Todd Petroleum Mining Company Ltd
Kapuni Production Station
Monitoring Programme
Annual Report
2023/24
Technical Report 2024-75

Taranaki
Regional Council

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Taranaki Regional Council
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Executive summary

Todd Petroleum Mining Company Ltd (Todd Petroleum) operates the Kapuni Production Station located on Palmer Road in the Kapuni catchment.

This report for the period July 2023 to June 2024 describes the monitoring programme implemented by Taranaki Regional Council (the Council) to assess Todd Petroleum'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 Todd Petroleum's activities.

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

Todd Petroleum holds four resource consents for the production station, which includes a total of 36 conditions setting out the requirements that Todd Petroleum had to satisfy. Todd Petroleum holds one consent to discharge stormwater into the Kapuni stream, one consent to discharge emissions into the air, and two consents relating to structures in the Kapuni Stream. Todd Petroleum also hold a further 23 resource consents covering production activities at wellsites associated with the Kapuni Production Station.

The Council's monitoring programme for the year under review included four inspections, six water samples collected for physicochemical analysis, one biomonitoring survey of receiving waters, and two ambient air quality surveys.

Receiving water inspections, in conjunction with sampling conducted by both the Council and Todd Petroleum during the 2023/24 period, showed that the site discharges were not causing any adverse effects in the Kapuni Stream. This was supported by the findings of the macroinvertebrate survey.

There were no adverse effects on the environment resulting from the exercise of the air discharge consents. Ambient air quality monitoring at the Kapuni Production Station showed that levels of carbon monoxide, particulate matter 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.

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.

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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 (Todd Petroleum). Todd Petroleum operates the Kapuni Production Station situated on Palmer Road, Kapuni, together with its associated wellsites.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by Todd Petroleum that relate to discharges of water within the Kapuni catchment, structures in the Kapuni Stream, and emissions to air from the production station site. This report discusses the environmental effects of Todd Petroleum's use of water, land and air, and is the 33rd combined annual report by the Council for the Kapuni Production Station.

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 Todd Petroleum 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 Kapuni Production Station.

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

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

Section 4 presents recommendations to be implemented in the 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 Kapuni Production Station is located approximately in the middle of the Kapuni gas field, and adjacent to the Kapuni Gas Treatment Plant (KGTP). Exploration of the Kapuni Field began in 1959, and production began at Kapuni in 1969.

The function of the Kapuni Production Station is to gather the gas and condensate from the wellsites. The gas is delivered to KGTP for processing. The condensate gathered at the production station is treated and stabilised for storage and export to the Paritutu Tank Farm.

Three flares operate continuous pilots, which burn as yellow flames and are visible at night. The Kapuni Stream separates two of the flares from the remainder of the Kapuni Production Station site. The flares are linked to the main site by high and low pressure piping systems carried on a single span girder bridge with vehicular access via a ford through the Kapuni Stream. The flares are surrounded by farmland and the nearest dwelling is more than 300m from the flare stacks. The other flare is located in the north eastern corner of the site.

[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 Production Station

1.3 Resource consents

The Company holds four resource consents the details of which are summarised in the table below. Summaries of the conditions attached to each consent 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 Resource consents relating to the Kapuni Production Station

Consent number	Purpose	Granted	Review	Expires
	Water discharge permit			
0633-3	To discharge treated stormwater from the Kapuni Production Station into the Kapuni Stream.	August 2011	-	June 2029
	Air discharge permit			
4054-6.1	To discharge emissions into the air from combustion involving flaring of petroleum products and miscellaneous emissions incidental to the treatment of gas at the Kapuni Production Station	November 2017	June 2029	June 2035
	Land use permits			
5960-1	To erect, place, use and maintain a concrete ford on the bed of the Kapuni Stream for access purposes.	February 2002	-	June 2023*
9555-1	To disturb the bed of the Kapuni Stream for the purpose of undertaking maintenance work on the fire water intake chamber	April 2013	-	June 2029

* Consent is currently being renewed, and continues to operate under s124

1.3.1 Associated wellsites

Todd Petroleum also holds consents for production activities at wellsites associated with the Kapuni Production Station and these are summarised in Table 2.

Table 2 Resource consents for production activities at the Kapuni wellsites

Wellsite	Consent	Purpose	Issue Date	Expiry
KA-1/7/19/20	**6200-2**	To discharge treated stormwater from hydrocarbon exploration and production operations at the KA-1/7/19/20 wellsite onto and into land	17/11/2017	2035
	6822-1	To discharge emissions into the air from well workovers and in emergency situations and miscellaneous emissions associated with production activities at the KA-1/7 wellsite	21/03/2006	2023*
KA-2	**3267-3**	To discharge stormwater from the KA-2 wellsite into the Kapuni Stream	02/08/2011	2029
	6823-1	To discharge emissions into the air from well workovers and in emergency situations and miscellaneous emissions associated with production activities at the KA-2 wellsite	21/03/2006	2023*
KA-3	**3268-3**	To discharge stormwater from the KA-3 wellsite into an unnamed tributary of the Inaha Stream	02/08/2011	2029
KA-4/14	**2365-3**	To discharge stormwater from the KA-4/14 wellsite into an unnamed tributary of the Waiokura Stream	02/08/2011	2029
	6825-1	To discharge emissions into the air from well workovers and in emergency situations and miscellaneous emissions associated with production activities at the KA-4/14 wellsite	21/03/2006	2023*
KA-5/10	**6199-2**	To discharge treated stormwater from hydrocarbon exploration and production operations at the KA-5/10 wellsite onto and into land	17/11/2017	2035
	6826-1	To discharge emissions into the air from well workovers and in emergency situations and miscellaneous emissions associated with production activities at the KA-5/10 wellsite	21/03/2006	2023*
KA-6/11/17	**3266-3**	To discharge stormwater from the KA-6/11/17 wellsite into an unnamed tributary of the Inaha Stream	02/08/2011	2029
KA-6/11/17	**6827-1**	To discharge emissions into the air from well workovers and in emergency situations and miscellaneous emissions associated with production activities at the KA-6/11 wellsite	21/03/2006	2023*
KA-8/12/15/18	**3265-3**	To discharge stormwater from the KA-8/12/15/18 wellsite into an unnamed tributary of the Inaha Stream	02/08/2011	2029
	6828-1	To discharge emissions into the air from well workovers and in emergency situations and miscellaneous emissions associated with production activities at the KA-8/12/15 wellsite	21/03/2006	2023*
KA-9	**5871-2**	To discharge treated stormwater from hydrocarbon exploration and production operations at the KA-9/16 wellsite onto and into land	17/11/2017	2035
	5872-2	To discharge contaminants to air from hydrocarbon exploration at the KA-9 wellsite, including combustion involving flaring or incineration of petroleum recovered from natural deposits, in association with well development or redevelopment and testing or enhancement of well production flows	22/11/2017	
	5874-2	To use a pipeline bridge over the Kapuni Stream	16/11/2017	
	10383-1	To discharge emissions to air associated with hydrocarbon producing wells at the KA-9 wellsite	22/11/2017	
KA-13	**1105-3**	To discharge stormwater from the KA-13 wellsite into the Kapuni Stream	02/08/2011	2029

