of wastes destined for recovery operations between member countries of the Organisation for Economic Co-operation and Development (OECD) have been supervised and controlled according to Decision C(92)39 on the Control of Transfrontier Movements of Wastes, OECD (1992). The 1992 decision was revised in 2001 and amended in 2002, 2004, 2005 and 2008, OECD (2001). The OECD Decision provided a framework for the OECD member countries to control transboundary movements of recoverable wastes within the OECD area in an environmentally sound and economically efficient manner. Compared to the Basel

Convention, it gave a simplified and more explicit means of controlling such movements of wastes. It also facilitated transboundary movements of recoverable wastes between OECD member countries in the case where an OECD member country is not a Party to the Basel Convention.

The OECD Decision includes lists of wastes, which have been harmonised to a large extent with the lists of wastes of the Basel Convention.

Ireland is a member of the OECD. OECD Council Decisions are legally binding for member countries.

Any waste generated by the KADP, which will be exported from Ireland, will be subject to the OECD Decision.

OSPAR Convention (1992)

The OSPAR Convention, OSPAR (1992), is the current legislative instrument regulating international cooperation on environmental protection in the North-East Atlantic. It replaces the 1972 Oslo Convention on dumping waste at sea and the 1974 Paris Convention on land-based sources of marine pollution. Ireland has ratified the Convention.

The Convention applies to the internal waters and the territorial seas of the Contracting Parties, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal State to the extent recognised by international law, and to the high seas, including the bed of all those waters and its subsoil, situated within specified limits of the Atlantic and Arctic Oceans.

The convention requires all parties to take all possible steps to prevent and eliminate pollution and apply the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve maritime ecosystems and, when practicable, restore marine areas which have been adversely affected. Parties are required to, individually and jointly, adopt programmes and measures and to harmonise policies and strategies.

In addition, in order to meet their obligations, Article 2, paragraph 2(a) and 2(b) states that Parties to the Convention must apply the following two principles:

- “the precautionary principle, by virtue of which preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects;
- the polluter pays principle, by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter.”

Annex II of the convention, which specifically addresses the prevention and elimination of pollution by dumping or incineration, states that *“No disused offshore installation or disused offshore pipeline shall be dumped and no disused offshore installation shall be left wholly or partly in place in the maritime area without a permit issued by the competent authority”* (Article 5, paragraph 1). The Annex further states that such permits shall not be issued if substances, which are likely to represent a hazard, are present (paragraph 2).

Article 8 of Annex II reinforces this, stating that "*No placement of a disused offshore installation or a disused offshore pipeline in the maritime area for a purpose other than that for which it was originally designed or constructed shall take place without authorisation or regulation by the competent authority of the relevant Contracting Party*".

For the purposes of the convention 'dumping' and 'wastes or other matter' are defined as follows:

Article 1 – Definitions

"(f) "Dumping" means

(i) any deliberate disposal in the maritime area of wastes or other matter

(1) from vessels or aircraft;

(2) from offshore installations;

(ii) any deliberate disposal in the maritime area of

(1) vessels or aircraft;

(2) offshore installations and offshore pipelines."

"(g) "Dumping" does not include:

(i) the disposal in accordance with the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, or other applicable international law, of wastes or other matter incidental to, or derived from, the normal operations of vessels or aircraft or offshore installations other than wastes or other matter transported by or to vessels or aircraft or offshore installations for the purpose of disposal of such wastes or other matter or derived from the treatment of such wastes or other matter on such vessels or aircraft or offshore installations;

(ii) placement of matter for a purpose other than the mere disposal thereof, provided that, if the placement is for a purpose other than that for which the matter was originally designed or constructed, it is in accordance with the relevant provisions of the Convention; and

(iii) for the purposes of Annex III, the leaving wholly or partly in place of a disused offshore installation or disused offshore pipeline, provided that any such operation takes place in accordance with any relevant provision of the Convention and with other relevant international law."

"(o) "Wastes or other matter" does not include:

(i) human remains;

(ii) offshore installations;

(iii) offshore pipelines;

(iv) unprocessed fish and fish offal discarded from fishing vessels."

OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations

Decisions 98/3, OSPAR (1998), amended the Convention in 1998. Under paragraph 2 of the Decisions 98/3, the dumping, and leaving wholly or partly in place, of disused offshore installations is prohibited within the OSPAR maritime area. However, paragraph 3 of the Decision provides a derogation to the paragraph 2 prohibition, providing that following an assessment, the competent authority of the relevant Contracting Party may give permission to leave disused installations or parts of disused installations in place.

The categories where derogations may be considered are outlined in Annex 1 to the Decision, which states the following:

"The following categories of disused offshore installations, excluding their topsides, are identified for the purpose of paragraph 3:

a) *steel installations weighing more than ten thousand tonnes in air* [and placed in the maritime area before 9th February 1999]*;*

b) *gravity based concrete installations;*

c) *floating concrete installations;*

d) *any concrete anchor-base which results, or is likely to result, in interference with other legitimate uses of the sea."*

A disused offshore installation is defined as an offshore installation, which is neither *"(a) serving the purpose of offshore activities for which it was originally placed within the maritime area, nor (b) serving another legitimate purpose in the maritime area authorised or regulated by the competent authority of the relevant Contracting Party*".

The definition of disused offshore installation does not include "*(c) any part of an offshore installation which is located below the surface of the sea-bed, or (d) any concrete anchor-base associated with a floating installation which does not, and is not likely to, result in interference with other legitimate uses of the sea*." OSPAR Decision 98/3 also does not refer to subsea pipelines, umbilicals and their protective materials and therefore are not covered by Decision 98/3.

Decision 98/3 is reviewed every 5 years. The most recent review, in 2013, made no change to the information outlined above.

The Kinsale Area platforms, Alpha and Bravo, each weigh less than 10,000 tonnes. Consequently, the derogation will not be applicable.

International Convention for the Control and Management of Ships' Ballast Water and Sediments

The Ballast Water Management Convention, adopted in 2004 and entered into force in September 2017, aims to prevent the spread of harmful aquatic organisms from one region to another, by establishing standards and procedures for the management and control of ships' ballast water and sediments. Under the Convention, all ships in international traffic are required to manage their ballast water and sediments to a certain standard, according to a ship-specific ballast water management plan. All ships will also have to carry a ballast water record book and an international ballast water management certificate.

A1.3 Relevant European Legislation

Water Framework Directive (2000/60/EC)

The Water Framework Directive, EC (2000), sets the objectives for water protection for the future and applies to inland surface waters, groundwater, transitional waters and coastal waters. Coastal waters are defined in the Directive as *'surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters'*.

The aim of the directive is to prevent and reduce pollution, promote sustainable water use, protect the aquatic environment, improve the status of aquatic ecosystems and mitigate the effects of floods and droughts. The directive addresses the management of water quality and water resources and affects conservation, fisheries, flood defence, development planning and environmental monitoring. It requires Member States to control all impacts, including physical, polluting or otherwise, on our water resource.

The Directive has been transposed in Irish legislation through a number of measures, including the European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003).

Most of the KADP activities will be located outside 'coastal waters', as defined in the Directive. The Directive requirements will apply only to near shore and onshore decommissioning activities.

Marine Strategy Framework Directive (2008/56/EC)

The 'Marine Strategy Framework Directive' was adopted in 2008, EC (2008a).

The Directive aims to achieve good environmental status for the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. It is the first EU legislative instrument related to the protection of marine biodiversity, as it contains the explicit regulatory objective that "biodiversity is maintained by 2020", as the cornerstone for achieving good environmental status.

In order to achieve its goal, the Directive establishes European marine regions and sub-regions on the basis of geographical and environmental criteria.

In order to achieve good environmental status by 2020, each Member State is required to develop a strategy for its marine waters, which will be updated every six years.

The Directive applies to water on the seaward side of the baseline to the outmost reach of the area where a Member State has rights, under UNCLOS i.e. 200 nautical miles. The geographical scope of the Marine Spatial Framework Directive overlaps with the Water Framework Directive by one nautical mile.

The Marine Strategy Framework Directive has been transposed into Irish legislation by a number of measures, including the European Communities (Marine Strategy Framework) Regulations (S.I. No. 249 of 2011).

Most of the KADP activities will be located within the marine area, to which the Directive applies. The Directive requirements will apply to KADP activities.

Waste Framework Directive (2008/98/EC)

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (known as the Waste Framework Directive) has been effective since 12 December 2010, EC (2008b). The new Directive repealed the codified Directive 2006/12/EC on Waste, the Hazardous Waste Directive (91/689/EEC) and the Waste Oils Directive (75/439/EEC).

The Directive seeks to implement the provisions of the Basel Convention, sets the basic concepts and definitions related to waste management and lays down the following waste management principles:

- The "polluter pays principle" which requires costs of waste management to be borne by the original waste producer or by current or previous waste holders; and
- The "waste hierarchy" which is a five-step hierarchy of waste management options which must be applied by Member States when developing their national waste policies, as follows:
    - Waste prevention (preferred option);
    - Re-use;
    - Recycling;
    - Recovery (including energy recovery); and
    - Safe disposal, as a last resort.

The Directive defines ‘waste’ as *“any substance or object which the holder discards or intends or is required to discard”* (Article 3 (1)).

The Directive also addresses when waste ceases to be waste and becomes a secondary raw material and how to distinguish between waste and ‘by-products’ and includes recycling and recovery targets.

Article 6 of the Directive provides that certain specified waste can cease to be waste when it has undergone a recovery operation and complies with certain criteria. Regulation No 333/2001 establishes criteria determining when iron, steel and aluminium scrap, including aluminium alloy scrap, ceases to be waste.

Article 13 requires Member States to take the necessary measures to ensure that waste management is carried out without endangering human health, without harming the environment.

Article 23 specifies that Member States shall require any establishment or undertaking intending to carry out waste treatment to obtain a permit from the competent authority. Treatment is defined in Article 3 (14) as *“recovery or disposal operations, including preparation prior to recovery or disposal”.*

The provisions of the Waste Framework Directive have been transposed into Irish Law through the Waste Management Act, 1996 (No. 10 of 1996) as amended and associated regulations.

Waste activities arising from the KADP must comply with the Directive.

Commission Decision 2000/532/EC on the list of wastes, as amended by Commission Decision 2014/955/EU

Commission Decision 2000/532/EC established a list of wastes, in support of the implementation of the Waste Framework Directive. Decision 2000/532/EC has been amended several times. The most recent amendment was by Commission Decision 2014/955/EU, EU (2014b). This Decision establishes the classification system for wastes, including a distinction between hazardous and non-hazardous wastes.

Waste, arising from the KADP, must be classified in accordance with the Decision.

Regulation (EC) No 1013/2006 on Shipments of Waste

Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (as amended) specifies conditions under which waste can be shipped between/through Member States and other countries. Its aim is to strengthen and simplify procedures for controlling waste shipments in order to improve environmental protection and reduce the risk of uncontrolled shipments. The Regulation addresses all types of wastes, with the exception of radioactive waste or waste types subject to separate control regimes. It controls procedures for two classes of waste, as follows:

- The 'Green listed' procedure applies to non-hazardous waste intended for recovery; and
- The 'Amber list' notification procedure applies to shipments of all waste intended for disposal and hazardous waste intended for recovery.

This Regulation is transposed into Irish legislation by the Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007).

The management of waste, arising from the KADP, must comply with the requirements of the Regulation.

Aarhus Convention (Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters) (1998)

The Public Participation Directive (Directive 2003/35/EC) Directive implements the 1998 Aarhus Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters. The Convention and Directive are intended to improve public access to environmental information and greater participation in the environmental decision-making process. The relevant requirements of the Aarhus Convention, in relation to public participation in decision making on environmental matters, have been incorporated into the EIA Directive 2011/92/EU.

KINSALE ENERGY

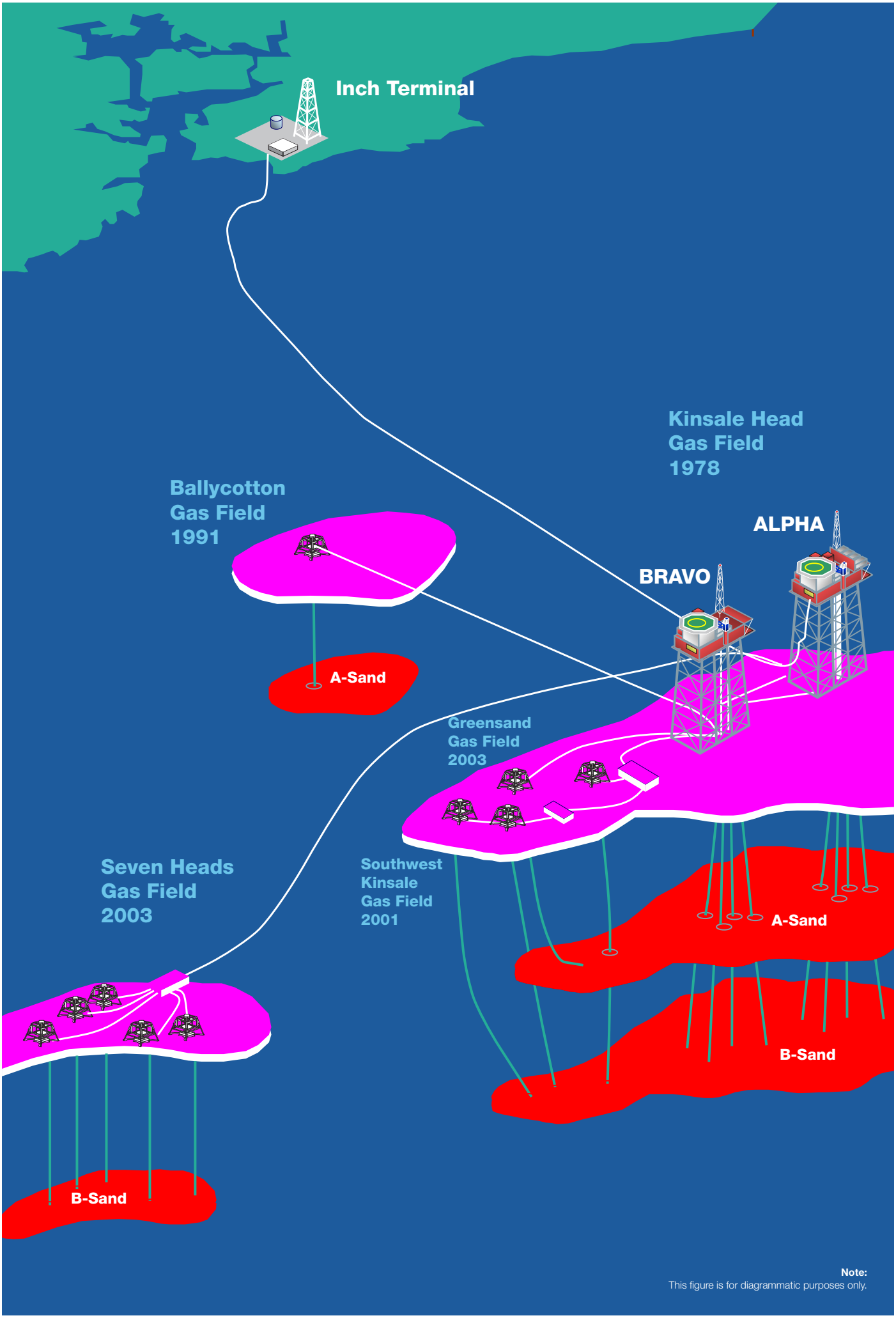
Kinsale Area Decommissioning Project

Appendix A2

Layout Drawings

Hartley Anderson

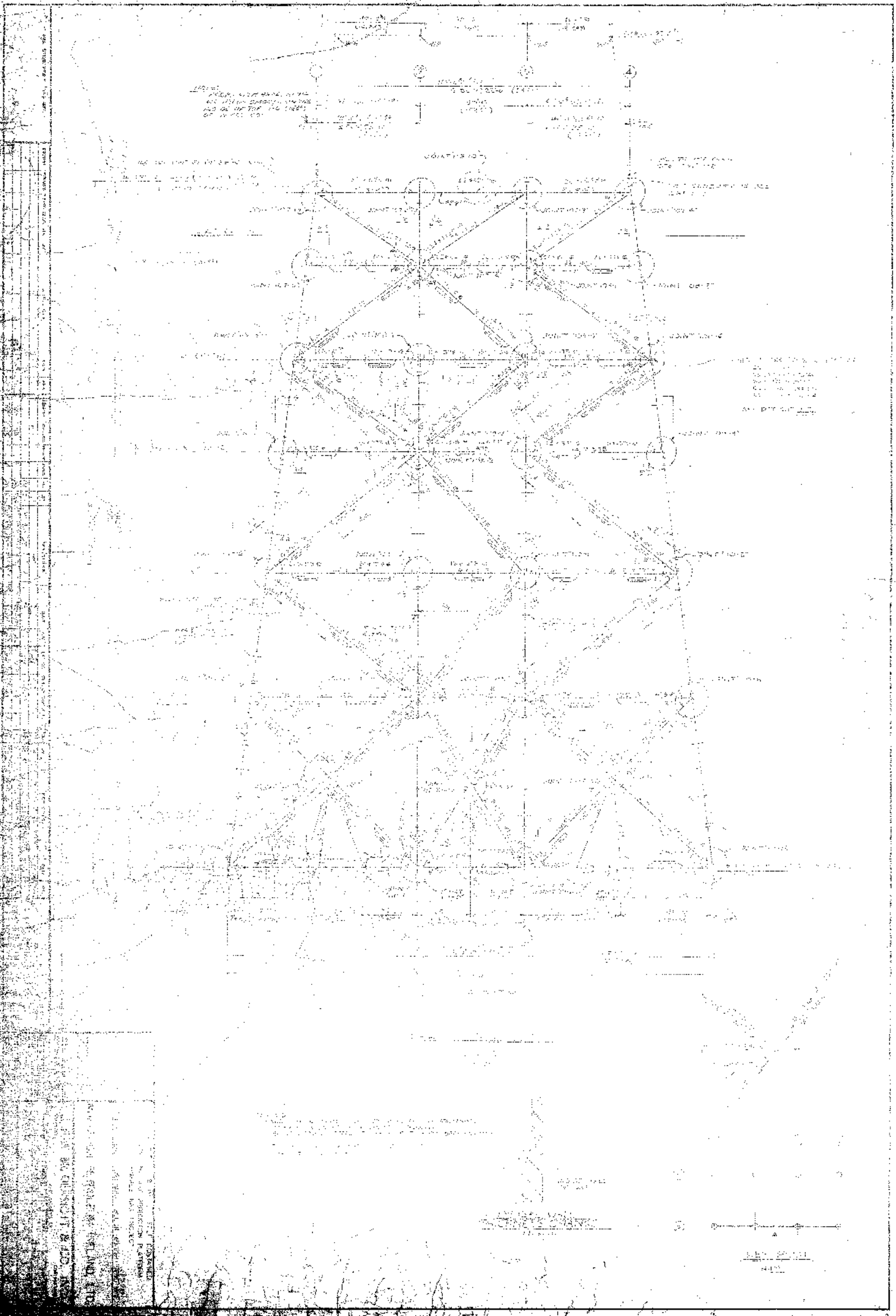
ARUP


Inch Terminal
Kinsale Head
Gas Field
1978
Ballycotton
Gas Field
1991
ALPHA
BRAVO
A-Sand
Greensand
Gas Field
2003
Seven Heads
Gas Field
2003
Southwest
Kinsale
Gas Field
2001
A-Sand
B-Sand
B-Sand
Note:
This figure is for diagrammatic purposes only.

A2 Layout Drawings

Drawing No.	Drawing Name	Revision
MPI-6054 Sheet 101	Alpha - Jacket Vertical Framing @ Row A	-
MPI-6054 Sheet 102	Alpha - Jacket Vertical Framing @ Row B	-
MPI-6054 Sheet 103	Alpha - Jacket Vertical Framing @ Row 1	-
MPI-6054 Sheet 104	Alpha - Jacket Vertical Framing @ Row 2	-
MPI-6054 Sheet 105	Alpha - Jacket Vertical Framing @ Row 3	-
MPI-6054 Sheet 106	Alpha - Jacket Vertical Framing @ Row 4	-
MPI-6054 Sheet 121	Alpha - Jacket Horizontal Framing @ EL (+) 20’	-
MPI-6054 Sheet 122	Alpha - Jacket Horizontal Framing @ EL (-) 13’.9	-
MPI-6054 Sheet 123	Alpha - Jacket Horizontal Framing @ EL (-) 58’	-
MPI-6054 Sheet 124	Alpha - Jacket Horizontal Framing @ EL (-) 101’.5	-
MPI-6054 Sheet 125	Alpha - Jacket Horizontal Framing @ EL (-) 158’	-
MPI-6054 Sheet 126	Alpha - Jacket Horizontal Framing @ EL (-) 216’.5	-
MPI-6054 Sheet 127	Alpha - Jacket Horizontal Framing @ EL (-) 293'-7'2	-
MPI-6054 Sheet 141	Alpha - Mud Mat Type 'A'	-
MPI-6054 Sheet 142	Alpha - Mud Mat Type 'B'	-
MPI-6055 Sheet 101	Bravo - Jacket Vertical Framing @ Row A	-
MPI-6055 Sheet 102	Bravo - Jacket Vertical Framing @ Row B	-
MPI-6055 Sheet 103	Bravo - Jacket Vertical Framing @ Row 1	-
MPI-6055 Sheet 104	Bravo - Jacket Vertical Framing @ Row 2	-
MPI-6055 Sheet 105	Bravo - Jacket Vertical Framing @ Row 3	-
MPI-6055 Sheet 106	Bravo - Jacket Vertical Framing @ Row 4	-
MPI-6055 Sheet 122	Bravo - Jacket Horizontal Framing @ EL (-) 13'-9'	-
MPI-6055 Sheet 123	Bravo - Jacket Horizontal Framing @ EL (-) 58'	-
MPI-6055 Sheet 124	Bravo - Jacket Horizontal Framing @ EL (-) 101'-5	-
MPI-6055 Sheet 125	Bravo - Jacket Horizontal Framing @ EL (-) 158'-0	-
MPI-6055 Sheet 126	Bravo - Jacket Horizontal Framing @ EL (-) 217' .3	-

MPI-6055 Sheet 127	Bravo - Jacket Horizontal Framing @ EL (-) 295'-7'2	-
MPI-6055 Sheet 140	Bravo - Mud Mat Type 'A' Sht. 1 of 2	-
MPI-6055 Sheet 141	Bravo - Mud Mat Type 'A' Sht. 2 of 2	-
MPI-6055 Sheet 142	Bravo - Mud Mat Type 'B'	-
KG-21-DR-ENG-36229	Kinsale Head, SWK, Greensand & Ballycotton Gas Fields Location	A



FAB. STDS. REQ'D. THIS SHT.

REVISIONS	DATE	APP.
NOTE DELETED	9-17-75	AH
36" ø TUBE INSIDE BRACING & PER CHG. 1	12-12-75	AH

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY
AH	BB				
AH	BB			6	JAG
AH	BB			5	KNG

NOTE:
FABRICATOR SHALL GRIND ALL WELDS SMOOTH ON THE INSIDE OF TOP 5'-0 (1524) OF JACKET COL.

40'-3¾ (12,287) | 50'-0 (15,240) | 40'-3¾ (12,387)

W.P. EL (+) 92'-2⅝ (28108)

148'-0⅝ (45126)
@ EL (+) 22'-6 (6858)

49'-0⅝ (14943) | 50'-0 (15240) | 49'-0⅝ (14943)

3¾ (95) | 48'-8⅜ (14848) @ EL (+) 25'-0 (7620) | 48'-8⅜ (14848) @ EL (+) 25'-0 (7620) | 3¾ (95)

2'-6 (762) | 2'-6 (762)

PILE CUT-OFF EL (+) 25'-0 (7620)

TOP OF JACKET EL (+) 22'-6 (6858)

℄ EL (+) 20'-0 (6096)

L.A.T. EL 0'-0

53'-3 (10287)

℄ EL (-) 13'-9 (4191)

44'-3 (13487)

℄ EL (-) 58'-0 (17678)

49'-5 (13233)

℄ EL (-) 101'-5 (30912)

56'-7 (17247)

℄ EL (-) 158'-0 (48158)

58'-5 (17805)

℄ EL (-) 216'-9 (65964)

12'-4 (23571)

℄ EL (-) 293'-9 (89533)

BOTT. OF JKT EL (-) 296'-3 (90297)

2'-6 (762)

318'-9 (97155)

JOINT "119-11"

PILE TO JKT CONN. SEE SHT 132

TOP CLOSURE ℄ SEE SHT 137

JOINT "112-1" | JOINT "112-2" | JOINT "112-3" | JOINT "112-4"

JOINT "112-5" | JOINT "112-6" | JOINT "113-1" | JOINT "113-2"

JOINT "113-3" | JOINT "113-4" | JOINT "113-5" | JOINT "113-6"

PILE SPACERS "TYPE A" (TYP) AT:
EL (-) 13'-9 (4191)
EL (-) 58'-0 (17678)
EL (-) 101'-5 (30912)
EL (-) 158'-0 (48158)
EL (-) 216'-9 (65964)

SEE DET. SHT 137

JOINT "114-1" | JOINT "114-2" | JOINT "114-3" | JOINT "114-4"

JOINT "114-5" | JOINT "114-6" | JOINT "115-1" | JOINT "115-2"

856-5 LB GROSS WT. GALVALUM ANODE (TYP) SEE DET. SHT 137

RING STIFF R (TYP) SEE SHT 103

JOINT "115-3" | JOINT "115-4" | JOINT "115-5" | JOINT "115-6"

JOINT 111-1 | JOINT 111-3 | JOINT "111-2"

PILE SPACER "TYPE B" @ EL (-) 293'-0 (89306) SEE DET. SHT 137

JOINT 116-2 | JOINT 111-7 | JOINT 116-4 | JOINT 111-10 | JOINT "116-5" | JOINT "111-8" | JOINT 111-6 | JOINT "116-6"

BOTTOM OF SLEEVE ℄ SEE SHT 139

MUDLINE EL (-) 295'-0 (89916)

3¾ (95) | 43'-0 (13106) | 20'-6 11/16 (6266) | 25'-0 (7620) | 25'-0 (7620) | 25'-0 (7620) | 25'-0 (7620) | 20'-6 11/16 (6266) | 43'-0 (13106) | 3¾ (95)

88'-10 7/16 (27088) | 50'-0 (15240) | 88'-10 7/16 (27088)

227'-8⅞ (69415)

NOTES:
1) ALL STEEL SHALL BE TYPE III AS PER SPECIFICATIONS EXCEPT WHERE OTHERWISE SHOWN.
2) ⑨ INDICATES STEEL TO BE TYPE II AS PER SPECIFICATIONS
3) FOR COLUMN MAKE-UP SEE SHTS 103, 104, 105 & 106

FRAMING @ ROW "B"

1/16 = 1'-0
1:192

KEY PLAN
N.T.S.

