Mobil Oil New Zealand Limited

Application RM22.099

Decision Report
Otago Regional Council

3 February 2023

1.0 Introduction

1.1 Appointment

[001] Acting under delegated authority from the Otago Regional Council (ORC) I have been appointed to hear and decide an application for discharge permits lodged by Mobil Oil New Zealand Limited (Mobil) (RM22.099). Resource consent is required under section 15 of the Resource Management Act 1991 (RMA).

1.2 Background and ESA investigations

[002] The site in question is located at 199 Fryatt Street, Dunedin and is legally described as Lot 2, DP482844. It is owned by Chalmers Properties Limited. It is currently vacant and its proposed future use is continued commercial/ industrial use.[1]

[003] Mobil operated a bulk storage terminal at this site from 1927 until 1995. During this time, a variety of hydrocarbons were stored on site, including leaded and unleaded petrol, diesel, turpentine, kerosene, white spirits, and lubricant oils. The AEE[2] describes the nature of activities on the site. Fuels were delivered to the site either by ship via two above ground wharf lines (running from the Oil Wharf located 70m south-east of the site) that entered the south corner of the site (with a small length of the wharf lines running underground by the Fryatt Street boundary), or via a rail car loading/unloading facility located along the south site boundary. A diesel bunker line was also located within the wharf lines. Fuels and lubricants were hard piped from the site to the neighbouring Halsey Street facility via fuel lines that passed under Halsey Street.

[004] A large bunded tank compound containing up to seven large bulk storage tanks stored petrol, diesel, kerosene and slops. This tank compound occupied at least 80% of the area. Smaller vertical and horizontal tanks containing various contaminants were also located in this area.

[005] The western part of the site appears to have mainly comprised various pump manifolds that serviced properties and facilities. The south-east of the site contained a small tanker wagon fill station. Drum storage was located in the south-west corner of the site and drum filling is thought to have occurred close to the midway point of the site's western boundary.

[006] A review of the site's history indicates the key sources of hydrocarbon and/ or solvent contamination to comprise:

a. Bulk storage tank compound – bulk tanks and oil-water separator
b. Rail siding along Fryatt Street boundary
c. Drum filling plant approximately halfway along Halsey Street boundary
d. Drum storage in western part of site
e. Tanker wagon fill station in southern corner of site.

[007] The storage, use or testing of Class B fire-fighting foams containing poly-fluorinated alkyl substances (PFAS) on the site is unlikely but cannot be discounted.

[008] The bulk storage facility was progressively decommissioned between 1995 and 2007. Environmental site assessment (ESA) works at and around the site were completed between 1992 and 2017. These were undertaken in an iterative manner. The AEE notes that the initial ESA investigations focused on establishing the nature of the on-site impacts to soil and groundwater. Recent investigations have focused on assessing the extent of residual Light Non-Aqueous Phase Liquid (LNAPL) and characterising the presence, stability and attenuation of dissolved phase hydrocarbons both on and off site.[3]

[1] AEE, prepared by Golder Associates (NZ) Limited and dated February 2022, section 2.1
[2] AEE, section 3.4
[3] AEE, section 1.2.1

[009] The detail of the ESA investigations was set out in the AEE and addressed in the evidence of Mr Andrew Hart, Mobil's contamination expert.[4] Mr Hart set out the extent of the ESA investigations and their key findings. I summarise his key points as follows:

a. Environmental setting: The former Mobil terminal is located in an industrial area of Dunedin and is surrounded by commercial/ industrial land uses, including a bulk fuel storage terminal. Otago Harbour is approximately 60m to the south-east. The former Mobil terminal is located adjacent to the upper harbour basin which comprises a highly modified environment. The ESA work concluded that the groundwater would not be classified as sensitive. The former Mobil terminal was located on reclaimed land comprising fill made up of gravel and sand and marine sediments. A shallow unconfined aquifer is present within the fill material with groundwater present at depths of approximately 0.45m and 3.0m bgl. Little or no tidal influence was shown within the confines of the former Mobil terminal.

b. Soil quality: Petroleum hydrocarbon impacted soil was identified primarily in the south-west of the former Mobil terminal. The Closure Report (2019) included an assessment of concentrations of petroleum hydrocarbons in on-site soils with Ministry for the Environment (MfE 2011) commercial/ industrial Tier 1 acceptance criteria. Some exceedances were measured, primarily in the area of the former tank farm and toward the southern corner of the site, some of which were related to specific criteria for the protection of excavation workers based on the inhalation pathway. The exceedances were present in soils between 1.0m and 4.0m bgl including in soils located below the groundwater table. A limited number of exceedances of the indoor inhalation pathway were also identified.

c. LNAPL extent and stability: LNAPL is present in several monitoring wells located across the southern half of the former Mobil terminal. This is mostly diesel with some petrol. It is considered likely this does not comprise one single continuous layer, but rather smaller discontinuous LNAPL pockets with varying saturations. The lateral extent of LNAPL is continuing to contract over time. It is not considered to be mobile and does not pose a risk of migration towards or discharge into Otago Harbour.

d. Dissolved phase contaminants: Dissolved TPH, BTEX and naphthalene are present in groundwater beneath the former Mobil terminal site and off-site beneath Fryatt St and to a lesser extent Halsey St. These are below MfE (2011) Tier 1 acceptance criteria based on the indoor air inhalation pathway. Some contaminants have been located in a limited number of off-site monitoring wells within Fryatt St. Importantly, the monitoring wells immediately adjacent to Otago Harbour were below the adopted ANZG[5] (2018) guideline values. Given the decreasing trends and the relatively short impacts, the dissolved phase hydrocarbons were considered unlikely to migrate beyond the current extent and are unlikely to pose a future risk to Otago Harbour.

[010] The AEE notes that the ESA works have formed the basis for development of a Conceptual Site Model (CSM) and provide a detailed understanding of the extent of residual impacts to soil, groundwater and soil vapour and the associated risks to human health and the environment. A detailed understanding of the stability and attenuation of residual LNAPL and dissolved phase hydrocarbons has also been developed through the ESA works.[6]

[011] Based on the findings of the ESA works, and an assessment of the risks, Mobil has applied for resource consents from Otago Regional Council (ORC) for the ongoing discharge of residual petroleum hydrocarbon impacts onto or into land from the site and any discharges which may result in the hazardous waste entering water. Mobil has proposed a round of monitoring in the form of an environmental site assessment in year

[4] Evidence of Andrew Hart, paragraphs 14-21

[5] Mr Hart noted the assessment of groundwater quality presented in the 2019 ESA and Closure Reports was based on the ANZECC (2000) trigger values. The ANZG (2018) guidelines have superseded the ANZECC (2000) trigger values.

[6] AEE, section 1.2.1

8 or 9 of the consent to reassess the site conditions and to evaluate whether a renewal of the resource consents will be required.