Wellsite	Consent	Purpose	Issue Date	Expiry
Kapuni-J	**10733-1**	To discharge emissions to air resulting from hydrocarbon producing activities at the Kapuni-J wellsite	22/11/2019	2035
	10734-1	To discharge treated stormwater from hydrocarbon exploration and production operations at the Kapuni-J wellsite onto land and into an unnamed tributary of the Inaha Stream		
Various	**9595-1**	To undertake excavations that will intercept groundwater at the Kapuni wellsites	16/07/2013	2029
	9596-1	To take water from excavations at the Kapuni wellsites		
	9622-1	To discharge treated water containing contaminants from dewatering activities associated with excavations at the Kapuni wellsites, onto and into land and into water		

* Consents are currently being renewed, and continue to operate under s124

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 Kapuni Production Station consisted of four primary components.

1.4.2 Programme liaison and management

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

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- 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 Kapuni Production Station was visited four times during the monitoring period, along with an annual inspection of wellsites associated with the production station. With regard to consents for the discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by Todd Petroleum were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was surveyed for environmental effects.

1.4.4 Chemical sampling

The Council undertook sampling of both the discharges from the site and the water quality upstream and downstream of the discharge point and mixing zone.

The Kapuni Production Station discharge was sampled twice, and the samples analysed for chlorides, conductivity, hydrocarbons, pH, suspended solids and turbidity. The Kapuni Stream was sampled concurrently, and the samples analysed for the same constituents.

The Council undertook sampling of the ambient air quality outside the boundary of the site. A multi-gas meter was deployed on one occasion in the vicinity of the plant, with monitoring consisting of continuous measurements of gas concentrations for the gases of interest (carbon monoxide and combustible gases). A PM_{10} particulate monitor was deployed concurrently with the multi-gas meter. Two nitrogen oxide measuring devices were also deployed in the vicinity of the plant on one occasion during the year under review.

1.4.5 Biomonitoring surveys

A biological survey was performed on one occasion in an unnamed tributary of the Kapuni Stream to determine whether or not the discharge of stormwater from the Kapuni Production Station has had a detrimental effect upon the communities of the stream.

2. Results

2.1 Water

2.1.1 Inspections

Four inspections were carried out at the Kapuni Production Station in the 2023/24 period, along with an annual inspection of associated wellsites. Inspections were undertaken on 13 September and 26 October 2023, and 14 May and 27 June 2024. Additional monitoring was undertaken during the monitoring period in relation to drilling at the Kapuni-J wellsite. This will be discussed in the annual drilling report.

13 September 2023

The site was tidy and good bunding practices were observed. The interceptor was free of hydrocarbon and the discharge to the stream was minimal with no effects noted below the discharge point. A clean burning flare was noted from the 'coke can' and no other flares were visible.

An annual inspection of the well sites associated with Kapuni Production Station was carried out to check for compliance with resource consent conditions. Well sites inspected were KA-6/11/17, KA-3, KA-2, KA-13, KA-5/10, KA-9, KA-8/12/15/18, KA-4/14, KA-1/7/19/20. Kapuni-J wellsite had recently been inspected and was not visited.

In general, the sites were tidy and clean with minimal activity occurring. The sites were being maintained with weed spraying evident on some sites and in some places within the ring drains. Lawn mowing was also being used to control grass length and to keep the sites maintained. The majority of ring drains were vegetated with grasses that helped with controlling and treating sediment laden stormwater. Hydrocarbon sheens were not observed within the skimmer pits or in puddles on any of the sites. The skimmer pits were all in good order with goose neck pipes functioning as required. The majority of the discharges were onto land before flowing to surface water. Some pits were unlined and empty. No effects were noted in the grass (such as burnt patches or dead grass) or within the streams.

Flaring was not occurring at any of the sites at the time of the inspection and no visual effects were noted as a result of previous flaring on the sites.

It did not appear that site levels at KA-9 had been assessed (as requested during the previous annual inspection) to ensure all stormwater was captured and directed to the skimmer pit system without ponding.

The Kapuni Production Station site was tidy and good bunding practices were observed. The interceptor was free of hydrocarbon and the discharge to the stream was minimal. No effects were noted below the discharge point. A clean burning flare was noted.

26 October 2023

The site was clean and tidy. Conditions that were assessed in relation to stormwater management and air discharge quality were found to be compliant with no issues noted.

14 May 2024

The area around the office block was clean and tidy. Inwards/Outwards goods were appropriately stored. It was noted that black staining was present at the discharge point from the wash bin outside the workshop. This discharge goes to the sewer network however, the Compliance Officer noted that a simple solution to capture hydrocarbons could be to install a small goose neck pipe. The area next to the API separator/slops tank/catch bin required cleaning. It was recommended that management of this area is improved to avoid

further staining and deterioration in standards. The final API separator was free of hydrocarbon sheens. There was no discharge from the separator and no discharge to the stream. No effects from previous discharges were noted in the stream below the discharge point. There was spillage onto the roadway on the northern side of the site from operators transferring product to tankers. This required cleaning and removal to prevent tracking around the site. It was noted that the area around the drip trays was also starting to become untidy and a sheen was noted in a sump immediately adjacent.

Three flares were in operation and mostly clean burning. There were minor discharges of smoke that quickly dissipated in the air.

27 June 2024

The site was clean and tidy. The separator was free of hydrocarbon. The discharge from site was clear and appeared to be having no adverse effects on water quality. There was no smoke associated with the pilot flares.

