

SOUTH TARANAKI DISTRICT COUNCIL

Special Environment and Hearings Committee Agenda

**Monday 11 February 2013
Council Chamber 1.00 pm**



ENVIRONMENT AND HEARINGS COMMITTEE MEMBERS

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Councillor A Beccard
Councillor B Bigham
Councillor T Hohaia
Councillor M Powell
Councillor I Wards (Chairperson)

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Next Meeting Date
Closing Date for Reports (Elected Members)

SOUTH TARANAKI DISTRICT COUNCIL

A Special Environment and Hearings Committee meeting will be held in the Council Chamber, Administration Building, Albion Street, Hawera on Monday 11 February 2013 at 1.00 pm.

A G E N D A

1. APOLOGIES

2. RESOURCE CONSENT APPLICATION

(a) Planner, Andrea Te Puni

- (i) Shell Todd Oil Services Limited, Wellsite activities with noise emissions and hazardous substances non-compliance AND Extension of submission period in accordance with Section 37 of the Resource Management Act 1991 – attached. See page 4.

Appendix 1: Relevant Sections of the District Plan – attached. See page 27.

Appendix 2: Relevant Sections of the Resource Management Act 1991 – attached. See page 34.

Appendix 3: Shell Todd Oil Services Limited Application – attached. See page 39.

Appendix 4: Limited Notification Correspondence – attached. See page 248.

Appendix 5: Haig Elgar on behalf of Okahu-Inuawai Hapu – attached. See page 250.

Notified Resource Consent Report

RML12089

To	Environment and Hearings Committee
From	Andrea Te Puni, Planner
Date	31 January 2012
Subject	Shell Todd Oil Services Limited, Wellsite activities with noise emissions and hazardous substances non-compliance AND Extension of submission period in accordance with Section 37 of the Resource Management Act 1991

Executive Summary

The applicant is seeking resource consent for noise non-compliance and the storage and use of hazardous substances for well operations at two existing sites KA 6/11/17 located at 849 Ahipaipa Road, Kapuni and KA 8/12/15/18 located at 939 Eltham Road, Kapuni.

This application addresses two issues. The first relates to a request from an affected party to extend the submission period for the application. The second relates to the activity itself and whether or not to approve the application.

The applicant requested that the application proceed through the Limited Notified process given affected person approval from Iwi has not been forthcoming. The application was notified to four Hapu; Okahu-Inuawai, Ngati Tu, Kanihi-Umutahi and Ngati Manuhiakai. The submission period closed 4.00 pm Tuesday 18 December 2012.

A request was received from Okahu-Inuawai Hapu for an extension of submission period for RML12089. This request can be approved under Section 37 of the Resource Management Act (the Act) 1991; *Power of waiver and extension of time limits*. The section of the Act which is requested for extending timeframes, is *Section 97, Time limit for submissions*.

The delegation for this decision is held by the Environment and Hearings Committee. The requested extension would be for a short duration being eight working days after the close of submission. I consider that it would be appropriate to give approval to this request for an extension.

The objectives and policies of the District Plan allow for flexibility in the use of rural land, provided amenity values can be maintained and adverse effects on the surrounding environment are avoided, remedied or mitigated. The proposal is consistent with the objectives and policies of the District Plan and the purpose and principles of the Act.

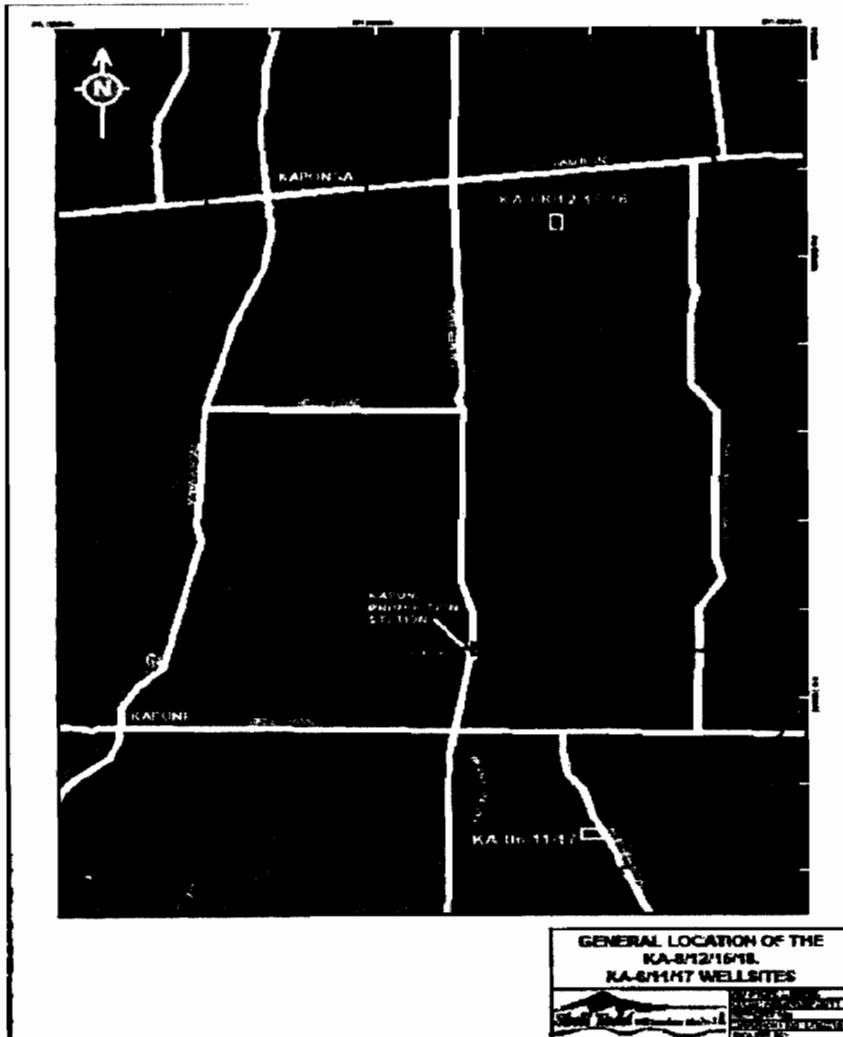
The parties affected by the proposal have either given their written approval or have not taken part in the limited notification process.

The consent, if granted, with conditions would not give rise to effects that are more than minor and I recommend that consent is granted.

1. Introduction

- 1.1. The applicant, Shell Todd Oil Services Limited (STOS), is seeking resource consent to undertake activities at two existing wellsites. The activities include noise emissions and the storage and use of hazardous substances associated with hydraulic fracturing.
- 1.2. The proposal would give rise to non-compliance with the District Plan with regards to noise and the storage and use of hazardous substances.
- 1.3. The applicant wishes to obtain resource consent to undertake wellsite activities within the existing Kapuni Field. The sites have been used for wellsite operations since the 1970s. The surrounding area includes other wellsites, production facilities and pipelines associated with such activities. The surrounding land is used predominantly for dairy farming.

Figure 1 – General location of KA 6/11/17 and KA8/12/15/18 wellsites



Text in sections 1.4 and 1.5 is taken directly from the application:

1.4. KA 6/11/17 wellsite

The KA 6/11/17 wellsite is located at 849 Ahipaipa Road, Kapuni and is accessed directly from Ahipaipa Road. The Kapuni Production Station is approximately 2 km north-west of the site.

The KA6 and KA11 wells were drilled during the 1970s and 1980s, and KA17 was drilled in 2010.

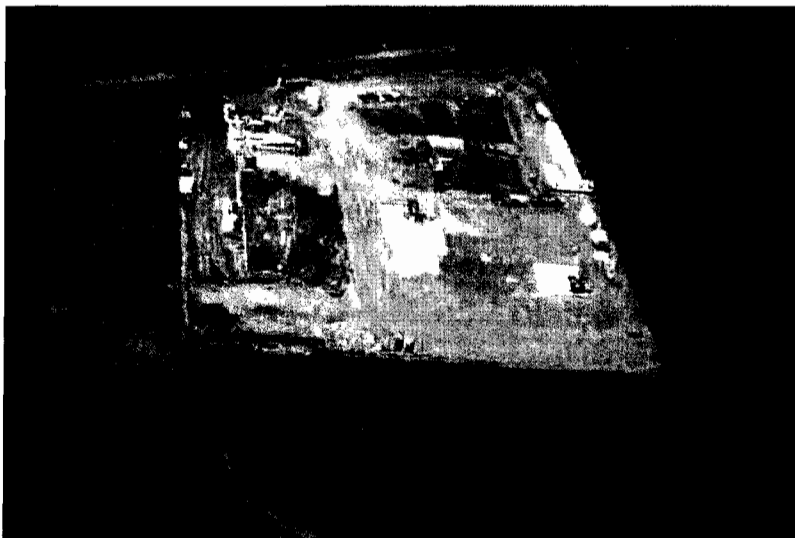


Photo 1: Existing KA-6/11/17 Wellsite

1.5. KA 8/12/15/18 wellsite

The KA 8/12/15/18 wellsite is located at 939 Eltham Road. It is located approximately 500 metres from Eltham Road, accessed via a tarsealed access road. The Kapuni Production Station is approximately 4.7 km south of the site.

The KA 8, KA 12 and KA 15 wells were drilled during the 1970s to 1990s and the KA 18 well was drilled in 2010.

The KA 8, KA12 and KA18 wells were drilled in 2010.

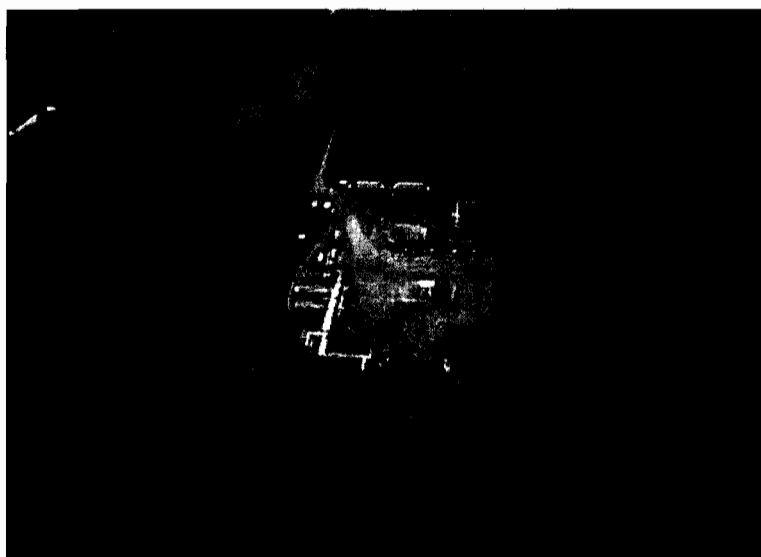


Photo 2: Existing KA-8/12/15/18 Wellsite

3. Evaluation of Section 37 Power of waiver and extension of time limits

- 3.1. Under the requirements of Section 37, a consent authority may, in any particular case –
 - a) extend a time period specifically in the Act, whether or not the time period has expired
- 3.2. Section 97 of the Act, states that the closing date for serving submissions shall be 20 working days after notification. In the instance of this application, that date was 18 December 2012.
- 3.3. The requirements for waivers and extensions as per 37A(1) state that timeframes must not be extended unless it has taken into account –
 - a) the interests of any person who, in its opinion, may be directly affected by the extension or waiver;
 - b) the interests of the community in achieving adequate assessment of the effects of a proposal, policy statement, or plan; and
 - c) its duty under Section 21 to avoid unreasonable delay.
- 3.4. I consider it appropriate to consider each of these in turn;
 - a) The applicant is in support of the waiver, and they are the only party who are directly affected by the extension.
 - b) The extension with respect to the interests of the community would not give rise to any effects; and
 - c) The extension would not give rise to unreasonable delay given the short time associated with the extension; being only eight working days after the closing of submissions (whereby the processing days from 20 December 2012 through to 10 January 2013 are excluded through the Act).
- 3.5. A time period may be extended under Section 37(2) for –
 - a) a time not exceeding twice the maximum time period specified in this Act; or
 - b) a time exceeding twice the maximum time period specified in this Act if the applicant or requiring authority requests or agrees.
- 3.6. As above, the requested extension would be for a short duration being eight working days after the close of submission. This would therefore be well short of the maximum extension period.

The topography of the surrounding land at both sites is generally rolling to flat farmland interspersed with a network of rural roads, rural dwellings and petroleum infrastructure (e.g wellsites, production facilities and pipelines).

1.6. Existing Noise Environment

The noise associated with the Kapuni Production Station and other industry in the area, traffic noise and activities from the existing wellsites provide a noise environment that is industrial in character.

