Port Taranaki Industries

Monitoring Programme

Annual Report

2021-2022

Technical Report 2022-85

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Taranaki Regional Council

Taranaki Regional Council
Private Bag 713
Stratford

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Executive summary

Port Taranaki Ltd operates Port Taranaki. Downer New Zealand Ltd (Downer) and Technix Bitumen Technologies Ltd (Technix) operate bitumen plants within the bounds of the port. Methanex New Zealand Ltd (Methanex) operates a methanol storage facility at the port, and Liquigas Ltd (Liquigas) is a storage and distribution depot for LPG.

This report for the period July 2021 to June 2022 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the environmental and consent compliance performance of the various companies operating in and around Port Taranaki, New Plymouth. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

During the year, Port Taranaki and Technix demonstrated a level of environmental performance which required improvement. Downer, Methanex and Liquigas all demonstrated a high level of environmental performance. With regards to administrative performance, Port Taranaki, Methanex and Liquigas demonstrated a high level of performance, while Technix and Downer demonstrated a good level of performance.

The companies hold a total of eight resource consents, which include 65 conditions setting out the requirements that they must satisfy. The companies hold six consents to discharge effluent/stormwater into the Tasman Sea, and two consents to discharge emissions into the air. In addition, Port Taranaki also holds a Certificate of Compliance with regards to air discharges.

The Council's monitoring programme for the period under review included five site inspections of Port Taranaki, five inspections of Downer and Technix, and three inspections of Methanex and Liquigas. Additionally, stormwater samples were collected for physicochemical analysis during two wet weather sampling surveys. Consent holder data was also supplied to the Council for review.

The monitoring showed that maintenance and housekeeping around Port Taranaki had improved during the year. However, stormwater testing showed that despite these improvements, more work was required to reduce stormwater contamination in log storage and processing areas. There were no major issues observed during routine inspections at the remaining industries throughout the year. There were no substantiated complaints of odour beyond the port boundary in 2021-2022.

Three stormwater compliance issues occurred during 2021-2022; two of which resulted in enforcement action. An Abatement Notice was issued to Technix Bitumen Technologies Ltd following the unauthorized discharge of vegetable oil, and an Infringement Notice was issued to Intergroup Ltd following a spill of hydrocarbon mud. Four stormwater samples collected as part of routine compliance monitoring were found to exceed the consent limit for total suspended solids. However, Port Taranaki presented an explanation for these exceedances and no further enforcement action was taken.

For reference, in the 2021-2022 year, consent holders were found to achieve a high level of environmental performance and compliance for 88% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 10% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holders over the last several years, this report shows that, with the exception of Port Taranaki and Technix, the performances of the port industries have remained at a high level. Port Taranaki's performance has improved recently, but further improvement is still required. Technix's performance dropped during the year, to a level where improvement was required.

This report includes recommendations for the 2022-2023 year.

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1 Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report for the period July 2021 to June 2022 by the Taranaki Regional Council (the Council) describing the monitoring programme associated with resource consents held by Port Taranaki Ltd, Downer New Zealand Ltd, Technix Bitumen Technologies Ltd (formerly Russell Matthews Industries Ltd), Methanex New Zealand Ltd, and Liquigas Ltd. Port Taranaki Ltd operates the Port of Taranaki. Downer New Zealand Ltd operates a bitumen facility based at the Port. Technix Bitumen Technologies Ltd has a bulk bitumen industry at the Port which became operational in November 2012. Methanex New Zealand Ltd operates a methanol storage facility and Liquigas operates an LPG storage and distribution depot.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Companies that relate to discharges of water to the Tasman Sea and the Hongihongi Stream, and the air discharge permits held by Downer New Zealand Ltd and Technix Bitumen Technologies Ltd to cover emissions to air from the site.

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 each Company's use of water, land and air, and is the 26th combined annual report by the Council for the Companies.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about:

- consent compliance monitoring under the RMA and the Council's obligations;
- the Council's approach to monitoring sites though annual programmes;
- the resource consents held by the Companies;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Port.

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 2022-2023 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); and
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 holders, this report also assigns a rating as to each Company's environmental and administrative performance during the period under review. The rating categories are high, good, improvement required and poor for both environmental and administrative performance. The interpretations for these ratings are found in Appendix II.

For reference, in the 2021-2022 year, consent holders were found to achieve a high level of environmental performance and compliance for 88% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 10% of the consents, a good level of environmental performance and compliance was achieved.[1]

[1] The Council has used these compliance grading criteria for more than 18 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

1.2 Process description

1.2.1 History

Port Taranaki was established in 1875 and is the only deep water seaport on New Zealand's western seaboard. Work on a breakwater began in 1881 to provide safe anchorage from the Tasman Sea. Port Taranaki is now well sheltered by two breakwaters which extend from either end of the naturally curved bay.

The port has continued to grow and today handles large volumes of international and coastal cargo (Photo 1). The port is also a servicing base for sea transport and related industries and has been a provider of maritime support and heavy lift services since the 1960's. The port handles a diversity of cargo and offers a full range of providoring, stevedoring, ship agency and government border protection services.

Photo 1 Port Taranaki

1.2.2 Environment

Port Taranaki has continued to change from being primarily a hydrocarbon and container shipping port to one that handles large volumes of bulk dry cargo including logs, fertilisers and animal feed (Photo 2). Log exports have significantly increased in recent years, reaching 1,135,000 JAS (Japanese Agricultural Standard) in 2020-2021. In the period 2021- 2022, log exports accounted for 1,114,017 JAS, showing a decrease by 1.9% from the previous year (Figure 1).

The move to bulk cargo resulted in an increase in material deposited on the ground in the log and coal storage areas. When it rains this material washes into the stormwater system, and discharges into the harbour via the numerous piped outlets (Figure 3). In order to minimise deleterious effects on the receiving environment, Port Taranaki Ltd (Port Taranaki) have implemented a number of preventative measures since 2012, including upgrading the stormwater treatment system and improving stormwater management procedures. This work is ongoing, as log exports continue to increase.

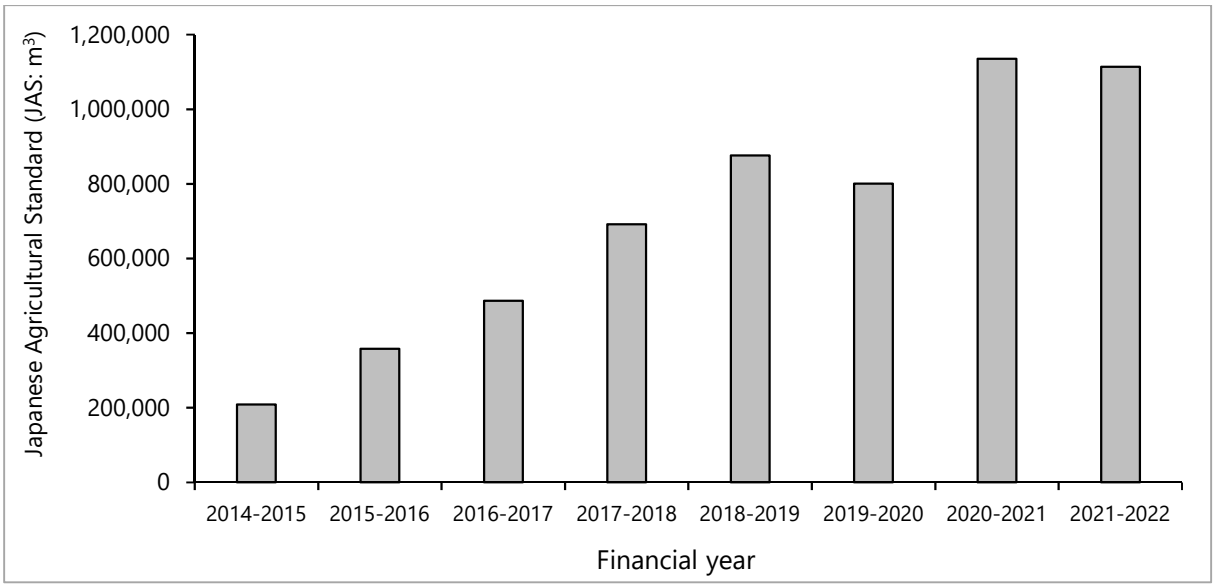

Figure 1 Port Taranaki log exports 2015 - 2022

Photo 2 Logging trucks at Port Taranaki (provided by Paul Campbell, Port Taranaki)

Another environmental issue associated with the increase in bulk dry cargo imports and log exports is that of dust control. Historically, during dry weather, dust was problematic within the Works Yard (W Yard) when log volume was high. In addition, product could be blown from bulk ships, particularly during offloading of palm kernel. Palm kernel is used as high-protein feed for dairy cattle and the offloading of large volumes from vessels has previously resulted in unpleasant odours and undesirable depositions. Recently, there has been a large increase in the volume of palm kernel being offloaded from ships at the port (Photo 3). Port Taranaki have implemented a number of dust control measures over recent years, including investing in two new replacement hoppers to reduce the risk of dust propagation, and sealing the W and B Log-yard storage areas.

1.2.3 Industries with separate resource consents operating within Port Taranaki

Downer New Zealand Ltd (Downer) operates a bitumen plant located within the bounds of Port Taranaki (Figure 2). The plant supplies bitumen for roading and associated uses across the North Island.

Technix Bitumen Technologies Ltd (Technix) also operates a bulk bitumen plant located within the bounds of Port Taranaki (Figure 2). The plant supplies bitumen for roading and associated uses.

Methanex New Zealand Ltd (Methanex) operates a methanol storage facility at the port (Figure 2). Methanol is piped to the tanks from the methanol plants at Motunui and Waitara Valley. Site stormwater is discharged via an outlet located adjacent to the New Plymouth Power Station cooling water outlet and can only occur when the discharge valve is opened manually. Due to the storage capacity available in the bunded area, the discharge of stormwater is periodic and can be planned in advance. Stormwater is tested to ensure compliance with consent requirements prior to release. Methanex provides monthly reports to the Council detailing when stormwater was discharged from the site and the results of chemical monitoring.

The Liquigas Ltd (Liquigas) LPG storage depot has been in operation since 1983 (Figure 2). Onsite storage consists of ten 220 m^3 bullet tanks which are encased in a minimum of 1 m of sand on all sides within two truncated brick pyramids. A cathodic protection system is used to minimise corrosion of the tanks. LPG is received via a pipeline from OMV's Maui Production Station at Oaonui and is piped offsite to Newton King Tanker Terminal (NKTT) for national distribution by ship. Liquigas hold water discharge permit 4524-2 to discharge the following into the Hongihongi Stream from an LPG storage site:

a. process water from LPG storage tank de-watering;
b. water used to decommission and recommission LPG storage tanks;
c. LPG pipeline flushing water over a two-day period during emergency repairs; and
d. stormwater.