2.1.2 Results of abstraction and discharge monitoring

Figure 1 Kapuni Production Station and associated sampling sites

Stormwater at the Kapuni Production Station is treated using two oil-water separators. Stormwater captured beneath equipment and in bunded areas around storage facilities is directed to the first separator for initial treatment. It is then treated in a second separator prior to discharge to the Kapuni Stream. Stormwater from other areas, such as roads, is directed to the second separator.

Chemical water quality sampling of the treated stormwater discharge from the production station was undertaken twice during the 2023/24 period. Table 3 presents the results of this sampling. The location of the sampling site at the outlet of the second API separator (STW002014) is shown in Figure 1.

Table 3 Results of discharge monitoring at Kapuni Production Station (STW002014)

Parameter	Units	Date		Consent limits
		29 May 2024	10 June 2024	
Chloride	g/m^3	9	14	50
Conductivity	mS/m	6.5	10.1	-
Hydrocarbons	g/m^3	<0.7	0.7	15
Suspended solids	g/m^3	4	6	100
pH		6.5	6.8	6.0 – 9.0
Temperature	°C	10.8	12.1	
Turbidity	FNU	4.9	3.0	-

The results show compliance with the conditions of Consent 0633-3 at the time of sampling and are indicative of a very clean discharge.

2.1.3 Provision of consent holder data

Todd Petroleum provided the Council with the results for daily composite samples of the Kapuni Production Station stormwater discharge. The results are summarised in Table 4. The samples are collected daily, regardless of whether there is any actual discharge from the site (discharge usually only occurs after significant rainfall). So although the samples are taken from within the final separator, close to the outfall, the results are indicative only with regards to consent conditions (which apply to actual discharge from the site).

Table 4 Kapuni Production Station stormwater discharge results summary for 2023/24

Month	Hydrocarbons (g/m^3)		Suspended solids (g/m^3)		pH		Chloride (g/m^3)	
Consent limits	15		100		6.0 – 9.0		50	
	Max	Average	Max	Average	Range	Average	Max	Average
July 2023	8	<5.0	10	2	6.3 – 7.2	7.0	32	21
August 2023	7	<5.0	7	4	**5.3** – 7.7	6.9	38	12
September 2023	8	<5.0	17	5	6.2 – 7.2	6.7	31	14
October 2023	6	<5.0	24	6	6.1 – 7.5	6.5	21	13
November 2023	6	<5.0	35	6	6.0 – 7.4	6.6	22	12
December 2023	8	<5.0	50	9	6.5 – 8.3	7.1	**69**	20
January 2024	15	<5.0	30	13	6.2 – 7.7	6.9	42	16
February 2024	8	<5.0	17	8	6.3 – 7.0	6.7	17	13
March 2024	9	<5.0	35	7	6.3 – 7.5	7.0	19	15
April 2024	8	<5.0	14	4	6.5 – 7.4	6.9	16	12
May 2024	8	<5.0	30	4	6.0 – 7.8	6.4	24	13
June 2024	8	<5.0	9	3	6.2 – 7.5	6.6	15	11

The results show a consistently clean discharge. Maximum values for hydrocarbons and suspended solids were below the consent limit throughout the period under review. The pH was within the acceptable range in the majority of samples, with the exception of the last two days of August 2023 where pH was below 6 (5.3 and 5.9).

Chloride was generally well below the consented limit of 50g/m^3, with the exception of the last three days of December 2023 (52, 65, and 69g/m^3). It is noted that consents granted more recently for the discharge of stormwater from production stations have an upper limit for chloride of 230g/m^3.

2.1.4 Results of receiving environment monitoring

2.1.4.1 Chemical

Table 5 Receiving environment results for Kapuni Stream

Parameter	Units	29 May 2024		10 June 2024		Consent 0633-3 conditions
		Upstream KPN000287	Downstream KPN000289	Upstream KPN000287	Downstream KPN000289	
Chloride	g/m^3	9	9	6	7	-
Conductivity	g/m^3	9.1	9.0	5.4	5.3	-
Hydrocarbons	g/m^3	< 0.7	<0.7	<0.7	<0.7	No conspicuous oil films or foams
Suspended solids	g/m^3	4	<3	19	22	No conspicuous change
pH		7.5	7.5	7.0	7.0	-
Temperature	°C	9.0	9.1	11.7	11.7	-
Turbidity	NTU	2.7	2.5	12	11	No conspicuous change

Chemical water quality sampling of the Kapuni Stream was undertaken in conjunction with discharge monitoring at points upstream (KPN000287) and downstream (KPN000289) of the discharge point. The results are shown in Table 5 and the sampling sites are shown in Figure 1.

There was negligible difference in receiving water quality upstream and downstream of the production station discharge. This indicates that the discharge was in compliance with consent conditions regarding receiving environment quality at the time of sampling.

2.1.4.2 Biomonitoring

The Council's standard 'kick-sampling' technique was used at two sites (Figure 2) on 19 March 2024 to collect streambed macroinvertebrates from the Kapuni Stream to assess whether stormwater discharges from the Kapuni Production Station had had any adverse effects on the macroinvertebrate communities of this stream. Samples were processed to provide number of taxa (richness), Macroinvertebrate Community Index (MCI) and Semi-quantitative Macroinvertebrate Community Index (SQMCI) scores for each site.

The MCI is a measure of the overall sensitivity of the macroinvertebrate community to the effects of nutrient pollution in streams. It is based on the presence/absence of taxa with varying degrees of sensitivity to pollution. The SQMCI accounts for taxa abundance as well as sensitivity to pollution, and may reveal more subtle changes in communities. Significant differences in either the MCI or the SQMCI between sites indicate the degree of adverse effects (if any) of the discharges being monitored and enable the overall health of the macroinvertebrate communities to be determined.

Moderate taxa richness of 16 and 20 taxa were recorded at sites 2 and 2b, respectively. MCI scores of 115 units and 116 units were recorded at sites 2 and 2b, respectively, categorising both sites as having 'good' macroinvertebrate community health. SQMCI scores of 6.4 units and 7.0 units were recorded at sites 2 and 2b, respectively, categorising site 2 as having 'very good' macroinvertebrate community health, and site 2b as having 'excellent' health. These scores were not significantly different to each other. No differences in taxa richness, MCI, or SQMCI were observed between sites in the survey. Comparing these results with past

surveys and historical medians also showed no signs of recent discharges negatively affecting the macroinvertebrate community.