1.7. Sites of Cultural Significance

There are a number of sites of known significance to Ngāruahine Iwi in the general vicinity of the sites but no known areas of cultural or national significance within the immediately surrounding area. As taken from the application:

The sites of significance within the general area include:

- *On the Kapuni Stream, between KA-01/07 and KA-04/14 there is a waahi tapu Rua Ruru which also has a small urupa in its vicinity.*
- *Te Ngutu o te Manu, Battle Site and Historic Reserve on Ahipaipa Road, where Riwaha Titokowaru (Ngati Ruanui) in 1868 had a brilliant victory against the colonial forces*
- *Further to the south are a number of sites of significance including Pungarehu, Maru and Te Kopanga.*

2. Notification of the Application

- 2.1. The application was notified under the limited notification process because the applicant was unable to obtain written approval from some members of Hapu within Ngāruahine Iwi.
- 2.2. The limited notification process is used when all potentially affected persons can be positively identified and the effects of a proposal on the wider environment would not be more than minor.
- 2.3. The applicant requested that the application be processed on a limited notification basis to the four hapu of Ngāruahine Iwi (Okahu-Inuawai, Ngati Tu and Kanihi-Umutahi) on 16 November 2012 and the submission period closed on Tuesday 18 December 2012.
- 2.4. A letter was received from Okahu-Inuawai Hapu on 18 December 2012, which requested that the submission period be extended until 21 January 2013. This would enable the incoming committee an opportunity to review the application and any supplementary information, and to prepare a submission, where appropriate.
- 2.5. This request was raised with the applicant, who advised on 21 December 2012 that they would support a decision to grant the extension as requested by Okahu-Inuawai Hapu
- 2.6. This request for an extension can be approved under Section 37 of the Resource Management Act (the Act) 1991; *Power of waiver and extension of time limits.*

Conclusion

- 3.7. The requested extension is for a short duration, only eight working days after the close of initial submission period. This would therefore be well short of the maximum extension period.
- 3.8. Because the extension sought is of such a short duration and because the applicant agrees to support the extension, I consider it is appropriate that the application for the extension be given approval.
- 3.9. The Environment and Hearings Committee have delegation to make a decision on whether an extension to a submission period is granted or declined.

Recommendation

- 3.10. THAT pursuant to Section 37A(1) of the Resource Management Act 1991 the submission period for limited notification associated with application RML12089 is extended until 21 January 2013.

4. Submission Received

- 4.1. There were no submissions received during the Limited Notified process (including the extension).
- 4.2. A response (which is attached as Appendix 5) was received by Okahu-Inuawai Hapu which states that they have no substantive grounds to object to the proposal.
- 4.3. Even though a submission was not received, the Hapu are still very concerned of the potential (and) serious negative effects that hydraulic fracturing activities may have on customary land and sea areas.
- 4.4. The Hapu intends to further develop their understanding of hydraulic fracturing activities and state they will be in touch the District and Regional Councils in due course.
- 4.5. Where a resource consent that has been notified, but no submissions have been lodged, the decision to approve or decline the application can be undertaken under delegated authority.
- 4.6. In this case the decision on whether or not to extend the submission period must be made by the Committee and Council Officers thought it was sensible to have the substantive decision made at this level too.

5. District Plan Requirements

- 5.1 The applicable sections of the District Plan which relate to this application are provided in the Appendix 1 of this report.

6. Resource Management Act 1991 Requirements

- 6.1 The applicable sections of the Resource Management Act 1991 which relate to this application are provided in the Appendix 2 of this report.

7. Evaluation

- 7.1. The District Plan recognises that petroleum production stations and well heads have the potential to give rise to adverse environmental effects. These activities in the Rural Zone require resource consent as a Discretionary Activity.
- 7.2. The activities associated with the operation of production stations and well heads in this zone are controlled through the District Plan's performance standards. These performance standards are designed to protect the natural character of the rural environment by controlling potential effects such as noise, use and storage of hazardous substances, illumination and dust, heavy vehicle movements, character and visual amenity, decommissioning and reinstatement and Tangata Whenua.

Activities on Well Heads

- 7.3. The District Plan caters for a wide range of activities in the Rural Zone providing the activities do not reduce the quality, amenity values, character or sustainability of the rural environment. Several of the District Plan's objectives and policies relate to the effects of activities on the character and amenity of the district. Objective 5 focuses on maintaining and improving the environment around people's homes and community facilities. Objective 2.03.1 and Policies 2.03.2(a),(b),(c) and (d) support the preservation of the character and amenity of the Rural Environment.
- 7.4. Well associated activities have the potential to create adverse effects on the amenity values of areas in which they are located. The intention of Objective 6.1 seeks to avoid, remedy or mitigate any adverse impact of infrastructure facilities and services on the District's residents and on the environment around their homes, farms and business activities by equitably balancing the environmental requirements and individual rights with community needs.
- 7.5. The applicant has stated that these effects would be minimal and has outlined a number of mitigation techniques. These are assessed in relation to the appropriate section to which they relate.

Noise

- 7.6. Noise from the proposed operations would occur during the hydraulic fracturing or *fracking* stage as well as during well service activities.
- 7.7. The noise generated by these activities is not within the permitted levels of the District Plan. The noise generated would comply with the District Plan's requirements at 1.05 kilometres from KA 17 site and 1 kilometre from KA 18 site.
- 7.8. Noise emissions have been assessed by Carlton Technology on behalf of the applicant.

Hydraulic Fracturing Noise

7.9. Hydraulic fracturing is explained in the application;

Hydraulic fracturing is the process whereby fluids are pumped down the well into the formation under pressure to enhance well inflows. The intention is to 'fracture' the rock in the formation. The injected fluids contain a 'proppant' which is essentially a ceramic sand. This flows with the fluid into the fractures made and remains there, 'propping' the fracture open, to allow hydrocarbons to flow more freely from the formation.

7.10. The fracing phase at both wellsites would be undertaken for a period of approximately two months at each site.

7.11. Operations at KA 6/11/17 (KA 17) are likely to occur in one continuous phase while a timeline for operations at KA 8/12/15/18 (KA 18) has not yet been determined. Works would either occur over a continuous period or be undertaken in two separate phases, of approximately one month each; separated by a break of three to six months.

7.12. The application states that the predicted noise levels at neighbouring properties generated from fracing activities at KA 17 wellsite would be between 54dBA L₁₀ to 68dBA L₁₀ during the hours of 7.00 am to 10.00 pm. The daytime noise limits would be met at a distance of 1.05 kilometres from the site.

7.13. The application states that the predicted noise levels at neighbouring properties generated from fracing activities at KA 18 wellsite would be between 55dBA L₁₀ and 62dBA L₁₀) during the hours of 7.00 am to 10.00 pm. The daytime noise limits would be met at a distance of 972 metres from the site.

7.14. The application details the planned schedule for a "mini" fracture activity that would be followed by the "main" fracture treatment.

The "mini" fracture involves pumping visosified fluid into the well but without the addition of proppant. The "mini" fracture is used as a diagnostic test to finalise the hydraulic fracturing design for the "main" fracture treatment. The same equipment will be utilised (and the same noise levels generated) for each treatment. The difference between the "mini" and the "main" stages being the duration, with the latter expected to last no more than four hours.

Well Service Activities

7.15. Well service activities include the use of a coiled tubing unit to clean out the well at the completion of the hydraulic fracturing activities. This activity would occur on a 24 hour per day basis, but would be limited to 3 - 5 days within the overall programme at each wellsite. Noise would occur, but it would be at a lower level than that associated with hydraulic fracturing activities.

7.16. The application states that the predicted noise levels associated with the coiled tubing unit (which is the primary source of noise during well service activities), would be up to 47dBA L₁₀ at KA 17 site and 42dBA L₁₀ at KA 18 site. The noise would exceed the Plan's permitted maximum night-time noise level of 45dBA L₁₀ during this time.

7.17. The assessment provided in the application states that the surrounding area experiences noise levels beyond rural based activities. The assessment states

that the background noise in the area presently generates noise exceeding 40dBA L₁₀ most (77%) of the time. The noise generated results from the Kapuni Production Station, other industrial sites in the area, traffic noise and activities from the existing wellsites. It can be concluded from that assessment, that the noise environment is industrial in character.

7.18. For the purpose of identifying the affected parties in relation to noise (excluding Construction Noise), the applicant has requested the application of a notional boundary test because it is at these dwellings that the effects of noise would be experienced. I consider that it is appropriate that this approach be applied, despite it being the Council's usual practice to consider the owners and occupiers of any property affected by noise as affected parties (an approach that recognises potential future development of these properties). I believe that given the noise is for a limited duration, its potential to restrict future development is minimal and the use of a notional boundary approach is suitable for the assessment. While this is my professional opinion, the applicant has provided the written approval of all landowners and occupiers within 1.05 kilometres of the KA 17 site and 1 kilometre of the KA 18 site. Effects on these parties cannot be taken into consideration by the Council.

7.19. There are eight dwellings within 1.05 kilometres of the KA 17 wellsite and estimated noise readings at the dwellings are as follows:

Dwelling	Separation metres from site	Predicted Noise Levels for Fracching Operations (dBA) Screened	Well Service Activities (dBA) Coiled tubing unit
House 1	1053 metres	54	Assumed less than 39
House 2	852 metres	57	39
House 3	714 metres	59	40
House 4	560 metres	61	42
House 5	530 metres	62	43
House 6	440 metres	64	44
House 7	350 metres	66	46
House 8	305 metres	68	47

7.20. There are nine dwellings within 1 kilometre of the KA 18 wellsite and estimated noise readings at the dwellings are as follows:

Dwelling	Separation metres from site	Predicted Noise Levels for Fracching Operations (dBA) Screened	Well Service Activities (dBA) Coiled tubing unit
House 1	972 metres	55	39
House 2	930 metres	56	38
House 3	830 metres	57	39
House 4	730 metres	58	40
House 5	660 metres	59.5	41
House 6	640 metres	60	41
House 7	630 metres	60	41
House 8	590 metres	61	42
House 9	520 metres	62	43

7.21. Objective 2.03.1(f) of the District Plan seeks to ensure that activities in the Rural Zone do not give rise to adverse effects from noise. There are a number of methods proposed by the applicant to be used to reduce noise effects that align with these provisions of the District Plan.

These measures include:

- Installation of six specifically designed acoustic panels.
 - These are 3.8 metres in height and 3.6 metres in length and would be erected during hydraulic fracturing phase.
 - Onsite management procedures for undertaking activities relating to noise activities.
 - Close liaison with residents in the area.
 - Hydraulic fracturing would be limited to daytime hours (ie 7.00 am – 10.00 pm).
 - Noise monitoring during operations that would enable further mitigation requirements (e.g additional noise screens).
- 7.22. The application states that some operations may be deferred so they occur during daylight hours to avoid unreasonable noise effects on surrounding dwellings.
- 7.23. The applicant has also developed work practices to minimise noise associated with the project. In my opinion, the above measures would effectively manage the noise non-compliance arising from the activity and be consistent with the objectives and policies of the District Plan for noise management.
- 7.24. Applying conditions to control noise to ensure the activities would not diminish the quality of the environment is an approach supported by the District Plan's objectives and policies.

Use and Storage of Hazardous Substances

- 7.25. Hazardous Substances have potential adverse effects to public health and safety and risks to the environment. The District Plan's Objectives and Policies seek to avoid or mitigate the adverse effects and risks associated with use, storage, disposal and transportation of hazardous substances.
- 7.26. The use and storage of hazardous substances in the Rural Zone is permitted where the hazardous effects ratio does not exceed 0.25. The activity is assessed as a Discretionary Activity because under the requirements of the Hazardous Facilities Screening Procedures (HFSP) (as used within the District Plan), the use and storage of hazardous substances at each wellsite would exceed the total quantity ratios that are within permitted levels.
- 7.27. The District Plan requires any person undertaking land use activity involving storage or use of hazardous substances to prepare a Hazardous Substances Management Plan (HSMP). HSMP includes information relating to the description of the facility, the activity and the surrounding environment, description of the hazardous substances including quantities, manner and location of storage and use, level of hazard, spill containment systems, methods used to manage the facility, compliance with any relevant New Zealand Standards, codes of practice and regulations, any associated use and storage risks with the substances and monitoring.
- 7.28. A number of hazardous substances are required during the phases of the project. During the well service activities a number of hazardous substances are required. Hazardous substances are also required during the fraccing phase. Diesel is also required on site to operate equipment during the well service activities and fraccing phases.

