

OMV Taranaki Ltd
Maui Production Station
Monitoring Programme
Annual Report
2018-2019

Technical Report 2019-60

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Taranaki Regional Council
Private Bag 713
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Executive summary

OMV Taranaki Ltd (OMV), formerly Shell Taranaki Ltd, operates the Maui Production Station located on Tai Road, Oaonui, in the Ngapirau catchment. This report for the period July 2018 to June 2019 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess 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 OMV's activities.

OMV holds four resource consents, which include a total of 34 conditions setting out the requirements that OMV must satisfy. OMV holds two consents relating to discharges to water, one consent to discharge emissions to the air, and one to maintain a structure in the coastal marine area. M & O Pacific Ltd trading as Wood Group Training (Wood Group) also holds one consent relating to the fire training facility to the north of Maui Production Station. The consent is for a discharge to water, and has seven conditions setting out requirements that must be satisfied.

During the monitoring period, OMV Taranaki Ltd demonstrated an overall high level of environmental performance.

The Council's monitoring programme for the year under review included six inspections, three receiving water samples collected for physicochemical analysis, one biomonitoring survey of receiving waters, and three ambient air quality analyses. The consent holder supplied information on flaring and the results of discharge water quality analysis.

Receiving water inspections, in conjunction with sampling conducted by OMV during the 2018-2019 period, showed that the discharges were unlikely to be causing any adverse effects on the Ngapirau Stream. This was supported by the findings of the macroinvertebrate survey carried out in the stream.

There were no adverse effects noted on the environment resulting from the exercise of the air discharge consent. The ambient air quality monitoring at the Maui Production Station showed that levels of carbon monoxide, combustible gases, PM₁₀ particulates, nitrogen oxides and the volatile organic compounds benzene, toluene, ethylbenzene and xylenes were all below levels of concern at the time of sampling. No offensive or objectionable odours were detected beyond the boundaries during inspections.

During the period under review, OMV demonstrated an overall high level of both environmental performance and administrative compliance with the resource consents. The Maui Production Station was well managed and maintained. There were no incidents recorded by the Council in relation to OMV's activities.

During the period under review, Wood Group demonstrated a good level of environmental performance and a high level of administrative compliance with the resource consents. Due to known contamination from the historical use of fluorine-based fire-fighting foams, Wood Group installed a wastewater retention and recirculation system to prevent any further discharges occurring from the storage ponds to the Oaonui Stream. Investigations into the potential environmental impacts of this activity and planning for remediation of the facility are continuing. Wood Group intends to relocate the training centre to a new site in New Plymouth in early 2020.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.

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 2019-2020 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 2018 to June 2019 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by OMV Taranaki Ltd (OMV), formerly Shell Taranaki Ltd. OMV operates the Maui Production Station situated on Tai Road, Oaonui. M & O Pacific Ltd trading as Wood Group Training (Wood Group) also holds one consent relating to the fire training facility to the north of Maui Production Station which is covered in this report.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by OMV and Wood Group that relate to discharges of water within the Ngapirau and Oaonui catchments, structures in the coastal marine area, and emissions to air from the sites.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the consent holders' use of water, land and air, and is the 28th combined annual report by the Council for the Maui 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 RMA and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by OMV in the Ngapirau and Oaonui catchments;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted at Maui 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 2019-2020 monitoring year.

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

1.1.3 The Resource Management Act 1991 and monitoring

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

- a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- b. physical effects on the locality, including landscape, amenity and visual effects;
- c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;

- d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
- e. risks to the neighbourhood or environment.

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

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the consent holders, this report also assigns them a rating for their environmental and administrative performance during the period under review.

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 consent holders' 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.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.¹

1.2 Process description

The onshore Maui Production Station at Oaonui (Photo 1) was built to process gas and condensate from the offshore Maui Field. Exploration of the Maui field began in 1969, and production commenced in 1979 from the Maui-A platform. Gas and condensate is transported 33 km from the offshore Maui-A platform to the onshore Maui Production Station via submarine pipelines. Another platform, Maui-B, was installed in 1992. Gas and condensate from Maui-B is piped 15 km to Maui-A for initial separation, and then to the production station.

The Maui Production Station separates the various hydrocarbon components, mainly by distillation. The production station supplies natural gas to the national grid and liquefied petroleum gas (LPG) is transported off-site by road tankers. Condensate is piped to storage tanks at Omata.

Facilities at the Maui Production Station include: an administration building and workshop which accommodates the control room on the upper floor; glycol trains and oil heaters located in the north west

¹ The Council has used these compliance grading criteria for 15 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

portion of the site; fractionation trains, gas trains and compressor houses; condensate storage, LPG storage and LPG load out facilities; and a flare compound that contains a 55 metre high flare stack, a radio tower, and a flare seal recovery system, located in the south western corner of the site.

The plant formerly used two flares as essential plant safety features designed to combust excess gas during planned maintenance activities, and emergency situations. A change to plant management has seen this reduced to one flare. The flare continuously burns fuel gas as a purge to prevent air ingress to the flare system (thus avoiding an explosion risk) and to maintain a pilot flame at the flare tip.

The Council is responsible for monitoring the onshore production station and pipelines within the coastal marine area (to 12 nautical miles). Monitoring of the offshore Maui-A and B platforms does not come under the jurisdiction of the Council as they are situated outside the coastal marine area.



Photo 1 Maui Production Station

1.3 Resource consents

OMV holds four resource consents, and Wood Group one consent, relating to the Maui Production Station site, the details of which are summarised in the table below. Summaries of the conditions attached to each permit are set out in Section 3 of this report.

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

Table 1 Resource consents held in relation to the Maui Production Station

Consent number	Purpose	Granted	Review	Expires
<i>Water discharge permits</i>				
0245-3	To discharge treated stormwater from the Maui Production Station to the Ngapirau Stream.	1975	-	June 2018*

Consent number	Purpose	Granted	Review	Expires
0246-3	To discharge treated domestic effluent from the oxidation ponds at the Maui Production Station to the Ngapirau Stream	1975	-	June 2018*
1228-4	To discharge treated stormwater and wastewater from fire-fighting at the Fire Training Centre at the Maui Production Station to the Oaonui Stream.	1975	-	June 2018*
<i>Air discharge permit</i>				
4052-4	To discharge emissions into the air from the refining and distribution of hydrocarbons and associated processes at the Maui Production Station site.	January 2003	-	June 2024
<i>Coastal permits</i>				
5224-2	To place and maintain two pipelines in, under and over the foreshore and seabed in the coastal marine area between mean high water spring and the outer limit of the territorial sea	March 1998	-	June 2025

* Consents have expired but continue to operate under section 124 of the RMA while renewals are processed

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 Maui 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 Maui Production Station was visited six times during the monitoring period. With regard to consents for the discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the

consent holders 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

Sampling upstream and downstream of the discharge point (Photo 2) and mixing zone was undertaken on one occasion at three sites in the Ngapirau Stream.

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 each plant, with monitoring consisting of continuous measurements of gas concentrations for the gases of interest (carbon monoxide and combustible gases). A PM₁₀ 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. Council also measured the concentrations of the volatile organic compounds benzene, toluene, ethylbenzene and xylenes (BTEX) on one occasion during the year as part of a regionwide monitoring programme.

1.4.5 Biomonitoring surveys

A biological survey was performed once in the Ngapirau Stream to determine whether or not the discharge of stormwater from the site has had a detrimental effect upon the communities of the stream.



Photo 2 Discharge to the Ngapirau Stream

2 Results

2.1 Water

2.1.1 Inspections

Six routine inspections were carried out at the Maui Production Station during the 2018-2019 period. The inspections were undertaken on 9 July, 30 August, 29 October and 6 December 2018, and 24 January and 27 March 2019. The site was neat and tidy on all occasions and no issues were noted.

