

Shell Exploration NZ Limited
Pohokura Production Station
Monitoring Programme
Annual Report
2014-2015

Technical Report 2015-102

ISSN: 1178-1467 (Online)
Document: 1652274 (Word)
Document: 1655756 (Pdf)

Taranaki Regional Council
Private Bag 713
STRATFORD

May 2016

Executive summary

Shell Exploration NZ Limited (the Company) operates a petrochemical production station and adjacent wellsite, located on Lower Otaraoa Road at Motunui in the Waipapa and Manu catchments. This report for the period July 2014–June 2015 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental performance during the period under review, and the results and environmental effects of the Company's activities.

The Company holds a total of 20 resource consents, which include a total of 208 conditions setting out the requirements that the Company must satisfy. The Company holds two consents to allow it to take and use water, four consents to discharge stormwater, three consents to discharge emissions into the air, six consents for various structures, two consents relating to deep well injection, one consent to discharge sludge, and one consent each to disturb and occupy the coastal marine area.

During the monitoring period, the Company demonstrated an overall high level of environmental performance.

The Council's monitoring programme for the period under review included five inspections and three water samples collected for physicochemical analysis. The consent holder also collected various data as required by consent conditions and for self-monitoring purposes.

Results of stormwater discharge sampling were within the limits prescribed by the consents for the wellsite and production station at all times. No adverse effects were noted on the receiving environment as a result of this discharge.

There were no adverse effects on the environment resulting from discharges to air at the Pohokura facility. Inspections showed that emissions from flaring and other sources were well controlled. Monitoring commissioned by the Company showed that there were no exceedances of the relevant New Zealand Workplace Exposure Standards for BTEX constituents at any of the monitored locations. Passive absorption monitoring, however, continued to show elevated benzene levels downwind of the condensate and produced water storage tanks compared to relevant ambient air quality guidelines. Operational changes and engineering work to investigate potential plant modifications to reduce benzene emissions are ongoing.

Ecological assessment of the intertidal coastal area surrounding the Pohokura site found very high species diversity and abundance across the three studied reefs, indicating a stable and healthy reef environment with high water quality along the north Taranaki coastline. The ongoing ecological surveys have shown that the health of the reefs in the vicinity is comparable to other reefs around the Taranaki coastline that are subjected to sand inundation. This monitoring supports that the Company's activities have not had any adverse effect on the coastal environment.

During the period under review, the Company demonstrated a high level of both environmental performance and administrative compliance with the resource consents. There were no unauthorised incidents recorded by the Council in relation to the Company's activities. The Pohokura facilities were well managed and maintained.

For reference, in the 2014-2015 year, 75% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 22% demonstrated a good level of environmental performance and compliance with their consents.

This report includes a recommendation for the 2015-2016 year.

Table of contents

	Page
1. Introduction	2
1.1 Compliance monitoring programme reports and the Resource Management Act 1991	2
1.1.1 Introduction	2
1.1.2 Structure of this report	2
1.1.3 The Resource Management Act 1991 and monitoring	3
1.1.4 Evaluation of environmental and administrative performance	3
1.2 Process description	5
1.3 Resource consents	7
1.3.1 Water discharge permits	7
1.3.2 Air discharge permits	8
1.3.3 Discharges of wastes to land	9
1.3.4 Coastal permits	10
1.3.5 Related consents	13
1.4 Monitoring programme	14
1.4.1 Introduction	14
1.4.2 Programme liaison and management	14
1.4.3 Site inspections	14
1.4.4 Chemical sampling	14
1.4.5 Data review	14
2. Results	15
2.1 Water	15
2.1.1 Inspections	15
2.1.2 Results of discharge monitoring	16
2.1.3 Results of consent holder monitoring	17
2.2 Air	20
2.2.1 Inspections	20
2.2.2 Flaring and fuel gas use reported by SENZL	20
2.2.3 Results of receiving environment monitoring by SENZL	22
2.3 Offshore	22
2.3.1 Marine and coastal monitoring by SENZL	22
2.4 Investigations, interventions, and incidents	24
3. Discussion	25
3.1 Discussion of site performance	25
3.2 Environmental effects of exercise of consents	25
3.3 Evaluation of performance	25
3.4 Recommendations from the 2013-2014 Annual Report	34
3.5 Alterations to monitoring programmes for 2015-2016	34

4. Recommendation	35
Glossary of common terms and abbreviations	36
Bibliography and references	39
Appendix I Resource consents held by Shell Exploration NZ Ltd	

List of tables

Table 1	Additional consents related to the Pohokura facilities	13
Table 2	Results from samples of the combined stormwater discharge (STW002075)	17
Table 3	Results of stormwater samples collected by SENZL during the 2014-2015 year	17
Table 4	Pohokura produced water analysis for July 2014 – June 2015	18
Table 5	Results of 30 April 2015 groundwater testing reported by SENZL	20
Table 6	Summary of performance for Consent 5991-1	25
Table 7	Summary of performance for Consent 5992-1	26
Table 8	Summary of performance for Consent 5993-1	26
Table 9	Summary of performance for Consent 5994-1	27
Table 10	Summary of performance for Consent 5997-1	29
Table 11	Summary of performance for Consent 6002-1	29
Table 12	Summary of performance for Consent 6003-1	30
Table 13	Summary of performance for Consent 6176-1	32
Table 14	Summary of performance for Consent 6269-1	32
Table 15	Summary of performance for Consent 6364-1	33
Table 16	Summary of performance for Consent 10096-1	34

List of figures

Figure 1	Pohokura onshore facilities and the combined discharge sampling site STW002075	16
Figure 2	Monthly summary of deepwell injection volumes under consent 6176-1	19
Figure 3	Monthly flare volumes and fuel gas consumption for July 2014 to June 2015	21

List of photos

Photo 1	Pohokura Production Station	5
Photo 2	Upgraded stormwater system at the Lower Otaraoa Rd wellsite	6

1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2014-June 2015 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by Shell Exploration NZ Limited (SENZL). The Company operates a petrochemical production station and adjacent wellsite situated on Lower Otaraoa Road at Motunui, in the Waipapa and Manu catchments.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by SENZL that relate to discharges of water within the Waipapa and Manu catchments and the discharge of wastes to land; consents for the occupation of the coastal marine area and maintenance of offshore structures; and the air discharge permits to cover emissions to air from the sites.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the Company's use of water, land and air, and is the seventh combined annual report by the Council for the onshore and offshore Pohokura facilities.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about compliance monitoring under the RMA and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consents held by SENZL in the Waipapa and Manu catchments, the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted at the Pohokura Production Station.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2015-2016 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental ‘effects’ which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- (a) the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- (b) physical effects on the locality, including landscape, amenity and visual effects;
- (c) ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- (d) natural and physical resources having special significance (for example recreational, cultural, or aesthetic);
- (e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of ‘effects’ inasmuch as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region’s resources.

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the consent holder/s during the period under review, this report also assigns a rating as to each Company’s environmental and administrative performance.

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. **Administrative performance** is concerned with the Company’s approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

- **High:** No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.
- **Good:** Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.
- **Improvement required:** Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.
- **Poor:** Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

- **High:** The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.
- **Good:** Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided

for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

- **Improvement required:** Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.
- **Poor:** Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2014-2015 year, 75% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 22% demonstrated a good level of environmental performance and compliance with their consents.

1.2 Process description

In 2000, Fletcher Challenge Energy drilled the Pohokura-1 exploration well 4.5 kilometres off the coast of Waitara and two additional appraisal wells – one a further four kilometres out to sea and the other on land adjacent to the coastline at Motunui.

The Pohokura field is a low relief anticline at a depth of 3600 metres, approximately 16 kilometres long and 5 kilometres wide, extending offshore in a northwest direction. In January 2001, 400 square kilometres of 3D marine seismic helped SENZL define the structural configuration of the field, with a detailed bathymetry survey enabling marine data acquisition to come within 2 kilometres of the shoreline in water depths of 10 metres. The survey was followed up with 70 square kilometres of transitional 3D seismic that overlapped and linked with existing onshore seismic.



Photo 1 Pohokura Production Station

In 2002, detailed design and planning of the field, including the resource consenting process began, with construction commencing in 2005. In 2006, the major milestone of commercial gas to market was achieved from the three onshore wells.

Development of the field involved the drilling of four wells from a land-based site at Motunui, and five from an offshore platform located eight kilometres off the coast. A sub-sea pipeline transfers up to 13 million cubic metres of gas per day to the onshore production station at Motunui. The well-stream comprises a mixture of gas, condensate (light crude) and produced water.

The onshore production station situated on Lower Otaraoa Road, Motunui, processes the high-pressure gas flow from the off and onshore wells. Here the hydrocarbons are separated into natural gas and condensate. The natural gas is fed into the North Island gas network and the condensate is piped to storage tanks at Omata near New Plymouth for shipping to refineries. Produced water separated out from the well-stream is disposed of by deepwell injection at the Lower Otaraoa Rd wellsite. In 2012, a gas reinjection (GRI) facility was constructed adjacent to the wellsite to allow for increased production of condensate while the associated gas could be reinjected into the Pohokura formation.

All treated stormwater from the Pohokura site is discharged to the 'Duck Pond', a small lake within the Manu catchment. In the 2014-2015 year, the lined stormwater collection pits at the Lower Otaraoa Rd wellsite were upgraded to three enclosed in-ground concrete vessels.



Photo 2 Upgraded stormwater system at the Lower Otaraoa Rd wellsite

1.3 Resource consents

1.3.1 Water discharge permits

Section 15(1)(a) of the RMA stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations.

SENZL holds water discharge permit **5997-1** to cover the discharge of treated stormwater from the Pohokura Production Station to an existing stormwater control system, being a body of water commonly known as 'the Duck Pond' within the Manu Stream catchment. This permit was issued by the Taranaki Regional Council on 16 June 2003 under Section 87(e) of the RMA. It was transferred to SENZL on 14 March 2006. A change to special condition 3 was requested by SENZL and made in May 2011 to allow for the addition of a gas reinjection facility adjacent to the Lower Otaraoa Rd wellsite. A further change was made in November 2014 to increase the permitted chloride concentration in the discharge. The consent is due to expire on 1 June 2033.

There are ten special conditions attached to the consent.

Conditions 1 and 2 require provision of details relating to contingency and stormwater management planning to the Council.

Conditions 3 and 4 require adherence to the consent conditions and the information submitted in the applications, and adoption of the best practicable option at all times.

Condition 5 requires that hazardous substances storage areas be bunded with drainage to appropriate recovery systems, not to the stormwater catchment.

Conditions 6, 7 and 8 impose limits on contaminants in the discharge, and stipulate effects that the discharge shall not give rise to in the Manu Stream.

Conditions 9 and 10 are lapse and review provisions.

SENZL also holds water discharge permit **6269-1** to cover the discharge of treated stormwater from hydrocarbon exploration and production operations at the Lower Otaraoa Road Wellsite to the Duck Pond within the Manu Stream catchment. This permit was issued by the Taranaki Regional Council on 10 November 2004 under Section 87(e) of the RMA. It was transferred to SENZL on 14 March 2006. A change to the conditions was made in November 2014 to increase the permitted chloride concentration in the discharge. It is due to expire on 1 June 2033.

There are twelve special conditions attached to the consent.

Conditions 1 and 2 require adherence to the consent conditions and the information submitted in the application, and adoption of the best practicable option at all times.

Condition 3 requires the provision of contingency planning details for the wellsite to the Council.

Condition 4 requires the consent holder to notify the Council prior to the commencement of site works and drilling operations.

Conditions 5 and 6 restrict the size of the stormwater catchment area, and require all site stormwater to be directed through the treatment system prior to discharge.

Condition 7 requires that hazardous substances storage areas be banded with drainage to appropriate recovery systems, not to the stormwater catchment.

Conditions 8, 9 and 10 impose limits on contaminants in the discharge, and stipulate effects that the discharge shall not give rise to in the Manu Stream.

Conditions 11 and 12 are lapse and review provisions.

Shell Exploration NZ Ltd also holds water discharge permit **6176-1** to cover the discharge of waste drilling fluids, produced water and stormwater from hydrocarbon exploration and production operations by deepwell injection at the Lower Otaraoa Road Wellsite. This permit was issued by the Taranaki Regional Council on 23 May 2003 under Section 87(e) of the RMA. Changes were made to the conditions of the permit on 10 January 2005 and 9 June 2005. It was transferred to SENZL on 14 March 2006. A change to special condition 5 was requested by SENZL and made on 9 August 2013 to move the due date for annual reporting from May to August. It is due to expire on 1 June 2033.

There are seven special conditions attached to the consent.

Condition 1 requires the submission of the injection well log and an injection management plan to the Council prior to the exercise of the consent.

Condition 2 stipulates that the activity must not contaminate or endanger any actual or potentially useable freshwater aquifers.

Conditions 3, 4 and 5 stipulate monitoring and reporting requirements relating to injection parameters and the composition of injected wastes.

Conditions 6 and 7 are lapse and review provisions.

The permits are attached to this report in Appendix I.

1.3.2 Air discharge permits

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations.

Shell Exploration NZ Ltd holds air discharge permit **6002-1** to cover the discharge of contaminants to air as products of combustion from the Pohokura Production Station involving equipment burning natural gas as fuel where the maximum heat release is in excess of 10 megawatts, together with miscellaneous emissions. This permit was issued by the Taranaki Regional Council on 16 June 2003 under Section 87(e) of the RMA. Changes were made to the conditions of the permit on 11 April 2005. It was transferred to SENZL on 14 March 2006. A change to special condition 4 was requested by SENZL and made on 9 August 2013 to move the due date for annual reporting from May to August. The consent is due to expire on 1 June 2033.

Eighteen special conditions are attached to the consent regarding: information and notification (incident reporting, site planning, consultation prior to alteration of plant equipment or processes, BTEX emission reduction strategies); emissions from the site (best practicable option, appropriate equipment and processes, plant maintenance, noxious and offensive airborne contaminants, oxides of carbon and nitrogen); recording and reporting (gas stream analysis, annual air discharge report, visible smoke log); and lapse and review provisions.

Shell Exploration NZ Ltd also holds air discharge permit **6003-1** to cover the discharge of emissions to air from combustion involving the flaring of petroleum products incidental to the treatment of gas at the Pohokura Production Station. This permit was issued by the Taranaki Regional Council on 16 June 2003 under Section 87(e) of the RMA. Changes were made to the conditions of the permit on 11 April 2005. It was transferred to SENZL on 14 March 2006. A change to special condition 4 was requested by SENZL and made on 9 August 2013 to move the due date for annual reporting from May to August. The consent is due to expire on 1 June 2033.

The twenty one special conditions attached to the consent are the same as those for consent 6002-1 above, but also include requirements for: notification of neighbouring residents prior to commissioning of the plant; maintenance of a flaring log; minimisation of flaring; prevention of black smoke during depressurisation; and notification to the Council when flaring of more than five minutes duration is expected.

The permits are attached to this report in Appendix I.

1.3.3 Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations.

Shell Exploration NZ Ltd held discharge permit **6364-1** to cover the discharge of soil previously mingled with sludge, resin and other petrochemical wastes, and recovered from land, onto and into land between the Waipapa Stream and the Manu Stream. This permit was issued by the Taranaki Regional Council on 2 April 2004 under Section 87(e) of the RMA. Changes were made to the conditions of the permit on 20 May 2004 and 29 September 2009. It was transferred to SENZL on 14 March 2006 and expired on 1 June 2015. Renewal of this consent was not required.

There were eleven special conditions imposed on consent 6364-1.

Conditions 1 and 2 required the preparation and maintenance of a management plan for the disposal area.

Condition 3 stipulated that no additional waste may be discharged to the area.

Condition 4 stipulated that no sludge would be relocated to within 25 metres of any property boundary, excluding that of the Motunui methanol plant.

Condition 5 required annual groundwater monitoring in the vicinity of the disposal area, and included provision for soil testing if required.

Condition 6 stipulated effects that the discharge would not give rise to in any water body.

Condition 7 was a review provision.

Conditions 8 and 9 required the consent holder to undertake the activity in accordance with the application, and that no discharge would occur outside the specified area.

Conditions 10 and 11 required the approval of the Council prior to relocating any soil from the specified area to any other area, and prior to any change in land use that may have resulted in release of contaminants to the environment.

The permit is attached to this report in Appendix I.

1.3.4 Coastal permits

Section 12(2)(a) of the RMA stipulates that no person may occupy any part of the coastal marine area unless expressly allowed by a rule in a regional coastal plan and in any relevant proposed regional coastal plan or by a resource consent.

SENZL holds coastal permit **5991-1** to occupy the coastal marine area for a radius of 50 metres around up to three offshore wellhead platforms situated at least 4 kilometres offshore, and also for a distance of 50 metres either side of the associated pipelines connecting the three offshore wellhead platforms to the foreshore at mean high water spring. This permit was issued by the Taranaki Regional Council on 16 June 2003 under Section 87(e) of the RMA and granted by Hon Chris Carter pursuant to the provisions of section 119 of the RMA on 12 July 2003. It is due to expire on 1 June 2033.

There are seven special conditions attached to the permit.

Condition 1 requires the consent holder to map the position of the platform(s) and provide a copy to the relevant authorities.