- 7.29. The application states that the ratio in the operations would be exceeded by the use of Methanol, Flex Sand HS, EC1450 Inhibitor, 20/40 Terra Prop Pro, GLFC-5 and Diesel. Calculation of the Hazards Effect Ratios (Hazardous Facility Screening Procedure (HFSP)) has indicated that the effects ratio produced would be greater than 0.25 and this requires resource consent. The calculations are as follows:

KA 17 Well Site

Table 1 - Summary of Operations Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Effects Ratio	Environmental Effects Ratio
EC1450 Inhibitor	0	1.67	1.85
Methanol	0.53	0.53	1.78
Total Effects Ratio of all substances	0.53	2.2	3.63

Table 2 – Summary of Hydraulic Fracturing Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Effects Ratio	Environmental Effects Ratio
Flex Sand HS	8.3	0.93	0.93
20/40 Terra Prop Pro	0	15	0
GLFC-5	0.48	1.59	1.59
Diesel	0.33	3.33	3.7
Total Effects Ratio	9.15	20.85	6.22

KA18 Well Site

Table 1 - Summary of Operations Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Effects Ratio	Environmental Effects Ratio
EC1450 Inhibitor	0	2.23	2.48
Shell Corena Oil NG220	0.04	0.4	0.13
Pegasus 710	0.04	0.4	0.13
Methanol	1.35	1.35	4.5
Total Effects Ratio of substances >0.1	1.35	3.58	6.98
Total Effects Ratio	1.43	4.38	7.25

Table 2 – Summary of Hydraulic Fracturing Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Effects Ratio	Environmental Effects Ratio
Flex Sand HS	8.3	0.93	0.93
20/40 Terra Prop Pro	0	15	0
GLFC-5	0.48	1.59	1.59
Diesel	0.33	3.33	3.7
Total Effects Ratio	9.15	20.85	6.22

- 7.30. There are a number of potential effects on the environment from accidents associated with the storage of these materials. The applicant has assessed the number of management procedures in place to mitigate against any potential accidents. These include; full training to staff who are required to interact with these substances, earth bunding or other means of secondary containment to contain spills, separation of chemicals from sensitive areas, emergency vents and man-ways on equipment, firewater systems, New Zealand Fire Service response procedures and site perimeter drains and fencing. I consider that these provide appropriate measures to prevent, control, or mitigate the risks.
- 7.31. Appropriate management plans would be required to be submitted and approved by the Council and this provision would form a consent condition, if granted. This would be in accordance with Objectives 2.03.1(e), 5.1, 8 and Policies 8(a) to 8(d) of the District Plan.
- 7.32. I consider that it would be appropriate to apply a condition to the consent, if granted, that requires the applicant to inform the Council of the proposed location for disposal of contaminants (prior to happening). This would adequately address the practice of kaitiaki in the appropriate disposal of waste insofar as it would not give rise to potential effects in other tribal areas.

Illumination (Light Spill) and Dust

- 7.33. The existing wellsites are currently well lit at night and visible from a distance. These lights are necessary for security, safety and operational purposes. Intermittent light effects would also be produced during flaring. All lighting would be directed away from any adjoining properties, generally *inwards* to light the site work areas.
- 7.34. Any new lighting that may be installed or used would be directed so not to give rise to effects beyond those which are already experienced. This is due to the location of the sites in relation to neighbouring properties, where any light spill is currently contained wholly within the site.
- 7.35. Wellsite activities can generate potential dust nuisance effects for adjacent properties and for road users. These effects arise from the construction and processing stages of drilling and from trucks travelling to (and from) the site. The applicant could minimise dust by using a water dust truck to dampen areas where required. I consider that this mitigation measure would help avoid the effects of dust nuisance created from the site activities.
- 7.36. All affected parties have been supplied with a 24 hour contact number so that any concerns, including light spill, can be appropriately managed. I consider that it would be appropriate to apply a condition on the consent, if granted, which requires that all lighting is directed in a manner which does not give rise to any nuisance light spill on adjoining properties.
- 7.37. Objective 2.03.1(f) of the District Plan seeks to ensure that activities in the Rural Zone do not give rise to adverse effects from (light) glare and nuisance dust and/or that these effects are avoided, remedied or mitigated. I consider that management procedures would provide sufficient to avoid, remedy or mitigate such effects from the activity.

Heavy Vehicle Movements

7.38. The wellsite operations would give rise to an estimated total maximum of 1150 heavy vehicle movements; being 80 movements per day. These are separated accordingly:

Site	Estimate No. of Heavy Vehicle Movements	Weeks Trucking	Maximum Heavy Vehicle Movements per day
KA 17	450	9 weeks	80
KA 18 – Phase 1	350	5 weeks	80
KA 18 – Phase 2	350	5 weeks	80

7.39. Traffic counts recorded by the Council indicate that existing heavy vehicle movements on Ahipaipa Road are 62.6 per day between Skeet Road and Tempsky Road.

7.40. The heavy vehicle movements on an annual average daily take equate to 1.2 movements per day for KA 17 wellsite.

7.41. Traffic counts recorded by the Council indicate that existing heavy vehicle movements on Eltham Road are 128.8 per day between Lower Duthie Road and Palmer Road.

7.42. The heavy vehicle movements on an annual average daily take equate to 1.9 movements per day for KA 18 wellsite.

7.43. When compared to the definition of Unusual Heavy Traffic within the District Plan, the existing annual average daily number of heavy vehicle movements from both wellsites would not be more than 150% increase which does not trigger the rule of the District Plan.

7.44. The applicant outlines that they impose a Land Transportation Plan for the project which addresses all aspects of transportation throughout the project. These mitigation measures include:

- The use of approved routes for transport to and from the wellsites
- The avoidance of heavy vehicle movements during school bus hours
- Site traffic management
- Vehicle requirements
- A journey management system for all high risk transport activity (e.g. rig move, dangerous goods cartage, and night transport); and
- The use of a heavy transport safe load checklist.

While these would not form conditions of the consent, if granted, they would be part of the application and ongoing approach applied by the applicant.

Character and Visual Amenity

- 7.45. Petroleum infrastructure including well sites, production facilities and pipeline installations are a feature of the existing amenity values of the local area. While farmland generally has a limited capacity to absorb the visual effects of the existing onsite activities, the activity itself forms part of the visual landscape given its longevity. The existing production operations are visible from surrounding properties and give the immediate area an industrial character.
- 7.46. The public viewing areas into the site would be from rural roads and access tracks. The visual appearance of the site would not be that of a single structure, rather a mixture of existing plant equipment and associated buildings of varying colour, height and width.
- 7.47. The District Plan recognises that some infrastructure within the District plays a major regional and national role, including the natural gas reticulation network. Policy 2.01.6(e) seeks to maximise the efficiency and effectiveness of existing infrastructure services and facilities, as does Policy 2.03.1(c) which pertains to activities in the Rural Zone generally. In the context of this application, these production stations and well heads are considered to be an essential part of the reticulation network.
- 7.48. Given the short duration of the activities in the context of the entire operations, the limited view shafts from public roads (through existing onsite structures, roadside planting and the topography of the sites and roads and the finite number of residences that are affected, I consider that the amenity effects would be short term and minor.
- 7.49. The existing onsite structures, roadside planting and topography of the sites and roads, partially screen the areas of works when passing by the property. Certainly, there are areas that are fully visible depending on the point at which road users are located. With this in mind, given the short passing period, I consider that the overall amenity effects are no more than minor.

Decommissioning and Reinstatement of the Site

- 7.50. The application does not state any processes if the wells are not successful. It is appropriate that should the site be decommissioned and abandoned that an appropriate programme would be developed when appropriate, depending on the level of reinstatement required.
- 7.51. I would anticipate that the intention would be that all surface production facilities, all concrete surfacing, steel and cables in the top two metres of ground level would be removed from the site and the area reinstated to suitable grazing (as it was before activities commenced). All established wells would be abandoned in accordance with management procedures.
- 7.52. I consider that the intentions where decommissioning a site, would be an acceptable return of the land and would reduce the overall environmental and visual effects. It would be appropriate to apply a condition on the consent, if granted, that requires a decommissioning programme (including reinstatement provisions) to be submitted, and approved by the Group Manager Environmental Services, prior to any works being undertaken.

Tangata Whenua

- 7.53. Tangata Whenua have a long standing association with the natural environment that is specifically provided for within the Act and the District Plan. Policy 3.2.3(a) of the District Plan seeks to recognise and provide for the relationship of Tangata Whenua and their culture and traditions with their ancestral lands, water, sites, Wahi Tapu and other taonga. Policy 3.2.3(c) also seeks to actively consult with Tangata Whenua and encourage participation from Iwi and hapu when addressing matters of concern to those people.
- 7.54. Objective 2.01.3a of the District Plan further states the need for development of a strong and effective working partnership with Tangata Whenua, based on an increased knowledge of Māori cultural and spiritual values and Tikanga, and their relationship with their ancestral lands, waters, sites, Wahi Tapu and other taonga, and the achievement of an effective joint response to resource management.
- 7.55. There were no submissions received or information supplied about any actual historic residential areas or burial grounds that may be within the vicinity of the activity. Neither were there any specific effects mentioned that the activity would have on any of these areas, or the spiritual connectedness that Iwi had.

General

- 7.56. Affected party approval has been provided for the activities by owners and occupiers within 1.05 kilometres of the KA 17 wellsite and within 1 kilometre of the KA 18 wellsite.
- 7.57. These parties have provided their written approval to the proposal and any effects on them must therefore be disregarded. My evaluation has recognised this and focused on wider local effects and effects on the public generally applied.

8. Part 2 of the Resource Management Act 1991

- 8.1 Section 5 states that the purpose of the Act is to promote the sustainable management of natural and physical resources. Section 6 requires the preservation of the natural character of the margins of rivers, the recognition of and provision for the relationship of Māori and their ancestral lands or Wahi Tapu and the maintenance and enhancement of public access to and along rivers. Section 7 of the Act seeks to have regard to the efficient use and development of natural and physical resources and energy while ensuring the maintenance and enhancement of amenity values and quality of the environment. Section 8 requires the Council, to take into account the principles of the Treaty of Waitangi.
- 8.2 Through consultation with Iwi (by the applicant) and the limited notification process, there were no areas of cultural or national significance identified within the immediately surrounding area.
- 8.3 I consider that the application has taken into account the principles of the Treaty of Waitangi in accordance with Section 8 of Part II of the RMA. The concerns and needs raised by tangata whenua have been heard and in the instance of this application, those concerns relate to areas outside of the jurisdiction that can be controlled by the South Taranaki District Council. These matters would need to be further addressed through the resource

consents held with the Taranaki Regional Council. There are no known Treaty of Waitangi matters associated with this application.

- 8.4 I consider that the proposal is not inconsistent with the purpose of sustainable management insofar as it can be applied to extractive industry. There has been a long history of drilling activities at the site. By concentrating activities at this site, others are not developed. I consider that the proposal would ensure the efficient use and management of the resource while being consistent with the maintenance and enhancement of amenity values, given the existing use of the area and the proposed on-site procedures. The quality of the environment would also be managed by conditions which avoid, remedy or mitigate the adverse effects.

9. Conclusion

- 9.1 The applicant is requesting resource consent for well service activities and to undertake hydraulic fracturing activities at two existing wellsites. The proposal would involve non-compliance with the District Plan's performance standards relating to maximum permitted noise levels and the storage and use of hazardous substances.
- 9.2 Due to the nature of activity being an exploration industry, it is expected that effects on the surrounding environment would arise. The objectives and policies of the District Plan allow for flexibility in the use of rural land, provided amenity values can be maintained and adverse effects on the surrounding environment are avoided, remedied or mitigated.
- 9.3 The noise generated by the activities would not comply with the provisions of the District Plan. I consider that the noise non-compliance would not give rise to effects that would be more than minor on the surrounding environment because of the short duration and intermittent nature.
- 9.4 The use and storage of hazardous substances would not comply with the provisions of the District Plan. I consider that the management plans would appropriately mitigate these matters so that this would not give rise to effects that are more than minor.
- 9.5 The applicant has provided written approval from all owners and occupiers within 1.05 kilometres of the KA 17 wellsite and within 1 kilometre of the KA 18 wellsite and subsequently the effects on those parties must be disregarded.
- 9.6 As noted above, there were no submissions received.
- 9.7 The concerns raised outside of the submission process by Okahu-Inuawai Hapu were not considered because they relate specifically to hydraulic fracturing and other consents (discharge and reinjection processes) that have been granted by the Taranaki Regional Council.