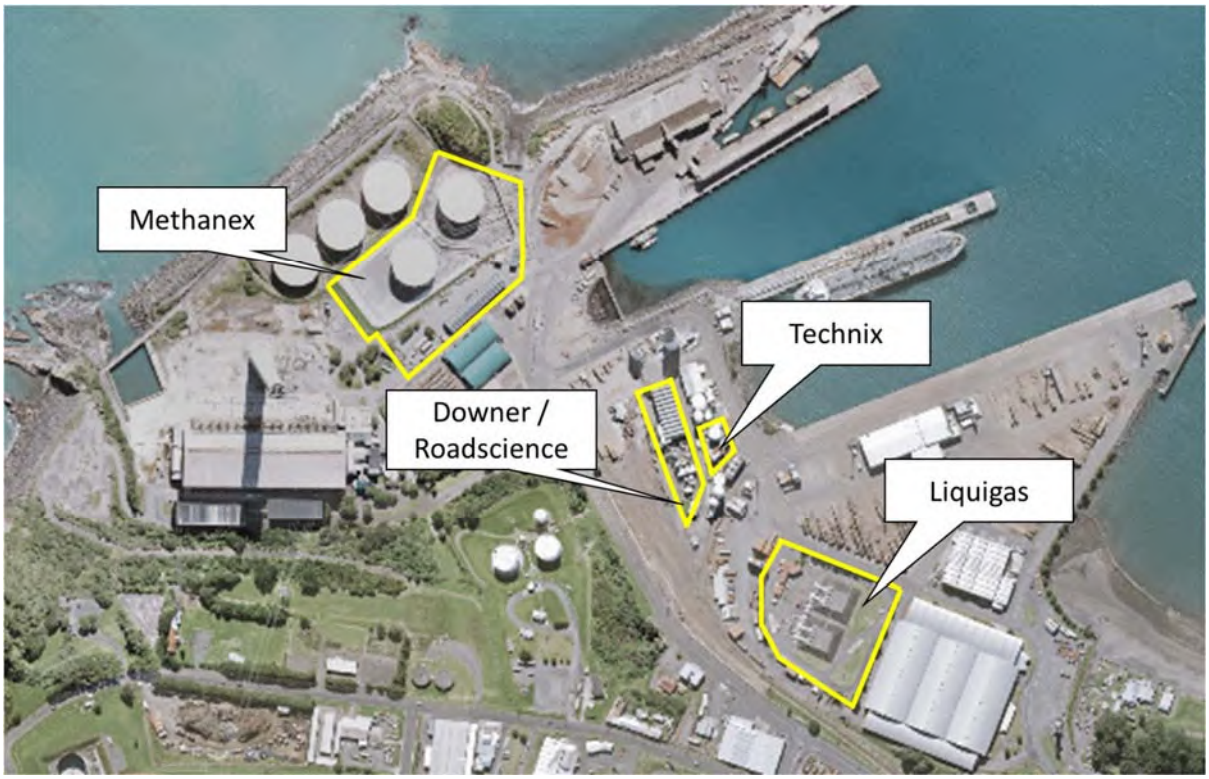

Figure 2 Industries with separate resource consents operating within Port Taranaki

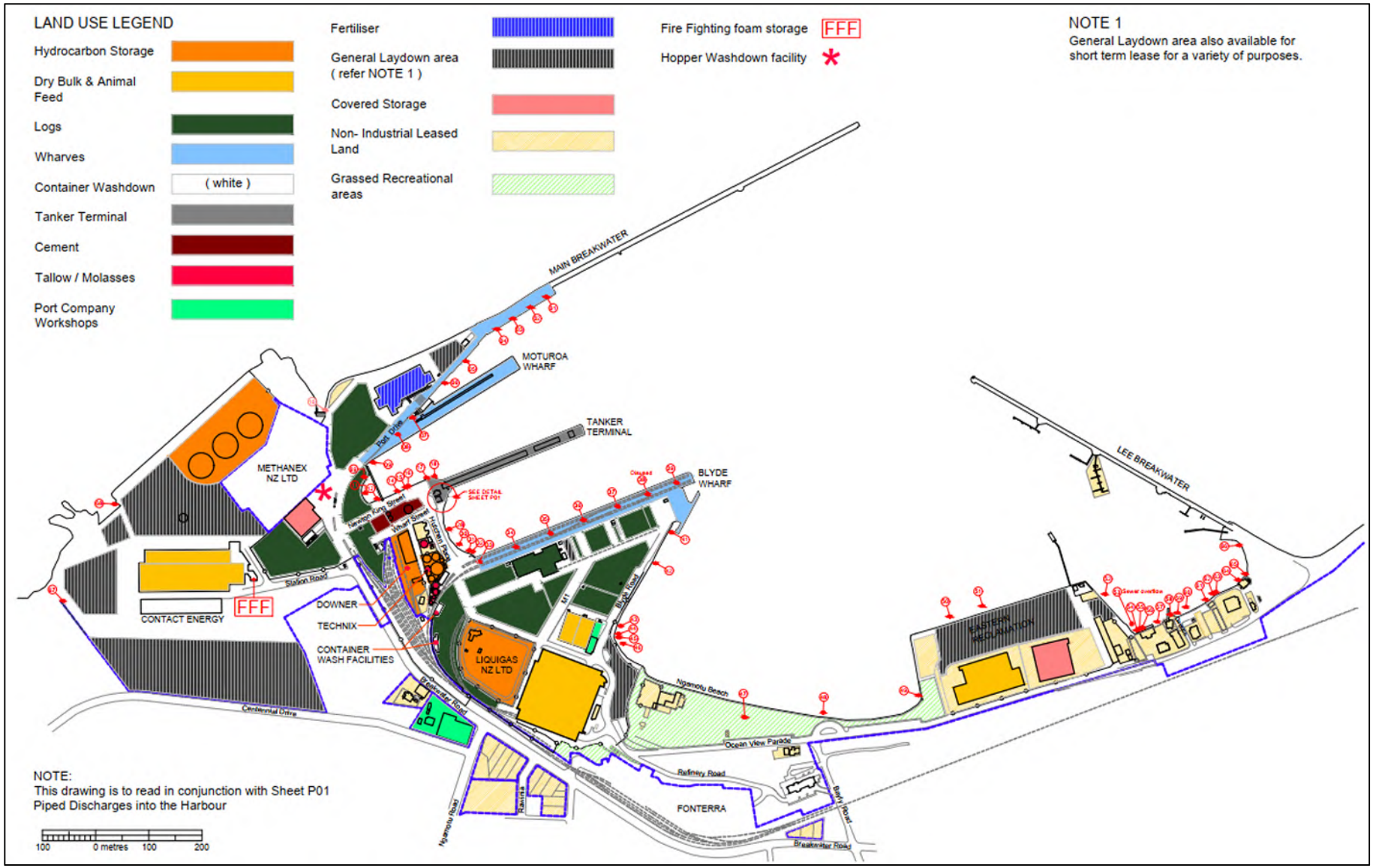

Figure 3 Land use plan of Port Taranaki showing the location of the piped stormwater discharges and the log yards (Revision E, October 2019)

Photo 3 Palm kernel in the Moturoa Bulk Store, May 2014

1.3 Resource consents

The companies hold eight resource consents and one certificate of compliance; the details of which are summarised in the table below. Summaries of the conditions attached to each permit are set out in Section 3 of this report.

A summary of the various consent types issued by the Council is included Appendix I, as are copies of all permits held by the Company during the period under review.

Port Taranaki's stormwater and washdown wastewater discharge consents (0197-2.1 and 0198-2) both expired in June 2020. Renewal applications for both of these consents are currently being processed.

Table 1 Summary of resource consents

Consent holder	Consent number	Purpose	Granted	Review	Expires
Water discharge permits					
Port Taranaki Ltd	0197-2.1	To discharge treated stormwater and washdown water from the Port Taranaki facility and environs into the Tasman Sea	22 Dec 2015	No further reviews	Expired June 2020 s.124 protection
Port Taranaki Ltd	0198-2	To discharge up to 1.264 m^3/day of washdown wastewater from wharves, equipment and surrounding area into the Tasman Sea	13 Oct 1999	No further reviews	Expired June 2020 s.124 protection
Methanex New Zealand Ltd	0811-2	To discharge stormwater and associated contaminants into the Tasman Sea at Port Taranaki from a methanol storage tank bunded area	6 May 2008	No further reviews	1 June 2026
Liquigas Ltd	4524-2	To discharge from an LPG storage site: a) Process water from LPG storage tank de-watering; b) Water used to decommission and recommission LPG storage tanks; c) LPG pipeline flushing water over a two-day period during emergency repairs; and d) Stormwater; into the Hongihongi Stream	3 December 2007	No further reviews	1 June 2026
Downer New Zealand Ltd	4674-2	To discharge stormwater from a bitumen industry emulsion manufacture, storage and load out site, into the Tasman Sea	12 Nov 2008	No further reviews	1 June 2026
Technix Bitumen Technologies Ltd	4712-2	To discharge stormwater from a bitumen industry emulsion manufacture, storage and load out site, into the existing Port Taranaki stormwater system and into the Tasman Sea	12 Nov 2008	No further reviews	1 June 2026
Air discharge permits					
Downer New Zealand Ltd	4715-3	To discharge emissions into the air from bitumen blowing operations and associated processes	29 May 2008	No further reviews	1 June 2026
Technix Bitumen Technologies Ltd	10582-1	To discharge emissions into the air from bitumen operations and associated processes	21 May 2018	June 2026	1 June 2032
Port Taranaki Ltd	6882-1 (CoC)	To discharge emissions to air associated with the import, storage, and export of coal through Port Taranaki generally.	12 May 2006	N/A	N/A

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report upon them.

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 various companies in and around Port Taranaki consisted of three 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 consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections and sampling

Port Taranaki was inspected on seven occasions in relation to the consents held by Port Taranaki Ltd, with provisional stormwater samples collected on two of those occasions. Downer and Technix were also inspected seven times. Liquigas and Methanex were inspected three times during the year.

Two, dedicated stormwater surveys were also carried out in order monitor to stormwater discharges from Port Taranaki log yards, as well as the Downer, Technix and Liquigas sites. Seawater samples were also collected during these surveys.