Overall, the macroinvertebrate communities were similar between the two sites and results indicated that stormwater discharges from the Kapuni Production Station had not caused any recent significant adverse effects on the macroinvertebrate communities of the Kapuni Stream.

A copy of the biomonitoring report for this site is available from the Council upon request.

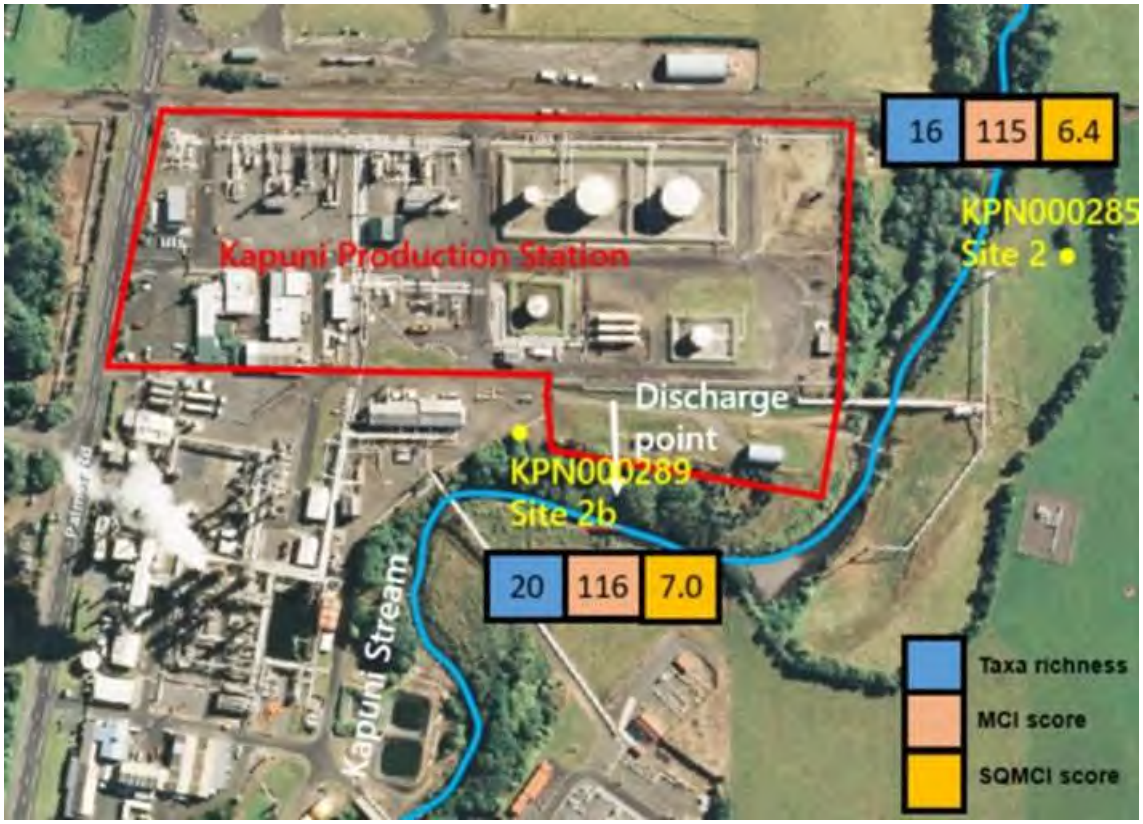

Figure 2 Biomonitoring sites in the Kapuni Stream with March 2024 results

2.2 Air

2.2.1 Inspections

Air inspections were carried out in conjunction with site inspections as discussed in section 2.1.1 above. Air discharges were all found to be satisfactory, and no offensive, obnoxious or objectionable odours or plumes of smoke were noted during the inspections.

2.2.2 Results of receiving environment monitoring

Annual air quality monitoring is undertaken at the region's hydrocarbon production stations to measure concentrations of hazardous air pollutants (HAPs) in ambient air at the boundary. During the 2023/24 survey instrumental monitoring was undertaken for nitrogen oxides (NO_x), fine particulate (PM_{10} and $PM_{2.5}$), carbon monoxide (CO) and the lower explosive limit (LEL) for gases.

Monitoring of CO and LEL is undertaken using a Rae Systems MultiRae gas monitor which continuously measures gas levels in ambient air. The monitor was located at the north-eastern boundary of the site

(Figure 3) and recorded maximum, mean, and minimum CO levels, and the percentage of the LEL. The instrument was deployed on 28 May 2024 and recovered on 29 May 2024 and recorded data for 24 hours.

The concentration of PM_{10} and $PM_{2.5}$ in ambient air was measured using a TSI DustTrak aerosol monitor which can simultaneously measure particle mass and size fraction. It was co-located with the MultiRae during the deployment and recorded data for 9.5 hours.

Passive sampling devices were deployed at both monitoring locations from 18 January to 8 February 2024 to measure NOx. The samplers absorb NOx over the duration of the deployment and are sent for laboratory analysis. The laboratory results are used to calculate 1-hr and 24-hr time weighted averages (TWA).

The results of the monitoring are presented below and compared against the following human health-based assessment criteria;

- Ambient Air Quality Standards (AAQS, Ministry of the Environment (MfE, 2004)
- The Ambient Air Quality Guidelines (AAQG, MfE, 2002)

Air discharge Consent 4054-6.1 includes ambient air limits which are largely based on these criteria.

Figure 3 Air monitoring sites at Kapuni Production Station

2.2.2.1 Carbon monoxide and lower explosive limit

Exposure to low levels of CO can cause nausea, dizziness, and disorientation. Higher levels of CO can cause coma, collapse and loss of consciousness. The AAQS for exposure to CO is 10mg/m³ averaged over an 8-hr period.

The data retrieved from the instrument did not exceed zero at any time during the deployment. The cause is unknown and may be due to equipment malfunction, absence of discharges from the site during the deployment, or unfavourable wind directions. Given the rural location of the site there are not likely to be other notable sources of these HAPs.

Due to the uncertainty of the data for this monitoring year, this report has adopted a qualitative approach to assess compliance with the consent, and uses historical data to infer potential effects. Since monitoring began in 2015 the concentration of CO measured at the monitoring locations has never exceeded or approached the AAQS limit. During the most recent monitoring (21/22) the maximum CO concentration reported was 1.3mg/m³, significantly lower than the AAQS limit of 10mg/m³.