10 Recommendation

THAT consent be granted to Shell Todd Oil Services Limited for the storage and use of hazardous substances and noise dispensations in relation to the wellsite activities at KA 6/11/17 Wellsite, 849 Ahipaipa Road, Kapuni (Lot 1 DP 10950 Block XVI Kaupokonui Survey District) and KA 8/12/15/18 Wellsite, 939 Eltham Road, Kapuni (Lot 1 DP 11292) pursuant to Sections 104, 104B and 108 of the Resource Management Act 1991. In particular this land use consent provides for:

- The well service activities (including the use of a coiled tubing unit); and
- The activities would be undertaken for a duration of 24 months, exceeding the noise standards and hazardous substances requirements for the Rural Zone as specified in the District Plan.

For the following reasons:

1. The District Plan anticipates industrial activity in the Rural Zone as long as the effects on the environment can be avoided, remedied or mitigated.
2. The evaluation of the principal effects of noise emissions, heavy vehicle generation, visual impact and hazardous substances has demonstrated that mitigation measures would ensure there are no adverse effects on the environment that are more than minor.
3. The proposal is in accordance with the District Plan's objectives and policies and Part II of the Resource Management Act 1991.
4. The written approval of all affected persons within 1.05 kilometres of the KA 17 wellsite and within 1 kilometre of the KA 18 wellsite has been obtained.

Subject to the following conditions:

General

1. That the proposal is limited to the extent described in the application and is carried out in general accordance with the proposal and plans submitted to the Council (except where the conditions of this consent require otherwise) and signed by the affected parties.
2. That the activities subject to this resource consent (noise non-compliance, storage and use of hazardous substances and well service activities) shall be conducted within a period commencing when the resource consent becomes effective and ending 24 months after the effective date.

Noise

3. That noise from the wellsite at or within the boundaries of any Rural Zoned site beyond 1.06 kilometres from the boundary of the sites, comply with the noise levels for the Rural Zone as outlined in the District Plan, being:

7.00 am to 10.00 pm	55dBA L ₁₀
10.00 pm to 7.00 am	45dBA L ₁₀
10.00 pm to 7.00 am	75dBA L _{max}

4. That noise generated by construction complies with NZS6803:1999 Acoustics – Construction Noise.
5. That on an annual basis, the consent holder shall provide the Council a certificate demonstrating compliance with Condition 4 from an appropriately qualified person.

Roading

6. That along Ahipaipa Road, Skeet Road, Tempsky, Eltham, Lower Duthie and Lower Palmer Road heavy vehicle movements (associated with this application) are restricted to the following:
- b) To 80 movements per day during KA 17 wellsite activities.
- c) To 80 movements per day during the KA 18 wellsite activities.

AND

That verification of this is provided to the Council upon request to demonstrate compliance with this condition.

Dust

7. That the consent holder makes a water cart with a dust suppressing agent available at all times to control dust generated from the operation of the well and/or any vehicle movements associated with the site, to the satisfaction of the Council.

Lighting

8. That all lighting is directed internally onsite in a manner which does not give rise to any nuisance light spill on adjoining properties.

Hazardous Substances

9. That a Hazardous Facilities Site Operation Management Plan is submitted to the Council and approved by the Group Manager Environmental Services, prior to any works taking place.
10. That all diesel used onsite conforms with the New Zealand Engine Fuel Specifications Regulations 2011.
11. That the disposal location for all contaminated material associated with the activity (including drill cuttings, return fluids, general waste and recycling) is submitted to Council prior to it being removed from the site.

Historical and Archaeological

12. That if human remains or significant archaeological artefacts are unearthed that work in the affected areas shall stop immediately. The consent holder shall seek advice from the relevant Iwi Authority, Historic Places Trust, the South Taranaki District Council and the Police (as appropriate) immediately to determine what actions are appropriate to safeguard the site or its contents before work recommences.

Decommissioning

13. That at the culmination of production, the consent holder shall:

- a) Submit a Decommissioning Programme (including reinstatement provisions) to the Council to be approved by the Group Manager Environmental Services;

This would need to include details about how the consent holder or landowner would remove all equipment associated with production and make the site suitable for a permitted activity consistent with the Rural Zone to take place on all parts of the site.

- b) Notify the Council in writing at the end of production;
- c) Remove all buildings, plant and equipment from the site;
- d) Negotiate the timing with the Council for completion of decommissioning works.

Cost Recovery

14. The Consent Holder shall pay the actual and reasonable costs set from time to time by the Council in accordance with Section 36(1) of the Resource Management Act 1991 to the consent authority for the carrying out of its functions in relation to the processing, administration, monitoring and supervision of the resource consent and for carrying out its functions under Section 35 of the Resource Management Act 1991.

Review Conditions

15. That in accordance with Section 128(1) of the Resource Management Act 1991, the South Taranaki District Council may review, amend, delete or add to the conditions of this consent by giving notice to the consent holder of such a review in 2013, 2014 and every five years thereafter, for the purpose of:

- (a) ensuring that the conditions of consent adequately deal with the environmental effects resulting from the exercise of this resource consent; and
- (b) to avoid, remedy or mitigate any adverse effects on the environment


Advice Notes:

- 1 *Routine inspections of the site of the consent may be undertaken by Council officers or agents.*
- 2 *The Hazardous Facilities Management Plan referred to in Condition 11 shall be prepared using the following guidelines where practicable and it shall identify how the relevant quantitative standards in this section are to be met.*
 1. *(a) Information contained in the management plan should be formatted under a number of headings to address the following matters.*
 - *Description of the hazardous substances manufactured, used and/or stored on the site including quantities, manner of storage and use, and location of such*
 - *Identification of the level of hazard associated with the substances used and stored on the site*
 - *Spill containment systems operated to avoid release of substances to the environment including loading and unloading areas*
 - *Operational and procedural methods used to manage the facility including emergency and evacuation systems and fire control*
 - *Identification of New Zealand Standards, codes of practice and regulations (as relevant) complied with for the operation and management of the substances*
 - *Identification of the risks associated with the substances used and/or stored on the site in the event of release to the environment including the cumulative effects and synergistic effects (i.e. the effects of one substance upon another) of those substances in the environment*
 - *Description of the methods used to avoid, remedy or mitigate the effects on the environment of release or loss of the substances used and stored on the site, including the effects on adjoining property or activities*
 - *Monitoring of the facility and the use of storage of the substances on the site including indicators or triggers for early response in the event of release or loss to the environment*
 - (b) A description of how compliance with the HSNO Act and regulations and any amendments to that legislation will be achieved and maintained over time.*
 - (c) Adherence to health and safety, or environmental management systems. The Council considers the use of a system such as the NZCIC Responsible Care Programme, the ISO 9000 system, the ISO 14000 system, the ISRS system, the BS 7750 system, or any other recognised and accepted system, will satisfy this requirement. Details of the system in operation will be required to be included in the management plan.*
2. *The following quantitative standards apply to the preparation and operation of the management plan in order for any hazardous substances activity to comply with this section:*
 - (a) A spill containment system such that compliance with performance standards in this section are satisfied including appropriate leak detection systems are in place.*

(b) *Compliance with the following standards, codes of practice and regulations, and bylaws as appropriate to the hazardous substances and facility under examination:*

- *Trade Waste consent or bylaws*
- *AS NZ 1596:1997*
- *Hazardous Substances Regulations*
- *Dangerous Goods Regulations*
- *Code of Practice for 'Design Installation and Operation of Underground Petroleum Storage Systems' and 'Supplement No 1 – Management of Existing Underground Petroleum Storage Systems' published by the Department of Labour, OSH, 1992, or any amendments*

(c) *Review and updating of the management plan provisions including technical operations and management within the site at least every two years. A copy of the reviewed management plan shall be provided to the Council.*


Andrea Te Puni
Planner



[Seen by]
Blair Sutherland
Planning Manager

APPENDICES

- Appendix 1: Relevant Sections of the District Plan
- Appendix 2: Relevant Sections of the Resource Management Act 1991
- Appendix 3: Shell Todd Oil Services Limited Application
- Appendix 4: Limited Notification Correspondence
- Appendix 5: Haig Elgar on behalf of Okahu-Inuawai Hapu

APPENDIX 1: District Plan Requirements

Section 3: Rural Zone

3.01.4 Discretionary Activities

- (d) Petroleum production stations and well heads
- (g) Any activity, other than an activity listed in Section 3.01.5 below, which cannot meet the performance standards set out or referred to in Section 3.02 or 3.03 below and which has not been granted resource consent as a Controlled or Limited Discretionary Activity.

Section 11: Hazardous Substances

11.01.4 Discretionary Activities

- (a) Any hazardous facility that falls within the Effects Ratio (R) levels specified in the HFSP Activity Matrix in Appendix II.

Section 3: Rural Zone Performance Standards – Permitted Activities

General Environmental Standards - All Activities

1. All activities and land use shall be undertaken in a manner ensuring no offensive or objectionable nuisance effects on adjacent properties.
2. Lighting necessary for the activity or generated by an activity and objectionable glare produced by reflected sunlight, shall not directly illuminate any part of an adjoining property.
3. All sites are to be kept free of litter, refuse or dangerous matter at all times.

3.02.3 Landscape and Amenity

All Activities

2. Site development works necessary for land use shall be undertaken entirely within the site.
3. Buildings shall not be located within areas of actual or potential natural hazards, as defined in Section 12.01.3, including where their presence may accelerate or worsen the likelihood of natural hazards.

3.03 Performance Standards – Controlled Activities

- 3.03.2 Any flaring associated with drill stem testing, well clean up and initial well testing phases of petroleum exploration and production testing may be intermittent, but shall not exceed an aggregate of 96 hours per geological formation, or zone, for a maximum of four geological formations or zones.
- 3.03.3 Buildings associated with petroleum prospecting, exploration and production testing shall be a minimum of 10 metres from any site boundary (in different ownership to that of the person undertaking the activity) and not more than 3 metres in height. If the height exceeds 3 metres, such buildings are a discretionary activity.

3.02.12 General District Wide Performance Standards

Noise (See Section 10)
Hazardous Substances (See Section 11)

Section 10 – Noise

10.02 Performance Standards

10.02.1 Rural Zone

- (i) Noise generated by any activity (except those that are exempt under 10.01.4) in the Rural Zone shall not exceed the following limits when measured at or within the boundary of any other Rural Zoned site:

7.00 am to 10.00 pm	55dBA L ₁₀
10.00 pm to 7.00 am	45dBA L ₁₀
10.00 pm to 7.00 am	75dBA L _{max}

10.01.5 **Duty to avoid unreasonable noise**

The Act provides that *every occupier of land (including any premises and any coastal marine area), and every person carrying out an activity in, on or under a water body or the coastal marine area, shall adopt the best practicable option to ensure that the emission of noise from that land or water does not exceed a reasonable level.*

Nothing in this plan shall prevent THE Council from issuing an Excessive Noise Direction under Section 327 of the Resource Management Act 1991 or prevent a person from complying with the Direction, nor prevent THE Council from serving an Abatement Notice relating to unreasonable noise under Section 322(1)(c) of the Resource Management Act 1991.

Section 11 – Hazardous Substances

1. The Hazardous Facility Screening Process (HFSP) matrix set out below shall be used to determine the activity status of a hazardous facility in the Zone in which it is to be located.

Hazardous Facility Screening Procedure (HFSP) Activity Matrix

Zone	Activity Status	
	Permitted	Discretionary
Rural	≤ 0.25	> 0.25

2. The Hazardous Facilities Screening Process set out in Appendix II will be used to determine the characteristics of hazardous substances.
3. If the number of hazardous substances on a site is equal to or less than ten, the HFSP will be carried out on all ten substances.

4. If the number of hazardous substances on a site is more than ten, the HFSP will be carried out on those substances which have either:
 - (i) A high or extreme effect rating; or
 - (ii) Are held in quantities exceeding 10% of the applicable Base Threshold; whichever is higher.
5. The calculation of the Effects Ratio (R) shall be undertaken by a person experienced, qualified and presently operating in the field of hazardous substances and facilities, using the Hazardous Facility Screening Process set out in Appendix II.

11.03 Performance Standards

11.03.1 General Environmental Standards

1. All activities must fully comply with the permitted activity performance standards that are applicable in the relevant zone.
2. Any person undertaking land use activity or activities involving the storage or use of hazardous substances, excluding service stations, shall prepare a Hazardous Substances Management Plan. The following conditions shall apply to the management plan:
 - (i) The management plan shall be prepared in accordance with the guidelines set out in Section 11.03.6.1 of this section.
 - (ii) The Management Plan shall include the matters referred to in Section 11.03.6.2 of this section and Section 1.04.3 of this plan.
 - (iii) The Management Plan shall be submitted to the District Council for certification that it is in accordance with Section 11.03.6 and such certification shall not be unreasonably withheld.
 - (iv) The Management Plan shall describe how compliance with the standards contained in Section 11.03.6 will be achieved.
 - (v) The Management Plan shall be adhered to at all times to ensure compliance with the relevant quantitative standards contained in this Plan (refer to 11.03.6.2c).
3. Where any activity involves the use of hazardous substances and facilities, it shall be advised to the Council and included on a register to be held at the Council.
4. All users of hazardous substances shall advise the Council of the methods they adopt to prevent or mitigate adverse effects from the use, storage, transportation, processing, manufacturing and disposal of such substances.
5. The closure of any activity involving the use, storage, transportation, processing, manufacture, and/or disposal of hazardous substances shall be notified to the Council, and site owners shall be required to rehabilitate the site to the extent necessary to ensure no permanent long term adverse effects from that activity.