1.3 Discussions with ORC

[012] The AEE records engagement between Mobil and the ORC in recent months.[7] In support of its exit from the property, Mobil commissioned a Closure Report, with the purpose of establishing that no further action was required in respect of the residual discharge at the site and that risks to human health could be managed through regulatory controls, meaning ongoing monitoring was not necessary. The Closure Report, along with the ESA report, were submitted to ORC in August 2019 and were discussed with Mr Simon Beardmore, ORC's Contaminated Land Officer at the time. ORC review comments resulted in a revised Closure Report being submitted in December 2019.

[013] Mobil then applied to ORC seeking written notice that the discharge met the requirements of section 87BB of the RMA, and based on an analysis of the relevant regulations, could be considered a deemed permitted activity. ORC declined this request. Through the application lodged, Mobil sought that ORC consider the overall intent of the Resource Legislation Amendment Act 2017 (RLAA17) which incorporated section 87BB into the RMA and consider using its discretion provided in accordance with section 87BB(1) of the RMA. It appears this approach may have also been declined and the application proceeded to be considered through a hearing.

2.0 Process matters

2.1 Written approvals, notification, submissions and pre-hearing meeting

[014] A written approval was provided by Chalmers Properties Limited, as the owner of the site. Chalmers Properties Limited will be responsible for implementing the on-site EMP.

[015] The AEE records that Mobil met with Dunedin City Council (DCC) in November 2019 to discuss the findings of the ESA works undertaken at the site and adjacent off-site land and the associated risks with respect to the road reserve around the site. DCC was provided with a copy of the off-site Environmental Management Plan (EMP). As a result of these discussions, DCC integrated a management layer in its GIS system with respect to the residual petroleum hydrocarbon impacts in the road reserve around the site. This triggers a notification to a party proposing to undertake disturbance works as part of the approval to work process and provides a link to the EMP.[8]

[016] ORC made an interim decision on 17 August 2022 to process the application on a non-notified basis provided the unconditional written approval of Dunedin City Council (DCC) could be obtained. As this could not be obtained, the application proceeded to limited notification to DCC. The application was not limited notified to any other person.[9] DCC lodged a submission in opposition to the proposal, requesting that the application be declined based on two matters:

a. Concerns that contaminated groundwater could enter aging stormwater pipes located below Halsey Street and then discharge into Otago Harbour;
b. The financial impacts on DCC resulting from the responsibility placed on it to manage future works within the road reserve in accordance with the EMP.

DCC also raised consent conditions for consideration.

[7] AEE, section 1.2.2
[8] AEE, section 4.6
[9] Section 3.1, Table 2 of the section 42A report noted that as it was determined adverse effects on water quality, including water quality within Otago Harbour, would be less than minor, and the extent of contamination was shown to be decreasing over time, Aukaha were not considered to be an affected party. The application was therefore not notified to Aukaha.

[017] A pre-hearing meeting was held on 26 October 2022. It was attended by representatives of Mobil, ORC and DCC and was chaired by Independent Commissioner Allan Cubitt. The pre-hearing meeting was adjourned on the basis that Mobil and DCC would meet with relevant technical experts to discuss a resolution. On 17 November 2022 Mobil advised that a resolution had not been reached and requested that the application proceed to a hearing. I have been provided with Mr Cubitt's report of the pre-hearing meeting.[10]

2.2 Hearing

[018] A hearing was scheduled for Monday 30 January 2023, to be held at the Edgar Centre in Dunedin. Mobil's expert evidence[11] was lodged in accordance with the timetable outlined in Minute 1, on 16 January 2023. This evidence focused on the application, the technical assessments and a comprehensive response to the points made by DCC in its submission and the discussions that followed. As the s42A report was agreed with, Mr Hart's evidence did not particularly address the statutory documents, most of these having been covered in the AEE.

[019] DCC's expert evidence was due to be lodged on 23 January 2023 but no such evidence was received by ORC. On the morning of 26 January 2023 I received a Memorandum of Counsel on Behalf of DCC dated 25 January 2023 advising agreement had been reached with Mobil on conditions and this was the reason for no evidence being lodged by DCC. On the basis of the amendments detailed in the Memorandum, DCC withdrew its submission.

[020] I issued a Minute[12] acknowledging receipt of DCC's Memorandum and requested Mobil to continue to lodge its legal submissions as timetabled and also requested the Council's reporting planner to comment on the agreement reached. On the afternoon of 26 January 2023, I received legal submissions from counsel for Mobil confirming the amendments sought by DCC were agreed by Mobil. The legal submissions attached an updated set of conditions and an updated off-site Environmental Management Plan (EMP). Counsel for Mobil also submitted that given the extent of agreement reached between the parties, the Commission had sufficient information to grant consent for the discharge and that the hearing could be vacated. However, Mobil and its representatives remained available to attend the scheduled hearing in the event I had questions for Mobil.

[021] Later that afternoon I received a Supplementary Report from Council's processing planner, Ms Shay McDonald, stating she agreed to the amendments sought by DCC and the updated documents provided by Mobil.

[022] Having reviewed all documents tabled by Mobil, DCC and Ms McDonald, I issued a further Minute[13] advising that on the basis of the information received and the extent of agreement between the experts, I was satisfied the hearing could be vacated and that I would proceed to make my decision on the papers. Any questions would be forwarded to the parties in writing or be discussed via a Zoom call. The same Minute included some questions on the documents lodged on 26 January 2023. Responses to those questions were received on 30 and 31 January 2023 respectively.

[023] On 2 February 2023 I requested the Council to advise the parties that I had sufficient information to make a decision and the process was closed.

[024] I did not undertake a site visit as I had not travelled to Dunedin for the hearing. However, I am familiar with the area of the site, having lived in the region for several years and having moved away only recently.

[025] The conditions and EMP agreed by all parties are discussed later in this Decision.

[10] Pre-hearing report from Allan Cubitt dated 23 November 2022
[11] Statement of Evidence of Andrew Hart
[12] Minute 2
[13] Minute 3 issued the morning of 27 January 2023

3.0 Section 42A Report and Consents required

[026] A s42A Report was prepared by Ms McDonald. She recommended that the application be granted consent subject to conditions. The s42A Report set the background for the application, provided a description of the site and surrounding environment (including consented activities in close proximity to the site), summarised the key issues and addressed the environmental effects and plan provisions. The report attached an expert report from e3 scientific, a statement of evidence from Mr Simon Beardmore (now of e3 scientific) and a draft set of conditions. As noted above, a further brief report was received on 26 January 2023.

[027] There was no dispute that two resource consents are required:

a. A discharge permit for the discharge of hazardous waste onto or into land in circumstances that may result in that hazardous waste entering water, pursuant to Rule 5.6.1(3) of the Regional Plan: Waste (discretionary activity);
b. A discharge permit for the discharge of any hazardous waste to water or onto or into land in circumstances which may result in that substance entering water, pursuant to Rule 12.B.4.2 of the Regional Plan: Water (discretionary activity).

[028] Overall, the application is to be assessed as a discretionary activity and is to be assessed under section 104 of the RMA..