Lower Explosive Limit (LEL) is the concentration of flammable gas, vapour, or mist in ambient air, below which an explosive gas atmosphere will not be formed. In past years methane has been used as a proxy for LEL and is measured using the MultiRae. During the most recent monitoring (2021/22) the instrument recorded methane at 0.1% of the LEL. This low result is to be expected given that methane will likely readily disperse over the distance between the source and the instrument.

Given that there have not been any significant changes to activities on-site or to the scale of production it is unlikely that the concentration of CO and percentage LEL at the monitoring site during this monitoring year would be significantly different than last year.

2.2.2.2 Fine particulate matter

Fine particulate less than 10µm in diameter (PM_{10}) and less than 2.5µm ($PM_{2.5}$) can enter deep into the lungs significantly reducing the exchange of gases across the lung walls. At high concentrations these can cause health impacts ranging from increased susceptibility to asthma and respiratory illness through to increased risk of premature death. PM_{10} and $PM_{2.5}$ come from multiple natural and anthropogenic sources including sea spray, crustal matter, and in particular, the combustion of fossil fuels. Emissions from the Kapuni Production Station are primarily from the combustion of hydrocarbons in the flare and from vehicle engines.

All results from the monitoring were negative values, indicating that the instrument malfunctioned.

During the 2021/22 monitoring year the 24-hr average PM_{10} concentration was reported to be 6.4µg/m³ (day 1) and 15.2µg/m³ (day 2), substantially lower than the AAQS standard of 50µg/m³.

The Kapuni Production Station is located in a rural area and the level of background PM_{10} is likely to be a result of vehicle emissions from Palmer Rd to the west, dust from unsealed roads, and other rural activities such as fertiliser application. In addition, emissions from the Balance fertiliser manufacturing plant to the west are also a potential source of background HAPs. On this basis the background concentration of PM_{10} in the area is likely to be low and therefore discharges from the combustion of natural gas from the Kapuni Production Station are not likely to cause ambient concentrations to approach the AAQS limit.

2.2.2.3 Nitrogen dioxide

A portion of total NO_x includes nitrogen dioxide (NO_2) which can cause adverse health impacts as a result of short and long-term exposure durations. Short-term exposure to high concentrations can result in the inflammation of airways which may exacerbate asthma and other pre-existing respiratory problems. Long-term exposure to NO_2 may adversely impact lung development in children, and may lead to the development of asthma. The risk of developing certain forms of cancer and premature death also increases with long-term exposure to NO_2.

As a conservative approach the raw NO_x data are used as a proxy for NO_2 and the calculated TWAs are compared to the relevant health-based assessment criteria for NO_2 in Table 6 below.

Table 6 Raw data and calculated TWAs

Monitoring site	NOx result (µg)	NOx 1-hr average (µg/m³)	NOx 24-hr average (µg/m³)
AIR003410	1.5	5.2	2.8
AIR003411	6.4	22.2	11.8
NO_2 Assessment criteria		**200 (AAQS)**	**100 (AAQG)**

As shown in Table 6 the calculated 1-hr average concentration of NO_x at the both monitoring sites was reported as 1.5µg/m³ and 6.4µg/m³ which are equivalent to 1-hr TWA of 5.2µg/m³ and 22.2µg/m³. The results are substantially lower than the NO_2 AAQS limit of 200µg/m.

Similarly, the 24-hr average concentration at each of the monitoring locations was comparatively low with the concentrations calculated to be between 2.8µg/m³ and 11.8µg/m³. These results are significantly lower than the NO_2 AAQG of 100µg/m³.

Only a portion of NO_X is NO_2 and therefore the actual concentration of NO_2 at the monitoring locations will be less than reported. The 1-hr and 24-hr results are likely to be largely representative of background concentrations in rural areas.

2.2.3 Summary of flaring volumes reported by Todd Petroleum

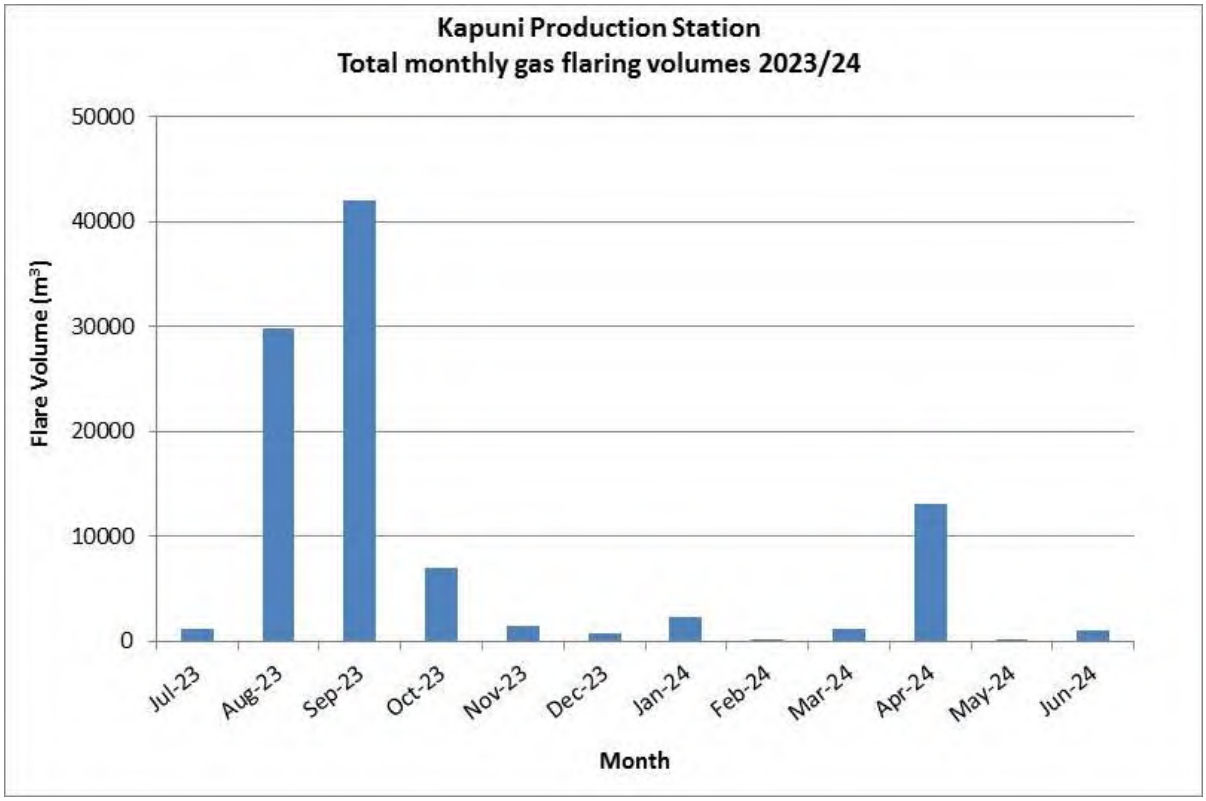

Figure 4 Monthly gas flaring for Kapuni Production Station under Consent 4054-6.1

