Todd Petroleum Mining Company KGTP

Monitoring Programme Annual Report 2023/24

Technical Report 2024-77

Taranaki Regional Council

Todd Petroleum Mining Company Ltd KGTP

Monitoring Programme
Annual Report
2023/24
Technical Report 2024-77

Taranaki Regional Council
Private Bag 713
Stratford

ISSN: 1178-1467 (Online)
Document: TRCID-176456519-173 (Word)
Document: TRCID-1188382587-412 (Pdf)
February 2025

Executive summary

Todd Petroleum Mining Company Ltd (the Company) operates a gas treatment plant, Kapuni Gas Treatment Plant (KGTP), located on Palmer Road at Kapuni, in the Kapuni catchment, South Taranaki.

This report for the period July 2023 to June 2024 describes the monitoring programme implemented by Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

During the monitoring period, Todd Petroleum Mining Company Ltd demonstrated a high level of environmental performance and high level of administrative performance.

During the year the Company held six resource consents, which included a total of 60 conditions setting out the requirements that they must satisfy. The Company holds one consent to allow it to take water, two consents to discharge effluent/stormwater into the Kapuni Stream, one consent to discharge to land, one land use permit, and one consent to discharge emissions into the air at the site.

The Council's monitoring programme for the year under review included four inspections, six water samples collected for physicochemical analysis and inter-laboratory comparisons, and a review of four biomonitoring surveys and two fish surveys of receiving waters. A review of monthly consent holder provided effluent data and surface water abstraction data was undertaken throughout the monitoring period. The Company also provided the results of air quality monitoring.

The monitoring indicated that the discharge of process and stormwater was undertaken in a compliant manner for the duration of the monitoring period.

The Council review of the independent biological assessment of the Kapuni Stream catchment concluded that the Kapuni Stream was in 'good' to 'excellent' health and there was no discernible impact from any industrial activity at Kapuni.

The findings of the fish surveys concluded that overall there was no indication that the KGTP was having any significant adverse effects on fish communities in the Kapuni catchment.

There were no adverse effects on the environment resulting from the exercise of the air discharge consents. Ambient air quality monitoring undertaken at the KGTP showed that levels of carbon monoxide and nitrogen oxides were below levels of concern at the time of sampling. No offensive or objectionable odours were detected beyond the boundary during inspections and there were no complaints in relation to air emissions from the site.

There were no unauthorised incidents recording non-compliance in respect of this consent holder during the period under review.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.

In terms of overall environmental and compliance performance by the consent holder over the last several years, this report shows that the consent holder's performance remains at a high level.

This report includes recommendations for the 2024/25 year.

Table of contents

List of tables

List of figures

List of photos

1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2023 to June 2024 by Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by Todd Petroleum Mining Company Ltd (the Company). The Company operate the Kapuni Gas Treatment Plant (KGTP) which is situated on Palmer Road, at Kapuni, in the Kapuni catchment, South Taranaki.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to abstractions and discharges of water within the Kapuni catchment, and the air discharge permit held by the company to cover emissions to air from the site. This report is the 33rd annual report to be prepared by the Council to cover the Company's air, land and water discharges and their effects.

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 *Resource Management Act 1991* (RMA) and the Council's obligations;
- the Council's approach to monitoring sites though annual programmes;
- the resource consents held by the Company in the Kapuni catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted at the KGTP.

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 2024/25 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' in as much 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 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 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor. [1]

1.2 Process description

The KGTP was originally owned and operated by Vector Limited, known originally as National Gas Company (NGC). It was built during 1969-1970. KGTP was acquired by Todd Petroleum Mining Company Ltd on 1 April 2020.

The original plant was designed to process high carbon dioxide Kapuni gas to a quality suitable for use in general domestic, commercial and industrial appliances. The process involves the removal of carbon dioxide from the gas, which is then dried and chilled to remove some of the heavier hydrocarbons which could affect pipeline operation and appliance efficiency. The pipeline quality gas is then distributed via the transmission distribution network.

The first of several plant expansions occurred in 1973 with the addition of plant to process the heavier hydrocarbons into LPG (liquefied petroleum gas) and natural gas. In 1979-1980, further additions were made to process Maui gas and to recover, purify and liquefy some of the carbon dioxide from the gas. The liquid carbon dioxide is used in the beverage, food processing and refrigeration markets.

In 1985, KGTP was expanded with the installation of the low temperature separation (LTS) gas conditioning plant which processed the high carbon dioxide content Kapuni gas for water and heavy hydrocarbon removal only. The conditioned gas was supplied to the region's methanol plants so that it could be blended with the much lower carbon dioxide content Maui gas for more efficient methanol production. Methanex reduced its production capacity and as a result the gas conditioning plant was mothballed in May 2005.

[1] The Council has used these compliance grading criteria for more than 20 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

Photo 1 Kapuni Gas Treatment Plant (KGTP) during three train operation

During 1997, the KGTP refrigeration systems were upgraded, enabling more natural gas liquids to be removed from the raw gas. Reliability and efficiencies were further improved with the completion in 1998 of a $25 million, three-year refurbishment of the plant's processes and control systems.

The Company and Todd Energy were 50:50 partners in Kapuni Energy which had developed a $37 million, 25MW cogeneration plant within the Company's gas treatment plant complex at Kapuni. It provides the electricity and steam requirements of the KGTP and Fonterra's Lactose factory at Kapuni. It also exports excess electricity into the national grid.

During the 2004-2005 period, NGC completed a $7 million upgrade of the treatment plant, involving re-commissioning one of the plant's three process trains, adding a further 100 tonnes of LPG storage, and installing a reverse osmosis water treatment plant. In April 2006 NGC changed its name to Vector Ltd.

The gas supply for the plant comes from the adjacent Kapuni Gas Production Station formerly operated by Shell Taranaki Ltd and now by Todd Petroleum Mining Company Ltd.

Water is drawn from the Kapuni Stream via the intake structure and raw water supply line for Hawera water treatment plant. Water discharges are from the gas treatment process, plant utilities, domestic effluent and site stormwater. Solid waste discharges are from sediment removed from time to time from the settling basins for water treatment and waste storage. Air discharges are from the gas treatment process.

The KGTP site was acquired by Todd Petroleum Mining Company Ltd in April 2020, who currently own and operate the site.

1.3 Resource consents

The Company holds six resource consents 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 in Appendix I, as are copies of all permits held by the Company during the period under review.

Table 1 Summary of resource consents held by the Company

Consent Number	Purpose	Date Granted	Review Date	Expiry Date
Discharge to Air Permits				
4087-2	Discharge emissions to air from on-site activities and ancillary activities	Jan 1997	-	2029
Discharge to Water Permits				
1123-3	Discharge cooling and wastewater to Kapuni Stream	Jun 2012	2029	2035
7755-1	Discharge stormwater from (non-process areas) containing natural gas into Kapuni Stream	Jun 2012	2029	2035
Discharge to Land Permits				
1225-3	Discharge up to 13.5m^3/day (0.97L/s) of treated sewage and process wastes to land	Jun 2012	2029	2035
Water Use Permits				
1125-4	Take up to 33L/s from Kapuni Stream	Jun 2012	2029	2035
Land Use Permits				
5090-1	Structures for pipeline crossings above and around the Motumate Stream and an unnamed tributary of the Waiokura Stream for electrical supply	Jan 1997	2029	2032

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 KGTP site consisted of four primary components.

1.4.2 Programme liaison and management

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

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- 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

The KGTP was visited four times during the monitoring period. 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 Company were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was surveyed for environmental effects.

1.4.4 Chemical sampling

Chemical sampling undertaken by the Council in this monitoring period was focused on the discharge from the facility and the effects on the receiving waters. The Company holds consent 1123-3. This allows for the discharge of cooling and waste waters to the Kapuni Stream throughout the year. The process of the discharge is controlled by the facility and checked through chemical analysis prior to the discharge occurring. The analysis of the discharge is provided to the Council in the form of a monthly report.

In order to ascertain the quality of the results provided by the Company, the Council conducted inter-laboratory comparison exercises which encompassed the following methodology. A sample of the discharge waters is collected and split between two samples. The same is performed at the upstream and the downstream (below the discharge point) sample locations. These samples are then analysed separately, (one set is analysed at the Company, the other by the Council via Hill Laboratories in Hamilton) and the results compared.

1.4.5 Biomonitoring surveys

Four macroinvertebrate surveys and two electric fishing surveys were performed by the third party consultant Stark Environmental during the 2023/24 monitoring year. The Council reviews the reports submitted by Stark Environmental. A summary of the review is provided within this report with the full version available on request.

2. Results

2.1 Water

2.1.1 Inspections

Four inspections of the Company site were undertaken this monitoring period by an officer of the Council. The inspections were undertaken on 30 August and 22 November 2023, and 1 March and 22 May 2024. Inspections covered the following:

- Upcoming operations and current operation;
- Heat recovery steam generator operation;
- Discharge process effluent and stormwater management;
- Kapuni Stream monitoring;
- Liquid transfer system;
- Dry and wet chemical storage;
- On-site sewage treatment system;
- Land treatment;
- River gauging;
- LPG load out facility; and
- Housekeeping.

Overall, the plant was found to be in a very tidy condition, with no issues noted. Staff were knowledgeable about processes and compliance requirements.

2.1.2 Abstraction monitoring

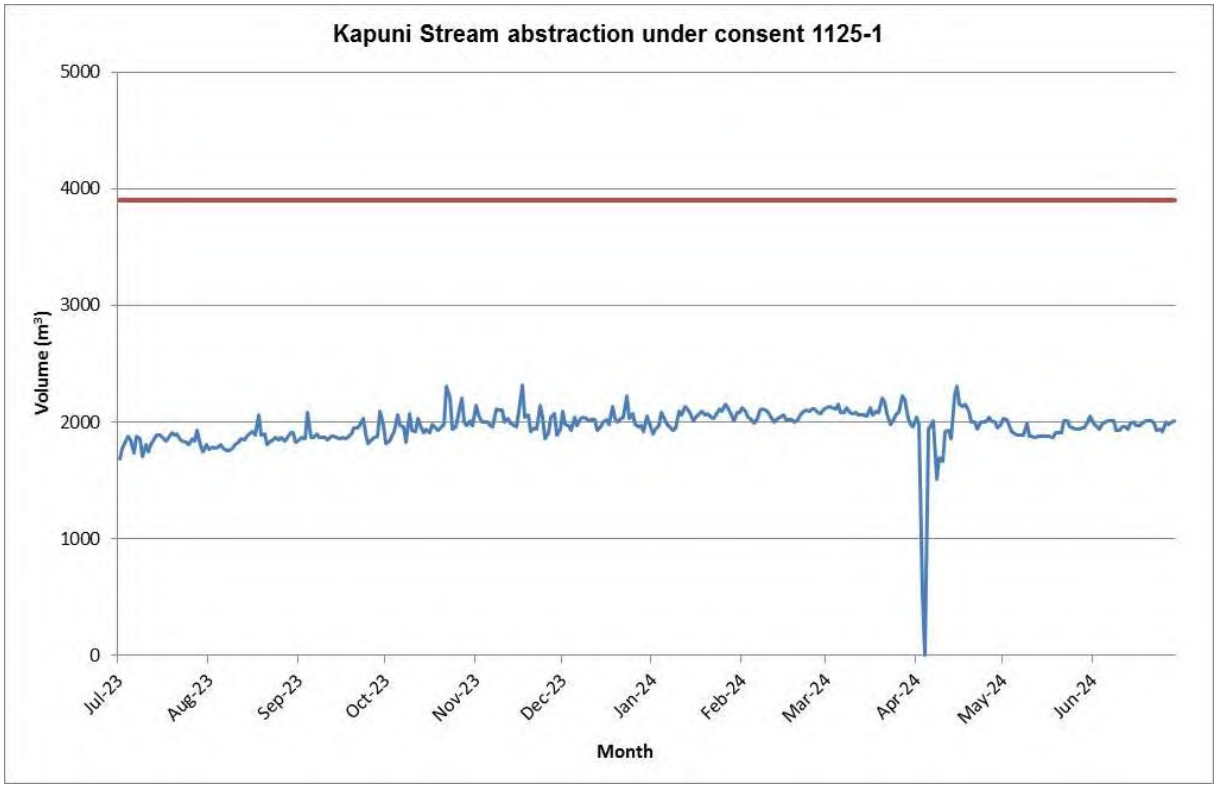

Figure 1 Surface water abstraction data from the Kapuni Stream 2023/24 consent 1125-1