2.1.2 Results of discharge monitoring

2.1.2.1 Site stormwater

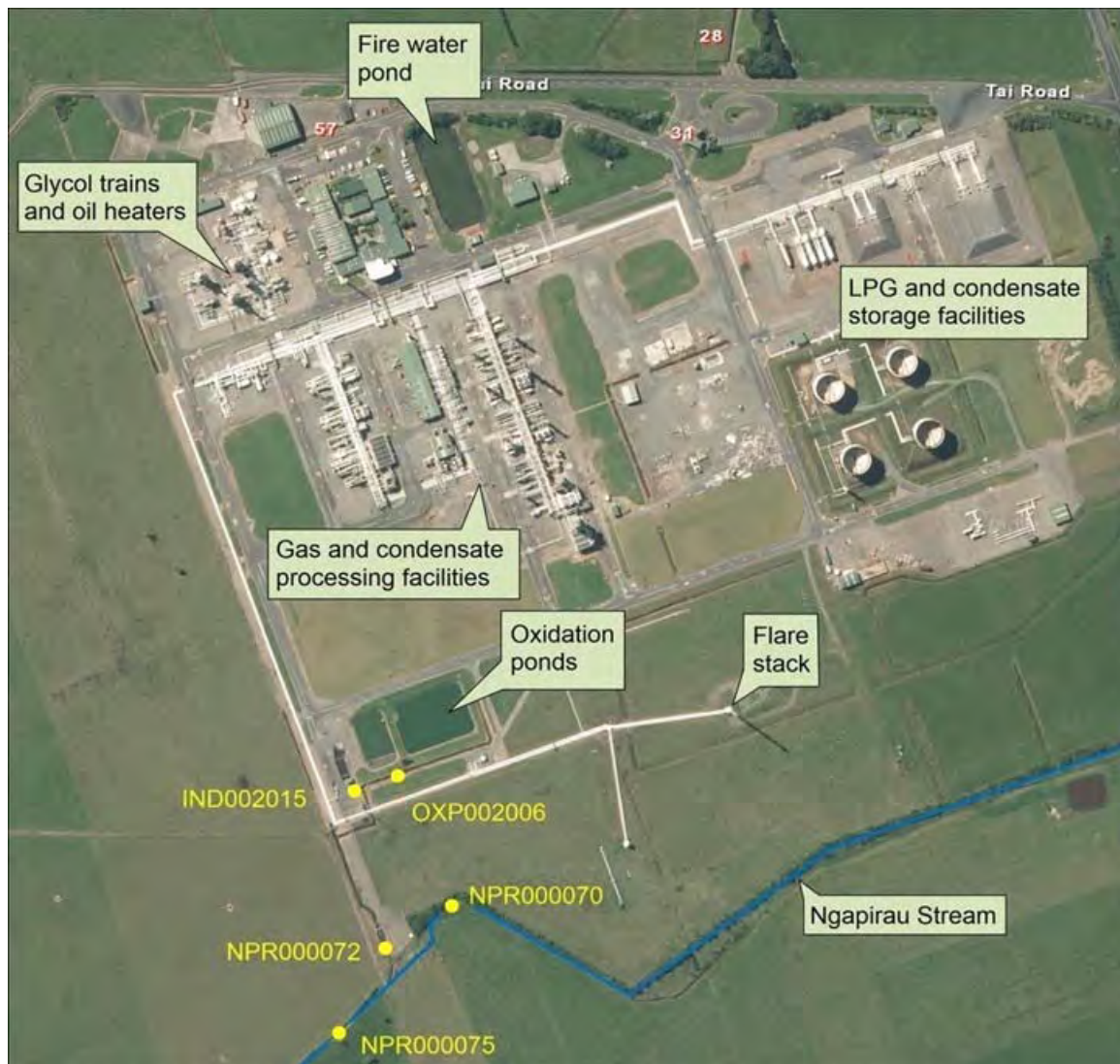


Figure 1 Maui Production Station and associated sampling sites

The stormwater network at the Maui Production Station consists of open stormwater drains around the site perimeter and stormwater pipelines from the process areas. The perimeter drains also accept stormwater runoff from Tai Road and a number of adjoining farms. The main internal discharges are into the open stormwater drains at several separate points. Stormwater from the internal catchment passes through the oily water separator before moving on to the secondary oil trap located at the south-west corner of the site.

The stormwater from inside the bunded areas does not enter into the stormwater drains and is directed straight to the oily waste separator. The stormwater in the perimeter drains goes directly to the secondary oil trap. The treated stormwater then flows to a tributary drain which discharges to the Ngapirau Stream.

OMV have treated their domestic sewage on site since 1979 using a two-pond aerobic oxidation system. The discharge is to a perimeter drain, which flows to an oily water separator where it combines with the site stormwater before being discharged to the Ngapirau Stream (Figure 1).

The combined discharge from the site includes the treated stormwater discharge from process areas, the oxidation pond discharge and runoff collected in perimeter drains. It passes through a separator before entering the Ngapirau Stream.

Every month, OMV provided the Council with the results for daily composite samples of the combined stormwater and oxidation ponds discharge, sampled downstream of the final separator. The results are summarised in Table 2.

Table 2 OMV Maui Production Station combined discharge results summary for 2018-2019

Month	Hydrocarbons (g/m ³)		Suspended solids (g/m ³)		Glycol (g/m ³)	
	Max	Average	Max	Average	Max	Average
<i>Consent 0245-3 limits</i>	<i>15</i>		<i>100</i>			
July 2018	<2	<2	48	9	0	0
August 2018	2	<2	42	11	0	0
September 2018	<2	<2	39	9	0	0
October 2018	6	<2	96	19	3	0
November 2018	3	<2	60	17	0	0
December 2018	<2	<2	18	8	4	1
January 2019	<2	<2	47	8	5	1
February 2019	<2	<2	40	7	0	0
March 2019	<2	<2	31	6	0	0
April 2019	<2	<2	16	4	0	0
May 2019	<2	<2	6	<2	0	0
June 2019	<2	<2	16	2	0	0
Days limit exceeded	0		0		No limit	

Both hydrocarbon and suspended solid results were low on average and below the limit stipulated by consent 0245-3 throughout the monitoring period.

Glycol was present samples collected in October and December 2018, and January 2019.

2.1.2.2 Fire-fighting, stormwater and wastewater discharge

Wood Group operates a Fire Training Centre adjacent to the production station, to train personnel for fire and helicopter crash response. Fire training exercises are carried out approximately 25 times per year. Hydrocarbons (mainly LPG) are used as accelerants in training exercises. The residues accumulate in the first holding and settling pond, along with the wastewater used during exercises and stormwater.

The discharge is taken from the second pond from below the surface (to prevent entrainment of any hydrocarbon sheen) and flows to the Oaonui Stream. The wastewater and stormwater is held in the ponds

for a varying amount of time depending on rainfall. Discharge only occurs when the ponds are full, in the past this was approximately once or twice per month due to low inflow volumes and evaporation. A recirculation system was installed during the year under review to further limit discharges.

The facility is inspected regularly as part of the Council's monitoring programme for the Maui Production Station. The ponds are also checked for any discharges in conjunction with sampling at the production station. No samples were collected in the 2018-2019 period, as there were no discharges sighted during inspections.

OMV samples the water in the ponds for hydrocarbon and suspended solids analyses prior to discharge. The results are provided to the Council and are presented in Table 3.

Table 3 Safety Training Centre stormwater discharge results 2018-2019

Date	Hydrocarbons (g/m ³)	Suspended solids (g/m ³)
Consent 1228-4 limits	15	50
10 July 2018	<2	31
6 August 2018	<2	36

The monitoring results show that the discharge was in compliance with consent conditions.

2.1.3 Results of receiving environment monitoring

2.1.3.1 Chemical

The receiving stream for the treated stormwater and oxidation pond discharge, the Ngapirau Stream, arises from springs approximately four kilometres above the production station and meets the coast between the Okaweu and Oaonui Streams approximately two kilometres from the production station.