Conditions 2, 3 and 5 relate to public access.

Condition 4 requires the consent holder to adopt best practicable option to minimise effects on the environment.

Conditions 6 and 7 are lapse and review provisions.

Section 14 of the Resource Management Act stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14.

SENZL holds coastal permit **5992-1** to take produced water and associated heat from aquifers in the coastal marine area associated with hydrocarbon exploration and production activities. This permit was issued by the Taranaki Regional Council on 16 June 2003 under Section 87(c) of the RMA. It is due to expire on 1 June 2033.

There are three special conditions attached to the consent.

Condition 1 requires that the activity be carried out in accordance with the application.

Conditions 2 and 3 are lapse and review provisions.

Section 12(1)(b) of the Resource Management Act stipulates that no person may erect, reconstruct, place, alter, extend, remove, or demolish any structure that is fixed in, on, under, or over any foreshore or seabed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations.

SENZL holds coastal permit **5993-1** to erect, place, use, reconstruct, alter, extend and maintain within the coastal marine area up to three offshore wellhead platforms, 24 structures (being well casings) situated at least 4 kilometres offshore, and the associated pipelines connecting the three offshore wellhead platforms by horizontal directional drilling to the shore above mean high water spring, and the related occupation of the seabed. This permit was issued in July 2003 by the Minister of Conservation under Section 87(c) of the RMA. Changes to conditions of the permit were made in March 2005 and August 2005. It is due to expire on 1 June 2033.

There are 13 special conditions attached to the permit.

Conditions 1, 2 and 3 require the consent holder to provide detailed plans of the activity, a programme for the installation of the platform(s) and pipeline(s), and a contingency plan (the latter two also to be provided to Ngati Rahiri Hapu).

Condition 4 requires that the structures are maintained in accordance with information submitted in the application.

Conditions 5, 6 and 7 relate to burial of the pipelines, possible exposure of the pipelines and the provision of a map showing the position of the pipeline(s) and platform(s).

Condition 8 deals with notification of maintenance works.

Condition 9 requires the consent holder to adopt the best practicable option to avoid or minimise the discharge of contaminants.

Condition 10 requires that all activity comply with the noise standards of the Regional Coastal Plan (RCP).

Condition 11 deals with re-instatement of the site.

Conditions 12 and 13 are lapse and review provisions.

SENZL also holds coastal permit **5994-1** to disturb the seabed and foreshore of the coastal marine area (CMA) by the process of erection, placement, use alteration,

extension, maintenance, or removal of up to three offshore wellhead platforms situated at least 4 kilometres offshore, and the associated pipelines connecting up to three offshore wellhead platforms to the foreshore above mean high water spring by the use of horizontal directional drilling. This permit was issued in July 2003 by the Minister of Conservation under Section 87(c) of the RMA. Changes to conditions of the permit were made in March 2005. It is due to expire on 1 June 2033.

There are 20 special conditions attached to the permit.

Condition 1 requires the consent holder to provide detailed plans of the activity at least one month prior to the exercise of the consent.

Condition 2 requires that the consent holder, in conjunction with Council and tangata whenua, relocate, as far as practicable, kaimoana from the area to be disturbed.

Conditions 3 and 4 require the preparation of a contingency plan and a wildlife management plan.

Condition 5 requires the consent holder to establish artificial substrate to assist with kelp relocation and reinstatement.

Condition 6 requires the consent holder to provide Council and the Ngati Rahiri Hapu with a programme for the disturbance prior to commencement of works.

Condition 7 states that there shall be no re-fuelling of land based machinery in the coastal marine area.

Condition 8 requires the consent holder to notify the Council and the Ngati Rahiri Hapu prior to any maintenance involving disturbance, deposition or discharge to the CMA.

Condition 9 requires that work is carried out as proposed in the application.

Conditions 10, 11 and 12 deal with the best practicable option to avoid or minimise adverse effects on the environment and limiting disturbance.

Condition 13 requires that disturbance complies with noise standards as outlined in the RCP.

Conditions 14, 15, 16 and 17 stipulate requirements upon the discovery of archaeological remains.

Condition 18 relates to re-instatement of the site, while conditions 19 and 20 are lapse and review provisions.

SENZL also holds coastal permit **10096-1** to occupy the coastal marine area with four pipelines (well casings) extending from the Lower Otaraoa Road wellsite for hydrocarbon production purposes. This permit was issued by the Taranaki Regional Council on 20 March 2015 under Section 87(c) of the RMA. It is due to expire on 1 June 2033.

There are two special conditions attached to the consent.

Condition 1 requires that the activity be carried out in accordance with the application.

Condition 2 is a review provision.

The permits are attached to this report in Appendix I.

1.3.5 Related consents

SENZL also holds nine consents in relation to the Pohokura facilities which did not require active monitoring during the period under review. A summary of these consents is provided in Table 1. Deepwell injection consent 6175-1 has not yet been exercised. Only the stormwater discharge (5210-1) and coastal structure (5485-1) consents for the inactive Pohokura-A wellsite on Epiha Rd are being renewed. The Company will apply for new exploration consents should activities resume at this site.

Table 1 Additional consents related to the Pohokura facilities

Consent number	Purpose	Issue date	Expiry
5210-1	To discharge up to 50 cubic metres/day of uncontaminated stormwater and treated stormwater from hydrocarbon exploration and production operations at the Pohokura-A wellsite onto and into land between the Waihi Stream and Parahaki Stream [under renewal]	30/09/1998	2015
5484-1	To take up to 160 cubic metres/day of produced water and associated heat from the coastal marine area from four wells on the Pohokura-A wellsite for hydrocarbon exploration and production purposes [not being renewed]	11/06/1999	2015
5485-1	To erect, place and maintain a pipeline (well casing) in the coastal marine area from the Pohokura-A wellsite for hydrocarbon exploration and production purposes [under renewal]	11/06/1999	2015
6000-1	To erect, place, use and maintain a bridge over the bed of an unnamed tributary of the Waipapa Stream for vehicle access purposes	16/06/2006	2033
6005-1	To discharge emissions into the air from the flaring of hydrocarbons, together with miscellaneous emissions, arising from hydrocarbon exploration and production testing operations involving up to 48 zones at the Lower Otaraoa Road wellsite	16/06/2003	2033
6175-1	To discharge waste drilling fluids, produced water and stormwater from hydrocarbon exploration and production operations by deepwell injection at the Pohokura-A wellsite	23/05/2003	2033
6254-1	To erect, place and maintain a culvert in an unnamed tributary of the Waipapa Stream for State Highway 3 road widening purposes	18/12/2003	2033
6577-1	To install, construct and maintain a water bore for horizontal directional drilling purposes	13/04/2005	2023
7918-1	To discharge stormwater and sediment onto and into land in circumstances where it may enter water from earthworks associated with the construction of a gas reinjection plant at the Pohokura Production Station	26/09/2011	2016

The permits are attached to this report in Appendix I.

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets out obligations upon the Council to gather information, monitor, and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region and report upon these.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations, and seek information from consent holders.

The monitoring programme for the Pohokura Production Station consisted of four primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- in discussion over monitoring requirements;
- preparation for any reviews;
- renewals;
- new consents;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

The Pohokura facilities were visited five times during the monitoring period. With regard to consents for the discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the consent holder were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was surveyed for environmental effects.

1.4.4 Chemical sampling

The Council undertook sampling of the stormwater discharges from the site. The combined discharge was sampled on three occasions, and the samples analysed for chloride, conductivity, hydrocarbons, pH, suspended solids and turbidity.

1.4.5 Data review

The conditions on various consents require the consent holder to provide information and data to Council, including the results of sampling, flaring logs, produced water records and various reports.

2. Results

2.1 Water

2.1.1 Inspections

Five inspections were undertaken at the Pohokura Production Station and surrounding environment during the 2014-2015 monitoring year. The following was found during the inspections:

30 August 2014

A site inspection was undertaken in reasonably clear weather conditions with a light north westerly breeze. All ring drains, bunds and separators were clear of debris and no evidence of any contaminants was apparent. The firewater pond had some wind blown debris floating around but this would not have caused any problems. The wetland area was clear of contaminants and water entering from the eastern ring drain was not causing any visual effects. The GRI site was neat and tidy, and the skimmer pits were clean and contained clear water. A sample of the combined stormwater discharge was taken. The sites were neat, tidy and well managed. Everything was satisfactory.

13 October 2014

A site inspection was undertaken during fine weather. There were very low flows in the neighbouring streams and in the site's wetland area. The firewater pond and separators were clear of any contaminants. Minimal flaring was being undertaken at the time of inspection. The site was neat and tidy. A sample of the combined stormwater discharge was taken. There was no activity at the GRI area. The Company was asked to check the contents of a drum in an unbunded area by the truck load-out facility.

9 April 2015

A foreshore inspection was undertaken during a period of constant heavy rainfall. The inspection paid particular attention to stormwater discharges from Lake Manu (the Duck Pond). No effects or odours were noticed at this point. The aquatic vegetation appeared healthy and did not give rise to any concerns. The coastal marine area in the vicinity of the pipelines to the offshore platform was not affected by the installation of the pipelines and the whole area was typical of north Taranaki coastline. The wind was from the north west and an odour survey carried out downwind of the plant did not give rise to any concerns. Everything was satisfactory.

14 April 2015

A site inspection was undertaken with a STOS environmental officer following very heavy rainfall over the previous days. Samples of the discharge were taken at the stormwater monitoring station by the wetland. The site was generally very neat and tidy, and had coped well with the rainfall. The Company was queried about the height of some of the bunds and about the GRI stormwater discharge to the first stage of the separator system. These were to be followed up.

22 June 2015

A perimeter inspection of the site was undertaken following extreme weather conditions in Taranaki. As part of other ambient monitoring along the coast adjacent to the Pohokura Production Station, the stormwater discharge point from the plant

through Lake Manu to the foreshore was checked. No visual effects were encountered and the site stormwater system appeared to have coped with the deluge. No off site effects were noted from flaring. The wind was from the south and no smoke or odours were noted at the beach.

2.1.2 Results of discharge monitoring

Samples were collected of the combined discharge from the wellsite and production station at the wetland outlet (site STW002075, Figure 1) on three occasions during the monitoring year. Table 2 presents the results of these samples. Levels of suspended solids, hydrocarbons, chloride and pH complied with the limits prescribed by consents 5997-1 and 6269-1 on all occasions.

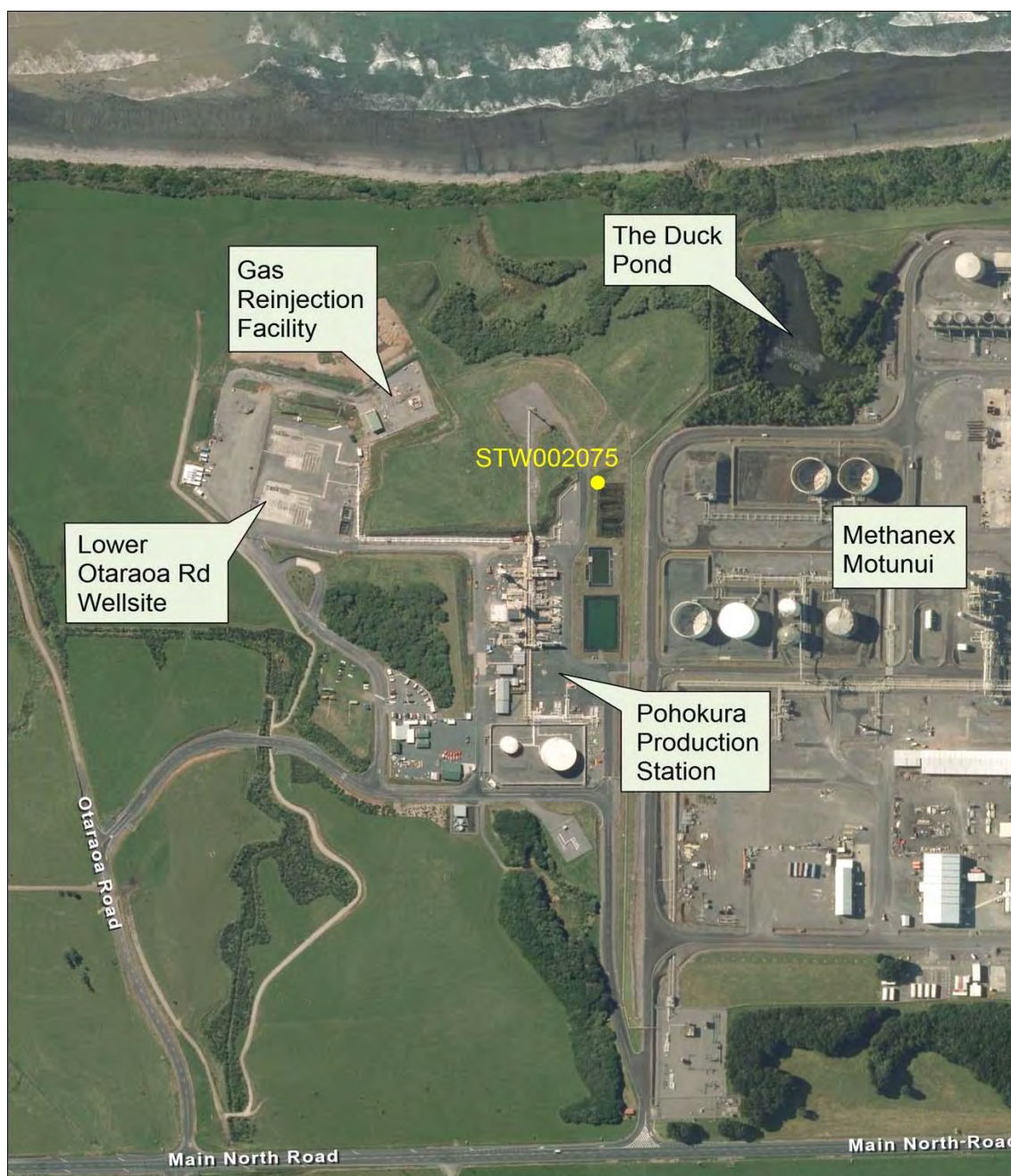


Figure 1 Pohokura onshore facilities and the combined discharge sampling site STW002075

Table 2 Results from samples of the combined stormwater discharge (STW002075)

Parameter		30 Aug 2014	13 Oct 2014	14 Apr 2015	Consent limits
Chloride	g/m ³	18.9	30.1	29.8	300
Conductivity	mS/m	14.8	33.8	17.0	-
Hydrocarbons	g/m ³	< 0.5	< 0.5	< 0.5	15
pH	pH	7.3	7.7	6.9	6.5 - 8.5
Suspended solids	g/m ³	2	9	3	100
Turbidity	NTU	1.3	4.3	3.1	-

2.1.3 Results of consent holder monitoring

2.1.3.1 Stormwater monitoring by SENZL

SENZL monitors the combined stormwater discharge from the site on an approximately monthly basis. Table 3 shows the results obtained during the 2014-2015 monitoring year. All parameters were within/below the limits set by consents 5997-1 and 6269-1, and were indicative of a consistently clean discharge.

Table 3 Results of stormwater samples collected by SENZL during the 2014-2015 year

Date	Hydrocarbons g/m ³	Suspended solids g/m ³	pH	Chloride g/m ³
15 July 2014	< 0.5	3	7.0	85
20 Aug 2014	< 0.5	< 2	7.5	44
16 Sep 2014	0.5	5	8.0	22
20 Oct 2014	< 0.5	3	6.8	38
17 Nov 2014	< 0.5	7	7.3	< 15
18 Nov 2014	< 0.5	4	7.0	40
17 Dec 2014	< 0.5	< 2	7.9	41
20 Jan 2015	< 0.5	< 2	8.2	39
17 Feb 2015	0.5	3	8.0	38
1 Apr 2015	< 0.5	4	7.7	96
8 Apr 2015 (1)	< 0.5	6	7.2	20
8 Apr 2015 (2)	< 0.5	8	8.1	21
22 Apr 2015	< 0.5	3	8.2	31
19 May 2015	0.5	3	7.6	34
Consent limits	15	100	6.5 – 8.5	300

2.1.3.2 Produced water monitoring and deep well injection by SENZL

Produced water is saline water, inherent in well-stream fluids with gas and liquid hydrocarbons. It is separated at the production station, stored in a dedicated tank and then pumped intermittently, as volume requires, down the injection well located at the Lower Otaraoa Road wellsite under consent 6176-1.

Deep well injection (DWI) is often utilised as liquid waste disposal technology and provides an alternative to the surface disposal of such material. The DWI process utilises specially designed injection wells to pump liquid waste into deep geological formations, hydrocarbon reservoirs or confined saline aquifers. The receiving formations generally contain water that is too saline to be of any potential use. Impermeable geological seals overlying the injection intervals restrict any potential vertical migration of injected wastes into shallow freshwater aquifers.

Condition 4 of consent 6176-1 requires the consent holder to monitor the injected wastes monthly for a variety of parameters (without setting any limits for these). Table 4 shows the results obtained over the 2014-2015 monitoring year.

