OMV Taranaki Ltd Maui Production Station Monitoring Programme Annual Report 2019-2020

Technical Report 2020-74

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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 2019 to June 2020 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 four inspections, ten discharge and receiving water samples collected for physicochemical analysis, one biomonitoring survey of receiving waters, and two 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 2019-2020 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, and nitrogen oxides 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 substantiated incidents recorded by the Council in relation to OMV's activities.

During the period under review, Wood Group demonstrated an overall high level of both environmental performance and administrative compliance with the resource consent. Due to known contamination from the historical use of fluorine-based fire-fighting foams, Wood Group installed a wastewater retention and recirculation system during 2018-2019 to prevent any further discharges occurring from the storage ponds to the Oaonui Stream. During 2019-2020 5,000 litre tanks were utilised to store excess volumes when rainfall exceeded capacity of the ponds and recirculation system. Investigations into the potential environmental impacts of this activity and planning for remediation of the facility are continuing. Wood Group intended to relocate the training centre to a new site in New Plymouth in early 2020, however the timeline for this has been delayed due to Covid-19.

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 2020-2021 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 2019 to June 2020 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 the Company that relate to discharges of water within the Ngapirau and Oaonui catchments, structures in the coastal marine area, and emissions to air from the site.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the Company's use of water, land and air, and is the 29th 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 though 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 2020-2021 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 socialeconomic 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 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 Company, this report also assigns them a rating for their environmental and administrative performance during the period under review.

Environmental performance is concerned with <u>actual or likely effects</u> 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 <u>management</u> 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 <u>and</u> 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 2019-2020 year, consent holders were found to achieve a high level of environmental performance and compliance for 81% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 17% 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 m 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 Table 1 below. Summaries of the conditions attached to each permit are set out in Section 3 of this report.

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

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

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

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 Stream1975-		-	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^
	Air discharge permit			
4052-4	 To discharge emissions into the air from the refining and distribution of hydrocarbons and associated processes at the Maui Production Station site. 		-	June 2024
	Coastal permits			
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 expired but continued to operate during the 2018-2019 monitoring period under section 124 of the RMA while the renewals were processed (renewed consents were granted in July 2020).

^ Consent has expired but continued to operate under section 124 of the RMA

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 four 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

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discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the Company were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was surveyed for environmental effects.

1.4.4 Chemical sampling

Samples of site stormwater, domestic sewage, and the combined discharge were collected on two occasions. Sampling upstream and downstream of the discharge point (Photo 2) and mixing zone was undertaken on two occasions concurrently 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.

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

Four routine inspections were carried out at the Maui Production Station during the 2019-2020 period. The inspections were undertaken on 5 September and 14 October 2019, and 6 May and 22 June 2020.

The site was neat and tidy on all occasions and no issues were noted. The flare was clean burning and no smoke was observed during inspections.

2.1.2 Results of discharge monitoring

2.1.2.1 Site stormwater

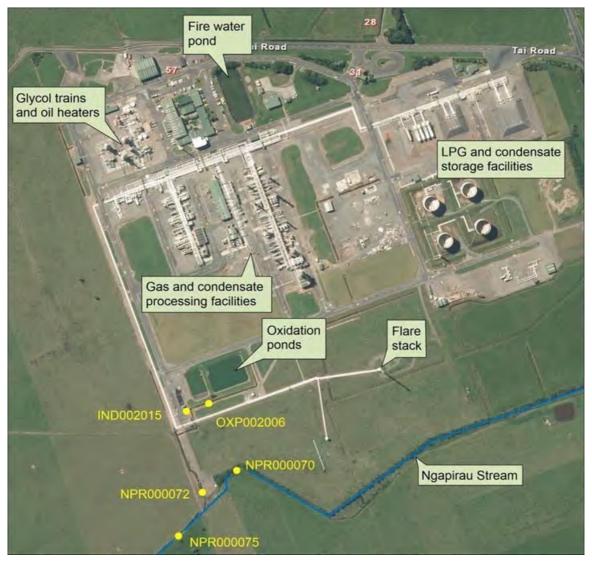


Figure 1 Maui Production Station and associated sampling sites

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.

Chemical water quality sampling of the treated stormwater discharge from the production station was undertaken twice during the 2019-2020 period. The location of the sampling site (IND002015) is shown in Figure 1. Table 2 presents the results of this sampling.