Receiving water quality sampling was undertaken at points upstream (NPR000070), from the discharge drain above the confluence with the stream (NPR000072) and downstream (NPR000075) of the discharge. The results are shown in Table 4, and the sampling sites are shown in Figure 1.

Table 4 Receiving environment results for the Maui Production Station, 20 June 2019

Parameter	Units	Upstream NPR000070	Above confluence with stream NPR000072	Downstream NPR000075
Conductivity	mS/m	36.6	29.4	32.8
E. coli	/100 ml	124	41	45
Enterococci bacteria	/100 ml	26	17	93
Hydrocarbons	g/m ³	< 0.7	< 0.7	< 0.7
Ammoniacal nitrogen	g/m ³ N	0.029	0.012	0.017
Turbidity	NTU	3.3	3.3	2.2
pH		7.2	7.2	7.3
Chloride	g/m ³	50	43	47
Suspended solids	g/m ³	4	5	< 3

There was very little difference in the results of upstream compared with downstream, and in some cases water quality improved below the discharge. The poor water quality of the stream above the production

station discharge is most likely related to dominant effects from surrounding dairy farming activities within a small catchment area.

2.1.3.2 Biomonitoring

The Council collected streambed macroinvertebrates from two sites (approximately 500 m and 1,600 m downstream of the discharge) in an unnamed coastal stream on 14 December 2018 to investigate the effects of the Maui Production Station discharge on macroinvertebrate health. Macroinvertebrates were identified, different types of taxa counted (taxa richness), and MCI and SQMCI scores were calculated 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 takes into account 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.

Macroinvertebrate richness was moderate for both sites, which is typical for the available habitat. The MCI scores indicated 'poor' health at both sites; however, MCI scores from both sites are higher than their respective medians. Additionally, SQMCI scores indicate that both sites are in 'fair health' and much higher than their respective, historic medians.

Although historic surveys of macroinvertebrate communities at these sites show a progressive increase in the proportion of tolerant taxa (indicates deteriorating water quality), there were no obvious significant changes in the macroinvertebrate community when compared to previous survey results. Therefore, waste discharge from the Maui Production station does not seem to be negatively affecting macroinvertebrate community health in this unnamed coastal stream.

Copies of biomonitoring reports for this site are available from the Council upon request.

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 were noted during the inspections.

2.2.2 Results of receiving environment monitoring

2.2.2.1 Carbon monoxide and combustible gases

During the monitoring year, a multi-gas meter was deployed on one occasion in the vicinity of the plant. The deployment lasted approximately 39 hours, with the instrument placed in a downwind position at the start of the deployment. Monitoring consisted of continuous measurements of gas concentrations for the gases of interest (carbon monoxide and combustible gases). The monitoring sites used in the year under review are shown in Figure 2.

Because of the nature of the activities on the site, it was considered that the primary information of interest in respect of gases potentially emitted from the site was the average downwind concentration, rather than any instantaneous peak value. That is, the long-term exposure levels, rather than short-term maxima, are of most interest. The gas meter was therefore set up to create a data set based on recording the average concentration measured during each minute as raw data.



Figure 2 Air monitoring sites at Maui Production Station for 2018-2019

The details of the sample run are summarised in Table 5 and the data from the sample run are presented graphically in Figure 3.

Table 5 Results of carbon monoxide and LEL monitoring at Maui Production Station

Period (from-to)		12 to 14 December 2018 (39 hours)
Max	CO(ppm)	4.60
	LEL(%)	0.20
Mean	CO(ppm)	0.33
	LEL(%)	0.00
Min	CO(ppm)	0.00
	LEL(%)	0.00

Notes: (1) the instrument records in units of ppm. At 25°C and 1 atm, 1ppm CO = 1.145 mg/m³
 (2) because the LEL of methane is equivalent to a mixture of approximately 5% methane in air, then the actual concentration of methane in air can be obtained by dividing the percentage LEL by 20.

The consent covering air discharges from the Maui Production Station has specific limits related to particular gases. Special condition 9 of consent 4052-4 sets a limit on the carbon monoxide concentration at or beyond the production station's boundary. The limit is expressed as 10 mg/m³ for an eight hour average or 30 mg/m³ for a one hour average exposure. The maximum concentration of carbon monoxide found during the monitoring run was 5.3 mg/m³ while the average concentration for the entire dataset was 0.38 mg/m³ which comply with consent conditions. This is consistent with the pattern found in previous years.

Lower Explosive Limit (LEL) gives the percentage of the lower explosive limit, expressed as methane that is detected in the air sampled. The sensor on the instrument reacts to gases and vapours such as acetone, benzene, butane, methane, propane, carbon monoxide, ethanol, and higher alkanes and alkenes, with varying degrees of sensitivity. The Council's Regional Air Quality Plan has a typical requirement that no discharge shall result in dangerous levels of airborne contaminants, including any risk of explosion. At no time did the level of explosive gases downwind of the Maui Production Station reach any more than a trivial level.

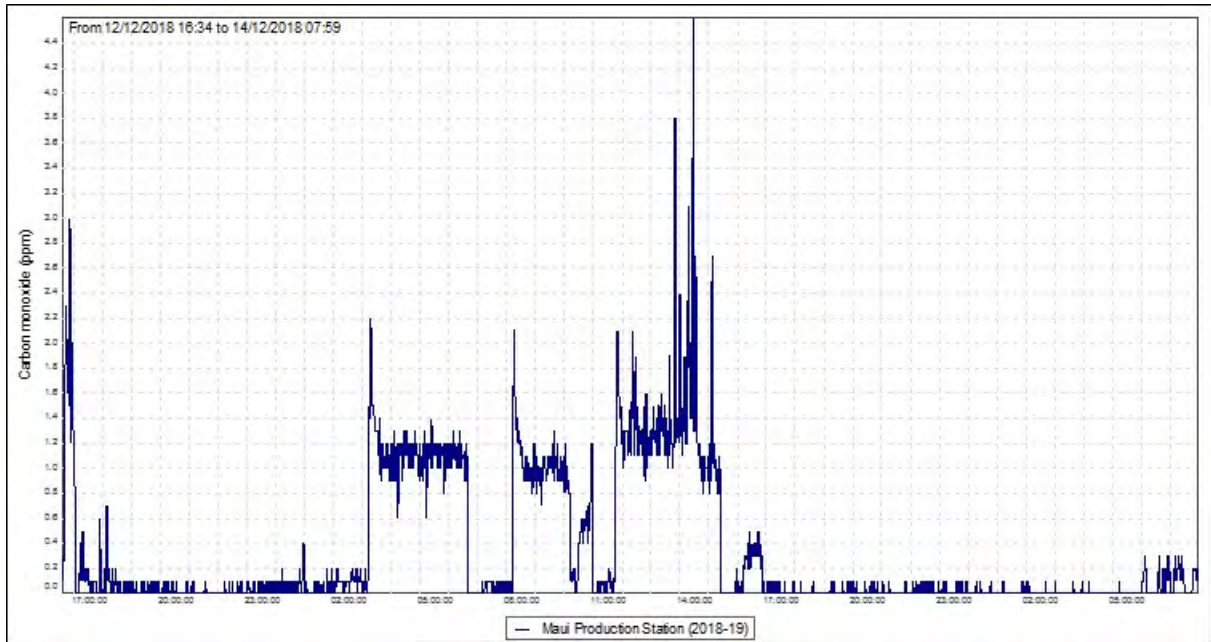


Figure 3 Ambient carbon monoxide levels in the vicinity of Maui Production Station

2.2.2.2 PM₁₀ particulates

In September 2004 the Ministry for the Environment enacted National Environmental Standards (NESs) relating to certain air pollutants. The NES for PM₁₀ particulates is 50 µg/m³ (24 hour average).