Table 4 Pohokura produced water analysis for July 2014 – June 2015

Date	HC g/m ³	Salinity g/m ³	pH	Dissolved solids g/m ³	Suspended solids g/m ³	Chloride g/m ³
15 Jul 2014	62	9,300	6.5	9,614	20	4,294
20 Aug 2014	33	9,800	6.6	9,712	15	4,542
16 Sep 2014	51	8,800	6.7	12,034	20	4,690
20 Oct 2014	155	9,300	6.6	9,832	21	4,874
28 Oct 2014	22	9,300	7.2	8,634	18	4,935
18 Nov 2014	30	9,100	6.6	9,750	17	5,225
17 Dec 2014	31	7,700	6.7	7,614	15	3,992
20 Jan 2015	38	9,800	6.6	105	11	5,463
17 Feb 2015	24	7,200	6.7	7,590	22	3,762
1 Apr 2015	31	9,800	7.0	10,197	12	5,288
22 Apr 2015	33	10,700	7.0	10,987	12	5,848
19 May 2015	26	6,300	6.7	6,103	8	3,655
18 May 2015	31	11,600	6.7	10,020	6	6,398

Condition 3 of consent 6176-1 requires the consent holder to also record the amount of material injected. This data is provided to the Council by SENZL and is summarized in Figure 2.

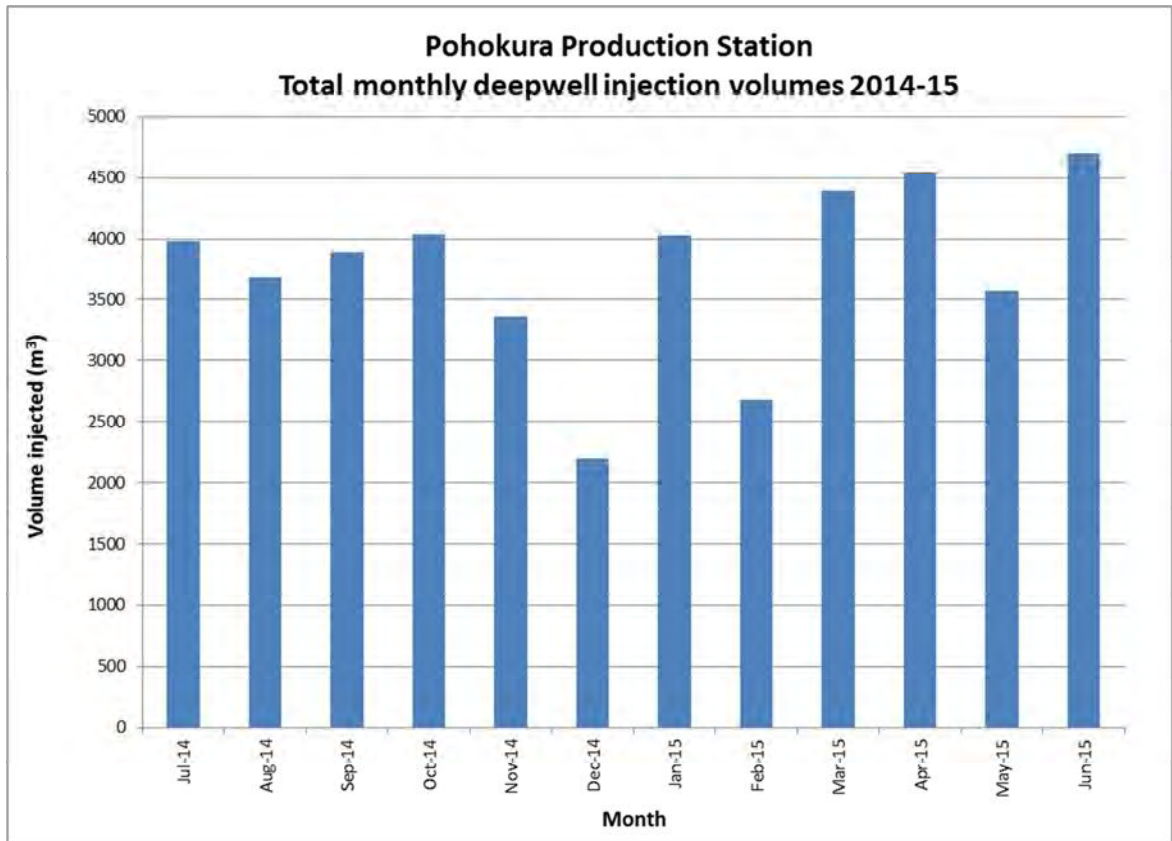


Figure 2 Monthly summary of deepwell injection volumes under consent 6176-1

The total volume of produced water disposed of by DWI in the period July 2014 to June 2015 was 45,085 m³.

2.1.3.3 Groundwater monitoring by SENZL

Consent 6364-1 covered the discharge of soil previously mingled with sludge, resin and other petrochemical wastes to land between the Waipapa Stream and the Manu Stream. The land for which this consent applies was previously owned by Methanex Motunui and was purchased by SENZL (then Shell Todd Oil Services Ltd) as part of the development of the Pohokura Production Station. The area had been used by Methanex to discharge river silt taken from their water treatment facilities and sludge that had been cleaned out of various process vessels. It is located in the north-eastern corner of the Pohokura site, between the main flare stack and The Duck Pond. The sludge contained zeolite catalyst, ceramic balls and elevated levels of nickel, zinc and copper.

With the purchase of the land, the discharge permit held by Methanex Motunui for this soil and wastes was transferred to SENZL, including the requirement for SENZL to comply with the conditions of the consent originally held by Methanex Motunui. Significant works were undertaken in this area during the construction of the Pohokura facilities. Retention of any uncovered soil or sludge on site during the works and the subsequent reinstatement of the horizontal directional drilling pad to pasture mean that the contaminated soil layers are now contained beneath clean fill and topsoil in the disposal area. No additional waste material was permitted to be added to the area under this consent.

Condition 5 of the consent required SENZL to provide annual analyses of groundwater samples from monitoring wells in the vicinity of the disposal area. In order to comply with this condition, four new monitoring wells were drilled in January 2007 to replace wells that were destroyed during the Pohokura construction phase. In the year under review, groundwater sampling was undertaken at four sites, with one duplicate and one blank control tested for hydrocarbons. The results are given in Table 5. They show a slight decrease in contaminants compared with previous sampling rounds, with only two minor exceedances of ANZECC trigger values that can be attributed to the contaminated soil legacy issue. Hydrocarbons were not detected in any sample. The levels of metals detected do not give rise to any grounds for concern in relation to the ecological quality of surface water in the vicinity.

Table 5 Results of 30 April 2015 groundwater testing reported by SENZL

Monitoring well	PGW-01	PGW-03	PGW-04	PGW-05	PGW-05 duplicate	PGW-TB Blank
Total Petroleum Hydrocarbons (g/m³)						
C ₇ -C ₉	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
C ₁₀ -C ₁₄	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
C ₁₅ -C ₃₆	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Total C ₇ -C ₃₆	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Metals (g/m³)						
Arsenic	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
Cadmium	0.00011	0.00021	0.0001	0.00013	-	-
Chromium	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	-
Copper	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	-
Lead	< 0.00010	< 0.00010	< 0.00010	< 0.00010	-	-
Nickel	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	-
Zinc	0.0023	0.0036	0.0039	0.0961	-	-

***Bold values** exceed ANZECC Trigger Values for Freshwater, 95% species protection

Because there is no further disposal of wastes occurring under consent 6364-1 and monitoring by the Company has demonstrated that there are negligible ongoing environmental effects relating to the original wastes, this consent was allowed to expire in June 2015 and will not be renewed.

2.2 Air

2.2.1 Inspections

Inspection notes are included in section 2.1.1 above. No issues regarding air quality were noted during the monitoring period.

2.2.2 Flaring and fuel gas use reported by SENZL

In December 2004 the New Zealand Parliament passed the Resource Management (Energy and Climate Change) Amendment Act, which relieved regional councils from the obligation to consider the effects on climate change of discharges into air of

greenhouse gases. Holders of resource consents to discharge emissions to air were no longer required to provide any information on green house gas emissions, and consents were amended accordingly. However, some consent holders, including SENZL, are still required to provide reports on emissions from gas combustion, as indicative of any potential for local concern over such emissions.

There are a number of products of flaring that are of interest because of their potential effects upon local air quality. Combustion processes that are well controlled release nitrogen oxides, while incomplete combustion will emit carbon monoxide and volatile or semi-volatile organic compounds that cause smoke and odour, and these can be highly injurious to health in concentrated form. Information on volumes of gas combusted in the Taranaki region assists the Council and consent holders in determining whether this is a significant issue in the region.

Condition 4 of consents 6002-1 and 6003-1 requires SENZL to submit a report in August each year regarding emissions and flaring, while condition 11 of consent 6003-1 requires SENZL to keep a log of all flaring incidents. Emission data for the Pohokura Production Station were provided to the Council by SENZL on a monthly basis, expressed as total gas flared and total fuel gas used over a one day period. A summary of these datasets is graphically presented in Figure 3.

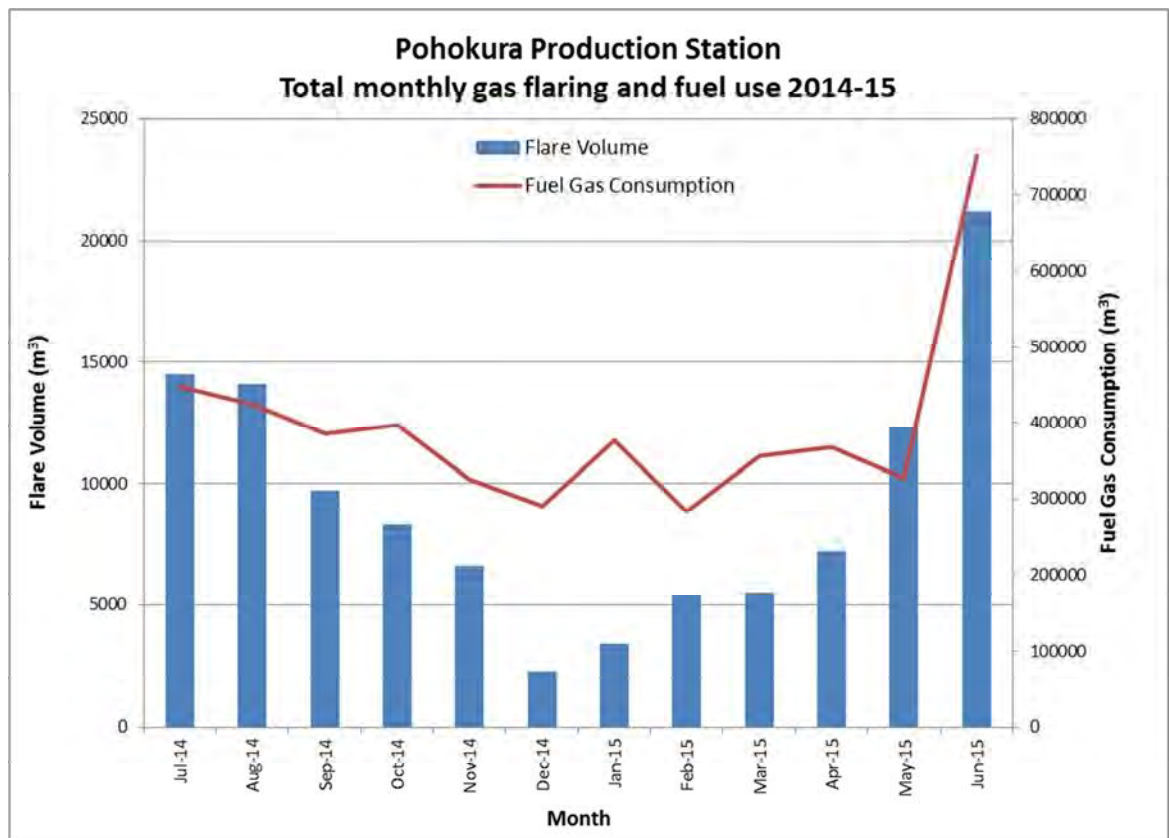


Figure 3 Monthly flare volumes and fuel gas consumption for July 2014 to June 2015

The variation in monthly flare volumes is generally closely aligned with production, as the majority of flare emission come from use of the produced water degasser. Lower volumes of flaring between September 2014 and April 2015 were related to lower production, and also decreased use of the gas reinjection compressor. Fuel gas

consumption was relatively consistent throughout the period with an increase in June 2015 associated with increasing production.

Shell has an internal requirement to reduce flaring and it is no longer permitted to have continuous flaring in new installations. As natural gas is one of the products sold by SENZL from the Pohokura Production Station it is commercially sensible to recover as much gas as possible. The flare has been installed in the event the plant needs to be shutdown or depressurised in an emergency situation. The gas reinjection facility also allows SENZL to increase condensate production without necessitating increased flaring of surplus gas.

There were no complaints received by the Company or the Council relating to air emissions at Pohokura Production Station during the period under review.

2.2.3 Results of receiving environment monitoring by SENZL

Ambient air quality monitoring at a number of sites around the boundary of the Pohokura Production Station has been undertaken by SENZL since June 2012 to assess offsite BTEX (benzene, toluene, ethylbenzene and xylenes) levels.

In 2013, AECOM was contracted to carry out continuous real-time monitoring for BTEX at four sites around the production station. The results of this work showed that there were no exceedances of the relevant New Zealand Workplace Exposure Standards for BTEX constituents at any of the monitored locations.

Elevated benzene levels, however, continue to be found at certain monitoring locations when compared to relevant ambient air quality guidelines. The elevated results are considered to reflect a combination of the predominantly westerly winds and the proximity of the monitoring locations to the two principle benzene sources on site, which are the condensate and produced water storage tanks. Monitoring has indicated that the presence of ambient benzene is mainly due to periodic emissions from the condensate tank, as well as tank filling operations. Areas where there are elevated benzene levels are limited to unoccupied industrial land, inaccessible to the public.

In response, SENZL has changed the way it operates the plant with the aim of further reducing the BTEX emissions. The Company is also investigating the installation of a set of temporary monitors to further confirm that the emissions from site are not in exceedance of the relevant facility consent conditions, specifically relating to Workplace Exposure Standards. Quarterly passive badge monitoring for BTEX emissions is ongoing.

2.3 Offshore

2.3.1 Marine and coastal monitoring by SENZL

SENZL has committed to undertaking ongoing ecological assessments of the coastal area surrounding the Pohokura site to monitor the natural health of surrounding reefs as a means of operator and environmental best practise. These surveys will establish a data history and knowledge of the reefs as well as gaining an insight into how the reefs are affected by sand inundation.

During November 2014, a qualitative intertidal ecological survey was undertaken at three reefs during low tide. The reefs were: Nikorima Reef at the end of Otaraoa Road on the western boundary of the Pohokura gas field consented area; Epiha Reef on the eastern boundary of the consented area; and Turangi Reef, which is 1.5 km east of Epiha Reef and is used as a control site for routine monitoring. This section of the north Taranaki coastline is of cultural importance to a number of hapu. Three representatives of the Ngati Rahiri hapu were present during the surveys which allowed discussions regarding the reasoning behind the ecological surveys, the methodology used, and a summary of what was found. These reef sites are also used by the Council as part of the resource consent compliance monitoring programme and they have also been used by North Taranaki iwi as kaimoana monitoring sites, a programme established by iwi and Shell in 2001.

The November 2014 survey concluded:

Over the last five years of qualitative ecological surveys along the three north Taranaki reefs, it appears that sand inundation greatly influences the species diversity and species abundance. However, over time and as the sand recedes and moves up the coast with the littoral drift, these intertidal reef communities can quickly recover and recolonise.

The qualitative intertidal ecological survey undertaken in 2014 indicated that species diversity and species abundance across the three north Taranaki reefs was high, indicating a stable and healthy reef environment along this section of Taranaki coastline. It is likely that the lack of sand currently present on these three reef systems has contributed to a healthy reef rich in marine life. This has continued on from 2013, with the species diversity recorded at Turangi Reef being the highest since the inception of the Motunui intertidal monitoring programme.

The Taranaki coastline is a high energy environment and transportation of sand along the coast from the natural littoral drift is a common occurrence. The intertidal species which inhabit this coastline are tolerant or have adapted to living with sand inundation and can quickly recolonise an area once the sand recedes. The north Taranaki coastline is a high wave energy environment due to the prevailing onshore winds; where pockets of sand can settle for a short duration (i.e. days to weeks) before continuing up the coast. Rapid recolonisation often occurs following this with the reefs quickly recovering (i.e. within six months). This is in fact the underlying purpose of these qualitative surveys; to gain an understanding of how these reefs respond to natural events (i.e. sand inundation), how quickly they can recover over time and to collect a qualitative data set for species diversity and abundance.

Overall the Motunui ecological monitoring programme has indicated that Nikorima, Epiha and Turangi reefs are comparable with other intertidal reefs around the Taranaki coastline, especially those that experience some form of sand inundation over time. As mentioned above, the 2014 monitoring results at Turangi Reef have recorded the highest species diversity since this monitoring programme first commenced, indicating a healthy reef with good water quality. The health of these reefs demonstrates that even though the Pohokura platform has been in operation since 2005, a healthy reef environment still remains along the north Taranaki coastline. This supports the fact that when managed correctly, the petroleum industry can operate around sensitive environments without negative effects on the environment.