With regard to consents for the abstraction of or 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 companies 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 Consent holder data and information requirements

A number of consent holders also undertake their own stormwater monitoring and supply the data to Council; these results are reviewed and reported on here. Some consents require the consent holders to submit plans and provide information. This information is reviewed by Council staff.

2 Results

2.1 Inspections

Port Taranaki

Port Taranaki was inspected five times during the year. Additionally, stormwater samples were collected during two wet weather surveys. The inspection findings are summarised here, and the sample results are covered in Section 2.2.

Most visits showed that the Port was operating in a tidy manner. Nevertheless, on one inspection (27 October 2021) a significant amount of palm kernel had been dropped on the wharf and tracked through the port. On the inspection on 27 June 2022, no stormwater discharge to the receiving environment was observed as it was a dry weather inspection. No wharf wash-down activities were observed during the year under review.

There was one occasion where a complaint was received regarding palm kernel odour being discharged beyond the port boundary (this is discussed further in Section 2.4). However, the complaint was unsubstantiated following an inspection by Council. No odour issues were observed beyond the port boundary during routine inspections in 2021-2022.

Downer

The Downer site was inspected five times during 2021-2022. Stormwater discharge samples were collected during two, port-wide stormwater discharge monitoring surveys. The inspection findings are summarised here, while the sample results are covered in Section 2.2.

The Downer site was mostly clean and tidy during the 2021-2022 inspection rounds. Air discharges from site were compliant during each inspection, with no objectionable or offensive bitumen odour detected beyond the site boundary. No evidence was discovered of any spills or contaminants tracking off site. All stormwater was bunded and directed to the oil-water separators prior to discharging from site. Overall, the site appeared to be operating within its resource consent conditions and adhering to best practise during the year under review.

Technix

The Technix site was inspected five times during 2021-2022. Stormwater discharge samples were collected during two, port-wide stormwater discharge monitoring surveys. The inspection findings are summarised here, while the sample results are covered in Section 2.2.

On 15 January, approximately 6000 L of vegetable oil had discharged from the bunded area and into the stormwater system, approximately 500 L subsequently flowed into the Tasman Sea. Port Taranaki and Council staff undertook containment and recovery of the vegetable oil. On 11 February, an Abatement Notice was issued requiring to undertake works to ensure that no further contaminants were discharged.

During inspections, faint bitumen odours were noticeable on site, but no issues were detected beyond the site boundaries. With the exception of the vegetable oil incident, the site was maintained in a tidy state and appeared to be operating within consent conditions during the year under review.

Methanex

The Methanex site was inspected three times during 2021-2022.

The site was found to be tidy and well maintained during the year. Tank bund shut-off valves were closed during each inspection, (i.e., no discharges were occurring). No visible contaminants were observed in the tank bunds, and there were no odours or visible emissions being generated on site. Overall, the site appeared to be compliant with consent conditions during the year under review.

Liquigas

The Liquigas site was inspected three times during 2021-2022. Additionally, stormwater discharge samples were collected during two wet weather surveys. The inspection findings are summarised here, while the sample results are covered in Section 2.2.

The site was found tidy and well maintained during the year. No evidence of spills or potential sources of stormwater contamination were discovered during the inspections. Overall, the site appeared to be operating within consent conditions during the year under review.

2.2 Discharge monitoring

Two, port-wide stormwater sampling surveys were also carried out on 30 November 2021 and 10 June 2022, in relation to discharge consents held by Port Taranaki, Downer, Technix, Liquigas and Methanex. The sampling locations are described in Table 2 and shown in Figure 4. A summary of sample results with associated consent limits is presented in Table 3. A complete record of all sample results from 2021-2022 is provided in Appendix II.

Table 2 Port Taranaki industries 2021-2022 compliance monitoring sampling sites

Site code	Sample type	Description
STW002036	Stormwater	Methanex storage tank bund water
STW001088	Stormwater	PTL outlet 11; M and W log yards
STW001089	Stormwater	PTL outlet 12; B log yard and railway
SEA902066	Seawater	Basin between NKTT and Moturoa Wharf
STW001159	Stormwater	PTL outlet 30; Downer, Technix, GrainCorp, Bridger Lane and Hutchen Place
STW001135	Stormwater	PTL outlet 32; CT log yard/debarking area, container wash and railway
STW001104	Stormwater	Liquigas site stormwater (discharges to piped Hongihongi Stream)
SEA900000	Seawater	Temporary shoreline monitoring site adjacent to STW001157 (NZTM: 1689812 / 5676323)
STW001157	Stormwater	PTL outlet 41; R log yard and Blyde Road
STW001090	Stormwater	PTL outlet 45; Dry store area and bank between dry store and railway
STW001092	Stormwater	PTL outlet 49; Bulk animal feed storage facility and road network.

The first of two dedicated stormwater sampling surveys scheduled for 2021-2022 was carried out between 07:30 and 11:00 on 30 November 2021. The survey was preceded by moderate rainfall overnight (23.2 mm) recorded between 02:00 and 07:00 at Brooklands Zoo rain gauge. Light rain fell intermittently from the morning to the early afternoon. There had been very little rainfall for 12 days preceding this survey. Samples collected were also assessed for odour. Out of the eleven samples collected, six had distinctive odours. Three had a dirt/organic odour (STW001098, STW001090 and STW001092), two had a woody/anoxic odour (STW001135 and STW001157) and one had a distinctive road bitumen odour (STW001159). The presence of woody odours in STW001135 and STW001157 was indicative of log yard contaminants. Four outlets presented turbid discharges and three presented slightly turbid discharges. However, there was no obvious discolouration in the receiving waters attributable these discharges.

Figure 4 Port Taranaki industries compliance monitoring sampling sites

The second set of discharge samples were collected between 08:30 and 10:40 on 10 June 2022. There had been light rainfall overnight. Based on rainfall data from Brookland's Zoo rain gauge, 9.8 mm of rain fell between 02:00 and 08:00 on 10 June. Squally showers fell intermittently from the morning onwards (5 mm from 08:00 -15:00). There had been moderate rainfall each day in the three days preceding the survey (22 mm total). There were four non-compliant samples collected from STW001088, STW001135, STW001159 and STW001157. These had TSS concentrations of 148, 610, 450 and 300 g/m^3 respectively. Four outlets presented turbid discharges and two slightly turbid discharges. The receiving waters in the basin between Moturoa Wharf and NKTT below the STW001088 discharge point were discoloured turbid brown, as were the receiving waters at Blyde Wharf, below the STW001135 discharge point. The receiving waters on the other side of Blyde Wharf, below the STW001157 discharge point, were also slightly discoloured.

The compliance implications of these sample results are discussed further in Section 2.4.

Table 3 Port Taranaki industries 2021-2022 compliance monitoring sample results

	Site	Time (NZST)	pH	TSS (g/m^3)	TPH (g/m^3)	Methanol (g/m^3)
30 Nov 2021	STW001088	06:55	6.2	93	< 0.7	-
	STW001089	07:05	6.5	41	< 0.7	-
	SEA902066	07:15	8.0	8	< 0.7	-
	STW001104	07:40	6.6	< 3	< 0.7	-
	STW001159	07:50	6.5	3	< 0.7	-
	STW001135	08:00	6.7	79	< 0.7	-
	STW001157	08:15	6.3	73	< 0.7	-
	SEA000000	08:25	8.1	< 3	< 0.7	-
	STW001090	08:50	6.9	23	< 0.7	-
	STW001092	09:10	6.5	60	< 0.7	-
	STW002036	09:40	6.9	< 3	< 0.7	<2
10 Jun 2022	STW001088	08:30	6.5	**148**	< 0.7	-
	STW001089	08:40	6.6	37	< 0.7	-
	SEA902066	08:45	8.0	35	< 0.7	-
	STW001135	09:05	6.5	**610**	< 0.7	-
	STW001159	09:05	6.4	**450**	< 0.7	-
	STW001157	09:25	6.6	**300**	< 0.7	-
	SEA000000	09:35	8.1	< 3	< 0.7	-
	STW001104	09:55	6.7	7	< 0.7	-
	STW002036	10:20	6.5	11	< 0.7	<2
	STW001092	10:25	6.6	25	< 0.7	-
	STW001090	10:40	6.8	12	< 0.7	-
Consent limit			**6.0 – 9.0**	**100**	**15**	**20**

2.3 Consent holder data

Downer

Downer collect water samples from the final chambers of the site's four interceptor systems in order to assess stormwater treatment efficiency. Samples were collected during the 2021-2022 monitoring period (Table 4). The sample results showed that there were two occasions where there were elevated TSS concentrations in the site stormwater prior to discharge on 10 November 2021 and 1 April 2022. It should be noted that these samples are not discharge samples, but are indicative of water quality following treatment, prior to discharge. The compliance implications of these results are discussed further in Section 2.4.

Table 4 Final water quality data from the Downer site stormwater interceptors at Port Taranaki

Parameter		pH	TSS (g/m^3)	TPH (g/m^3)
DG Yard Interceptor	19-Jul-21	6.7	4	<4
Factory Slops Interceptor		6.2	8	<4
Yard B Interceptor		6.0	<3	<4
Loadout Yard Interceptor		6.6	7	<4
DG Yard Interceptor	10-Nov-21	6.8	**310**	0.7
Factory Slops Interceptor		6.4	27	<0.7
Yard B Interceptor		6.9	11	<0.7
Loadout Yard Interceptor		6.6	47	<0.7
DG Yard Interceptor	1-Apr-22	7.1	25	<0.7
Factory Slops Interceptor		6.6	<3	<0.7
Yard B Interceptor		6.7	8	<0.7
Loadout Yard Interceptor		6.8	**126**	<0.7
Discharge limit*		**6.0 -9.0**	**100**	**15**

* Note these samples are not discharge samples, but are indicative of water quality following treatment, prior to discharge

Methanex

Methanex test stormwater samples from tank bunds and sumps prior to discharge. Occasionally, test parameters may be outside of the allowable consent limits; in which case the water is not discharged. All sample results are summarised below in Tables 5 to 7.

All stormwater contaminants were below, or within the associated consent limits prior to discharge during the year under review.