11.03.2 Site Design

1. Areas of the facility where hazardous substances are stored, used, processed or manufactured shall be sealed with materials which are impervious to the substances on the site.
2. Outside storage facilities for liquid and solid hazardous substances shall be sealed and banded so that half the volume of the maximum amount of substances can be contained and excluded from the stormwater system should a spill occur. Containment will be achieved with a retention sump and/or a stormwater valve. In drum storage facilities, the bund shall be able to contain half of the volume contained in all the drums.

Where compliance with Rule 4 (Code of Practice for *Design, Installation and Operation of Underground Petroleum Storage Systems* (Department of Labour 1992), or any amendments, is achieved, that will be considered as one means of complying with this rule.

3. All stormwater grates shall be clearly marked with an appropriate sign stating *Stormwater Only*, or the equivalent.
4. Where storage of petroleum products is proposed in underground storage tanks, compliance with the Code of Practice for *Design, Installation and Operation of Underground Petroleum Storage Systems* (Department of Labour, 1992) and amendments to that Code, will be considered to be one means of complying with the rules in section 11.03.2 of this plan.
5. Where storage of petroleum products is proposed in above-ground storage tanks, compliance with the Australian Standard AS 1596 – 1989: LPG Storage and Handling – Siting of Automotive Retail Outlets, will be considered to be one means of complying with the rules in Section 11.03.2 of this plan.
6. Areas of the facility where hazardous substances are used, stored, processed, manufactured, mixed or packaged shall be roofed, except that where storage of LPG complies with the provisions of the Australian Standard AS 1596 – 1989: LPG Storage and Handling – Siting of Automotive Retail Outlets, this rule shall not apply.
7. Areas of the facility which are used for loading or unloading of hazardous substances shall be sealed, banded and drained so that any spills can be contained and excluded from the stormwater system or so that any spills can be contained and potentially contaminated stormwater intercepted and collected for treatment prior to release to an individual stormwater system.
8. Areas of the facility which are used for washing equipment or trucks contaminated with hazardous substances shall be sealed, banded and drained to either a sewage treatment plant or another facility approved by Taranaki Regional Council. A separate resource consent may be required for this.
9. Vehicle accessways used on the facility to transport hazardous substances shall be provided with cut-off drains which are not directly connected to the stormwater system.

1. Storage areas for hazardous substances shall be adequately signposted and all hazardous substances containers shall be correctly labelled.

Compliance with the Code of Practice for *Warning Signs for Premises Storing Hazardous Substances* - New Zealand Chemical Industry Council, and amendments to that Code, will be considered to be one means of complying with this rule.

11.03.5 Emergency and Evacuation Plan

1. All hazardous facilities shall have an emergency and evacuation plan in place which deals with possible onsite accidents involving hazardous substances.

11.03.6 Hazardous Substances Management Plan

The Management Plan referred to in Section 11.03.1 shall be prepared using the following guidelines where practicable and it shall identify how the relevant quantitative standards in this section are to be met.

1. (a) Information contained in the management plan should be formatted under a number of headings to address the following matters.
 - Site specific description of facility and nature of the activity
 - Description of the geology of the site and subsoil
 - Details of surrounding environment/neighbourhood including any sensitive features of land use, land pattern, landscape and land form (eg rivers, coast, streams, buildings, schools, historical sites)
 - Description of the hazardous substances manufactured, used and/or stored on the site including quantities, manner of storage and use, and location of such
 - Identification of the level of hazard associated with the substances used and stored on the site
 - Spill containment systems operated to avoid release of substances to the environment including loading and unloading areas
 - Operational and procedural methods used to manage the facility including emergency and evacuation systems and fire control
 - Identification of New Zealand Standards, codes of practice and regulations (as relevant) complied with for the operation and management of the substances
 - Identification of the risks associated with the substances used and/or stored on the site in the event of release to the environment including the cumulative effects and synergistic effects (i.e. the effects of one substance upon another) of those substances in the environment
 - Description of the methods used to avoid, remedy or mitigate the effects on the environment of release or loss of the substances used and stored on the site, including the effects on adjoining property or activities; and
 - Monitoring of the facility and the use of storage of the substances on the site including indicators or triggers for early response in the event of release or loss to the environment.
- (b) A description of how compliance with the HSNO Act and regulations and any amendments to that legislation will be achieved and maintained over time.
- (c) Adherence to health and safety, or environmental management systems. The Council considers the use of a system such as the NZCIC

Responsible Care Programme, the ISO 9000 system, the ISO 14000 system, the ISRS system, the BS 7750 system, or any other recognised and accepted system, will satisfy this requirement. Details of the system in operation will be required to be included in the management plan.

2. The following quantitative standards apply to the preparation and operation of the management plan in order for any hazardous substances activity to comply with this section:
 - (a) A spill containment system such that compliance with performance standards in this section are satisfied including appropriate leak detection systems are in place.
 - (b) Compliance with the following standards, codes of practice and regulations, and bylaws as appropriate to the hazardous substances and facility under examination:
 - Trade Waste consent or bylaws
 - AS NZ 1596:1997
 - Hazardous Substances Regulations
 - Dangerous Goods Regulations
 - Code of Practice for 'Design Installation and Operation of Underground Petroleum Storage Systems' and 'Supplement No 1 – Management of Existing Underground Petroleum Storage Systems' published by the Department of Labour, OSH, 1992, or any amendments
 - (c) Review and updating of the management plan provisions including technical operations and management within the site at least every two years. A copy of the reviewed management plan shall be provided to the Council.

Section 2 – General Objectives and Policies

Issue: Land

Objective 1

Protect the natural ability of the land and soils to sustain their potential for a variety of land use options for future generations.

Policies

- 1(b) To provide the maximum opportunities for land based production, within a framework of environmental standards.
- 1(c) To manage the subdivision of land.
- 1(d) To manage extractive activities in a way which will reinstate the land after removal of minerals, so as not to preclude its use by future generations.

2.03 The Rural Zone

Objective 2.03.1

- (f) Adverse effects of noise, vibration, odour, dust, glare and nuisance are avoided, remedied or mitigated.

Issue: Environmental Quality

Objective 5

Maintain and where practicable improve the environment around people's homes, farms, business activities and community facilities.

Objective 5.1

Maintain and where practicable improve the social, cultural, and physical health, safety and well-being of the residents and communities of the District.

Policies

- 5(a) To enable a variety of activities to establish provided that they do not reduce the quality, amenity values, character or sustainability of the environment.
- 5(b) To ensure that existing environments are not adversely affected by more intensive development, by providing environmental standards.
- 5(c) To ensure that the effects of the location, design and construction of industrial development are managed to ensure these developments reflect the qualities of the environments in which they are to be located.
- 5(h) To control noise emissions at levels acceptable to the community.

Issue: Infrastructure

Objective 6

Maintain and develop an efficient, effective and sustainable infrastructure that meets the needs of the District's community.

Objective 6.1

Avoid, remedy or mitigate any adverse impact of infrastructure facilities and services on the District's residents and on the environment around their homes, farms and business activities by equitably balancing environmental requirements and individual rights with community needs.

Policies

- 6(e) To maximise the efficiency and effectiveness of existing infrastructure services and facilities.
- 6(f) To provide for the establishment, maintenance and enhancement of utility networks for all utilities required in the District within a framework which avoids, remedies or mitigates the adverse effects of those services.

APPENDIX 2: Resource Management Act 1991

Section 37 Power of waiver and extension of time limits

A consent authority or local authority may, in any particular case,—

- (a) extend a time period specified in this Act or in regulations, whether or not the time period has expired; or*
- (b) waive a failure to comply with a requirement under this Act, regulations, or a plan for the time or method of service of documents.*

(1A) However, a consent authority must not, under subsection (1), waive or extend a time period for the purpose of providing more time for a pre-request aquaculture agreement to be negotiated under section 186ZM of the Fisheries Act 1996.

(2) If a person is required to provide information under this Act, regulations, or a plan and the information is inaccurate or omitted, or a procedural requirement is omitted, the consent authority or local authority may—

- (a) waive compliance with the requirement; or*
- (b) direct that the omission or inaccuracy be rectified on such terms as the consent authority or local authority thinks fit*

Section 37A Requirements for waivers and extensions

(1) A consent authority or local authority must not extend a time limit or waive compliance with a time limit, a method of service, or the service of a document in accordance with section 37 unless it has taken into account—

- (a) the interests of any person who, in its opinion, may be directly affected by the extension or waiver; and
- (b) the interests of the community in achieving adequate assessment of the effects of a proposal, policy statement, or plan; and
- (c) its duty under section 21 to avoid unreasonable delay.

(2) A time period may be extended under section 37 for—

- (a) a time not exceeding twice the maximum time period specified in this Act; or
- (b) a time exceeding twice the maximum time period specified in this Act if the applicant or requiring authority requests or agrees.

(3) Instead of subsections (1) and (2), subsections (4) and (5) apply to an extension of a time limit imposed on a consent authority in respect of—

- (a) an application for a resource consent; or
- (b) an application to change or cancel a condition of a resource consent; or
- (c) a review of a resource consent.

(4) A consent authority may extend a time period under section 37 only if—

- (a) the time period as extended does not exceed twice the maximum time period specified in this Act; and
- (b) either—
 - (i) special circumstances apply (including special circumstances existing by reason of the scale or complexity of the matter); or
 - (ii) the applicant agrees to the extension; and
- (c) the authority has taken into account the matters specified in subsection (1).

- (5) A consent authority may extend a time period under section 37 so that the extended period exceeds twice the maximum time period specified in the Act only if—
- (a) the applicant agrees to the extension; and
 - (b) the authority has taken into account the matters specified in subsection (1).

(6) A consent authority or a local authority must ensure that every person who, in its opinion, is directly affected by the extension of a time limit or the waiver of compliance with a time limit, a method of service, or the service of a document is notified of the extension or waiver

Section 95 Time limit for public notification or limited notification

A consent authority must, within ten working days after the day an application for a resource consent is first lodged,—

- (a) decide whether to give public or limited notification of the application; and*
- (b) notify the application if it decides to do so.*

Section 95A Public notification of consent application at consent authority's discretion

(1) A consent authority may, in its discretion, decide whether to publicly notify an application for a resource consent for an activity.

(2) Despite subsection (1), a consent authority must publicly notify the application if—

- (a) it decides (under section 95D) that the activity will have or is likely to have adverse effects on the environment that are more than minor; or*
- (b) the applicant requests public notification of the application; or*
- (c) a rule or national environmental standard requires public notification of the application.*

(3) Despite subsections (1) and (2)(a), a consent authority must not publicly notify the application if—

- (a) a rule or national environmental standard precludes public notification of the application; and*
- (b) subsection (2)(b) does not apply.*

(4) Despite subsection (3), a consent authority may publicly notify an application if it decides that special circumstances exist in relation to the application.

Section 95B Limited notification of consent application

(1) If a consent authority does not publicly notify an application for a resource consent for an activity, it must decide (under sections 95E and 95F) if there are any affected persons or affected order holders in relation to the activity.

(2) The consent authority must give limited notification of the application to any affected person unless a rule or national environmental standard precludes limited notification of the application.

(3) The consent authority must give limited notification of the application to any affected order holder even if a rule or national environmental standard precludes public or limited notification of the application.

Section 95E Consent authority decides if person is affected person

- (1) A consent authority must decide that a person is an affected person, in relation to an activity, if the activity's adverse effects on the person are minor or more than minor (but are not less than minor).
- (2) The consent authority, in making its decision,—
 - (a) *may disregard an adverse effect of the activity on the person if a rule or national environmental standard permits an activity with that effect; and*
 - (b) *in the case of a controlled or restricted discretionary activity, must disregard an adverse effect of the activity on the person that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion; and*
 - (c) *must have regard to every relevant statutory acknowledgement made in accordance with an Act specified in Schedule 11.*
- (3) Despite anything else in this section, the consent authority must decide that a person is not an affected person if—
 - (a) *the person has given written approval to the activity and has not withdrawn the approval in a written notice received by the authority before the authority has decided whether there are any affected persons; or*
 - (b) *it is unreasonable in the circumstances to seek the person's written approval.*

Section 97 Time limit for submissions

The closing date for serving submissions on a consent authority shall be the 20th working day after public notification or limited notification of the relevant application.