Particulates can be derived from many sources, including motor vehicles (particularly diesel), solid and oil-burning processes for industry and power generation, incineration and waste burning, photochemical processes, and natural sources such as pollen, abrasion, and sea spray.

PM₁₀ particles are linked to adverse health effects that arise primarily from the ability of particles of this size to penetrate the defences of the human body and enter deep into the lungs, significantly reducing the exchange of gases across the lung walls. Health effects from inhaling PM₁₀ include increased mortality and the aggravation of existing respiratory and cardiovascular conditions such as asthma and chronic pulmonary diseases.

During the reporting period, a DustTrak PM₁₀ monitor was deployed on one occasion in the vicinity of Maui Production Station. The deployment lasted approximately 37 hours, with the instrument placed in a down-wind position at the start of the deployment. Monitoring consisted of continual measurements of PM₁₀ concentrations. The location of the DustTrak monitor during the sampling run is shown in Figure 2. The results of the sample run are presented in Table 6 and Figure 4.

Table 6 Daily averages of PM₁₀ results from monitoring at Maui Production Station

	12 to 14 December 2018 (37 hours)	
24 hr. set	Day 1 (start to 24 hours)	Day 2 (24 hours to end)
Daily average	7.9 µg/m ³	7.3 µg/m ³
NES	50µg/m ³	

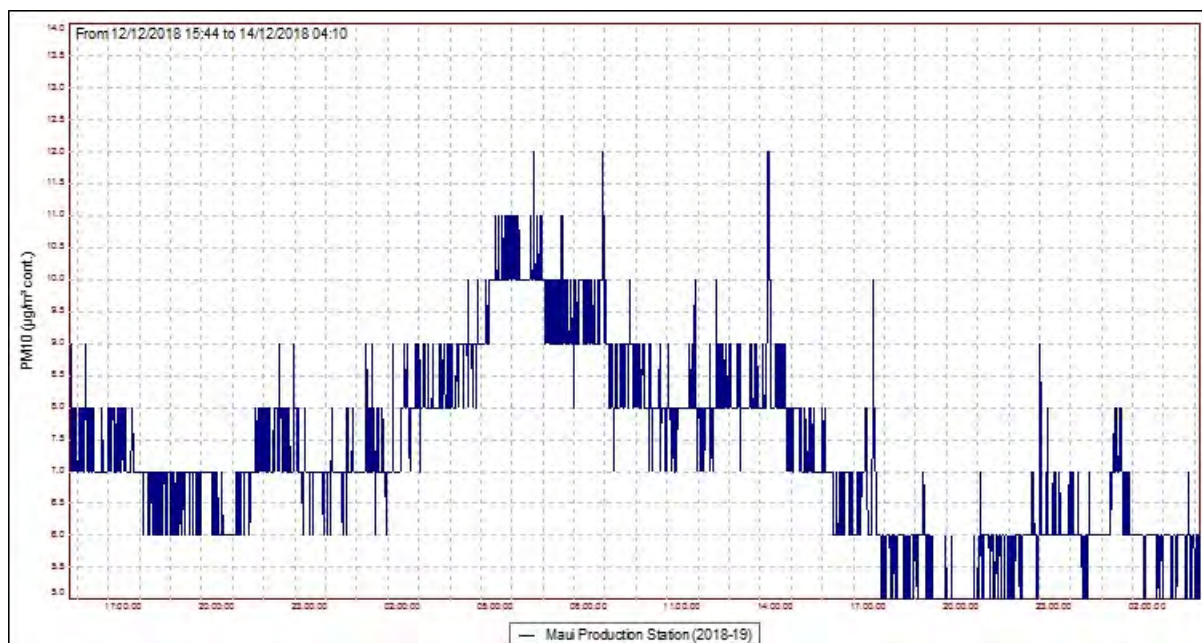


Figure 4 PM₁₀ concentrations (µg/m³) at Maui Production Station

During the 37 hour run, from 12 to 14 December, the average recorded PM₁₀ concentration was 7.9 µg/m³ for the first 24 hour period and 7.3 µg/m³ for the second 24 hour period. These daily averages equate to 16% and 15%, respectively, of the 50 µg/m³ value that is set by the NES. Background levels of PM₁₀ in the region have been found to be typically around 11 µg/m³.

2.2.2.3 Nitrogen oxides

From 2014 onwards, the Council implemented a coordinated region-wide compliance monitoring programme to measure nitrogen oxides (NO_x). The programme involves deploying measuring devices at 28 NO_x monitoring sites (including two sites in the vicinity of Maui Production Station) on the same day, with retrieval three weeks later. This approach assists the Council in further evaluating the effects of local and regional emission sources and ambient air quality in the region.

The consent covering air discharges from the Maui Production Station has specific limits related to particular gases. Special condition 8 of consent 4052-4 sets a limit on the nitrogen dioxide concentration at or beyond the production station's boundary. The limit is expressed as 200 µg/m³ for a one hour average or 100 µg/m³ for a 24 hour average exposure.

NO_x passive adsorption discs were placed at two locations in the vicinity of the Maui Production Station on one occasion during the year under review. The discs were left in place for a period of 21 days. The calculated one hour and 24 hour theoretical maximum NO_x concentrations found at Maui Production Station during the year under review equate to 4.5 µg/m³ and 2.4 µg/m³, respectively. The results show that the ambient ground level concentration of NO_x is well below the limits set out by consent 4052-4.

2.2.2.4 BTEX

The volatile organic compounds (VOC) benzene, toluene, ethylbenzene and xylenes together are commonly referred to as BTEX. In New Zealand, benzene is the only member of the BTEX group subject to a national guideline value. The Ministry for the Environment (MfE) guideline for long-term exposure (annual average exposure), based on benzene's known mutagenic and carcinogenic properties, is 3.6 µg/m³. There are no national ambient air quality guidelines for toluene, ethylbenzene or xylene. The MfE had prepared an internal technical document "Health Effects of Eleven Hazardous Air Contaminants and Recommended Evaluation Criteria" (October 2000) that suggested a short-term (1 hour) average value of 22 µg/m³ for

Benzene, 500 $\mu\text{g}/\text{m}^3$ for Toluene and 1000 $\mu\text{g}/\text{m}^3$ for Xylene as recommended guidelines values. However, these recommendations were not carried through to the final MfE guidelines published in 2002.

In January 2019 the Council implemented a coordinated monitoring programme to measure the concentrations of BTEX at 20 monitoring sites around the region (Figure 5).