Water for KGTP is drawn from the Kapuni Stream, about 1.4km above the plant, via the intake structure and raw water supply line for Hawera water treatment plant. South Taranaki District Council (STDC) holds land use permit 7413-1 for the structure and water permit 0146-2 to take.

The daily surface water extraction record is provided above in Figure 1. Consent 1125-4 allows for a maximum daily surface water abstraction of 3,900m^3 per day. In this monitoring period the Company were well below this limit. The total volume abstracted was recorded at 718,590m^3.

This is a decrease of 16,818m^3 when compared to the 2022/23 monitoring period. The Company utilised 50% of its total abstraction allowance in the 2023/24 monitoring period.

2.1.3 Provision of consent holder data

Monitoring of the discharge constituents and the Kapuni Stream is undertaken by the Company, prior to each discharge and one hour following commencement of the discharges authorised by discharge consent 1123-3.

Consent 1123-3 requires the preparation of an effluent disposal management plan. The plan includes the reporting on the exercise of the consents. As such the Company provided, at approximately monthly intervals, discharge data in relation to these consents for the monitoring period.

On two occasions in this monitoring period the Council carried out inter-laboratory comparisons with the KGTP laboratory. The results are discussed in the following section 2.1.4.

The Company discharge and stream monitoring data was provided to the Council at monthly intervals throughout the year. This has been assessed by the Council and summarised below.

Temperature

Temperature is recorded continuously by the Company both upstream and downstream of the discharge point. In 2023/24, the maximum temperature differential recorded was 1.2°C. This occurred on 7 March 2024. This was within consent limits, which stipulates a maximum allowable increase of 2.0°C.

pH

Consent 1123-3 requires the discharge to not cause the pH within the Kapuni Stream to be outside the range 6.5-9.0 pH when measured at the downstream (KPN000293) monitoring location. Results provided by the Company showed that compliance was achieved throughout the monitoring period. In 2023/24, the maximum recorded pH at the downstream sampling site was 8.3 recorded on 18 December 2023. The corresponding upstream pH was 7.8. The minimum pH recorded downstream was 6.7 recorded on 5 September 2023. The corresponding upstream pH value was 6.6.

Ammonia

Special condition 6 of consent 1123-3 limits the concentration of un-ionised ammonia to not exceed 0.006g/m^3 when measured at the downstream monitoring location on the Kapuni Stream except under specific circumstances. On all occasions, the discharge shall not cause the concentration of un-ionised ammonia to exceed 0.025g/m^3 in the Kapuni Stream at this point. This limit was set for the protection of aquatic species.

Results provided by the Company show that compliance was achieved throughout the monitoring period, with the majority of results below the Company's limit of detection (>0.001g/m^3). The maximum result recorded was 0.005g/m^3 on 12 January and 5 March 2024.

Inter-laboratory comparison samples collected by the Council (which is assessed to a lower concentration than the periodic batch testing undertaken by the Company) indicated values of <0.00005g/m^3 (August 2023) and 0.0005g/m^3 (March 2024) for NH_3 at the downstream monitoring location of KPN000293. This was also confirmed by the KGTP laboratory during the inter-laboratory comparisons, with both results below the limit of detection.

Sodium

Special condition 7 of consent limit 1123-3 limits the sodium concentration of the Kapuni Stream to 40g/m^3. The sodium concentration is further limited to 22g/m^3 in accordance with an agreement with the Company's neighbours, Ballance.

Results provided by the Company in this monitoring period indicated that compliance was achieved for this condition. During the 2023/24 monitoring period the results indicated that the maximum recorded downstream sodium concentration was 17g/m^3. This was recorded on 17 November 2023. The corresponding upstream value was 9g/m^3.

Vanadium

Special condition 8 of consent 1123-3 stipulates the discharge shall not cause the total vanadium concentration of the Kapuni Stream to exceed 0.08g/m^3, when measured 50m downstream of the discharge point.

Analysis provided by the Company indicated compliance with this condition over the monitoring period. There were six occasions when this concentration was exceeded in samples, all values of 0.10g/m^3. However, these concentrations were recorded in the stream prior to the discharge occurring, and so these events were not the result of any non-compliance by the Company.

Water treatment chemicals

Special condition 12 of consent 1123-3 requires the consent holder to notify the Council of any change in water treatment chemical or increase in maximum concentration of any water treatment chemical at least one month prior to the change of a water treatment programme.

No changes were made during the 2023/24 monitoring period.

2.1.4 Results of receiving environment monitoring

The Council carried out compliance monitoring checks on the Company's wastewater discharge and impact on the receiving environment on 30 August 2023 and 1 March 2024.

Split samples were collected by the Company and the Council from the Company's discharge point, and from the Kapuni Stream, both upstream and downstream of the discharge point. Results are presented in Table 2.

The results of the inter-laboratory comparisons undertaken in this period indicated the following:

- All temperatures were within consent limits and there appeared to be very good agreement between both parties, with only minor variation recorded.
- pH results across all samples also remained relatively stable, with the largest variation recorded 0.2pH.
- Un-ionised ammonia concentrations demonstrated reasonably good agreement between both parties. Levels were generally very low with different levels of detection which makes it more difficult to get a good agreement.

Table 2 Inter-laboratory comparison between KGTP and Council

Date	30 August 2023						1 March 2024					
Sampler	KGTP	TRC	KGTP	TRC	KGTP	TRC	KGTP	TRC	KGTP	TRC	KGTP	TRC
Parameter	Upstream KPN000290		Downstream KPN000293		A-705 Outfall IND002008		Upstream KPN000290		Downstream KPN000293		A-705 Outfall IND002008	
Time (NZST)	11:10		11:25		11:15		10:35		11:00		10:45	
Temperature (°C)	8.1	8.0	8.8	8.7	18.7	18.7	16.9	16.4	17.5	17.1	26.7	26.2
pH	7.6	7.4	7.3	7.4	7.6	7.5	7.8	7.8	7.8	7.8	8.2	8.1
Free Ammonia (g/m^3)	<0.001	0.00005	<0.001	<0.00005	0.0015	0.00072	<0.001	0.00041	<0.001	0.0005	0.0128	0.0104
Ammonia (g/m^3)	0.0086	0.012	0.0258	<0.010	0.1032	0.06	<0.001	0.023	0.0258	0.023	0.155	0.134
Sodium (g/m^3)	11	9.4	13	11	44	42	10	10	11	11	38	38
Potassium (g/m^3)	4.9	3.8	5.5	5.1	28	27	3.9	3.8	4.6	4.6	26	26
Vanadium (g/m^3)	0.01	0.0017	0.020	0.018	0.72	0.29	0.01	0.0022	0.02	0.013	0.67	0.28
Dissolved Zinc (g/m^3)	-	-	-	-	-	0.141	-	-	-	-	-	0.025
Conductivity (uS/m)	125	119	138	131	358	336	131	117	141	127	423	376
DRP (g/m^3)	-	0.010	-	0.086	-	1.6	-	0.017	-	0.038	-	0.58
Total suspended solids (g/m^3)	-	-	-	-	6	9	-	-	-	-	8	8
Hydrocarbons (g/m^3)	-	-	-	-	3.3	<4	-	-	-	-	2.8	<4
Turbidity NTU	-	-	-	-	-	5.9	-	-	-	-	-	4.5
Turbidity FNU	-	1.4	-	2.3	-	-	-	1.1	-	1.3	-	-

- Ammonia concentrations were found to contain some variation, with the Company generally recording higher concentrations than Council.
- Sodium results were compliant, with no result recorded at the downstream monitoring location of KPN000293 above the consent limit ($40g/m^3$). Good agreement was seen between both sets of results.
- The majority of the potassium results also recorded good agreement between both parties.
- In similarity to the previous monitoring periods, the vanadium results indicated slight variations. The largest variation ($0.39g/m^3$) was recorded at the outfall on 1 March 2024. The reason for this variation is well understood by the Council. It is due to the method of analysis undertaken by the Company. The Company need a swift result as they are required to discharge almost daily. The Company infers vanadium concentration based on the ratio between vanadium and potassium in the Benfield solution (this is the source of vanadium in the KGTP effluent). As potassium concentrations may increase from other sources in the process effluent, it results in an over-estimate of the true vanadium in the effluent. The Company treats the effluent vanadium value as true which allows for a margin of error with respect to the discharge concentration.
- Dissolved reactive phosphorus (DRP) was recorded in all samples analysed by the Council. There was an increase between upstream and downstream samples. It is noted that currently under the National Policy Statement for Fresh Water Management in New Zealand (NPS-FM 2020) there is no bottom line for DRP in surface waters.
- While there was some difference between labs regarding electrical conductivity, no significant changes were noted downstream.
- Suspended solid concentrations within the A-705 discharge were low ($<10g/m^3$) on both occasions sampled, with good agreement between parties.

2.1.5 Review of biomonitoring in Kapuni catchment 2023/24

Four macroinvertebrate surveys and two fish surveys were undertaken in the Kapuni Catchment during the 2023/24 monitoring period (Table 3). The reports are summarised here, please refer to the specific reports for full details (available upon request from the Council).