Parameter	Units	4 June 2020	30 June 2020	Consent limits
Chloride	g/m ³	25	31	-
Conductivity	g/m ³	23.2	25.6	-
Hydrocarbons	g/m ³	< 0.7	< 0.7	15
Suspended solids	g/m ³	9	6	100
рН		7.0	7.2	-
Turbidity	NTU	24	22	-

 Table 2
 Results of stormwater discharge monitoring from Maui Production Station (IND002015)

All measured parameters were within the limits stipulated by consent 0245-3 and were indicative of a clean discharge.

2.1.2.2 Domestic wastewater

The discharge from two-pond aerobic oxidation system to the perimeter drain was sampled twice during the monitoring period. The results are presented in Table 3 and the sampling site (OXP002006) is shown in Figure 1.

Parameter	Units	4 June 2020	30 June 2020
Conductivity @ 25°C	mS/m	11.3	24.9
Enterococci bacteria	/100 ml	5,200	80
E. coli	/100 ml	1,900	40
Ammoniacal nitrogen	g/m³N	0.108	1.28
Suspended solids	g/m ³	4	5
рН		7.1	6.8
Turbidity	FNU	6.0	5.7

 Table 3
 Results of oxidation pond discharge monitoring at Maui Production Station (OXP002006)

Consent 0246-3, which authorises the oxidation pond discharge, does not specify any numerical limits on its constituents. However, it does require that adverse effects be prevented. The results for the period under

review were typical of well-treated oxidation pond effluent which would not be expected to cause more than minor off site effects. There is also significant on site dilution of the discharge, provided by combination with the site stormwater discharge prior to reaching the Ngapirau Stream.

2.1.2.3 Combined discharge

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. The sampling point is in the tributary between the production station site boundary and the Ngapirau Stream (site NPR000072). It was sampled twice during the period under review. The results of this sampling are presented in Table 4.

Parameter	Units	4 June 2020	30 June 2020
Chloride	g/m ³	16	41
Conductivity @ 25°C	mS/m	12.4	26.6
Enterococci bacteria	/100 ml	5,100	47
E. coli	/100 ml	3,000	100
Hydrocarbons	g/m ³	< 0.7	< 0.7
Ammoniacal nitrogen	g/m³N	0.131	0.071
Suspended solids	g/m ³	24	< 3
рН		7.4	6.6
Temperature	°C	-	-
Turbidity	FNU	18	3

 Table 4
 Results of combined discharge monitoring from Maui Production Station (NPR000072)

The results comply with all applicable consent conditions and indicate a reasonably clean discharge with low suspended solids and no detectable hydrocarbons. This is complemented by the results of the concurrent receiving water sampling shown in Table 6.

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 5.

Month	Hydrocarbons (g/m ³)		Suspended solids (g/m ³)		Glycol (g/m³)	
Consent 0245-3 limits	15		100			
	Max	Average	Max	Average	Max	Average
July 2019	< 2	< 2	24	4	< 1	0
August 2019	< 2	< 2	4	<2	< 1	0
September 2019	< 2	< 2	11	2	0	0
October 2019	< 2	< 2	4	< 2	0	0
November 2019	< 2	< 2	5	< 2	0	0
December 2019	< 2	< 2	14	3	0	0
January 2020	< 2	< 2	11	3	0	0

Table 5 OMV Maui Production Station combined discharge results summary for 2019-2020

Month	Hydrocarb	Hydrocarbons (g/m³)Suspended solids (g/m³)Glycol (g/m³)		Suspended solids (g/m ³)		(g/m³)
Consent 0245-3 limits	15		100			
	Max	Average	Max	Average	Max	Average
February 2020	< 2	< 2	8	3	0	0
March 2020	< 2	< 2	14	5	0	0
April 2020	< 2	< 2	8	4	0	0
May 2020	<2	<2	26	5	0	0
June 2020	3	< 2	9	2	1	0
Days limit exceeded	()	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 detected in low levels (below the reporting limit) in the samples collected in July and August 2019, and was present in the June 2020 sample.