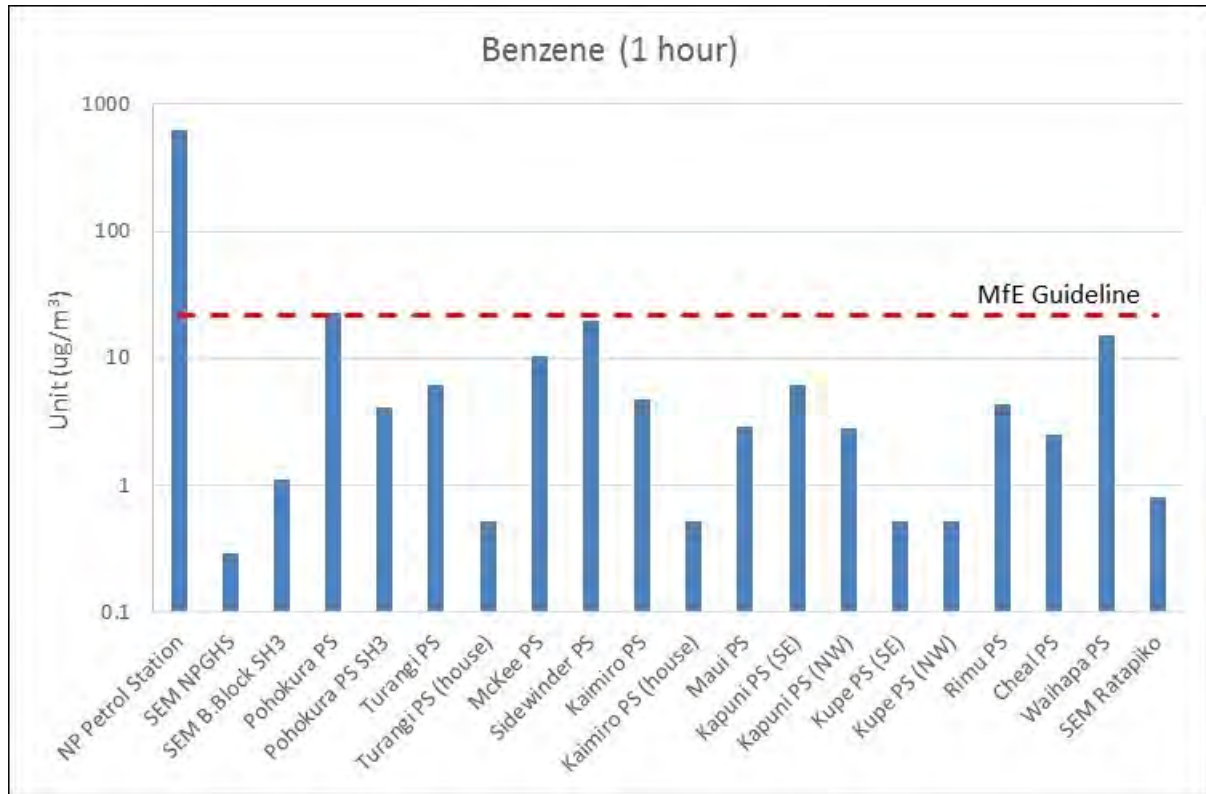


Figure 5 Regional benzene monitoring results 2019

The period of sampling was 503 hours (21 days). A conversion factor was applied to estimate an approximate peak short-term concentration that might have arisen during the full sampling period (assuming a steady-state source). These modelled concentrations are also presented in Table 7, alongside the actual concentrations as detected.

Table 7 Actual and recalculated (p0.2) BTEX results from Maui Production Station, January 2019

Site ID / Where	Time total Min.	Benzene ($\mu\text{g}/\text{m}^3$)		Toluene ($\mu\text{g}/\text{m}^3$)		Ethyl Benzene	o,m,p – ($\mu\text{g}/\text{m}^3$) Xylene Total	
		Lab. Results	1 hr. Calc.	Lab. Results	1 hr. Calc.	Lab. Results	Lab. Results	1 hr. Calc.
AIR008201 Maui PS	503	0.84	2.9	0.68	2.4	<0.19	<0.43	<1.5
Blank**		<0.15	<0.5	<0.19	<0.7	<0.19	<0.43	<1.5
MfE recommended guidelines (2000), one -hour average. ($\mu\text{g}/\text{m}^3$)			22		500			1000

Levels of benzene at the Maui Production Station were well below the recommended guidelines. Toluene was also well below the recommended guidelines, while ethylbenzene and xylene were not detected at the site.

Copies of air monitoring reports for this site are available from the Council upon request.

2.2.3 Summary of flaring volumes reported by OMV

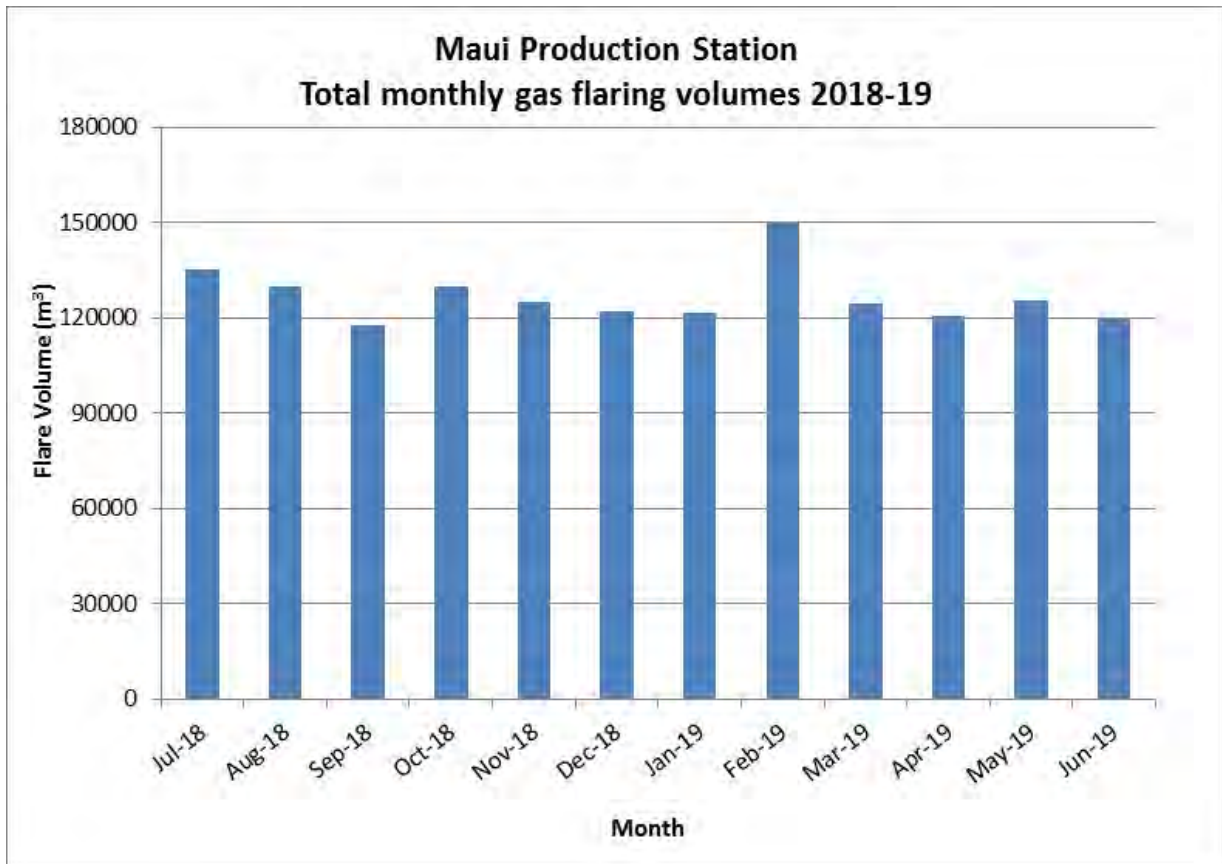


Figure 6 Monthly gas flaring for Maui Production Station under consent 4052-4

OMV provided the Council with an annual report on flaring and emissions during the 2018-2019 period, as required by consent 4052-4. A summary of flaring volumes at Maui Production Station is provided in Figure 6. The total volume flared in the 2018-2019 year was 1,522,300 m³ of gas, similar to the previous monitoring period.

Flaring was relatively consistent through the period (around 127,000 m³/month), with a slight increase in February 2019 due to an Emergency Depressurisation and Emergency Shut Down exercise.

No complaints were received by OMV from the public regarding flaring at the production station.

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 the consent holders. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach, that in the first instance avoids issues occurring, is favoured.

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 2018-2019 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with conditions in resource consents held by OMV and Wood Group, or provisions in Regional Plans.



Photo 3 Emission sources at the Maui Production Station

3 Discussion

3.1 Discussion of site performance

Monitoring of the Maui Production Station during the 2018-2019 year found that the site was well managed. All consent conditions relating to site operations and management were complied with.

Due to known contamination from the historical use of fluorine-based fire-fighting foams, Wood Group installed a wastewater retention and recirculation system to prevent any further discharges occurring from the storage ponds to the Oaonui Stream. Investigations into the potential environmental impacts of this activity and planning for remediation of the facility are continuing. Wood Group intends to relocate the training centre to a new site in New Plymouth in early 2020.