Table 3 Overview of the monitoring programme for the Kapuni Catchment

Survey dates	Report number	Taxa	Number of sites	
			Kapuni Stream	Tributaries
9-Aug-23	2023-07	Macroinvertebrate	7	2
11-Oct-23	2023-08	Fish	11	0
11-Oct-23	2023-09	Macroinvertebrate	11	2
23-Jan-24	2024-01	Macroinvertebrate	7	2
1-May-24	2024-04	Fish	7	0
1-May-24	2023-05	Macroinvertebrate	7	2

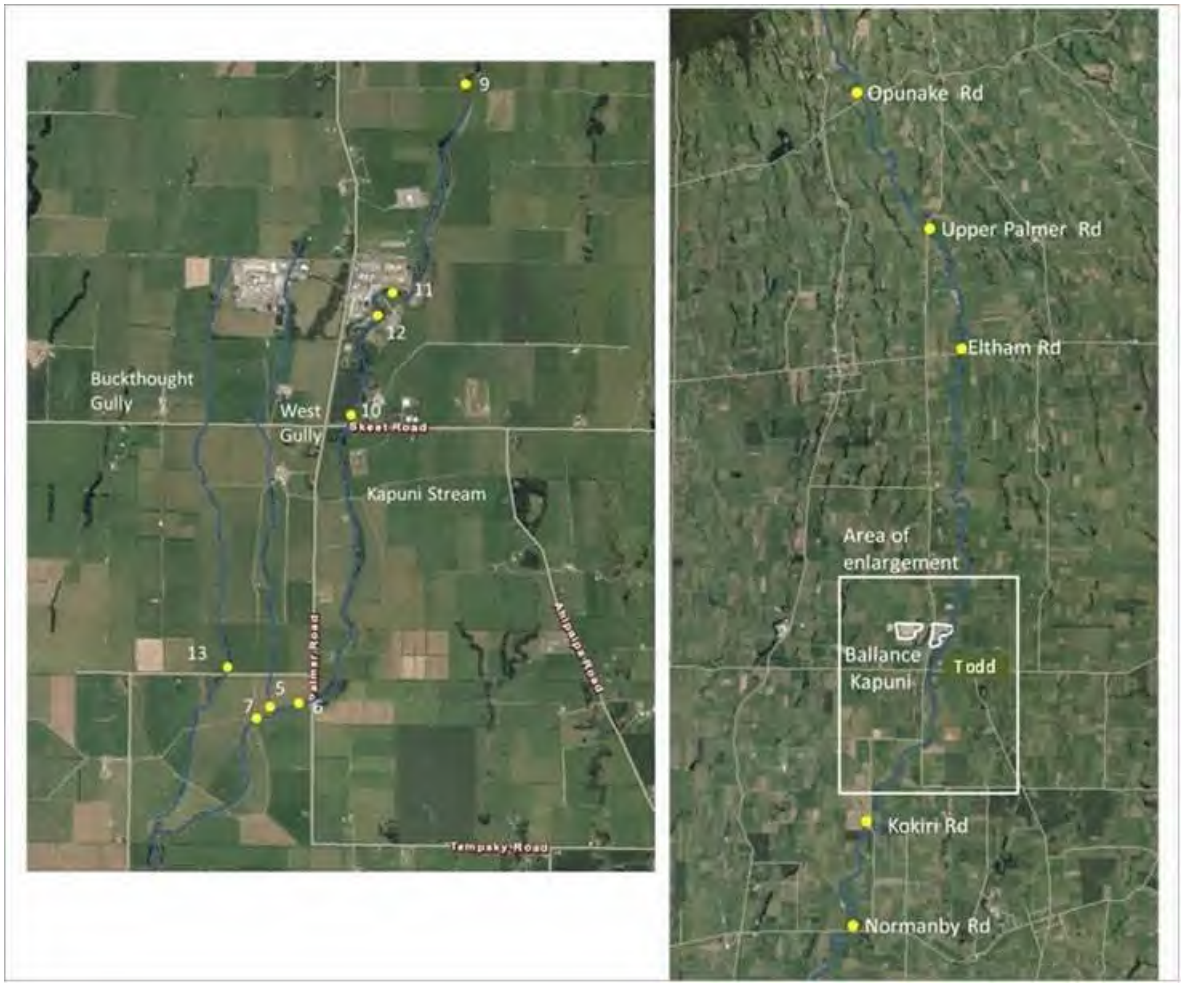

Figure 2 Biomonitoring sites in the Kapuni catchment

Macroinvertebrate monitoring

Targets for Macroinvertebrate Community Index (MCI) values have been set for the Kapuni main stem and gully system. For the Kapuni Stream a hard bottom MCI (MCI-hb) target of 100 units has been obtained from historical data and the expected mild enrichment in the mid-catchment. The gully system (site 5, Figure 2) previously had a MCI target of 72 units using the hard-bottom score but this has been revised to a soft-

bottomed MCI (MCI-sb) of 73 units based on the 25th percentile of historical data. Site 13 has a tentative target of MCI-sb 90 units.

During all four surveys, the Kapuni Stream had scores above 100 MCI-hb indicating 'good' to 'excellent' macroinvertebrate health, while the two tributary sites had MCI-sb scores between 93 and 113 units indicating 'fair' to 'good' health.

Overall, the results did not provide conclusive evidence that the petrochemical industries were having significant adverse effects on macroinvertebrate communities in the Kapuni catchment.

Electric fishing

Monitoring of fish communities via electric fishing was undertaken in the Kapuni Stream on 11 October 2023 (11 sites) and 1 May 2024 (7 sites). The tributaries were not fished in either survey.

All sites were surveyed for fish using the single pass electric fishing technique. The results of these surveys are given in Tables 4 and 5.

Table 4 Results of spring fish survey in the Kapuni Stream conducted on 11 October 2023

Site	Trout*	Redfin bully	Lamprey	Eels	Koura	Total number of species
O	-	-	-	-	-	0
P	2	-	-	-	-	1
E	4	-	-	-	-	1
9	10	-	-	-	-	1
11	3	-	-	-	-	1
12	7	-	-	1	-	2
10	16	-	-	-	-	1
6	2	-	-	-	1	2
7	1	-	-	1	-	2
8/K	2	1	-	-	2	3
N	2	-	5	-	2	3
Total abundance	**49**	**1**	**5**	**2**	**5**	-

* majority were rainbow trout, along with 2 brown and 5 unidentified

A total of 57 fish and five koura, were caught during the October 2023 survey. No fish were recorded at the Ōpunake Road site. There was a high proportion of trout recorded (79%); constituting the highest number (49) since monitoring began in 1982. All trout recorded were fingerlings (<150mm standard length) indicating that natural recruitment had occurred within the Kapuni Stream.

During the May 2024 survey, 14 fish and six koura were caught, with fish recorded at all seven sites in the Kapuni Stream. The variety of taxa in both survey results were within the range (2-8 taxa) recorded in previous years.

It has been noted in previous reports that fine sand has been a dominant feature on the streambed, due in part to the erosion on the mountain. This has continued in both reports reviewed and it is likely to have reduced the suitability of habitat for some taxa, such as koura.

Overall, these electric fishing results from the Kapuni catchment do not provide any indication that the petrochemical industries are having any significant adverse effects on fish communities in the Kapuni Stream.

Table 5 Results of fish survey in the Kapuni Stream 1 May 2024

Site	Redfin bully	Eels	Koura	Torrentfish	Trout	Total number of species
9	1	-	-	-	-	1
11	-	-	1	-	-	1
12	1	1	-	-	-	2
10	-	2	-	-	-	1
6	1	1	-	-	1	3
7	-	1	-	1	-	2
8/K	3	1	5	-	-	3
Total abundance	**6**	**6**	**6**	**1**	**1**	-

2.1.6 Air quality

There were no noted issues pertaining to visible plumes or odour during the four inspections undertaken during this period. No complaints were received from the public with respect to potential odour generation from this facility in the 2023/24 monitoring period.

2.1.7 Provision of consent holder data

Special condition 4 of the Company's air discharge permit (4087) states:

That the consent holder shall provide to the General Manager, Taranaki Regional Council, by 1 June 1999 and every three years thereafter a written report:

a. Reviewing any technological advances in the reduction or mitigation of discharges to air from the site, and the costs and benefits of these advantages; and

b. Detailing an inventory of the discharges to air from the site of such contaminants as the General manager may from time to time specify following consultation with the consent holder; and

c. Detailing any measures that have been taken by the consent holder to improve the energy efficiency of the site's activities and processes; and

d. Addressing any other issue relevant to the minimisation or mitigation of discharges of contaminants to air from the site that the General Manager, Taranaki Regional Council, considers should be included.

Such reports have been provided in 1999, 2002, 2005, 2009, 2011, 2014, 2017, and 2020.

The next report was due in June 2023 but this was delayed as the contractor that usually carries out the work was unable to provide the service. The report was submitted in May 2024.

To fulfil the requirements of special condition 4, the Company provided information pertaining to the following:

1. A summary of annual emissions of carbon dioxide (CO_2) from the gas treatment plant for the period 2014-2023; (Figure 3).
2. A summary of process and energy efficiency improvements on site.
3. A summary of metal deposition monitoring 2014-2024; (Figures 4-6).

Carbon dioxide emissions

Annual CO_2 emissions in calendar years since 2014 are shown in Figure 3. The amounts released to atmosphere from the Benfield process and from fuel combustion are distinguished. The increase in emissions in 2022 and 2023 were a result of two Kapuni J wellsite drilling campaigns. These campaigns increased natural gas throughput and production by approximately 75%.

KGTP produces food grade liquid CO_2 for the CO_2 market. During 2020/21, CO_2 production averaged around 57 tonnes/day or 21,000 tonnes/year. During 2021/22 production averaged around 84 tonnes/day, or 31,000 tonnes/year. During 2023 there was an outage to upgrade the safety of the plant, which led to reduced production rates averaging around 47 tonnes/day. Since October 2023 the plant has been back to regular production rates of around 83 tonnes/day. The liquid CO_2 production is currently the primary mechanism for the reduction for KGTP CO_2 discharges to air.