2.1.2.4 Fire-fighting, stormwater and wastewater discharge

Wood Group has operated a Fire Training Centre adjacent to the production station, to train personnel for fire and helicopter crash response. In previous years, fire training exercises were carried out approximately 25 times per year. Hydrocarbons (mainly LPG) were 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 was previously from the second pond from below the surface (to prevent entrainment of any hydrocarbon sheen) and flowed to the Oaonui Stream. The wastewater and stormwater was held in the ponds for a varying amount of time depending on rainfall. Discharge only occurred when the ponds were 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 2018-2019 year to further limit discharges, while 5,000 L tanks were utilised during 2019-2020 to store excess volumes when rainfall exceeded capacity of the ponds and the recirculation system.

During the 2019-2020 year there was a reduction in the use of the Fire Training Centre and the recirculation system and additional tanks contained all wastewater so that there were no discharges from these ponds.

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 6, and the sampling sites are shown in Figure 1.

There was very little difference in the results of upstream compared with downstream, and in general the dilution provided by the discharge improved water quality in the stream below. 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.

			4 June 2020		e 2020
Parameter	Units	Upstream NPR000070	Downstream NPR000075	Upstream NPR000070	Downstream NPR000075
Conductivity	mS/m	52.8	13.2	40.1	32.6
E. coli	/100 ml	14,000	5,200	310	90
Enterococci bacteria	/100 ml	6,700	6,000	300	260
Hydrocarbons	g/m³	< 0.7	< 0.7	< 0.7	< 0.7
Ammoniacal nitrogen	g/m³ N	0.81	0.13	0.042	0.047
Turbidity	FNU	18	12	3	3
рН		7.0	7.3	7.0	6.8
Chloride	g/m³	75	17	55	47
Suspended solids	g/m³	22	15	< 3	< 10

Table 6 Receiving environment results for the Maui Production Station

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 28 November 2019 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 taxa richness were typical for the available habitat, and were within the previously recorded range. The MCI scores indicated 'poor' health at both sites; however, MCI scores from both sites were higher than their respective medians. Additionally, SQMCI scores indicate that both sites are in 'fair health' and equalled or exceeded the highest previously recorded score at both sites.

Although historical surveys of macroinvertebrate communities at these sites show a progressive increase in the proportion of tolerant taxa (indicating deteriorating water quality), the macroinvertebrate communities were similar to previous survey results. Overall, the discharges from the Maui Production station do not seem to be negatively affecting macroinvertebrate community health in the Ngapirau Stream.

A copy of the biomonitoring report for this site is 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 47 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 2019-2020

The details of the sample run are summarised in Table 7 and the data from the sample run are presented graphically in Figure 3.

	Period (from-to)	7 to 9 October 2019 (47 hours)
Max	CO(ppm)	15.6
Σ	LEL(%)	0.20
Mean	CO(ppm)	0.30
Σ	LEL(%)	0.00
Min	CO(ppm)	0.00
Σ	LEL(%)	0.00

Table 7	Results of carbon	monoxide and LEL	monitoring at	Maui Production Station
Tuble /	results of carbon	monoxide und EEE	mornitoring ut	maar rouaction Station

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 momentary concentration of carbon monoxide

found during the monitoring run was 17.9 mg/m³ while the average concentration for the entire dataset was 0.34 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.

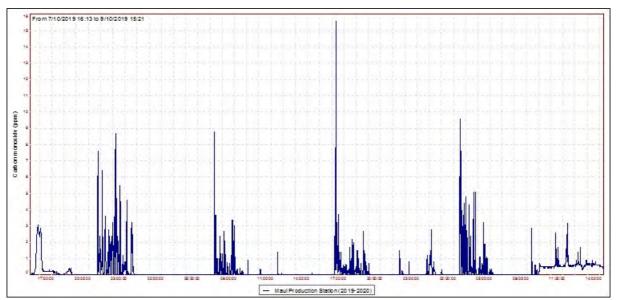


Figure 3 Ambient carbon monoxide levels in the vicinity of Maui Production Station

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 PM_{10} particulates is 50 µg/m³ (24 hour average).

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

 PM_{10} 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 PM_{10} 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 PM_{10} monitor was deployed on one occasion in the vicinity of Maui Production Station. The deployment lasted approximately 47 hours, with the instrument placed in a downwind position at the start of the deployment. Monitoring consisted of continual measurements of PM_{10} 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 8 and Figure 4.