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM "A"
KINSALE GAS PROJECT
CELTIC SEA — IRELAND BLOCK 49/16 — (883/4) W.D.
MARATHON PETROLEUM IRELAND, LTD.
J. RAY McDERMOTT & CO., INC.
NEW ORLEANS, LA.
DRAWN BY: WILLSON | SCALE: NOTED | DATE: 7-30-75 | DRWG. NO.: MPI-6054
DESIGNED BY: | ENGRG. JOB NO.: | SHEET NO.: 102

ENGINEERS APPROVAL — DATE: 12/5/75

JACKET VERTICAL FRAMING @ ROW "B"

AS CONSTRUCTED

RD 2541/0370/E

MARATHON SRG. No. A-1447-0600RA

2 A1

FAB. STDS. REQ'D. THIS SHT.

	DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

	DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
	AH								
	AH	E							
	AH								
	AH								
	AH	RLE							
	AH	RLE							
	AH	RLE							
	AH	RLE							

	DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
	AH								
	AH	RLE							
	AH	RLE							
	AH	RLE							
	AH	RLE							
	AH	RLE							
	AH	RLE							
	AH	RLE							

45'-0 (13716)
W.P. EL.(+) 92'-2 5/8 (28108)
W.P.
A
B
62'-5 1/2 (19028) (TOP OF JKT)
31'-2 3/4 (9514)
31'-2 3/4 (9514)
℄ STRUCTURE
3 3/4 (95)
67'-0 1/2 (20437) AT PILE CUT-OFF
3 3/4 (95)
2'-6 (762)
2'-6 (762)
PILE CUT-OFF EL.(+) 25'-0 (7650)
TOP OF JACKET EL.(+) 22'-6 (6858)
℄ EL.(+) 20'-0 (6096)
33'-3 (10287)
L.A.T. EL. 0'-0
℄ EL.(-) 13'-9 (4191)
℄ EL.(-) 58'-0 (17678)
℄ EL.(-) 101'-5 (30912)
℄ EL.(-) 158'-0 (48158)
℄ EL.(-) 216'-5 (65964)
EL.(-) 223'-7 1/2 (W.P.) (68161)
℄ EL.(-) 293'-7 1/2 (89497)
EL.(-) 295'-0 (MUDLINE) (89916)
EL.(-) 296'-3 (BOTT. OF JACKET) (90281)
181'-6 (55169)
58'-5 (17826)
77'-2 1/2 (23533)
56'-7 (17247)
45'-5 (13233)
14'-3 (4349)
2'-0 (610)
SEE JOINT 107-1
JOINT 117-1
SEE JOINT 112-1
SEE JOINT 107-2
SEE JOINT 108-2
SEE JOINT 109-2
JOINT 117-2
SEE JOINT 112-2
SEE JOINT 113-2
SEE JOINT 108-3
SEE JOINT 109-3
JOINT 117-3
SEE JOINT 113-3
SEE JOINT 114-1
SEE JOINT 109-4
JOINT 117-4
SEE JOINT 109-5
SEE JOINT 114-5
JOINT 117-5
SEE JOINT 110-5
SEE JOINT 115-3
JOINT 117-6
JOINT 117-7
JOINT 117-8
SEE JOINT 111-4
JOINT 117-9
JOINT 117-10
SEE JOINT 116-5
JOINT 117-11
MAKE UP FOR COL. 'A' / 'B' 1
(198664) 323.8510 TRUE LENGTH
856.5 LB GROSS WEIGHT GALVALUM ANODE (TYP) SEE DET. SHT 137.
36 ϕ MUD MAT DIAG (TYP) SEE SHT 140 - SECT B-B
1" RING STIFF (TYP) SEE DET THIS SHT NO REQ'D
43'-0 (13106)
27'-8 3/4 (8452)
27'-8 3/4 (8452)
43'-0 (13106)
142'-1 3/8 (43317)
71'-0 11/16 (21659)
71'-0 11/16 (21659)
℄ STRUCTURE
FRAMING @ ROW 1
1/16"=1'-0
1:192

NOTES:
1) ALL STEEL SHALL BE TYPE III AS PER SPECIFICATIONS EXCEPT WHERE OTHERWISE SHOWN
2) ⊕ INDICATES STEEL TO BE TYPE II AS PER SPECIFICATIONS
3) JACKET LEG INTERNAL DIAMETER BETWEEN OPPOSITE SHIM PLATES AT EA. LEG JOINT SHALL BE CHECKED AFTER ALL WELDING OF SHIM PLATES AND BRACES HAS BEEN COMPLETED, AND AGAIN IMMEDIATELY AFTER LOADOUT ON LEGS USED FOR SUPPORT DURING LOADING, TO ENSURE THAT THE LEGS ARE STRAIGHT AND THE INTERNAL DIAMETERS ARE NOT EXCESSIVELY EGGED, OR DO NOT IN ANY OTHER WAY PRESENT A HINDRANCE TO THE INSTALLATION OF PILES.

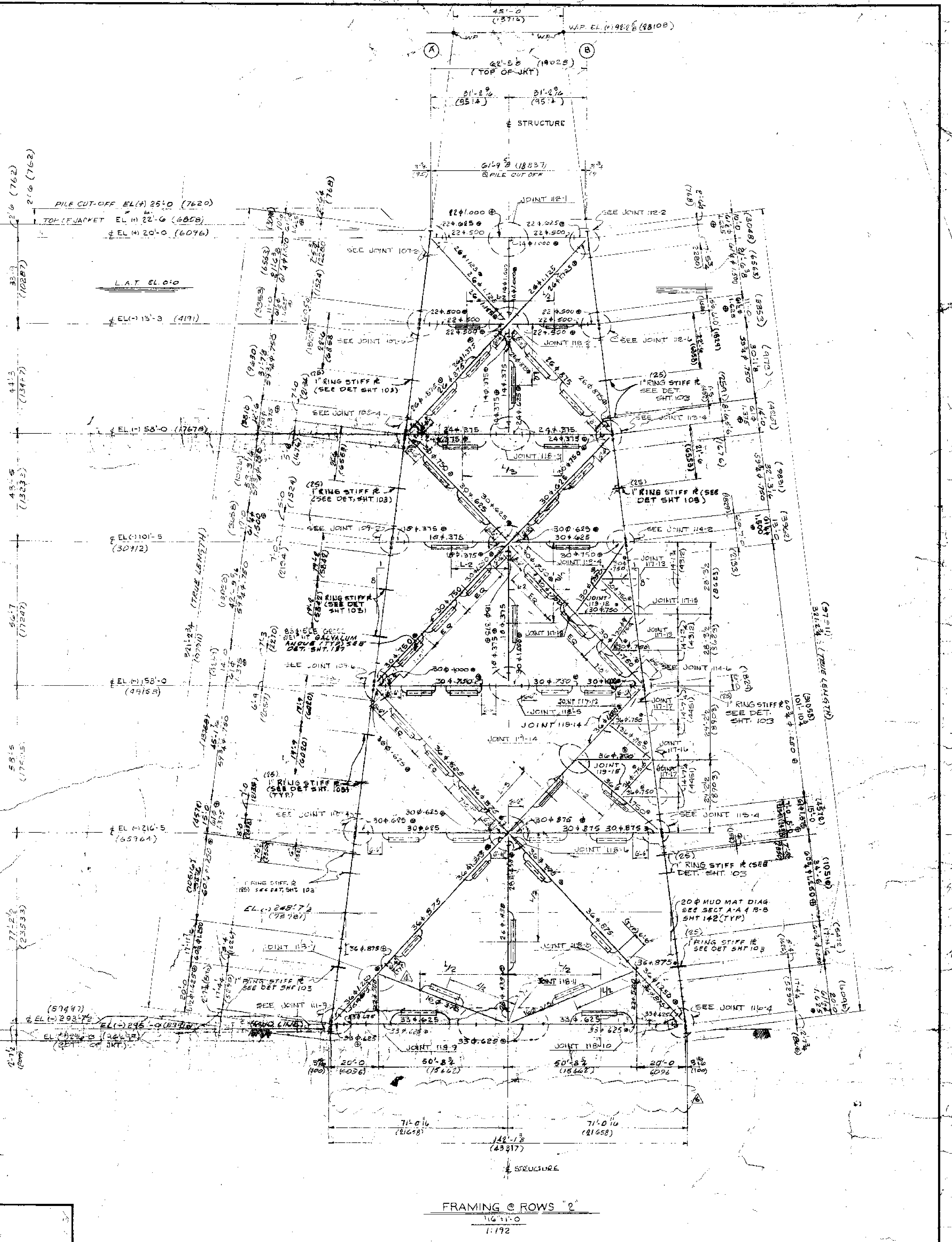
REFERENCE DRAWING
JACKET MEMBER FLOODING SYSTEM (SHT 1 OF 2) — MP1 6054 SHT 153
JACKET MEMBER FLOODING SYSTEM (SHT 2 OF 2) — MP1 6054 SHT 154

RING STIFF ℄ DETAIL
16 REQ'D — 3/8"=1'-0
⌀ 6'8" (TYP) (1605)
⌀ 1"℄
2 — JKT. COL. (SIZE VARIES)

KEY PLAN
N.T.S.

MARATHON RAC. No.
A-144- -06003A

8" PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM 'A'
KINSALE GAS PROJECT
CELTIC SEA, IRELAND BLOCK 49/24, 49/25
MARATHON PETROLEUM (U.K.) LTD.
J. RAY McDERMOTT U.K. LTD.
RD3647/9037012E
AS CONSTRUCTED



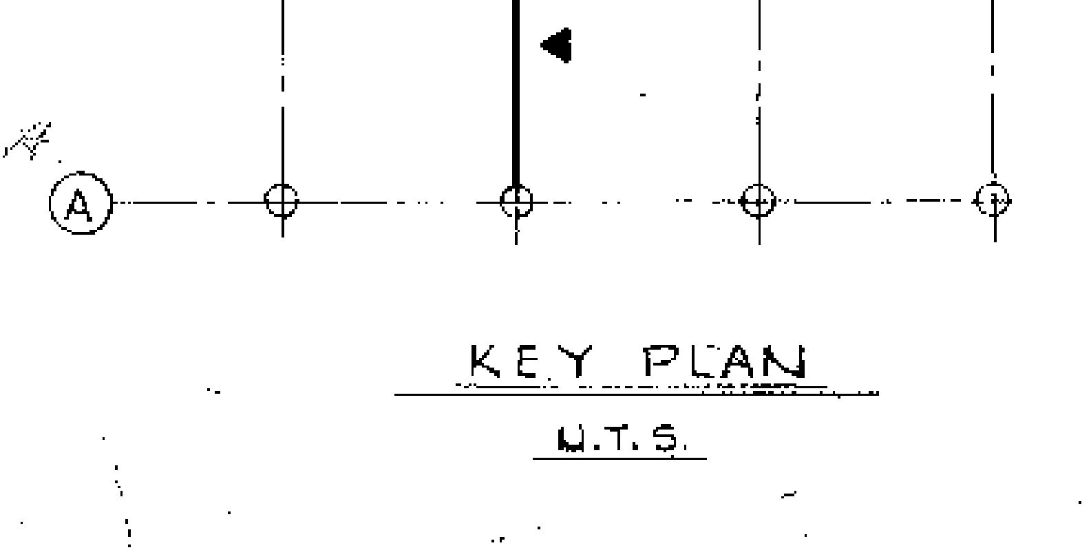
FRAMING @ ROWS "2"

1/16" = 1'-0

1:192

NOTES:
1.) ALL STEEL SHALL BE TYPE III AS PER SPECIFICATIONS EXCEPT WHERE OTHERWISE SHOWN.
2) ⊕ INDICATES STEEL TO BE TYPE II AS PER SPECIFICATIONS
3. JACKET LEG INTERNAL DIAMETER BETWEEN OPPOSITE SHIM PLATES AT EACH LEG JOINT SHALL BE CHECKED AFTER ALL WELDING OF SHIM PLATES AND BRACES HAS BEEN COMPLETED, AND AGAIN IMMEDIATELY AFTER LOADOUT ON LEGS USED FOR SUPPORT DURING LOADING TO ENSURE THAT THE LEGS ARE STRAIGHT AND THE INTERNAL DIAMETERS ARE NOT EXCESSIVELY EGGED, OR DO NOT IN ANY OTHER WAY PRESENT A HINDRANCE TO THE INSTALLATION OF PILES.

Marathon Dwg. No.
A-144-08004 A



KEY PLAN

N.T.S.

D 30-9037C13/F

AS CONSTRUCTED

FAB. STDS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
AH	BB			6	TAG	GROUTING NOTE DELETED	16-11-76	AH
AH	KK			5	TK	LOWER 33"φ TUBE TO BE FILLED WITH GROUT [illegible] TO [illegible] NOTE 4 ADDED	4-17-76	BH
AH	E.K.			4	APH	REVISED ANODE POSITIONS AS SHOWN & WEIGHT	12-7-76	LC
AH	TB			3	JL	ADDED NOTE NO 3	2-21-76	[illegible]

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
AH	AA			2	B	REVISED NOTES NO 1 & 2 AND M.L.W. TO L.A.T. REV. MEMBER SIZE @ EL.(+)20'-0	1-27-76	[illegible]
AH	[illegible]			1	[illegible]	ADDED KEY PLAN, REVISED W.P. EL. FROM EL.(+)92'-6 1/2 TO EL.(+)92'-6 3/8 & DIMS AT TOP & BOTT OF JKT.	12/5/75	[illegible]

8-PILE 9-WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM "A"
KINSALE GAS PROJECT

CELTIC SEA IRELAND BLOCK 48/19 (89916) 295' W.D.

MARATHON PETROLEUM IRELAND, LTD.

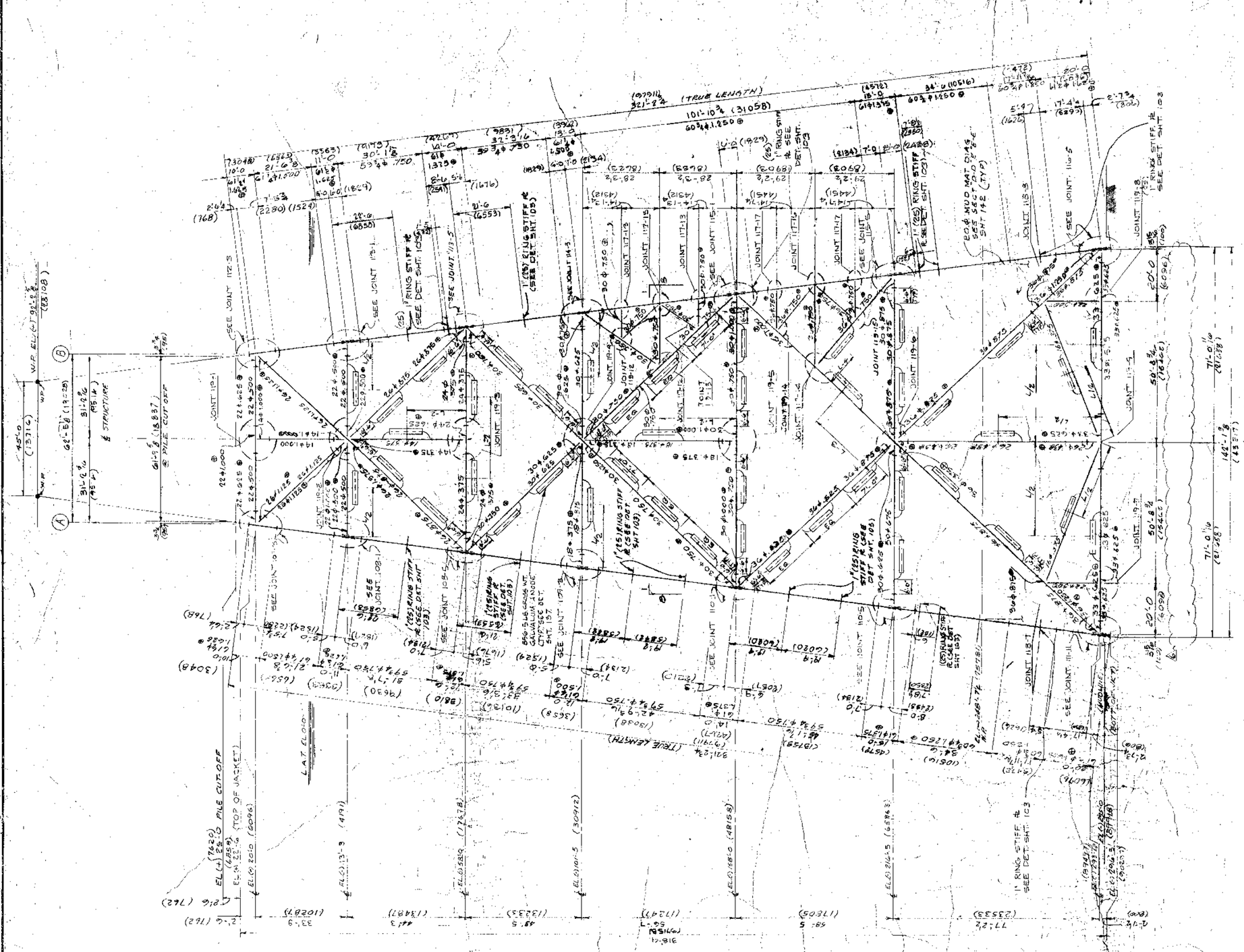
J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS
NEW ORLEANS, LA.

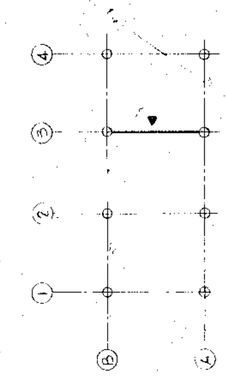
APPROVED: Thomas R. Watkins
J. RAY McDERMOTT & CO., INC.
DATE: 12/5/75

ENGINEERS APPROVAL	BY	DATE
PROJECT	AH	11/4/75
STRUCTURAL	AH	[illegible]
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
ENG. CHECK	[illegible]	[illegible]
DRAFT. CHECK	[illegible]	11-9-75

DRAWN BY: L. PALMER
SCALE: NOTED
DATE: [illegible]
DWG. NO.: [illegible]
DESIGNED BY: J. Thompson, A. Healy

JACKET VERT. FRAMING @ ROW 2





KEY PLAN
N.T.S.

NOTES:
1) ALL STEEL SHALL BE TYPE III AS PER SPECIFICATIONS EXCEPT WHERE OTHERWISE SHOWN.
2) ⊕ INDICATES STEEL TO BE TYPE III AS PER SPECIFICATIONS
3) JACKET LEG INTERNAL DIAMETER BETWEEN SHIM PLATES AT EACH LEG JOINT SHALL BE CHECKED AFTER ALL WELDING OF SHIM PLATES AND ABAN IMMEDIATELY COMPLETED AND ABAN IMMEDIATELY QUAYSIDE LOADOUT ON LEGS USED FOR SUPPORT DURING LOADING TO ENSURE THAT THE LEGS ARE STRAIGHT AND THE INTERNAL DIAMETERS ARE NOT EXCESSIVELY EGGED, OR DO NOT IN ANY OTHER WAY PRESENT A HINDRANCE TO THE INSTALLATION OF PILES.

3647/9037014/F

AS CONSTRUCTED

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM 'A'
KINSALE GAS PROJECT
CELTIC SEA, IRELAND BLOCK 49/16 (ED50) 295° W.D.

MARATHON PETROLEUM IRELAND, LTD.

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS
NEW ORLEANS, LA.

DRAWN BY: BRADY
SCALE: NOTED
DATE: 7-30-75
DRAWING NO.: MP1/603
DESIGNED BY: ENGINEER
R. WARLEY
JACKET VERTICAL FRAMING @ ROW 3

ENGINEERS APPROVAL
DATE: 12/5/75

	BY	DATE
PROJECT	AH	11/27/75
STRUCTURAL	AH	12/4/75
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
PUB. DISC.		
PROD. DISC.		

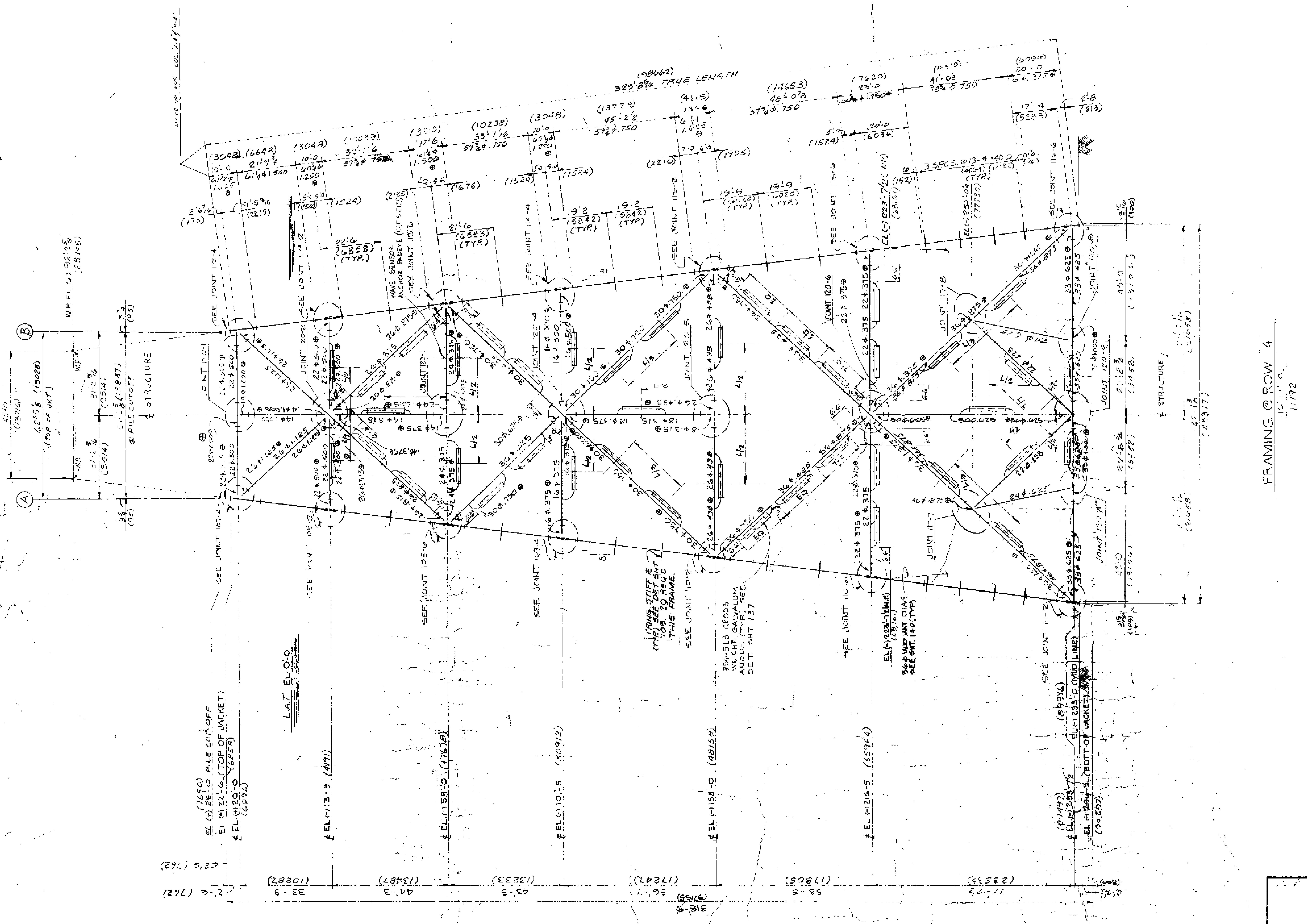
FAB. STDS. REQ'D. THIS SHT.