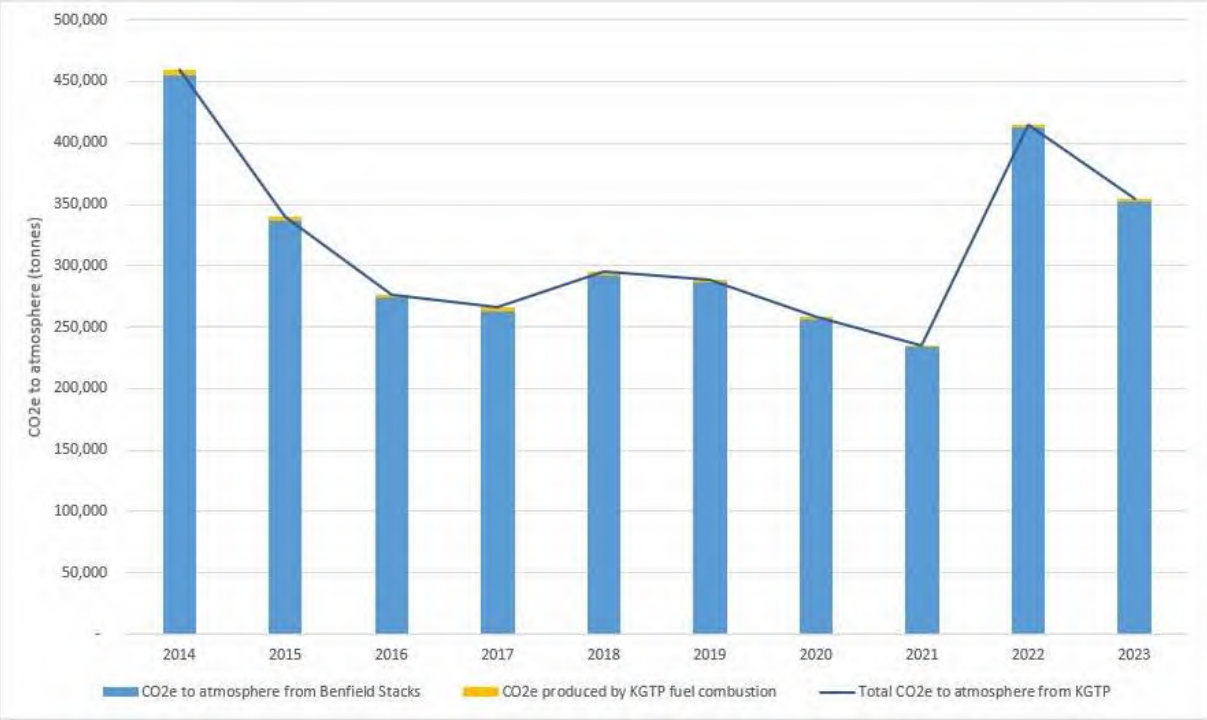

Figure 3 Annual CO_2 emissions from the Company in tonnes per annum (tpa)

Process and energy efficiency improvements onsite

Todd is focusing on improving the operational efficiency of the KGTP. One efficiency measure implemented at the beginning of 2023 was the raw natural gas bypass project. This project enabled a portion of raw (CO_2 rich) natural gas to bypass the Benfield units and head directly to the LPG plant and sales pipeline. This reduced processing requirements, including water take from the Kapuni Stream. This project reduces site CO_2 emissions by around 6,850 tonnes/year, and water take volumes by around 6,500m^3/year.

Metal deposition

Monitoring of metal deposition, for potassium, vanadium and zinc, is conducted annually at three sites around KGTP by deployment of air deposition gauges over a three to four week period. The locations of the sites are immediately east and south of the processing area, that is, downwind and crosswind relative to the prevailing westerly wind, and beside Palmer Road to the southwest. There are no guidelines or standards for metals deposition. The data has been tabulated in Figures 4, 5 and 6. While there is considerable variation in some of the samples, the data generally do not show any significant change in metal deposition rates over time. There was an anomaly during the 2020 monitoring period, where the Benfield solution in the Train 2 regenerator began foaming. Foaming caused abnormal Benfield solution carry over. This was the result of Benfield solution contamination, which indicated the solution was at the end of its life. As a result, Train 2 was shutdown and the old Benfield solution was replaced with a new batch of solution