Todd Petroleum provided the Council with an annual report on flaring and emissions during the 2023/24 period, as required by Consent 4054-6.1. A summary of total flaring volumes at Kapuni Production Station is provided in Figure 4. The volume of gas flared from activities at the production station in the 2023/24 year was 100,200m³, which was a significant decrease compared with the amount of gas flared in the previous year (189,916m³) when the KA-17 well was unloading to flare through the Kapuni Production Station low pressure flare during August and October 2022, and March 2023.

During the current reporting period the flaring (excluding the pilot flare) is attributed to re-starting low pressure wells, starting the condensate export pumps, compressor trips, plant trips, and planned maintenance. The higher volume of flaring in August was due to a high number of compressor trips, while during September there was an unplanned full plant outage resulting in flaring of KA-13 and KA-17. No complaints were received from the public regarding flaring at the production station.

Flaring was also undertaken at the KA-17 wellsite during July 2023 (155,900m³) and while cleaning up the new Kapuni J2 wells during October and November 2023 (875,00m³).

2.3 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 Todd Petroleum. 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).

In the 2023/24 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with Todd Petroleum's conditions in resource consents or provisions in Regional Plans.

3. Discussion

3.1 Discussion of site performance

Inspections of the Kapuni Production Station during the 2023/24 year found that the site was well managed. Some minor issues were noted but consent conditions relating to site operations and management were complied with.

3.2 Environmental effects of exercise of consents

Receiving water inspections, in conjunction with sampling conducted by both Council and Todd Petroleum during the 2023/24 period, showed that the site discharges were not causing any adverse effects in the Kapuni Stream. This was supported by the findings of the macroinvertebrate survey.

There were no adverse effects on the environment resulting from the exercise of the air discharge consent. The ambient air quality monitoring at the site showed that levels of carbon monoxide, particulate matter 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.

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 7-10.

Table 7 Summary of performance for Consent 0633-3

Purpose: To discharge treated stormwater from the Kapuni Production Station into the Kapuni Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adoption of best practicable option to minimise adverse effects	Site inspections and liaison with consent holder	Yes
2. Catchment area not to exceed 4ha	Site inspections	Yes
3. Stormwater to be directed through a treatment system	Site inspections	Yes
4. Limit on the concentration of pH, suspended solids, hydrocarbons and chloride	Water sampling and self-monitoring by consent holder	Mostly, no significant breaches
5. In-stream effects	Inspections, sampling, and biomonitoring	Yes
6. Contingency plan	Plan reviewed and approved	Yes
7. Consent holder to notify Council of significant changes to processes or operations	Site inspections and liaison with consent holder	Yes
8. Review of consent	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		**High**
Overall assessment of administrative performance in respect of this consent		**High**

N/A = not applicable

Table 8 Summary of performance for Consent 4054-6.1

Purpose: To discharge emissions into the air from combustion involving flaring of petroleum products and miscellaneous emissions incidental to the treatment of gas at the Kapuni Production Station		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Adoption of best practicable option to minimise adverse effects	Site inspections and liaison with consent holder	Yes
2. Maintenance of log of continuous flaring incidents	Information received	Yes
3. Provision of monthly flaring information	Information received	Yes
4. Provision of annual report on flaring to council	Report received	Yes
5. Record of smoke emitting events and complaints	Site inspections, records kept by consent holder, and liaison with consent holder	Yes
6. Provide analysis of typical gas stream on request	Not requested during period under review	N/A
7. Consultation with Council prior to significant alterations to plant, processes, or operations	Site inspections and liaison with consent holder	Yes
8. Notification of flaring more than five minutes in duration	Flaring notifications received	Yes
9. No offensive, obnoxious or objectionable odours, dust or smoke beyond site boundary	Site inspections	Yes
10. No discharge of hazardous, noxious or toxic contaminants beyond site boundary	Site inspections and air quality monitoring	Yes
11. Control levels of CO, NO_2, PM_{10} and SO_2 to comply with NES	Air quality monitoring	Yes
12. Control discharges to the atmosphere to comply with WES	Air quality monitoring	Yes
13. Lapse of consent	Consent exercised	N/A
14. Review 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 administrative performance in respect of this consent		**High**

N/A = not applicable

Table 9 Summary of performance for Consent 5960-1

Purpose: To erect, place, use and maintain a concrete ford on the bed of the Kapuni Stream for access purposes		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Construction and maintenance only between 1 November and 30 April	Inspections. No maintenance undertaken during this monitoring period	N/A
2. Notify Council before undertaking construction and maintenance works	Inspections. No maintenance undertaken during this monitoring period	N/A
3. Constructed and maintained in accordance with application	Inspections. No maintenance undertaken during this monitoring period	N/A
4. During maintenance works observe measures to prevent discharge and minimise disturbance	Inspections. No maintenance undertaken during this monitoring period	N/A
5. Minimise disturbance and reinstate any disturbed areas	Inspections. No maintenance undertaken during this monitoring period	N/A

Purpose: To erect, place, use and maintain a concrete ford on the bed of the Kapuni Stream for access purposes		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
6. The structure shall not obstruct fish passage	Site inspection	Yes
7. Structures to be removed and area reinstated when no longer required	Structures still in use	N/A
8. Review of consent	Consent has expired, renewal underway	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 10 Summary of performance for Consent 9555-1