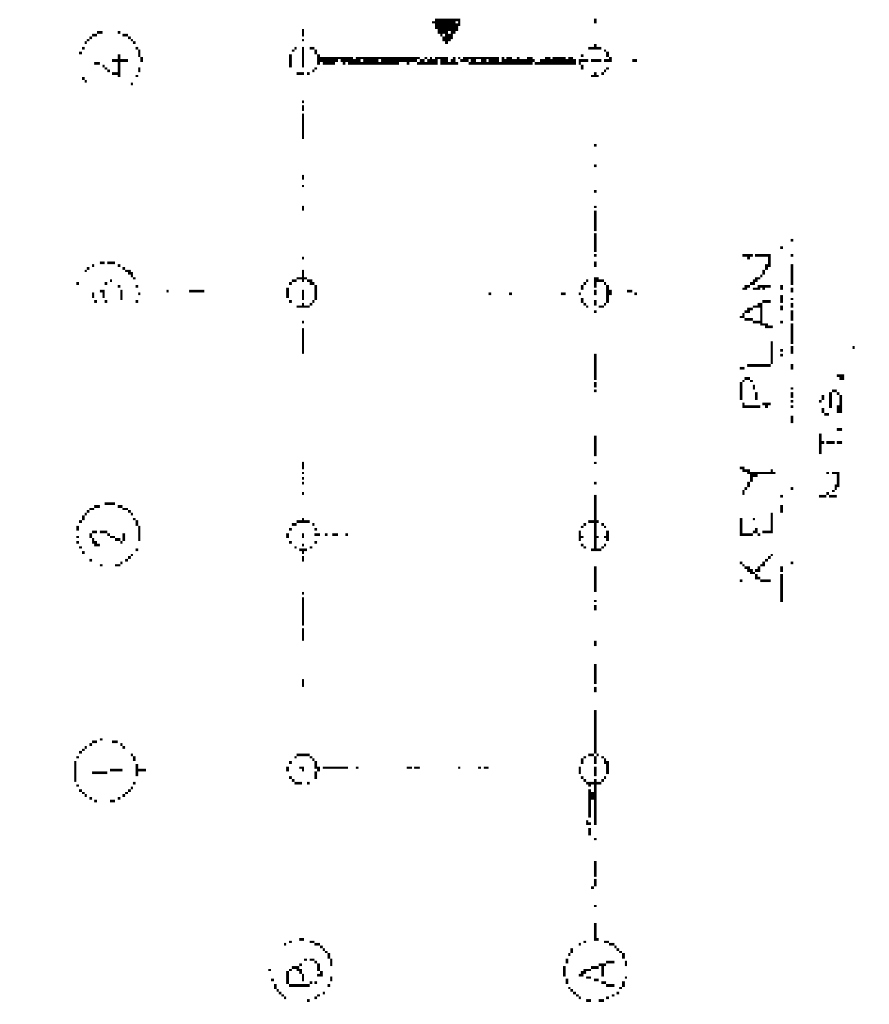
DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
				A	KW	[illegible]	9-17-76	BH
				B	WK	REVISE POSITIONS AS SHOWN	12-7-76	AH
						CHATE STORTZ TO STAT. SEA ANGLES & ANODE TO CENT.		
AH	AH			A	JAG	GROUTING (NOTE DELETED)	12-17-76	AH

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
AH	[illegible]			A	JC	ADDED NOTE #8	4-19-76	JC

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
AH	[illegible]			A	JC	REVISED NOTES NOS 1 & 2 AND ADDED NOTE 9	11-27-76	JC
						REV. MEM. SIZE @ EL.(+) 20'-0"		
						ADDED SEC. A-A & B-B FOR ELEVATION OF EL.(+) 9'-2" & EL.(+) 13'-9" AT ROW 3	12-5-75	AH

AS CONSTRUCTED





KEY PLAN
N.T.S.

NOTES:

1) ALL STEEL SHALL BE TYPE III AS PER SPECIFICATIONS EXCEPT WHERE OTHERWISE SHOWN.
2) ⊕ INDICATES STEEL TO BE TYPE II AS PER SPECIFICATIONS
3) JACKET LEG INTERNAL DIAMETER BETWEEN OPPOSITE SHIM PLATES AT EACH LEG JOINT SHALL BE CHECKED AFTER ALL WELDING OF SHIM PLATES AND BRACES HAS BEEN COMPLETED, AND AGAIN IMMEDIATELY AFTER LOADOUT ON LEGS USED FOR SUPPORT DURING LOADING, TO ENSURE THAT THE LEGS ARE STRAIGHT AND THE INTERNAL DIAMETERS ARE NOT EXCESSIVELY EGGED OR DO NOT IN ANY OTHER WAY PRESENT A HINDRANCE TO THE INSTALLATION OF PILES.

REFERENCE DRAWINGS

JACKET MEMBER FLOODING SYSTEM (SHT 1 OF 2)	MPI 6054 SHT 153
JACKET MEMBER FLOODING SYSTEM (SHT 2 OF 2)	MPI 6054 SHT 154

AS CONSTRUCTED

RD3647/9037015F

8-PILE 9-WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM "A"
KINSALE GAS PROJECT
CELTIC SEA, IRELAND BLOCK 49/16 (8991/4) 295' W.D.

MARATHON PETROLEUM IRELAND, LTD.

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS
NEW ORLEANS, LA.

APPROVED:
J. RAY McDERMOTT & CO., INC.
DATED 12/5/75

ENGINEERS APPROVAL	BY	DATE
PROJECT	AH	
STRUCTURAL	AH	
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB. CHECK		
PROD. CHECK		

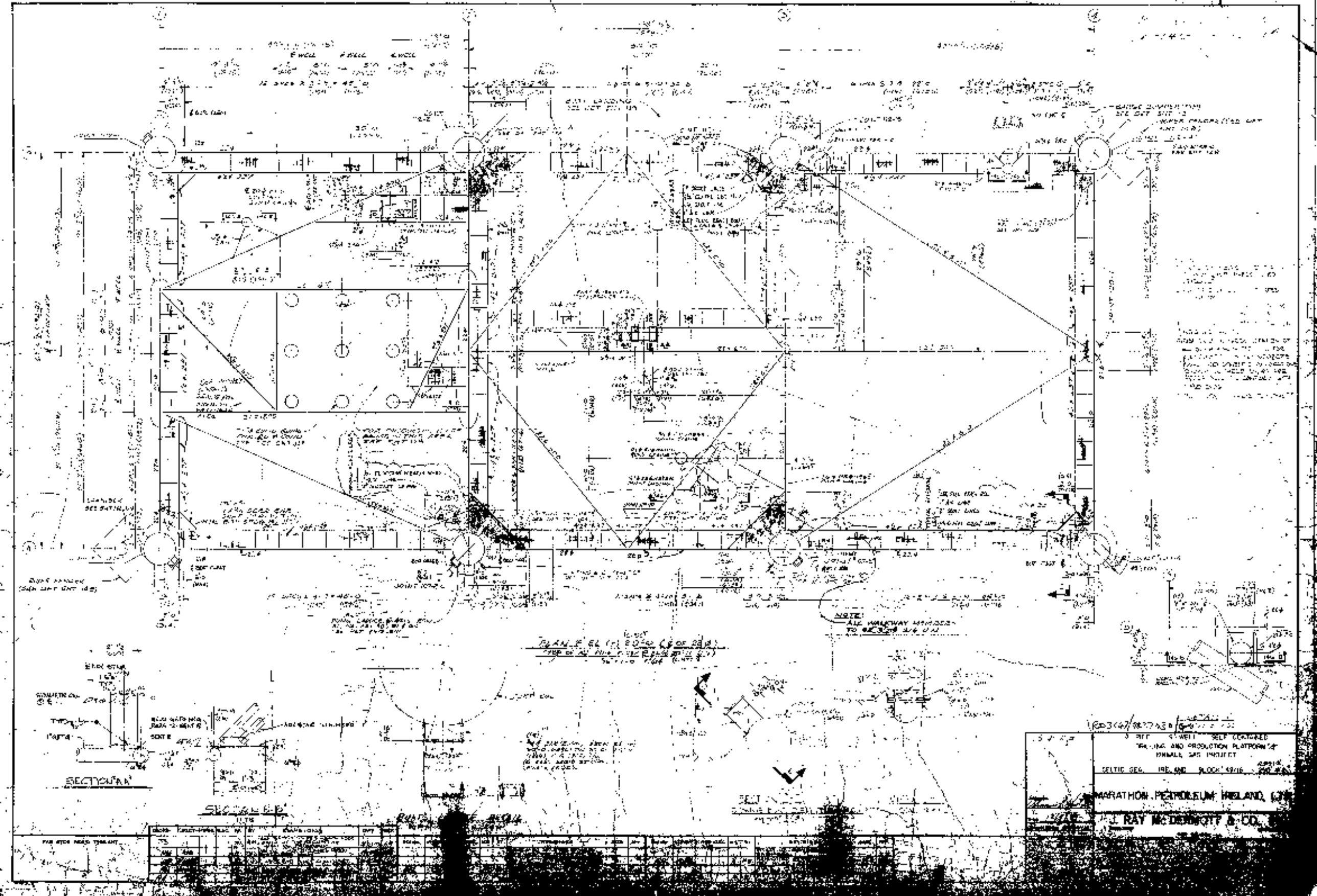
DRAWN BY	SCALE	DATE	DWG. NO.
L. PALMER	NOTED	[illegible]	MPI-6054
DESIGNED BY		ENGR'S JOB NO.	SHEET NO.
			106

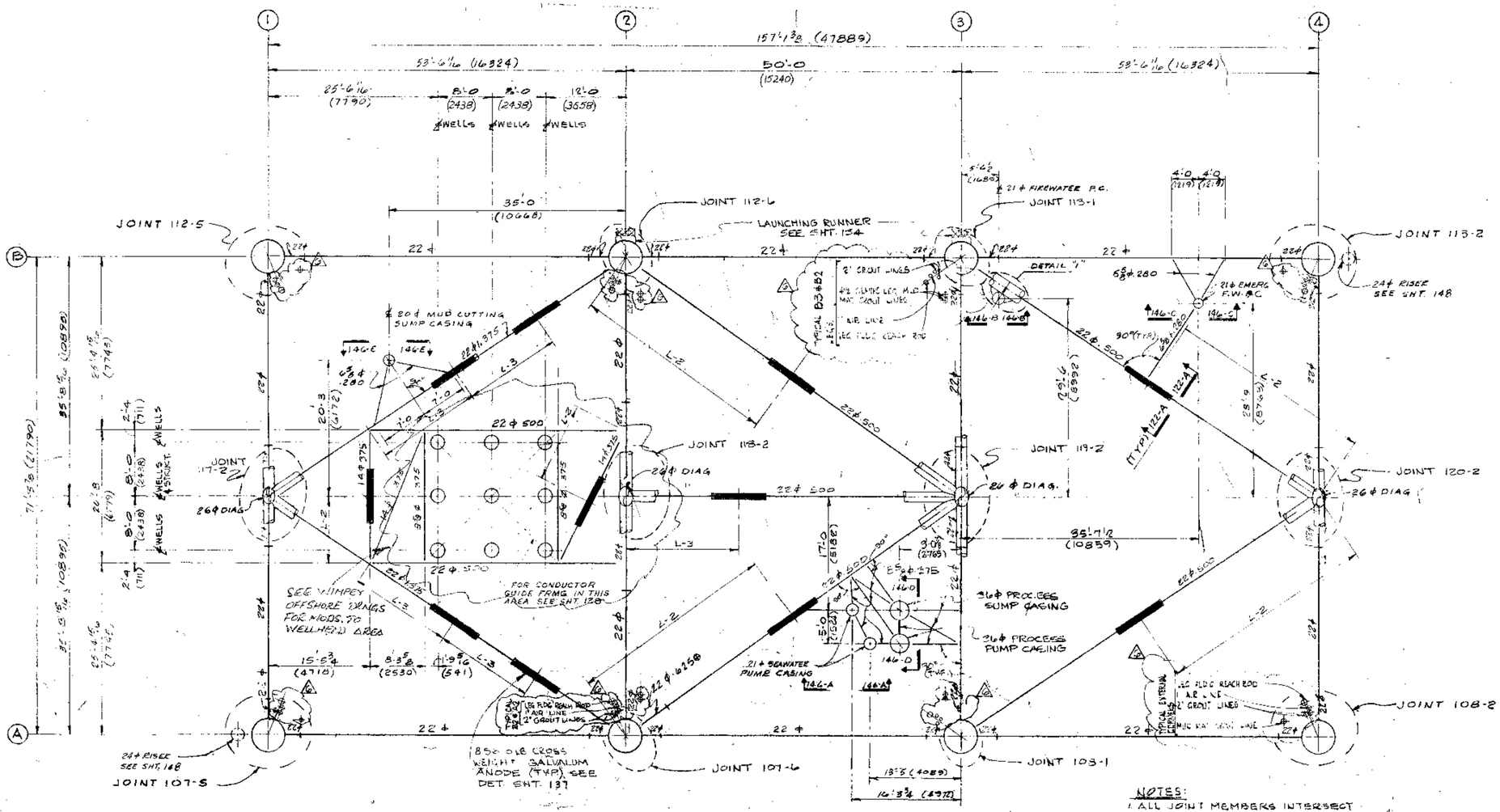
JACKET VERT. FRAMING @ ROW 4

FAB. STDS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
SS	R.B.			6	I.S.	REFERENCE DRAWINGS ADDED	15-2-77	
SS	R.B.			5	E.K.	WAVE STAFF PADEYE ADDED	21/01/77	AH
AH	E.R.			4	A.P.K.	[illegible]		
AH					JC	ADDED NOTE [illegible]		

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
AH				2		REVISED NOTES No 1 & 2 AND [illegible]	1-27-76	
						REV. MEM. SIZE @ EL (-) 200' [illegible]		
AH				1		ADDED KEY PLAN, REVISED W.P. ELEVATION FROM [illegible]		


SECTION A-A
SECTION B-B
SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM
KINSALE GAS PROJECT
MARATHON PETROLEUM IRELAND, LTD.
J. RAY McDERMOTT & CO.



PLAN

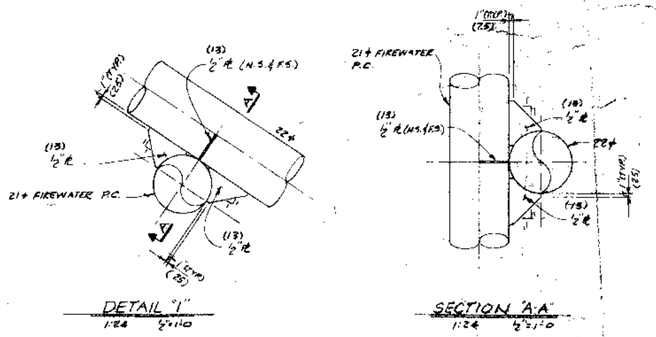
EL (+) 13'-9 ℄ ALL PIPE UN.

1" = 1'-0

1:96

NOTES:

1. ALL JOINT MEMBERS INTERSECT AT A COMMON ℄ W.P. UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTES ON SHT 101.
3. ALL ANODES THIS SHT ARE SUSPENDED ON U/S OF MEMBR
4. FABRICATOR TO CHECK LOCATION OF ALL SUMP & PUMP CASINGS FOR CLEARANCES WITH JKT MEMBERS, SMALL ADJUSTMENTS TO LOCATIONS SHOWN ON THESE DWGS. ARE ACCEPTABLE TO CONFORM WITH FIELD DIMS.



DETAIL "1"

1:24 1/2"=1'-0

SECTION "A-A"

1:24 1/2"=1'-0

RD3641 | 903702 | 1F

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM "A"
KINSALE GAS PROJECT
(89916)
CELTIC SEA, IRELAND BLOCK 49/16 295' W.D.

MARATHON PETROLEUM IRELAND, LTD.

J. RAY McDERMOTT & CO., INC.
CONTRACTOR
NEW ORLEANS, LA.

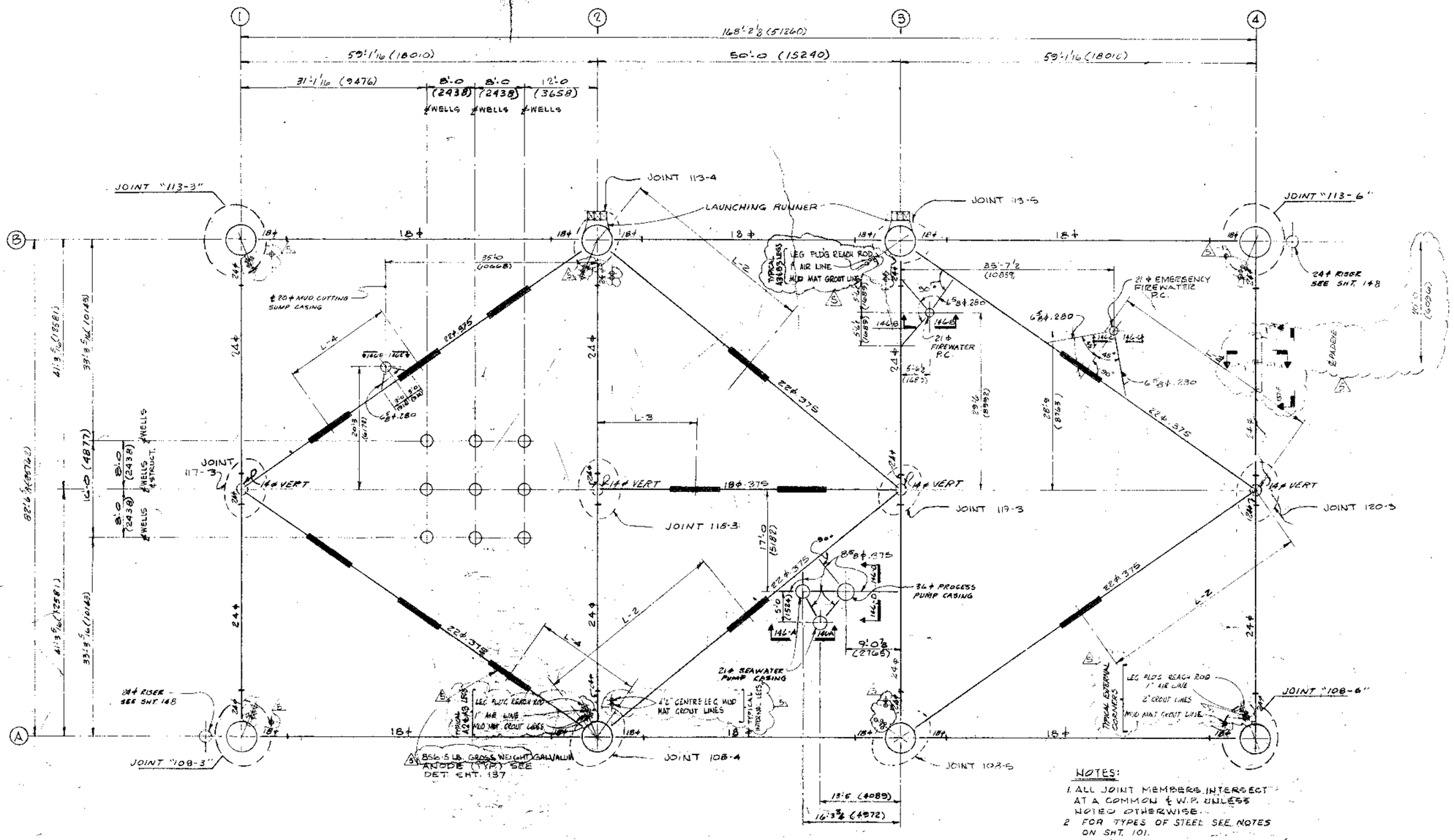
DATE 12/5/78
ENGINEERS APPROVAL

	BY	DATE
PROJECT	JH	12/5/78
STRUCTURAL	AGH	12/5/78
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
PIPING		

DRAWN BY JKT 11/15/78 | CHECKED AGH 12/5/78 | SCALE 1"=1'-0" | DWG. NO. 89916-122-A | REV. 2

FAB. STDS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
				2	AGH	ADDED DETAIL "1" AS DET 2 SHT 122-A NOTE NO 8	12/5/78	AGH
				1	AGH	ADDED SECTION "A-A"	11/15/78	AGH
				0		ISSUED DWGS	10/24/78	



PLAN

EL (-) 58'-0 ± ALL PIPE U.N.
(17678)
1/8" = 1'-0"
1:96

NOTES:

1. ALL JOINT MEMBERS INTERSECT AT A COMMON ℄ W.P. UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTES ON SHT. 101.
3. FABRICATOR TO CHECK LOCATION OF ALL SUMP & PUMP CASINGS FOR CLEARANCES WITH JNT. MEMBERS, SMALL ADJUSTMENTS TO LOCATIONS SHOWN ON THESE DWGS. ARE ACCEPTABLE TO CONFORM WITH FIELD DIMS.
4. ALL ANODES THIS SHEET ARE SUSPENDED ON UNDERSIDE OF MEMBERS

MARATHON DWG. NO. P-144- -

AS CONSTRUCTED

RD3647/9037032/G

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM A
KINSALE GAS PROJECT
CELTIC SEA, IRELAND BLOCK 49/16 295' W.D.

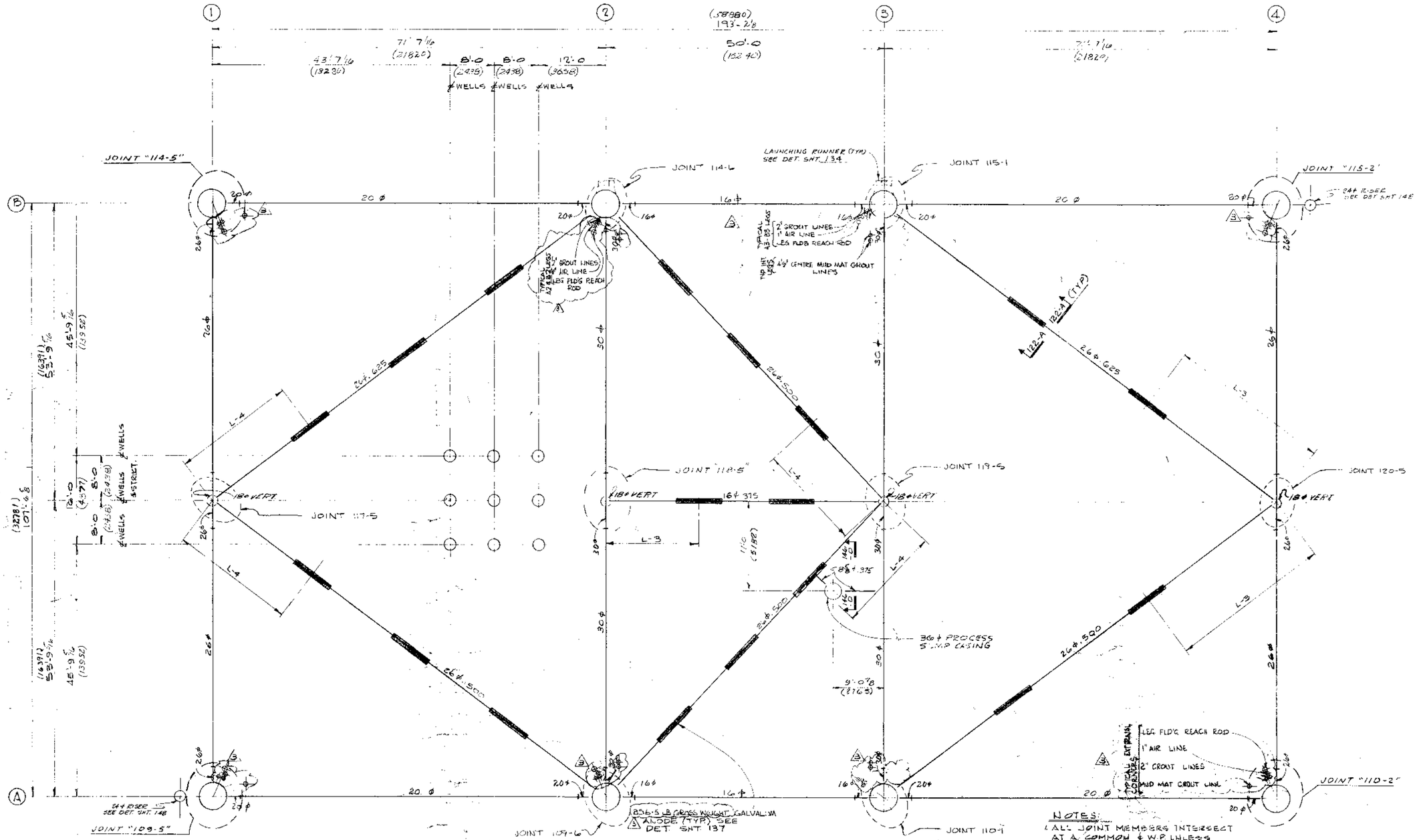
MARATHON PETROLEUM IRELAND, LTD.

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONSTRUCTORS

DRAWN BY [illegible] DATE 12/6/75
ENGINEERS APPROVAL [illegible]

FAB. STDS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
GS	GS			5	KWS	[illegible]	12/6/75	AH
AH				4	AH	[illegible]	4/23/74	[illegible]
AH				3	AH	[illegible]	2/28/74	[illegible]
AH	AH			2	AH	REVISED DIMS		
AH				1	AH	[illegible]		



PLAN

EL.(-)158'-0 ± ALL PIPE JN.

(48158) $\beta = 1.0$

1.96

NOTES:

1. ALL JOINT MEMBERS INTERSECT AT A COMMON ℄ W.P. UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTE 5 ON SHT. 101.
3. ALL ANODES THIS SHEET ARE SUSPENDED ON UNDERSIDE OF MEMBERS

AS CONSTRUCTED

MARATHON DRG. No. PA-1444-[illegible]

RD 3647/9037034/D

8-PILE 9-WELL SELF-CONTAINED DRILLING AND PRODUCTION PLATFORM "A" KINSALE GAS PROJECT

CELTIC SEA, IRELAND BLOCK 49/16 (6221(6)) 295 W.D.

MARATHON PETROLEUM IRELAND, LTD.