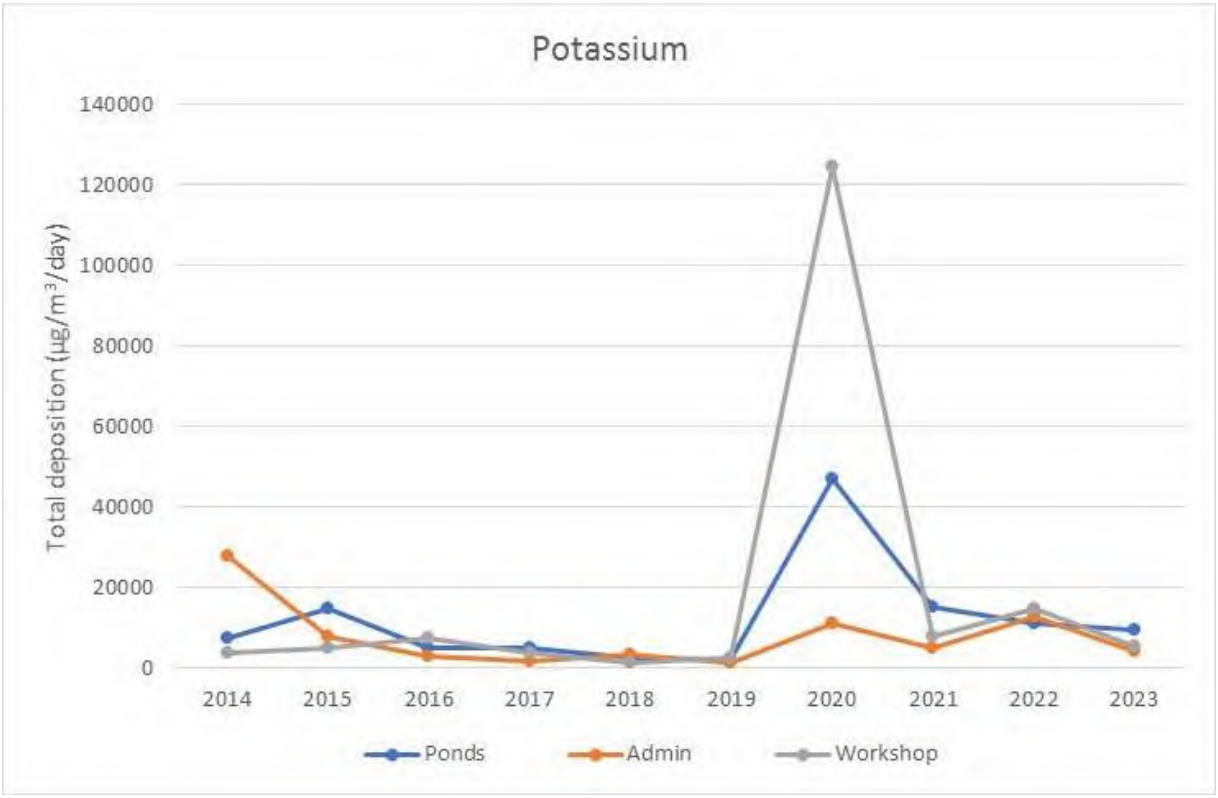

Figure 4 Total potassium deposition 2014-2023

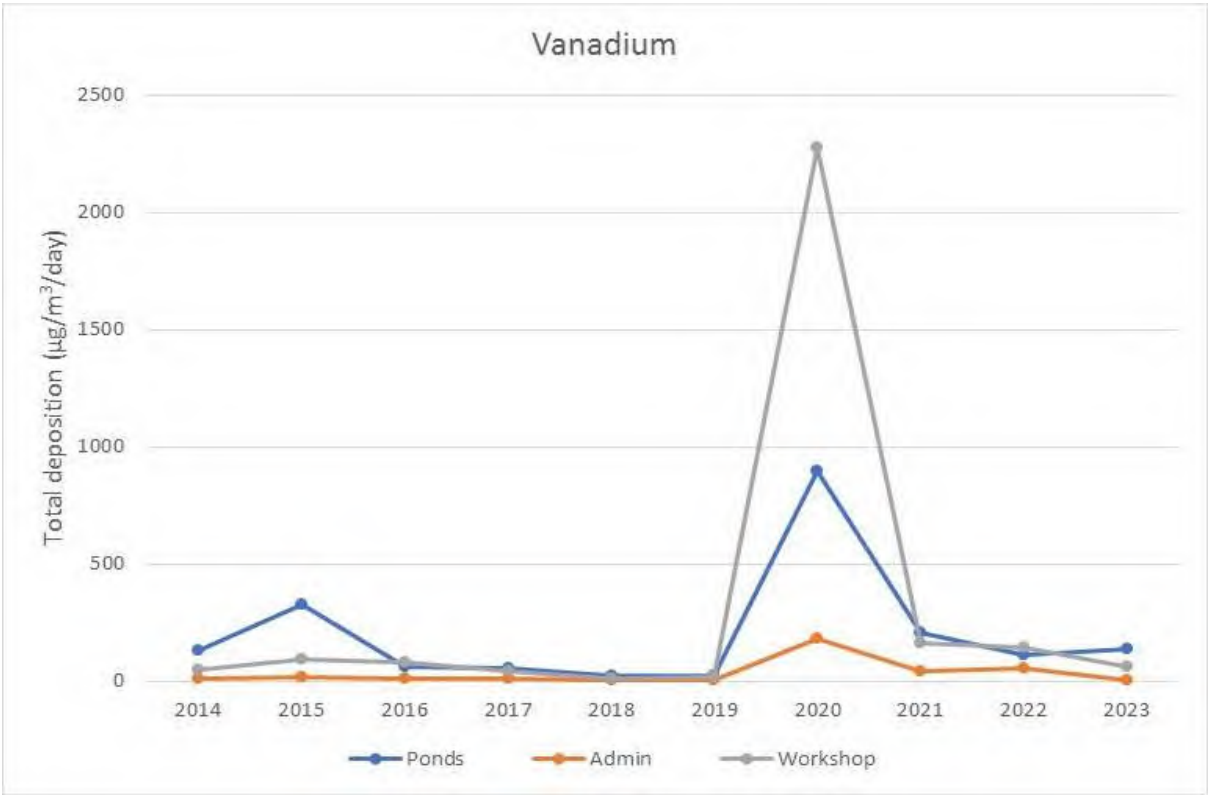

Figure 5 Total vanadium deposition 2014-2023

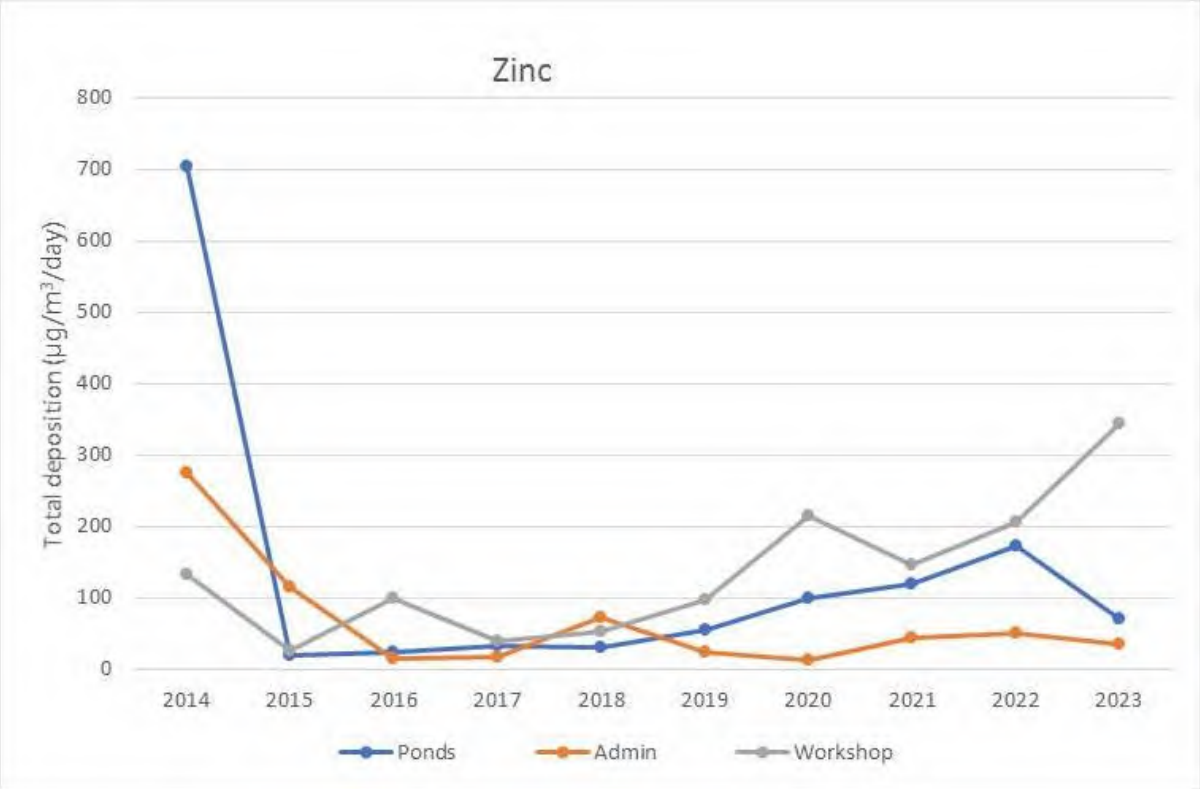

Figure 6 Total zinc deposition 2014-2023

2.1.8 Ambient air quality monitoring November 2023

Nitrogen dioxide (NO_2) and carbon monoxide (CO) monitoring was carried out during November 2023 in relation to discharges consent 4087-2, conditions 8 and 9. A summary of the results is included below in tables 6 and 7, along with the relevant Ministry for the Environment (MfE) standards. These are Ambient Air Quality Guidelines 2002 (AAQG) and National Environmental Standards (NES).

The results show that levels of NO_2 and CO were in compliance with consent condition limits and all relevant standards set by the MfE.

Table 6 Summary of CO monitoring, November 2023

CO (mg/m³)	Maximum	Minimum	Average	Exceedances	MfE AAQG Consent 4087-2	MfE NES
CO 1-hour	1.9	0.0	0.2	None	*30mg/m³*	-
CO 8-hour	0.9	0.0	0.2	None	*10mg/m³*	*10mg/m³* *1 exceedance/year*

Table 7 Summary of NO_2 monitoring, November 2023

NO_2 (µg/m³)	Maximum	Minimum	Average	Exceedances	MfE AAQG Consent 4087-2	MfE NES
NO_2 1-hour	106	0.2	23	None	*200µg/m³* **300µg/m³*	*200µg/m³* *9 exceedances/year*
NO_2 24-hour	70	0.8	23	None	*100µg/m³*	-

* Consent 4807-2 specifies 300µg/m³ as the NO2 1-hour average

2.2 Incidents, investigations, and interventions

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 Company. 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.

For all significant compliance issues, as well as complaints from the public, the Council maintains a database record. The record includes events where the individual/organisation concerned has itself notified the Council. Details of any investigation and corrective action taken are recorded for non-compliant events.

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 individual/organisation is indeed the source of the incident (or that the allegation cannot be proven).

Table 8 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the Company's activities during the 2023/24 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.

Table 8 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
18-Aug-2023	Self-notification was received regarding a diesel spill on site	Y	Letter of explanation requested	Inspection found that a filter glass had failed resulting in the discharge of approximately 30-40L of diesel from the system. The diesel discharged within a shed on the property however, some of this discharged to the ground and escaped outside into the stormwater system. The spill management plan was activated with sorbent material applied to retrieve spilt fuel form land and a sucker truck cleaning out stormwater. No effects were noted in the Kapuni stream. The Company upgraded the filter set-up to a more modern system. The filters were moved from the shed to a fully bunded area.
4-Oct-2023	Self-notification was received regarding a gas leak (mercaptan) at the plant.	Y	No	The odourant leak was contained with no risk to human health. Inspection found that the faulty valve had been isolated and the back-up mercaptan system was in operation. Technicians were on site neutralizing the mercaptan.

3. Discussion

3.1 Discussion of site performance

Inspections during the 2023/24 monitoring period indicated that the site was well managed with good housekeeping apparent across all areas. This included chemical storage areas, catch basins and discharge locations.

There was a small diesel spill during the monitoring period but the spill contingency plan was actioned and the diesel was contained and removed from site with no adverse environmental effects.

Water abstraction was well below the maximum daily extractable volumes. The Company utilised 50% of their total annual allowance.

Communication between the Company and the Council is regular and open during inspections as well as throughout the monitoring period. This also includes when discussing monitoring requirements, operational adjustments and equipment malfunctions.

3.2 Environmental effects of exercise of consents

Minimal environmental effects were noted during the monitoring period. Discharge monitoring of effluent and stormwater was undertaken by the Company and reported monthly to the Council. The monthly reports were found to be compliant with consent conditions. Inter-laboratory sample analysis were also undertaken on two occasions this monitoring period and the results indicated generally good agreement across parameters. Some variation was observed, but did not indicate a cause for concern when considered in context of detection limits and uncertainty of measurement at low concentrations. Continued calibration of key instruments is encouraged as well as participation in inter-laboratory comparison procedures.

A review of the Company's independent biological monitoring, on the Kapuni Stream catchment, was undertaken by one of the Council's biologists. The review indicated the Kapuni Stream was in 'good' to 'excellent' health and there was no discernible impact from any industrial activity at Kapuni.

The findings of the fish surveys concluded that the petrochemical industries were not having any significant adverse effects on fish communities in the Kapuni catchment.

In terms of emissions to the air, the triennial report required under special condition 4 consent 4087 was provided in May 2024. The associated analyses indicated that CO_2 emissions and metal depositions exhibited similar levels to previous reporting.

The Company commissioned an ambient air monitoring survey during November 2023. There was no exceedance of consent limits, MfE AAQG or MfE NEW standards. The results indicated the KGTP was rated in the Ministry for Environment National Environmental Standards and Ambient Air Quality Guidelines "alert" to "excellent" categories for 1-hour and 24-hour average NO_2 concentrations (two days had results greater than 66% of the guideline), and "excellent" for 1-hour and 8-hour average CO concentrations throughout the November 2023 period (ie. all results less than 10% of the guideline).

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Tables 9-14.

Table 9 Summary of performance for consent 1125-4

Purpose: To take water from the Kapuni Stream in association with the operation of a gas processing facility		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Limits to volume of water abstracted	Volume measurement by the Company and review of records by Council	Yes
2. Defines three take locations	Inspection by Council	Yes
3. Limit take duration at alternative locations	Not required by the Company this period	N/A
4. Adopt best practicable option to prevent or minimise adverse effects	Inspection and review of the Company records	Yes
5. Installation and maintenance of water meter and data logger	Inspection by Council. Telemetry to Council via STDC system established January 2014	Yes
6. Certification of water measuring equipment	Verification carried out in October 2019, next due October 2024	Yes
7. Notification of equipment failure	Liaison with the consent holder	N/A
8. Metering equipment accessible to Council	Inspection	Yes
9. Details of take recording	Records in format required	Yes
10. Notification of details of emergency takes	Not required during period under review	N/A
11. Fish screen	Check screen, and intake design	Yes
12. Financial contributions for riparian planting and fencing in Kapuni catchment	Payments received, no further obligation	N/A
13. Option for Council to review consent conditions	Next option for review in June 2029	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administration performance in respect of this consent		**High**

N/A = not applicable

Table 10 Summary of performance for consent 1123-3

Purpose: To discharge process effluent and stormwater to the Kapuni Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option to prevent or minimise adverse effects	Inspection and liaison with consent holder	Yes
2. Limit on stormwater catchment area	Inspection	Yes
3. Monitor temperature from discharge and keep within limits	Company records and measurement, with review and checking by Council.	Yes
4. Monitor pH levels and keep within range	Company records and sampling, with review and checking by Council.	Yes
5. Discharge cannot produce visible effects on the surface of Kapuni Stream	Inspection	Yes

Purpose: To discharge process effluent and stormwater to the Kapuni Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
6. Concentration of un-ionised ammonia in Kapuni Stream not to exceed limits as a result of the discharge	Company records and sampling, with review and checking by Council	Yes
7. Concentration of sodium in Kapuni Stream not to exceed limits as a result of the discharge	Company records and sampling, with review and checking by Council	Yes
8. Concentration of vanadium in Kapuni Stream not to exceed limit as a result of the discharge	Company records and sampling, with review and checking by Council	Yes
9. Discharge not to contain free available chlorine	Not assessed during period under review	N/A
10. Submission of effluent disposal management plan to Council	Provision of plan as required	Yes
11. Effluent disposal management plan to be followed	Company records, inspection and sampling	Yes
12. Provision of programmes of water treatment and notification of any changes	Inspection and provision of information. No chemical changes during 2023/24	Yes
13. Review of programmes of chemical cleaning treatment and notification of any changes	Inspection and provision of information	Yes
14. Optional review provision re water treatment or chemical cleaning programmes	No review required this period	N/A
15. Option for Council to review consent conditions	Next option for review in June 2029	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administration performance in respect of this consent		**High**

N/A = not applicable

Table 11 Summary of performance for consent 1225-3

Purpose: To discharge domestic sewage, tri-ethylene glycol, methanol and some water treatment chemicals (i.e. phosphatecorrosion inhibitor) from an aerated sewage treatment plant onto and into land		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option to prevent or minimise adverse effects	Inspection and liaison with consent holder	Yes
2. No direct discharge to surface water	Inspection	Yes
3. Discharge limit	Data provided by consent holder	Yes
4. Option for Council to review consent conditions	Next option for review in June 2029	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administration performance in respect of this consent		**High**

N/A = not applicable

Table 12 Summary of performance for consent 4087-2

Purpose: To discharge emissions into the air from the treatment of natural gas, cogeneration, other on-site activities and other related and ancillary activities		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option to prevent or minimise adverse effects	Inspection and records	Yes
2. Emissions maintained to a minimum	Inspection, company records and sampling	Yes
3. Approval for alterations affecting discharge to be gained from Council	Notifications	Yes
4. Three yearly written report to Council	Report due June 2023 was delayed, permission for extension granted. Provided May 2024.	Yes
5. Written report reviewing technological advances	Report provided to Council 1 June 1996	Yes
6. Written report evaluating risk to human health	Report provided to Council 1 June 1996	Yes
7. Annual report on gross emission of carbon dioxide	Change to RMA - no longer required. CO_2 emission data provided in triennial report	N/A
8. Control of discharges to air of carbon monoxide	Monitoring undertaken in the 2023/24 monitoring period	Yes
9. Control of discharges to air of nitrogen dioxide	Monitoring undertaken in the 2023/24 monitoring period	Yes
10. Option for Council to review conditions re excess of carbon monoxide or nitrogen dioxide limits	Not exercised	N/A
11. Concentration of benzene not to exceed limits	Not assessed since 2019 as LTS not in operation at present. Other BTEX sources removed Council monitoring 2018-2019 in the vicinity indicated 'good' category for benzene in air	Yes
12. Control all other discharges as to not exceed limits	Company records and sampling	Yes
13. Discharge of odour	Inspections did not find offensive or objectionable odour	Yes
14. Depressurisation to avoid dense black smoke	Inspection and Company records	Yes
15. No adverse ecological effect on eco-systems	Inspection and biomonitoring	Yes
16. Notice to review consent conditions	No further option for review prior to expiry	N/A
17. Site contingency plan	Provided	Yes
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administration performance in respect of this consent		**High**