[029] In her s42A report, Ms McDonald identified three key issues:[14]

a. Long-term passive discharge of hazardous substances into soil and groundwater;
b. Potential for hazardous substances to be discharged into Otago Harbour directly via groundwater or indirectly via leaching into stormwater pipes;
c. Long-term responsibilities imposed upon DCC.

[030] Ms McDonald's report set out the additional information sought from the Applicant pre-notification and post-notification. The pre-notification request sought details on the historic use of the site, proposed future monitoring and updates to the EMPs. The post-notification request sought information related to stormwater monitoring data and data related to measurements of volatile organic compounds from stormwater manholes, and an assessment of effects on Otago Harbour relating to the potential discharge of hazardous substances to the Otago Harbour. This particular request was in response to matters raised by DCC in its submission.[15]

3.1 Actual and potential effects on the environment of allowing the activity – section 104(1)(a)

Permitted baseline

[031] When forming an opinion for the purposes of section 104(1)(a) of the RMA I may disregard an adverse effect of an activity on the environment if a national environmental standard or a plan permits an activity with that effect.[16] As Ms McDonald noted in her report, neither the Regional Plan: Waste nor the Regional Plan: Water provide for this type of discharge as a permitted activity. The permitted baseline is therefore not applicable.

Receiving environment

[032] The receiving environment was outlined in the AEE and the s42A Report. It includes permitted activities under the relevant plans, lawfully established activities (existing use rights or resource consents) and any unimplemented resource consents that are likely to be implemented. A number of industrial activities are operating in the site's vicinity including Z Energy's site, which is subject to a discharge permit authorising the discharge of hazardous substances to land in circumstances that they may enter water for a duration of

[14] Section 42A report, page 5
[15] Section 42A report, pages 5 and 6
[16] Section 104(2) of the RMA.

35 years from 203 Fryatt Street (RM12.312.01). This permit expires in 2048. Z Energy also holds a discharge permit for the passive discharge of contaminants to land, which expires in 2054 (RM15.367.01).

Potential Risk from Contaminant Exposure

[033] The AEE[17] outlined the relevant exposure pathways, noting a complete pathway must exist between the source of contamination and the receptor. Where the contaminant pathway is incomplete, there is no exposure and therefore no risk via that pathway. As noted in Table 6 of the AEE, the pathways discussed are potentially complete.

[034] Under the heading Current/ Future site Use, the commercial/industrial use is subject to four pathways – soil ingestion, dermal absorption, maintenance/ excavation, inhalation (water) and inhalation (soil). The heading Off-site Use identifies commercial/ industrial uses as being subject to five exposure pathways – maintenance/ excavation, inhalation (soil), inhalation (water), groundwater use and discharge to ecosystems.

[035] Table 6 of the AEE identified who would be exposed to the various potentially complete pathways[18], as follows:

a. Soil:
    i. Inhalation – construction/ excavation workers on-site and off-site;
b. Groundwater- discharge to aquatic ecosystem – marine ecosystem off-site;
c. Soil Vapour
    i. indoor air inhalation – commercial/ maintenance workers on-site;
    ii. outdoor air inhalation – construction/ excavation workers on and off site.

Effects on human health

[036] The on-site and off-site risks to human health are identified above. The on-site risks concern vapour intrusion into future buildings on the site and risks to workers undertaking sub-surface excavation works on the site. The potential exposure risk is through inhalation, dermal contact or ingestion of contaminants. The off-site risks are associated with workers undertaking sub-surface excavation works within the Fryatt and Halsey Street road reserves. The potential exposure route is through inhalation, dermal contact or ingestion of contaminants.

[037] The AEE noted:[19]

> *"The use of soil and groundwater management best practices at the site should enable the site to be used for continued commercial/ industrial land use (consistent with the underlying zoning) with minimal limitations to normal operation of the site. Future buildings may need to consider the use of a vapour barrier to limit the potential for vapour migration from sub-surface soils and groundwater into indoor air."*

[038] Mr Hart's evidence addressed the risks associated with direct contact with contaminants, risks to excavation workers and vapour intrusion risks.[20] I summarise his points as follows:

a. Direct contact: The ESA works identified soil petroleum hydrocarbon concentrations exceeding MfE (2011) Tier 1 All Pathways acceptance criteria. The exceedances were indicated in shallow soils less than 1 m bgl primarily for the protection of excavation workers via vapour inhalation. There were no identified exceedances of the dermal, soil ingestion and outdoor inhalation pathways, there were was no unacceptable risk associated with direct contact with shallow soils above the groundwater table. He considered that typical maintenance workers were unlikely to

[17] AEE section 4.3
[18] Table 6 AEE noted there were no complete pathways. The pathways identified as potentially complete were assessed as carrying acceptable risk. Table 6 also identified the incomplete pathways and those pathways that were not applicable and no further assessment was required.
[19] AEE section 4.4
[20] Evidence of Andrew Hart, paragraphs 40-48

contact hydrocarbon impacted soils but acknowledged there was potential for unexpected discovery. There was therefore an obligation to inform workers of this potential hazard.

b. Excavation workers: The majority of petroleum hydrocarbon exceedances in soil were identified deeper than 1 m bgl, below the groundwater table. The exposure route for the majority of exceedances relates to volatisation and the inhalation of petroleum hydrocarbon vapours. The criteria against which the risk assessment had been modelled provided a conservative approach to assessing risks to human health. Workers conducting deeper excavation below the water table needed to prepare an appropriate work plan incorporating measures to mitigate risks to health, safety and the environment and considering data available of the locations to be excavated based on the ESA or through collection of additional data. The majority of exceedances were detected in soils below 1.0 m, therefore direct exposure to these concentrations would likely trigger confined space entry requirements and specific health and safety requirements under relevant legislation including the requirement to undertake appropriate air monitoring.
c. Vapour Intrusion: LNAPL in the south-west corner of the site is a source of soil vapour, and may present a risk to indoor air of newly constructed buildings where LNAP occurs. Monitoring to date has shown the chemicals of interest are below MfE (2011) target soil concentrations for the protection of indoor air quality. Mr Hart considered the risk to indoor air could be managed through appropriate consideration in building design such as ventilation or use of a vapour barrier, depending on the building use and location with respect to the groundwater impacts.

[039] Mobil proposed that risks be adequately managed through controls proposed in off-site and on-site EMPs. This was supported by Mr Beardmore and Ms McDonald for the Council. DCC and Mobil agreed a set of changes to the off-site EMP, which were also accepted by the Council. In particular, these addressed:

a. The requirement for the EMP to be adhered to not only during any future redevelopment or subsurface maintenance activities, but also during infrastructure related activities off-site such as roading activities, utility service installation etc;
b. Reference to the document Worksafe March 2020 – Confined spaces: planning entry and working safely in a confined space;
c. Changes to the national exposure limits for H2S; and
d. The inclusion of requirements for the disposal of surplus soil.