Table 5 Summary of stormwater sample results from Pump Area Sump at the Port Taranaki Methanex site

Parameter	pH	Methanol (mg/L)	Visual Check Hydrocarbons (Pass/Fail)
Minimum	6.6	<2	Pass
Median	7.3	<2	Pass
Maximum	9.2	<2	Pass
Consent limits*	**6.0-9.0**	**20**	-

Number of samples = 30

* Note: These samples are not discharge samples, but are used to check stormwater compliance prior to discharge

Table 6 Summary of stormwater sample results from Bund A at the Port Taranaki Methanex site

Parameter	pH	Methanol (mg/L)	Visual Check Hydrocarbons (Pass/Fail)
Minimum	7.0	<2	Pass
Median	7.4	<2	Pass
Maximum	8.8	3	Pass
Consent limits*	**6.0-9.0**	**20**	-

Number of samples = 31

Table 7 Summary of stormwater sample results from Bund B at the Port Taranaki Methanex site

Parameter	pH	Methanol (mg/L)	Visual Check Hydrocarbons (Pass/Fail)
Minimum	6.8	<2	Pass
Median	7.8	<2	Pass
Maximum	9.4	3	Pass
Consent limits*	**6.0-9.0**	**20**	-

Number of samples = 31

* Note: These samples are not discharge samples, but are used to check stormwater compliance prior to discharge

Liquigas

Storage vessels and pipelines are filled with water as part of maintenance and recertification processes. Water samples are collected from upper, middle and lower sample points on the storage vessels prior to discharge. All five discharge events that occurred during 2021-2022 were compliant with consent requirements. A summary of these events is provided below in Table 8.

Table 8 Liquigas storage tank and pipeline water discharge summary 2021-2022

Date	Description	Sample results
1-Jul-21	Vessel V0507 water discharged into the Hongihongi stream. 280 m^3 water discharged on 1 and 2 July.	Compliant
5-Jul-21	Discharge of 280 m^3 of water into the Hongihongi stream on 5 and 6 July.	Compliant
3-Aug-21	Vessel V0506 recommissioned following remedial work. Water was discharged on 3 August.	Compliant
2-Dec-21	Vessel V0513 is to be decommissioned for its 10 year statutory inspection. Water discharge on 6 and 7 December.	Compliant

Date	Description	Sample results
22-Feb-22	Vessel V0513 recommissioned after its 10-year internal statutory inspection. Water discharged on 22 February	Compliant

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 holders. 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 causes 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 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).

Table 9 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the companies activities during the 2021-2022 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not. The incidents presented here are not limited to those specifically relating to the resource consents in this monitoring programme. They may also relate to rules in Regional Plans, and may have occurred at sites within Port Taranaki that are not routinely monitored as part of this programme.

Table 9 Incidents, investigations, and interventions summary table

Date	Company	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
6 Jan 2022	Port Taranaki Ltd	An unsubstantiated complaint was received regarding a palm kernel odour being emitted from Port Taranaki	Yes	No	Odour intensity deemed acceptable and compliant with Regional Air Quality Plan for Taranaki. See below for a summary of the incident
10 Nov 2021 & 1 April 2022	Downer Roadscience Ltd	Results of self-monitoring found elevated TSS concentrations in stormater treatment device prior to discharging from site. Results only provided to Council after the monitoring period.	Yes	No	Given the site was not discharging stormwater at the time the samples were collected, this does not represent a non-compliance. However, it is expected that the provision of self-monitoring data, and the associated response protocols, will improve going forward

Date	Company	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
15 Jan 2022	Technix Bitumen Technologies Ltd	Vegetable oil discharged from bunded area into stormwater system and into Tasman Sea	No	Abatement notice (11/02/22)	The spill was the result of the failure of a 1/2'' pipe thermocouple socket. Spill was contained and removed. Tank was decommissioned. See below for a summary of the incident
26 Apr 2022	Intergroup Ltd	Self-notification was received regarding a hydrocarbon discharge at Port Taranaki	No	Infringement notice (06/07/22)	Spill was a result of truck valve being opened before it was attached to tender boat. Spill was contained and removed. An Internal investigation and procedure review was conducted. See below for a summary of the incident
10 Jun 2022	Port Taranaki Ltd	Non-compliant stormwater samples during routine monitoring.	No	No	See below for an explanation of the non-compliance, the Council's decision regarding enforcement action. After discussions with Port Taranaki an explanation was provided and no further enforcement action was taken

6 January 2022: Unsubstantiated complaint regarding palm kernel odour

An inspection was undertaken as a result of a complaint being received from the public regarding a palm kernel odour being emitted from the Port Taranaki operational area. An odour survey was undertaken. No odours were detected being emitted from the Port area. However, light palm kernel odours were detected from trucks travelling from the Port along Breakwater Road carrying palm kernel product. An extended odour survey was carried out towards Ngāmotu Beach. A reasonably consistent light palm kernel odour was detected along this area. At the time of the inspection a ship was discharging palm kernel cargo. Security were advised of the odour complaint. The odour intensity and direction was deemed acceptable and compliant with the Regional Air Quality Plan for Taranaki and therefore, the complaint was deemed as unsubstantiated.

15 January 2022: Vegetable oil discharged to Tasman Sea

In response to notification about oil in the Tasman Sea, an inspection of the Technix site at Hutchen Place, Port Taranaki, was undertaken by a Council Compliance Officer. An oily substance was discovered in the Tasman Sea near the Moturoa Wharf in Port Taranaki. Investigation found that there had been a discharge of industrial vegetable oil onto land in a bunded area at the Technix site. Approximately 6000 L of vegetable oil had discharged from the bunded area and into the stormwater system, approximately 500 L subsequently flowed into the Tasman Sea. Tide/current moved the oil into the Moturoa Wharf/basin area where Port Taranaki and Council staff undertook containment and recovery of the vegetable oil. Photographs and samples were taken. Most of the spilt oil was contained using sorbant booms and a harbour boom. The recovered oil was discharged into IBC's and disposed of in an approved manner. Further investigation of the port area found that the vegetable oil had discharged from a storage tank at a site on Hutchens Place. On 11 February, an Abatement Notice was issued requiring Technix to undertake works to ensure that there were no further discharges of contaminants. Technix were given until 11 March 2022 to

comply with the Abatement Notice. Technix requested a 6-month extension. Following a site visit on 25 November 2022, it was confirmed that the tank involved in the spill had been decommissioned.

26 April 2022: Intergroup Ltd synthetic oil-based mud discharge

A self-notification was received regarding an oil spill at Port Taranaki. A Council Compliance Officer and Port Taranaki staff visited the site of the spill on Main Breakwater Wharf. Intergroup informed Council that approximately 40 L of Parapro SMB (synthetic oil based mud), had discharged from a truck due to the truck valve being opened before it was attached to the tender boat docked at the wharf. 20 L had spilt onto the wharf and 20 L had spilt over into the water. Absorbent crystals was used for containment on the wharf and port staff used absorbent pads to soak up the product spilt into the water. No booms were used as the product was non-toxic to aquatic species. On 6 July 2022 an Infringement Notice to Intergroup Ltd was issued.

10 June 2022: Port Taranaki Ltd non-compliant stormwater samples

Four stormwater samples collected as part of routine compliance presented TSS concentrations above the consent limit (100 g/m^3). The results were as follows: 148 g/m^3 at outlet 11/STW001088; 610 g/m^3 at outlet 32/STW001135; 450 g/m^3 at outlet 30/STW001159; and 300 g/m^3 at outlet 41/STW001157. This was in contravention of resource consent conditions and an Abatement Notice previously issued as a result of non-compliance, at Port Taranaki

During the stormwater survey, the site appeared tidy with no apparent issues. Prior to the survey there had been light rainfall overnight (9.8 mm between 02:00- 08:00 at Brookland's Zoo rain gauge). Squally showers fell intermittently from the morning onwards. There had been moderate rainfall each day in the three days preceding the survey (22 mm total).

The receiving waters were discoloured turbid brown in the Moturoa Basin (between Moturoa Wharf and the Newton King Tanker Terminal (NKTT)), and also in the Blyde Basin (between Blyde Wharf and Hutchen Place). At Moturoa Basin, it was not clear how much of the discolouration was directly attributed to the stormwater discharges, and how much was the result of sediment resuspension form the seabed, due to the shallow water depth in this basin. At Blyde Basin, the stormwater discharge at outlet 32 (STW001135) had a clear and conspicuous effect on the appearance of the receiving waters. However, this visual impact was deemed to have remained within the zone of reasonable mixing, and therefore was not considered as a separate non-compliance, in addition to the elevated stormwater TSS concentrations.

The discharge at outlet 30/STW001159 contained stormwater from a mixed catchment including Technix and Downer. Follow up investigations were unable to conclusively determine the source of the high TSS. No visual effects were observed in the receiving waters below this stormwater outlet at the time the sample was collected.

Port Taranaki explained that rainfall intensity and the design specifications of their stormwater infrastructure were both factors that resulted in the high TSS concentrations on this occasion. A number of improvements for their stormwater management system were also highlighted and have been scheduled for implementation. In light of this, and the fact that the visual impacts in the receiving waters remained compliant on this occasion, Council decided that further enforcement action was not necessary. It should also be noted that the current stormwater discharge consent limits are under review as part of the consent renewal process, which may change how these results are assessed in the future.

3 Discussion

3.1 Discussion of site performance

3.1.1 Port Taranaki Ltd

Most visits showed that the port was operating in a tidy manner. However, opportunities for improvement were still identified on occasion.

Results from the compliance monitoring of stormwater varied. While the first round of samples collected on 30 November 2021 presented results within consent limits for all outlets, four of the samples collected on 10 June 2022 presented TSS concentrations above the consent limit of 100 g/m^3. This indicates that despite improvements made to date, the stormwater network still needs to be carefully managed to ensure it functions effectively.

The Port appears to be committed to working towards solving these issues. Boundary ropes are now widely used on site to prevent solids getting into the stormwater systems. These get frequently cleaned and moved to ensure they function in the most effective way. Since the 2021-2022 monitoring period, bark and debris cleaning activities have also improved significantly. As of December 2022, additional overnight cleaning operations have been taking place, allowing the cleaning contractors to access the log yards without the risk of log trucks and machinery. This means the log yards can be cleaned more frequently, limiting the amount of bark, debris and sediment that can become entrained in the stormwater when it rains, and also reducing the generation of dust during dry periods. This is a big improvement for log yard housekeeping and maintenance at the port.

With regards to discharges to air, one complaint about palm kernel odours emanating from the Port was received on 6 January 2022. An inspection and odour survey was undertaken at the time. The odour intensity and direction was acceptable and compliant with the Regional Air Quality Plan for Taranaki. Therefore, the complaint was deemed as unsubstantiated.

Overall, with the exception of the June 2022 sample results, the site appeared to be largely operating within consent limits. However, based on the observations and sample results previously mentioned, improvement is still required.

3.1.2 Downer New Zealand Ltd

The Downer site was found to be maintained to a satisfactory standard during routine compliance inspections in the year under review. No non-compliances were recorded with regard to stormwater, odour or particulate emissions in the 2021-2022 period.