J. RAY McDERMOTT & CO., INC.

ENGINEERS

DATE 12/5/75

ENGINEERS APPROVAL

	BY	DATE
PROJECT	[illegible]	11/26/75
STRUCTURAL	[illegible]	11/26/75
PROCESS		
MECHANICAL		
ELECTRICAL		
PIPING		
PROJ. ENGR.	[illegible]	11-27-75
PROD. CHECK	[illegible]	11-27-75

DRAWN BY [illegible] SCALE 1" = 1'-0"

APPROVED BY [illegible] DATE [illegible]

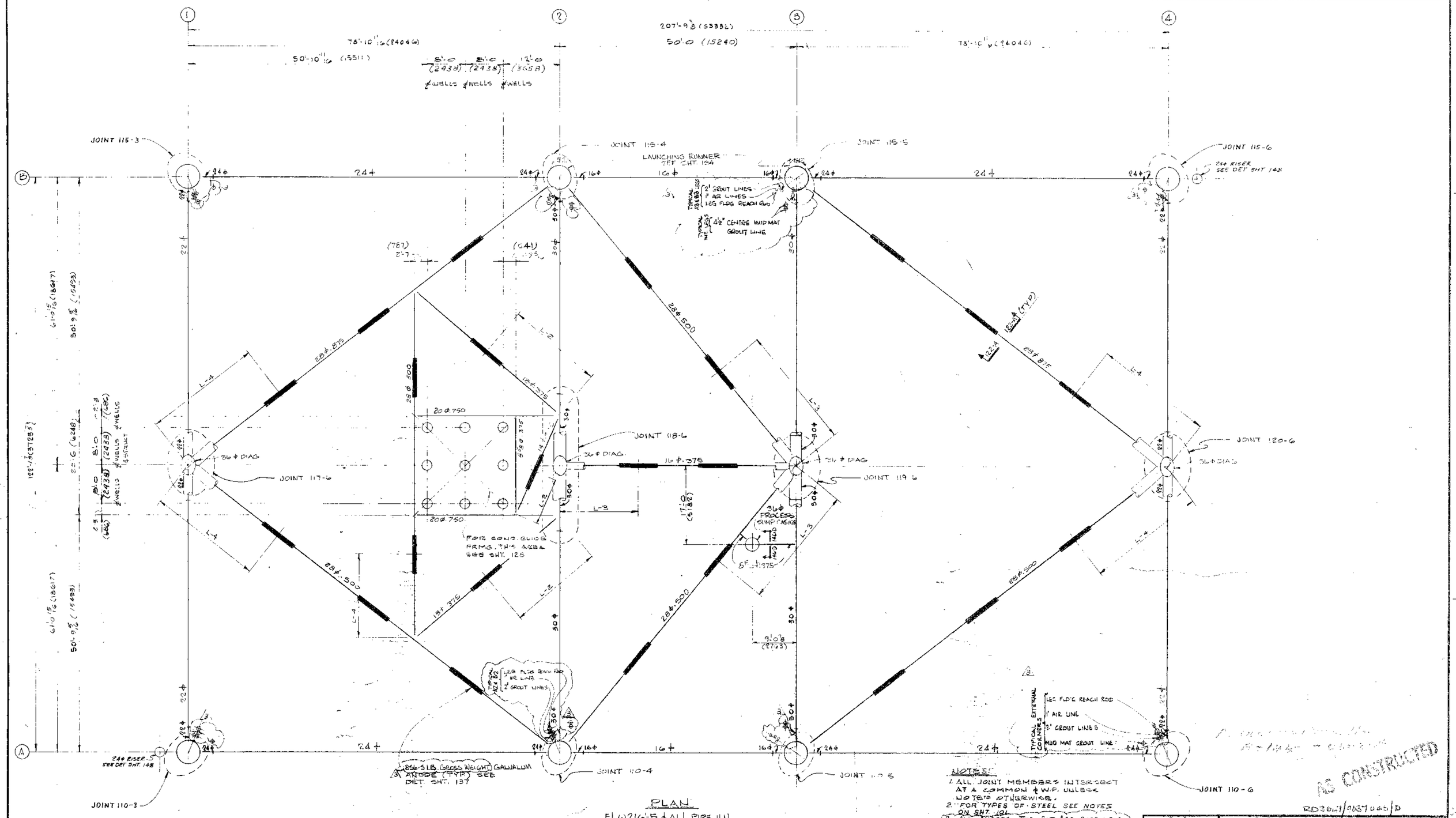
CHECKED BY JACK BJ DATE 12-5-75

FAB. STDS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
				4	MPH	REF CIRCUIT LINES & REACH RODS ADDED AT THE REQUEST OF [illegible]	12-4-75	AH
JS	[illegible]					ADDED 3 [illegible]		
AH	[illegible]			3	B	NEW LOCATION OF [illegible]	2-24-76	AH
AH	4/14			2	B	REVISED DIMENSIONS	4/11-5-76	AH



AS CONSTRUCTED

PLAN
EL(-)216'-5 ℄ ALL PIPE U.N.
(65964)
⅛" = 1'-0
1:96

NOTES:
1. ALL JOINT MEMBERS INTERSECT AT A COMMON ℄ W.P. UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTES ON SHT. 101
3. ALL ANODES THIS SHT. ARE SUSPENDED ON UNDERSIDE OF MEMBERS

RD36?1/9067045/D

8-PILE 9-WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM A
KINSALE GAS PROJECT

CELTIC SEA, IRELAND BLOCK 49/16 295' W.D.

MARATHON PETROLEUM IRELAND, LTD.

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS
NEW ORLEANS, LA.

APPROVED:
DATE: 12/5/75

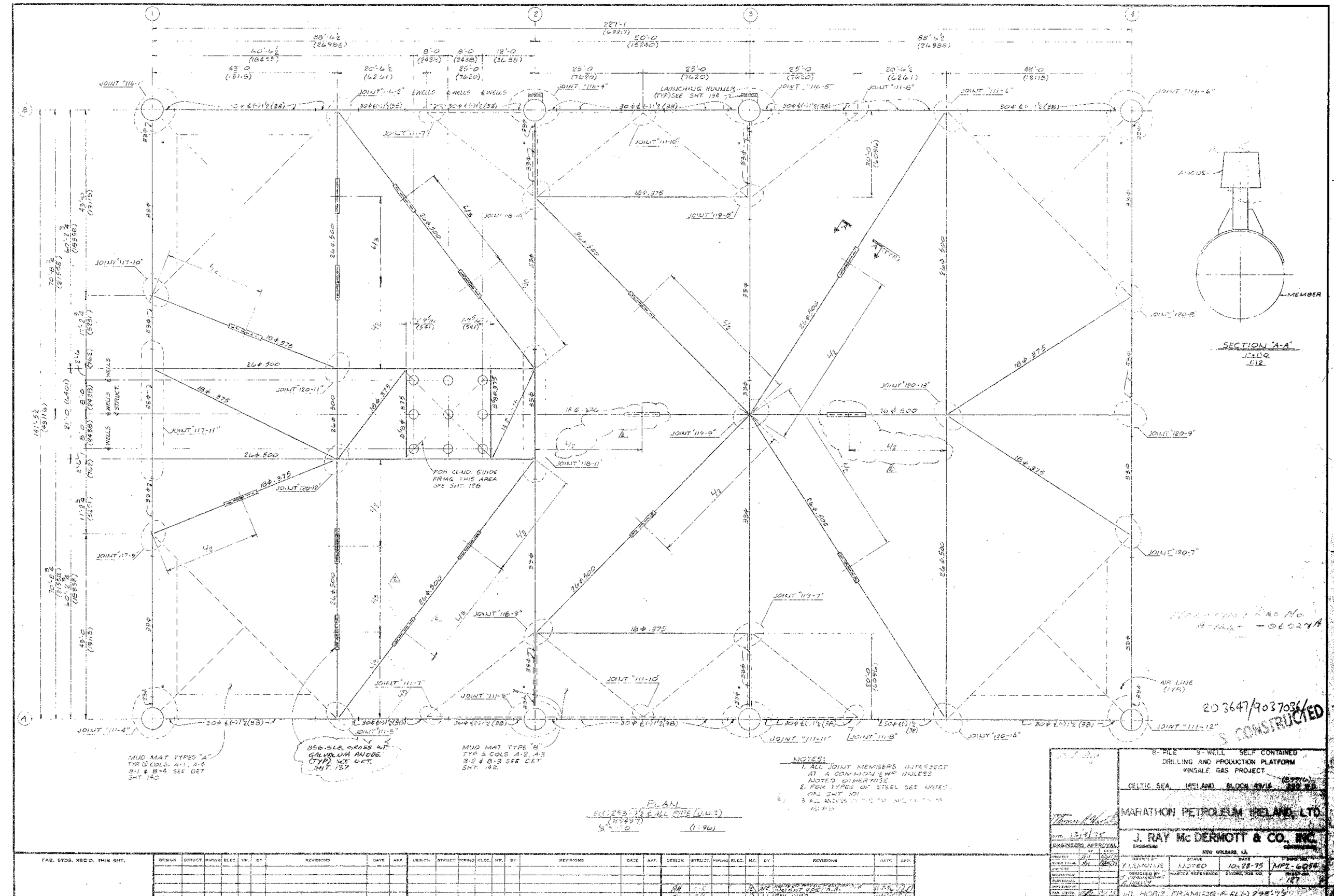
ENGINEERING APPROVAL	BY	DATE
PROJECT	AH	[illegible]
STRUCTURAL	AH	[illegible]
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB. CHECK	[illegible]	[illegible]
PROD. CHECK	[illegible]	[illegible]

DRAWN BY	SCALE	DATE	DWG. NO.
WILSON	AS NOTED	7-[illegible]-75	[illegible]
DESIGNED BY			

JACKET [illegible]

FAB. STDS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
SS				3	AH	REF. GROUT LINES & REACH RODS ADDED AT THE REQUEST OF MARATHON PETROLEUM. NOTE 3 ADDED. [illegible]	[illegible]	AH
AH					B	[illegible]	2-24-76	
AH					B	REVISED DIMENSIONS	12/?/75	



PLAN
EL(-)293'-7½ ¢ ALL PIPE (U.N.O.)
(89497)
⅛"=1'-0 (1:96)

NOTES:
1. ALL JOINT MEMBERS INTERSECT AT A COMMON ¢WP UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTES ON SHT 101.
3. ALL ANODES [illegible]

203647/9037036/
AS CONSTRUCTED

8-PILE 9-WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM
KINSALE GAS PROJECT
CELTIC SEA IRELAND BLOCK 49/16 (87.7m) 288 W.D.

MARATHON PETROLEUM IRELAND, LTD.

J. RAY McDERMOTT & CO., INC.
NEW ORLEANS, LA.

APPROVED
DATE: 12/19/75

ENGINEERS APPROVAL

	BY	DATE
PROJECT		
STRUCTURAL		
PIPING		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB. CHECK		
PROJ. CHECK		

DRAWN BY	SCALE	DATE	DWG. NO.
Y. LEMOYNE	NOTED	10-23-75	MPI-6014
DESIGNED BY	MASTER REFERENCE	ENGRG. JOB NO.	SHEET NO.
			127

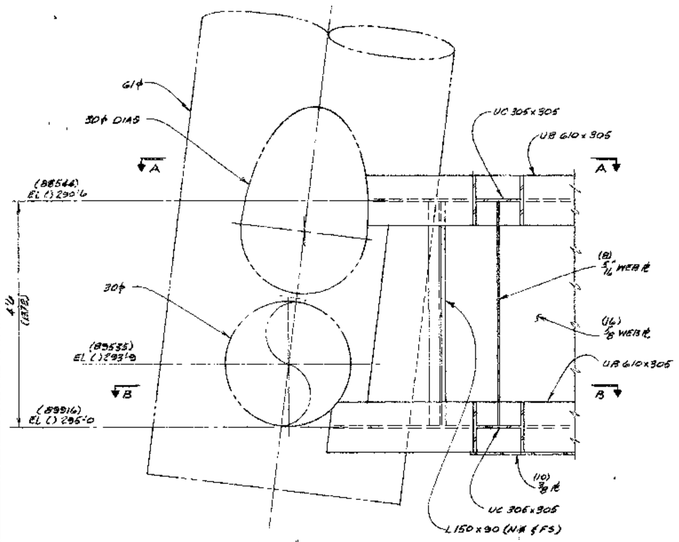
JAL. HORIZ. FRAMING @ EL(-)293'-7½

FAB. STDS. REQ'D. THIS SHT.

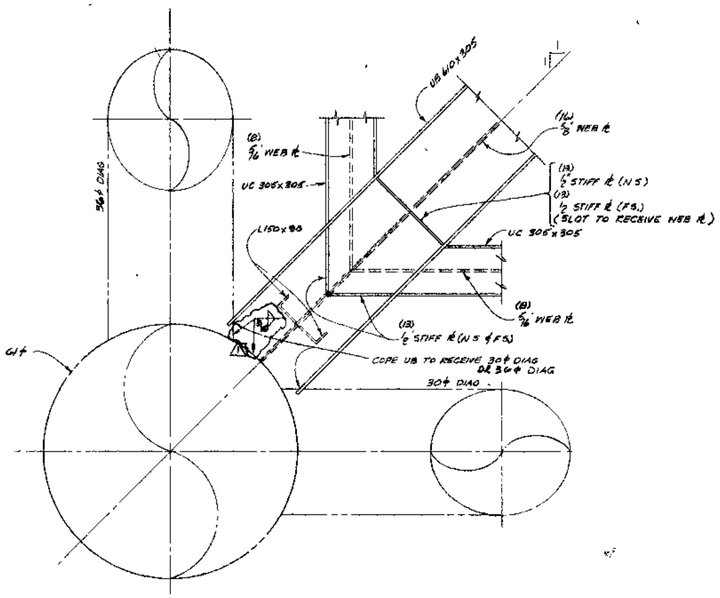
DESIGN	STRUCT	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

DESIGN	STRUCT	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

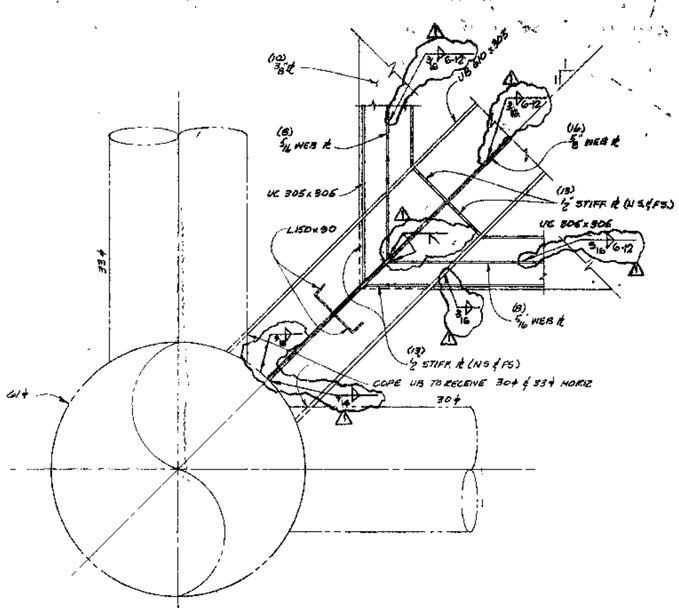
DESIGN	STRUCT	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
BH						AS CONSTRUCTED [illegible]		
BH						J.L. REV. DIMS		



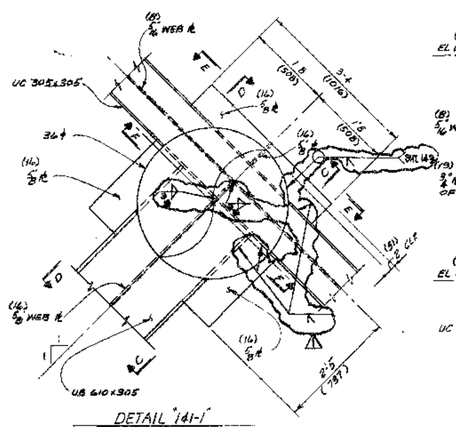
SECTION "141-A"
REF. SHT 140 3/4"=1'0 (1:16)



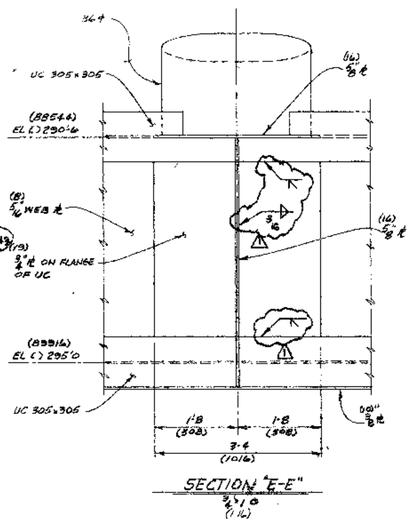
SECTION "A-A"
3/4"=1'0 (1:16)



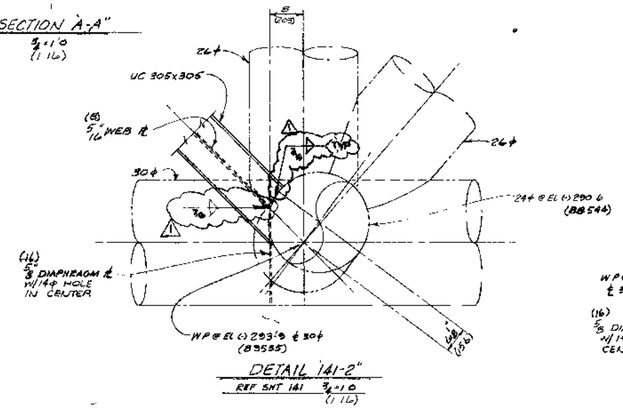
SECTION "B-B"
3/4"=1'0 (1:16)



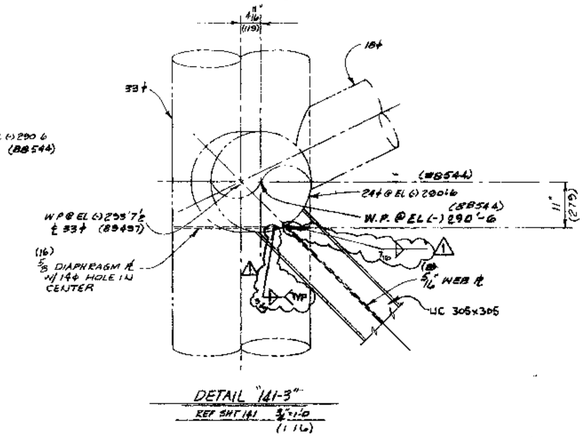
DETAIL "141-1"
REF SHT 140 3/4"=1'0 (1:16)



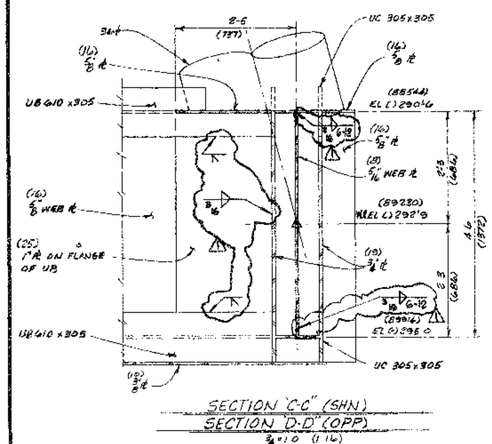
SECTION "E-E"
3/4"=1'0 (1:16)



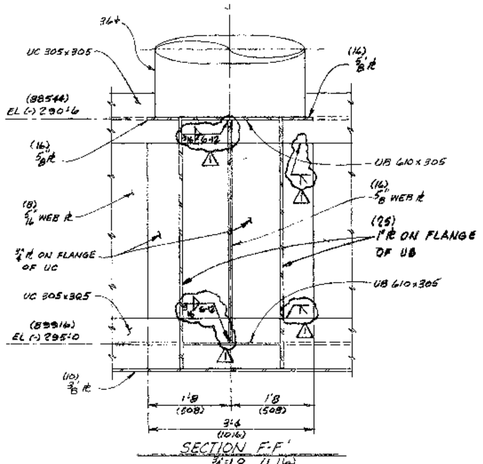
DETAIL "141-2"
REF SHT 141 3/4"=1'0 (1:16)



DETAIL "141-3"
REF SHT 141 3/4"=1'0 (1:16)



SECTION 'C-C' (SHN)
SECTION D-D' (OPP)
3/4"=1'0 (1:16)



SECTION F-F
3/4"=1'0 (1:16)

MARATHON DRG. No
A-144- -06041-A

RD 3647/90370505
AS CONSTRUCTED

J. RAY Mc DERMOTT & CO., INC.
ENGINEERS
NEW ORLEANS, LA.

ENGINEERS APPROVAL
DATE 12/8/75

	BY	DATE
PROJECT	AH	12/8/75
STRUCTURAL	AH	12/8/75
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB CHECK	AH	12/21/75
PROF CHECK	AH	12-1-75

DRAWN BY BREAUX | SCALE NOTED | DATE 10-18-75 | APPROVED

DESIGNED BY L. ARCO | MASTER REFERENCE | JOB NO | SHEET NO

MUD MAT TYPE 'A' (SHT. 8 OF 8)

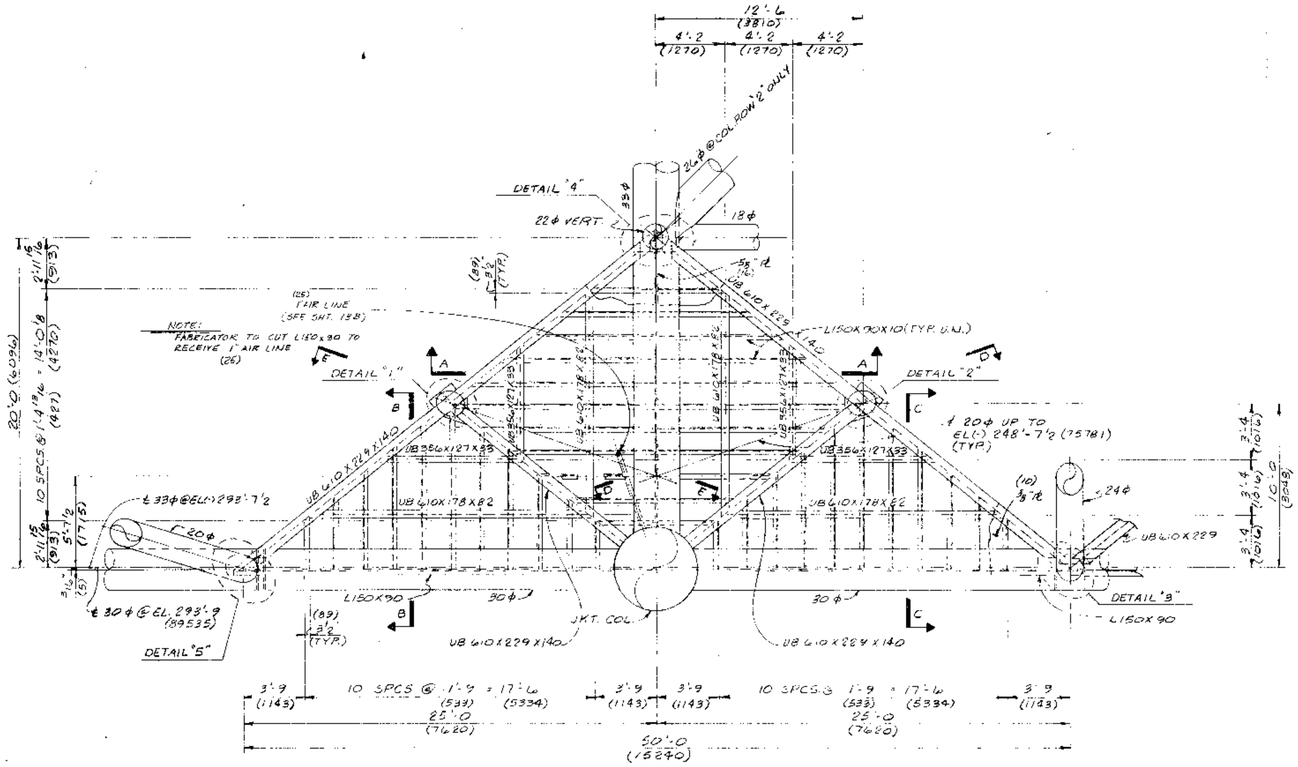
FAB STDS REQ'D THIS SHT

DESIGN	STRUCT	PIPING	ELEC	MK	BY	REVISIONS	DATE	APP

DESIGN	STRUCT	PIPING	ELEC	MK	BY	REVISIONS	DATE	APP

DESIGN	STRUCT	PIPING	ELEC	MK	BY	REVISIONS	DATE	APP
AH	PLB			1	KNS	WELDS ADDED	9-10-76	120

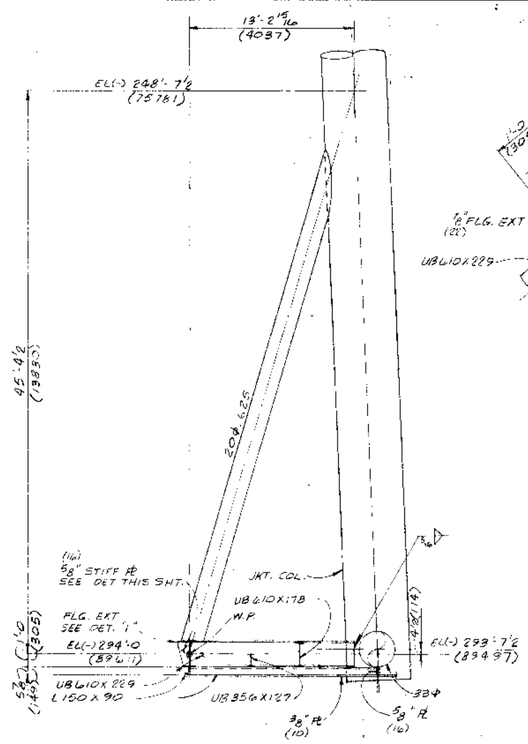
183



PLAN

REF SHT. 127 4 REQ'D

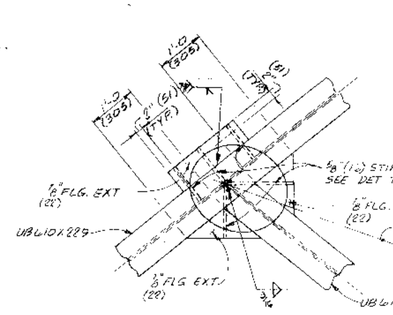
¼"=1'-0 (1:48)



SECTION "D-D" (SHN)

SECTION "E-E" (OPP)

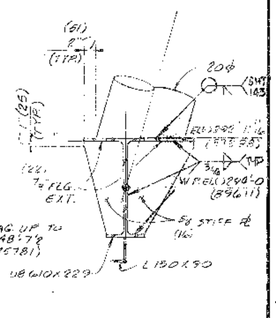
¾"=1'-0 (1:16)



DETAIL "1" (SHN)

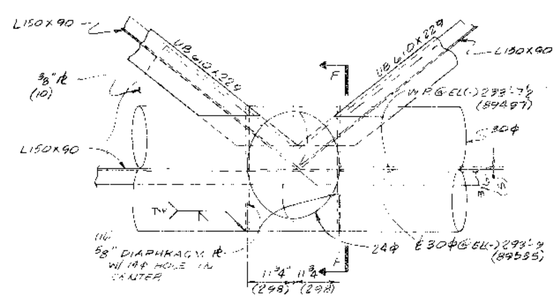
DETAIL "2" (OPP)

¾"=1'-0 (1:16)



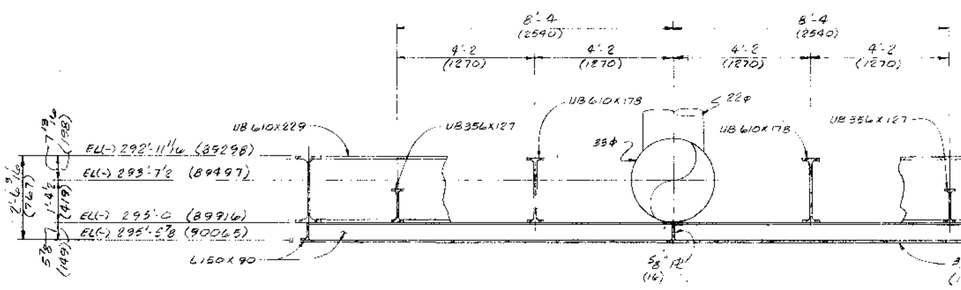
STIFFENER ℄ DETAIL

¾"=1'-0 (1:16)