2.4 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the consent holder. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual courses of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

The Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The Incident Register (IR) includes events where the Company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified company is indeed the source of the incident (or that the allegation cannot be proven).

In the 2014-2015 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in resource consents or provisions in Regional Plans.

3. Discussion

3.1 Discussion of site performance

Monitoring of the Pohokura Production Station during the period under review found that the site was well managed. All consent conditions relating to site operations and management were complied with. A highly proactive approach to environmental stewardship and best practice continues to be demonstrated by the Company.

3.2 Environmental effects of exercise of consents

Results of stormwater discharge sampling were within the limits prescribed by the consents for the wellsite and production station at all times. No adverse effects were noted on the receiving environment as a result of this discharge.

There were no adverse effects on the environment resulting from discharges to air at the Pohokura facility. Inspections showed that emissions from flaring and other sources were well controlled. Monitoring commissioned by the Company showed that there were no exceedances of the relevant New Zealand Workplace Exposure Standards for BTEX constituents at any of the monitored locations. Passive absorption monitoring, however, continued to show elevated benzene levels downwind of the condensate and produced water storage tanks compared to relevant ambient air quality guidelines. Operational changes and engineering work by the Company and its consultants to investigate potential plant modifications to reduce benzene emissions are ongoing.

Ecological assessment of the intertidal coastal area surrounding the Pohokura site found very high species diversity and abundance across the three studied reefs, indicating a stable and healthy reef environment with high water quality along the north Taranaki coastline. The ongoing ecological surveys have shown that the health of the reefs in the vicinity is comparable to other reefs around the Taranaki coastline that are subjected to sand inundation. SENZL activities in the area do not appear to have had any adverse effect on the coastal environment.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Tables 6-16.

Table 6 Summary of performance for Consent 5991-1

Purpose: To occupy the coastal marine area for a radius of 50 metres around up to three offshore wellhead platforms situated at least 4 kilometres offshore, and also for a distance of 50 metres either side of the associated pipelines connecting the three offshore wellhead platforms to the foreshore at mean high water spring		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Survey and map position of completed platforms and pipeline within 90 days of completion of construction	Information supplied	Yes
2. Exercise of consent shall not limit public access to coastal marine area	Inspections and liaison with consent holder	Yes

Purpose: To occupy the coastal marine area for a radius of 50 metres around up to three offshore wellhead platforms situated at least 4 kilometres offshore, and also for a distance of 50 metres either side of the associated pipelines connecting the three offshore wellhead platforms to the foreshore at mean high water spring		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Restriction of public access to Motunui foreshore during construction or maintenance kept to a minimum	Inspections and liaison with consent holder	Yes
4. BPO to prevent or minimise adverse environmental effects	Inspections and liaison with consent holder	Yes
5. Notification to Council and hapu of maintenance works	Notifications received	Yes
6. Lapse of consent	Consent exercised within lapse period	N/A
7. Optional review of consent	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 7 Summary of performance for Consent 5992-1

Purpose: To take produced water and associated heat from aquifers in the coastal marine area associated with hydrocarbon exploration and production activities		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Activity undertaken in accordance with application	Inspections and liaison with consent holder	Yes
2. Consent lapse	Consent exercised within lapse period	N/A
3. Optional review of consent	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 8 Summary of performance for Consent 5993-1

Purpose: To erect, place, use, reconstruct, alter, extend and maintain within the coastal marine area up to three offshore wellhead platforms, 24 structures (being well casings) situated at least 4 kilometres offshore, and the associated pipelines connecting the three offshore wellhead platforms by horizontal directional drilling to the shore above mean high water spring, and the related occupation of the seabed		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Written plans required at least one month prior to exercise of consent	Plans received	Yes
2. Schedule of proposed works provided to Council and hapu	Schedule received	Yes

Purpose: To erect, place, use, reconstruct, alter, extend and maintain within the coastal marine area up to three offshore wellhead platforms, 24 structures (being well casings) situated at least 4 kilometres offshore, and the associated pipelines connecting the three offshore wellhead platforms by horizontal directional drilling to the shore above mean high water spring, and the related occupation of the seabed		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Contingency plan provided	Plan received	Yes
4. Structures constructed and maintained in accordance with application	Inspections and liaison with consent holder	Yes
5. Plans of proposed burial depth of pipelines	Plans received	Yes
6. Re-burial of pipelines if exposed	Pipeline surveys	N/A
7. Survey and map of location of platforms and pipelines	Provided to relevant parties	Yes
8. Notification to Council and hapu of maintenance works	Notifications received	Yes
9. BPO to avoid or minimise adverse environmental effects	Inspections and liaison with consent holder	Yes
10. Compliance with noise standards	Inspections	Yes
11. Removal of structures and reinstatement of site	Structures still operational	N/A
12. Lapse of consent	Consent exercised within lapse period	N/A
13. Optional review of consent	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 9 Summary of performance for Consent 5994-1

Purpose: To disturb the seabed and foreshore of the coastal marine area by the process of erection, placement, use, alteration, extension, maintenance, or removal of up to three offshore wellhead platforms situated at least 4 kilometres offshore, and the associated pipelines connecting up to three offshore wellhead platforms to the foreshore above mean high water spring by the use of horizontal directional drilling		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Written plans required at least one month prior to exercise of consent	Plans received	Yes
2. Recover and relocate kaimoana	No excavation work required along shoreline	N/A
3. Contingency plan provided	Plan received	Yes
4. Preparation of wildlife management plan	Plan received	Yes

Purpose: To disturb the seabed and foreshore of the coastal marine area by the process of erection, placement, use, alteration, extension, maintenance, or removal of up to three offshore wellhead platforms situated at least 4 kilometres offshore, and the associated pipelines connecting up to three offshore wellhead platforms to the foreshore above mean high water spring by the use of horizontal directional drilling		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Artificial substrate for kelp re-seeding	Use of HDD under foreshore did not result in large area of kelp disturbance	N/A
6. Plan of proposed works to Council and hapu	Plan received	Yes
7. No refuelling of land based machinery within coastal marine area	No excavation work required along shoreline	N/A
8. Notification to Council and hapu of maintenance works	Notifications received	Yes
9. Disturbance undertaken in accordance with application	Inspections and liaison with consent holder	Yes
10. BPO to avoid or minimise adverse environmental effects	Inspections, contingency plans, wildlife plan, intertidal and subtidal surveys	Yes
11. Foreshore and seabed disturbance kept to a minimum	Inspections, intertidal and subtidal surveys	Yes
12. No adverse ecological effects outside of disturbance corridor	Intertidal and subtidal surveys	Yes
13. Compliance with noise standards	Inspections	Yes
14. Works to cease if archaeological remains discovered	Works not undertaken in the coastal area during the period under review	N/A
15. Hapu to have access in event of a significant archaeological find	Works not undertaken in the coastal area during the period under review	N/A
16. Time limits for archaeological requirements	Works not undertaken in the coastal area during the period under review	N/A
17. Works to recommence when advised by Council	Works not undertaken in the coastal area during the period under review	N/A
18. Temporary structures removed and area reinstated when no longer required	Works not undertaken in the coastal area during the period under review	N/A
19. Lapse of consent	Consent exercised within lapse period	N/A
20. Optional review of consent	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 10 Summary of performance for Consent 5997-1

Purpose: To discharge treated stormwater from an Onshore Production Station to an existing stormwater control system, being a body of water commonly known as 'The Duck Pond' within the Manu Stream catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Contingency plan submitted prior to exercise of consent	Received and approved 15 April 2005	Yes
2. Details of stormwater planning submitted within 1 month of completion of site	Received and approved 27 January 2006	Yes
3. Exercised in accordance with application information, SC2, and to ensure consent conditions met at all times	Inspection, sampling and provision of information	Yes
4. Best practicable option to prevent or minimise adverse effects	Inspection and liaison with consent holder	Yes
5. Above ground hazardous substance storage areas drained to recovery systems not stormwater	Inspection and liaison with consent holder	Yes
6. Limits on contaminants in discharge	Sampling and results of self-monitoring	Yes
7. Limits on temperature and BOD increase below the mixing zone	Not sampled during period under review	N/A
8. Effects on receiving water below the mixing zone	Inspection	Yes
9. Lapse of consent	Consent exercised within lapse period	N/A
10. Review provisions	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 11 Summary of performance for Consent 6002-1

Purpose: To discharge contaminants to air as products of combustion from an Onshore Production Station involving equipment burning natural gas as fuel where the maximum heat release is in excess of 10 megawatts, together with miscellaneous emissions		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option to prevent or minimise adverse effects	Inspections and liaison with consent holder	Yes
2. Selection, operation and maintenance of equipment and processes to minimise emissions and impacts	Inspections and liaison with consent holder	Yes
3. Analysis of gas/condensate/crude stream	Analysis not requested	N/A
4. Annual reporting during August of each year	Report received	Yes

Purpose: To discharge contaminants to air as products of combustion from an Onshore Production Station involving equipment burning natural gas as fuel where the maximum heat release is in excess of 10 megawatts, together with miscellaneous emissions		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Emission abatement equipment operated appropriately and well maintained at all times	Inspection and self-monitoring	Yes
6. Consultation on alterations	Inspection and liaison with consent holder	Yes
7. Provision of final site lay-out plan	Received	Yes
8. Provision of report on BTEX abatement within 6 months of granting consent	Included in design documents and annual reports	Yes
9. Notification and reporting on incidents or potential incidents	Notifications received	Yes
10. Records kept of smoke, relief valve and complaints and made available to TRC	Records viewed at inspection and in annual reports	Yes
11. Dangerous levels of airborne contaminants not permitted	Inspection and self-monitoring	Yes
12. No objectionable odour, dust or smoke	Inspection and received complaints	Yes
13. No toxic contaminants beyond boundary	Inspection and self-monitoring	Yes
14. Ground level carbon monoxide limit	Not monitored during period under review	N/A
15. Ground level nitrogen oxides limit	Not monitored during period under review	N/A
16. Ground level limit for any other contaminant	Results of self-monitoring for BTEX compounds in compliance with workplace exposure standards	Yes
17. Lapse of consent	Consent exercised within lapse period	N/A
18. Review provisions	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 12 Summary of performance for Consent 6003-1

Purpose: To discharge emissions to air from combustion involving the flaring of petroleum products incidental to the treatment of gas at an Onshore Production Station		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option to prevent or minimise adverse effects	Inspection and liaison with consent holder	Yes
2. Selection, operation and maintenance of equipment and processes to minimise emissions and impacts	Inspection and liaison with consent holder	Yes

Purpose: To discharge emissions to air from combustion involving the flaring of petroleum products incidental to the treatment of gas at an Onshore Production Station		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Analysis of gas/condensate/crude stream	Analysis not requested	N/A
4. Annual reporting during August of each year	Report received	Yes
5. Emission abatement equipment operated appropriately and well maintained at all times	Inspection and liaison with consent holder	Yes
6. Consultation on alterations	Inspection and liaison with consent holder	Yes
7. Provision of final site lay-out plan	Received	Yes
8. Notification of neighbours prior to commissioning	Plant commissioned	Yes
9. Notification and reporting on incidents or potential incidents	Notifications and reports received	Yes
10. Records kept of smoke, relief valve and complaints and made available to TRC	Records viewed at inspection and in annual reports	Yes
11. Maintenance of a flaring log	Monthly electronic log emailed to Council	Yes
12. Practicable steps to minimise flaring	Inspection and liaison with consent holder	Yes
13. Prevention of dense black smoke	Inspection and received complaints	Yes
14. Notification to TRC of extended flaring	Notifications received	Yes
15. No objectionable odour, dust or smoke	Inspection and received complaints	Yes
16. No toxic contaminants beyond boundary	Inspection and monitoring	Yes
17. Ground level carbon monoxide limit	Not monitored during period under review	N/A
18. Ground level nitrogen oxides limit	Not monitored during period under review	N/A
19. Ground level limit for any other contaminant	Results of self-monitoring for BTEX compounds in compliance with workplace exposure standards	Yes
20. Lapse of consent	Consent exercised within lapse period	N/A
21. Review provisions	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 13 Summary of performance for Consent 6176-1

Purpose: To discharge waste drilling fluids, produced water and stormwater from hydrocarbon exploration and production operations by deepwell injection at the Lower Otaraoa Road Wellsite		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Provision of well log and management plan prior to commencement	Received June 2005	Yes
2. Activity not to contaminate actual or potential freshwater aquifers	Inspection and sampling	Yes
3. Record keeping and reporting	Records received	Yes
4. Reporting of chemical analysis of wastes	Results for 2014-2015 received	Yes
5. Annual reporting during August of each year	Report received	Yes
6. Lapse of consent	Consent exercised within lapse period	N/A
7. Review provisions	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 14 Summary of performance for Consent 6269-1

Purpose: To discharge treated stormwater from hydrocarbon exploration and production operations at the Lower Otaraoa Road Wellsite to an existing stormwater control system, being a body of water commonly known as 'The Duck Pond' within the Manu Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option to prevent or minimise adverse effects	Inspection and liaison with consent holder	Yes
2. Exercised in line with application information	Inspection, monitoring and reporting	Yes
3. Contingency plan submitted prior to exercise of consent	Received	Yes
4. Seven days notice prior to commencement of work and of drilling	Notifications received	Yes
5. Limit on stormwater catchment area	Inspection	Yes
6. Treatment of all stormwater prior to discharge	Inspection and monitoring	Yes
7. Above ground hazardous substance storage areas drained to recovery systems not stormwater	Inspection and liaison with consent holder	Yes
8. Limits on contaminants in discharge	Sampling and results of self-monitoring	Yes
9. Limits on temperature and BOD increase below the mixing zone	Not investigated during period under review	N/A

Purpose: To discharge treated stormwater from hydrocarbon exploration and production operations at the Lower Otaraoa Road Wellsite to an existing stormwater control system, being a body of water commonly known as 'The Duck Pond' within the Manu Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
10. Effects on receiving water below the mixing zone	Inspection	Yes
11. Lapse of consent	Consent exercised within lapse period	N/A
12. Review provisions	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 15 Summary of performance for Consent 6364-1

Purpose: To discharge soil previously mingled with sludge, resin and other petrochemical wastes, and recovered from land, onto and into land between the Waipapa Stream and the Manu Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Prepare and maintain management plan	Received	Yes
2. Any updated management plan to provide no lesser level of protection	No updates in period under review	N/A
3. No further sludge or petrochemical waste disposal permitted	Inspection and liaison with consent holder	Yes
4. Sludge not to be relocated to within 25 metres of any property boundary except Methanex	Inspection and liaison with consent holder	Yes
5. Requirements for groundwater and soil sampling	Results received	Yes
6. Limit on effects on any water body	Inspection and monitoring	Yes
7. Review provisions	Reviewed in 2009, expired June 2015	N/A
8. Exercised in accordance with application information	Inspection and liaison with consent holder	Yes
9. Disposal only within defined area	Inspection and liaison with consent holder	Yes
10. Relocation of soil out of the area only if shown to comply with Rule 29 of RFWP	No relocation	N/A
11. Prior Council approval for any change in land use that may release contaminants	No changes made in land use	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 16 Summary of performance for Consent 10096-1

Purpose: To occupy the coastal marine area with four pipelines (well casings) extending from the Lower Otaroa Road wellsite for hydrocarbon production purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Activity undertaken in accordance with application	Inspections and liaison with consent holder	Yes
2. Review provisions	Next optional review scheduled in June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

During the period under review, the Company demonstrated a high level of both environmental performance and administrative compliance with the resource consents as defined in Section 1.1.4. There were no unauthorised incidents recorded by the Council in relation to the Company's activities. The Pohokura facilities were well managed and maintained.

3.4 Recommendations from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

1. THAT monitoring of consented activities at the Pohokura Production Station in the 2014-2015 year be amended from that undertaken in 2013-2014 to reflect the Council's changes to the structure of all monitoring programme estimates.
2. THAT the option for review of resource consents 5991, 5992, 5993, 5994, 5997, 6000, 6002, 6003, 6005, 6175, 6176, 6254 and 6269 in June 2015, as set out in their respective review provisions, not be exercised on the grounds that the current conditions are considered adequate to deal with any adverse effects on the environment arising from the exercise of these resource consents.

These recommendations were implemented.

3.5 Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA, its obligations to monitor emissions/ discharges and effects under the RMA, and report to the regional community. The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere/ discharging to the environment.

It is proposed that for 2015-2016 the monitoring of consented activities at the Pohokura Production Station and associated facilities continue at the same level as in 2014-2015. A recommendation to this effect is attached to this report.

4. Recommendation

1. THAT monitoring of consented activities at the Pohokura Production Station and associated facilities in the 2015-2016 year continue at the same level as in 2014-2015.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

Al*	Aluminium.
As*	Arsenic.
Biomonitoring	Assessing the health of the environment using aquatic organisms.
BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
BODF	Biochemical oxygen demand of a filtered sample.
Bund	A wall around a tank to contain its contents in the case of a leak.
CBOD	Carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter, excluding the biological conversion of ammonia to nitrate.
cfu	Colony forming units. A measure of the concentration of bacteria usually expressed as per 100 millilitre sample.
COD	Chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m.
Cu*	Copper.
Cumec	A volumetric measure of flow- 1 cubic metre per second (1 m ³ s ⁻¹).
DO	Dissolved oxygen.
DRP	Dissolved reactive phosphorus.
E.coli	Escherichia coli, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
Ent	Enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre of sample.
F	Fluoride.
FC	Faecal coliforms, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m ² /day	grams/metre ² /day.
g/m ³	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.

Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
IR	The Incident Register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
m ²	Square Metres.
MCI	Macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
mS/m	Millisiemens per metre.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
NH ₄	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH ₃	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NO ₃	Nitrate, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
O&G	Oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons).
Pb*	Lead.
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
PM ₁₀	Relatively fine airborne particles (less than 10 micrometre diameter).
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act 1991</i> and including all subsequent amendments.
SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
UI	Unauthorised Incident.

Zn*

Zinc.

*an abbreviation for a metal or other analyte may be followed by the letters 'As', to denote the amount of metal recoverable in acidic conditions. This is taken as indicating the total amount of metal that might be solubilised under extreme environmental conditions. The abbreviation may alternatively be followed by the letter 'D', denoting the amount of the metal present in dissolved form rather than in particulate or solid form.

For further information on analytical methods, contact the Council's laboratory.

Bibliography and references

- Taranaki Regional Council (2014): Shell Exploration NZ Ltd Pohokura Production Station Monitoring Programme Annual Report 2013-2014. Technical Report 2014-38
- Taranaki Regional Council (2014): Shell Exploration NZ Ltd Pohokura Production Station Monitoring Programme Annual Report 2012-2013. Technical Report 2013-87
- Taranaki Regional Council (2014): Shell Exploration NZ Ltd Pohokura Production Station Monitoring Programme Biennial Report 2010-2012. Technical Report 2012-100
- Taranaki Regional Council (2013): Shell Exploration NZ Ltd Pohokura Production Station Monitoring Programme Report 2006-2010. Technical Report 2010-42
- Taranaki Regional Council (2009): Shell Pohokura Offshore Report 2007-2009. Technical Report 2009-23
- Taranaki Regional Council (2008): Shell Pohokura Offshore Annual Report 2006-2007. Technical Report 2007-58

Appendix I

**Resource consents held by
Shell Exploration NZ Ltd**
(For a copy of the resource consent
please contact the TRC consent department)

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 30 September 1998

Conditions of Consent

Consent Granted: To discharge up to 50 cubic metres/day of uncontaminated stormwater and treated stormwater from hydrocarbon exploration and production operations onto and into land between the Waihi Stream and Parahaki Stream at or about GR: Q19:230-458

Expiry Date: 1 June 2015

Review Date(s): June 2003, June 2009

Site Location: Pohokura-A Wellsite, Epiha Road, Waitara [Property owner: SP&DE Honeyfield]

Legal Description: Ngatirahiri 3F1 Block Blk II Waitara SD

Catchment: Parahaki

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. That the consent holder shall ensure that the treatment system and discharge of uncontaminated and treated stormwater takes place in accordance with the information submitted in support of application 147, including a perimeter drain and a skimmer pit system.
2. That the exercise of this consent, including the design and management of the treatment system, shall not lead or be liable to lead to contaminants entering a surface water body.
3. That no adverse effects shall occur to groundwater or soil in the vicinity of the discharge, as result of the exercise of this consent.
4. That the discharge shall not contain total recoverable hydrocarbons [infrared spectroscopic technique] in excess 15 gm^{-3} and 200 gm^{-3} suspended solids at any time.
5. That prior to the exercise of this consent, the consent holder shall provide for the written approval of the Chief Executive a contingency plan and map outlining measures and procedures undertaken to prevent a spillage, or accidental discharge of materials and/or waters not licensed by this consent and procedures to be carried out should such a spillage or discharge occur.
6. That the consent holder shall install an energy dissipation device to the discharge pipe.
7. That the exercise of this consent shall not give rise to any discharges to the urupa or any adverse effects to the urupa.
8. That the consent holder shall advise the Chief Executive prior to the commencement of reinstatement of the site.

Consent 5210-1

9. That stormwater will be pumped and removed from the wellsite [by truck or otherwise] for disposal elsewhere whenever the skimmer pits approach full or at intervals of no more than 7 days. In circumstances where the rainfall causes the storage capacity of the skimmer pits to be exceeded during the period between pumped removal, the stormwater will be allowed to drain to the stormwater discharge point located on Ngatirahiri 4J Block.
10. That the stormwater discharge point will be located on Ngatirahiri 4J Block at a location which is no closer than 300 metres to the legal boundary of part Ngatirahiri 3E Block and the discharge pipe will face away from Puketuakura Urupa.
11. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2003 and/or June 2009, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects of the discharge on the environment arising from the exercise of this consent, which were not foreseen at the time the application was considered, and which it was appropriate to deal with at that time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 11 June 1999

Conditions of Consent

Consent Granted: To take up to 160 cubic metres/day of produced water and associated heat from the coastal marine area from four wells on the Pohokura-A wellsite for hydrocarbon exploration and production purposes at or about GR: Q19:229-457

Expiry Date: 1 June 2015

Review Date(s): June 2003, June 2009

Site Location: Pohokura-A, Epiha Road, Motunui, Waitara [Property owner: P & D E Honeyfield]

Legal Description: Ngatirahiri 3F2 Block Blk II Waitara SD

Catchment: Tasman Sea

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

- 1. That the activity licensed by this consent shall be undertaken in general accordance with the documentation submitted in support of application 654.
- 2. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2003 and/or June 2009, for the purpose of ensuring that the conditions adequately deal with the environmental effects arising from the exercise of this consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 13 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 11 June 1999

Conditions of Consent

Consent Granted: To erect, place and maintain a pipeline [well casing] in the coastal marine area from the Pohokura-A wellsite for hydrocarbon exploration and production purposes at or about GR: Q19:220-500

Expiry Date: 1 June 2015

Review Date(s): June 2003, June 2009

Site Location: Pohokura-A, Epiha Road, Motunui, Waitara [Property owner: P & D E Honeyfield]

Legal Description: Ngatirahiri 3F2 Block Blk II Waitara SD

Catchment: Tasman Sea

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

- 1. That the activity licensed by this consent shall be undertaken in general accordance with the documentation submitted in support of application 655.
- 2. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2003 and/or June 2009, for the purpose of ensuring that the conditions adequately deal with the environmental effects arising from the exercise of this consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 16 June 2003

Conditions of Consent

Consent Granted: To occupy the coastal marine area within a corridor defined by the co-ordinates as WGS84 degrees, minutes, and seconds: 38 50 49.38 - 174 15 2175; 38 51 45.50 - 174 12 59.67; 38 56 54.42 - 174 19 32.96; 38 56 57.28 - 174 16 32.98; 38 59 1.19 - 174 17 47.02; 38 59 12.30 - 174 16 15.30; for a radius of 50 metres around up to three offshore wellhead platforms situated at least 4 kilometres offshore, and also for a distance of 50 metres either side of the associated pipelines connecting the three offshore wellhead platforms to the foreshore at mean high water spring at or about GR: Q19:210-457

Expiry Date: 1 June 2033

Review Date(s): June 2004, June 2009, June 2015, June 2021, June 2027

Site Location: Offshore platforms, Coastal marine area from mean high water spring between Otaraoa Road, Waipapa, and Epiha Road, Motunui, Waitara, and extending up to 15 km offshore within a corridor defined by co-ordinates as above.

Legal Description: n/a

Catchment: Tasman Sea

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall survey and map the position of the platform[s] and the pipeline[s], within 90 days of the completion of their construction, and shall provide a copy of the plan showing the precise location [to within plus or minus 5 metres] of the structure[s] on the seabed, and the location of the occupied areas to the Taranaki Regional Council, the Hydrographic Office, Royal New Zealand Navy, and the Maritime Safety Authority.
2. With the exception a 50 metre radius of any platform, or as required for safety purposes during: construction, inspection, maintenance or removal, of the structure[s] licensed by coastal permit 5993; construction, use, inspection, maintenance or removal of the structure[s] licensed by coastal permit 6052; or the disturbance licensed by coastal permit 5994, the exercise of this consent shall not prevent the free passage of any member of the public through the coastal marine area.
3. The restriction of public access to the foreshore at Motunui shall be limited in time and space to the minimum required for the purpose of safety requirements related to: construction, inspection, maintenance or removal, of the structure[s] licensed by coastal permit 5993; construction, use, inspection, maintenance or removal of the structure[s] licensed by coastal permit 6052; or the disturbance licensed by coastal permit 5994. In any case the restriction shall be limited to a distance of 100 metres from the pipeline route and/or construction zone. When practicable provision will be made for public access through/past the construction zone with respect to the foreshore.
4. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or potential effect on the environment arising from the occupation of the coastal marine area.

Consent 5991-1

5. The consent holder shall notify the Chief Executive and the Ngati Rahiri Hapu in writing at least 48 hours prior to commencement and upon completion of any subsequent maintenance works which would involve restriction of public access within the coastal marine area.
6. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
7. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2004 and/or June 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 16 June 2003

Conditions of Consent

Consent Granted: To take produced water and associated heat from aquifers in the coastal marine area associated with hydrocarbon exploration and production activities at or about GR: Q19:210-457

Expiry Date: 1 June 2033

Review Date(s): June 2003, June 2009, June 2015, June 2021, June 2027

Site Location: Offshore platforms, Coastal marine area from mean high water spring between Otaraoa Road, Waipapa, and Epiha Road, Motunui, Waitara, and extending up to 15 km offshore within a corridor defined by the co-ordinates as WGS84 degrees, minutes and seconds:
38 50 49.38 – 174 15 21.75; 38 51 45.50 – 174 12 59.67;
38 56 54.42 – 174 19 32.96; 38 56 57.28 – 174 16 32.98;
38 59 1.19 – 174 17 47.02; 38 59 12.30 – 174 16 15.30

Legal Description: n/a

Catchment: Tasman Sea

Tributary: Tasman Sea

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

- 1. The activity authorised by this consent shall be undertaken in general accordance with the documentation submitted in support of application 1782.
- 2. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
- 3. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2003 and/or June 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Change To Conditions Date: 8 August 2005 [Granted: 12 July 2003]
[by the Minister of Conservation]

Conditions of Consent

Consent Granted: To erect, place, use, reconstruct, alter, extend and maintain within the coastal marine area up to three offshore wellhead platforms, 24 structures (being well casings) situated at least 4 kilometres offshore, and the associated pipelines connecting the three offshore wellhead platforms by horizontal directional drilling to the shore above mean high water spring, and the related occupation of the seabed at or about GR: Q19:210-457

Expiry Date: 1 June 2033

Review Date(s): June 2004, June 2009, June 2015, June 2021, June 2027

Site Location: Coastal marine area from mean high water spring between Otaraoa Road, Waipapa, and Epiha Road, Motunui, Waitara, and extending up to 15 kilometres offshore within a corridor defined by the co-ordinates as WGS84 degrees, minutes and seconds:
38 50 49.38 – 174 15 21.75; 38 51 45.50 – 174 12 59.67;
38 56 54.42 – 174 19 32.96; 38 56 57.28 – 174 16 32.98;
38 59 1.19 – 174 17 47.02; 38 59 12.30 – 174 16 15.30

Legal Description: n/a

Catchment: Tasman Sea

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

Condition 1 - changed

1. At least one month prior to the exercise of this consent the consent holder shall provide, to the written satisfaction of the Chief Executive, detailed plans of the activity to confirm that the proposal is generally in accordance with the application and supporting documentation and will comply with all of the conditions of this consent. In addition (in the event of open trenching, but not for Horizontal Directional Drilling) the route of the pipeline bundle shall lie between 10 to 15 degrees east of true north from the position that it crosses Mean High Water Spring to the 5 metre depth contour. If Horizontal Directional Drilling is used the route of the pipeline shall lie between 28 to 36 degrees east of true north from the position that it crosses Mean High Water Spring to about the 10 metre depth contour.

Conditions 2 to 13 – unchanged

2. At least 10 working days prior to the commencement of works the consent holder shall provide the Taranaki Regional Council and the Ngati Rahiri Hapu with a programme for the installation/construction of the platform[s] and pipeline[s] including: a schedule of proposed start dates and an estimation of the duration of the works, and details of the contractor including contact information for the project manager.
3. Prior to the exercise of this consent the consent holder shall provide, to the satisfaction of the Chief Executive, a written construction contingency plan, outlining measures to be undertaken in the event of a spill as a result of works authorised by this consent. Further, prior to the exercise of this consent the consent holder shall provide to the Chief Executive, written confirmation of the acceptance by the Maritime Safety Authority of a New Zealand Offshore Installation Site Marine Oil Spill Contingency Plan. A copy of the approved written contingency plan shall be provided to the Ngati Rahiri Hapu within 5 working days.

Consent 5993-1

4. The structures licensed by this consent shall be constructed and maintained in general accordance with the information submitted in support of the application, special condition 1 above, and to ensure that the conditions of this consent are met at all times.
5. At least one month prior to the exercise of this consent, the consent holder shall provide, to the written satisfaction of the Chief Executive, detailed plans of the proposed burial depth of the pipelines between Mean High Water Spring and the 5 metre depth contour, including any other sufficient technical information to demonstrate that the buried pipelines will not be exposed by erosion of the seabed.
6. If the pipeline[s] become exposed between Mean High Water Spring and the 5 metre depth contour, the consent holder shall immediately notify the Chief Executive and the Maritime Safety Authority. The consent holder shall rebury the pipeline[s] in accordance with the information supplied under special condition 5 above as soon as is practicable, and in any case within 30 days, unless this requirement is waived in writing by the Chief Executive.
7. The consent holder shall survey and map the position of the platform[s] and the pipeline[s], [including details of the pipeline[s] position in relation to the seabed], within 90 days of the completion of their construction, and shall provide a copy of the plan showing the precise location [to within plus or minus 5 metres] of the structure[s] on/in the seabed, to the Taranaki Regional Council, the Hydrographic Office, Royal New Zealand Navy, and the Maritime Safety Authority.
8. The consent holder shall notify the Chief Executive and the Ngati Rahiri Hapu in writing at least 48 hours prior to commencement and upon completion of any subsequent maintenance works which would involve significant disturbance of, or deposition, or discharge to, the coastal marine area.
9. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to avoid or minimise the discharge of any contaminants into coastal water or onto the foreshore or seabed and to avoid or minimise any adverse effects on coastal water quality or ecosystems.
10. The construction, use, maintenance and removal of the structure[s] authorised by this consent shall comply with the noise standards as outlined within section 4.4.3 of the Regional Coastal Plan for Taranaki.
11. Except with the written agreement of the Chief Executive, all structures [with the exception of well casings within the seabed], authorised by this consent shall be removed and the area[s] reinstated, if and when the structure[s] are no longer required. The consent holder shall notify the Chief Executive and the Ngati Rahiri Hapu in writing at least 1 month prior to any structure[s] removal. Reinstatement shall be to the satisfaction of the Chief Executive.
12. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Consent 5993-1

13. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete, or add to the conditions of this resource consent by giving notice of review during the month of June 2004 and/or June 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Change To Conditions Date: 18 March 2005 [Granted: 12 July 2003]
[by the Minister of Conservation]

Conditions of Consent

Consent Granted: To disturb the seabed and foreshore of the coastal marine area by the process of erection, placement, use, alteration, extension, maintenance, or removal of up to three offshore wellhead platforms situated at least 4 kilometres offshore, and the associated pipelines connecting up to three offshore wellhead platforms to the foreshore above mean high water spring by the use of horizontal directional drilling at or about GR: Q19:210-457

Expiry Date: 1 June 2033

Review Date(s): June 2004, June 2009, June 2015, June 2021, June 2027

Site Location: Coastal marine area from mean high water spring between Otaraoa Road, Waipapa, and Epiha Road, Motunui, Waitara, and extending up to 15 kilometres offshore within a corridor defined by the co-ordinates as WGS84 degrees, minutes and seconds:
38 50 49.38 – 174 15 21.75; 38 51 45.50 – 174 12 59.67;
38 56 54.42 – 174 19 32.96; 38 56 57.28 – 174 16 32.98;
38 59 1.19 – 174 17 47.02; 38 59 12.30 – 174 16 15.30

Legal Description: n/a

Catchment: Tasman Sea

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. At least one month prior to the exercise of this consent the consent holder shall provide, to the written satisfaction of the Chief Executive, detailed plans of the activity to confirm that the proposal is generally in accordance with the application and supporting documentation and will comply with all of the conditions of this consent.
2. Prior to the exercise of this consent the consent holder in conjunction with the Taranaki Regional Council and tangata whenua shall endeavour as far as is practicable to recover and relocate all paua, kina, and other kaimoana from the area to be disturbed.
3. Prior to the exercise of this consent the consent holder shall provide to the satisfaction of the Chief Executive a written disturbance contingency plan outlining measures to be undertaken in the event of a spill as a result of works authorised by this consent. A copy of the approved written contingency plan shall be provided to the Ngati Rahiri Hapu within 5 working days.
4. Prior to the exercise of this consent the consent holder shall prepare, in consultation with the Department of Conservation and tangata whenua a wildlife management plan to the satisfaction of the Chief Executive setting out the mitigation and restoration methods proposed to minimise adverse effects on wildlife and blue penguin in particular.
5. Prior to the exercise of this consent the consent holder shall establish artificial substrate, so as to encourage the seeding of kelp onto the said substrate, to assist with kelp relocation and reinstatement.
6. At least 10 working days prior to the commencement of works the consent holder shall provide the Taranaki Regional Council and the Ngati Rahiri Hapu with a programme for the disturbance associated with installation/construction, [or removal], of the platform[s] and pipeline[s] including: a schedule of proposed start dates and an estimation of the duration of the works, and details of the contractor including contact information for the project manager.