3.2 Environmental effects of exercise of consents

Receiving water inspections and sampling, in conjunction with sampling conducted by OMV during the 2018-2019 period, indicated that the discharges were not causing any adverse effects on the Ngapirau Stream at the time. This was supported by the findings of the macroinvertebrate survey carried out in the stream.

There were no adverse effects noted on the environment resulting from the exercise of the air discharge consent. The ambient air quality monitoring at the site indicated that levels of carbon monoxide, combustible gases, PM₁₀ particulates, nitrogen oxides and the volatile organic compounds benzene, toluene, ethylbenzene and xylenes were all 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 8-12.

Table 8 Summary of performance for consent 0245-3

Purpose: To discharge treated stormwater from the Maui Production Station to the Ngapirau Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Oily water separator and stormwater oil trap operated and maintained correctly	Inspections and sampling	Yes
2. Limits on contaminants in the discharge	Consent holder sampling	Yes
3. No effects in receiving water	Site inspections, sampling and biomonitoring	Yes
4. Contingency plan	Plan current as of September 2017	Yes
5. Review/change of consent to take account of operational requirements	Not required	N/A
6. Review of consent	Consent expired 1 June 2018	N/A

Purpose: To discharge treated stormwater from the Maui Production Station to the Ngapirau Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
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 0246-3

Purpose: To discharge treated domestic effluent from the oxidation ponds at the Maui Production Station to the Ngapirau Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Oxidation ponds maintained in aerobic condition to meet conditions	Inspections	Yes
2. No effects in receiving water	Site inspections, sampling and biomonitoring	Yes
3. Upgrade treatment system by November 2000	Upgrade completed	Yes
4. Option to review consent in 2001 to assess effectiveness of upgrade	Not exercised	N/A
5. Review/change of consent to take account of operational requirements	Not required	N/A
6. Review of consent	Consent expired 1 June 2018	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

Table 10 Summary of performance for consent 1228-4

Purpose: To discharge treated stormwater and wastewater from fire-fighting at the Fire Training Centre at the Maui Production Station to the Oaonui Stream (held by M & O Pacific Ltd)		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Settling pond operated and regularly maintained to meet conditions	Site inspections	Yes
2. Limits on contaminants in the discharge	Discharge results provided by consent holder	Yes

Purpose: To discharge treated stormwater and wastewater from fire-fighting at the Fire Training Centre at the Maui Production Station to the Oaonui Stream (held by M & O Pacific Ltd)		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. No chemicals or agents to be discharged without approval	Site inspections and liaison with consent holder	Possible breach of condition relating to foam use. Investigation ongoing.
4. No effects in receiving water	Site inspections	Yes
5. Contingency plan	Plan current	Yes
6. Review/change of consent to take account of operational requirements	Not required	N/A
7. Review of consent	Consent expired 1 June 2018	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

Table 11 Summary of performance for Consent 4052-4

Purpose: To discharge emissions into the air from the refining and distribution of hydrocarbons and associated processes at the Maui Production Station site		
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. Minimise emissions by appropriate selection, operation, supervision, control and maintenance of equipment	Site inspections and liaison with consent holder	Yes
3. Appropriate maintenance and operation of equipment	Site inspections	Yes
4. Treatment of flaring gas by effective liquid separation and recovery	Site inspections	Yes
5. Provision of annual report on flaring to council	Report received	Yes
6. No offensive, obnoxious or objectionable odours beyond site boundary	Site inspections	Yes
7. Limit on maximum ground level concentration of sulphur dioxide	Not measured, sampling in previous years	N/A

Purpose: To discharge emissions into the air from the refining and distribution of hydrocarbons and associated processes at the Maui Production Station site		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
8. Limit on maximum ground level concentration of nitrogen oxides	Air quality monitoring	Yes
9. Limit on maximum ground level concentration of carbon monoxide	Air quality monitoring	Yes
10. Limit on maximum ground level concentration of benzene	Air quality monitoring	Yes
11. Limit on maximum ground level concentration for other contaminants	Air quality monitoring	Yes
12. Consultation with Council prior to significant alterations to plant, processes, or operations	Site inspections and liaison with consent holder	Yes
13. Notification of flaring more than five minutes in duration	Flaring notifications received	Yes
14. Notification to Council of incidents or hazardous situations	No incidents or hazardous situations to notify this period	Yes
15. Record of smoke emitting events	Site inspections, records kept by consent holder, and liaison with consent holder	Yes
16. Maintenance of log of continuous flaring incidents	Site inspections, records kept by consent holder, and liaison with consent holder	Yes
17. Depressurisation of plant to prevent dense black smoke being discharged from the flare	Site inspections, records kept by consent holder, and liaison with consent holder	Yes
18. Optional review provision	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

Table 12 Summary of performance for Consent 5224-2

Purpose: To place and maintain two pipelines in, under and over the foreshore and seabed in the coastal marine area between mean high water spring and the outer limit of the territorial sea		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notify Council before undertaking major maintenance works	Liaison with consent holder	Yes
2. During maintenance works observe measures to prevent discharge and minimise disturbance	Liaison with consent holder	Yes

Purpose: To place and maintain two pipelines in, under and over the foreshore and seabed in the coastal marine area between mean high water spring and the outer limit of the territorial sea		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Structures to be removed and area reinstated when no longer required	Currently operational	N/A
4. 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

Table 13 Evaluation of environmental performance over time

Year	Consent no	High	Good	Improvement req	Poor
2010-11	0245-3, 0246-3, 4052-4, 5224-2	3	1	-	-
	1228-4	1	-	-	-
2011-12	0245-3, 0246-3, 4052-4, 5224-2	3	1	-	-
	1228-4	1	-	-	-
2012-14	0245-3, 0246-3, 4052-4, 5224-2	3	1	-	-
	1228-4	1	-	-	-
2014-15	0245-3, 0246-3, 4052-4, 5224-2	4	-	-	-
	1228-4	1	-	-	-
2015-16	0245-3, 0246-3, 4052-4, 5224-2	4	-	-	-
	1228-4	-	1	-	-
2016-17	0245-3, 0246-3, 4052-4, 5224-2	4	-	-	-
	1228-4	-	1	-	-
2017-18	0245-3, 0246-3, 4052-4, 5224-2	4	-	-	-
	1228-4	-	1	-	-
Totals		29	6	-	-

During the year, OMV demonstrated an overall high level of both environmental performance and administrative compliance with the resource consents as defined in Section 1.1.4. The Maui Production Station was well managed and maintained. There were no incidents recorded by the Council in relation to OMV's activities.

During the period under review, Wood Group demonstrated a good level of environmental performance and a high level of administrative compliance with the resource consents.

3.4 Recommendations from the 2017-2018 Annual Report

In the 2017-2018 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of consented activities at Maui Production Station in the 2018-2019 year continue at a similar level as in 2017-2018, with the addition of a one-off round of BTEX monitoring.
2. THAT should there be issues with environmental or administrative performance in 2018-2019, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Recommendation 1 was implemented, while it was not necessary to carry out additional monitoring as per recommendation 2.

3.5 Alterations to monitoring programmes for 2019-2020

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

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

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

It is proposed that for 2019-2020 that the programme is altered from 2018-2019, with a reduction in inspections from six to four.

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 2019-2020.

4 Recommendations

1. THAT in the first instance, monitoring of consented activities at Maui Production Station in the 2019-2020 be amended from that undertaken in 2018-2019, by reducing the number of inspections from six to four.
2. THAT should there be issues with environmental or administrative performance in 2019-2020, 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:

AFFF	Aqueous film forming foams. These foams are water-based and frequently contain a hydrocarbon-based surfactant.
Biomonitoring	Assessing the health of the environment using aquatic organisms.
BTEX	Benzene, toluene, ethylbenzene and xylenes (BTEX).
Bund	A wall around a tank to contain its contents in the case of a leak.
CO	Carbon monoxide
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in mS/m.
EPA	Environmental Protection Agency.
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.
LEL	Lower Explosive Limit (LEL) gives 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.
NO _x	Nitrogen oxides.
NH ₄	Ammonium, 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).