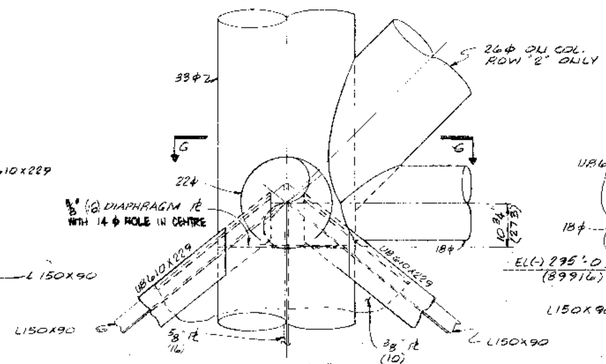
DETAIL "3"

¾"=1'-0 (1:16)



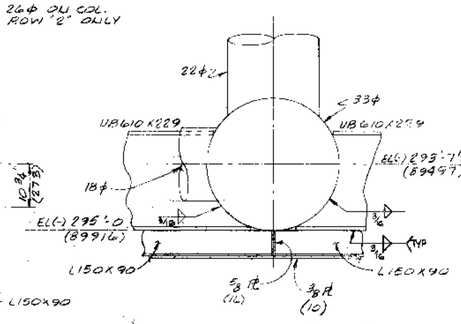
SECTION "A-A"

½"=1'-0 (1:24)



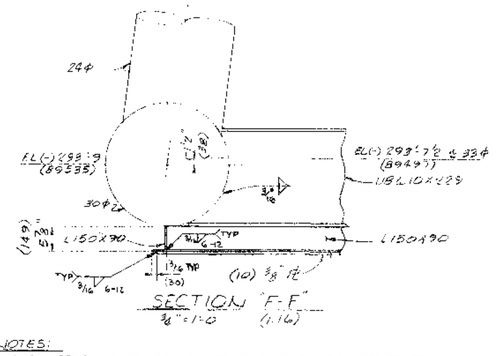
DETAIL "4"

¾"=1'-0 (1:16)



SECTION "G-G"

¾"=1'-0 (1:16)

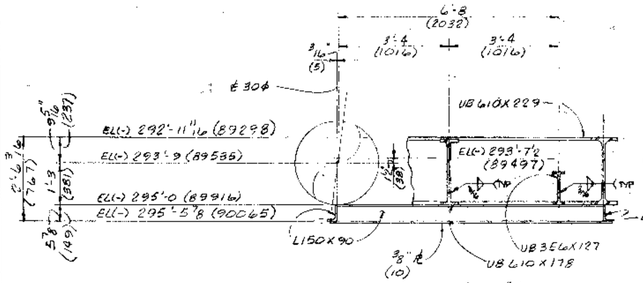


SECTION "F-F"

¾"=1'-0 (1:16)

NOTES:

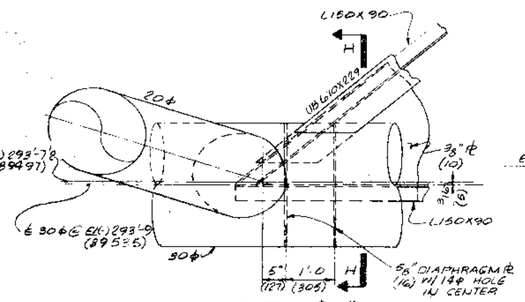
1. ALL STEEL DETAILED ON THIS DWG TO BE TYPE III STEEL AS PER SPEC.
2. TO PROVIDE BALLAST TO COUNTERACT OVERTURNING OF THE STRUCTURE DURING THE PERIOD OF INSERT PILE INSTALLATION, GROUT WILL BE DEPOSITED OVER THE PLAN AREA OF THE MUD MATS. CALCULATIONS INDICATE THAT A DOWNWARD LOAD OF 70 P.S.F. IS REQUIRED OVER MUD MAT TYPE "B". THIS LOAD WILL BE ACHIEVED BY DEPOSITING A 1.60 (3015) LAYER OF GROUT IN THE BOTTOM OF THE MUD MATS. THE STRUCTURE HAS BEEN DESIGNED TO SUPPORT THIS LOAD PERMANENTLY. PHYSICAL CHARACTERISTICS AND PROCEDURE FOR PLACING THIS GROUT SHALL BE SUBMITTED BY THE INSTALLATION CONTRACTOR FOR PRIOR APPROVAL BY OWNER.



SECTION "B-B" (SHN)

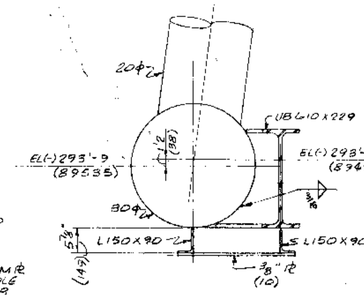
SECTION "C-C" (OPP)

½"=1'-0 (1:24)



DETAIL "5"

¾"=1'-0 (1:16)



SECTION "H-H"

¾"=1'-0 (1:16)

RD 3647/9037051 D

FAB. STDS. REQ'D. THIS SHT.	DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
	JS	RB			Δ	I.S	NOTE 2 INSTALLATION CLARIFIED OR	15-2-76	RJ
	AH	B.B.			2	K.W.S.	NOTE 2 REVISED, HOLES ADDED	3-16-76	AH
	AH	[illegible]			1	Y.L.	REVISED NOTE NO 1	1-27-76	P.M.

8- PILE 9- WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM "A"

KINSALE GAS PROJECT

CELTIC SEA - IRELAND - BLOCK 49/19 (89316) THIS WD

MARATHON PETROLEUM IRELAND, LTD.

J. RAY Mc DERMOTT & CO., INC.

ENGINEERS NEW ORLEANS, LA. CONTRACTORS

APPROVED: [signature] J. RAY Mc DERMOTT & CO., INC. DATE: 12/5/75

ENGINEERS APPROVAL

	BY	DATE
PROJECT	AH	11/26/75
STRUCTURAL	AH	12/5/75
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUM ENT.		
FAB. CHECK	DJW	11-21-75
PROJ. CHECK	[illegible]	11-21-75

DRAWN BY	SCALE	DATE	DWG. NO.
Y. LEMOINE	NOTED	10-28-75	MPI - L064
DESIGNED BY L. ABBE P. HANLEY	MASTER REFERENCE	JOB NO.	SHEET NO. 148

MUD MAT TYPE "B"

A

243

JOINT "108-6"

PILE SPACERS TYPE "A" (TYP.) AT
EL(-) 139'9 (4191)
EL(-) 158'0 (17678)
EL(-) 101'5 (30912)
EL(-) 188'0 (48158)
EL(-) 217'38 (66240)
SEE DET. SHT 137

JOINT "109-4"

JOINT "110-2"

JOINT "110-6"

MUDLINE EL(-) 297'0 (90526)

JOINT "111-12"

JOINT "120-14"

JOINT "109-3"

JOINT "110-1"

JOINT "110-5"

JOINT "111-9"

JOINT "111-11"

JOINT "109-4"

JOINT "109-2"

JOINT "109-6"

JOINT "110-4"

JOINT "111-1"

JOINT "111-7"

JOINT "111-5"

JOINT "109-5"

JOINT "109-1"

JOINT "110-3"

JOINT "111-10"

JOINT "111-4"

GALVALUM ANODE (TYP.) SEE DET SHT. 137

LIFTING STUBS SEE DETAIL SHT 103

RING STIFF #2 (TYP) SEE SHT 103.

PILE SPACERS TYPE "B" @ EL(-) 295'0 (89916) SEE SHT. 137

BOTTOM CLOSURE #2 SEE SHT 138

EL(-) 158'0 (48158)

EL(-) 101'5 (30912)

EL(-) 217'38 (66240)

EL(-) 295'9 (90145)

BOTT. OF SHT. EL(-) 298'3 (90907)

(13467) 44'-1"

(17247) 56'-7"

(30091) 98'-8.5"

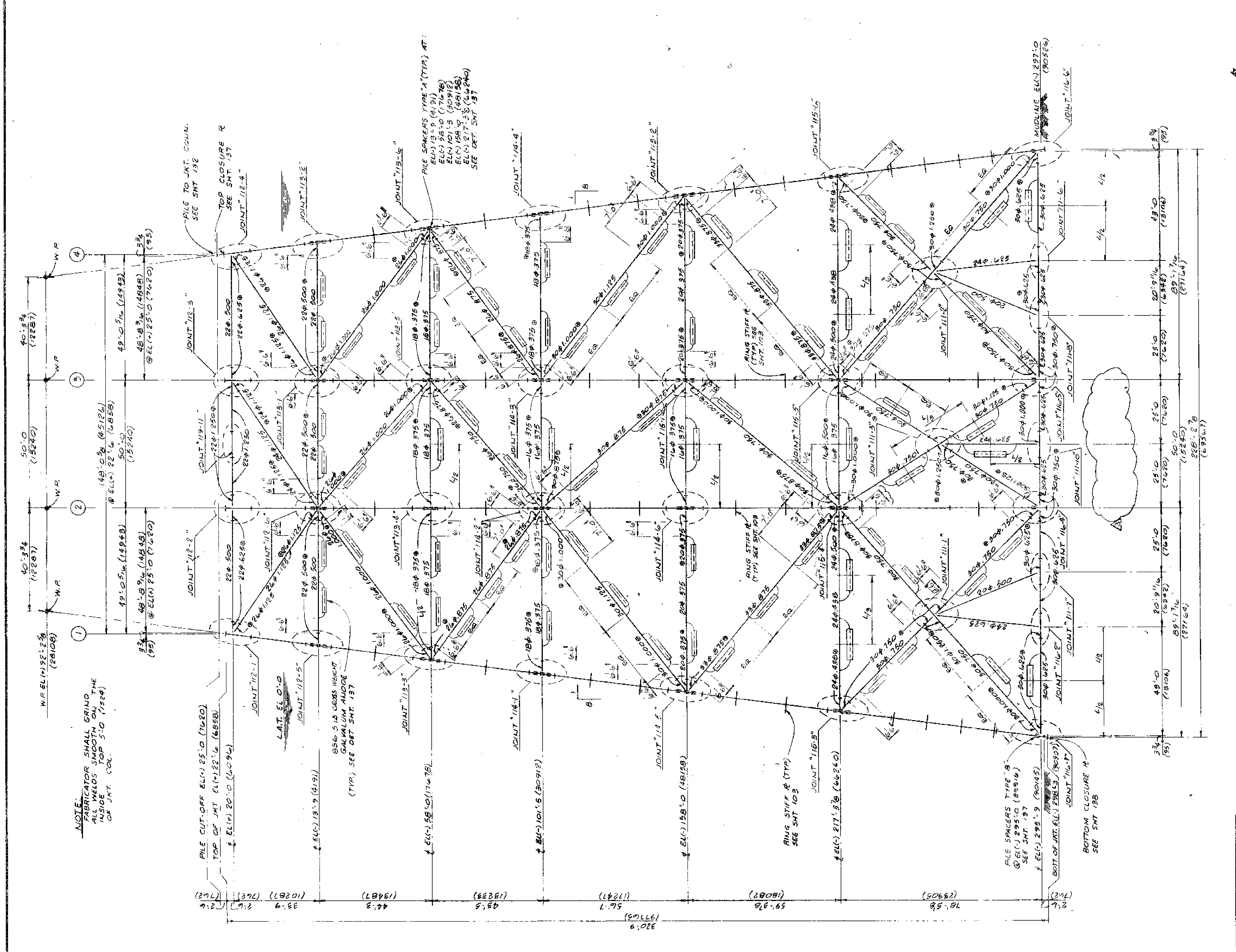
(22962) 75'-5.5"

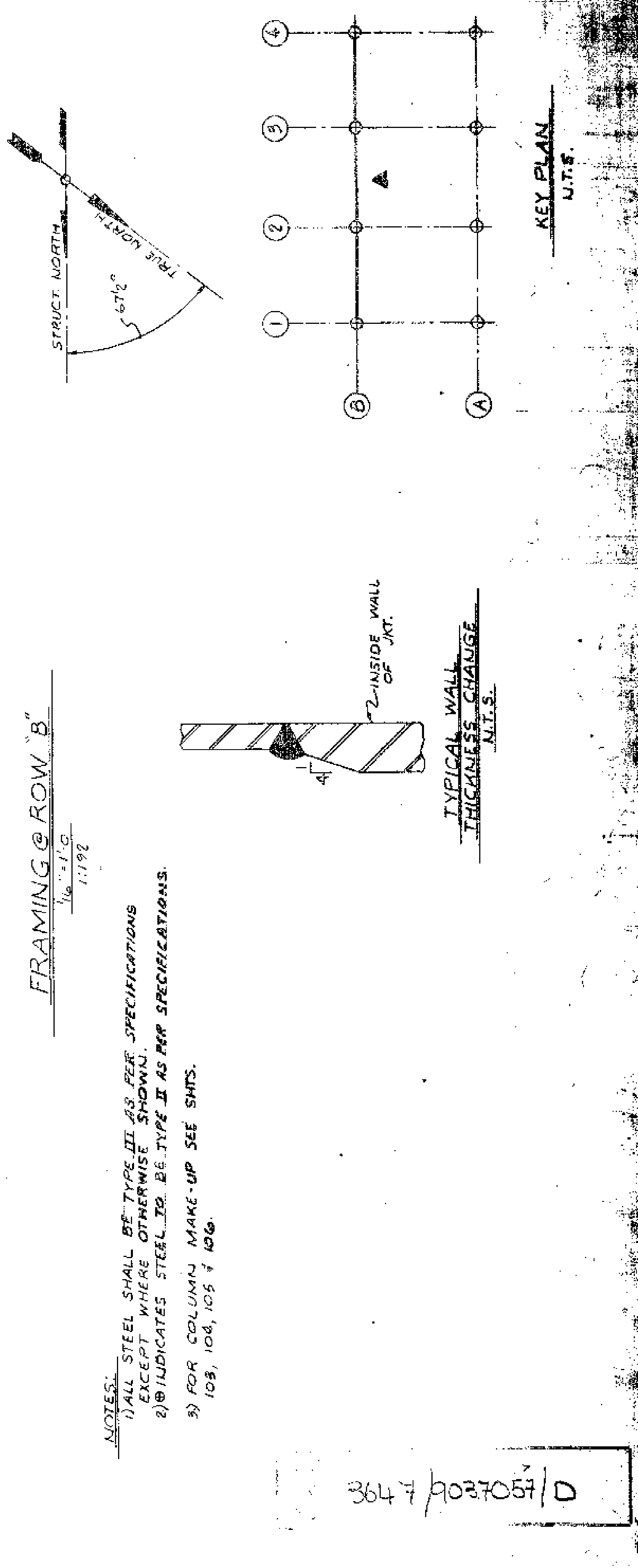
(9776) 32'-0.5"

(2296) 7'-6"

DATE	DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE

DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE
					4	D.W.	20-9-75	INCREASE AS BUILT CO-ORDINATES *		
					3	J.A.G.	24-11-76	REVISION DUE * NOTE 1 DELETED.	AO	1-12-77
					2	I.S.	11-9-76	SEAM LENGTHS *	BH	2-17-77
					1	D.B.	9-25-76	ADDED 5 MM GROUT	AO	4-1-77





NOTE: FABRICATOR SHALL GRIND ALL WELDS SMOOTH ON THE INSIDE TOP 5'-0 (1524) OF JKT. COL.

NOTES:
1) ALL STEEL SHALL BE TYPE II AS PER SPECIFICATIONS EXCEPT WHERE OTHERWISE SHOWN.
2) ⊗ INDICATES STEEL TO BE TYPE II AS PER SPECIFICATIONS.
3) FOR COLUMN MAKE-UP SEE SHTS. 103, 104, 105 & 106.

3647/9037057/D

DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE
AH				BB	3	JAG	24-11-76	GROUTING NOTE DELETED	AH	26-11-76
AH				BL	2	IS	11-9-76	30" φ TUBE PILES WITH GROUT REF SHT. 101 NOTE 4 ADD	BH	9-17
AH				E R	1	DB	[illegible]	[illegible]	LO	12-22

8-PILE 9-WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM "B"
KINSALE GAS PROJECT
CELTIC SEA, IRELAND BLOCK 48/20 (9052A) 297

MARATHON PETROLEUM IRELAND, LTD

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

APPROVED: Thomas
McDERMOTT-HUDSON ENGINEERING
DATE: 2/9/76

ENGINEERS APPROVAL	BY	DATE
PROJECT	AH	
STRUCTURAL	AH	
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB. CHECK	DB	2-9-76
PROD. CHECK		

DRAWN BY	DATE	SCALE	MASTER REFERENCE
Y LEMOINE	12-29-75	NOTED	
CHECKED BY	DATE	DESIGNED BY	
	2-7-76	A. HALLEY	

SHEET TITLE
JACKET VERTICAL FRAMING @ ROW "B"

NOTES

1.- ALL STEEL SHALL BE TYPE III AS PER SPECIFICATIONS EXCEPT WHERE OTHERWISE SHOWN

2.- ⊗ INDICATES STEEL TO BE TYPE II AS PER SPECIFICATION

3.- JACKET LEG INTERNAL DIAMETER BETWEEN OPPOSITE SHIM PLATES AT EA. LEG JOINT SHALL BE CHECKED AFTER ALL WELDING OF SHIM PLATES AND BR... HAS BEEN COMPLETED, AND AGAIN IMMEDIATELY AFTER LOADOUT ON LEGS USED FOR SUPPORT DURING LOADING, TO ENSURE THAT THE LEGS ARE STRAIGHT AND THE INTERNAL DIAMETERS ARE NOT EXCESSIVELY EGGED, OR DO NOT IN ANY OTHER WAY PRESENT A HINDRANCE TO THE INSTALLATION OF PILES.

RING STIFF. Ø SCHEDULE

LEG	Nº REQ'D	LEG	Nº REQ'D
A-1	10	A-3	9
B-1	10	B-3	7
A-2	9	A-4	10
B-2	7	B-4	10
TOTAL RING STIFF. Ø = 72			

REFERENCE DRAWINGS
JACKET MEMBER FLOODING SYSTEM (SHT 1 OF 2)

RD3647/9037058 E

8-PILE 9-WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM "B"
KINSALE GAS PROJECT

CELTIC SEA, IRELAND. BLOCK 48/2A

MARATHON PETROLEUM IRELAND, LTD

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

A P Lgh

APPROVED: Thomas K. Wek...
McDERMOTT-HUDSON ENGINEERING
DATE: 2/9/76

ENGINEERS APPROVAL	BY	DATE
PROJECT	AH	2/9/76
STRUCTURAL	AH	2/9/76
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB. CHECK	[illegible]	2-9-76
PROP. CHECK		

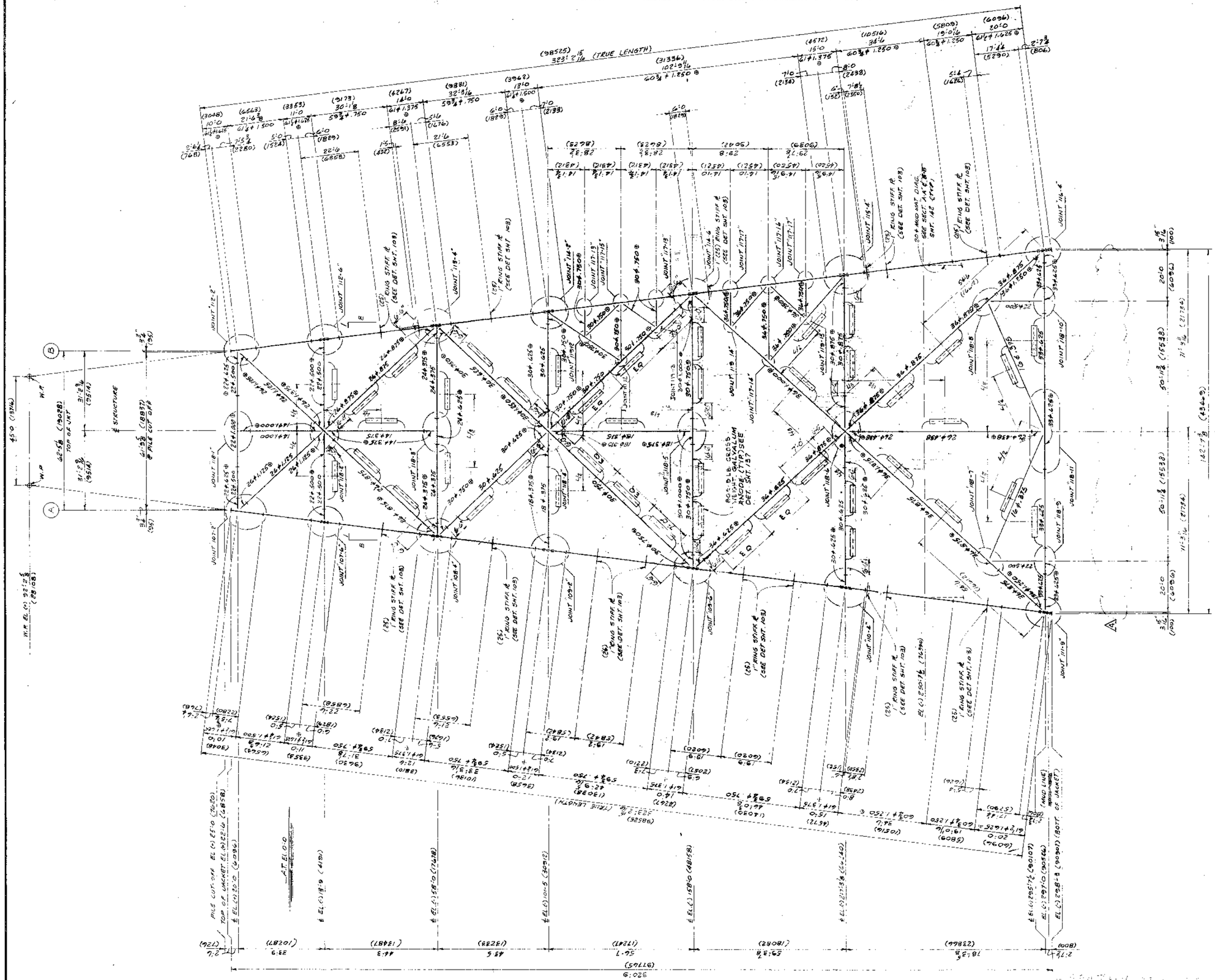
DRAWN BY	DATE	SCALE	MASTER REFERENCE
Y. LEMOINE	1-6-76	NOTED	
CHECKED BY	DATE	DESIGNED BY	
[illegible]	2-9-76	A HALLEY	

SHEET TITLE
JACKET VERTICAL FRAMING @ ROW ...

DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE
SS				RB	4	I.S	4-2-77	REF DRAWINGS ADDED	[illegible]	4-2-77
SS				BB	3	JAG	25.11.76	BENT UPENDING STUB ADDED	[illegible]	1-12-76
AH				ER	2	A.P.H	[illegible]	[illegible] REVISED AS SHOWN	[illegible]	[illegible]
AH				[illegible]	1	M.B	3-30-76	ADDED NOTE N-3	[illegible]	[illegible]

DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE

DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE



DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE

DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE

DESIGN	ELEC.	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE
AH				BB	4	JAG	24-11-76	GROUTING NOTE DELETED.	AH	4-11-76
AH				KR	3	EIS	11-9-76	[illegible]	BH	9-17-76
AH				G.R	2	APH	[illegible]	[illegible]	LAO	9-7-76
AH				JB	1	MB	3-31-76	KEY NOTE N° 3	BMC	4-21-76

J. J. Light
APPROVED
CHIEF, ENGINEERING DIVISION ENGINEERING
DATE 2/9/76

ENGINEERS APPROVAL

	BY	DATE
PROJECT	RH	2/9/76
STRUCTURAL	RH	2/9/76
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
PUB. CHECK	JB	2-9-76
PROD. CHECK		

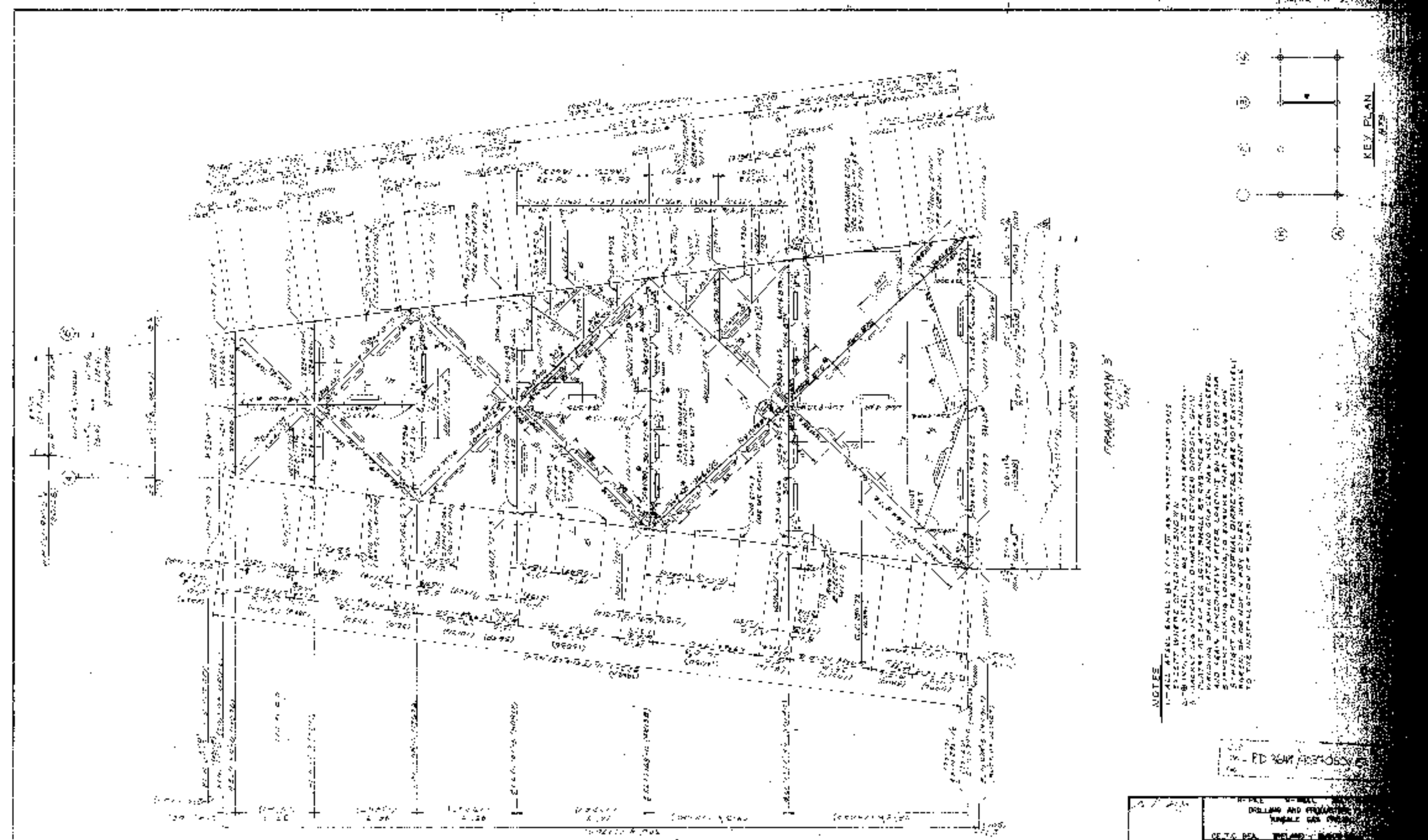
8- PILE 9- WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM "E"
KINSALE GAS PROJECT
CELTIC SEA [illegible] BLOCK 61/19 232/19

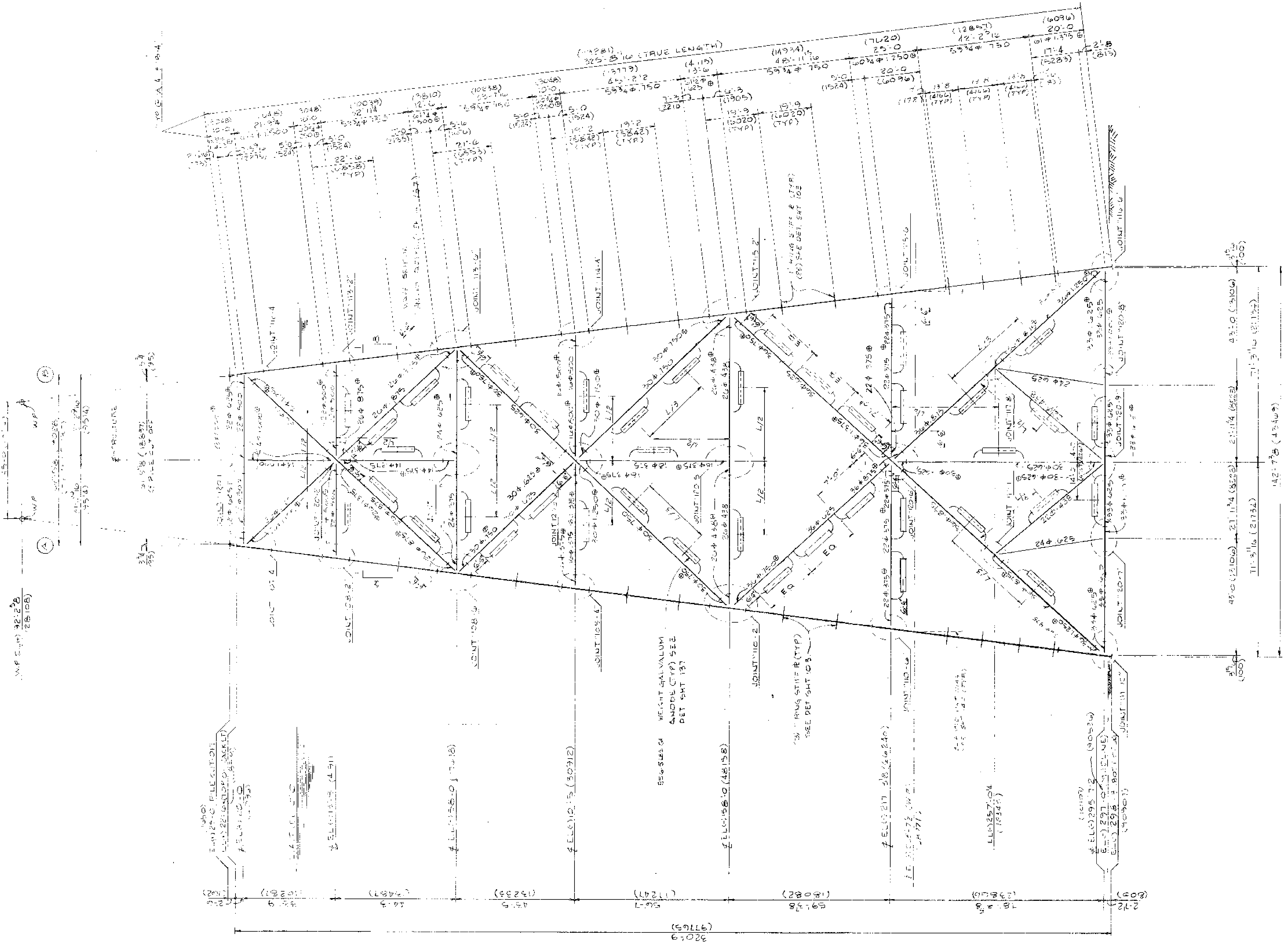
MARATHON PETROLEUM IRELAND LTD.

McDERMOTT MARINE CONSTRUCTION
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

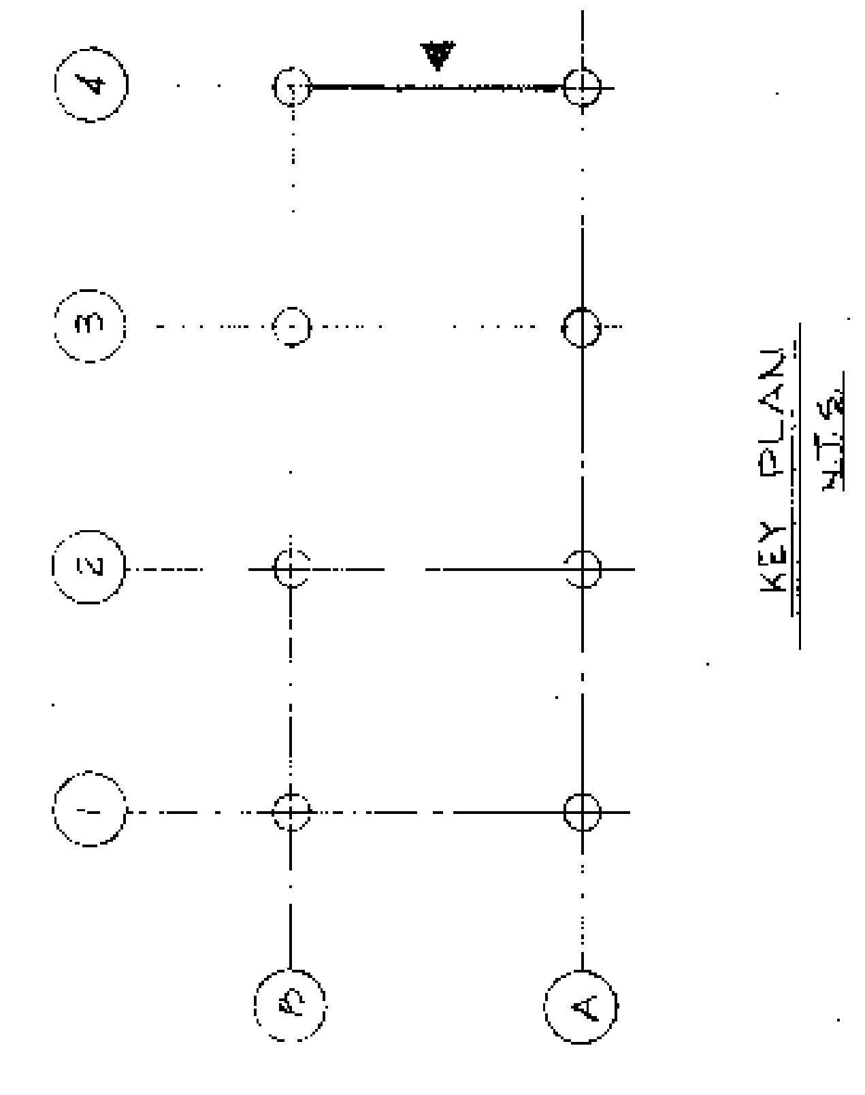
DRAWN BY	DATE	SCALE	MASTER REFERENCE	DWG. NO.
BREAUX	12-22-75	NOTED		MMI-8-W-2
CHECKED BY	DATE	DESIGNED BY		REV. NO.
	2-9-76	A HALEY		1

SHEET TITLE
JACKET VERTICAL FRAMING @ ROW 'E'


KEY PLAN
NOTES
FRAME STATION 3'



FRAMING @ ROW 4
1/16" = 1'-0"
1:192



NOTES:
1. ALL STEEL SHALL BE TYPE III AS PER SPECIFICATIONS EXCEPT WHERE THICKNESS SHOWN
2. ⊕ INDICATES STEEL TO BE TYPE II AS PER SPECIFICATIONS
3. JACKET LEG INTERNAL DIAMETER BETWEEN OPPOSITE SHIM PLATES AT EACH LEG JOINT SHALL BE CHECKED AFTER ALL WELDING OF SHIM PLATES AND BRACES HAS BEEN COMPLETED AND AGAIN IMMEDIATELY AFTER LOADOUT ON VESSEL USED FOR SUPPORT DURING LOADING, TO ENSURE THAT THE LEGS ARE STRAIGHT AND THE INTERNAL DIAMETERS ARE NOT EXCESSIVELY EGGED, OR DO NOT IN ANY OTHER WAY PRESENT A HINDRANCE TO THE INSTALLATION OF PILES.

REFERENCE DRAWINGS

JACKET MEMBER FLOODING SYSTEM (SHT 1 OF 2)	MPI 6055 SHT 153
JACKET MEMBER FLOODING SYSTEM (SHT 2 OF 2)	MPI 6055 SHT 154

RD3647/9037061 E

8 - PILE 9 - WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM "B"
KINSALE GAS PROJECT

CELTIC SEA, IRELAND BLOCK 48/20 297' W.D. (90526)

MARATHON PETROLEUM IRELAND, LTD.

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

APPROVED:
McDERMOTT-HUDSON ENGINEERING
DATE: 5/11/76

ENGINEERS APPROVAL	BY	DATE
PROJECT	AH	[illegible]
STRUCTURAL	AH	[illegible]
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB. CHECK	[illegible]	3-9-76

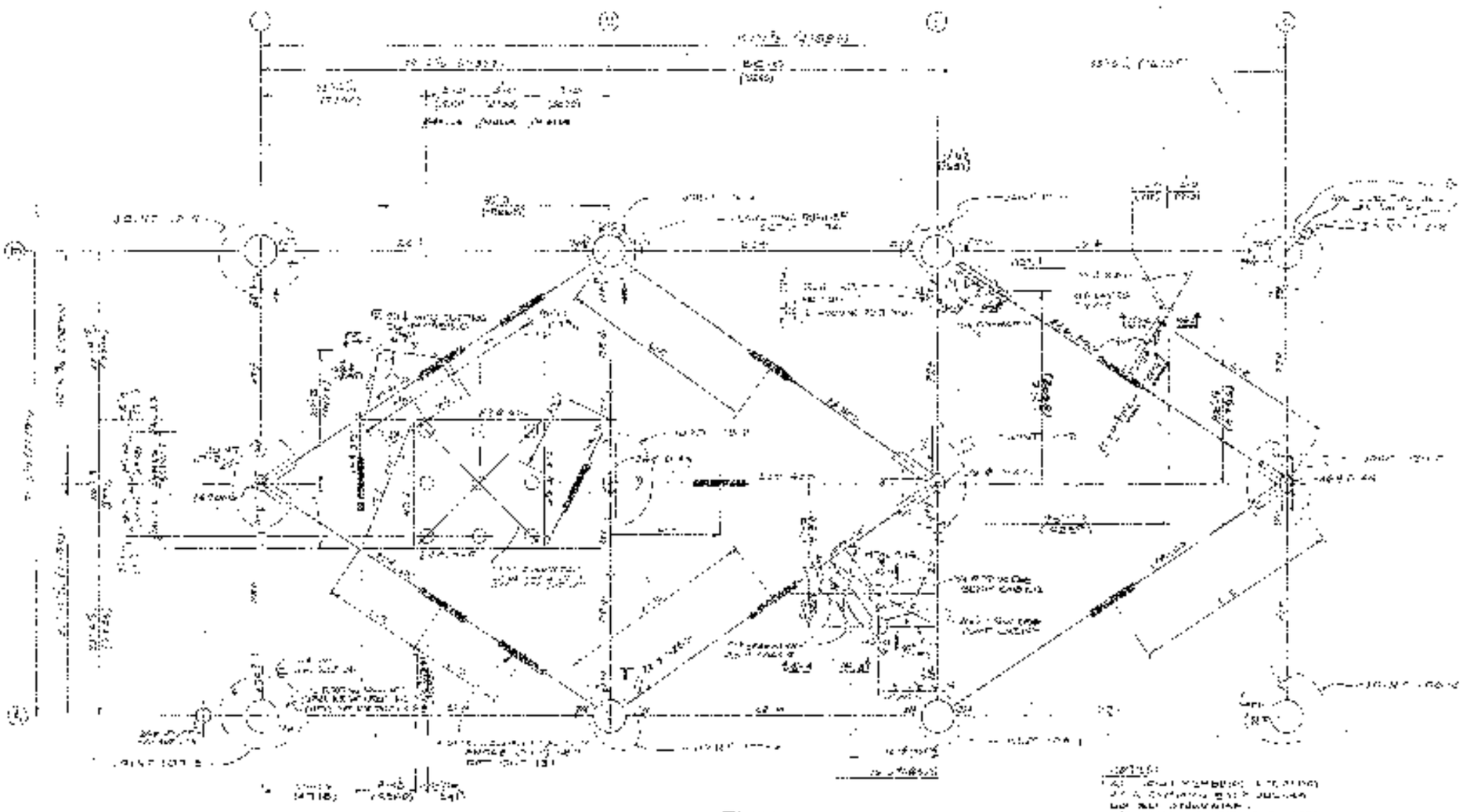
DRAWN BY	DATE	SCALE	MASTER REFERENCE	DWG. NO.
L. CAMBRE	1-6-76	NOTED		MPI 6055

CHECKED BY	DATE	DESIGNED BY		SHEET NO.
[illegible]	[illegible]	A HALLEY		106

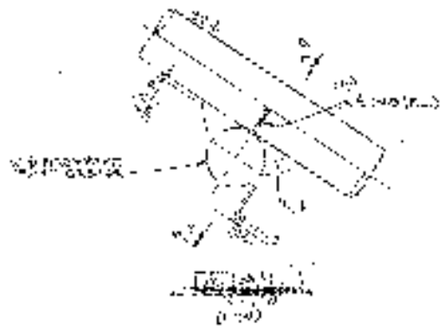
SHEET TITLE
JACKET VERTICAL FRAMING @ ROW 4

DESIGN	ELEC	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE
JS				K.B.	A	I S	4-2-77	REF. DRAWINGS ADDED	[illegible]	[illegible]
JS	-			K.B.	△	[illegible]	[illegible]	[illegible]	AH	[illegible]
AH				[illegible]	2	A.P.H.			[illegible]	[illegible]
AH				[illegible]	1	M.B.	4-2-76	ADDED NOTE No. 3	[illegible]	[illegible]

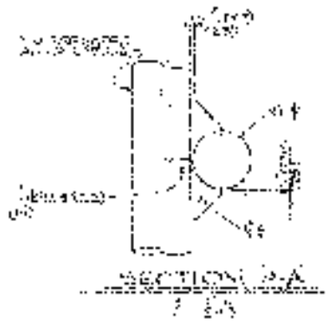
DESIGN	ELEC	INSTR.	PIPING	STRUCT.	NO.	BY	DATE	REVISIONS	APP.	DATE



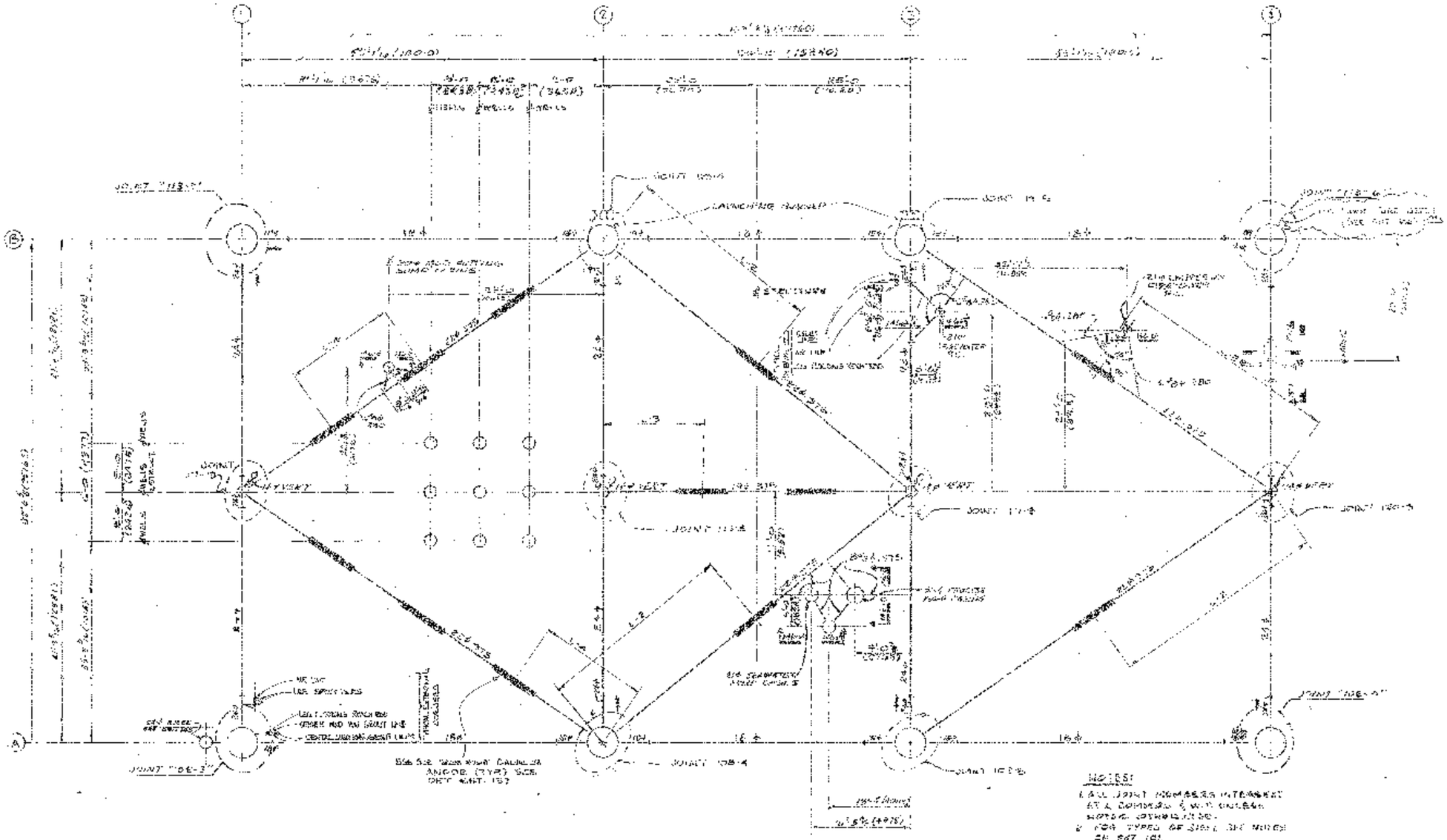
PLAN



PLAN



SECTION A-A



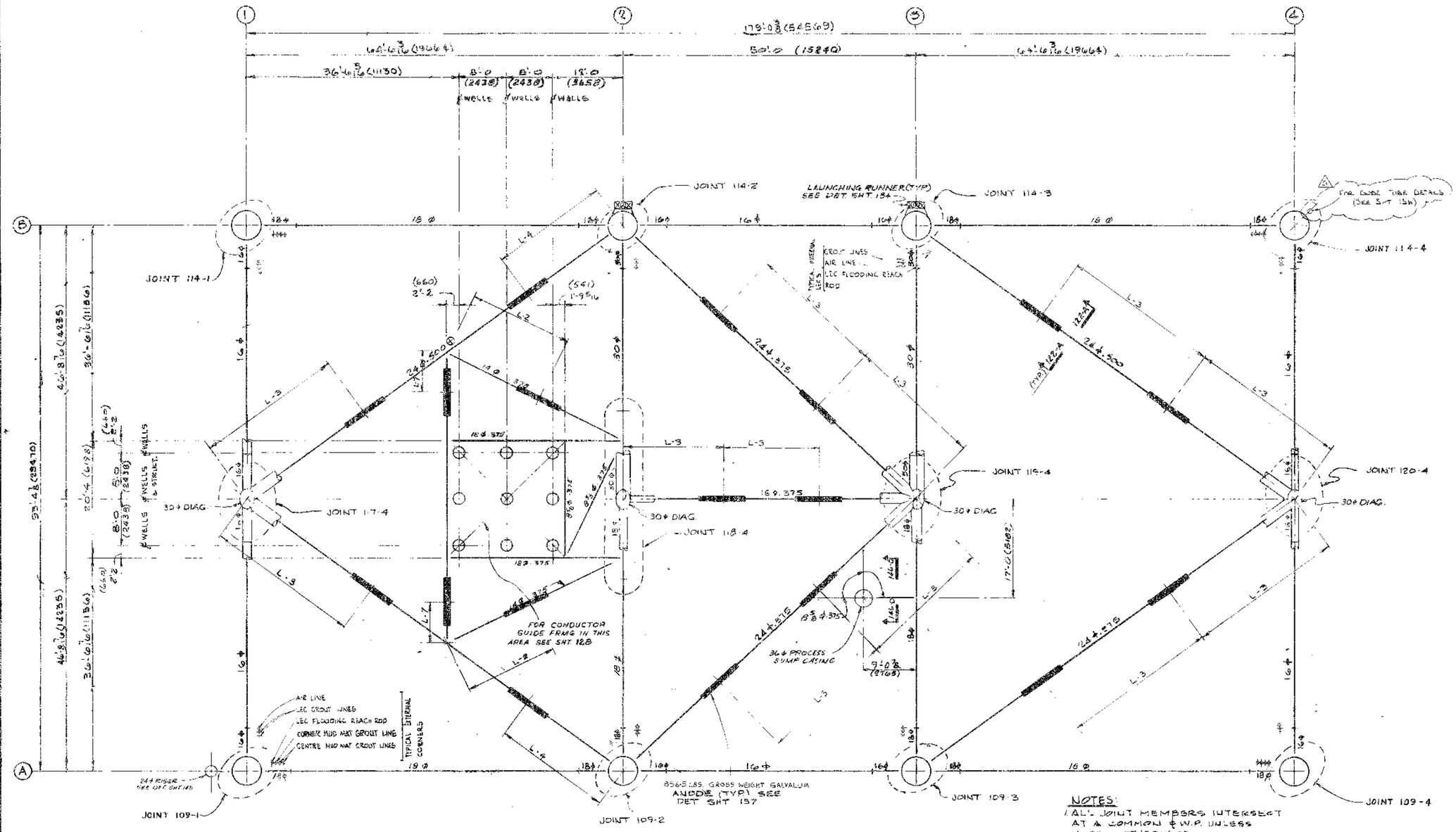
PLAN

NOTES:

1. ALL JOINT NUMBERS INTERSECT AT A COMMON 5 MET GRIDLINE INTERSECTION.
2. FOR TYPES OF SLEEVE SEE NOTES ON SHT 101.
3. FOR LOCATION OF CHECK VALVES AT ALL RISER & RISER CROSSINGS AND CLEARANCES WITH SAFE MANAGEMENT, CABLES, PIPELINES ETC. SEE DRGS. SHOWING ON THESE DRGS. ARE INCLUSIONS TO EQUIPMENT WHICH HOLD DRGS.
4. ALL RISERS TO BE SUPPORTED TO SUBSTRUCTURE OF PLATFORM

MARATHON PETROLEUM (IRELAND) LTD.

JACKET JOINT DRAWING SELECTION



PLAN

EL(-)101'-5 & ALL PIPE U.N.O.
(309/2)
1 & 1-0
1:96

NOTES:

1. ALL JOINT MEMBERS INTERSECT AT A COMMON ℄ W.P. UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTES ON SHT. 101.
3. ALL ANODES ON THIS SHEET ARE SUSPENDED ON U/S. OF MEMBER.

12 0 2 647 | 904 7079 | F

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM 'B'
KINSALE GAS PROJECT (90584)
CELTIC SEA, IRELAND BLOCK 48/20 297' W.D.

MARATHON PETROLEUM IRELAND, LTD.