Consent 5994-1

7. There shall be no refuelling of land based machinery within the coastal marine area.
8. The consent holder shall notify the Chief Executive and the Ngati Rahiri Hapu in writing at least 48 hours prior to commencement and upon completion of any subsequent maintenance works which would involve disturbance of, or deposition, or discharge to, the coastal marine area.
9. The disturbance licensed by this consent shall be undertaken in general accordance with the information submitted in support of the application, special condition 1 above, and to ensure that the conditions of this consent are met at all times.
10. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to avoid or minimise the discharge of silt, sediments or any other contaminants into coastal water or onto the foreshore or seabed and to avoid or minimise the disturbance of the foreshore or seabed and any adverse effects on coastal water quality or ecosystems.
11. The consent holder shall ensure that the duration, area and volume of foreshore and seabed disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated to the satisfaction of the Chief Executive.
12. Outside of the disturbance corridor extending 50 metres either side of the pipeline the exercise of this consent shall not give rise to any significant adverse ecological effects including effects to kaimoana.
13. The disturbance authorised by this consent shall comply with the noise standards as outlined within section 4.4.3 of the Regional Coastal Plan for Taranaki.
14. In the event that any archaeological remains are discovered as a result of the exercise of this consent, the works shall cease immediately at the affected site. The on-site Ngati Rahiri Hapu representative, the on-site archaeologist and the Chief Executive of the Taranaki Regional Council shall be notified immediately, and be invited to inspect the site. The consent holder shall ensure that access is provided to the Ngati Rahiri Hapu representative and the archaeologist to carry out field work.
15. In the event of any find of significance, the Ngati Rahiri Hapu shall have all reasonable access to the site to carry out their specific requirements in terms of that find.
16. Unless otherwise agreed with the consent holder, the Ngati Rahiri Hapu shall complete their activities within the following times:
 - i) In areas where the seabed and foreshore has previously been disturbed as a result of previous works, the Ngati Rahiri Hapu shall have a maximum of two days to undertake their specific requirements in terms of the find;
 - ii) In areas where the seabed and foreshore has not previously been disturbed as a result of previous works, and there is a find of koiwi, the Ngati Rahiri Hapu shall have a maximum of 10 days to undertake their specific requirements in terms of that find; and

- iii) In areas where the seabed and foreshore has not previously been disturbed as a result of previous works, and where there is a find of taonga other than koiwi, the Ngati Rahiri Hapu shall have a maximum of five days to carry out their specific requirements in terms of that find.
17. Works may recommence at the affected area when advised to do by the Chief Executive. Such advice shall be given after the Chief Executive has considered: tangata whenua interest and values, the consent holder's interests, the interests of the public generally, and any archaeological or scientific evidence. The New Zealand Police, Coroner, and Historic Places Trust shall also be contacted as appropriate, and the work shall not recommence in the affected area until any necessary statutory authorisations or consents have been granted.
18. All temporary structure[s] including sheet piling and the like associated with the disturbance authorised by this consent shall be removed and the area[s] reinstated, if and when the structure[s] are no longer required. The consent holder shall notify the Chief Executive and the Ngati Rahiri Hapu in writing at least 48 hours prior to any structure[s] removal. Reinstatement shall be to the satisfaction of the Chief Executive.
19. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
20. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2004 and/or June 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Private Bag 2035
New Plymouth 4342

Decision Date
(Change): 20 November 2014

Commencement Date
(Change): 20 November 2014 (Granted Date: 16 June 2003)

Conditions of Consent

Consent Granted: To discharge treated stormwater from an Onshore
Production Station to an existing stormwater control system,
being a body of water commonly known as 'The Duck Pond'
within the Manu Stream catchment

Expiry Date: 01 June 2033

Review Date(s): June 2015, June 2021, June 2027

Site Location: Pohokura Production Station, Lower Otaraoa Road,
Motunui, Waitara

Legal Description: Lot 1 DP 334095 Ngatirahiri 2B2A2A Blk Pt Ngatirahiri 2B1
Blk Pt Sec 3 Blk I Waitara SD Ngatirahiri 2B2B1 Blk
Ngatirahiri 2B2A2B Blk Ngatirahiri 2C1B Blk Ngatirahiri
2B2A1 Blk Pt Ngatirahiri 2B2B2 Blk Lot 1 DP (Discharge
source & site)

Grid Reference (NZTM) 1710824E-5683712N

Catchment: Manu

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) That the consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. Prior to the exercise of this consent, the consent holder shall provide for the written approval of the Chief Executive, Taranaki Regional Council, site specific details relating to contingency planning for the site.
2. Within one month of the completion of the development of the site the consent holder shall provide, to the satisfaction of the Chief Executive, Taranaki Regional Council, detailed plans of stormwater catchment and drainage pathways, including clean areas, potentially contaminated areas, and bunded areas, and the containment, treatment and discharge systems put into place.
3. The exercise of this consent shall be conducted in accordance with the information submitted in support of applications 1787, 6768 and 8177, special condition 2 above, and to ensure that the conditions of this consent are met at all times.
4. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects of the discharge on any water body.
5. Any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or other appropriate recovery systems, and not to the stormwater catchment.
6. The following concentrations shall not be exceeded in the discharge:

Component	Concentration
pH (range)	6.5-8.5
suspended solids	100 gm ⁻³
total recoverable hydrocarbons (infrared spectroscopic technique)	15 gm ⁻³
chloride	300 gm ⁻³

Consent 5997-1.2

This condition shall apply prior to the entry of the treated stormwater into the body of water known as 'The Duck Pond' at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

7. After allowing for reasonable mixing, within a mixing zone extending to the downstream end of the body of water known as 'The Duck Pond' the discharge shall not give rise to any of the following effects in the receiving waters of the Manu Stream:
 - a) an increase in temperature of more than 2 degrees Celsius;
 - b) an increase in biochemical oxygen demand of more than 2.00 gm⁻³.
8. After allowing for reasonable mixing, within a mixing zone extending to the downstream end of the body of water known as 'The Duck Pond' the discharge point the discharge shall not give rise to any of the following effects in the receiving waters of the Manu Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
9. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
10. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 20 November 2014

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 16 June 2003

Conditions of Consent

Consent Granted: To erect, place, use and maintain a bridge over the bed of an unnamed tributary of the Waipapa Stream for vehicle access purposes at or about GR: Q19:205-450

Expiry Date: 1 June 2033

Review Date(s): June 2009, June 2015, June 2021, June 2027

Site Location: Onshore Production Station, Lower Otaraoa Road,
Motunui, Waitara

Legal Description: Pt Ngatirahiri 2A1 Block, 2A2 Block, 2B 3B1 Block, 2B 3A1 Block, 2B 3A2 Block, Lot 2 DP 9747, Ngatirahiri 2B 3A 3B Block, Ngati Rahiri 2B 3A 3A Block, Lot 1 DP 9747 Pt Ngati Rahiri 2B3A Block

Catchment: Waipapa 3 (Waipapa)

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. At least one month prior to the exercise of this consent the consent holder shall provide, to the written satisfaction of the Chief Executive, detailed plans of a single span bridge to confirm that the proposal is generally in accordance with the application and supporting documentation and will comply with all of the conditions of this consent
2. The Chief Executive and the Ngati Rahiri Hapu O Te Atiawa (Taranaki) Society (Inc) shall be notified in writing at least 7 days prior to commencement of works, and again at least 48 hours prior to any maintenance that would involve any discharge to or disturbance of the unnamed tributary.
3. Prior to the exercise of this consent the consent holder shall provide, to the satisfaction of the Chief Executive a written contingency plan, outlining measures to be undertaken in the event of a spill as a result of works authorised by this consent. A copy of the approved written contingency plan shall be provided to the Ngati Rahiri Hapu O Te Atiawa (Taranaki) Society (Inc) within 5 working days.
4. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise the disturbance of the stream bed and to prevent or minimise any adverse effects on the unnamed tributary.
5. The structure[s] licensed by this consent shall be constructed and maintained in general accordance with the information submitted in support of the application, special condition 1 above, and to ensure the conditions of this consent are met at all times.
6. During the construction and any subsequent maintenance, the consent holder shall observe every practical measure to prevent the discharge or placement of silt and/or organics and/or any other contaminants into any waterway and to minimise the disturbance of the bed of the unnamed tributary.

Consent 6000-1

7. The consent holder shall ensure that disturbance of the bed of the unnamed tributary will be restricted to a practicable minimum and that areas disturbed from the exercise of this consent are to be reinstated to the satisfaction of the Chief Executive.
8. The exercise of this consent shall not restrict the passage of fish.
9. In the event that any archaeological remains are discovered as a result of works authorised by this consent, the works shall cease immediately at the affected site. The on-site Ngati Rahiri representative, the on-site archaeologist and the Chief Executive of the Taranaki Regional Council shall be notified immediately, and be invited to inspect the site. The consent holder shall ensure that access is provided to the Ngati Rahiri representative and the archaeologist to carry out field work.
10. In the event of any find of significance, particularly to the Ngati Rahiri Hapu O Te Atiawa (Taranaki) Society (Inc) shall have all reasonable access to the site to carry out their specific requirements in terms of that find.
11. Unless otherwise agreed with the consent holder, the Ngati Rahiri Hapu O Te Atiawa (Taranaki) Society (Inc) shall complete their activities with in the following times:
 - i) In areas where the earth has previously been disturbed as a result of previous earthworks (as defined on the Site Disturbance Plan attached ref Fig TRC1), the Ngati Rahiri Hapu O Te Atiawa (Taranaki) Society (Inc) shall have a maximum of two days to undertake their specific requirements in terms of the find;
 - ii) In areas where the earth has previously not been disturbed as a result of previous earthworks (as defined on the Site Disturbance Plan attached ref Fig TRC1), and there is a find of koiwi, the Ngati Rahiri Hapu O Te Atiawa (Taranaki) Society (Inc) shall have a maximum of 10 days to undertake their specific requirements in term of that find; and
 - iii) In areas where the earth has not previously been disturbed as a result of previous earthworks (as defined on the Site Disturbance Plan attached ref Fig TRC1), and where there is a find of taonga other than koiwi, the Ngati Rahiri Hapu O Te Atiawa (Taranaki) Society (Inc) shall have a maximum of five days to carry out their specific requirements in terms of that find.
12. Works may recommence at the affected areas when advised to do so by the Chief Executive. Such advice shall be given after the Chief Executive has considered: tangata whenua interest and values, the consent holder's interests, the interests of the public generally, and any archaeological or scientific evidence. The New Zealand Police, Coroner, and Historic Places Trust shall also be contacted as appropriate, and the work shall not recommence in the affected area until any necessary statutory authorisations or consents have been obtained.
13. The structure[s] authorised by this consent shall be removed and the area[s] reinstated, if and when the structure[s] are no longer required. The consent holder shall notify the Chief Executive in writing at least 48 hours prior to the removal of any structure[s]. Reinstatement shall be to the satisfaction of the Chief Executive.

Consent 6000-1

14. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
15. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
Pohokura Operations
Private Bag 2035
NEW PLYMOUTH 4342

Decision Date 9 August 2013
[change]:

Commencement Date 9 August 2013 [Granted: 16 June 2003]
[change]:

Conditions of Consent

Consent Granted: To discharge contaminants to air as products of combustion from an Onshore Production Station involving equipment burning natural gas as fuel where the maximum heat release is in excess of 10 megawatts, together with miscellaneous emissions

Expiry Date: 1 June 2033

Review Date(s): June 2015, June 2021, June 2027

Site Location: Onshore Production Station, Lower Otaraoa Road, Motunui, Waitara

Legal Description: Pt Ngatirahiri 2A1 Block, 2A2 Block, 2B 3B1 Block, 2B 3A1 Block, 2B 3A2 Block, Lot 2 DP 9747, Ngatirahiri 2B 3A 3B Block, Ngati Rahiri 2B 3A 3A Block, Lot 1 DP 9747 Pt Ngati Rahiri 2B3A Block

Grid Reference (NZTM) 1710605E-5683459N

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall at all times adopt the best practicable option [as defined in Section 2 of the Resource Management Act 1991] to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants into the environment arising from the emissions to air from the site.
2. The consent holder shall minimise the emissions and impacts of air contaminants discharged from the site by the selection of the most appropriate process equipment, process control equipment, emission control equipment, methods of control, supervision and operation, and the proper and effective operation, supervision, control and maintenance of all equipment and processes.
3. The consent holder shall make available to the Chief Executive upon request an analysis of a typical gas and/or condensate and/or crude oil stream from the Pohokura field, covering sulphur compound content and the content of carbon compounds of structure C₆ or higher number of compounds
4. The consent holder shall provide to the Taranaki Regional Council during August of each year, for the duration of this consent, a report:
 - a) detailing gas combustion at the production station;
 - b) detailing any measures that have been undertaken by the consent holder to improve the energy efficiency of the production station;
 - c) detailing any measures to reduce smoke emissions;
 - d) detailing any measures to reduce flaring,
 - e) addressing any other issue relevant to the minimisation or mitigation of emissions from the production station; and
 - f) detailing any complaints received and any measures undertaken to address complaints.
5. All equipment used to avoid, remedy or mitigate any effect on the environment from the discharge of emissions into the air shall be maintained in good condition and shall be operated within design parameters at all times that the plant is in operation.

Consent 6002-1

6. Prior to undertaking any alterations to the plant, processes or operations, which may significantly change the nature or quantity of contaminants emitted to air from the site, the consent holder shall first consult with the Chief Executive and shall obtain any necessary approvals under the Resource Management Act 1991.
7. Prior to the commencement of production, the consent holder shall supply to the Chief Executive, a final site lay-out plan, demonstrating configuration of the facilities and equipment so as to avoid or mitigate the potential effects of air emissions.
8. The consent holder shall within 6 months of the granting of this consent provide to the Chief Executive a report on options for the treatment and/or reduction of BTEX emissions from the production station.
9. Any incident having an environmental impact or potential environmental impact which has caused or is liable to cause substantiated complaint or a hazardous situation beyond the boundary of the property on which the production station is located, shall be notified to the Taranaki Regional Council, as soon as possible, followed by a written report to the Chief Executive within one week of the incident, with comment about the measures taken to minimise the impact of the incident and to prevent re-occurrence.
10. The consent holder shall keep and make available to the Chief Executive, upon request, a record of all smoke emitting incidents and all relief valve releases, noting time, duration and cause. The consent holder shall also keep, and make available to the Chief Executive, upon request, a record of all complaints received as a result of the exercise of this consent.
11. The discharges authorised by this consent shall not, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, give rise to any dangerous levels of airborne contaminants at or beyond the boundary of the property including but not limited to any risk of fire or explosion.
12. The discharges authorised by this consent shall not, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, give rise to any levels of odour or dust or smoke that are offensive or obnoxious or objectionable at or beyond the boundary of the property on which the production station is located in the opinion of an enforcement officer of the Taranaki Regional Council.
13. The consent holder shall not discharge any contaminant to air from the site at a rate or a quantity such that the contaminant, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, is or is liable to be hazardous or toxic or noxious at or beyond the boundary of the property where the production station is located, or at any dwellinghouse.

Consent 6002-1

14. The consent holder shall control all emissions of carbon monoxide to the atmosphere from the production station, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration of carbon monoxide arising from the exercise of this consent measured under ambient conditions does not exceed 10 mg m^{-3} [eight-hour average exposure], or 30 mg m^{-3} [one-hour average exposure] at or beyond the boundary of the property on which the production station is located.
15. The consent holder shall control all emissions of nitrogen oxides to the atmosphere from the production station, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration of nitrogen dioxide arising from the exercise of this consent measured under ambient conditions does not exceed $200 \text{ } \mu\text{g m}^{-3}$ [one-hour average exposure] or $100 \text{ } \mu\text{g m}^{-3}$ [24-hour average exposure] or $30 \text{ } \mu\text{g m}^{-3}$ [annual average exposure] at or beyond the boundary of the property on which the production station is located.
16. The consent holder shall control emissions to the atmosphere from the production station of contaminants other than carbon dioxide, carbon monoxide, and nitrogen oxides, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration for any particular contaminant arising from the exercise of this consent, measured under ambient conditions at or beyond the boundary of the property on which the production station is located, is not increased above background levels:
 - a) by more than 1/30th of the relevant Occupational Threshold Value-Time Weighted Average, or by more than the Short Term Exposure Limit at any time [all terms as defined in Workplace Exposure Standards and Biological Exposure Indices for New Zealand, 1992, Department of Labour]; or
 - b) if no Short Term Exposure Limit is set, by more than three times the Time Weighted Average at any time [all terms as defined in Workplace Exposure Standards and Biological Exposure Indices for New Zealand, 1992 Department of Labour].
17. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
18. Subject to the provisions of this condition, the Council may within six months of receiving a report prepared by the consent holder pursuant to condition 4 of this consent, or in June 2009 and/or June 2015 and/or June 2021 and/or June 2027 serve notice that it intends to review the conditions of this resource consent in accordance with section 128(1)(a) of the Resource Management Act 1991 for the purposes of:
 - a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or

Consent 6002-1

- b) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge; and/or
- c) to alter, add or delete limits on mass discharge quantities or discharge or ambient concentrations of any contaminant or contaminants; and/or
- d) taking into account any Act of Parliament, regulation, national policy statement or national environmental standard which relates to limiting, recording, or mitigating emissions of carbon dioxide and/or nitrogen dioxide, and which is relevant to the air discharge from the Pohokura Production Station.