However, elevated TSS concentrations in the site's stormwater were identified through self-monitoring undertaken by Downer. Going forward the expectation is that results such as these will be provided to Council promptly, accompanied by a summary of corrective actions undertaken to prevent the discharge of non-compliant stormwater to the Tasman Sea.

During some of the compliance monitoring inspections a bitumen/emulsion type odour was detected in the vicinity of the Downer and Technix sites. However, it was deemed intermittent and remained within the Port operational boundary area.

3.1.3 Technix Bitumen Technologies Ltd

During the year under review there was a discharge of approximately 6000 L of industrial vegetable oil onto land in a bunded area at the Technix site. Oil had discharged from the bunded area and into the stormwater system and approximately 500 L flowed into the Tasman Sea. Port Taranaki and Council staff undertook containment and recovery of the vegetable oil. In response, Council issued an Abatement Notice requiring

Technix to undertake works to ensure that no further contaminants were discharged to the Tasman Sea. Subsequently, the Technix Emergency Response Plan was updated, another isolation valve was installed to prevent further leaks and the tank involved in the spill was decommissioned. At the time of writing this report, the Council determined that the Abatement Notice had been complied with.

During some of the compliance monitoring inspections a bitumen/emulsion type odour was detected in the vicinity of the Downer and Technix sites. However, it was deemed intermittent and remained within the Port operational boundary area.

3.1.4 Methanex New Zealand Ltd

The Methanex site was found to be maintained to a satisfactory standard during the year under review. No compliance issues with stormwater were identified during the 2021-2022 period.

3.1.5 Liquigas Ltd

The Liquigas site was found to be maintained to a satisfactory standard during the year under review. No compliance issues with stormwater or process water discharges were identified during the 2021-2022 period.

3.2 Environmental effects of exercise of consents

3.2.1 Port Taranaki Ltd

There were no visual impacts discovered in the receiving waters at the port during routine compliance monitoring inspections. However, visual effects were observed during the second stormwater sampling survey undertaken in June 2022. Turbid discharges were associated with changes in colour and clarity in the receiving waters at the STW001088, STW001135 and STW001157 discharge points. It is acknowledged that the shallow water depth in the basin between Moturoa Wharf and NKTT likely adds to the discolouration through sediment resuspension. The visual impacts on the receiving waters were not deemed to have extended beyond the point of reasonable mixing, and therefore remained compliant with resource consent 0197-2.1. Where there were associated seawater samples collected, these results also indicated that the extent of the effects was limited. It should be noted that because the stormwater sampling surveys often coincide with rough sea conditions, the associated sediment resuspension can mask the visual influence of individual discharges. The Hongihongi Stream also has a similar masking effect during flood conditions. However, even when there are no conspicuous visual effects, the discharges may still have an impact on the receiving environment due to the effects of sedimentation and other contaminants. A new regulatory and monitoring framework will likely be established through Port Taranaki's stormwater consent renewal process, which should enable a more comprehensive approach to monitoring potential effects in the receiving environment.

The monitoring period under review was the second year that water samples were tested for a wider range of parameters than had been previously included in this monitoring programme (see Appendix II). Although these additional parameters do not currently have prescribed consent limits, they were all associated with stormwater contaminants that are now generated at the port. The additional tests included turbidity, tannins, chemical oxygen demand (COD), nutrients and metals. The results did not reveal any significant adverse environmental effects at the time the samples were collected, however, the concentrations of some of these contaminants, such as copper and zinc, reaffirmed the need for ongoing monitoring. Acceptable concentrations and allowable mixing zones for these contaminants will be determined through the consent renewal process.

With regards to discharges to air, a complaint was received due to palm kernel odour that was detected beyond the site boundary. However, it was deemed as unsubstantiated.

3.2.2 Downer New Zealand Ltd

There were no adverse environmental effects observed as a result of resource consents 4674-2 and 4715-3 being exercised at the Downer site.

3.2.3 Technix Bitumen Technologies Ltd

Approximately 500 L of industrial vegetable oil were discharged into the Tasman Sea on 15 January 2022. Approximately 300 L of oil was successfully recovered by the recovery system. The spill resulted in an oily sheen on the sea surface, however, there were no lasting effects observed in the receiving waters following the spill recovery. There were no further adverse environmental effects observed as a result of resource consent 4712-2 being exercised at the Technix site.

3.2.4 Methanex New Zealand Ltd

There were no adverse environmental effects observed as a result of resource consent 0811-2 being exercised at the Methanex site.

3.2.5 Liquigas Ltd

There were no adverse environmental effects observed as a result of resource consent 4524-2 being exercised at the Liquigas site.

3.3 Evaluation of performance

A summary of the compliance record for the period under review is set out in Tables 10 to 18.

Table 10 Summary of performance for consent 0197-2.1 held by Port Taranaki Ltd

Purpose: *To discharge treated stormwater and washdown water into Tasman Sea from Port Taranaki*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Stormwater discharges are to adhere with consent conditions as well as stipulated documentation and plans	General monitoring	Yes
2. Best practicable option to remove contaminants before washdown	Site inspections	Yes
3. Limits on pH, hydrocarbons and suspended solids	Sampling	**No** TSS exceedances
4. After mixing, discharge not to effect receiving water	Site inspections and sampling	Yes
5. Consent holder to prepare Stormwater Management Plan, review and update as stipulated	An updated Stormwater Management Plan was supplied to Council on 12 April 2022.	Yes
6. Adequate training provided to port staff	Inspections and company records	Yes
7. Maintain contingency plan and update annually	An updated Tier 1 Spill Response Plan was supplied to Council on 14 April 2022.	Yes

Purpose: *To discharge treated stormwater and washdown water into Tasman Sea from Port Taranaki*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**Improvement required** **High**

Table 11 Summary of performance for consent 0198-2 held by Port Taranaki Ltd

Purpose: *To discharge washdown wastewater from Port Taranaki wharves, equipment and surrounding area into Tasman Sea*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option to remove contaminants	Site inspections	Yes
2. Limits on pH, hydrocarbons and suspended solids	No wash down samples collected during monitoring period	N/A
3. After mixing, discharge not to effect receiving water	No wash down activities observed during the year	N/A
4. Consent holder to prepare Stormwater Management Plan, review and update 2 yearly	An updated Stormwater Management Plan was supplied to Council on 14 October 2022	Yes
5. Adequate training provided to port staff	Inspections	Yes
6. Maintain contingency plan and update annually	An updated Tier 1 Spill Response Plan was supplied to Council on 14 October 2022	Yes
7. Option for Council to review consent conditions	Consent expired June 2020	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

Table 12 Summary of performance for consent 0811-2 held by Methanex New Zealand Ltd

Purpose: *To discharge stormwater and associated contaminants into the Tasman Sea at Port Taranaki from a methanol storage tank bunded area*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option	Inspections of site	Yes
2. Consent to be exercised in accordance with documentation submitted	Liaison with consent holder	Yes
3. Concentration limits	Self-monitoring	Yes
4. Mixing zone effects	Visual inspections	Yes

Purpose: *To discharge stormwater and associated contaminants into the Tasman Sea at Port Taranaki from a methanol storage tank bunded area*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
5. Maintenance of a contingency plan	Spill contingency plan (April 2022) - supplied to Council on 11 October 2022	Yes
6. Review provision	No further reviews	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**High**

Table 13 Summary of performance for consent 4524-2 held by Liquigas Ltd

Purpose: *To discharge from an LPG storage site: (a) process water; (b) water used to decommission and re-commission the LPG storage tanks; (c) LPG pipeline flushing water over a two-day period during emergency repairs; (d) stormwater into the Hongihongi Stream*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option	Inspections of site and sampling	Yes
2. Stormwater catchment area limit	Inspections of site	Yes
3. Process water discharge not to exceed 30 L/day	Inspections of site and records	Yes
4. Maintenance of a contingency plan	Current as of April 2022	Yes
5. Keep records of discharges during decommissioning/ Recommissioning	Liaison with consent holder	Yes
6. Notify the Council 24 hours prior to discharge of process, test, or flushing water	Notifications received	Yes
7. Provide results of any analysis carried out water used during commissioning.	Liaison with consent holder – results received	Yes
8. Concentration limits in discharge	Sampling	Yes
9. Review provision	No further option for review prior to expiry in 2026	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**High**

Table 14 Summary of performance for consent 4674-2 held by Downer New Zealand Ltd

Purpose: *To discharge stormwater from a bitumen emulsion manufacture, storage and load out site into the Tasman Sea*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Best practicable option to prevent or minimise adverse environmental effects	Site inspections	Yes
2. Catchment not to exceed 8,000 m^3	Site inspections	Yes
3. Stormwater to be directed for treatment	Site inspections	Yes
4. Hazardous substance storage areas to be bunded	Site inspections	Yes
5. Limits on pH, hydrocarbons and suspended solids	Sampling	Yes
6. Maintenance of Contingency Plan	Plan v11 issued 13 September 2022 (supplied to Council on 1 December 2022)	Yes
7. Maintenance of Stormwater Management Plan	Plan v11 issued 13 September 2022 (supplied to Council on 1 December 2022)	Yes
8. Notification re changes to processes or operations	Notification received, site inspections	Yes
9. Option for the Council to review consent conditions	No further reviews	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**Good**

Table 15 Summary of performance for consent 4712-2 held by Technix Bitumen Technologies Ltd

Purpose: *To discharge stormwater from a bitumen emulsion manufacture, storage and load out site into the Tasman Sea*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Best practicable option to prevent or minimise adverse environmental effects	Site inspections	**No**
2. Catchment not to exceed 8,000 m^3	Site inspections	Yes
3. Stormwater to be directed for treatment	Site inspections	Yes
4. Hazardous substance storage areas to be bunded	Site inspections	**No**
5. Limits on pH, hydrocarbons and suspended solids	Samples collected	Yes

Purpose: *To discharge stormwater from a bitumen emulsion manufacture, storage and load out site into the Tasman Sea*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
6. Maintenance of Contingency Plan	Stormwater and spill contingency plan (v6, November 2022) - supplied to Council	**No**
7. Maintenance of Stormwater Management Plan	Details included in Contingency Plan	Yes
8. Notification re changes to processes or operations	No notifications during period under review	Yes
9. Option for the Council to review consent conditions	No further reviews	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**Improvement required** **Good**

Table 16 Summary of performance for consent 4715-3 held by Downer New Zealand Ltd