PFAS	Per-and poly-fluoroalkyl substances (fluorosurfactants). A class of manufactured chemicals that have been used since the 1950s to make commercial and industrial products that resist heat, stains, grease and water, including 'Scotchguard', non-stick cookware products and fire-fighting foams. These chemicals have been identified worldwide as emerging contaminants. Some PFAS have been shown to be toxic to some animals, and because they don't break down in the environment they have potential to bioaccumulate in plants and animals.
PFOS	Perfluorooctanesulfonic acid. A highly persistent PFAS compound which was added to Annex B of the Stockholm Convention on Persistent Organic Pollutants in May 2009.
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	<i>Resource Management Act 1991</i> and including all subsequent amendments.
Separator	A device designed to separate oil and suspended solids from wastewater and stormwater.
SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
µg/m ³	Micrograms per cubic metre of air.
VOC	Volatile organic compounds

For further information on analytical methods, contact a Science Services Manager.

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Appendix I

Resource consents held by Shell Taranaki Ltd and Wood Group M & O

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

Consent number	Purpose	Granted	Review	Expires
<i>Water discharge permits</i>				
0245-3	To discharge treated stormwater from the Maui Production Station to the Ngapirau Stream.	1975	-	June 2018*
0246-3	To discharge treated domestic effluent from the oxidation ponds at the Maui Production Station to the Ngapirau Stream	1975	-	June 2018*
1228-4	To discharge treated stormwater and wastewater from fire-fighting at the Fire Training Centre at the Maui Production Station to the Oaonui Stream.	1975	-	June 2018*
<i>Air discharge permit</i>				
4052-4	To discharge emissions into the air from the refining and distribution of hydrocarbons and associated processes at the Maui Production Station site.	January 2003	-	June 2024
<i>Coastal permits</i>				
5224-2	To place and maintain two pipelines in, under and over the foreshore and seabed in the coastal marine area between mean high water spring and the outer limit of the territorial sea	March 1998	-	June 2025

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:	Shell Todd Oil Services Ltd Private Bag 2035 NEW PLYMOUTH 4342
Decision Date (Change):	4 September 2013
Commencement Date (Change):	4 September 2013 (Granted: 11 October 2000)

Conditions of Consent

Consent Granted:	To discharge treated stormwater from the Maui Production Station to the Ngapirau Stream
Expiry Date:	1 June 2018
Site Location:	Maui Production Station, Tai Road, Oaonui
Legal Description:	Lot 1 DP 11402 Ngatitara 7C Blk XV Opunake SD (Discharge source & site)
Grid Reference (NZTM)	1669907E-56379680N
Catchment:	Ngapirau

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

General condition

- 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 oily water separator and the stormwater oil trap shall be operated and regularly maintained to ensure that the conditions of this consent are met.
2. The discharge shall not exceed the following concentrations:

<u>Contaminant</u>	<u>Concentration</u>
Total recoverable hydrocarbons	15 gm ⁻³
Suspended solids	100 gm ⁻³
3. After allowing for reasonable mixing, within a mixing zone extending 20 metres downstream of the discharge point, the discharge [in conjunction with any other discharge pertaining to the same property] shall not give rise to any of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in 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, habitats or ecology.
4. The consent holder shall maintain, and regularly update, a contingency plan, outlining measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not licensed by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.
5. The resource consent holder may apply to the Taranaki Regional Council for a change or cancellation of any of the conditions of this resource consent in accordance with section 127(1)(a) of the Resource Management Act 1991 to take account of operation requirements or the results of monitoring.

Consent 0245-3

6. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2006 and/or June 2012, 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 consent, which either were not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 4 September 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management

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

Name of
Consent Holder: Shell Todd Oil Services Limited
Private Bag 2035
NEW PLYMOUTH

Consent Granted 11 October 2000
Date:

Conditions of Consent

Consent Granted: To discharge treated domestic effluent from the oxidation
ponds at the Maui Production Station to the Ngapirau
Stream at or about GR: P20:800-999

Expiry Date: 1 June 2018

Review Date(s): June 2006, June 2012

Site Location: Maui Production Station, Tai Road, Oaonui

Legal Description: Lot 1 DP 11402 Pt Ngatitara 6C 6D 6E & 7C Blocks Blk XV
Opunake SD

Catchment: Ngapirau stream between the Oaonui Stream and the
Okawe Stream

Consent 0246-3

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 consent holder shall properly and efficiently maintain and operate the oxidation ponds system, which shall be regularly maintained in an aerobic condition, to ensure that the conditions of this consent are met.
2. That after allowing for reasonable mixing, within a mixing zone extending 20 metres below the discharge point, the discharge [in conjunction with any other discharges pertaining to the same property] shall not give rise to any of the following effects in the receiving waters:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in 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, habitats or ecology.
3. The consent holder shall upgrade the treatment system to avoid effects as a result of algal blooms in the oxidation ponds. The upgrade shall be in accordance with the URS New Zealand Ltd 30 August 2000 report recommendations and be completed by 30 November 2000.
4. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2001, for the purpose of assessing the effectiveness of works required under special condition 3.
5. The resource consent holder may apply to the Taranaki Regional Council for a change or cancellation of any of the conditions of this resource consent in accordance with section 127(1)(a) of the Resource Management Act 1991 to take account of operation requirements or the results of monitoring.

Consent 0246-3

6. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2006 and/or June 2012, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects on the environment arising from the exercise of this consent, which either were not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 11 October 2000

For and on behalf of
Taranaki Regional Council

Chief Executive

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

Name of
Consent Holder: M & O Pacific Limited
P O Box 265
NEW PLYMOUTH 4340

Consent Granted
Date: 11 October 2000

Conditions of Consent

Consent Granted: To discharge treated stormwater and wastewater from fire fighting at the Fire Training Centre at the Maui Production Station to the Oaonui Stream at or about (NZTM) 1669945E-5638740N

Expiry Date: 1 June 2018

Review Date(s): June 2006, June 2012

Site Location: Fire Training Centre, Maui Production Station,
Tai Road, Oaonui

Legal Description: Ngatitara 7C Block Blk XV Opunake SD

Catchment: Oaonui

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 settling ponds shall be operated and regularly maintained to ensure that the conditions of this consent are met.
2. The discharge shall not exceed the following concentrations:

<u>Contaminant</u>	<u>Concentration</u>
Total recoverable hydrocarbons	15 gm ⁻³
Suspended solids	50 gm ⁻³
3. That, other than specified in condition 2, no chemicals or agents may be discharged without the written approval of the Chief Executive, of the Taranaki Regional Council.
4. After allowing for reasonable mixing, within a mixing zone extending 10 metres downstream of the discharge point, the discharge shall not give rise to any of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in 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, habitats or ecology.
5. The consent holder shall maintain, and regularly update, a contingency plan, outlining measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not licensed by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.