N/A = not applicable

Table 13 Summary of performance for consent 5090-1

Purpose: To erect, place, use and maintain two above ground pipelines, an electrical ring main and associated structures over beds of various streams between and including the Motumate Stream and an unnamed tributary of the Waiokura Stream for steam and electricity supply purposes		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Structures constructed and maintained according to submission	Inspection	Yes
2. Notification of initial construction and maintenance work	No maintenance undertaken during monitoring period	N/A

Purpose: To erect, place, use and maintain two above ground pipelines, an electrical ring main and associated structures over beds of various streams between and including the Motumate Stream and an unnamed tributary of the Waiokura Stream for steam and electricity supply purposes		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
3. Option for Council to review conditions of consent	Next option for review in June 2029	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administration performance in respect of this consent		**High**

N/A = not applicable

Table 14 Summary of performance for consent 7755-1

Purpose: To discharge stormwater from site areas of a natural gas treatment plant where no industrial processes occur (e.g. landscaped areas and roads) into the Kapuni Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adopt best practicable option to prevent or minimise adverse effects	Inspection and liaison with consent holder	Yes
2. Limit on stormwater catchment area	Inspection	Yes
3. Controls on effect of discharge in receiving water	Inspection and biological monitoring	Yes
4. Discharge cannot produce visible effects on the surface of Kapuni Stream	Inspection	Yes
5. Maintenance of contingency plan	Receipt and review of plan	Yes
6. Maintenance of stormwater management plan	Receipt and review of plan	Yes
7. Provision for lapse of consent		N/A
8. Option for Council to review consent conditions	Next option for review in June 2029	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administration performance in respect of this consent		**High**

N/A = not applicable

Table 15 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement req	Poor
2019/20	1123-3, 1125-4, 1225-3, 4087-2, 5090-1, 7043-1, 7755-1	7	-	-	-
2020/21	1123-3, 1125-4, 1225-3, 4087-2, 5090-1, 7043-1, 7755-1	7	-	-	-
2021/22	1123-3, 1125-4, 1225-3, 4087-2, 5090-1, 7043-1, 7755-1	7	-	-	-
2022/23	1123-3, 1125-4, 1225-3, 4087-2, 5090-1, 7043-1, 7755-1	7	-	-	-
2023/24	1123-3, 1125-4, 1225-3, 4087-2, 5090-1, 7755-1	6	-	-	-

During the year, the Company demonstrated a high level of environmental and a high level of administrative performance with the resource consents as defined in Appendix II.

3.4 Recommendations from the 2023/23 Annual Report

In the 2022/23 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of consented activities at the Kapuni Gas Treatment Plant in the 2023/24 year continue at the same level as in 2022/23.

2. THAT should there be issues with environmental or administrative performance in 2023/24, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Recommendation one was implemented, while additional investigation or monitoring as per recommendation two was not required.

3.5 Alterations to monitoring programmes for 2024/25

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.

No planned changes have been made to the 2024/25 monitoring programme.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site 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 2024/25.

4. Recommendations

1. THAT in the first instance, monitoring of consented activities at the Kapuni Gas Treatment Plant in the 2024/25 year continue at the same level as in 2023/24.
2. THAT should there be issues with environmental or administrative performance in 2024/25, 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:

AAQG	Ambient Air Quality Guidelines (Ministry for the Environment, 2002).
Biomonitoring	Assessing the health of the environment using aquatic organisms.
Conductivity	An indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in µS/cm.
DRP	Dissolved reactive phosphorus.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
$g/m^2/day$	grams/metre^2/day.
g/m^3	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
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.
MCI	Macroinvertebrate Community Index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
mS/m	Millisiemens per metre.
MfE	Ministry for the Environment.
NES	National Environmental Standards.
NH_4	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH_3	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NO_3	Nitrate, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
O&G	Oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons).
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.
SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
Zn*	Zinc.

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

For further information on analytical methods, contact a manager within the Environment Quality Department.

Bibliography and references

Ministry for the Environment (2018): *Best Practice Guidelines for Compliance, Monitoring and Enforcement under the Resource Management Act 1991*. Wellington: Ministry for the Environment.

Natural Gas Corporation (2005): *Report on Special Condition 4 of the Natural Gas Corporation's Air Discharge Permit 4087 (2004-2005 Study)*.

Natural Gas Corporation (2002): *Report on Special Condition 4 of the Natural Gas Corporation's Air Discharge Permit 4087 (2001-2002 Study)*. June 2002.

Natural Gas Corporation (1999): *Report on Special Condition 4 of the Natural Gas Corporation's Air Discharge Permit TRK964087*. June 1999.

Natural Gas Corporation (1996): *Report for the Risk Assessment of the Glycol Dehydration Units and BTEX Control Technology*.

South Taranaki District Council (2006): *Kapuni Stream Management Plan*.

Taranaki Catchment Board (1990): *Gas Treatment Plant Water Right Monitoring Annual Report 1989*. Technical Report 90-2.

Taranaki Regional Council (July, 2024): *Review of Stark Environmental Reports: Kapuni macroinvertebrate biomonitoring and electric fishing in relation to Ballance Agri-Nutrients Kapuni Ltd and Todd Energy Ltd – July 2023 to June 2024*. Internal memorandum #3289219.

Taranaki Regional Council (2024): *Todd Petroleum Mining Company Ltd KGTP Monitoring Programme Annual Report 2022-2023*. Technical Report 2023-82.

Taranaki Regional Council (2022): *Todd Petroleum Mining Company Ltd KGTP Monitoring Programme Annual Report 2021-2022*. Technical Report 2022-79.

Taranaki Regional Council (2022): *Vector Kapuni GTP Monitoring Programme Annual Report 2020-2021*. Technical Report 2021-51.

Taranaki Regional Council (2020): *Vector Kapuni GTP Monitoring Programme Annual Report 2019-2020*. Technical Report 2020-03.

Taranaki Regional Council (2019): *Vector Kapuni GTP Monitoring Programme Annual Report 2018-2019*. Technical Report 2019-82.

Taranaki Regional Council (2018): *Vector Kapuni GTP Monitoring Programme Annual Report 2017-2018*. Technical Report 2018-53.

Taranaki Regional Council (2017): *Vector Kapuni GTP Monitoring Programme Annual Report 2016-2017*. Technical Report 2017-86.

Taranaki Regional Council (2016): *Vector Kapuni GTP Monitoring Programme Annual Report 2015-2016*. Technical Report 2016-84.

Taranaki Regional Council (2016): *Vector Kapuni GTP Monitoring Programme Annual Report 2014-2015*. Technical Report 2015-92.

Taranaki Regional Council (2014): *Vector Kapuni GTP Monitoring Programme Biennial Report 2012-2014*. Technical Report 2014-70.

Taranaki Regional Council (2012): *Vector Kapuni GTP Monitoring Programme Biennial Report 2010-2012*. Technical Report 2012-83.

Taranaki Regional Council (2010): *Vector Kapuni GTP Monitoring Programme Annual Report 2009-2010*. Technical Report 2010-90.

Taranaki Regional Council (2009): *Vector Kapuni GTP Monitoring Programme Annual Report 2008-2009*. Technical Report 2009-88.

Taranaki Regional Council (2008): *Vector Kapuni GTP Monitoring Programme Annual Report 2007-2008*. Technical Report 2008-96.

Taranaki Regional Council (2007): *Vector Kapuni GTP Monitoring Programme Annual Report 2006-2007*. Technical Report 2007-88.

Taranaki Regional Council (2006): *NGC Kapuni GTP Monitoring Programme Annual Report 2005-2006*. Technical Report 2006-115.

Taranaki Regional Council (2005): *NGC Kapuni Gas Treatment Plant Monitoring Programme Annual Report 2004-2005*. Technical Report 2005-108.

Taranaki Regional Council (2004): *NGC Kapuni Gas Treatment Plant Monitoring Programme Annual Report 2003-2004*. Technical Report 2004-71.

Taranaki Regional Council (2003): *NGC Kapuni Gas Treatment Plant Monitoring Programme Annual Report 2002-2003*. Technical Report 2003-43.

Taranaki Regional Council (2002): *NGC Kapuni Gas Treatment Plant Monitoring Programme Annual Report 2001-2002*. Technical Report 2002-74.

Taranaki Regional Council (2001a): *Dams, weirs and other barriers to fish passage in Taranaki*.

Taranaki Regional Council (2001b): *Natural Gas Corporation Kapuni Gas Treatment Plant Monitoring Programme Annual Report 2000-2001*. Technical Report 2001-70.

Taranaki Regional Council (2000): *Natural Gas Corporation Kapuni Gas Treatment Plant Monitoring Programme Annual Report 1999-2000*. Technical Report 2000-55.

Taranaki Regional Council (1999a): *Monitoring of nitrogen oxides and sulphur oxide levels in Taranaki 1993-1999 – Internal Report*. Taranaki Regional Council.

Taranaki Regional Council (1999b): *Natural Gas Corporation Kapuni Gas Treatment Plant Monitoring Programme Annual Report 1998-99*. Technical Report 99-63.

Taranaki Regional Council (1998): *Natural Gas Corporation Kapuni Gas Treatment Plant Monitoring Programme Annual Report 1997-98*. Technical Report 98-38.

Taranaki Regional Council (1997): *Natural Gas Corporation Kapuni Gas Treatment Plant Monitoring Programme Annual Report 1996-97*. Technical Report 97-14.

Taranaki Regional Council (1996): *Natural Gas Corporation Kapuni Gas Treatment Plant Water and Air Monitoring Programme Annual Report 1995/96*. Technical Report 96-27.

Taranaki Regional Council (1995): *Natural Gas Corporation Kapuni Gas Treatment Plant Water and Air Monitoring Programme Annual Report 1994/95*. Technical Report 95-26.

Taranaki Regional Council (1994): *Natural Gas Corporation Kapuni Gas Treatment Plant Water and Air Monitoring Programme Annual Report 1993-94*. Technical Report 94-74.

Taranaki Regional Council (1993): *Natural Gas Corporation Water and Air Monitoring Programme Annual Report 1992-93*. Technical Report 93-52.

Taranaki Regional Council (1992): *Natural Gas Corporation Resource Consent Monitoring Annual Report 1991/92*. Technical Report 92-42.

Taranaki Regional Council (1991): *Kapuni Gas Treatment Plant Annual Report 1990/91*. Technical Report 91-45.