Signed at Stratford on 09 August 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
Pohokura Operations
Private Bag 2035
NEW PLYMOUTH 4342

Decision Date
[change]: 9 August 2013

Commencement Date
[change]: 9 August 2013 [Granted: 16 June 2003]

Conditions of Consent

Consent Granted: To discharge emissions to air from combustion involving the flaring of petroleum products incidental to the treatment of gas at an Onshore Production Station

Expiry Date: 1 June 2033

Review Date(s): June 2015, June 2021, June 2027

Site Location: Onshore Production Station, Lower Otaraoa Road, Motunui, Waitara

Legal Description: Pt Ngatirahiri 2A1 Block, 2A2 Block, 2B 3B1 Block, 2B 3A1 Block, 2B 3A2 Block, Lot 2 DP 9747, Ngatirahiri 2B 3A 3B Block, Ngati Rahiri 2B 3A 3A Block, Lot 1 DP 9747 Pt Ngati Rahiri 2B3A Block

Grid Reference (NZTM) 1710605E-5683459N

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall at all times adopt the best practicable option [as defined in section 2 of the Resource Management Act 1991] to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants into the environment arising from the emissions to air from the flare.
2. The consent holder shall minimise the emissions and impacts of air contaminants discharged from the flare by the selection of the most appropriate process equipment, process control equipment, emission control equipment, methods of control, supervision and operation, and the proper and effective operation, supervision, control and maintenance of all equipment and processes.
3. The consent holder shall make available to the Chief Executive upon request an analysis of a typical gas and/or condensate and/or crude oil stream from the Pohokura field, covering sulphur compound content and the content of carbon compounds of structure C₆ or higher number of compounds
4. The consent holder shall provide to the Taranaki Regional Council during August of each year, for the duration of this consent, a report:
 - a) detailing gas combustion at the production station flare;
 - b) detailing any measures that have been undertaken by the consent holder to improve the energy efficiency of the production station;
 - c) detailing any measures to reduce smoke emissions;
 - d) detailing any measures to reduce flaring,
 - e) addressing any other issue relevant to the minimisation or mitigation of emissions from the production station flare; and
 - f) detailing any complaints received and any measures undertaken to address complaints.

Consent 6003-1

5. All equipment used to avoid, remedy or mitigate any effect on the environment from the discharge of emissions into the air shall be maintained in good condition and shall be operated within design parameters at all times that the flare is in operation.
6. Prior to undertaking any alterations to the plant equipment, processes or operations, which may substantially alter the nature or quantity of flare emissions other than as notified in this consent application, the consent holder shall first consult with the Chief Executive and shall obtain any necessary approvals under the Resource Management Act 1991.
7. Prior to the commencement of production, the consent holder shall supply to the Chief Executive a final site lay-out plan, demonstrating configuration of the facilities and equipment so as to avoid or mitigate the potential effects of air emissions.
8. At least 3 days before the commissioning of the plant, the consent holder shall undertake all practicable measures to notify owners or occupiers of properties within 1 kilometre of the boundary of the property on which the production station flare is located, of the possibility of flaring and smoke emissions. The consent holder shall include in the notification a 24-hour contact telephone number for a representative of the consent holder.
9. Any incident having an environment effect or potential effect which has caused or is liable to cause substantiated complaint or a hazardous situation beyond the boundary of the property on which the production station flare is located, shall be notified to the Taranaki Regional Council, as soon as possible, followed by a written report to the Chief Executive within one week of the incident, with comment about the measures taken to minimise the impact of the incident and to prevent re-occurrence.
10. The consent holder shall keep and make available to the Chief Executive, upon request, a record of all smoke emitting incidents, noting time, duration and cause. The consent holder shall also keep, and make available to the Chief Executive, upon request, a record of all complaints received as a result of the exercise of this consent.
11. The consent holder shall keep and maintain a log of all continuous flaring incidents longer than 5 minutes and any intermittent flaring lasting for an aggregate of 10 minutes or longer in any 60-minute period. Such a log shall contain the date, the start and finish times, the quantity and type of material flared, and the reason for flaring. This log shall be made available to the Chief Executive upon request, and summarised annually in the report required under condition 4.
12. All practicable steps shall be taken to minimise flaring.
13. Other than in emergencies, depressurisation of the plant, or sections of the plant, shall be carried out over a sufficient period of time to prevent dense black smoke from being discharged from the flare.
14. The consent holder shall, whenever practicable, notify the Chief Executive whenever the continuous flaring of hydrocarbons [other than purge gas] is expected to occur for more than five minutes in duration.

Consent 6003-1

15. The discharges authorised by this consent shall not, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, give rise to any levels of odour or dust or smoke that are offensive or obnoxious or objectionable at or beyond the site boundary in the opinion of an enforcement officer of the Taranaki Regional Council.
16. The consent holder shall not discharge any contaminant to air from the site at a rate or a quantity such that the contaminant, whether alone or in combination with other contaminants, is or is liable to be hazardous or toxic or noxious at or beyond the boundary of the property where the production station is located, or at any dwelling house
17. The consent holder shall control all emissions of carbon monoxide to the atmosphere from the flare, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration of carbon monoxide arising from the exercise of this consent measured under ambient conditions does not exceed 10 mg/m^3 [eight-hour average exposure], or 30 mg/m^3 [one-hour average exposure] at or beyond the boundary of the property on which the production station flare is located.
18. The consent holder shall control all emissions of nitrogen oxides to the atmosphere from the flare, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration of nitrogen dioxide arising from the exercise of this consent measured under ambient conditions does not exceed $200 \text{ } \mu\text{g m}^{-3}$ [one-hour average exposure] or $100 \text{ } \mu\text{g m}^{-3}$ [24-hour average exposure] or $30 \text{ } \mu\text{g m}^{-3}$ [annual average exposure] at or beyond the boundary of the property on which the production station flare is located.
19. The consent holder shall control emissions to the atmosphere from the flare of contaminants other than carbon dioxide, carbon monoxide, and nitrogen oxides from the flare, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration for any particular contaminant arising from the exercise of this consent, measured at or beyond the boundary of the property on which the production station flare is located, is not increased above background levels:
 - a) by more than 1/30th of the relevant Occupational Threshold Value-Time Weighted Average, or by more than the Short Term Exposure Limit at any time [all terms as defined in Workplace Exposure Standards and Biological Exposure Indices for New Zealand, 1992, Department of Labour]; or
 - b) if no Short Term Exposure Limit is set, by more than three times the Time Weighted Average at any time [all terms as defined in Workplace Exposure Standards and Biological Exposure Indices for New Zealand, 1992 Department of Labour].

Consent 6003-1

20. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
21. Subject to the provisions of this condition, the Council may within six months of receiving a report prepared by the consent holder pursuant to condition 4 of this consent, or during the month of June 2009 and/or June 2015 and/or June 2021 and/or June 2027, serve notice that it intends to review the conditions of this resource consent in accordance with section 128(1)(a) of the Resource Management Act 1991 for the purposes of:
 - a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - b) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge; and/or
 - c) to alter, add or delete limits on mass discharge quantities or discharge or ambient concentrations of any contaminant or contaminants; and/or
 - d) taking into account any Act of Parliament, regulation, national policy statement or national environmental standard which relates to limiting, recording, or mitigating emissions of carbon dioxide and/or nitrogen dioxide, and which is relevant to the air discharge from the Pohokura Production Station.

Signed at Stratford on 09 August 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
Pohokura Operations
Private Bag 2035
NEW PLYMOUTH 4342

Decision Date
[change]: 9 August 2013

Commencement Date
[change]: 9 August 2013 [Granted: 16 June 2003]

Conditions of Consent

Consent Granted: To discharge emissions into the air from the flaring of hydrocarbons, together with miscellaneous emissions, arising from hydrocarbon exploration and production testing operations involving up to 48 zones at the Lower Otaraoa Road wellsite

Expiry Date: 1 June 2033

Review Date(s): June 2015, June 2021, June 2027

Site Location: Lower Otaraoa Road wellsite, Lower Otaraoa Road, Motunui, Waitara [Property owner: Methanex New Zealand Limited] [Lessee: J & K Weston]

Legal Description: Pt Ngatirahiri 2A1 Blk, Ngatirahiri 2A2 Blk, Pt Ngatirahiri 2B 3B1 Blk, Pt Ngatirahiri 2B 3A1 Blk, Ngatirahiri 2B 3A2 Blk, Lot 2 DP 9747 (Ngatirahiri 2B 3B2A Blk), Ngatirahiri 2B 3B Blk, Ngatirahiri 2B 3A 3A Blk Lot 1 DP 9747 Pt Ngatirahiri 2B 3A Blk

Grid Reference (NZTM) 1710305E-5683659N

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

Duration

1. This consent shall not be exercised for more than an accumulated duration of 45 days [1080 hours] per zone, allowing up to forty-eight zones to be tested. The time interval specified in this condition refers to that period during which this consent is exercised and is not regarded as continuous elapsed time from the first exercise of this consent.

Information and notification

2. Prior to the commencement of testing, the consent holder shall supply to the Chief Executive a final site lay-out plan, demonstrating configuration of the facilities and equipment so as to avoid or mitigate the potential effects of air emissions.
3. The occupiers of any dwellinghouses within 1000 m of the wellsite and the Taranaki Regional Council shall be notified within 24 hours prior to the initial flaring of each well being commenced.
4. The consent holder shall keep and make available to the Chief Executive a record of all queries and/or complaints received.
5. No alteration shall be made to plant equipment or processes which may substantially alter the nature or quantity of flare emissions or other site emissions, including but not limited to the recovery of produced gas, other than as notified in this consent application, without prior consultation with the Chief Executive.

Flaring

6. Other than for the maintenance of a pilot flare flame, the consent holder shall have regard to the prevailing and predicted wind speed and direction at the time of initiation of any episode of flaring or other combustion of hydrocarbons.

Consent 6005-1

7. All gas being flared, at any time during well clean-up, drill stem testing, initial testing, or production testing, or at any other time during any hydrocarbon exploration or production testing activities, must first be treated by effective liquid and solid separation and recovery, as far as is practicable, to ensure that smoke emission during flaring is minimised.
8. If separation cannot be implemented and/or maintained at any time while there is a flow from the well, whether natural or induced, then the consent holder shall notify the Chief Executive and shall in any case re-establish liquid separation and recovery within three hours.
9. No liquid or solid hydrocarbons shall be combusted through the gas flare system.
10. As soon as is practicable after flow commences, the separated gas shall be combusted so that emissions of smoke are minimised.
11. The consent holder shall adopt the best practicable option to prevent or minimise any actual or potential effect on the environment arising from the flare emission, emissions from the flare pit, or any other emissions from the site [including use of a separator during well clean-up]. This requirement applies in addition to any of the specific requirements set out in conditions 1, 6, 7, 8, 9 and 10.
12. Only substances originating from the well stream and treated as outlined by conditions 7, 8, 9, 10 and 11 are to be combusted within the flare pit.
13. The consent holder shall not discharge any contaminant to air from the site at a rate or a quantity such that the contaminant, whether alone or in combination with other contaminants, is or is liable to be hazardous or toxic or noxious at or beyond the boundary of the property on which the wellsite is located, or at any dwellinghouse.
14. There shall not be any offensive odour or smoke beyond the boundary of the property on which the wellsite is located, arising from activities at the wellsite.
15. The opacity of any smoke emissions shall not exceed a level of 2 as measured on the Ringelmann Scale for more than four minutes cumulative duration in any 60-minute period.
16. The consent holder shall control all emissions of carbon monoxide to the atmosphere from the flare, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration of carbon monoxide arising from the exercise of this consent measured under ambient conditions does not exceed 10 mg/m³ [eight-hour average exposure], or 30 mg/m³ [one-hour average exposure] at or beyond the boundary of the property on which the wellsite is located.

Consent 6005-1

17. The consent holder shall control all emissions of nitrogen oxides to the atmosphere from the flare, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration of nitrogen dioxide arising from the exercise of this consent measured under ambient conditions does not exceed $200 \mu\text{g m}^{-3}$ [one-hour average exposure] or $100 \mu\text{g m}^{-3}$ [24-hour average exposure] or $30 \mu\text{g m}^{-3}$ [annual average exposure] at or beyond the boundary of the property on which the wellsite flare is located.
18. The consent holder shall control emissions to the atmosphere from the site of contaminants other than carbon dioxide, carbon monoxide, and nitrogen oxides, whether alone or in conjunction with any emissions from the flare, in order that the maximum ground level concentration for any particular contaminant arising from the exercise of this consent, measured at or beyond the boundary of the property on which the wellsite is located, is not increased above background levels:
 - a) by more than $1/30^{\text{th}}$ of the relevant Occupational Threshold Value-Time Weighted Average, or by more than the Short Term Exposure Limit at any time [all terms as defined in Workplace Exposure Standards, 1994, Department of Labour]; or
 - b) if no Short Term Exposure Limit is set, by more than three times the Time Weighted Average at any time [all terms as defined in Workplace Exposure Standards, 1994, Department of Labour].

Recording and reporting information

19. The consent holder shall make available to the Chief Executive upon request, and in any case within four weeks of the first production test at the wellsite, an analysis of a typical gas and condensate/crude oil stream from the field, covering sulphur compound content and the content of carbon compounds of structure C_6 or higher number of compounds.
20. The consent holder shall keep and make available to the Chief Executive upon request a record of all smoke-emitting incidents noting time, duration and cause.
21. The consent holder shall keep and provide to the Chief Executive on a monthly basis, logs of all flaring [other than the maintenance of a pilot flare] including time, duration and as far as is practicable volumes of substances flared.
22. The consent holder shall provide to the Taranaki Regional Council during August of each year, for the duration of this consent, a report:
 - i) detailing gas combustion in the flare;
 - ii) detailing smoke emissions as required under condition 20;
 - iii) detailing any measures to reduce smoke emissions;
 - iv) detailing any measure to reduce flaring;
 - v) addressing any other issue relevant to the minimisation or mitigation of emissions from the flare; and
 - vi) detailing any complaints received and any measures undertaken to address complaints.

Lapse

23. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Review

24. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2004 and/or 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 09 August 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
Pohokura Operations
Private Bag 2035
NEW PLYMOUTH 4342

Decision Date [change]: 9 August 2013

Commencement Date [change]: 9 August 2013 [Granted: 23 May 2003]

Conditions of Consent

Consent Granted: To discharge waste drilling fluids, produced water and stormwater from hydrocarbon exploration and production operations by deepwell injection at the Pohokura-A [Epiha Road] Wellsite

Expiry Date: 1 June 2033

Review Date(s): June 2015, June 2021, June 2027

Site Location: Pohokura-A Wellsite, Lower Epiha Road, Motunui

Legal Description: Ngatirahiri 3F1 Blk II Waitara SD

Grid Reference (NZTM) 1712904E-5684061N

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. Prior to the exercise of this consent for each individual well to be used for deep well injection, the consent holder shall submit, to the written satisfaction of the Chief Executive, a log of the injection well, and an injection well operation management plan, to demonstrate that special condition 2 of this consent can be met. The report shall:
 - a) identify the injection zone, including a validated bore log and geophysical log,
 - b) detail the results of fluid sampled from the injection zone, and the proposed wastes to be injected for maximum and mean concentrations for pH, suspended solids, total dissolved solids, salinity, chlorides, and total hydrocarbons;
 - c) demonstrate the integrity of well casing; and
 - d) outline design and operational procedure to isolate the zone.
2. The resource consent holder shall ensure that injection will not contaminate or endanger any actual or potential useable freshwater aquifer.
3. The consent holder shall keep monthly records of the nature and amounts of all material injected, including injection pressure and rate, and shall make the records available to the Taranaki Regional Council on a 3 monthly basis, and when there has been a significant pressure change event.
4. The consent holder shall monitor the injected wastes monthly for maximum and mean concentrations of suspended solids, total dissolved solids, salinity, chlorides, and total hydrocarbons and shall make the records available to the Taranaki Regional Council every two months.
5. The consent holder shall provide to the Taranaki Regional Council during the month of August of each year, for the duration of the consent, a written report on all matters required under special conditions 1, 2, 3 and 4 above.