Section 104 Consideration of applications

- (1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to—
 - (a) any actual and potential effects on the environment of allowing the activity; and
 - (b) any relevant provisions of—
 - (i) a national environmental standard:
 - (ii) other regulations:
 - (iii) a national policy statement:
 - (iv) a New Zealand coastal policy statement:
 - (v) a regional policy statement or proposed regional policy statement:
 - (vi) a plan or proposed plan; and
 - (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

Section 104D Determination of applications for discretionary or non-complying activities

After considering an application for a resource consent for a discretionary activity or non-complying activity, a consent authority—

- (a) may grant or refuse the application; and
- (b) if it grants the application, may impose conditions under section 108

Section 108 Conditions of resource consents

- (1) Except as expressly provided in this section and subject to any regulations, a resource consent may be granted on any condition that the consent authority considers appropriate, including any condition of a kind referred to in subsection (2).
- (2) A resource consent may include any 1 or more of the following conditions:
 - (a) subject to subsection (10), a condition requiring that a financial contribution be made:
 - (b) a condition requiring provision of a bond (and describing the terms of that bond) in accordance with section 108A:
 - (c) a condition requiring that services or works, including (but without limitation) the protection, planting, or replanting of any tree or other vegetation or the protection, restoration, or enhancement of any natural or physical resource, be provided:
 - (d) in respect of any resource consent (other than a subdivision consent), a condition requiring that a covenant be entered into, in favour of the consent authority, in respect of the performance of any condition of the resource consent (being a condition which relates to the use of land to which the consent relates):
- (3) A consent authority may include as a condition of a resource consent a requirement that the holder of a resource consent supply to the consent authority information relating to the exercise of the resource consent.
- (4) Without limiting subsection (3), a condition made under that subsection may require the holder of the resource consent to do 1 or more of the following:
 - (a) to make and record measurements:
 - (b) to take and supply samples:
 - (c) to carry out analyses, surveys, investigations, inspections, or other specified tests:
 - (d) to carry out measurements, samples, analyses, surveys, investigations, inspections, or other specified tests in a specified manner:
 - (e) to provide information to the consent authority at a specified time or times:
 - (f) to provide information to the consent authority in a specified manner:
 - (g) to comply with the condition at the holder of the resource consent's expense.

Part 2 - Purpose and principles

Section 5 Purpose

- (1) The purpose of this Act is to promote the sustainable management of natural and physical resources.
- (2) In this Act, **sustainable management** means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—
 - (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
 - (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
 - (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment

Section 6 Matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

- (a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
- (b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:
- (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
- (d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
- (e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:
- (f) the protection of historic heritage from inappropriate subdivision, use, and development:
- (g) the protection of protected customary rights

Section 7 Other matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—

- (a) kaitiakitanga:
 - (aa) the ethic of stewardship:
- (b) the efficient use and development of natural and physical resources:
 - (ba) the efficiency of the end use of energy:
- (c) the maintenance and enhancement of amenity values:
- (d) intrinsic values of ecosystems:
- (e) *[Repealed]*
- (f) maintenance and enhancement of the quality of the environment:
- (g) any finite characteristics of natural and physical resources:
- (h) the protection of the habitat of trout and salmon:
- (i) the effects of climate change:
- (j) the benefits to be derived from the use and development of renewable energy

Section 8 Treaty of Waitangi

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).



31 October 2012

Attention: Blair Sutherland
 South Taranaki District Council
 Private Bag 902
 Hawera 4640

Dear Mr Sutherland

Kapuni Wellsites KA-17 & KA-18 – Applications for Landuse Consent

Please find enclosed an Assessment of Environmental Effects and resource consent applications for land use consents to undertake hydraulic fracturing and associated well servicing activities at two existing wellsites within the Kapuni Field. The completed applications forms are contained within Appendix 8 of the enclosed Assessment of Environmental Effects document.

The wellsites which are the subject of these applications are as follows:

- KA-6/11/17; and
- KA-8/12/15/18.

Also enclosed for your information are copies of the discharge permits issued by the Taranaki Regional Council to undertake hydraulic fracturing at these two sites.

The Assessment of Environmental Effects has demonstrated that the potential and actual effects of the proposed activities at the two wellsites will be no more than minor. Written approval has been received from all identified potentially affected neighbours and property owners within a 1km radius of both sites.

Consultation has also been undertaken with four hapu of Ngaruahine Iwi (Ngāti Manuhiakai hapū, Kanhi-Umutahi hapū, Okahu-Inuawai hapū and Ngāti Tu) and is ongoing. Written approval has not been obtained from any of the four hapu at this stage however STOS would like to proceed with processing of these applications in order to meet the anticipated project schedule. Accordingly, we request that these applications be processed on a limited notification basis to the four hapu of Ngaruahine Iwi.

If you have any queries or questions relating to these applications, please do not hesitate to contact me (06 757-7248; l.bullen@stos.co.nz).

Yours sincerely

Louise Bullen
 Environmental Advisor

Consent 7998-1

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

Name of Consent Holder: Shell Todd Oil Services Ltd
 Private Bag 2035
 NEW PLYMOUTH 4342

Decision Date: 5 April 2012

Commencement Date: 5 April 2012

Conditions of Consent

Consent Granted: To discharge contaminants associated with hydraulic fracturing activities into land at depths greater than 3000 mTVDss beneath the KA-6/11/17 wellsite at or about (NZTM) 1701956E-5627688N

Expiry Date: 1 June 2017

Review Date(s): June 2012, June 2013, June 2014, June 2015, June 2016

Site Location: KA-6/11/17 wellsite, 849 Ahipaipa Road, Kapuni

Legal Description: Lot 1 DP 10950 Blk XVI Kaupokonui SD
 (Discharge source & site)

Catchment: Inaha

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

Page 1 of 5

Consent 7998-1

General condition

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

Special conditions

1. The discharge point shall be deeper than 3000 mTVDss.

Note: mTVDss = metres true vertical depth subsea, i.e. the true vertical depth in metres below mean sea level.

2. The consent holder shall ensure that the exercise of this consent does not result in contaminants reaching any useable fresh water (groundwater or surface water). Usable fresh groundwater is defined as any groundwater having a Total Dissolved Solids concentration of less than 1000 mg/l.

3. The consent holder shall undertake a programme of sampling and testing that monitors the effects of the exercise of this consent on fresh water resources to assess compliance with condition 2 (the 'Monitoring Programme'). The Monitoring Programme shall be certified by the Chief Executive, Taranaki Regional Council ('the Chief Executive'), before this consent is exercised, and shall include:

- (a) the location of the discharge point(s);
- (b) the location of sampling sites; and
- (c) sampling frequency with reference to a hydraulic fracturing programme.

4. All water samples taken for monitoring purposes shall be taken in accordance with recognised field procedures and analysed for:

- (a) pH;
- (b) conductivity;
- (c) total dissolved solids;
- (d) major ions (Ca, Mg, K, Na, total alkalinity, bromide, chloride, nitrate-nitrogen, and sulphate);
- (e) trace metals (barium, copper, iron, manganese, nickel, and zinc);
- (f) total petroleum hydrocarbons;
- (g) formaldehyde;
- (h) dissolved methane and ethane gas;
- (i) methanol;
- (j) glycols;
- (k) benzene, toluene, ethylbenzene, and xylenes (BTEX); and
- (l) carbon-13 composition of any dissolved methane gas discovered ($^{13}\text{C-CH}_4$).

Note: The samples required, under conditions 3 and 4, could be taken and analysed by the Council or other contracted party on behalf of the consent holder.

Consent 7998-1

5. All sampling and analysis shall be undertaken in accordance with a *Sampling and Analysis Plan*, which shall be submitted to the Chief Executive for review and certification before the first sampling is undertaken. This plan shall specify the use of standard protocols recognised to constitute good professional practice including quality control and assurance. An International Accreditation New Zealand (IANZ) accredited laboratory shall be used for all sample analysis. Results shall be provided to the Chief Executive within 30 days of sampling and shall include supporting quality control and assurance information. These results will be used to assess compliance with condition 2.

Note: *The Sampling and Analysis Plan may be combined with the Monitoring Programme required by condition 2.*

6. The consent holder shall undertake well and equipment pressure testing prior to any hydraulic fracture programme on a given well to ensure any discharge will not affect the integrity of the well and hydraulic fracturing equipment.
7. Any hydraulic fracture discharge shall only occur after the consent holder has provided a comprehensive 'Pre-fracturing discharge report' to the Chief Executive. The report shall be provided at least 14 days before the discharge is proposed to commence and shall detail the hydraulic fracturing programme proposed, including as a minimum:
- (a) the specific well in which each discharge is to occur and the intended fracture interval(s) ('fracture interval' is the discrete subsurface zone to receive a hydraulic fracture treatment);
 - (b) the number of discharges proposed and the geographical position (i.e. depth and lateral position) of each intended discharge point;
 - (c) the total volume of fracture fluid planned to be pumped down the well and its intended composition, including a list of all contaminants and Material Safety Data Sheets for all the chemicals to be used;
 - (d) the results of the reviews required by condition 12;
 - (e) results of modelling showing an assessment of the likely extent and dimensions of the fractures that will be generated by the discharge;
 - (f) the preventative and mitigation measures to be in place to ensure the discharge does not cause adverse environmental effects and complies with condition 2;
 - (g) the extent and permeability characteristics of the geology above the discharge point to the surface;
 - (h) any identified faults within the modeled fracture length plus a margin of 50%, and the potential for adverse environmental effects due to the presence of the identified faults;
 - (i) the burst pressure of the well and the anticipated maximum well and discharge pressures and the duration of the pressures; and
 - (j) details of the disposal of any returned fluids, including any consents that are relied on to authorise the disposal.

Note: *For the avoidance of doubt, the information provided with a resource consent application would usually be sufficient to constitute a 'Pre-fracturing discharge report' for any imminent hydraulic fracturing discharge. The Pre-fracturing discharge report provided for any later discharge may refer to the resource consent application or earlier Pre-fracturing discharge reports noting any differences.*

Consent 7998-1

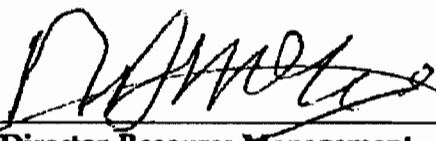
8. The consent holder shall notify the Taranaki Regional Council of each discharge by emailing worknotification@trc.govt.nz. Notification shall include the date that the discharge is to occur and identify the 'Pre-fracturing discharge report', required by condition 7, which details the discharge. Where practicable and reasonable notice shall be given between 3 days and 14 days before the discharge occurs, but in any event 24 hours notice shall be given.
9. At the conclusion of a hydraulic fracturing programme on a given well, the consent holder shall submit a comprehensive 'Post-fracturing discharge report' to the Chief Executive. The report shall be provided within 60 days after the programme is completed and, as a minimum, shall contain:
 - (a) confirmation of the interval(s) where fracturing occurred for that programme, and the geographical position (i.e. depth and lateral position) of the discharge point for each fracture interval;
 - (b) the contaminant volumes and compositions discharged into each fracture interval;
 - (c) the volume of return fluids from each fracture interval;
 - (d) an analysis for the constituents set out in conditions 4(a) to 4(k), in a return fluid sample taken within the first two hours of flow back, for each fracture interval if flowed back individually, or for the well if flowed back with all intervals comingled;
 - (e) an estimate of the volume of fluids (and proppant) remaining underground;
 - (f) the volume of water produced with the hydrocarbons (produced water) over the period beginning at the start of the hydraulic fracturing programme and ending 50 days after the programme is completed;
 - (g) an assessment of the extent and dimensions of the fractures that were generated by the discharge, based on modelling undertaken after the discharge has occurred and other diagnostic techniques, including production analysis, available to determine fracture length, height and containment;
 - (h) the results of pressure testing required by condition 6, and the well and discharge pressure durations and the maximum pressure reached during the hydraulic fracture discharge;
 - (i) details of the disposal of any returned fluids, including any consents that are relied on to authorise the disposal;
 - (j) details of any incidents where hydraulic fracture fluid is unable to pass through the well perforations (screen outs) that occurred, their likely cause and implications for compliance with conditions 1 and 2; and
 - (k) an assessment of the effectiveness of the mitigation measures in place with specific reference to those described in the application for this consent.
10. The reports described in conditions 7 and 9 shall be emailed to consents@trc.govt.nz with a reference to the number of this consent.
11. The consent holder shall provide access to a location where the Taranaki Regional Council officers can obtain a sample of the hydraulic fracturing fluids and the return fluids.