Purpose: To disturb the bed of the Kapuni Stream for the purpose of undertaking maintenance work on the fire water intake chamber		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Notify Council before undertaking maintenance works	Notification received	Yes
2. Adopt best practicable option to avoid or minimise effects	Inspection, liaison with consent holder	Yes
3. Restrict area and volume of disturbance to a practicable minimum	Inspection, liaison with consent holder	Yes
4. No instream works between 1 May and 31 October	Liaison with consent holder, works undertaken in November	Yes
5. Exercise of consent shall not obstruct fish passage	Inspection, liaison with consent holder	Yes
6. Lapse of consent	Consent has been exercised	N/A
7. Review of consent	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 11 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement req	Poor
2019/20	0633-3, 4054-5, 5960-1, 9555-1	4	-	-	-
2020/21	0633-3, 4054-5, 5960-1, 9555-1	4	-	-	-
2021/22	0633-3, 4054-5, 5960-1, 9555-1	4	-	-	-
2022/23	0633-3, 4054-5, 5960-1, 9555-1	4	-	-	-
2023/24	0633-3, 4054-5, 5960-1, 9555-1	4	-	-	-

During the year, Todd Petroleum demonstrated an overall high level of both environmental performance and administrative compliance with the resource consents as defined in Appendix II. There were no unauthorised incidents recorded by the Council in relation to Todd Petroleum's activities. The Kapuni Production Station was well managed and maintained.

3.4 Recommendations from the 2022/23 Annual Report

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

1. THAT in the first instance, monitoring of consented activities at Kapuni Production Station 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.

Recommendations one and three were implemented, while it was not considered necessary to undertake additional investigation or monitoring as per condition two.

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.

Planned changes for 2024/25 monitoring consist of reducing air quality monitoring (carbon monoxide and fine particulate matter) to biannually, this will next be undertaken in the 2025/26 monitoring period. Nitrogen dioxide monitoring will continue to be undertaken on an annual basis.

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 Kapuni Production Station in the 2024/25 year continue at a similar same level as in 2023/24, with the reduction of some aspects of air quality monitoring to biennially.
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 (MfE, 2002)
AAQS	Ambient Air Quality Standards (MfE, 2004).
Biomonitoring	Assessing the health of the environment using aquatic organisms.
Bund	A wall around a tank to contain its contents in the case of a leak.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in mS/m.
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.
HAPs	Hazardous air pollutants.
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.
LEL	Lower Explosive Limit. The percentage of the lower explosive limit, expressed as methane, that is detected in the air sampled.
m^2	Square Metres.
mg/m^3	Milligrams per cubic metre.
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.
MfE	Ministry for the Environment.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
mS/m	Millisiemens per metre.
NES	National Environmental Standards.
NO_2	Nitrogen dioxide.
NOx	Nitrogen oxides.
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}	Relatively fine airborne particles (less than 10 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.
TWA	Time weighted average.
$\mu g/m^3$	Micrograms per cubic metre of air.

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

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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:	1 August 2011
Commencement Date:	1 August 2011

Conditions of Consent

Consent Granted:	To discharge treated stormwater from the Kapuni Production Station into the Kapuni Stream
Expiry Date:	1 June 2029
Review Date(s):	June 2023 and in accordance with special condition 8
Site Location:	Kapuni Production Station, Palmer Road, Kapuni
Grid Reference (NZTM)	1701051E-5629618N
Catchment:	Kapuni

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

General condition

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

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. The stormwater discharged shall be from a catchment area not exceeding four hectares.

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

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

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm^{-3}
total recoverable hydrocarbons	Concentration not greater than 15 gm^{-3}
chloride	Concentration not greater than 50 gm^{-3}

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

5. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, 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 Kapuni Stream:

   a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
   b) any conspicuous change in the colour or visual clarity;
   c) any emission of objectionable odour;
   d) the rendering of fresh water unsuitable for consumption by farm animals;
   e) any significant adverse effects on aquatic life.

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

7. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or the chemicals used or stored on site, that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approval under the Resource Management Act.

8. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review:

   a) during the month of June 2017 and/or June 2023; and/or
   b) within 3 months of receiving a notification under special condition 7 above;

   for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 1 August 2017

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 (Change):	3 May 2019
Commencement Date (Change):	3 May 2019 (Granted Date: 16 November 2017)

Conditions of Consent

Consent Granted:	To discharge emissions into the air from combustion involving flaring of petroleum products and miscellaneous emissions incidental to the treatment of gas at the Kapuni Production Station
Expiry Date:	1 June 2035
Review Date(s):	June 2023, June 2029
Site Location:	Kapuni Production Station, 318 Palmer Road, Kapuni
Grid Reference (NZTM)	1701129E-5629766N

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

General condition

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

Special conditions

Exercise of consent

1. The consent holder shall at all times adopt the best practicable option (as defined in section 2 of the Resource Management Act 1991) to prevent or minimise any actual or likely adverse effects on the environment associated with the discharge of contaminants into the environment arising from the emissions to air from the flare.

Recording and submitting information

2. The consent holder shall keep and maintain a log of all continuous flaring incidents lasting longer than 5 minutes and any intermittent flaring lasting for an aggregate of 10 minutes or longer in any 60-minute period. The log shall contain the date, the start and finish times, the quantity and type of material flared, and the reason for flaring. The log shall be made available to the Chief Executive, Taranaki Regional Council, upon request, and summarised annually in the report required under condition 4. Flaring, under normal operation in the low pressure flare, of rich mono-ethylene glycol degasser vapour, condensate tank vapours, non-condensibles from tri-ethylene glycol/mono-ethylene glycol regeneration and purge gas shall be excluded from this requirement.

3. The consent holder shall supply to the Taranaki Regional Council each month a copy of flaring information comprising: the type and amount of material flared (including any gas used to maintain a pilot flame), the date this was flared, the reason why flaring was undertaken, and an indication of whether smoke was produced from such flaring events.

4. The consent holder shall provide to the Taranaki Regional Council during August of each year, for the duration of this consent, a report:

    a) detailing gas combustion at the production station flare, including but not restricted to routine operational flaring and flaring logged in accordance with condition 2;
    b) detailing any measures that have been undertaken by the consent holder to improve the energy efficiency of the production station;
    c) detailing any measures to reduce smoke emissions;
    d) detailing any measures to reduce flaring;
    e) addressing any other issue relevant to the minimisation or mitigation of emissions from the production station flare; and
    f) detailing any complaints received and any measures undertaken to address complaints.