[040] On the basis of the mitigation proposed, the Applicant and the Council considered the adverse effects on the health of future users would be less than minor. I agree. The further changes proposed by DCC and accepted by both Mobil and the Council strengthen that mitigation.

Effects on the environment

[041] The potential pathways affecting water quality were identified in the CSM as the migration of impacted groundwater from the site towards Otago harbour and associated marine ecosystems, and the leaching of PFAS into groundwater, and then into Otago Harbour and associated marine ecosystems.

[042] In his evidence, Mr Hart made the following findings:

a. LNAPL is present in several monitoring wells located across the southern half of the site. The lateral extent of LNAPL is continuing to contract over time.[21]
b. Dissolved phase contaminants are present in groundwater beneath the site and off-site to the south beneath Fryatt Street and to a lesser extent Halsey Street. Monitoring of these shows a decreasing trend. The dissolved phase contaminants are also being attenuated through biodegradation. In Mr Hart's opinion, the dissolved phase contaminants are unlikely to migrate beyond the current extent and are unlikely to pose a future risk to the Otago Harbour.[22]
c. Two stormwater lines within DCC's stormwater network are located beneath Halsey Street adjacent to the Site. Risks to these stormwater lines had been assessed. It was Mr Hart's opinion that, on the basis of the measured groundwater wells adjacent to the stormwater lines, there is

[21] Evidence of Andrew Hart, paragraphs 34 and 35
[22] Evidence of Andrew Hart, paragraphs 36, 39 and 51

no evidence that the stormwater lines are acting as a groundwater sink and preferential pathway for the migration of petroleum hydrocarbon impacted groundwater from the site.[23] As noted by Mr Hart, in response to concerns raised by DCC in its submission, Mobil commissioned further stormwater sampling in December 2022, which showed petroleum hydrocarbons were below the adopted ANZG (2018) marine guideline values in samples collected.[24]

d. Available information on per-and polyfluoroalkyl substances ("PFAS") suggests the application of Class B foams at the site would have been limited. The information indicated a low potential for soil and groundwater contamination to be present at levels likely to result in adverse environmental effects. In Mr Hart's opinion, the potential PFAS impacts could be managed through the EMP.[25]

[043] As noted by Mr Beardmore in his evidence[26], the investigations have shown natural attenuation is occurring. These processes limit the extent of contaminant migration from the site and over time reduce the spatial extent of groundwater affected by contamination. They also decrease the mass of contaminants in the source area and in the surrounding groundwater.[27] Mr Beardmore was confident the plume could be expected to continue to shrink and the volume and extent of LNAPL to reduce over time. He noted groundwater is not considered sensitive to abstractive uses. There are no registered bores or ORC consents for groundwater abstraction within 1.5km of the site. He considered unregistered groundwater abstraction near the site to be unlikely, given the proximity to Otago Harbour and tidally influenced groundwater and availability of a reticulated supply. He considered the likelihood of people or ecological receptors to contaminants in groundwater to be low.[28]

[044] However, if during construction activities dewatering of excavations in the area was required, and pumped water was discharged without sufficient treatment to the stormwater network or directly to the harbour, this could result in unacceptable adverse environmental effects. He noted that there were protocols in the off-site EMP to prevent this from occurring.[29] Overall, he considered that adverse effects on groundwater would be low.[30]

[045] The AEE[31] noted that naphthalene concentrations exceeded the ANZECC (2000) trigger value for the protection of marine ecosystems in groundwater on and off the site. However, the off-site locations were limited to a portion of land extending from the southern end of the site. It was not detected above the laboratory LOR in the relevant monitoring well located between well BH49 and Otago Harbour. The naphthalene concentrations were not considered likely to present a risk to marine ecosystems in Otago Harbour.

[046] Mr Beardmore's opinion was that, based on the measured concentrations of contaminants in groundwater, the measured rate of attenuation over distance, and dilution available at the Otago Harbour, it is highly unlikely that measurable concentrations of contaminants are entering the harbour. He considered the adverse effects associated with the direct discharge of contaminants to the harbour to be less than minor.[32]

[047] As regards effects on the DCC stormwater network, Mr Beardmore considered that based on the measured concentrations of contaminants in groundwater adjacent to the relevant stormwater lines, the likely low rate of infiltration, the anticipated rate of continued attenuation over time and the harbour's dilution, the adverse

[23] Evidence of Andrew Hart, paragraphs 68-87
[24] Evidence of Andrew Hart, paragraph 83, referencing a document dated 12 January 2023 prepared by WSP Golder titled "Former Mobil Dunedin Terminal – Sampling of Halsey Street Stormwater Network" and identified as Project No 20449679-009-L-Rev0
[25] Evidence of Andrew Hart, paragraphs 59-61
[26] Mr Beardmore's evidence was dated 2 December 2022 and attached to the Section 42A Report as Appendix 3
[27] Evidence of Simon Beardmore, paragraphs 14 and 15
[28] Evidence of Simon Beardmore, paragraphs 17, 29-37
[29] Evidence of Simon Beardmore, paragraphs 19, 36
[30] Evidence of Simon Beardmore, paragraph 37
[31] AEE section 4.4
[32] Evidence of Simon Beardmore, paragraphs 19, 38-42

effects associated with the infiltration to the DCC stormwater lines and indirect discharge of contaminants to the harbour would be less than minor.[33]

[048] On the basis of the expert assessments undertaken, Ms McDonald was satisfied that adverse effects on the environment, in particular water quality, were less than minor. I agree.

Effects on cultural values

[049] Mobil did not provide an assessment of cultural values. For the Council, Ms McDonald noted that the site is not a known site of cultural significance. Based on the expected level of effect on water quality, in particular on water quality within Otago Harbour, Ms McDonald concluded that adverse effects on cultural values would be less than minor.

[050] The application was not publicly notified or limited notified to iwi and no written approval appears to have been sought from iwi. It is therefore difficult to make a finding that effects on cultural values would be less than minor as it is not for me to make such a determination without evidence. What I can say is that, based on the assessments provided, effects on water quality, including effects on the water quality of Otago Harbour, would be less than minor.

Cumulative effects

[051] In her report, Ms McDonald noted adverse cumulative effects can occur due to ongoing impacts of an activity or as a result of several similar activities occurring within the same catchment. She noted Z Energy's consented discharge of similar contaminants on its nearby site and also noted that almost all sites within the area are identified on the HAIL register. Ms McDonald quoted Mr Beardmore's statement contained within his technical report:[34]

> "…Based on the demonstrated attenuation of contaminant concentrations, it is unlikely that measurable concentrations of contaminants are entering the receiving water and the contribution to cumulative effects within the harbour would be negligible."

[052] Based on that expert opinion, Ms McDonald concluded that adverse cumulative effects on the harbour would be less than minor.

[053] In reliance on the expert assessments undertaken, I agree.

Positive effects

[054] I agree with Ms McDonald that the positive effect of this proposal is the identification and management of the ongoing effects of a previously unassessed historic industrial activity.