	7 to 9 October 2019 (47 hours)			
24 hr. set	Day 1 (start to 24 hours) Day 2 (24 hours to end)			
Daily average	8.0 µg/m³ 9.8 µg/m³			
NES	50 μg/m³			



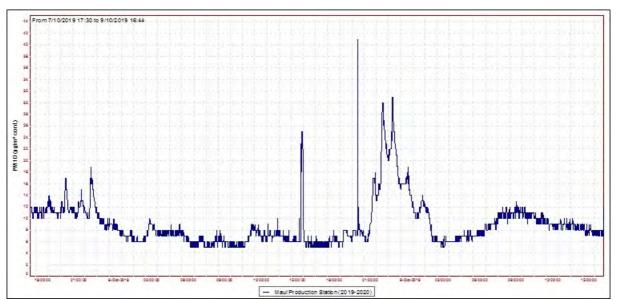


Figure 4 PM₁₀ concentrations (µg/m³) at Maui Production Station

During the 47 hour run, from 7 to 9 October, the average recorded PM_{10} concentration was 8.0 µg/m³ for the first 24 hour period and 9.8 µg/m³ for the second 24 hour period. These daily averages equate to 16% and 20%, respectively, of the 50 µg/m³ value that is set by the NES. Background levels of PM_{10} in the region have been found to be typically around 11 µg/m³.

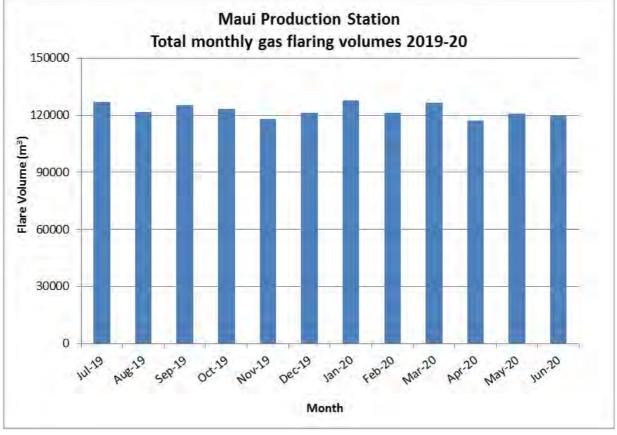
2.2.2.3 Nitrogen oxides

From 2014 onwards, the Council implemented a coordinated region-wide compliance monitoring programme to measure nitrogen oxides (NOx). The programme involves deploying measuring devices at 28 NOx 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 μ g/m³ for a one hour average or 100 μ g/m³ for a 24 hour average exposure.

NOx 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 NOx concentrations found at Maui Production Station during the year under review equate to $8.2 \ \mu g/m^3$ and $4.4 \ \mu g/m^3$, respectively. The results show that the ambient ground level concentration of NOx is well below the limits set out by consent 4052-4.

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



OMV provided the Council with an annual report on flaring and emissions during the 2019-2020 period, as required by consent 4052-4. A summary of flaring volumes at Maui Production Station is provided in Figure 5. The total volume flared in the 2019-2020 year was 1,469,800 m³ of gas, similar to the previous monitoring period. Flaring was relatively consistent through the period (around 122,500 m³/month).

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).

Table 9 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the Company's activities during the 2019-2020 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 9	Incidents, investigations, and interventions summary table	

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
30 Nov 2019	An anonymous complaint was received regarding smoke being discharged during flaring	Y	No	The site was inspected following the complaint and flaring was observed, however no excessive smoke was noted. Follow up with the OMV environmental team found that the production station was operating as per normal and no issues were identified that may have resulted in the generation of excessive smoke.

3 Discussion

3.1 Discussion of site performance

Monitoring of the Maui Production Station during the 2019-2020 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 during the 2018-2019 monitoring period 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 intended to relocate the training centre to a new site in New Plymouth in early 2020 but due to Covid-19 the timeline for this has been delayed.

3.2 Environmental effects of exercise of consents

Receiving water inspections and sampling, in conjunction with sampling conducted by OMV during the 2019-2020 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, and nitrogen oxides 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 10-14.