Taranaki Regional Council (1990): *Kapuni Gas Treatment Plant Annual Report 1989/90*. Technical Report 90-33.

Tonkin and Taylor Ltd (2008): *Report on Special Condition 4 of Air Discharge Permit 4087 2005-2008 reporting period*. T & T Ref: 25635.

Vector Ltd (2011): *Collation of information relating to emissions from Kapuni compressor C903-5*.

Vector Gas LTD (2017): *Report on Special Condition 4 of air discharge permit 4087-2*.

Watercare Services Limited (2020): *Vector, Kapuni Ambient Air Quality Monitoring Summary Report November 2019 to January 2020*.

Appendix I

Resource consents held by Todd Petroleum Mining Company Ltd

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

Water abstraction permits

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14. Permits authorising the abstraction of water are issued by the Council under Section 87(d) of the RMA.

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.

Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising the discharge of wastes to land are issued by the Council under Section 87(e) of the RMA.

Land use permits

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Land use permits are issued by the Council under Section 87(a) of the RMA.

Coastal permits

Section 12(1)(b) of the RMA stipulates that no person may erect, reconstruct, place, alter, extend, remove, or demolish any structure that is fixed in, on, under, or over any foreshore or seabed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Coastal permits are issued by the Council under Section 87(c) of the RMA.

Discharge Permit

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

Name of Consent Holder:	Todd Petroleum Mining Company Limited PO Box 802 New Plymouth 4340
Decision Date	18 June 2012
Commencement Date	18 June 2012

Conditions of Consent

Consent Granted:	To discharge process effluent and stormwater to the Kapuni Stream
Expiry Date:	1 June 2035
Review Date(s):	June 2023, June 2029
Site Location:	Kapuni Gas Treatment Plant, 298 Palmer Road, Kapuni
Grid Reference (NZTM)	1700945E-5629537N
Catchment:	Kapuni

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

47 Cloten Road · Private Bag 713 · Stratford 4352 · New Zealand
T: 06 765 7127 · F: 06 765 5097 · E: info@trc.govt.nz · www.trc.govt.nz
www.facebook.com/TaranakiRegionalCouncil twitter.com/TaranakiRC
Please quote our document number in your reply

Working with people | caring for Taranaki

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 discharge of stormwater shall be from a catchment area not exceeding 3.37 ha.

3. The discharge shall not raise the temperature of the Kapuni Stream by greater than 2 degrees Celsius, when measured 50 metres downstream of the discharge point and all practicable steps shall be taken by the consent holder to minimise the temperature rise in the Kapuni Stream. Further, the consent holder shall continuously monitor the temperature of the wastewater, and receiving water upstream and downstream of the discharge point.

4. The discharge shall not cause the pH of the Kapuni Stream to be outside the range 6.5 to 9.0 when measured 50 metres downstream of the discharge point. Further, the consent holder shall continuously monitor the pH of the wastewater, and receiving water upstream and downstream of the discharge point.

5. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the discharge point, the discharge shall not produce any visible oil or hydrocarbon films, scums or foams on the surface of the Kapuni Stream.

6. The discharge shall not cause the concentration of un-ionised ammonia in the Kapuni Stream to exceed 0.006 grams per cubic metre when measured 50 metres downstream of the discharge point, unless agreement is given by the holder of consent 0598-3. In any case, the discharge shall not cause the concentration of un-ionised ammonia in the Kapuni Stream to exceed 0.025 grams per cubic metre.

7. The discharge shall not cause the concentration of sodium in the Kapuni Stream to exceed 15 grams per cubic metre when measured 50 metres downstream of the discharge point, unless agreement is given by the holder of consent 0598-3. In any case, the discharge shall not cause the concentration of sodium in the Kapuni Stream to exceed 40 grams per cubic metre.

8. The discharge shall not cause the total vanadium concentration of the Kapuni Stream to exceed 0.08 grams per cubic metre when measured 50 metres downstream of the discharge point.

9. The discharge shall not contain free available chlorine.

10. Prior to the exercise of this consent, the consent holder shall submit an effluent and stormwater management plan for approval by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The management plan shall detail the procedures and processes that will be followed to ensure that the conditions of this consent are met, including but not limited to:

    i) controlling the effluent and stormwater discharge rate;
    ii) measuring and recording the discharge;
    iii) measuring and recording the Kapuni Stream (chemical and biological);
    iv) calibration of monitoring equipment;
    v) co-ordination with the holder of consent 0598-3 on discharge of ammonia and sodium;
    vi) minimisation of free phosphate in the discharge, and how this can be achieved;
    vii) minimisation of the temperature increase to the receiving environment;
    viii) contingency events (including discharging in extended low flow events and the use of alternative receiving environments); and
    ix) reporting on exercise of consent.

11. The consent shall be exercised in accordance with the approved effluent and stormwater management plan required by condition 10. Within one months notice given by the Taranaki Regional Council, the consent holder shall review the management plan and resubmit the plan for approval by the Chief Executive, Taranaki Regional Council.

12. The consent holder shall forward to the Chief Executive, Taranaki Regional Council, details of any programmes of water treatment used at the Gas Treatment Plant, including raw water, boiler water and cooling water. Further, the consent holder shall notify the Chief Executive, Taranaki Regional Council, of any change in water treatment chemical, or increase in maximum concentration of any water treatment chemical, at least one month prior to change of a water treatment programme.

13. The consent holder shall forward to the Chief Executive, Taranaki Regional Council, details of any programmes of chemical cleaning used at the gas treatment plant. Further, the consent holder shall notify the Chief Executive, Taranaki Regional Council, of any change in chemical cleaning agent, or increase in concentration of any chemical cleaning agent used, where the effluent is to be disposed of to the Kapuni Stream, at least one month prior to change of a chemical cleaning programme.

14. 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 within three months of notification of proposed changes in water treatment or chemical cleaning programmes under special conditions 12 and 13, 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.

15. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2017, and/or June 2023 and/or June 2029 for the purpose of:

    a. 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; and/or

    b. requiring any data collected in accordance with the conditions of this consent to be transmitted directly to the Council's computer system, in a format suitable for providing a 'real time' record over the internet.

Transferred at Stratford on 1 April 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Water Permit

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

Name of Consent Holder:	Todd Petroleum Mining Company Limited PO Box 802 New Plymouth 4340
Decision Date	19 June 2012
Commencement Date	19 June 2012

Conditions of Consent

Consent Granted:	To take water from the Kapuni Stream in association with the operation of a gas processing facility
Expiry Date:	1 June 2035
Review Date(s):	June 2020, June 2023, June 2029
Site Location:	Kapuni Gas Treatment Plant, 298 Palmer Road, Kapuni
Grid Reference (NZTM)	1701464E-5630826N
Catchment:	Kapuni

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

47 Cloten Road · Private Bag 713 · Stratford 4352 · New Zealand
T: 06 765 7127 · F: 06 765 5097 · E: info@trc.govt.nz · www.trc.govt.nz
www.facebook.com/TaranakiRegionalCouncil twitter.com/TaranakiRC
Please quote our document number in your reply
Working with people | caring for Taranaki

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 volume of water taken from the Kapuni Stream shall not exceed 3,900 m^3 at a rate no greater than:

   (a) 52 litres/second under normal operating conditions; or

   (b) 58 litres/second in the event of an emergency shutdown situation, or equipment breakdown/failure; or

   (c) 58 litres/second in the event that the taking of water under 1(a) or 1(b) cannot occur.

2. Water shall be taken from the South Taranaki District Council intake structure, except at times when water is taken in accordance with special condition 1(c), when water shall be taken from the Kapuni Stream at or about the following locations:

   (a) (NZTM) 1701160E-5629699N; or
   (b) (NZTM) 1700943E-5629620N; or
   (c) (NZTM) 1700952E-5629494N.

3. The taking of water from an alternative location, as specified in special condition 1(c) of this consent, shall only be exercised for up to five days (120 hours) per calendar year, or such longer period as approved by the Chief Executive, Taranaki Regional Council for emergency or other purposes.

4. At all times the consent holder shall adopt the best practicable option as defined in the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the taking of water from the Kapuni Stream, including, but not limited to, the efficient and conservative use of water.

5. Before exercising this consent, the consent holder shall install, and thereafter maintain, a water meter and a datalogger at the point where the water enters the supply line for the Kapuni Gas Treatment Plant (i.e. (NZTM) 1701293E-5629885N). The water meter and datalogger shall be tamper-proof and shall measure and record the rate and volume of water taken to an accuracy of $\pm$ 5%. Records of the date, the time and the rate and volume of water taken at intervals not exceeding 15 minutes, shall be made available to the Chief Executive, Taranaki Regional Council at all reasonable times.

   Note: Water meters and dataloggers must be installed, and regularly maintained, in accordance with manufacturer's specifications in order to ensure that they meet the required accuracy. Even with proper maintenance water meters and dataloggers have a limited lifespan.

6. The consent holder shall provide the Chief Executive, Taranaki Regional Council with a document from a suitably qualified person certifying that water measuring and recording equipment required by the conditions of this consent ('the equipment'):

   (a) has been installed and/or maintained in accordance with the manufacturer's specifications; and/or

   (b) has been tested and shown to be operating to an accuracy of ± 5%.

   The documentation shall be provided:

   (i) within 30 days of the installation of a water meter or datalogger;

   (ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the equipment may not be functioning as required by this consent; and

   (iii) no less frequently than once every five years.

7. If any measuring or recording equipment breaks down, or for any reason is not operational, the consent holder shall advise the Chief Executive, Taranaki Regional Council immediately. Any repairs or maintenance to this equipment must be undertaken by a suitably qualified person.

8. The water meter and datalogger shall be accessible to Taranaki Regional Council officers at all reasonable times for inspection and/or data retrieval.

9. The records of water taken shall:

   (a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing;

   (b) specifically record the water taken as 'zero' when no water is taken; and

   (c) for each 12-month period ending on 30 June, be provided to the Chief Executive, Taranaki Regional Council within one month after end of that period.

10. At times when water is taken from an alternative location, as specified in special condition 1(c) of this consent, the consent holder shall advise the Chief Executive, Taranaki Regional Council, within 12 hours of taking water, and within 2 days of ceasing, shall provide details of the length and time the take occurred and the volume and rate of take (cubic metres per day and litres per second).

11. The consent holder shall ensure that the intake is screened to avoid fish entering the intake or being trapped against the screen.

12. The consent holder shall make three annual payments of $16,667 (plus GST) to the Taranaki Regional Council as a financial contribution for the purpose of providing riparian planting and fencing in the Kapuni Stream catchment. These payments shall be made no later than 1 September each year from 2012 to 2014.

13. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2017 and/or June 2020 and/or June 2023 and/or June 2029 for the purposes of:

    (a) 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; and/or

    (b) to require any data collected in accordance with the conditions of this consent to be transmitted directly to the Council's computer system, in a format suitable for providing a 'real time' record over the internet.