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

DRAWN BY: WILSON / LT — SCALE: NOTED — DATE: 12-18-75 — DWG. NO.: M.PI-6055
DESIGNED BY: R. HARLEY — ENGRG. JOB NO. — SHEET NO. 12A

JACKET HORIZ. FRAMING @ EL(-) 101'-5 (309/2)

ENGINEERING APPROVAL — DATE 2/9/76

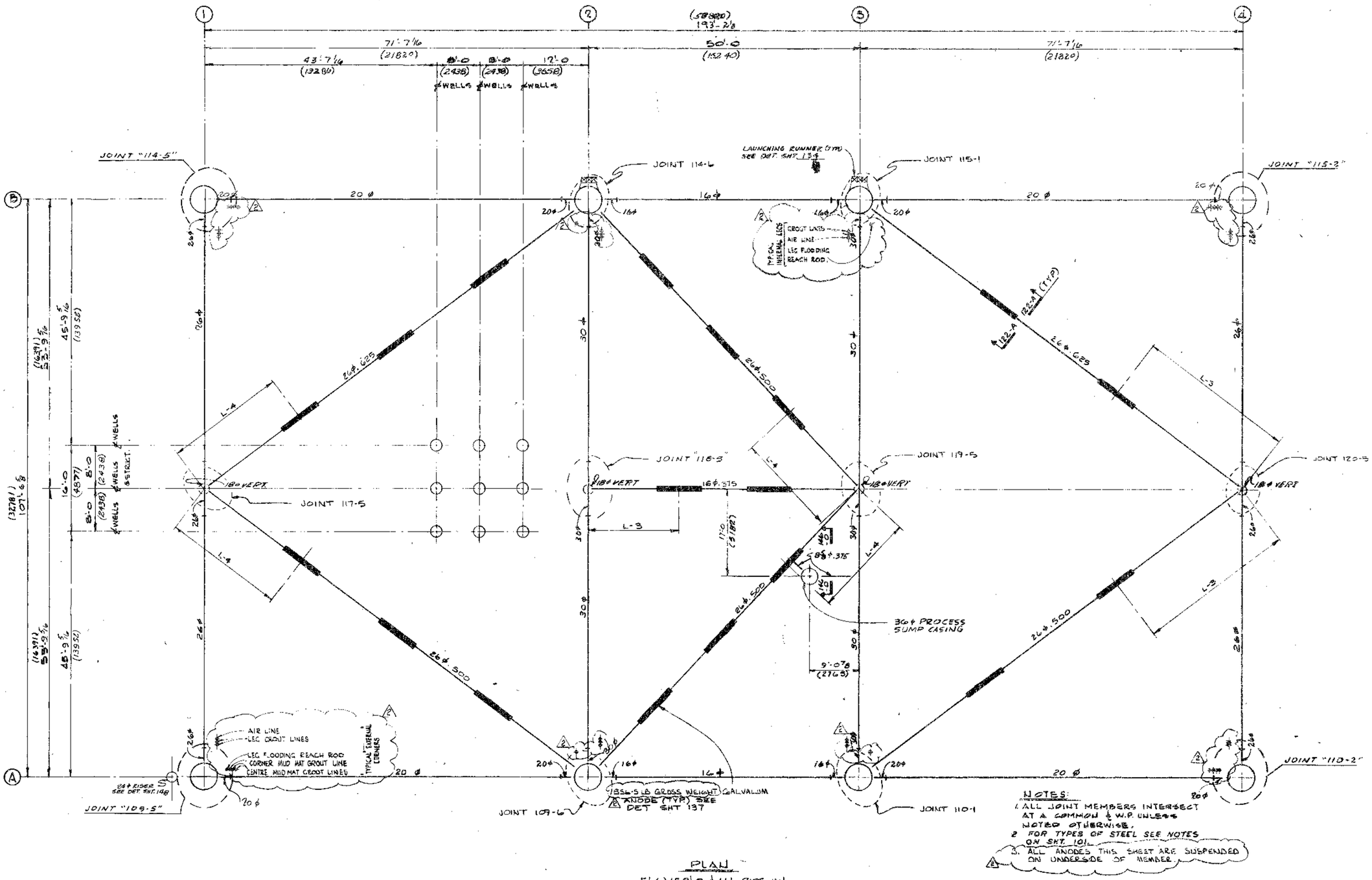
DISCIPLINE	BY	DATE
PROJECT	JPC	2/9/76
STRUCTURAL	RH	2/9/76
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
PUB. DISCIP.		
DESIGN SUPERV.		

PUB. STNG. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	INS.	BY	REVISIONS	DATE	APP.

DESIGN	STRUCT.	PIPING	ELEC.	INS.	BY	REVISIONS	DATE	APP.
	RB				△ 1.5	RD TO GUIDE TUBE CL 15.4 ABD PT TO CHANGE OF INCLINATION	1/6-77	AH

DESIGN	STRUCT.	PIPING	ELEC.	INS.	BY	REVISIONS	DATE	APP.
	RB				△ A.H.	REF. GRUT LINES, NAILD BRACES MOVED	4/3/77	JAV
	EB				△ M.P.	REVTHROUT MARKINGS, NOT. ANODE ANODE WT REVISED	4/7/77	JAV
	EB				△ M.B.	REVISED FRMING TO SUIT PROCESS SUMP CASING	4/13/77	JAV
	EB				△ RH	REVISED LOCATION OF 24" RISER	2-28-76	JAV



PLAN

EL(-)158'-0 ± ALL PIPE LN.

(48158) 1/8" = 1'-0

1:96

NOTES:

1. ALL JOINT MEMBERS INTERSECT AT A COMMON ℄ W.P. UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTES ON SHT 101.
3. ALL ANODES THIS SHEET ARE SUSPENDED ON UNDERSIDE OF MEMBER.

RD 3647/9037080/C

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM 'B'
KINSALE GAS PROJECT (90936)
CELTIC SEA, IRELAND BLOCK 48/20 257' W.D.

MARATHON PETROLEUM IRELAND, LTD.

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

ENGINEERS APPROVAL

	BY	DATE
PROJECT		
STRUCTURAL		
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
PAINT CHECK		
FINAL CHECK		

DRAWN BY: WILSON | SCALE: NOTED | DATE: 12-23-75 | ENGRG. JOB NO. | DWG. NO. 9P1-6055 | SHEET NO. 125

DESIGNED BY: A HALLEY

JACKET HORIZ FRAMING EL(-)158'-0

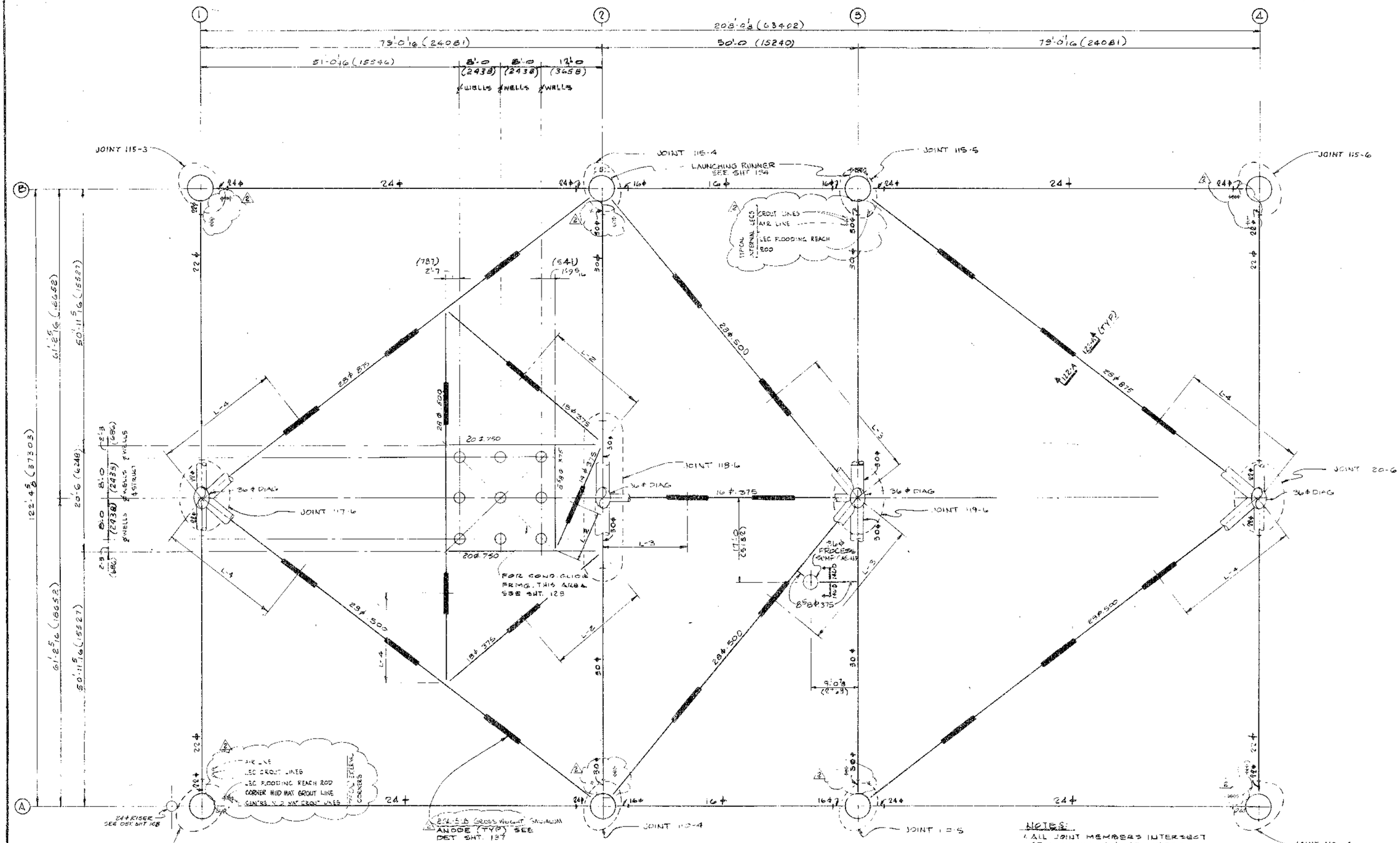
(48158)

P.&B. STDS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
OS	H.B.			⚠	A.P.H	REF GROUT LINES & NOTE 2, REACH ROD	4/3/77	AH
AH	GS			⚠	B	REVISED LOCATION OF 24φ RISER	2-24-76	



PLAN

EL (-) 217'-3 3/4 ALL PIPE IN
(66240)
1/8" = 1'-0
1:96

NOTES:
1. ALL JOINT MEMBERS INTERSECT AT A COMMON ℄ W.P. UNLESS NOTED OTHERWISE.
2. FOR TYPES OF STEEL SEE NOTES ON SHT. 131.
3. ALL ANODES THIS SHEET TO BE DISTRIBUTED ON UNDERSIDE OF MEMBER.

8 PILE 9 WELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM "B"
KINSALE GAS PROJECT (80524)
CELTIC SEA, IRELAND BLOCK 48/10 237 W.D.

MARATHON PETROLEUM IRELAND, LTD.

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

	BY	DATE
PROJECT	RH	2/9/76
STRUCTURAL	RH	2/9/76
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENTS		
PAB. CHIEF	RH	2/9/76
PROJ. ENGR.		

DRAWN BY: WILSON
SCALE: 1/8"=1'-0"
DATE: 12/23/75
DWG. NO.: MPI-6055
DESIGNED BY: A. HALEY
ENGRG. JOB NO.:
SHEET NO.: 26

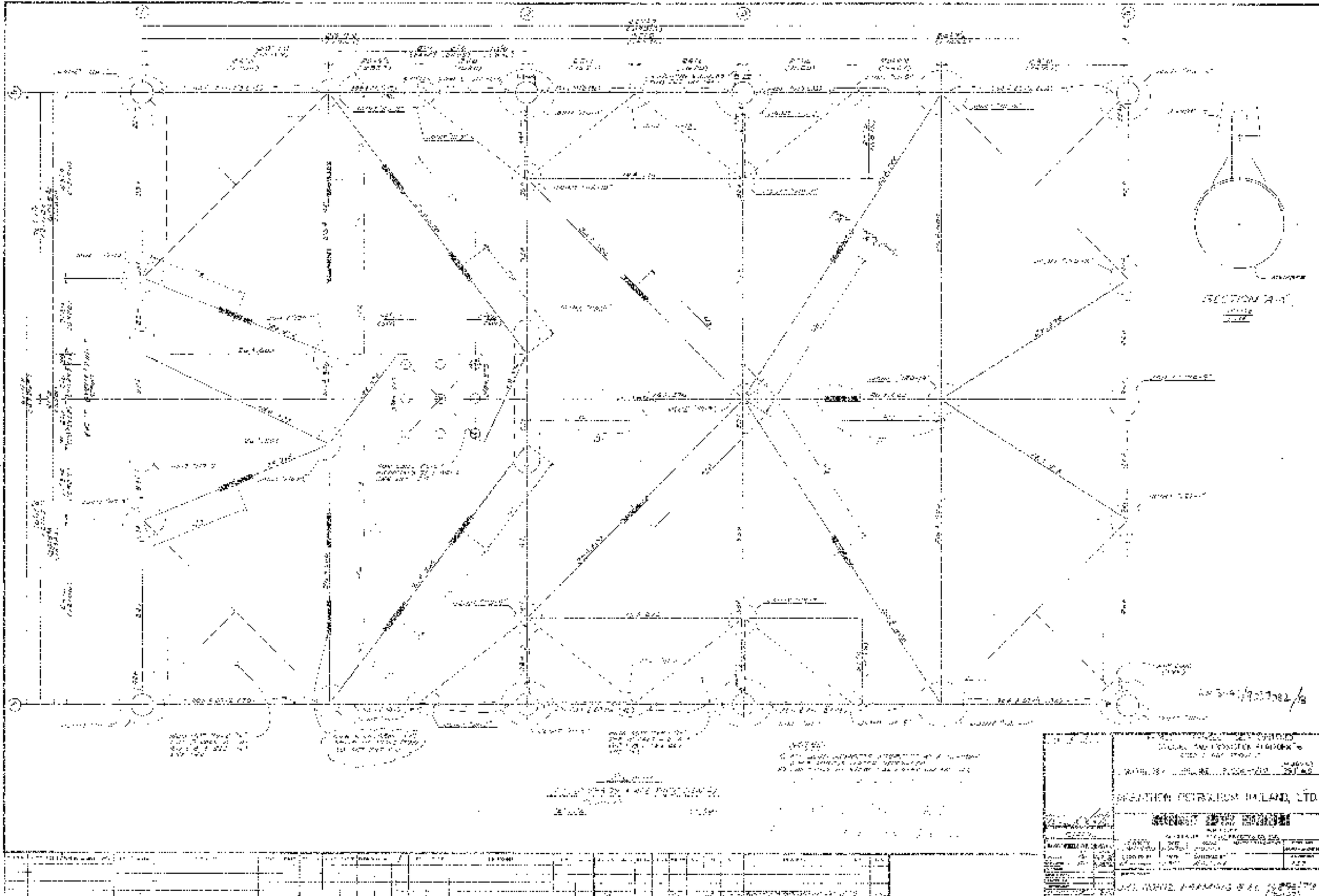
JACKET HORIZ. FRAMING @ EL (-) 217'-3"

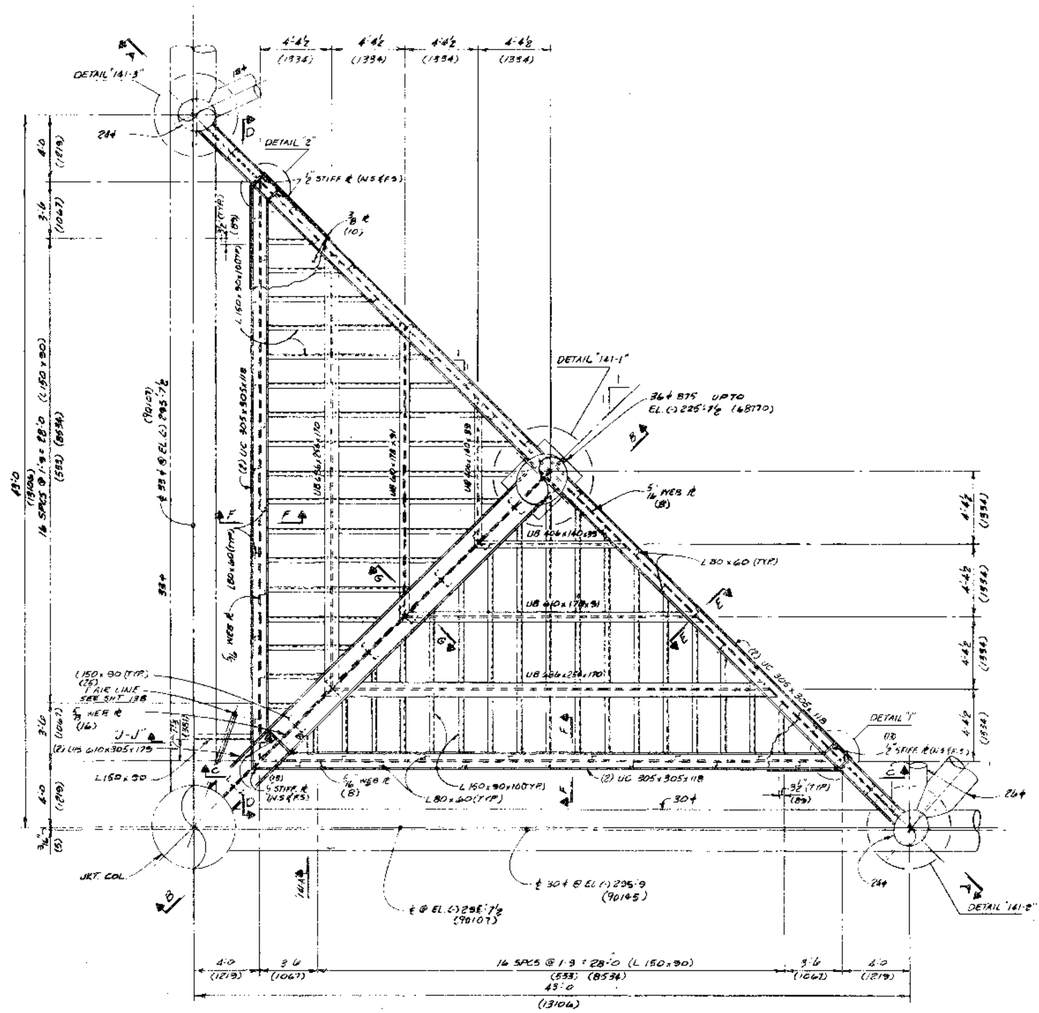
FAIR. STDS. REQ'D. THIS SHT.

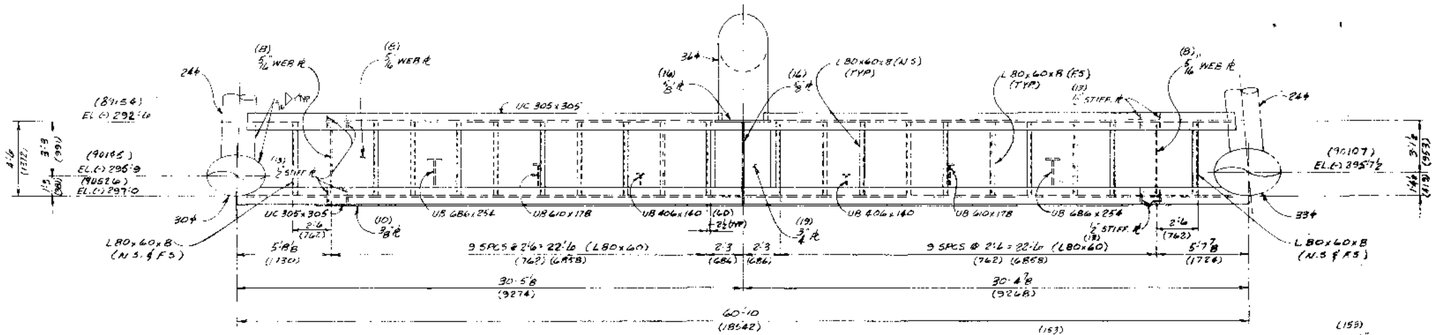
DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

DESIGN	STR. NOT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

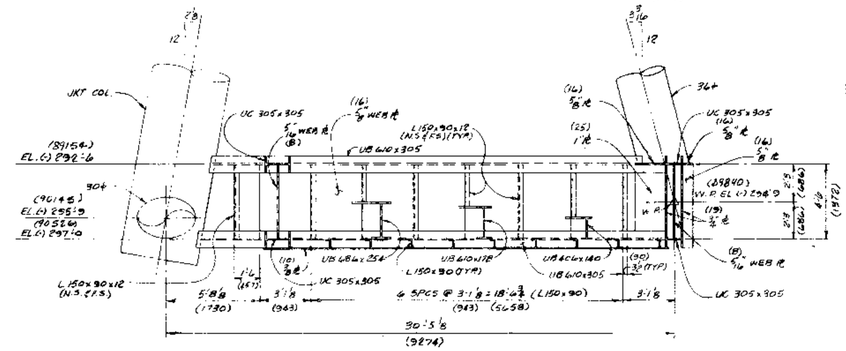
DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
JS	RA			A	A.H	ADD 4 ANODES TO EACH LEG	6/3/77	RH
JH				B		REVISED LOCATION OF CAP. PILES	7/21/77	RH



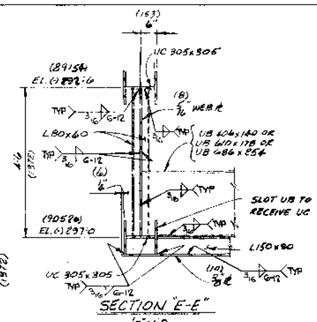




SECTION 'A-A'
½"=1'-0
(1:48)



SECTION 'B-B'
½"=1'-0
(1:48)



SECTION 'E-E'
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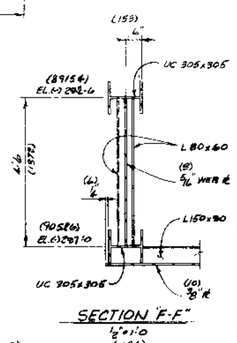
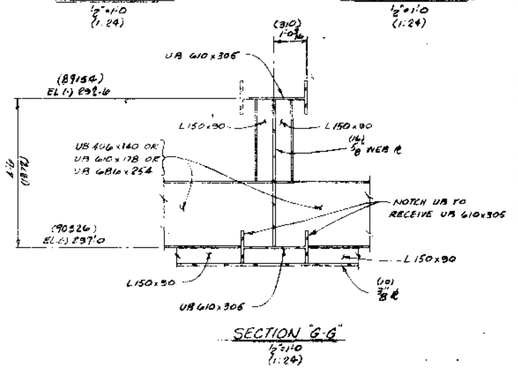
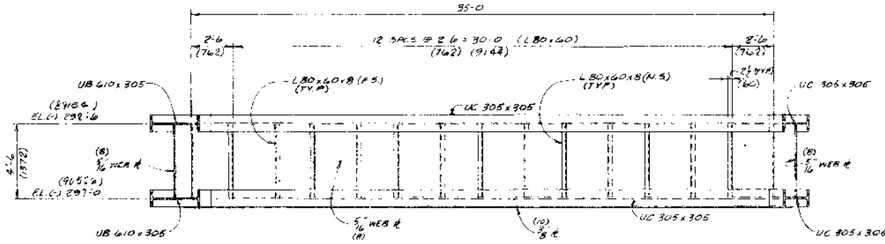
(1:24)



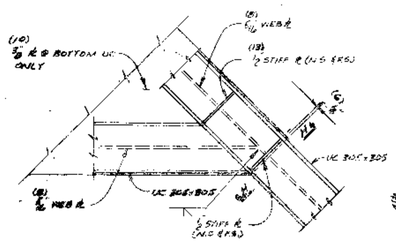
SECTION 'F-F'
½"=1'-0
(1:24)



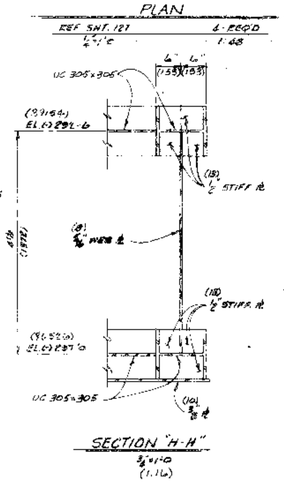
SECTION 'G-G'
½"=1'-0
(1:24)



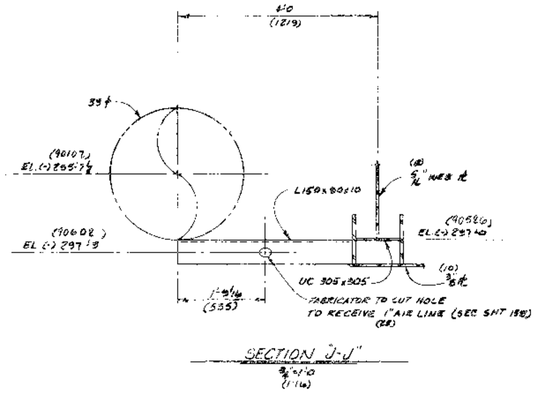
SECTION 'C-C' (SHN)
SECTION 'D-D' (OPP)
½"=1'-0
(1:48)



DETAIL "1" (SHN)
DETAIL "2" (OPP)
¾"=1'-0
(1:16)



SECTION 'H-H'
¾"=1'-0
(1:16)



SECTION 'J-J'
¾"=1'-0
(1:16)

NOTES:
1) ALL STEEL DETAILED ON THIS DWG TO BE TYPE III AS PER SPEC
2) TO PROVIDE BALLAST TO COUNTERACT OVERTURNING OF THE STRUCTURE DURING THE PERIOD OF INSERT PILE INSTALLATION GROUT WILL BE DEPOSITED OVER THE PLAN AREA OF THE MUD MATS. CALCULATIONS INDICATE THAT A DOWNWARD LOAD OF 470 P.S.F. IS REQUIRED OVER MUD MATS TYPE 'A' TO PROVIDE SUFFICIENT STABILITY TO THE STRUCTURE. THE STRUCTURE HAS BEEN DESIGNED TO SUPPORT PERMANENTLY A DEPTH OF GROUT SUFFICIENT TO PROVIDE THIS LOADING. PHYSICAL CHARACTERISTICS AND PROCEDURES FOR PLACING THIS GROUT SHALL BE SUBMITTED BY THE ERECTOR FOR PRIOR APPROVAL BY OWNER.

RD3647 | 9037098 | D

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM "8"
KINSALE GAS PROJECT (90526)
CELTIC SEA, IRELAND, BLOCK 48/20 297' W.D.

MARATHON PETROLEUM IRELAND, LTD.