Purpose: *To discharge emissions into air from bitumen operations*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option to prevent or minimise adverse effects	Site inspections	Yes
2. Annual maintenance of burner	Maintenance inspection undertaken June 2021	Yes
3. Notify Council prior to making changes to processes or operations	Inspections, no notifications received	N/A
4. Particulate material not to exceed 125 mg/m^3 of air	Not monitored during period under review	N/A
5. Control emissions to air from the site	Not monitored during period under review	N/A
6. Maintenance/operation of equipment	Site inspections	Yes
7. Discharge not to give rise to odour at or beyond the boundary	Site inspections	Yes
8. Review provision	No further reviews available	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

Table 17 Summary of performance for consent 10582-1 held by Technix Bitumen Technologies Ltd

Purpose: *To discharge emissions into the air from bitumen operations and associated processes*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option to prevent or minimise adverse effects	Site inspections	Yes
2. Discharge not to give rise to odour at or beyond the boundary	Site inspections	Yes
3. Emissions not to cause hazardous, noxious, dangerous, offensive or objectionable effect at or beyond boundary	Site inspections	Yes
4. Notify Council prior to making changes to processes or operations	Inspections, no notifications received	N/A
5. Lapse clause	Consent exercised	N/A
6. Review provision	Next optional review scheduled in 2026	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**High**

Table 18 Evaluation of environmental performance over time

Year	Consent no	High	Good	Improvement req	Poor
2010	0197	1	-	-	-
	0198	1	-	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	4715	-	1	-	-
2011	0197	-	-	1	-
	0198	1	-	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
2012	0197	-	-	1	-
	0198	-	-	1	-
	4674	1	-	-	-
	4712	1	-	-	-

Year	Consent no	High	Good	Improvement req	Poor
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
2013	0197	-	-	1	-
	0198	-	-	1	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
2014	0197	-	1	-	-
	0198	-	1	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
2015	0197	-	1	-	-
	0198	-	1	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
2016	0197	1	-	-	-
	0198	1	-	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
2017	0197	-	1	-	-
	0198	-	1	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-

Year	Consent no	High	Good	Improvement req	Poor
	4715	1	-	-	-
2018	0197	-	1	-	-
	0198	1	-	-	-
	4674	-	1	-	-
	4712	-	1	-	-
	0811	-	1	-	-
	4672	1	-	-	-
	4715	1	-	-	-
	10582	1	-	-	-
2019	0197	-	-	1	-
	0198	1	-	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
	10582	1	-	-	-
2020	0197	-	-	1	-
	0198	1	-	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
	10582	1	-	-	-
2021	0197	-	-	1	-
	0198	1	-	-	-
	4674	1	-	-	-
	4712	1	-	-	-
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
	10582	1	-	-	-
2022	0197	-	-	1	-
	0198	1	-	-	-
	4674	1	-	-	-
	4712	-	-	1	-

Year	Consent no	High	Good	Improvement req	Poor
	0811	1	-	-	-
	4672	1	-	-	-
	4715	1	-	-	-
	10582	1	-	-	-
Totals		73	10	10	0

During the year, Port Taranaki and Technix demonstrated a level of environmental performance which required improvement. Downer, Methanex and Liquigas all demonstrated a high level of environmental performance. With regards to administrative performance, Port Taranaki, Methanex and Liquigas demonstrated a high level of administrative performance, while Technix and Downer demonstrated a good level of administrative performance. Ratings are as defined in Appendix II.

3.4 Recommendations from the 2020-2021 Annual Report

In the 2020-2021 Annual Report, it was recommended:

1. THAT NZOSL (consent 4672-2) is no longer monitored and reported as part of this Port Industries monitoring programme, and is instead incorporated into the Port Area Industrial Catchments programme.
1. THAT Liquigas Ltd (consent 4524-2) is no longer monitored and reported as part of the Port Area Industrial Catchments programme, and is instead incorporated into this Port Industries programme.
2. THAT the Port Taranaki inspection frequency increases to six per year, with discharge sampling being done at a subset of sites on a provisional basis.
3. THAT the remaining consent holders within the Port are inspected four times per year.
4. THAT in addition to the inspection regime, a comprehensive wet weather discharge monitoring survey is carried out twice each year covering all of the standard sites, including additional analytical parameters.
5. THAT should there be issues with environmental or administrative performance in 2021-2022, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

The majority of these recommendations were implemented during the year under review. Only three out of four scheduled inspections were completed for Methanex and Liquigas, however, these sites were visited on five occasions including the stormwater surveys. Similarly, Port Taranaki, Technix and Downer were inspected on five occasions, in addition to two wet weather discharge sampling surveys.

3.5 Alterations to monitoring programmes for 2022-2023

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting 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 exercising resource consents.

It is proposed that for 2022-2023 the monitoring programme remains the same.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the sites in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2022-2023.

4 Recommendations

1. THAT in the first instance, monitoring of consented activities within Port Taranaki in the 2022-2023 year continue at the same level as 2021-2022.
2. THAT should there be issues with environmental or administrative performance in 2022-2023, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

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

Bund	A wall around a tank to contain its contents in the case of a leak.
Conductivity	An indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in µS/cm.
DO	Dissolved oxygen.
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.
Incident Register	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.
µS/cm	Microsiemens per centimetre.
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.
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
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}, $PM_{2.5}$, $PM_{1.0}$	Relatively fine airborne particles (less than 10 or 2.5 or 1.0 micrometre diameter, respectively).
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	*Resource Management Act 1991* and including all subsequent amendments.
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended solids.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.

UI	Unauthorised Incident.

For further information on analytical methods, contact an Environment Quality Manager.

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Appendix I

Resource consents held by relevant companies

(For a copy of the signed resource consent
please contact the TRC Consents department)

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. Permits authorising discharges to water are issued by the Council under Section 87(e) of the RMA.

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. Permits authorising discharges to air are issued by the Council under Section 87(e) of the RMA.

Coastal Permit

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

Name of Consent Holder:	Port Taranaki Limited PO Box 348 New Plymouth 4340	
Decision Date (Change):	22 December 2015	
Commencement Date (Change):	22 December 2015	(Granted Date: 13 October 1999)

Conditions of Consent

Consent Granted:	To discharge treated stormwater and washdown water from the Port Taranaki facility and environs into the Tasman Sea
Expiry Date:	1 June 2020
Site Location:	Port Taranaki, New Plymouth
Legal Description:	Lot 1 DP 17775 Lot 3 DP 460681 Lot 1 DP 17440 Lot 1 DP 7383 Lot 1 DP 420841 Lot 2 DP 420841 Lot 2 DP 17441 (Discharge source & site)
Grid Reference (NZTM)	1689650E-5676520N
Catchment:	Tasman Sea

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 form 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 holders' expense.

c. The consent holder shall pay to the Taranaki Regional Council all required administration charges fixed by the Taranaki Regional 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. This consent authorises the stormwater discharge from approximately 53.78 ha of land belonging to Port Taranaki Limited, in accordance with following documentation and plans:
   - The Assessment of Environmental Effects – Port Taranaki Stormwater Consent Variation document prepared by Opus International Consultants Limited, Referenced 5–N8170.00 and dated 19th November 2015;
   - Port Taranaki Stormwater Management Plan document prepared by Port Taranaki Limited and dated 17 November 2015;
   - Port Taranaki Stormwater Management Plan, prepared by Port Taranaki Limited, Sheet Titled: *Port Land Use Plan,* Referenced 2774, Sheet P02, Revision A and dated November 2015; and
   - Port Taranaki Stormwater Management Plan, Port Taranaki Limited, Sheet Titled: *Piped Discharged into Harbour As At May 2015*, Referenced 2774, Sheet P01, Revision G and dated 05/2015.

   In the case of any contradiction between the documentation and the conditions of this consent, the conditions of this consent shall prevail.

2. That the best practicable option, as defined in the Resource Management Act 1991, shall be adopted by the consent holder to ensure that any contaminants on the wharf surface are removed as far as reasonably practicable, before washdown on the wharf commences, including the following measures:

   (a) the use of front end loaders, shovels and brooms as appropriate; and
   (b) the use of suction sweepers on wharf facilities.

3. That the discharge shall not exceed the following limits at all times:

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
total recoverable hydrocarbons	Concentration not greater than 15 gm^{-3} (as determined by infrared spectroscopic technique)

This condition shall apply prior to the entry of the discharge into the receiving water at a designated sampling point(s) approved by the Chief Executive, Taranaki Regional Council.

4. That after allowing for reasonable mixing, the discharge shall not give rise to any of the following effects in the receiving waters:

   (a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
   (b) any conspicuous change in colour or visual clarity;
   (c) any emission of objectionable odour;
   (d) significant adverse effects on aquatic life.

5. That:

   (a) the consent holder shall prepare a Stormwater and Washdown Water Management Plan addressing proposed operation, management and monitoring at the port for the purpose of demonstrating among other things the means by which compliance with the conditions set in this consent shall be achieved, such a Management Plan is to be prepared to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council within a month of the granting of this consent;

   (b) the Management Plan shall be reviewed and updated as often as the land-uses change, in consultation with the Chief Executive, Taranaki Regional Council, and the updated plan provided to the Council;

   (c) the consent holder shall adhere to and comply with the procedures, requirements, obligations and all other matters specified in the Management Plan; and

   (d) in case of any contradiction between the Management Plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.

6. That the consent holder shall at all times ensure that port staff are adequately and appropriately trained to ensure that the conditions of this consent can be met.

7. That the consent holder shall maintain a contingency plan, outlining measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not licensed by this consent, and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge. This contingency plan shall be updated on an annual basis.

Signed at Stratford on 22 December 2015

For and on behalf of
Taranaki Regional Council

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A D McLay
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:	Port Taranaki Limited P O Box 348 NEW PLYMOUTH
Consent Granted Date:	13 October 1999

Conditions of Consent

Consent Granted:	To discharge up to 1.264 cubic metres/day of washdown wastewater from wharves, equipment and surrounding area into the Tasman Sea [P19:989-382 to 011-377 to 013-383 to 001-391 to 989-382] at or about GR: P19:997-382
Expiry Date:	1 June 2020
Review Date(s):	June 2001, June 2003, June 2009, June 2015
Site Location:	Wharf Area, Breakwater Road, Port Taranaki, New Plymouth
Legal Description:	Various
Catchment:	Tasman Sea

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. That the best practicable option, as defined in the Resource Management Act 1991, shall be adopted by the consent holder to ensure that any contaminants on the wharf surface are removed as far as reasonably practicable, before washdown on the wharf commences, including the following measures:

a) the use of front end loaders, shovels and brooms as appropriate; and
b) the use of suction sweepers on wharf facilities.