Overall findings on effects

[055] In light of the expert assessments undertaken and addressed above, and on the basis of the conditions of consent and EMPs now proposed and agreed, I find that the effects of the proposal are no more than minor and can be suitably avoided, remedied, mitigated or offset by the imposition of appropriate conditions of consent. The one exception to this is any effects on cultural values, which were not assessed other than with general reference to water quality effects, due to a lack of evidence.

3.2 Section 104(1)(b)

National environment standards and other regulations

[056] Ms McDonald noted the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) do not apply as they do not deal with regional council functions under section 30. She noted any future disturbance of the contaminated area may require resource consent from DCC under the NESCS.[35]

[33] Evidence of Simon Beardmore, paragraphs 20, 43-55
[34] Quoted at page 15 of the Section 42A Report
[35] Section 42A report, section 6.3.5

National policy statements

[057] I am not aware of any national policy statement being relevant to my consideration of this application other than the National Policy Statement for Freshwater Management 2020 (NPSFM).

[058] Ms McDonald comprehensively addressed the NPSFM in her section 42A Report[36], noting the Applicant had not provided an assessment against the NPSFM in lodging the application. Ms McDonald considered the NPSFM did apply, given the application involved impacts on groundwater and potential flow-on impacts to the coastal marine area. I agree.

[059] The national objective for future freshwater management is as follows:[37]

(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:

a. First, the health and well-being of water bodies and freshwater ecosystems

b. Second, the health needs of people (such as drinking water)

c. *Third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future*.

[060] Ms McDonald considered the proposal to be consistent with this objective, noting the current and reasonably anticipated future impacts of the residual contamination and ongoing passive discharge will not result in unacceptable effects on the environment or persons. These conclusions are supported by monitoring data.[38]

[061] The national objective is supported by a number of policies, which Ms McDonald set out in her report. Perhaps the most relevant of these is Policy 15: *Communities are enabled to provide for their social, economic, and cultural well-being in a way that is consistent with this National Policy Statement*. Ms McDonald opined that the passive management strategy adopted by the Applicant, along with the EMPs, will enable the site owner, Chalmers Properties Limited, and the authority responsible for the affected road reserve, namely DCC, to provide for their social, economic and cultural wellbeing in a way that is consistent with the NPS. In its submission, DCC had contended that the contamination and resulting obligation to implement the controls in the EMP when undertaking works within the road reserve would have a significant financial effect on the Council, with flow on effects to DCC ratepayers. DCC had not quantified this impact. In response, Ms McDonald noted that the road reserve is contaminated in any event and the contamination will need to be managed when undertaking works there, irrespective of the contamination source.

[062] As already noted, DCC eventually resolved its concerns through agreed amended conditions and an amended EMP.

Regional policy statements

[063] The s42A report noted that the Regional Policy Statement for Otago (RPS) 1998 has been revoked and the Partially Operative Regional Policy Statement for Otago (PORPS) was made partially operative on 14 January 2019 (PORPS 2019). Since then, a number of appeals have been resolved through the Environment Court. On 15 March 2021 the Council approved and provided notice for these further provisions to be added to the PORPS. The provisions that are still subject to Court proceedings and have not been made operative are Policy 4.3.7 (significant infrastructure) and specific methods of Chapter 3. Ms McDonald noted that none of the remaining proposed provisions are applicable to the application, therefore full weight can be provided to the PORPS.

[064] Ms McDonald's report noted that on 26 June 2021 the ORC notified the proposed Otago Regional Policy Statement (PRPS). This gives effect to the NPSFW and includes freshwater provisions. On 30 September 2022 ORC notified the freshwater instrument components of the ORPS that was originally notified in June 2021. This therefore forms part of the assessment.

[36] Section 42A report, section 6.3.1
[37] Part 2 NPSFM
[38] Section 42A Report page 17

[065] Both the AEE and the s42A report addressed the relevant provisions of the documents referred to. The Applicant considered the application was consistent with the provisions. In her assessment of the application against the PORPS 2019, Ms McDonald noted that the Applicant had not shown that the application recognised or provided for relevant Kai Tahu uses or values but she also recognised that the ongoing passive discharge was not expected to negatively impact the life-supporting capacity of groundwater and the Otago Harbour. In that regard, Ms McDonald considered the application was inconsistent with Policy 2.2 and partially consistent with Policy 2.2.1. She otherwise considered the application to be consistent with the PORPS 2019. I agree with Ms McDonald's assessment of the PORPS 2019 provisions.

[066] In her s42A report, Ms McDonald also set out the relevant provisions of the PORPS 2021 and Proposed Otago RPS – Freshwater Instrument Components 2021 (notified September 2022) (FW Components 2021). She considered the application to be consistent with these provisions. The Applicant did not include an assessment against these provisions. The FW Components 2021 first of all require that Te Mana o te Wai is given effect to and that freshwater is managed so as to prioritise:[39]

- The health and wellbeing of water bodies and freshwater ecosystems, te hauora o te wai and te hauora o te taiao and the exercise of mana whenua to uphold these;
- The health and wellbeing needs of people, te hauora o te tangata; interacting with water though ingestion and immersive activities; and
- The ability of people and communities to provide for their social, economic and cultural wellbeing, now and in the future.

[067] In making decisions under this part of the RPS, unless the document expressly states otherwise, I am required to do three things:[40]

- Secure the long-term life-supporting capacity and mauri of the natural environment;
- Promote the health needs of people; and
- Safeguard the ability of people and communities to provide for their social, economic, and cultural wellbeing, now and in the future.

[068] I was not directed to any other provisions that would exempt these considerations. On the basis of the technical assessments and the mitigation proposed, I am satisfied that the application gives effect to most, but not quite all, of the components of Te Mana o te Wai and is generally consistent with the freshwater management framework outlined in the NPSFM and reproduced in the FW Components 2021. I have no evidence before me to confirm that mana whenua can uphold the matters outlined and exercise rakatirataka, manaakitaka and their kaitiakitaka duty of care and attention over wai and all the life it supports, as raised by LF-WAI-O1(5). In that regard, I find the application is partially consistent with these provisions. I am satisfied that the three matters in IM-P2 are met.

[069] Ms McDonald's report also fully set out the following provisions of the FW Components 2021 – LF-VM-07, LF-WAI-P3, LF-VM-05, HAZ-CL-03, HAZ-CL-P13, HAZ-CL-P14 and HAZ-CP-P15. Her assessment was that the application was consistent with all of these provisions, primarily because of the technical assessments undertaken, the fact that attenuation was occurring and was expected to continue to occur, no new discharges were proposed and the existing discharge was being managed. I agree with Ms McDonald's assessment, other than one provision concerning iwi raised in LF-VM-O5(2), on which I have no specific evidence.

[070] Having noted the partial consistency with the said provisions due to a lack of evidence on iwi matters, I do note that the technical assessments outlined earlier in this Decision confirm the low level of effect on water quality including the Otago harbour, and on the health of people.