5. The consent holder shall keep and make available to the Chief Executive, Taranaki Regional Council, upon request, a record of all smoke emitting incidents, noting time, duration and cause. The consent holder shall also keep, and make available to the Chief Executive, upon request, a record of all complaints received as a result of the exercise of this consent.

Information and notification

6. The consent holder shall make available to the Chief Executive, Taranaki Regional Council upon request, an analysis of a typical gas and/or condensate stream from the Manutahi, Kauri and Tariki Formations, covering sulphur compound content and the content of compounds containing six or more carbon atoms in their molecular structure.

7. Prior to undertaking any alterations to the plant equipment, processes or operations, which may substantially alter the nature or quantity of flare emissions other than as described in the consent application, the consent holder shall first consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act 1991.

8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, as soon as practicable, whenever the continuous flaring of hydrocarbons (other than the flaring of rich mono-ethylene glycol degasser vapour, condensate tank vapours, non-condensibles from tri-ethylene glycol/mono-ethylene glycol regeneration and purge gas) is expected to occur for more than five minutes in duration.

Preventing and minimising emissions

9. The discharges authorised by this consent shall not, whether alone or in conjunction with any other emissions from the site arising, give rise to any levels of odour or dust or smoke that are offensive or obnoxious or objectionable at or beyond the boundary of the site.

10. The consent holder shall not discharge any contaminant to air from the site at a rate or a quantity such that the contaminant, whether alone or in combination with other contaminants, is or is liable to be hazardous or toxic or noxious at or beyond the boundary of the site.

11. The consent holder shall control all emissions of carbon monoxide, nitrogen dioxide, fine particles (PM10) and sulphur dioxide to the atmosphere from the site, in order that the maximum ground level concentration of any of these contaminants arising from the exercise of this consent measured under ambient conditions does not exceed the relevant ambient air quality standard as set out in the Resource Management (National Environmental Standards for Air Quality Regulations, 2004) at or beyond the boundary of the property on which the wellsite is located.

12. The consent holder shall control discharges to the atmosphere from the flare of contaminants, other than those addressed by the *Resource Management (National Environmental Standards for Air Quality) Regulations, 2004*, whether alone or in conjunction with any other emissions from the site, in order that the maximum ground level concentration for any particular contaminant arising from the exercise of this consent, measured at or beyond the boundary of the site, is not increased above background levels:

a) by more than 1/30th of the relevant Workplace Exposure Standard-Time Weighted Average (exposure averaged over a duration as specified for the Workplace Exposure Standard-Time Weighted Average), or by more than 1/10th of the Workplace Exposure Standard-Short Term Exposure Limit over any short period of time (all terms as defined in Workplace Exposure Standards, 2002, Department of Labour); or
b) if no Short Term Exposure Limit is set, by more than the General Excursion Limit at any time (all terms as defined in Workplace Exposure Standards, 2002, Department of Labour or any subsequent reviews).

Advice Note:
In exercising this consent the consent holder must also comply with any discharge standard required by Regulations. At the time of issuing this consent the 'Resource Management (National Environmental Standards for Air Quality) Regulations, 2004' set limits on discharge of carbon monoxide, nitrogen dioxide, fine particles (PM_{10}) and sulphur dioxide.

Lapse

13. This consent shall lapse on 31 December 2022, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Review

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 of review during the month of June 2023 and/or June 2029, for the purposes of:
    a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
    b) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge; and/or
    c) to alter, add or delete limits on mass discharge quantities or discharge or ambient concentrations of any contaminant or contaminants.

Signed at Stratford on 3 May 2019

For and on behalf of
Taranaki Regional Council

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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:	13 February 2002
Commencement Date:	13 February 2002

Conditions of Consent

Consent Granted:	To erect, place, use and maintain a concrete ford on the bed of the Kapuni Stream for access purposes
Expiry Date:	1 June 2023
Site Location:	318 Palmer Road, Kapuni
Grid Reference (NZTM)	1701240E-5629760N
Catchment:	Kapuni

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

General conditions

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

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

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

i) the administration, monitoring and supervision of this consent; and
ii) charges authorised by regulations.

Special conditions

1. The initial construction and any further disturbance of parts of the riverbed covered by water and/or any works which may result in downstream discolouration of water shall be undertaken only between 1 November and 30 April, except where this requirement is waived in writing by the Chief Executive, Taranaki Regional Council.

2. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the commencement and upon completion of any subsequent maintenance works which would involve disturbance of or deposition to the riverbed or discharges to water.

3. The structure(s) authorised by this consent shall be constructed generally in accordance with the documentation submitted in support of the application and shall be maintained to ensure the conditions of this consent are met.

4. The consent holder shall adopt the best practicable option to avoid or minimise the discharge of silt or other contaminants into water or onto the riverbed and to avoid or minimise the disturbance of the riverbed and any adverse effects on water quality.

5. The consent holder shall ensure that the area and volume of riverbed disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated.

6. The structure which is the subject of this consent shall not obstruct fish passage.

7. The structure(s) authorised by this consent shall be removed and the area reinstated, if and when the structure(s) are no longer required. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to structure(s) removal and reinstatement.

8. 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 2005, June 2011, and June 2017, for the purpose of ensuring that the conditions adequately deal with the environmental effects arising from the exercise of this consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 1 August 2017

For and on behalf of
Taranaki Regional Council

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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:	16 April 2013
Commencement Date:	16 April 2013

Conditions of Consent

Consent Granted:	To disturb the bed of the Kapuni Stream for the purpose of undertaking maintenance work on the fire water intake chamber
Expiry Date:	1 June 2029
Review Date(s):	June 2023
Site Location:	Kapuni Production Station, 318 Palmer Road, Kapuni
Grid Reference (NZTM)	1701162E-5629698N
Catchment:	Kapuni

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

General condition

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

Special conditions

1. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least 48 hours prior to the commencement of work. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz.

2. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to avoid or minimise the discharge of sediments or other contaminants into water or onto the riverbed and to avoid or minimise the disturbance of the riverbed and any adverse effects on water quality.

3. The consent holder shall ensure that the area and volume of stream bed disturbance is restricted to a practicable minimum.

4. No instream works shall take place between 1 May and 31 October inclusive.

5. The exercise of this consent shall not restrict the passage of fish.

6. This consent shall lapse on 30 June 2018, 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 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 August 2017

For and on behalf of
Taranaki Regional Council

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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.