2. That the discharge shall not exceed the following limits at all times:

Component	Concentration
pH [range]	6 – 9
Total recoverable hydrocarbons	15 gm^{-3}
Suspended solids	100 gm^{-3}

This condition shall apply prior to the entry of the discharge into the receiving water at a designated sampling point(s) approved by the Chief Executive, Taranaki Regional Council.

3. That after allowing for reasonable mixing, the discharge shall not give rise to any of the following effects in the receiving waters:

a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;

b) any conspicuous change in colour or visual clarity;

c) any emission of objectionable odour;

d) significant adverse effects on aquatic life.

4. That:

a) the consent holder shall prepare a Washdown Wastewater Management Plan addressing proposed operation, management and monitoring at the port for the purpose of demonstrating among other things the means by which compliance with the conditions set in this consent shall be achieved, such a Management Plan is to be

prepared to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council within five months of the granting of this consent;

b) the Management Plan shall be reviewed and updated at not greater than 2 yearly intervals, in consultation with the Chief Executive, Taranaki Regional Council;

c) the Management Plan shall be reviewed and updated if coal stockpiles greater than 10,000 tonnes are to be made, and the Plan prepared as per condition 4(a) prior to the stockpiling;

d) the consent holder shall adhere to and comply with the procedures, requirements, obligations and all other matters specified in the Management Plan; and

e) in case of any contradiction between the Management Plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.

5. That the consent holder shall at all times ensure that port staff are adequately and appropriately trained to ensure that the conditions of this consent can be met.

6. That the consent holder shall maintain a contingency plan, outlining measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not licensed by this consent, and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge. This contingency plan shall be updated on an annual basis.

7. 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 2001 and/or June 2003 and/or June 2009 and/or June 2015, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects on the environment arising from the exercise of this consent, which was 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 11 October 2005

For and on behalf of
Taranaki Regional Council

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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:	Methanex Motunui Limited Private Bag 2011 NEW PLYMOUTH
Consent Granted Date:	6 May 2008

Conditions of Consent

Consent Granted:	To discharge stormwater and associated contaminants into the Tasman Sea at Port Taranaki from a methanol storage tank bunded area at or about 2599253E-6238317N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	Port Taranaki
Legal Description:	Lot 1 DP 14572
Catchment:	Tasman Sea
Tributary:	Hongihongi

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 substantially in accordance with the documentation submitted in support of application 4965. In the case of any contradiction between the documentation submitted in support of application 4965 and the conditions of this consent, the conditions of this consent shall prevail.

3. Concentrations of the following components shall not be exceeded in the discharge:

Component	**Concentration**
pH (range)	6.0 – 9.0
methanol	20 gm^{-3}
total recoverable hydrocarbons	15 gm^{-3}

This condition shall apply prior to the entry of the stormwater into the coastal marine area, at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

4. After allowing for a mixing zone of 50 metres from the point of discharge, the discharge shall not give rise to any of the following effects in the receiving water:

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) any significant adverse effects on aquatic life.

5. The consent holder shall prepare and maintain, to the satisfaction of the Chief Executive, Taranaki Regional Council, a contingency plan, outlining measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants, and measures to avoid, remedy or mitigate the environment effects of such a spillage or discharge.

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 2014 and/or June 2020, 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 6 May 2008

For and on behalf of
Taranaki Regional Council

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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:	Liquigas Limited P O Box 450 NEW PLYMOUTH 4340
Consent Granted Date:	3 December 2007

Conditions of Consent

Consent Granted:	To discharge from an LPG storage site: (a) process water from LPG storage tank de-watering; (b) water used to decommission and recommission LPG storage tanks; (c) LPG pipeline flushing water over a two-day period during emergency repairs; and (d) stormwater; into the Hongihongi Stream at or about 2599612E-6237879N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	Hutchens Place, New Plymouth
Legal Description:	Lot 1 DP 20289 Sec 221 Fitzroy Dist Lot 2 DP 4961 Lot 1 DP 7383 Lot 1 DP 16190 Lot 1 DP 17440 Lot 2 DP 17441 Lot 1 DP 18065 Lot 1 DP 19494 Lot 1 DP 19698 Lot 1 DP 19917 Sec 1 SO 13626
Catchment:	Hongihongi

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 stormwater discharged shall be collected from a catchment area of no more than 20,000 m^2.

3. The volume of process water discharged from LPG storage tank de-watering shall not exceed 30 litres per day.

4. The consent holder shall maintain a contingency plan, approved by the Chief Executive, Taranaki Regional Council, detailing measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not licensed by this consent, and measures to avoid, remedy or mitigate the environmental effects of such a discharge.

5. For the pipe flushing water and the water used to decommission and recommission the LPG storage tanks, the consent holder shall keep records of the date and time that the discharges to the Hongihongi Stream begin and end, and the volume of water discharged. These records shall be made available to the Chief Executive, Taranaki Regional Council, upon request.

6. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least 24 hours prior to discharging either pipe flushing water or the water used to decommission or recommission the LPG storage tanks. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable only if the consent holder does not have access to email.

7. The consent holder shall provide to the Chief Executive, Taranaki Regional Council, the results of any physicochemical analysis carried out on water which is discharged to the Hongihongi Stream.

8. Concentrations of the following components shall not be exceeded in the discharge:

Component	**Concentration**
pH (range)	6.0 – 9.0
suspended solids	100 gm^{-3}
total recoverable hydrocarbons [infrared spectroscopic technique]	15 gm^{-3}

This condition shall apply prior to the entry of the stormwater and process water into the Hongihongi Stream, at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

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 2014 and/or June 2020, 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 3 December 2007

For and on behalf of
Taranaki Regional Council

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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:	Downer New Zealand Limited P O Box 2344 TAURANGA 3140
Decision Date:	12 November 2008
Commencement Date:	12 November 2008

Conditions of Consent

Consent Granted:	To discharge stormwater from a bitumen industry emulsion manufacture, storage and load out site, into the existing Port Taranaki stormwater system and into the Tasman Sea at or about (NZTM) 1689316E-5676302N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	Bridger Lane, Port Taranaki
Legal Description:	Lot 1 DP 17440
Catchment:	Tasman Sea
Tributary:	Hongihongi

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. Notwithstanding any other condition of this consent, 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 stormwater discharged shall be from a catchment area not exceeding 8000 m^2.

3. All stormwater shall be directed for treatment through the stormwater treatment system for discharge in accordance with the special conditions of this permit.

4. Any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or other appropriate recovery systems, and not directly to the stormwater catchment.

5. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
total recoverable hydrocarbons	Concentration not greater than 15 gm^{-3} [as determined by infrared spectroscopic technique]

This condition shall apply prior to the entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

6. The consent holder shall maintain a contingency plan. The contingency plan shall be adhered to in the event of a spill or emergency and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, detail measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not authorised by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

7. The consent holder shall maintain a stormwater management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater.
The plan shall include but not necessarily be limited to:

   a) the loading and unloading of materials;
   b) maintenance of conveyance systems;
   c) general housekeeping; and
   d) management of the interceptor system.

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site, which could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable if the consent holder does not have access to email.

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:

   a) during the month of June 2014 and/or June 2020 ; and/or
   b) within 3 months of receiving a notification under special condition 8 above;

   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 10 August 2011

For and on behalf of
Taranaki Regional Council

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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:	Technix Bitumen Technologies Limited Private Bag 2222 New Plymouth 4340
Decision Date	12 November 2008
Commencement Date	12 November 2008

Conditions of Consent

Consent Granted:	To discharge stormwater from a bitumen industry emulsion manufacture, storage and load out site, into the existing Port Taranaki stormwater system and into the Tasman Sea
Expiry Date:	1 June 2026
Review Date(s):	June 2020 and/or within 3 months of receiving a notification under special condition 8
Site Location:	Bridger Lane, Port Taranaki
Grid Reference (NZTM)	1689316E-5676302N
Catchment:	Tasman Sea Hongihongi

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. Notwithstanding any other condition of this consent, 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 stormwater discharged shall be from a catchment area not exceeding 8000 m^2.

3. All stormwater shall be directed for treatment through the stormwater treatment system for discharge in accordance with the special conditions of this permit.

4. Any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or other appropriate recovery systems, and not directly to the stormwater catchment.

5. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
total recoverable hydrocarbons	Concentration not greater than 15 gm^{-3} [as determined by infrared spectroscopic technique]

This condition shall apply prior to the entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

6. The consent holder shall maintain a contingency plan. The contingency plan shall be adhered to in the event of a spill or emergency and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, detail measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not authorised by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

7. The consent holder shall maintain a stormwater management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater. The plan shall include but not necessarily be limited to:

   a) the loading and unloading of materials;
   b) maintenance of conveyance systems;
   c) general housekeeping; and
   d) management of the interceptor system.

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site, which could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable if the consent holder does not have access to email.

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:

   a) during the month of June 2014 and/or June 2020; and/or
   b) within 3 months of receiving a notification under special condition 8 above;

   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 21 March 2019

For and on behalf of
Taranaki Regional Council

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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:	Downer New Zealand Limited P O Box 2344 TAURANGA 3140
Decision Date:	29 May 2008
Commencement Date:	29 May 2008

Conditions of Consent

Consent Granted:	To discharge emissions into the air from bitumen blowing operations and associated processes at or about (NZTM) 1689316E-5676302N
Expiry Date:	1 June 2026
Review Date(s):	June 2014, June 2020
Site Location:	Bridger Lane, Port Taranaki
Legal Description:	Lot 1 DP 17440

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 burner shall be maintained to the satisfaction of the Chief Executive, Taranaki Regional Council, by a trained service person at least every twelve months to optimise combustion efficiency and to reduce noxious emissions to air.

3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site, which could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable if the consent holder does not have access to email.

4. The discharge of particulate material from any vent, duct or chimney, shall not exceed 125 milligrams per cubic metre of air corrected to 0 degrees Celsius, 1 atmosphere pressure, and a dry gas basis.

5. The consent holder shall control all emissions to the atmosphere from the site so 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 site shall not exceed:

   a) 1/30th of the relevant Occupational Threshold Value Time Weighted Average as defined by the Department of Labour Workplace Exposure Standards and Biological Exposure Indices for New Zealand; or
   b) by more than the Short Term Exposure Limit as defined in the Department of Labour Workplace Exposure Standards and Biological Exposure Indices for New Zealand;
   c) or if no Short Term Exposure Limit is set, more than three times the Time Weighted Average at any time.

6. That 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 optimum condition and shall be operated within optimum design parameters at all times the plant is in operation.