[39] LF-WAI-O1 and LF-WAI-P1
[40] IM-P2

Regional Plans

[071] There are two regional plans relevant to the application.

Regional Plan: Water for Otago

[072] Section 5.3.4 of the AEE and Section 6.3.3 of the s42A report set out the relevant provisions of the Regional Plan: Water for Otago. In particular, I note that Objective 7.A.2 states:

> *"To enable the discharge of water or contaminants to water or land, in a way that maintains water quality and supports natural and human use values, including Kai Tahu values."*

[073] Objective 7.A.3 requires individuals and communities to manage their discharges to reduce adverse effects, including cumulative effects, on water quality. Policy 7.B.3 allows discharges of water or contaminants to Otago lakes, rivers, wetlands and groundwater that have minor effects or that are short-term discharges with short-term adverse effects. Policy 7.B.4 requires that when considering any discharge of water or contaminants to land, regard is had to the ability of the land to assimilate the water or contaminants, any potential soil contamination, any potential land stability, any potential adverse effects on water quality and any potential adverse effects on use of proximate coastal marine area for contact recreation and seafood gathering. These parts of Policy 7.B.4 are conjunctive, meaning all must be considered.

[074] Policy 7.C.2 addresses the matters to have regard to when considering applications for resource consent to discharge contaminants to water, or onto or into land in circumstances which may result in any contaminant entering water. These are:

a. The nature of the discharge and the sensitivity of the receiving environment to adverse effects;
b. The financial implications, and the effects on the environment of the proposed method of discharge when compared with alternative means; and
c. The current state of technical knowledge and the likelihood that the proposed method of discharge can be successfully applied.

[075] The AEE also included an assessment against Objective 9.3.3 and Policy 9.4.1. Objective 9.3.3 seeks to ensure that the existing groundwater quality of Otago's aquifers is maintained to provide for the existing and potential uses of water. Policy 9.4.1 states that in managing any activity involving the use of contaminants, the suitability of aquifers to support the recognised uses of groundwater identified in Schedule 3 should be maintained. The AEE noted that the site and associated discharge are not located within any groundwater protection zone identified in the Regional Plan: Water or within the vicinity of aquifers specified under Schedule 3. Further, the continued use of the land for commercial/ industrial purposes and the natural attenuation of hydrocarbons, along with the implementation of the EMPs, would ensure that significant adverse effects on the environment would not occur and the existing groundwater resource is maintained. No registered groundwater abstractions for potable, irrigation or stock water use purposes are located within 1.5km of the site. Registered wells are mainly used for monitoring or geological investigation purposes. The AEE also noted that any unregistered potable abstractions were considered unlikely given the proximity of Otago Harbour (low groundwater quality) and the presence of a reticulated supply in the vicinity of the site. The impacted groundwater resource was not considered to be sensitive or adversely affected.

[076] The AEE concluded that the application was consistent with the provisions of the Regional Plan: Water. Ms McDonald was also satisfied that the application was consistent with the stated objectives and policies she had assessed, given the ongoing passive discharge would not result in unacceptable adverse effects on the environment, in particular water quality, or on persons. She noted the attenuation processes occurring which are expected to continue to occur. This will result in the gradual decrease in contaminant concentrations in groundwater. She noted Mr Beardmore's expert assessment considered the discharge to be appropriate.

[077] I accept both assessments and find the application is generally consistent with the Regional Plan: Water for Otago.

Regional Plan: Waste

[078] Section 5.3.3 of the AEE and Section 6.3.4 of the s42A report set out the relevant objectives and policies of the Regional Plan: Waste.

[079] In summary, these provisions require that adverse effects of contaminated sites are avoided, remedied or mitigated[41]; further site contamination is avoided[42]; Kai Tahu's relationship with the region's natural and physical resources are recognised and provided for through a variety of means[43]; contaminated sites in the region are located and investigated[44]; contaminated sites are to be contained and remediated to the extent that is practicable having regard to the use to which the land is to be put[45], and preparing and maintaining a contaminated site register[46]. Policy 5.4.4 outlines the requirement to apply the ANZECC (1992) guidelines to identify the most appropriate course of action for a particular contaminated site.

[080] The AEE focused on the avoidance, remedying or mitigating of adverse effects of a contaminated site and referred to the ANZECC (1992) guidelines which support the implementation of a risk-based decision-making process for the management of contaminated land. The AEE stated the ANZECC (1992) guidelines note that a fundamental goal is to "render a site acceptable and safe for continuation of its existing use". Further, where there is no threat to human health and the environment is not at risk, a management approach is acceptable particularly where further investment in site investigation and remediation will not result in a net benefit with respect to understanding and managing risks associated with residual contamination. The substantial ESA works had found that the petroleum hydrocarbons present on the site did not represent an unacceptable level of risk to human health based on continued commercial/ industrial use, aligning well with the intent of Policy 5.4.4. The AEE also noted that the majority of residual impacts are present below the groundwater table. The ESA works had shown that natural attenuation processes have occurred and are continuing to reduce the mass and extent of the contamination. Active remediation was therefore not considered warranted with respect to the risks posed. The management approach detailed in the application was the appropriate course. The requirement for future buildings on the site to consider the use of a vapour barrier was considered to adequately align with the intent of Policy 5.4.3.

[081] Ms McDonald considered the application was consistent with these objectives and policies. In doing so, she made no specific comment on how the application met Policy 5.4.1, directed at Kai Tahu. Like the Applicant, her assessment was based on the water quality assessments and site monitoring through the ESAs. Ms McDonald noted the potential adverse effect associated with the future use of the site and works on the site would be avoided or mitigated through implementation of the measures and controls outlined in the EMPs. No new discharges will occur on the site. Passive management was considered by the technical experts to be the appropriate method of site rehabilitation.

[082] I consider the application is consistent with the relevant objectives and policies of the Regional Plan: Waste, other than Policy 5.4.1, on which I received no assessment or evidence.

3.3 Section 104(1)(c) other matters

[083] Ms McDonald drew my attention to the Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP), noting that the Regional Plan: Waste was yet to be amended to take account of this Plan.[47] The Applicant did not include an assessment against this Plan in its AEE. Ms McDonald noted that the NRMP expresses the attitudes and values of four Rununga and set out the objectives and policies she considered the most relevant to this application. These require:

- Monitoring of all discharges to be undertaken on a regular basis and all information, including an independent analysis of monitoring results, to be made available to Kai Tahu ki Otago;

[41] Objective 5.3.1
[42] Objective 5.3.2
[43] Policy 5.4.1
[44] Policy 5.4.2
[45] Policy 5.4.3
[46] Policy 5.4.5
[47] Section 42A report, section 6.4.1

- Visible signage informing people of the discharge area, written in both Māori and English;
- Groundwater monitoring for all discharges to land.