Transferred at Stratford on 1 April 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit

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

Name of Consent Holder:	Todd Petroleum Mining Company Limited PO Box 802 New Plymouth 4340
Decision Date	20 June 2012
Commencement Date	20 June 2012

Conditions of Consent

Consent Granted:	To discharge domestic sewage, tri-ethylene glycol, methanol and some water treatment chemicals (i.e. phosphate corrosion inhibitors) from an aerated sewage treatment plant onto and into land
Expiry Date:	1 June 2035
Review Date(s):	June 2023, June 2029
Site Location:	Kapuni Gas Treatment Plant, 298 Palmer Road, Kapuni
Grid Reference (NZTM)	1700726E-5629194N
Catchment:	Kapuni

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

47 Cloten Road · Private Bag 713 · Stratford 4352 · New Zealand
T: 06 765 7127 · F: 06 765 5097 · E: info@trc.govt.nz · www.trc.govt.nz
www.facebook.com/TaranakiRegionalCouncil twitter.com/TaranakiRC
Please quote our document number in your reply

Working with people | caring for Taranaki

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. There shall be no direct discharge of any contaminant into a surface water body.

3. The discharge shall not exceed 13.5 m^3 per day (0.97 litres per second), which shall be spread as evenly as practicable to a disposal area of not less than 1,325 m^2.

4. 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 2017 and/or June 2023 and/or June 2029, 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 1 April 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit

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

Name of Consent Holder:	Todd Petroleum Mining Company Limited PO Box 802 New Plymouth 4340
Decision Date	27 January 1997
Commencement Date	27 January 1997

Conditions of Consent

Consent Granted:	To discharge emissions into the air from the treatment of natural gas, cogeneration, other on-site activities and other related and ancillary activities
Expiry Date:	1 June 2029
Review Date(s):	June 2023
Site Location:	Palmer Road, Kapuni
Grid Reference (NZTM)	1700840E-5629660N
Catchment:	Kapuni

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

47 Cloten Road · Private Bag 713 · Stratford 4352 · New Zealand
T: 06 765 7127 · F: 06 765 5097 · E: info@trc.govt.nz · www.trc.govt.nz
www.facebook.com/TaranakiRegionalCouncil twitter.com/TaranakiRC
Please quote our document number in your reply

Working with people | caring for Taranaki

General conditions

(a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.

(b) That unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.

(c) That the consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:

(i) the administration, monitoring and supervision of this consent;
(ii) charges for the carrying out of the Council's functions under section 35 in relation to this consent; and
(iii) charges authorised by regulations.

Special conditions

1) That the consent holder shall at all times adopt the best practicable option to prevent or minimise any actual or likely adverse effects on the environment arising from discharges to air from the site. `Best practicable option' shall be determined by the Chief Executive, Taranaki Regional Council, taking into account the information supplied by the consent holder under conditions 4, 5 and 6 of this consent, and following review as set out under condition 16 of this consent.

2) That the consent holder shall at all times operate, maintain, supervise, monitor and control all processes so that emissions authorised by this consent are maintained at a practicable minimum.

3) That prior to undertaking any alterations to the plant, processes or operations which may significantly change the nature or quantity of contaminants discharged to air from the site, the consent holder shall consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act 1991.

4) That the consent holder shall provide to the Chief Executive, Taranaki Regional Council, by 1 June 1999 and every three years thereafter a written report:

(a) reviewing any technological advances in the reduction or mitigation of discharges to air from the site, and the costs and benefits of these advances; and
(b) detailing an inventory of the discharges to air from the site of such contaminants as the Chief Executive may from time to time specify following consultation with the consent holder; and
(c) detailing any measures that have been taken by the consent holder to improve the energy efficiency of the site's activities and processes; and
(d) addressing any other issue relevant to the minimisation or mitigation of discharges of contaminants to air from the site that the Chief Executive, Taranaki Regional Council, considers should be included.

5) That in addition to the requirements of condition 4, the consent holder shall provide to the Chief Executive, Taranaki Regional Council, by 1 June 1996 a written report reviewing any technological advances in the reduction or mitigation of discharges of benzene, toluene, ethyl benzene, and xylene, from the glycol towers, and discussing how these might be applicable and/or implemented at the Gas Treatment Plant, and the costs and benefits of these advances.

6) That by 1 June 1996 the consent holder shall provide to the Chief Executive, Taranaki Regional Council, a written report evaluating the risk to human health presented by the discharge to air of benzene, toluene, ethyl benzene, and xylene from the site. The report shall be to such detail as is required by the Chief Executive, Taranaki Regional Council.

7) That the consent holder shall provide to the Chief Executive, Taranaki Regional Council, on an annual basis the gross emissions of carbon dioxide from the site.

8) That the consent holder shall control all discharges to air from the site of carbon monoxide, in order that the maximum concentration of carbon monoxide measured under ambient conditions at or beyond the site boundary arising from discharges to air from the site does not exceed 30 mg/m3 (one-hour average exposure) or 10 mg/m3 (eight-hour average exposure).

9) That the consent holder shall control all discharges to air from the site of nitrogen dioxide, in order that the maximum ambient concentration of nitrogen dioxide measured under ambient conditions at or beyond the site boundary arising from discharge to air from the site does not exceed 300 µg/m3 (one-hour average exposure) or 100 µg/m3 (twenty-hour average exposure).

10) That should an off-site concentration of carbon monoxide or of nitrogen dioxide in the vicinity of the site be found to exceed a limit established in condition 8 or 9 above, then the Taranaki Regional Council may review any or all of the conditions of this consent pursuant to section 128(1)(a) of the Resource Management Act.

11) That the consent holder shall control all discharges of benzene to air from the site, in order that the maximum concentration measured under ambient conditions at or beyond the site boundary arising from discharges to air from the site, shall not exceed 16 µg/m3 (annual average of twenty-four-hour average exposure), nor 3.2 mg/m3 at any time, nor 0.32 mg/m3 (any eight-hour average exposure).

12) That the consent holder shall control all discharges to air from the site other than of carbon dioxide, carbon monoxide, nitrogen oxides and benzene, so that the maximum concentration measured under ambient conditions at or beyond the boundary of the site, arising from the exercise of this consent, does not exceed:

    (a) more than 1/30th of the relevant Occupation Threshold Value (Time Weighted Average); or
    (b) the Short Term Exposure Limit at any time (Workplace Exposure Standards and Biological Exposure Indices for New Zealand, 1992, Department of Labour).

13) That the discharges authorised by this consent shall not give rise to an odour at or beyond the boundary of the site that in the opinion of at least one officer of the Taranaki Regional Council is offensive or obnoxious or objectionable.

14) That whenever practicable depressurisation of the plant or sections of the plant shall be so controlled as to avoid dense black smoke from being discharged from any flare.

15) That the discharges authorised by this consent shall not give rise to any significant adverse ecological effect on any ecosystems, including but not limited to habitats, plants, animals, microflora and microfauna.

16) That pursuant to the provisions of section 128(1)(a) of the Resource Management Act the Council may within six months of receiving a report prepared by the consent holder subject to conditions 4, 5, or 6 of this consent or otherwise by giving notice of review during June 1999 and/or June 2005 and/or June 2011 and/or June 2017 and/or June 2023 serve notice that it intends to review any condition of this resource consent for the purposes of:

    (a) dealing with any significant adverse effect on the environment arising from the exercise of this consent; or
    (b) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge.

17) That the consent holder shall prepare a site contingency plan to the satisfaction of the Chief Executive, Taranaki Regional Council, no later than six months after the granting of this consent. The contingency plan shall be reviewed and if necessary updated to the satisfaction of the Chief Executive, Taranaki Regional Council, annually.

Transferred at Stratford on 1 April 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Land Use Consent

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

Name of Consent Holder:	Todd Petroleum Mining Company Limited PO Box 802 New Plymouth 4340
Decision Date	27 January 1997
Commencement Date	27 January 1997

Conditions of Consent

Consent Granted:	To erect place use and maintain two above ground pipelines, an electrical ring main and associated structures over beds of various streams between and including the Motumate Stream and an unnamed tributary of the Waiokura Stream for steam and electricity supply purposes
Expiry Date:	1 June 2032
Review Date(s):	June 2023
Site Location:	Palmer Road To Manaia Road Kapuni
Grid Reference (NZTM)	1700840E-5629760N
Catchment:	Waiokura
Tributary:	Motumate

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

47 Cloten Road · Private Bag 713 · Stratford 4352 · New Zealand
T: 06 765 7127 · F: 06 765 5097 · E: info@trc.govt.nz · www.trc.govt.nz
www.facebook.com/TaranakiRegionalCouncil twitter.com/TaranakiRC
Please quote our document number in your reply

Working with people | caring for Taranaki

General conditions

(a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.

(b) That unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.

(c) That the consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:

(i) the administration, monitoring and supervision of this consent;
(ii) charges for the carrying out of the Council's functions under section 35 in relation to this consent; and
(iii) charges authorised by regulations.

Special conditions

1. That the structures licensed by this consent shall be constructed and maintained in accordance with the documentation submitted in support of application 96/322.

2. That the consent holder shall notify the Taranaki Regional Council at least 48 hours prior to, and again upon completion of initial construction works, and again 48 hours prior to and upon completion of any subsequent maintenance works which may result in disturbance of the stream beds and/or discharges to the streams.

3. 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 1999 and/or June 2005 and/or June 2011 and/or June 2017 and/or June 2023 and/or June 2029, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects of the discharge on the receiving environment arising from the exercise of this consent, which were not foreseen at the time the application was considered and which it was not appropriate to deal with at the time.

Transferred at Stratford on 1 April 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit

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

Name of Consent Holder:	Todd Petroleum Mining Company Limited PO Box 802 New Plymouth 4340
Decision Date	20 June 2012
Commencement Date	20 June 2012

Conditions of Consent

Consent Granted:	To discharge stormwater from site areas of a natural gas treatment plant where no industrial processes occur (e.g. landscaped areas and roads) into the Kapuni Stream
Expiry Date:	1 June 2035
Review Date(s):	June 2023, June 2029
Site Location:	Kapuni Gas Treatment Plant, 298 Palmer Road, Kapuni
Grid Reference (NZTM)	1700830E-5629418N
Catchment:	Kapuni

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

47 Cloten Road · Private Bag 713 · Stratford 4352 · New Zealand
T: 06 765 7127 · F: 06 765 5097 · E: info@trc.govt.nz · www.trc.govt.nz
www.facebook.com/TaranakiRegionalCouncil twitter.com/TaranakiRC
Please quote our document number in your reply

Working with people | caring for Taranaki

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 stormwater discharged shall be from a catchment area not exceeding 9.39 ha.

3. After allowing for reasonable mixing, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all 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. the rendering of fresh water unsuitable for consumption by farm animals; and
    e. any significant adverse effects on aquatic life.

4. The consent holder shall maintain a contingency plan (which is incorporated into the contingency plan for the entire site). 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.

5. The consent holder shall maintain a stormwater management plan (which is incorporated into the stormwater management plan for the entire site). 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.

6. This consent shall lapse on 30 June 2017, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

7. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2017 and/or June 2023 and/or June 2029, 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 1 April 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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.