Consent 7998-1

12. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimize any actual or likely adverse effect of the activity on the environment by, as a minimum, ensuring that:
- (a) the discharge is contained within the fracture interval;
 - (b) regular reviews are undertaken of the preventative and mitigation measures adopted to ensure the discharge does not cause adverse environmental effects; and
 - (c) regular reviews of the chemicals used are undertaken with a view to reducing the toxicity of the chemicals used.
13. The fracture fluid shall be comprised of no less than 95% water and proppant by volume.
14. 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 each year, for the purposes of:
- (a) ensuring that the conditions are adequate to deal with any significant adverse effects on the environment arising from the exercise of this consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - (b) further specifying the best practicable option as required by condition 12; and/or
 - (c) ensuring hydraulic fracturing operations appropriately take into account any best practice guidance published by a recognised industry association or environmental regulator.

Signed at Stratford on 5 April 2012

For and on behalf of
Taranaki Regional Council



Director-Resource Management

Consent 7997-1



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

Name of Consent Holder: Shell Todd Oil Services Ltd
 Private Bag 2035
 NEW PLYMOUTH 4342

Decision Date: 5 April 2012

Commencement Date: 5 April 2012

Conditions of Consent

Consent Granted: To discharge contaminants associated with hydraulic fracturing activities into land at depths greater than 3000 mTVDss beneath the KA-8/12/15/18 wellsite at or about (NZTM) 1701622E-5634657N

Expiry Date: 1 June 2017

Review Date(s): June 2012, June 2013, June 2014, June 2015, June 2016

Site Location: KA-8/12/15/18 wellsite, 939 Eltham Road, Kapuni

Legal Description: Lot 1 DP 11292 (Discharge source & site)

Catchment: Inaha

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

Page 1 of 5

Consent 7997-1

General condition

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

Special conditions

1. The discharge point shall be deeper than 3000 mTVDss.

Note: mTVDss = metres true vertical depth subsea, i.e. the true vertical depth in metres below mean sea level.

2. The consent holder shall ensure that the exercise of this consent does not result in contaminants reaching any useable fresh water (groundwater or surface water). Usable fresh groundwater is defined as any groundwater having a Total Dissolved Solids concentration of less than 1000 mg/l.

3. The consent holder shall undertake a programme of sampling and testing that monitors the effects of the exercise of this consent on fresh water resources to assess compliance with condition 2 (the 'Monitoring Programme'). The Monitoring Programme shall be certified by the Chief Executive, Taranaki Regional Council ('the Chief Executive'), before this consent is exercised, and shall include:

- (a) the location of the discharge point(s);
- (b) the location of sampling sites; and
- (c) sampling frequency with reference to a hydraulic fracturing programme.

4. All water samples taken for monitoring purposes shall be taken in accordance with recognised field procedures and analysed for:

- (a) pH;
- (b) conductivity;
- (c) total dissolved solids;
- (d) major ions (Ca, Mg, K, Na, total alkalinity, bromide, chloride, nitrate-nitrogen, and sulphate);
- (e) trace metals (barium, copper, iron, manganese, nickel, and zinc);
- (f) total petroleum hydrocarbons;
- (g) formaldehyde;
- (h) dissolved methane and ethane gas;
- (i) methanol;
- (j) glycols;
- (k) benzene, toluene, ethylbenzene, and xylenes (BTEX); and
- (l) carbon-13 composition of any dissolved methane gas discovered ($^{13}\text{C-CH}_4$).

Note: The samples required, under conditions 3 and 4, could be taken and analysed by the Council or other contracted party on behalf of the consent holder.

Consent 7997-1

5. All sampling and analysis shall be undertaken in accordance with a *Sampling and Analysis Plan*, which shall be submitted to the Chief Executive for review and certification before the first sampling is undertaken. This plan shall specify the use of standard protocols recognised to constitute good professional practice including quality control and assurance. An International Accreditation New Zealand (IANZ) accredited laboratory shall be used for all sample analysis. Results shall be provided to the Chief Executive within 30 days of sampling and shall include supporting quality control and assurance information. These results will be used to assess compliance with condition 2.

Note: *The Sampling and Analysis Plan may be combined with the Monitoring Programme required by condition 2.*

6. The consent holder shall undertake well and equipment pressure testing prior to any hydraulic fracture programme on a given well to ensure any discharge will not affect the integrity of the well and hydraulic fracturing equipment.
7. Any hydraulic fracture discharge shall only occur after the consent holder has provided a comprehensive 'Pre-fracturing discharge report' to the Chief Executive. The report shall be provided at least 14 days before the discharge is proposed to commence and shall detail the hydraulic fracturing programme proposed, including as a minimum:
- (a) the specific well in which each discharge is to occur and the intended fracture interval(s) ('fracture interval' is the discrete subsurface zone to receive a hydraulic fracture treatment);
 - (b) the number of discharges proposed and the geographical position (i.e. depth and lateral position) of each intended discharge point;
 - (c) the total volume of fracture fluid planned to be pumped down the well and its intended composition, including a list of all contaminants and Material Safety Data Sheets for all the chemicals to be used;
 - (d) the results of the reviews required by condition 12;
 - (e) results of modelling showing an assessment of the likely extent and dimensions of the fractures that will be generated by the discharge;
 - (f) the preventative and mitigation measures to be in place to ensure the discharge does not cause adverse environmental effects and complies with condition 2;
 - (g) the extent and permeability characteristics of the geology above the discharge point to the surface;
 - (h) any identified faults within the modeled fracture length plus a margin of 50%, and the potential for adverse environmental effects due to the presence of the identified faults;
 - (i) the burst pressure of the well and the anticipated maximum well and discharge pressures and the duration of the pressures; and
 - (j) details of the disposal of any returned fluids, including any consents that are relied on to authorise the disposal.

Note: *For the avoidance of doubt, the information provided with a resource consent application would usually be sufficient to constitute a 'Pre-fracturing discharge report' for any imminent hydraulic fracturing discharge. The Pre-fracturing discharge report provided for any later discharge may refer to the resource consent application or earlier Pre-fracturing discharge reports noting any differences.*

Consent 7997-1

8. The consent holder shall notify the Taranaki Regional Council of each discharge by emailing worknotification@trc.govt.nz. Notification shall include the date that the discharge is to occur and identify the 'Pre-fracturing discharge report', required by condition 7, which details the discharge. Where practicable and reasonable notice shall be given between 3 days and 14 days before the discharge occurs, but in any event 24 hours notice shall be given.
9. At the conclusion of a hydraulic fracturing programme on a given well, the consent holder shall submit a comprehensive 'Post-fracturing discharge report' to the Chief Executive. The report shall be provided within 60 days after the programme is completed and, as a minimum, shall contain:
 - (a) confirmation of the interval(s) where fracturing occurred for that programme, and the geographical position (i.e. depth and lateral position) of the discharge point for each fracture interval;
 - (b) the contaminant volumes and compositions discharged into each fracture interval;
 - (c) the volume of return fluids from each fracture interval;
 - (d) an analysis for the constituents set out in conditions 4(a) to 4(k), in a return fluid sample taken within the first two hours of flow back, for each fracture interval if flowed back individually, or for the well if flowed back with all intervals comingled;
 - (e) an estimate of the volume of fluids (and proppant) remaining underground;
 - (f) the volume of water produced with the hydrocarbons (produced water) over the period beginning at the start of the hydraulic fracturing programme and ending 50 days after the programme is completed;
 - (g) an assessment of the extent and dimensions of the fractures that were generated by the discharge, based on modelling undertaken after the discharge has occurred and other diagnostic techniques, including production analysis, available to determine fracture length, height and containment;
 - (h) the results of pressure testing required by condition 6, and the well and discharge pressure durations and the maximum pressure reached during the hydraulic fracture discharge;
 - (i) details of the disposal of any returned fluids, including any consents that are relied on to authorise the disposal;
 - (j) details of any incidents where hydraulic fracture fluid is unable to pass through the well perforations (screen outs) that occurred, their likely cause and implications for compliance with conditions 1 and 2; and
 - (k) an assessment of the effectiveness of the mitigation measures in place with specific reference to those described in the application for this consent.
10. The reports described in conditions 7 and 9 shall be emailed to consents@trc.govt.nz with a reference to the number of this consent.
11. The consent holder shall provide access to a location where the Taranaki Regional Council officers can obtain a sample of the hydraulic fracturing fluids and the return fluids.

12. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimize any actual or likely adverse effect of the activity on the environment by, as a minimum, ensuring that:
 - (a) the discharge is contained within the fracture interval;
 - (b) regular reviews are undertaken of the preventative and mitigation measures adopted to ensure the discharge does not cause adverse environmental effects; and
 - (c) regular reviews of the chemicals used are undertaken with a view to reducing the toxicity of the chemicals used.
13. The fracture fluid shall be comprised of no less than 95% water and proppant by volume.
14. 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 each year, for the purposes of:
 - (a) ensuring that the conditions are adequate to deal with any significant adverse effects on the environment arising from the exercise of this consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - (b) further specifying the best practicable option as required by condition 12; and/or
 - (c) ensuring hydraulic fracturing operations appropriately take into account any best practice guidance published by a recognised industry association or environmental regulator.

Signed at Stratford on 5 April 2012

For and on behalf of
Taranaki Regional Council



Director-Resource Management



**Application to South Taranaki District
Council for Land Use Consents and
Assessment of Environmental Effects**



**Hydraulic Fracturing of KA-17 & KA-18
Kapuni Field**

October 2012

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EXECUTIVE SUMMARY

- Shell Todd Oil Services (STOS) plan to undertake a process known as 'hydraulic fracture stimulation' at the KA-17 and KA-18 wellsites within the Kapuni Field during 2013.
- The overall process of hydraulic fracturing, including equipment set-up and associated well services work, is expected to be completed over a period of approximately two months at KA-17. The actual hydraulic fracturing activity, which involves the use of high powered pumps, is anticipated to be limited to approximately ten days within the overall programme at KA-17.
- The overall process of hydraulic fracturing including equipment set-up and associated well services work is expected to be completed over a period of approximately two months at KA-18. This programme may occur over one continuous time period or may be split into two separate phases. The first phase would occur over approximately one month followed by a possible second phase occurring approximately 3-6 months later. The actual hydraulic fracturing activity is anticipated to be limited to a total of four days within the overall programme at KA-18.
- The emission of noise from the actual hydraulic fracturing activity at both wellsites will only occur within daytime hours of the STDP (i.e. 7am-10pm), will be intermittent (4-6 hours per day on some days) and of short overall duration.
- Associated well services activities, such as the use of a coiled tubing unit to clean out the well at the completion of the hydraulic fracturing activities, will occur on a 24 hour basis but will be limited to 3-5 days within the overall programme at each wellsite. These activities will involve a lower level of noise than that associated with hydraulic fracturing activities.
- Limited duration resource consent is sought to cover the noise emissions and storage and use of hazardous substances associated with hydraulic fracturing and well services activities at both wellsites.
- Mitigation of noise emissions is proposed in the form of noise insulation panels around the machinery being used and workplace processes to minimise noise.
- The noise emissions are predicted to comply with the South Taranaki District Plan (STDP) daytime noise rules at a distance of approximately 1 km from each well site.
- The majority of significant noise producing activities will be limited to the daytime hours of the STDP (7am-10pm) however, some well services activities (e.g use of coiled tubing unit) will be 24 hour operations and will result in the STDP night-time noise levels being exceeded at nearby residences. These activities will be limited to 3-5 days within the overall programme at each wellsite.
- Potentially affected neighbours in relation to noise emissions have been identified as the owners and occupiers of all dwellings and land within a 1 km radius of each well site. Written approval from all potentially affected owners and occupiers within 1km of both the KA-17 and KA-18 wellsites has been

obtained. Therefore, any adverse effects on these parties cannot be taken into account when considering this application.