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

DRAWN BY	SCALE	DATE	DWG. NO.
BREAUX	NOTED	12-30-75	MPI-6065
DESIGNED BY	MASTER REFERENCE	ENGRG. JOB NO.	SHEET NO.
A. HALEY			140

MUD MAT TYPE 'A' (SHT. 1 OF 2)

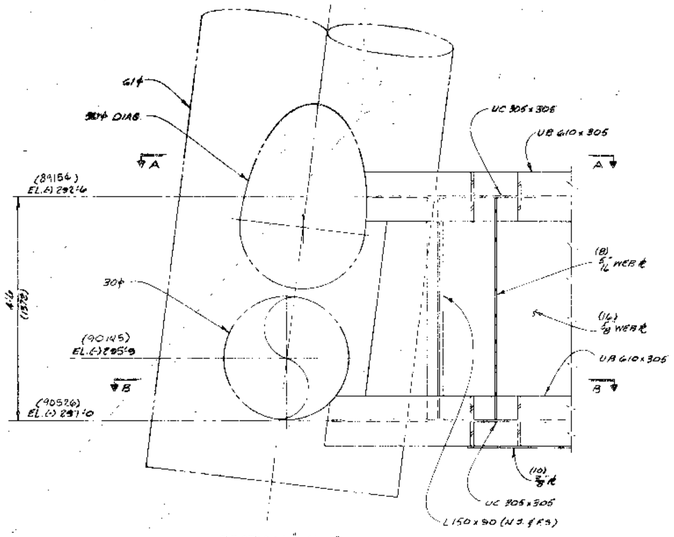
APPROVED: Norman Hebert (for AH) DATE: 2/9/76
ENGINEERS APPROVAL

	BY	DATE
PROJECT	AH	2/9/76
STRUCTURAL	AH	2/9/76
PROCESS		
MECHANICAL		
ELECTRICAL		
PIPING/UTIL		
FAB. SUPERV.		
PROJ. SUPERV.		

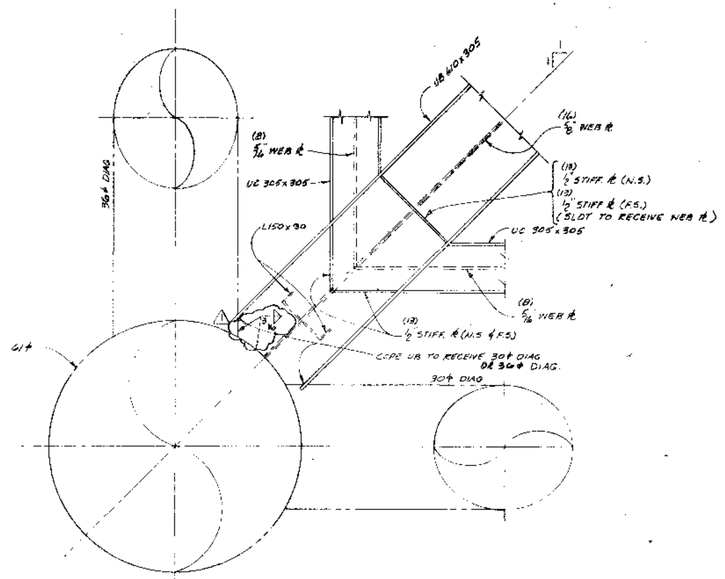
FAB. STOS. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.
				3	TS	NOTE 2 ADDED	1/20/77	AH
				2	JAG	NOTE 2 DELETED	1/12/76	AH
				1	KWS	NOTE 2 REVISED, WELD ADDED	1/13/76	AH

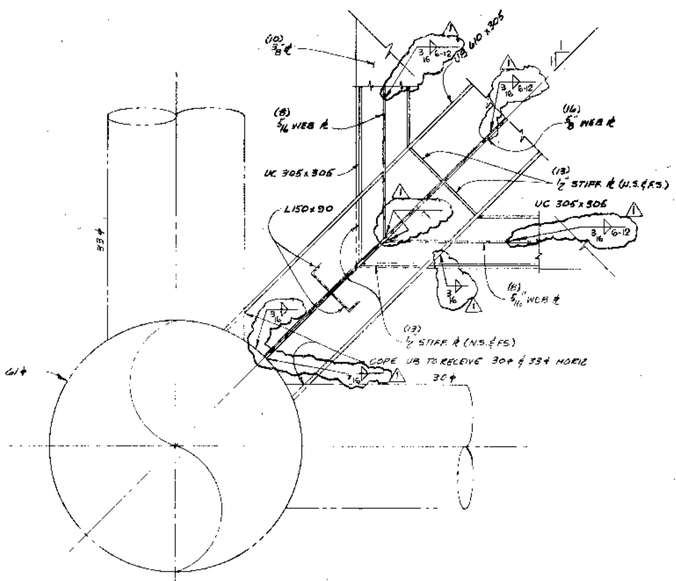
MARATHON PETR. IRL.
D 146-01-DR-0611



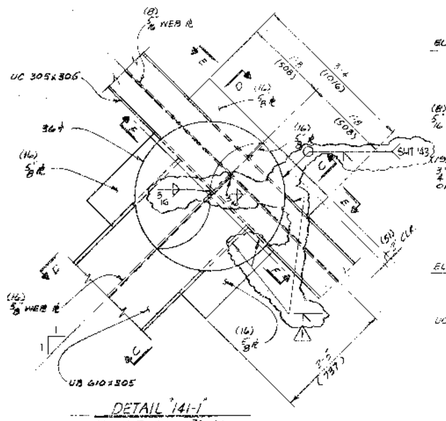
SECTION "141-A"
REF. SHT 140 3/4"=1'-0 (1:16)



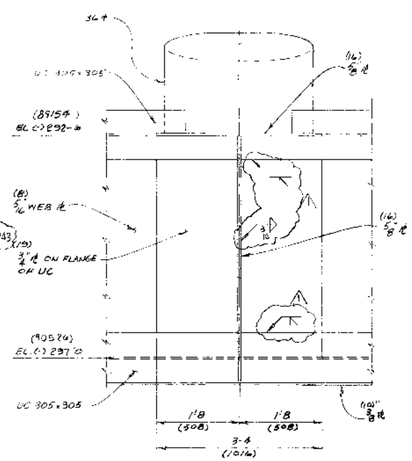
SECTION "A-A"
3/4"=1'-0 (1:16)



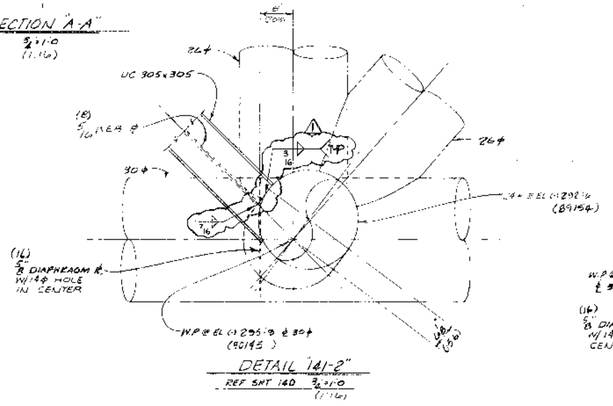
SECTION "B-B"
3/4"=1'-0 (1:16)



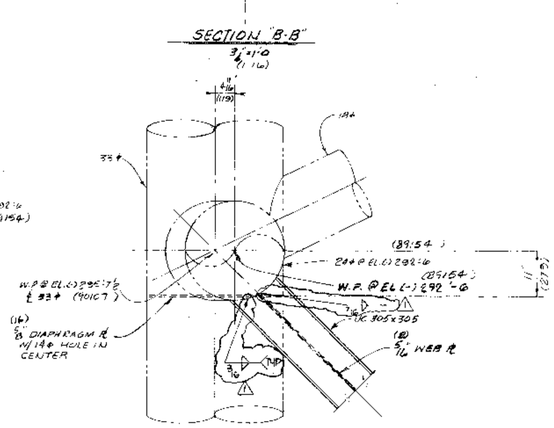
DETAIL "141-1"
REF. SHT 140 3/4"=1'-0 (1:16)



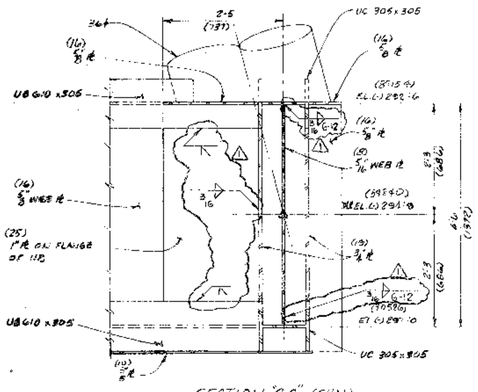
SECTION "E-E"
3/4"=1'-0 (1:16)



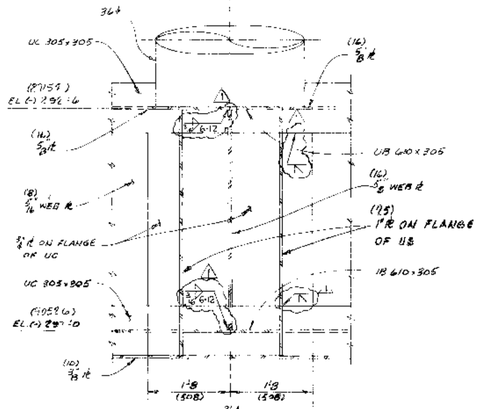
DETAIL "141-2"
REF SHT 140 3/4"=1'-0 (1:16)



DETAIL "141-3"
REF SHT 140 3/4"=1'-0 (1:16)



SECTION "C-C" (SHN)
SECTION "D-D" (OPP)
3/4"=1'-0 (1:16)



SECTION "F-F"
3/4"=1'-0 (1:16)

RD3647/9037096B

8-PILE 9-WELL SELF CONTAINED DRILLING AND PRODUCTION PLATFORM "B"
KINSALE GAS PROJECT
(90526)
CELTIC SEA, IRELAND BLOCK 48/20 297' W.D.

MARATHON PETROLEUM IRELAND, LTD.

McDERMOTT HUDSON ENGINEERING
NEW ORLEANS
DIVISION OF J. RAY McDERMOTT & CO., INC.

	BY	DATE
PROJECT	AH	10/24/75
STRUCTURAL	AH	10/24/75
PROCESS		
MECHANICAL		
ELECTRICAL		
INSTRUMENT		
FAB. CHECK		
PROD. LVL/CELL		

ENGINEERS APPROVAL
DATE: 2/9/76

DRAWN BY	SCALE	DATE	DWG. NO.
GREAUX	NOTED	12-30-75	MPI-4055
DESIGNED BY	MASTER REFERENCE	ENGRG. JOB NO.	SHEET NO.
A. HALEY			141

MUD MAT TYPE "A" (SHT. 2 OF 2)

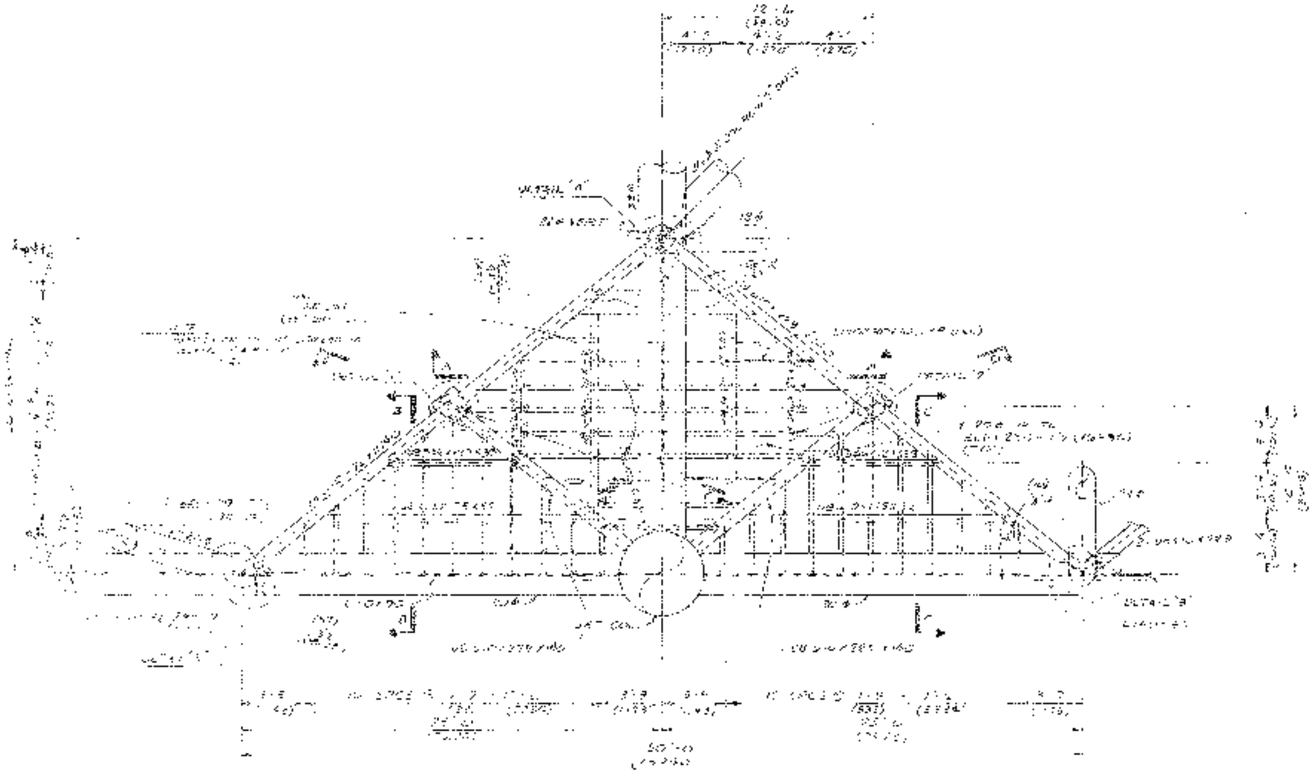
FAB. SYSTR. REQ'D. THIS SHT.

DESIGN	STRUCT.	PIPING	ELEC.	MK	BY	REVISIONS	DATE	APP.

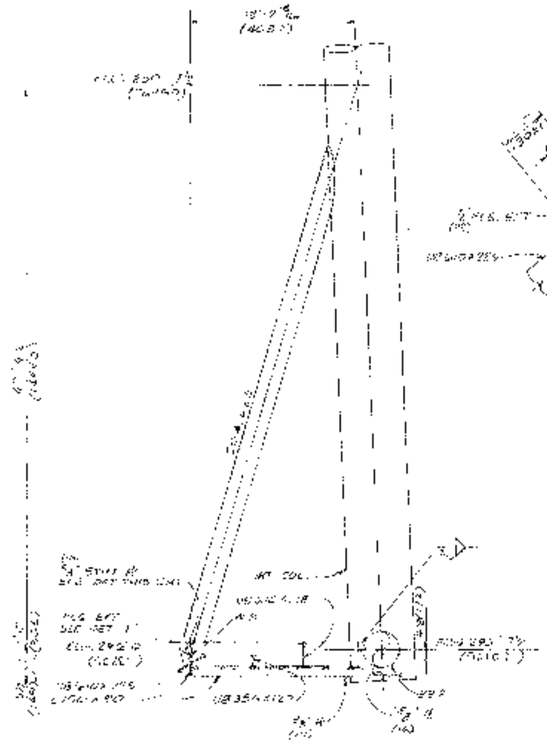
DESIGN	STRUCT.	PIPING	ELEC.	MK	BY	REVISIONS	DATE	APP.

DESIGN	STRUCT.	PIPING	ELEC.	MK	BY	REVISIONS	DATE	APP.
AH	SWB			1	KNS	WELDS ADDED	2-6-76	CO

MARATHON PET. IRL.
B. KIN. GAS PROJ.



PLAN



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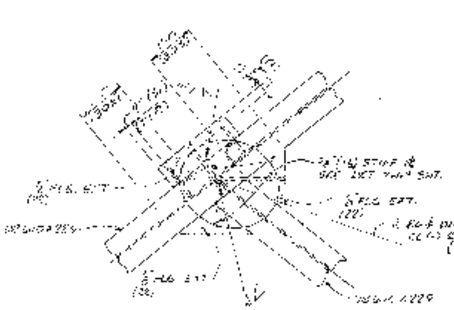
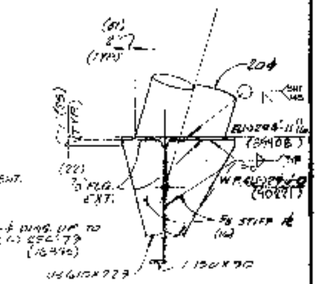
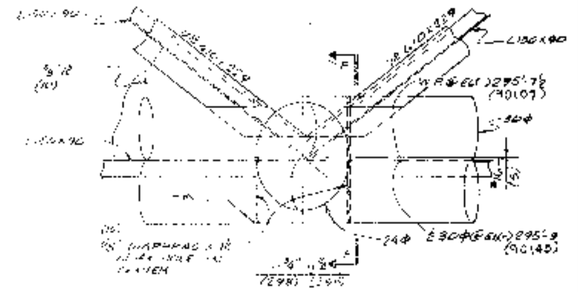


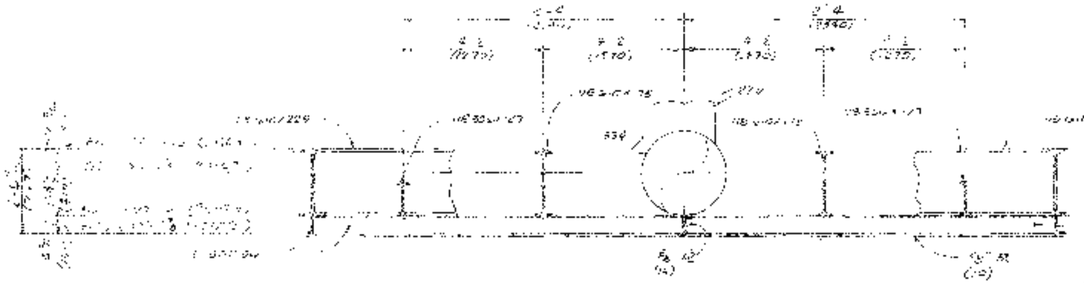
DETAIL "1"



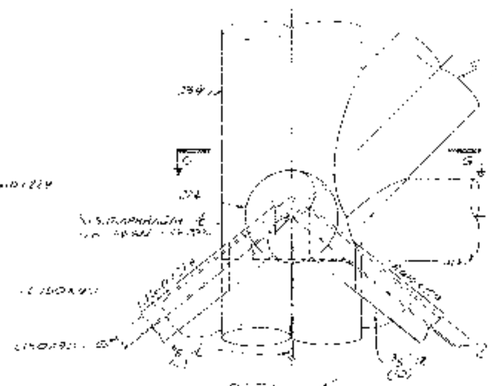
STIFFENER #
DETAIL



DETAIL "3"



SECTION "A-A"



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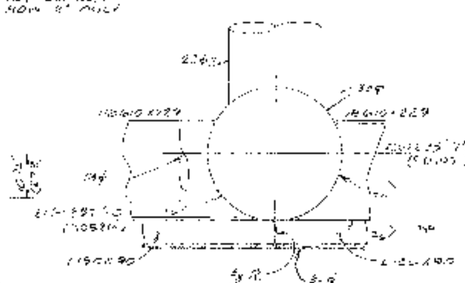

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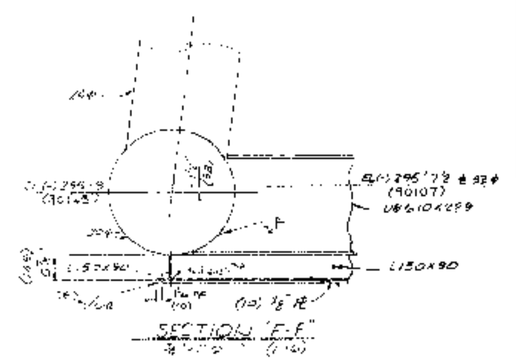
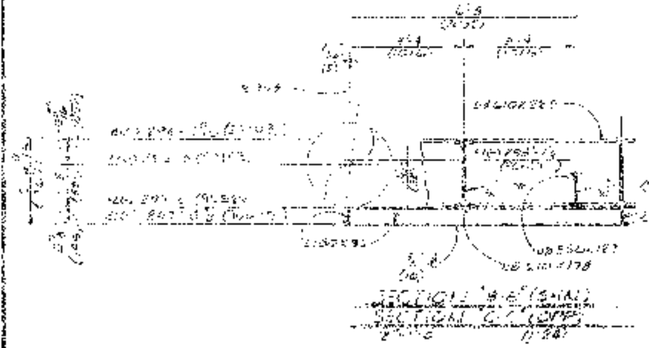
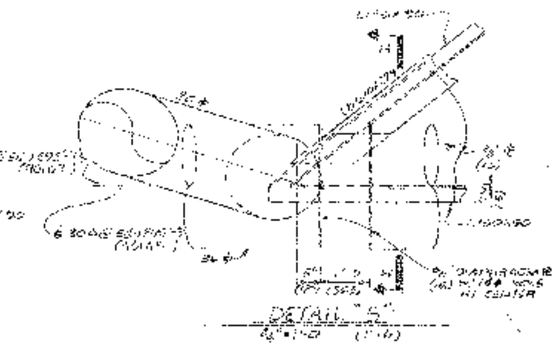


SECTION "E-E"

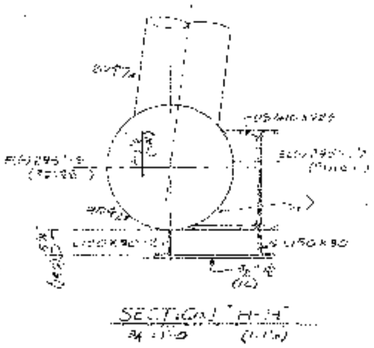
NOTES:
1. ALL STEEL DETAILED ON THIS DWG. TO BE TYPE III AS PER SPEC.
2. TO INCLUDE BALLAST TO COUNTERACT OVERTURNING OF THE STRUCTURE DURING THE PERIOD OF INSERT PILE INSTALLATION. GROUT WILL BE DEPENDED UPON THE PLAN AREA OF THE MUD MATS. CALCULATIONS INDICATE THAT A DOWNWARD LOAD OF 30 KIPS IS REQUIRED OVER MUD MATS TYPE "A". THIS LOAD TO BE ACHIEVED BY DEPOSITION OF 1.2m (3.9ft) LAYER OF GROUT IN THE BOTTOM OF THE LEG WITH THE STRUCTURE HAS BEEN DESIGNED TO SUPPORT THE LOAD. TECHNOLOGY, PHYSICAL CHARACTERISTICS AND PROCEDURE FOR PLACING THE GROUT SHALL BE SUBMITTED BY THE INSTALLATION CONTRACTOR FOR PRIOR APPROVAL BY OWNER.



SECTION "B-B" (SIMILAR)
SECTION "C-C" (OPPOSITE HAND)

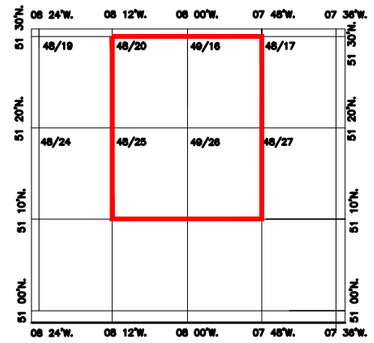


DETAIL "5"



SECTION "H-H"

3 WELL 3 CELL SELF CONTAINED
DRILLING AND PRODUCTION PLATFORM "B"
KINSALE GAS PROJECT
CELTIC SEA (IRELAND BLOCK 49/24) (90526)
MARATHON PETROLEUM IRELAND, LTD.
DESIGNED BY Y. LEMOINE | DRAWN | NOTED | CHECKED | APPD. | MPI - 605
APPD. MAT'L TYPE "B"



Kinsale Head Petroleum Lease Area.

5700000N

5700000N

5700000N

560000E

570000E

08 West.

500m Exclusion Zone

Ballycotton
Well 48/20-2
51 27' 07.000" N
08 07' 28.407" W

Water Depth 87.9m

Block 48.

Block 49.

N

KEL 24" Gas Export Pipeline

KINSALE 'B' PLATFORM
(JACKET CENTRE)
51 21' 38.913"N
08 00' 55.769"W

Water Depth 94.8m

Suspended Well 49/16-2.
51 23'16.180"N.
07 57'34.859"W.

KP 001

Exclusion Zone

SH's 18" Gas Pipeline

KEL 24" Inter-platform Gas Pipeline

KEL 12" Inter-Platform Gas Pipeline

Greensand
Well 48/25-6
51 19' 35.118"N.
08 05' 56.726"W.

Water Depth 92.5m

5690000N

5690000N

5690000N

KINSALE 'A' PLATFORM
(JACKET CENTRE)
51 22' 14.953" N
07 56' 41.770" W

Water Depth 91.5m

580000E

570000E

08 West.

Greensand 10" Pipeline.

SWK 12" Pipeline & Umbilical

Suspended Well 48/20-1A.
51 21'07.772"N.
08 00'21.764"W.

Suspended Well 48/25-2.
51 19'39.505"N.
08 05'48.595"W.

Exclusion Zone

South West Kinsale
Well 48/25-3
51 19' 37.609"N.
08 05' 54.358"W.

Water Depth 91.1m

SWK 12" Pipeline & Umbilical.

Seven Heads 18" Pipeline & Umbilical

See Drawing:
KH13-SV-16999. / I.D. KH/SWK/GS-02

South West Kinsale
Well 48/25-4
51 19' 25.326"N.
08 06' 51.374"W.

Water Depth 93.0m

South West Kinsale
Well 48/25-5
51 19' 25.424"N.
08 06' 50.169"W.

Water Depth 93.0m

NOTES –

1. COORDINATES ARE BASED ON INTERNATIONAL SPHEROID, EUROPEAN DATUM 1950, UNIVERSAL TRANSVERSE MERCATOR PROJECTION, UTM ZONE 29, CENTRAL MERIDIAN 9° WEST
2. Ref: ADMIRALTY CHART No. 2424. (2010) "KENMARE RIVER to CORK HARBOUR"

REV	DATE	BY	CH'KD	APP'D	COMMENTS
A	5/14	P.W.	N.H.	S.D.	ISSUED FOR SAFETY CASE

KINSALE ENERGY

Kinsale Head, SWK, Greensand & Ballycotton Gas Fields Location

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