Table 10 Summary of performance for consent 0245-3

Pu	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	Council and 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	Compliance achieved?				
Overall assessment of consent compliance this consent	High				
Overall assessment of administrative perf	Overall assessment of administrative performance in respect of this consent High				

N/A = not applicable

Table 11 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

	51					
	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			
	erall assessment of consent complianc s consent	High				
Ov	erall assessment of administrative perf	High				

N/A = not applicable

Table 12 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	No discharge during period under review	N/A
3.	No chemicals or agents to be discharged without approval	No discharge during period under review	N/A

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?		
4.	No effects in receiving water	No discharge during period under review	N/A		
5.	Contingency plan	Plan current	Yes		
6.	Review/change of consent to take account of operational requirements	Consent expired 1 June 2018	N/A		
7.	Review of consent	Consent expired 1 June 2018	N/A		
	Overall assessment of consent compliance and environmental performance in respect High of this consent				
Ov	erall assessment of administrative perf	formance in respect of this consent	High		

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)

N/A = not applicable

Table 13 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	Compliance
	condition requirement	review	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
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

Condition requirement	Means of monitoring during period under review	Compliance achieved?
 Limit on maximum ground level concentration of benzene 	Air quality monitoring	Yes
 Limit on maximum ground level concentration for other contaminants 	Air quality monitoring	Yes
 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
 Maintenance of log of continuous flaring incidents 	Site inspections, records kept by consent holder, and liaison with consent holder	Yes
 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
•	ce and environmental performance in respect	High
of this consent Overall assessment of administrative per	formance in respect of this consent	High

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

N/A = not applicable

Table 14 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
3.	Structures to be removed and area reinstated when no longer required	Currently operational	N/A

	elines in, under and over the foreshore and seab spring and the outer limit of the territorial sea	ed in the coastal
Condition requirement	Means of monitoring during period under review	Compliance achieved?
4. Review of consent	No further option for review prior to expiry	N/A
Overall assessment of consent compliand this consent	ce and environmental performance in respect of	High
Overall assessment of administrative per	formance in respect of this consent	High

N/A = not applicable

Table 15 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	-	-
2018-19	0245-3, 0246-3, 4052-4, 5224-2	4	-	-	-
	1228-4	-	1	-	-
Totals		33	7	-	-

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 substantiated incidents recorded by the Council in relation to OMV's activities.

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

3.4 Recommendations from the 2018-2019 Annual Report

In the 2018-2019 Annual Report, it was recommended:

- 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.

Recommendation 1 was implemented. It was not found necessary to implement recommendation 2.

3.5 Alterations to monitoring programmes for 2020-2021

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 2020-2021 the monitoring programme remains unchanged from that of 2019-2020.

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 2020-2021.

4 Recommendations

- 1. THAT in the first instance, monitoring of consented activities at Maui Production Station in the 2020-2021 year continue at the same level as in 2019-2020.
- 2. THAT should there be issues with environmental or administrative performance in 2020-2021, 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:

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.
СО	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/m³	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.
NOx	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.
рН	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.
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/m³	

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

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Appendix I

Resource consents held by OMV Taranaki Ltd and M & O Pacific 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.

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

Consent Granted 11 October 2000 Date:

- 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 Okaweu Stream

- 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.

- 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

Name of Consent Holder:	Shell Todd Oil Service Private Bag 2035 NEW PLYMOUTH 43	
Decision Date (Change):	4 September 2013	
Commencement Date (Change):	4 September 2013	(Granted: 11 October 2000)

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

- 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.

- 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:

Contaminant	Concentration
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

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

Consent Granted 11 October 2000 Date:

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

- 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.

- 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>	Concentration
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

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)

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

- 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.

- 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.

- 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 μg m⁻³ [one-hour average exposure] or 125 μg 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 μg m⁻³ [twenty-four hour average exposure], or 200 μg 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 10 mg m⁻³ [eight-hour average exposure], or 30 mg m⁻³ one-hour average exposure] at or beyond the boundary of the property on which the production station flare is located.
- 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 beneze [10 μg m⁻³ [annual average exposure] from 2002 until 2010 and 3.6 μg 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

Name ofOMV Taranaki LimitedConsent Holder:Private Bag 2035New Plymouth 4340

- Decision Date: 10 March 1998
- Commencement Date: 10 March 1998

- 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

- 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