[084] Both the Applicant and the Council did not consider additional monitoring in the short-term was warranted and noted the intention to undertake a round of monitoring through an ESA in year 8 or 9 of the term of the consent. Ms McDonald did not specifically address the NRMP's direction for monitoring results to be provided to iwi. She did not consider signage was required as the contamination is largely underground. The contamination status is described within the HAIL register.

[085] I accept that there is no need to undertake monitoring before Year 8 or 9, and have imposed Year 8 in the conditions, to be sure monitoring is undertaken well ahead of this consent's expiry. I agree that no signage is required given the location of the contamination. As I have no evidence on iwi matters, I can take that no further.

3.4 Section 105(1) matters

[086] Section 105(1) of the RMA states that where an application is for a discharge permit to do something that would otherwise contravene Section 15 or Section 15B of the Act regard must be had to certain matters, namely:

a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects;

b) the applicant's reasons for the proposed choice; and

c) any possible alternative methods of discharge, including discharge into any other receiving environment.

[087] Both the AEE and the s42A report addressed section 105, describing the nature of the discharge and the sensitivity of the receiving environment. The Applicant set out the reasons why it had decided to take this option and to not fully remediate the site . The effects of the discharge have been fully assessed by technical experts.

[088] I find that a consideration of s105(1) matters does not weigh against a grant of consent.

3.5 Section 107(1) matters

[089] Section 107(1) of the RMA states that a discharge permit shall not be granted if, after reasonable mixing, the contaminant or water discharged is likely to give rise to certain listed effects. As noted in both the AEE and the s42A report, the discharge is not expected to give rise to any of the effects set out in section 107(1) because the contaminants will not reach Otago Harbour.

[090] I find that a consideration of s107(1) matters does not weigh against a grant of consent

3.6 Part 2 matters

[091] I am aware of the case law which outlines that if the lower order statutory instruments appropriately deal with Part 2 matters, then no further assessment of Part 2 matters is required. I find that recourse to Part 2 matters would not add anything to the statutory instrument assessments that I have set out in preceding sections of this Decision.

3.7 Consent conditions

[092] The conditions of consent have been based on the set of conditions provided by WSP Golder on 26 January 2023, which were in turn based on the conditions first included within the s42A report.. The conditions have been further updated to:

a. respond to some (but not all) of Ms McDonald's comments dated 30 January 2023 regarding Conditions 3 and 6;
b. to confirm the monitoring should be undertaken in the eighth year. I do consider leaving the date of monitoring open to the eighth or ninth year to be sufficiently certain. In response to a point

made at section 10 of the s42A report, I have also added a requirement that the methodology of monitoring be agreed with the consent authority at least three months prior to monitoring commencing in the eighth year.

[093] As regards Conditions 3 and 6, I note the off-site EMP was amended following agreement with DCC and incorporated DCC's required changes. In response to my question to the parties regarding further changes to the off-site EMP, Ms McDonald considered that Condition 3(d) should continue to reference the EMP version dated March 2020 (Rev0) as that had been assessed by an independent technical expert as being comprehensive and appropriate for the site. She stated that any updated version should remain in general accordance with that original version. The difficulty with that approach is that a condition requiring compliance with an out of date EMP is not helpful to DCC as it could be interpreted as then not including the matters it has agreed on with Mobil. Ms McDonald had the opportunity to seek a further technical assessment from Mr Beardmore prior to lodging comments on the amended documents but did not appear to do so. In its response dated 31 January 2023 to Minute 3, the Applicant has explained the minor changes made to the off-site EMP raised in Minute 3 and I accept that explanation. The January 2023 version remains in general accordance with the original version, other than these minor matters. I have therefore amended Condition 3(d) to require compliance with the January 2023 version of the off-site EMP.

[094] Condition 6 requires the finalised versions of both EMPs to be provided to DCC, Chalmers Properties Limited and ORC as the consent authority. Condition 7 requires any further revisions to be provided to the consent authority for acceptance before it is provided to DCC and Chalmers Properties Limited. I am satisfied that the revised off-site EMP dated January 2023 has been amended to reflect the changes agreed between DCC and Mobil and accepted by Ms McDonald.

3.8 Determination

[095] For the reasons stated in this Decision, resource consent is **granted** for the passive discharge of existing hazardous substances to land within the subsurface of the site, in circumstances that may result in those substances entering water, subject to the conditions in Appendix A.

Jan Caunter
Independent Hearing Commissioner

APPENDIX 1

Council Reference: A1715272
Consent Reference: RM22.099

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Mobil Oil New Zealand Limited:
Address: Russell McVeagh, Vero Centre, 48 Shortland Street, Auckland 1140, New Zealand

To passively discharge hazardous substances onto or into land in circumstances that may result in those substances entering water for the purpose of long-term site management.

Term: 10 years from the date of issue of this consent.

Location of Activity: 199 Fryatt Street, Dunedin
Legal description of land: Lot 2 DP482844 and road reserve, refer Attachment A
Map reference (NZTM2000): E1407362 N4916984 (approximate site midpoint)
Hail Reference: HAIL.00496.01

Conditions of Consent

1. This consent authorises the passive discharge of existing hazardous substances to land within the subsurface of the subject site, in circumstances that may result in those substances entering water.
2. This consent does not authorise the discharge of hazardous substances to land or water as a result of land use activities occurring after the issue of this consent.
3. The passive discharge of hazardous substances to land must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM22.099.01:
    a) Resource Consent Application and Assessment of Effects on the Environment – Discharge of Contaminants, prepared by Golder Associates (NZ) Limited and dated February 2022;
    b) Former Mobil Dunedin Terminal – 199 Fryatt Street, Dunedin – Closure Report, prepared by Golder Associates (NZ) Limited and dated November 2019;
    c) Former Mobil Dunedin Terminal – 199 Fryatt Street, Dunedin – Environmental Management Plan, prepared by Golder Associates (NZ) Limited and dated March 2020;
    d) Former Mobil Dunedin Terminal – 199 Fryatt Street, Dunedin – Environmental Management Plan – Fryatt Street Adjacent to Former Terminal, prepared by Golder Associates (NZ) Limited and dated January 2023;
    e) Further information response dated 1 August 2022, including report prepared by WSP Golder titled Phase 1 Review of Perand Polyfluoroalkyl Substances (PFAS) and dated July 2022; and

f) Further information response prepared by Andrew Hart of WSP Golder dated 25 October 2022;

g) Sampling of stormwater network dated 12 January 2023 prepared by WSP Golder;

h) Evidence of Andrew Hart of WSP Golder dated 16 January 2023.

If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

4. Where monitoring is undertaken in accordance with Condition 8 of this consent, this monitoring must be overseen by a Suitably Qualified and Experienced Person.
5. The Consent Holder must maintain a network of monitoring wells (refer Attachment B to these conditions) for the purpose of future groundwater monitoring required by Condition 8.