7. That the discharges authorised by this consent shall not give rise to any odour at or beyond the site boundary which, in the opinion of an enforcement officer of the Taranaki Regional Council, is offensive of obnoxious or objectionable.

8. 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 2014 and/or June 2020, 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 10 August 2011

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:	Technix Bitumen Technologies Limited 691 Devon Road New Plymouth 4312
Decision Date:	21 May 2018
Commencement Date:	21 May 2018

Conditions of Consent

Consent Granted:	To discharge emissions into the air from bitumen operations and associated processes
Expiry Date:	1 June 2032
Review Date(s):	June 2020, June 2026 and in accordance with special condition 6
Site Location:	Hutchen Place, Port Taranaki
Grid Reference (NZTM)	1689376E-5676273N

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 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 discharges authorised by this consent shall not give rise to an odour at or beyond the boundary of the site (identified in Appendix 1) that is offensive or objectionable.

3. The consent holder shall control all emissions of contaminants to the atmosphere from the site in order that they do not individually or in combination with other contaminants cause a hazardous, noxious, dangerous, offensive or objectionable effect at or beyond the boundary of the site (identified in Appendix 1).

4. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act, 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.

5. This consent shall lapse on 30 June 2023, 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.

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:

   a) during the month of June 2020 and/or June 2026; and/or
   b) within 3 months of receiving a notification under special condition 4 above;

   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 21 May 2018

For and on behalf of
Taranaki Regional Council

_____

A D McLay
Director - Resource Management

Appendix 1: Property boundary

Document: 342846
File: 6882-0

30 August 2007

Chief Executive
Port Taranaki Limited
PO Box 348
New Plymouth

Dear Roy

Certificate of compliance - coal storage at Port Taranaki

In May 2006 the Taranaki Regional Council [Council] issued a certificate of compliance for the discharge of emissions to air associated with the import, storage, and export of coal through Port Taranaki. This certificate was applied for by Port Taranaki Limited. It was issued based on specific information submitted with the application concerning the characteristics of the coal and how the coal would be managed to achieve the standards of a permitted activity in the Regional Air Quality Plan. The Council were satisfied, based on this information, that a certificate could be issued.

Council is now aware that some details of that proposal have changed, principally that the particle size of the coal is expected to be much smaller than originally anticipated. The Port environment is exposed to west coast climatic conditions that at times exhibit strong westerly winds that could carry coal beyond the property boundary of the Port and cause adverse environmental effects. This means that the certificate of compliance may no longer be valid, because the proposal is significantly different from the information provided with the application. Further, mitigation measures originally proposed may not be sufficient to ensure the permitted activity standards can be met.

It is extremely important that Port Taranaki Ltd formally note how the proposal has changed and what the mitigation measures now are, as an application for a new certificate of compliance or a resource consent for the activity may be required.

Yours faithfully
B G Chamberlain
Chief Executive

per: AD McLay
Director-Resource Management

cc: Attention: Peter Atkinson, Duffill Watts & King Ltd,PO Box 6017, New Plymouth

Appendix II

Categories used to evaluate environmental and administrative performance

Categories used to evaluate 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 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 during investigations of incidents reported to the Council by a third party 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 during investigations of incidents reported to the Council by a third party. 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 during investigations of incidents reported to the Council by a third party. 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.

Appendix III

Water sample results 2021-2022

Port Industries stormwater discharge monitoring results (full survey 1 of 2) 30 November 2021[JV19]

		TEMP	pH	Electrical Conductivity (EC)	Total hydrocarbons (C7 - C36)	Total Suspended Solids	Turbidity - ISO 7027 Method	Tannin	Chemical Oxygen Demand (COD)	Nitrate-N + Nitrite-N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Total Phosphorus	Enterococci	Escherichia coli
Site	Time	Deg. C	pH Units	µS/cm	g/m³	g/m³	FNU	g/m³	g O_2/m³	g/m³	g/m³	g/m³	g/m³	MPN / 100mL	MPN / 100mL
STW001088	6:55	18.7	6.2	70	< 0.7	93	53	2.2	250	< 0.002	1.02	1.02	0.46	-	-
STW001089	07:05	18.9	6.5	118	< 0.7	41	28	4.4	-	0.60	5.2	5.8	7.0	-	-
SEA902066	07:15	19.3	8.0	49100	< 0.7	8	-	2.2	-	0.0195	< 0.2	0.2	0.156	-	-
STW001104	07:40	19.4	6.6	38	< 0.7	< 3	-	-	-	-	-	-	-	-	-
STW001159	07:50	19.3	6.5	62	< 0.7	3	-	-	-	0.086	0.39	0.48	0.132	-	-
STW001135	08:00	19.4	6.7	132	< 0.7	79	89	35	320	< 0.002	1.01	1.01	0.40	-	-
STW001157	08:15	19.8	6.3	97	< 0.7	73	89	53	420	< 0.002	1.11	1.12	0.46	-	-
SEA000000	08:25	19.5	8.1	50400	< 0.7	< 3	-	< 5	-	0.0096	< 0.2	< 0.3	0.009	-	-
STW001090	08:50	18.4	6.9	90	< 0.7	23	-	-	-	-	-	-	-	-	-
STW001092	09:10	19.2	6.5	85	< 0.7	60	-	-	181	0.187	6.8	6.9	2.5	> 24200	> 24200
STW002036	09:40	18.3	6.9	87	< 0.7	< 3	-	-	-[JV20]	-	-	-	-	-	-

Port Industries stormwater discharge monitoring results (full survey 1 of 2) – 30 November 2021 (continued)

	Total Arsenic	Total Cadmium	Total Chromium	Total Copper	Total Lead	Total Nickel	Total Zinc
Site	g/m^3	g/m^3	g/m^3	g/m^3	g/m^3	g/m^3	g/m^3
STW001088	0.0012	< 0.000053	0.00137	0.0071	0.00178	0.00112	0.061
STW001089	0.0031	0.00033	0.00175	0.0113	0.0030	0.0020	0.097
SEA902066	< 0.0042	< 0.00021	0.0027	< 0.0011	< 0.0011	< 0.0070	0.0075
STW001104	< 0.0011	< 0.000053	< 0.00053	0.0023	< 0.00011	< 0.00053	0.028
STW001159	0.0024	< 0.000053	0.00132	0.0063	0.00091	0.00191	0.83
STW001135	0.0031	0.000105	0.0025	0.030	0.0026	0.0038	0.056
STW001157	0.0014	< 0.000053	0.0025	0.0080	0.00168	0.0026	0.040
SEA000000	< 0.0042	< 0.00021	0.0018	< 0.0011	< 0.0011	< 0.0070	< 0.0042
STW001090	< 0.0011	< 0.000053	0.00069	0.00167	0.00041	< 0.00053	0.025
STW001092	0.0015	< 0.000053	0.00165	0.0069	0.00059	0.00155	0.164
STW002036	< 0.0011	< 0.000053	< 0.00053	0.0020	< 0.00011	< 0.00053	0.050

Port Industries stormwater discharge monitoring results (full survey 2 of 2) 10 June 2020

		TEMP	pH	Electrical Conductivity (EC)	Total hydrocarbons (C7 - C36)	Total Suspended Solids	Turbidity - ISO 7027 Method	Tannin	Chemical Oxygen Demand (COD)	Nitrate-N + Nitrite-N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Total Phosphorus	Enterococci	Escherichia coli
Site	Time	Deg. C	pH Units	µS/cm	g/m³	g/m³	FNU	g/m³	g O_2/m³	g/m³	g/m³	g/m³	g/m³	MPN / 100mL	MPN / 100mL
STW001088	08:30	13.2	6.5	225	< 0.7	148	131	18.9	-	< 0.002	1.15	1.15	0.45	-	-
STW001089	08:40	13.6	6.6	165	< 0.7	37	38	1.8	-	0.141	0.30	0.44	0.32	-	-
SEA902066	08:45	Awaiting result	8.0	49900	< 0.7	35	-	1.8	-	0.031	< 0.2	< 0.3	0.028	-	-
STW001135	09:05	12.5	6.5	79	< 0.7	610	220	5	460	< 0.002	4.1	4.1	0.95	-	-
STW001159	09:05	12.5	6.4	79	< 0.7	450	-	-	-	< 0.002	0.14	0.14	0.46	-	-
STW001157	09:25	13.4	6.6	128	< 0.7	300	220	38	280	0.003	1.48	1.48	0.50	-	-
SEA000000	09:35	16.1	8.1	50500	< 0.7	< 3	-	3.2	-	0.034	< 0.2	< 0.3	0.016	-	-
STW001104	09:55	Awaiting	6.7	133	< 0.7	7	-	-	-	-	-	-	-	-	-
STW002036	10:20	14.9	6.5	399	< 0.7	11	-	-	-	-	-	-	-	-	-
STW001092	10:25	14.2	6.6	146	< 0.7	25	-	-	-	0.28	3.6	3.9	0.30	> 2420	1733
STW001090	10:40	15.2	6.8	162	< 0.7	12	-	-	-	-	-	-	-	-	-

Port Industries stormwater discharge monitoring results (full survey 2 of 2) – 10 June 2022 (continued)

	Total Arsenic	Total Cadmium	Total Chromium	Total Copper	Total Lead	Total Nickel	Total Zinc
Site	g/m³	g/m³	g/m³	g/m³	g/m³	g/m³	g/m³
STW001088	0.0019	0.000072	0.0041	0.0120	0.0037	0.00190	0.157
STW001089	< 0.0011	0.000086	0.00111	0.0073	0.0029	0.00067	0.111
SEA902066	< 0.0042	< 0.00021	0.0018	0.0018	< 0.0011	< 0.0070	0.0091
STW001135	0.0039	0.00049	0.0098	0.054	0.0113	0.0059	0.26
STW001159	< 0.0011	0.000062	0.00140	0.0086	0.0029	0.00107	0.38
STW001157	0.0014	0.000064	0.0043	0.0089	0.0036	0.0032	0.058
SEA000000	< 0.0042	< 0.00021	0.0022	< 0.0011	< 0.0011	< 0.0070	< 0.0042
STW001104	< 0.0011	< 0.000053	< 0.00053	0.0044	0.00024	< 0.00053	0.091
STW002036	< 0.0011	0.000062	< 0.00053	0.00165	0.00057	< 0.00053	0.43
STW001092	0.0012	< 0.000053	0.00086	0.0040	0.00022	0.00095	0.076
STW001090	< 0.0011	< 0.000053	< 0.00053	0.00093	< 0.00011	< 0.00053	0.0186