Consent 6175-1

6. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(b) of the Resource Management Act 1991.
7. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent, by giving notice of review during the month following receipt of information required under special condition 5 above, and the month of June 2009 and/or June 2015 and/or June 2021 and/or June 2027 required for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 09 August 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
Pohokura Operations
Private Bag 2035
NEW PLYMOUTH 4342

Decision Date
[change]: 9 August 2013

Commencement Date
[change]: 9 August 2013 [Granted: 23 May 2003]

Conditions of Consent

Consent Granted: To discharge waste drilling fluids, produced water and stormwater from hydrocarbon exploration and production operations by deepwell injection at the Lower Otaraoa Road Wellsite

Expiry Date: 1 June 2033

Review Date(s): June 2015, June 2021, June 2027

Site Location: Lower Otaraoa Road Wellsite, Lower Otaraoa Road, Motunui

Legal Description: Pt Ngatirahiri 2A1 Blk; Ngatirahiri 2A2 Blk; Pt Ngatirahiri 2B 3B1 Blk; Pt Ngatirahiri 2B 3A1 Blk; Ngatirahiri 2B 3A2 Blk; Lot 2 DP 9747 Ngatirahiri 2B 3B2A Blk; Ngatirahiri 2B 3A 3B Blk; Ngatirahiri 2B 3A 3A Blk; Lot 1 DP 9747; Pt Ng... 2B 3A Blk

Grid Reference (NZTM) 1710305E-5683659N

Catchment: Waipapa

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. Prior to the exercise of this consent for each individual well to be used for deep well injection, the consent holder shall submit, to the written satisfaction of the Chief Executive, a log of the injection well, and an injection well operation management plan, to demonstrate that special condition 2 of this consent can be met. The report shall:
 - a) identify the injection zone, including a validated bore log and geophysical log,
 - b) detail the results of fluid sampled from wastes to be injected for maximum and mean concentrations of pH, suspended solids, total dissolved solids, salinity, chlorides, and total hydrocarbons;
 - c) demonstrate the integrity of well casing; and
 - d) outline design and operational procedure to isolate the zone.
2. The resource consent holder shall ensure that injection will not contaminate or endanger any actual or potential useable freshwater aquifer.
3. The consent holder shall keep monthly records of the nature and amounts of all material injected, including injection pressure and rate, and shall make the records available to the Taranaki Regional Council on a 3 monthly basis, and when there has been a significant pressure change event.
4. The consent holder shall monitor the injected wastes monthly for maximum and mean concentrations of suspended solids, total dissolved solids, salinity, chlorides, and total hydrocarbons and shall make the records available to the Taranaki Regional Council every two months.
5. The consent holder shall provide to the Taranaki Regional Council during the month of August of each year, for the duration of the consent, a written report on all matters required under special conditions 1, 2, 3 and 4 above.

Consent 6176-1

6. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(b) of the Resource Management Act 1991.
7. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent, by giving notice of review during the month following receipt of information required under special condition 5 above, and the month of June 2009 and/or June 2015 and/or June 2021 and/or June 2027 required for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 09 August 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 18 December 2003

Conditions of Consent

Consent Granted: To erect, place and maintain a culvert in an unnamed tributary of the Waipapa Stream for State Highway 3 road widening purposes at or about GR: Q19:205-447

Expiry Date: 1 June 2033

Review Date(s): June 2009, June 2015, June 2021, June 2027

Site Location: State Highway 3 [approximately 60 metres north of Otaraoa Road intersection], Motunui, Waitara

Legal Description: Lots 1 & 2 DP 9747 Ngatirahiri 2A2 2B3A3A 2B3A3B 2B3B1 Pt 2A1 2B3A1 Blks I & II Waitara SD

Catchment: Waipapa 3 (Waipapa)

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall notify the Chief Executive, Taranaki Regional Council in writing at least 48 hours prior to the commencement and upon completion of the initial installation and again at least 48 hours prior to and upon completion of any subsequent maintenance works which would involve disturbance of or deposition to the river bed or discharges to water.
2. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this resource consent.
3. The structure[s] authorised by this consent shall be constructed generally in accordance with the documentation submitted in support of the application and shall be maintained to ensure the conditions of this consent are met.
4. The consent holder shall adopt the best practicable option to avoid or minimise the discharge of silt or other contaminants into water or onto the riverbed and to avoid or minimise the disturbance of the riverbed and any adverse effects on water quality.
5. The consent holder shall ensure that the area and volume of riverbed disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated.
6. The structure[s] authorised by this consent shall be removed and the area reinstated, if and when the structure[s] are no longer required. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to structure[s] removal and reinstatement.

Consent 6254-1

7. The exercise of this consent shall not restrict the passage of fish.
8. This resource consent shall lapse on the expiry of five years after the date of issue of this resource consent, unless the resource consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
9. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2009 and/or June 2015 and/or June 2021 and/or June 2027 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Private Bag 2035
New Plymouth 4342

Decision Date
(Change): 20 November 2014

Commencement Date
(Change): 20 November 2014 (Granted Date: 10 November 2004)

Conditions of Consent

Consent Granted: To discharge treated stormwater from hydrocarbon exploration and production operations at the Lower Otaraoa Road Wellsite to an existing stormwater control system, being a body of water commonly known as 'The Duck Pond' within the Manu Stream

Expiry Date: 01 June 2033

Review Date(s): June 2015, June 2021, June 2027

Site Location: Lower Otaraoa Road wellsite, Lower Otaraoa Road,
Motunui, Waitara

Legal Description: Lot 1 DP 334095 Ngatirahiri 2B2A2A Blk Pt Ngatirahiri 2B1
Blk Pt Sec 3 Blk I Waitara SD Ngatirahiri 2B2B1 Blk
Ngatirahiri 2B2A2B Blk Ngatirahiri 2C1B Blk Ngatirahiri
2B2A1 Blk Pt Ngatirahiri 2B2B2 Blk Lot 1 DP
(Discharge source & site)

Grid Reference (NZTM) 1710824E-5683712N

Catchment: Manu

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of applications 2807 and 8177. In the case of any contradiction between the documentation submitted in support of application 2807 and the conditions of this consent, the conditions of this consent shall prevail.
3. Prior to the exercise of this consent, the consent holder shall provide for the written approval of the Chief Executive, Taranaki Regional Council, site specific details relating to contingency planning for the wellsite.
4. The Chief Executive, Taranaki Regional Council, shall be advised in writing at least seven days prior to any site works commencing, and again in writing at least seven days prior to any well drilling operation commencing.
5. The maximum stormwater catchment area shall be no more than 25,000 square metres.
6. All site stormwater to be discharged under this consent shall be directed for treatment through the stormwater treatment system for discharge in accordance with the special conditions of this permit.

Consent 6269-1.1

7. Any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or other appropriate recovery systems, and not to the stormwater catchment.
8. The following concentrations shall not be exceeded in the discharge:

Component	Concentration
pH (range)	6.5 - 8.5
suspended solids	100 gm-3
total recoverable hydrocarbons (infrared spectroscopic technique)	15 gm-3
chloride	300 gm-3

This condition shall apply prior to the entry of the treated stormwater into the body of water known as 'The Duck Pond' at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

9. After allowing for reasonable mixing, within a mixing zone extending to the downstream end of the body of water known as 'The Duck Pond' the discharge shall not give rise to any of the following effects in the receiving waters of the Manu Stream:
 - a) an increase in temperature of more than 2 degrees Celsius;
 - b) an increase in biochemical oxygen demand of more than 2.00 gm⁻³.
10. After allowing for reasonable mixing, within a mixing zone extending to the downstream end of the body of water known as 'The Duck Pond' the discharge shall not give rise to any of the following effects in the receiving waters of the Manu Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
11. This consent shall lapse on the expiry of five years after the date of issue of this resource consent, unless the resource consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Consent 6269-1.1

12. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2009 and/or June 2015 and/or June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 20 November 2014

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell [Petroleum Mining] Co Ltd
Pohokura Operations
Private Bag 2035
NEW PLYMOUTH 4342

Review Completed Date: 29 September 2009 [Granted: 2 April 2004]

Conditions of Consent

Consent Granted: To discharge soil previously mingled with sludge, resin and other petrochemical wastes, and recovered from land, onto and into land between the Waipapa Stream and the Manu Stream at or about (NZTM) 1710700E-5683720N

Expiry Date: 1 June 2015

Review Date(s): Within 3 months of providing an approval under special condition 10 or 11

Site Location: Adjacent to Motunui petrochemical plant, Main North Road, Waipapa, Waitara

Legal Description: Lot 2 DP 9747 Ngatirahiri Pt 2A1, 2A2, 2B3A1, Pt 2B3A2, Pt 2B3B1 & Pt 2B3A3B Blks I & II Waitara SD

Catchment: Manu
Waipapa

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

Conditions 1 to 4 [unchanged]

1. The consent holder shall prepare and maintain to the satisfaction of the Chief Executive, Taranaki Regional Council, an updated management plan for the site showing how the conditions of this consent will be met and the site managed to prevent any use of the disposal areas, which may result in the release of contaminants to the environment.
2. Any updated management plan provided under Special Condition 1 above shall ensure a level of environmental management protection that is no lower a standard than that which would be achieved by the programme and plan provided in support of application 3039.
3. No discharge of additional sludge, or other petrochemical wastes, other than that which was on the site covered by this consent at the time of the transfer provided by application 2963, is provided for by this consent.
4. As a result of earthworks, sludge shall not be relocated within 25 metres of any property boundary; excluding the boundary between the Methanex Motunui plant and the application area.

Condition 5 [changed]

5. The consent holder shall provide annual analyses of groundwater samples from monitoring wells in the vicinity of the disposal area to the satisfaction of the Chief Executive, Taranaki Regional Council. Samples shall be analysed for dissolved heavy metals [copper, zinc, nickel, arsenic, cadmium, chromium and lead] and total petroleum hydrocarbons. In the event that soil testing is deemed necessary by the Taranaki Regional Council due to the results from groundwater sampling or otherwise:
- a) With the exclusion of copper, zinc and nickel, the consent holder shall comply with the limits upon "heavy metal" concentrations in soil specified in Table C of "Public health guidelines for the safe use of sewage effluent and sewage sludge on land" [Department of Health 1992] and total petroleum hydrocarbon concentrations as outlined by Table 4.14 of the Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Ministry for the Environment 1999.
 - b) In respect of copper, zinc and nickel, the consent holder shall comply with the guidelines for industrial sites developed by the Australian National Environmental Protection Council's - [Assessment of Site Contamination] Schedule B(7a) Guideline on Health-based Investigation [1999] as given below:

copper	5,000	mg/kg dry weight
zinc	35,000	mg/kg dry weight
nickel	3,000	mg/kg dry weight

[Previous condition 6 deleted]

Condition 6 [unchanged – previously condition 7]

6. The discharge authorised by this consent shall not give rise to any of the following effects in any water body:
- a) the production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.

Condition 7 [changed – previously condition 8]

7. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review within 3 months of providing an approval under special condition 10 or 11, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Conditions 8 to 11 [unchanged – previously conditions 9-12]

8. The consent holder shall ensure that the discharge of co-mingled soil and waste to land and management of the disposal area takes place in accordance with the information submitted in support of applications 2032, 2963 and 3039.
9. No discharge shall occur outside the area specified in the application.
10. Any relocation of soil from within the defined disposal area to any other area not covered by this consent shall only occur if it can be shown to the satisfaction of the Chief Executive, Taranaki Regional Council, that the standards, terms, and conditions of Rule 29 of the Regional Freshwater Plan will be complied with.
11. Any change in land use that may result in a release of contaminants to the environment shall not occur without the prior written approval of the Chief Executive, Taranaki Regional Council.

Signed at Stratford on 29 September 2009

For and on behalf of
Taranaki Regional Council

Chief Executive

Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Shell (Petroleum Mining) Co Ltd
P O Box 1873
WELLINGTON

Consent Granted
Date: 13 April 2005

Conditions of Consent

Consent Granted: To install, construct and maintain a water bore for
horizontal directional drilling purposes at or about GR:
Q19:207-450

Expiry Date: 1 June 2023

Review Date(s): June 2011, June 2017

Site Location: Lower Otaraoa Road wellsite, Lower Otaraoa Road,
Motunui

Legal Description: Lot 2 DP 324944 Ngatirahiri 2A2 Block Ngatirahiri 2B3A3B
Block Pt Ngatirahiri 2B3B1 Block Lot 2 DP 9747 Lot 1 DP
9747 Pt Ngatirahiri 2A1 Block Pt Ngatirahiri 2B3A1 Block

Catchment: Waipapa 3 (Waipapa)

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

- 1. The exercise of this consent shall be undertaken in general accordance with the documentation submitted in support of application 3622. In the case of any contradiction between the documentation submitted in support of application 3622 and the conditions of this consent, the conditions of this consent shall prevail.
- 2. The consent holder shall, within 28 days of the completion of the bore, provide a bore completion log to the satisfaction of the Chief Executive, Taranaki Regional Council.
- 3. The bore shall be cased and sealed to prevent the potential for aquifer cross-contamination and/or leakage from the surface.
- 4. The consent holder shall take all reasonable steps to mitigate any adverse environmental effects that may be caused by structural failure of the bore.
- 5. This consent shall lapse on the expiry of five years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Consent 6577-1

6. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2011 and/or June 2017, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 14 March 2006

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Shell Exploration NZ Limited
Private Bag 2035
NEW PLYMOUTH 4342

Decision Date: 26 September 2011

Commencement
Date: 26 September 2011

Conditions of Consent

Consent Granted: To discharge stormwater and sediment onto and into land in circumstances where it may enter water from earthworks associated with the construction of a gas reinjection plant at the Pohokura Production Station at or about (NZTM) 1710487E-5683671N

Expiry Date: 1 June 2016

Site Location: Pohokura Production Station, Lower Otaraoa Road,
Motunui

Legal Description: Ngatirahiri 2A2 [Discharge source & site]

Catchment: Waipapa
Manu

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance to section 36 of the Resource Management Act.

Special conditions

1. This consent authorises the discharge of stormwater to land where earthworks are being undertaken for the purpose of constructing a gas reinjection plant at the Pohokura Production Station, as described in application 6868.
2. If any area of soil is exposed, all run off from that area shall pass through settlement ponds or sediment traps with a minimum total capacity of;
 - a) 100 cubic metres for every hectare of exposed soil between 1 November to 30 April; and
 - b) 200 cubic metres for every hectare of exposed soil between 1 May to 31 October;unless other sediment control measures that achieve an equivalent standard are agreed to by the Chief Executive of the Taranaki Regional Council.
3. The obligation described in condition 2 above shall cease to apply, and accordingly the erosion and sediment control measures can be removed, in respect of any particular site or area of any site, only when the site is stabilised.

Note: For the purpose of conditions 3 and 5 "stabilised" in relation to any site or area means inherently resistant to erosion or rendered resistant, such as by using rock or by the application of basecourse, colluvium, grassing, mulch, or another method to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council and as specified in the Taranaki Regional Council's Guidelines for Earthworks in the Taranaki Region, 2006. Where seeding or grassing is used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once, on reasonable visual inspection by an officer of the Taranaki Regional Council, an 80% vegetative cover has been established.

4. At least 2 working days prior to the commencement of works the consent holder shall notify the Taranaki Regional Council of the proposed start date for the work. Notification shall include the consent number and a brief description of the activity consented and shall be emailed to worknotification@trc.govt.nz.
5. All earthwork areas shall be stabilised vegetatively or otherwise as soon as is practicable immediately following completion of soil disturbance activities.
6. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants from the site.

Consent 7918-1

7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, within 24 hours, if significant quantities of sludge waste as described and managed under consent 6364, are found during the earthworks. Notification shall include the consent number and a brief description of the activity consented and shall be emailed to consents@trc.govt.nz.
8. Following notification as required by condition 7, the consent holder shall sample the stormwater in the settlement ponds for metals and other contaminants necessary to characterise the discharge and determine the environmental effects, to the satisfaction of the Chief Executive, Taranaki Regional Council. The sampling results shall be forwarded to the Council upon request.

Signed at Stratford on 26 September 2011

For and on behalf of
Taranaki Regional Council

Director-Resource Management

**Coastal Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council**

Name of Consent Holder: Shell Exploration NZ Limited
Private Bag 2035
New Plymouth 4342

Decision Date: 20 March 2015

Commencement Date: 20 March 2015

Conditions of Consent

Consent Granted: To occupy the coastal marine area with four pipelines (well casings) extending from the Lower Otaraoa Road wellsite for hydrocarbon production purposes

Expiry Date: 1 June 2033

Review Date(s): June 2021, June 2027

Site Location: Lower Otaraoa wellsite, Lower Otaraoa Road, Motunui

Legal Description: Part Ngatirahiri 2B3A1 Blk Part Ngatirahiri 2A1 Blk Lot 1 DP 9747 Lot 2 DP 9747 Pt Ngatirahiri 2B3B1 Blk Ngatirahiri 2B3A3B Blk Lot 2 DP 324944 & Ngatirahiri 2A2 Blk (Site of pipeline)

Grid Reference (NZTM) 1710410E - 5683628N

Catchment: Waipapa

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The activity licensed by this consent shall be undertaken in general accordance with the documentation submitted in support of application 10096-1.0.
2. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2021 and/or June 2027, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 20 March 2015

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management