Performance Monitoring

6. Within 30 working days of the issue of this consent, the Consent Holder must prepare and submit finalised versions of both Environmental Management Plans referenced in Condition 3(c) and 3(d) of this consent to Dunedin City Council, Chalmers Properties Limited, and the Consent Authority. The finalised versions of both Environmental Management Plans must be in general accordance with the versions submitted as part of the application and, in the case of the Environmental Management Plan referenced in Condition 3(d), as otherwise amended in response to the matters described in section 10.2 of the Memorandum on Behalf of Dunedin City Council dated 25 January 2023.
7. Any subsequent revised versions of the Environment Management Plans must be submitted to the Consent Authority for review and acceptance prior to being provided to Dunedin City Council or Chalmers Properties Limited.
8. In the eighth year of this consent, the Consent Holder must undertake a groundwater monitoring in the form of an Environmental Site Assessment. The Consent Holder must agree the methodology for monitoring with the Consent Authority at least 3 months before monitoring commences. The Consent Holder must provide the Consent Authority with copy of all monitoring results, reports, and the Environmental Site Assessment produced in accordance with this condition by the 31 December of the year in which the monitoring was undertaken.

General

9. The Consent Holder must ensure that all persons working on the site or within the Mobil offsite management area are aware of the contamination and the Environmental Management Plans.

Review

10. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:

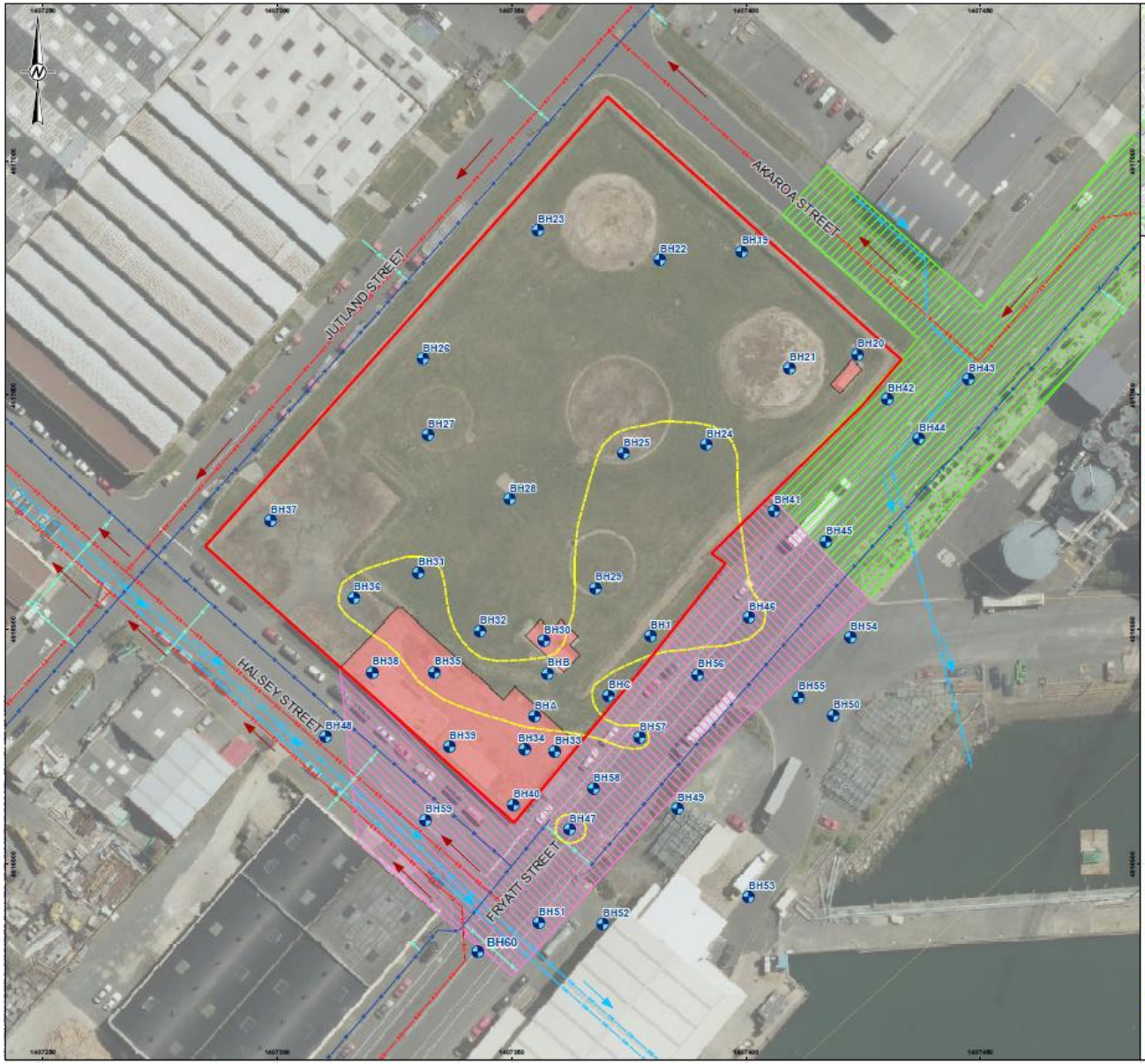
a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;

b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;

c) Reviewing the frequency of monitoring or reporting required under this consent;

d) Requiring the Consent Holder to adopt the best practicable option, in order to prevent or minimise any adverse effect on the environment arising as a result of the exercise of this consent. Best practicable option includes, but is not limited to, active remediation of the site, should such an option become available to the Consent Holder.

Attachment A – the site and the Mobil Management Area



LEGEND

- Site boundary
- Groundwater monitoring wells
- Inferred LNAPL extent - April 2017
- Water pipe
- Water service pipe
- Stormwater pipe
- Sewer pipe
- Z Energy Management Area*
- Mobil Management Area
- Concrete pad / surface structure
- Parcel boundaries

NOTES

1. Aerial: LINZ and Eagle Technology, CC-BY-3.0-NZ.
2. Map image: © OpenStreetMap (and) contributors, CC-BY-SA
3. Schematic only, not to be interpreted as an engineering design or construction drawing.

* Z Energy Management Area defined by ORC Permit RM12, 312 (refer Figure 5-2 of URS (2013)).

REFERENCE SCALE: 1:800 (at A3)

PROJECTION: NZGD 2000 New Zealand Transverse Mercator

CLIENT
MOBIL OIL NEW ZEALAND LIMITED

PROJECT
FORMER MOBIL DUNEDIN TERMINAL

TITLE
OFF-SITE MANAGEMENT AREA

CONSULTANT
GOLDER

YYYY-MM-DD	2020-02-10
PREPARED	AE
REVIEW	DD
APPROVED	AH

PROJECT NO.	REPORT	REV.	FIGURE
19129937	002	0	01

Attachment B – Monitoring Wells to Retain

On-Site	Off-Site
BH36, BH31, BH28, BH25, BH24, BH21, BH38, BH35, BH32, BH30, BH29, BH39, BH33, BH40	BH48, BH59, BH60, BH51, BH52, BH47, BH58, BH57, BH56, BH46, BH45, BH44