Consent 1228-4

6. The resource consent holder may apply to the Taranaki Regional Council for a change or cancellation of any of the conditions of this resource consent in accordance with section 127(1)(a) of the Resource Management Act 1991 to take account of operation requirements or the results of monitoring.
7. That the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2006 and/or June 2012, 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 consent, which either were 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 24 November 2009

For and on behalf of
Taranaki Regional Council

Director-Resource Management

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

Name of
Consent Holder: OMV Taranaki Limited
Private Bag 2035
New Plymouth 4340

Decision Date
(Change): 9 August 2013

Commencement Date
(Change): 9 August 2013 (Granted Date: 9 January 2003)

Conditions of Consent

Consent Granted: To discharge emissions into the air from the refining and distribution of hydrocarbons and associated processes at the Maui Production Station site

Expiry Date: 1 June 2024

Review Date(s): June 2018

Site Location: Maui Production Station, Tai Road, Oaonui

Grid Reference (NZTM) 1670046E-5638140N

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

General conditions

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

Special conditions

1. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants into the air from the site.
2. The consent holder shall minimise the emissions and impacts of air contaminants discharged from the site by the selection of the most appropriate process equipment, process control equipment, emission control equipment, methods of control, supervision and operation, and the proper and effective operation, supervision, control and maintenance of all equipment and processes.
3. All equipment used to avoid, remedy, or mitigate any effect on the environment from the discharge of emissions into the air shall be maintained in good condition and shall be operated within design parameters at all times that the plant is in operation.
4. The consent holder shall undertake effective liquid separation and recovery, as far as is practicable, to avoid or mitigate smoke emissions during flaring.
5. 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 in the flares under condition 16, such information to be compiled on a month by month basis;
 - b) detailing smoke emissions as required under condition 15;
 - c) detailing any measures to reduce smoke emissions;
 - d) detailing any measures to reduce flaring;
 - e) providing data on the emitted and/or ambient concentrations and/or mass discharge rates and/or an emission inventory, of such contaminants the Chief Executive, Taranaki Regional Council, may from time to time specify;
 - f) detail current measures by the consent holder to improve plant efficiency on the site; and
 - g) addressing any other issue relevant to the minimisation or mitigation of emissions from the flares or from elsewhere on the site.

Consent 4052-4

6. The discharges authorised by this consent shall not give rise to any offensive or obnoxious or objectionable odour at or beyond the site boundary in the opinion of an enforcement officer of the Taranaki Regional Council.
7. The consent holder shall control all emissions of sulphur dioxide to the atmosphere from the site, in order that the maximum ground level concentration of sulphur dioxide arising from the exercise of this consent measured under ambient conditions does not exceed $350 \mu\text{g m}^{-3}$ [one-hour average exposure] or $125 \mu\text{g m}^{-3}$ [twenty-four hour average exposure] at or beyond the boundary of the site.
8. The consent holder shall control all emissions of nitrogen oxides to the atmosphere from the site, in order that the maximum ground level concentration of nitrogen dioxide arising from the exercise of this consent measured under ambient conditions does not exceed $100 \mu\text{g m}^{-3}$ [twenty-four hour average exposure], or $200 \mu\text{g m}^{-3}$ [one-hour average exposure] at or beyond the boundary of the site.
9. The consent holder shall control all emissions of carbon monoxide to the atmosphere from the flare, whether alone or in conjunction with any other emissions from the site arising through the exercise of any other consent, in order that the maximum ground level concentration of carbon monoxide arising from the exercise of this consent measured under ambient conditions does not exceed 10mg m^{-3} [eight-hour average exposure], or 30mg m^{-3} [one-hour average exposure] at or beyond the boundary of the property on which the production station flare is located.
10. The consent holder shall control all emissions of benzene to the atmosphere from the site, in order that the maximum ground level concentration of benzene arising from the exercise of this consent measured under ambient conditions does not exceed the relevant Ministry for the Environment Ambient Air Quality Guideline for benzene [$10 \mu\text{g m}^{-3}$ [annual average exposure] from 2002 until 2010 and $3.6 \mu\text{g m}^{-3}$ [annual average exposure] from 2010] at or beyond the boundary of the site.
11. The consent holder shall control all emissions to the atmosphere from the site of contaminants other than carbon dioxide, sulphur dioxide, carbon monoxide, and nitrogen oxides, 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 Occupational Threshold Value-Time Weighted Average, or by more than the Short Term Exposure Limit at any time, [all terms as defined in Workplace Exposure Standards, 2002, Department of Labour]; or
 - b) if no Short Term Exposure Limit is set, by more than three times the Time Weighted Average at any time, [all terms as defined in Workplace Exposure Standards, 2002, Department of Labour].

Consent 4052-4

12. Prior to undertaking any alterations to the plant, processes or operations, which may significantly change the nature or quantity of contaminants emitted to air from the site, the consent holder shall first consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act.
13. The consent holder shall whenever practicable notify the Chief Executive, Taranaki Regional Council, whenever the continuous flaring of hydrocarbons (other than purge gas) is expected to occur for more than five minutes in duration.
14. Any incident having air environment impact or potential impact which has or is liable to cause significant substantiated complaint or a hazardous situation beyond the boundary of the consent holder's site, shall be notified to the Taranaki Regional Council, as soon as possible, followed by a written report to the Chief Executive, Taranaki Regional Council, within one week of the incident, with comment about the measures taken to minimise the impact of the incident and to prevent re-occurrence.
15. The consent holder shall keep and make available to the Chief Executive, upon request, a record of all smoke emitting incidents, noting time, duration and cause. The consent holder shall also keep, and make available to the Chief Executive, upon request, a record of all complaints received as a result of the exercise of this consent.
16. The consent holder shall keep and maintain a log of all continuous flaring incidents longer than five minutes, and any intermittent flaring lasting for an aggregate of ten minutes or longer in any 120-minute period. Such a log shall contain the date, the start and finish times, the quantity and type of material flared, and the reason for flaring. This log shall be made available to the Chief Executive upon request, and summarised annually in the report required under condition 5. All practicable steps shall be taken to minimise flaring.
17. Other than in emergencies, or during tests or exercises to simulate emergencies to a maximum frequency of twice per year, depressurisation of the plant, or sections of the plant, shall be carried out over a sufficient period of time to prevent dense black smoke from being discharged from the flares.

Consent 4052-4

18. Subject to the provisions of this condition, the Council may within six months of receiving a report prepared by the consent holder pursuant to condition 5 of this consent but not more often than once every three years, or in June 2006 and/or June 2012 and/or June 2018, serve notice that it intends to review the conditions of this resource consent in accordance with section 128(1)(a) of the Resource Management Act 1991 for the purposes of:
- a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered or which it was not appropriate to deal with; and/or
 - b) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge; and/or
 - c) to alter, add or delete limits on mass discharge quantities or discharge or ambient concentrations of any contaminant or contaminants; and/or
 - d) taking into account any Act of Parliament, regulation, national policy statement or national environmental standard which relates to limiting, recording, or mitigating emissions of carbon dioxide, sulphur dioxide, nitrogen dioxide and/or benzene, and which is relevant to the air discharge from the Maui Production Station.

Transferred at Stratford on 29 December 2018

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: OMV Taranaki Limited
Private Bag 2035
New Plymouth 4340

Decision Date: 10 March 1998

Commencement Date: 10 March 1998

Conditions of Consent

Consent Granted: To place and maintain two pipelines in, under and over the
foreshore and seabed in the coastal marine area between
mean high water spring and the outer limit of the territorial
sea

Expiry Date: 1 June 2025

Site Location: Oaonui Beach To Outer Limit Of The Territorial Sea, Oaonui

Grid Reference (NZTM) 1668150E-5638140N

Catchment: Tasman Sea

*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. That the consent holder shall notify the Taranaki Regional Council at least 48 hours prior to undertaking any major maintenance works which could involve disturbance of, or discharge to, the coastal marine area.
- 2. That during any subsequent maintenance works, the consent holder must observe every practicable measure to prevent the discharge of silt and/or debris and/or any other contaminants to, and to minimise the disturbance of, the bed of the coastal marine area.
- 3. That where practicable, the structures licensed by this consent shall be removed and the area reinstated, if and when they are no longer required, to the satisfaction of the Chief Executive, Taranaki Regional Council.
- 4. 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 2005 and/or June 2015, for the purpose of ensuring that the conditions adequately deal with the environmental effects 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 that time.

Transferred at Stratford on 29 December 2018

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management