- The storage and use of hazardous substances at the two wellsites has been assessed against the Hazardous Facility Screening Process (HFSP) as specified in the STDP. These assessments indicated that the storage and use of hazardous substances associated with the proposed activities will be outside the permitted activity limits specified in the STDP.
- Hazardous Substance Risk Assessments have been undertaken which demonstrate that adverse effects to offsite parties from the storage and use of hazardous substances at both wellsites are very unlikely given the proposed control and mitigation measures that will be in place.
- Mitigation measures associated with the storage and use of hazardous substances will include:
 - secondary containment for the storage of hazardous substances;
 - appropriate signage and labelling of storage areas and containers;
 - the use of drip trays during fluid transfer operations;
 - minimisation of the volumes of hazardous substances stored on site;
 - maintaining a current register of all MSDS on site;
 - site specific emergency and spill response procedures for each site;
 - the presence of spill response kits at each site; and
 - appropriate HSNO Certification at each site.
- Potentially affected neighbours in relation to hazardous substances have been identified as owners and occupiers of dwellings and properties directly neighbouring the wellsites. Written approval from all potentially affected neighbours in the vicinity of both KA-17 and KA-18 has been obtained. Therefore, any adverse effects on these parties cannot be taken into account when considering this application.
- Four hapu of Ngaruahine Iwi have been consulted regarding these applications: Ngāti Manuhiakai hapū, Kanihi–Umutahi hapū, Okahu-Inuawai hapū and Ngāti Tu. Consultation with hapu was ongoing at the time of submitting this Assessment of Environmental Effects.
- With the mitigation measures in place and the approval of affected neighbours, the adverse effects of the hydraulic fracturing of the KA-17 and KA-18 wells and associated works are considered to be no more than minor.
- STOS recently completed similar programs in the Kapuni area during 2009/2010 and received no complaints during these activities.

DEFINITIONS AND ABBREVIATIONS

AEE: Assessment of Environmental Effects

dBA: A measurement of sound level which has its frequency characteristics modified by a filter (A-weighted) so as to more closely approximate the frequency bias of the human ear.

Coiled Tubing: A long, continuous length of pipe wound on a spool. The pipe is straightened prior to pushing into a wellbore and rewound to coil the pipe back onto the spool for transport and storage.

HFSP: Hazardous Facility Screening Process

HSNO: Hazardous Substances and New Organisms

Hydraulic fracture stimulation: The process where fluids are pumped down a well into the formation under pressure to fracture the rock in the formation and enhance well inflow or production.

Mini-frac: Diagnostic injection test using viscosified fluid but no proppant used to finalise hydraulic fracture stimulation design.

NRL: National Radiation Laboratory

Proppant: Material used to hold hydraulic fracture open. Proppant material used at Kapuni is Ceramic beads, 0.4 - 0.9mm in diameter.

RFWP: Regional Freshwater Plan for Taranaki (2001)

RMA: Resource Management Act 1991

STDC: South Taranaki District Council

STDP: South Taranaki District Plan

STOS: Shell Todd Oil Services Limited

TRC: Taranaki Regional Council

Well Servicing: The maintenance procedures performed on an oil or gas well after the well has been completed and production from the reservoir has begun.

1. Introduction

1.1 Purpose of the Report

Shell Todd Oil Services Ltd (STOS) is the holder of Mining License PML 38839. The License covers an area of 218.98 square kilometres and was issued in January 1970. An extension to the License was granted in 2011 until 2032.

The Kapuni reservoir within the Kapuni Field has been utilised for gas production for approximately 40 years, since it was commissioned in the 1970s. As part of the 2012/13 development programme for Kapuni, STOS plans to undertake hydraulic fracture stimulation at the KA-17 well located on the KA-6/11/17 wellsite and at the KA-18 well located on the KA-8/12/15/18 wellsite. These wellsites have both been in existence since the 1970's.

This report has been prepared to document the Application for Land Use Consent and associated Assessment of Environmental Effects (AEE) of the proposed hydraulic fracturing at KA-17 and KA-18. This report provides all necessary supporting information for the application for Land Use Consent, required under the Resource Management Act 1991 (RMA) from the South Taranaki District Council (STDC).

1.2 Site Location Information

KA-6/11/17 Wellsite

Applicant	Shell Todd Oil Services Ltd
Postal address	Private Bag 2035, New Plymouth
Site location	849 Ahipaipa Road, Kapuni
Map reference	at or about NZTM 1701956E – 5627688N
Legal description	Lot 1 DP 10950 Blk XVI Kaupokonui SD
Catchment	Inaha

KA-8/12/15/18 Wellsite

Applicant	Shell Todd Oil Services Ltd
Postal address	Private Bag 2035, New Plymouth
Site location	939 Eltham Road, Kapuni
Map reference	at or about NZTM 1701622E – 5634657N
Legal description	Lot 1 DP 11292
Catchment	Inaha

2. Land Use Consent Sought

2.1 South Taranaki District Council (STDC) Land Use Consent

The majority of production activities that occur at the KA-8/11/17 and KA-8/12/15/18 wellsites occur under the existing use rights provided for under the RMA.

Despite the existing use status of the site, the STDC have advised (during consultation for this and other recent drilling/well services activity in the Kapuni Field) that a new land use consent is required to cover the noise emissions and storage and use of hazardous substances during drilling, workover and hydraulic fracturing activities on the wellsites.

This application is consistent with other consents applied for in the STOS operated Kapuni field in recent years.

STOS accordingly applies for Land Use consent to generate noise which exceeds South Taranaki District Plan (STDP) day-time noise rules and to store and use hazardous substances during hydraulic fracturing and associated well services work at the KA-17 and KA-18 wells. These are discretionary activities as identified in Section 10.02.1 (Noise) and Section 11.01.4 (Hazardous Substances) of the STDP.

Resource consent is sought for a limited period of two years from the time at which the land use consent becomes effective. It is anticipated that the activities will be completed during 2013 however a two year consent is requested to take account of potential schedule changes.

It is noted that STOS maintain they have existing use rights on these and other Kapuni wellsites. These applications are not sought to prejudice existing or future activities on these or other existing STOS wellsites.

Completed STDC Consent application forms are attached as Appendix 8.

2.2 Permitted Activities

The activity will operate under a number of permitted activity rules in the STDP. These are detailed below.

2.2.1 Site Access and Parking

The site access is established and has been in use since the 1970s. Access to the KA-8/11/17 site is immediately off Ahipaipa Road and access to the KA-8/12/15/18 site is via a 500m tarsealed access road. Provision for on-site parking and appropriate vehicle access has been provided in accordance with the STDP. As shown on the site plan in Appendix 1, both sites are large, and metalled to an all weather surface. The site is designed to accommodate the hydraulic fracturing equipment and the associated traffic to make the operation as smooth and safe as possible.

2.2.2 Light Emissions

Some lights will be required on the site at night time to enable work to continue safely. However it is noted that, wherever possible, significant activities will be limited to day-time hours. All lights will be directed away from nearby residences. Staff on the well site are experienced with ensuring this occurs.

2.2.3 Heavy Traffic Generation

Some increase in heavy vehicle movements will be associated with hydraulic fracturing activities. The greatest number of heavy vehicle movements will be associated with mobilisation of equipment to each wellsite (approximately 50 loads per site) and the removal of waste fracture fluid (approximately 125 loads from KA-17 and 30 loads from KA-18). There will also be a requirement to truck water to the KA-18 site for use in the hydraulic fracture programme (approximately 50 loads). A summary of anticipated heavy vehicle movements associated with the project is contained in Table 1 below.

Traffic counts recorded by STDC indicate that existing heavy vehicle movements are 66 per day on Ahipaipa Road in the vicinity of KA-17 and 128.8 per day on Eltham Road in the vicinity of the KA-18 wellsite. When compared to the definition of Unusual Heavy Traffic in the STDP, the existing annual average daily number of heavy vehicle movements on the road will not be significantly (i.e. more than 150%) increased by heavy vehicle movements associated with hydraulic fracturing activities.

Table 1: Estimated Number of Heavy Vehicle Movements per Wellsite

Site	Estimate of Total Heavy Vehicle Movements	Weeks Trucking	Maximum Heavy Vehicle Movements per day
KA-17	225	9 weeks	40
KA-18 – Phase 1	175	5 weeks	40
KA-18 – Phase 2	175	5 weeks	40

Key mitigation measures associated with land transport that will be in place for these projects include:

- The use of approved routes for transport to and from the wellsites.
- The avoidance of heavy traffic movements during school bus hours.
- Site traffic management.
- Vehicle requirements.
- A journey management system for all high risk transport activity (e.g. equipment mobilisation; dangerous goods cartage; and night transport).
- The use of a heavy transport safe load checklist.

2.2.4 Landscape

The activities are excluded from the landscaping requirements detailed in section 3.02.3 of the STDP (petroleum prospecting, exploration and production testing).

3. Related Consents

A number of related resource consents relevant to the KA-6/11/17 and KA-8/12/15/18 sites are held by STOS, as follows:

Air discharge consents

STOS holds air discharge consents for the KA-6/11/17 and KA-8/12/15/18 wellsites. These consents provide for the discharge of emissions into air (including flaring) from well workovers and in emergency situations and miscellaneous emissions associated with production activities. The relevant air discharge consents are as follows:

- KA-6/11/17 - Consent 6827-1; and
- KA-8/12/15/18 - Consent 6828-1.

Stormwater Consents

STOS holds existing stormwater consents for the KA-6/11/17 and KA-8/12/15/18 wellsites. There will be no additional stormwater discharges associated with the hydraulic fracturing activities and existing stormwater conditions will be complied with. The relevant stormwater discharge consents are as follows:

- KA-6/11/17 - Consent 3266-3; and
- KA-8/12/15/18 - Consent 3265-3.

Hydraulic Fracture Stimulation

Hydraulic fracture stimulation activities have been routinely undertaken by STOS within the Kapuni field since 1993. Previously, it was considered that this type of activity did not require regulation under the Resource Management Act (RMA).

However, in August 2011 the Taranaki Regional Council reviewed its position regarding hydraulic fracture stimulations and now requires resource consent to be obtained for hydraulic fracturing activities within Taranaki, under Rule 44 of the Regional Freshwater Plan for Taranaki.

Consequently, STOS has recently applied for and been granted resource consents to discharge contaminants associated with hydraulic fracture activities into land at, or below, a depth of 3000 mTVss at KA-6/11/17 and KA-8/12/15/18 as follows:

- KA-6/11/17 - Consent 7998-1; and
- KA-8/12/15/18 - Consent 7997-1.

4. Statutory Framework

4.1 Overview

The proposed activity is subject to a number of resource management statutes and plans. The most relevant legislation is the Resource Management Act 1991 (RMA). There are also a number of statutory plans relevant to the project including;

- The South Taranaki District Plan 2004 (STDP);
- The Regional Policy Statement for Taranaki 2009;
- The Regional Air Quality Plan for Taranaki 2011; and
- The Regional Freshwater Plan for Taranaki 2001.

A summary of the relevant parts of these statutes and plan requirements are provided below along with an assessment of the activity against the relevant policies and objectives of the STDP.

4.2 Resource Management Act 1991

This application for resource consent is made to the STDC under s.88 of the RMA. Council's decision on the application will be made under s.105 after taking into account the matters contained in s.104. Section 104 states in relation to resource consent applications that:

'...subject to Part II [see below] when considering an application for resource consent and any submissions received, [Council] shall have regard to –

- (a) Any actual and potential effects on the environment of allowing the activity...*
- (b) Any relevant... regional policy statement and proposed regional policy statement...*
- (c) Any relevant objectives, policies, rules or other provisions of a plan or a proposed plan; and*
- (d) Any relevant district plan...where the application is made in compliance with a regional plan...*
- (e) Any relevant designations...or relevant requirements for designations...; and*
- (f) Any other matters the consent authority considers relevant and reasonably necessary to determine the application.'*

Part II of the Resource Management Act 1991 (RMA) sets out the purpose and principles for resource management in New Zealand. The purpose is *'to promote the sustainable management of natural and physical resources'*.

Where sustainable management is defined as;

'...managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while—

- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations;*
- (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment" (s.5, Resource Management Act, 1991).'*

Section 6 of the RMA sets out a number of matters of national importance that must be recognised and provided by persons exercising functions and powers under the Act as follows:

- (a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development;*
- (b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;*
- (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;*
- (d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;*
- (e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga;*
- (f) the protection of historic heritage from inappropriate subdivision, use, and development;*
- (g) the protection of protected customary rights.'*

In addition, Section 7 of the RMA sets out a number of matters in relation to managing the use, development, and protection of natural and physical resources that persons exercising functions and powers under the Act shall have particular regard to as follows:

- (a) kaitiakitanga;*
- (aa) the ethic of stewardship;*
- (b) the efficient use and development of natural and physical resources;*
- (ba) the efficiency of the end use of energy;*
- (c) the maintenance and enhancement of amenity values;*
- (d) intrinsic values of ecosystems;*
- (f) maintenance and enhancement of the quality of the environment;*
- (g) any finite characteristics of natural and physical resources;*
- (h) the protection of the habitat of trout and salmon;*
- (i) the effects of climate change;*
- (j) the benefits to be derived from the use and development of renewable energy.'*

Section 8 of the RMA also requires that: *'all persons exercising functions and powers.... in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).'*

4.3 South Taranaki District Plan

The two sites are located within the Rural Zone, as identified in the STDP. Copies of the relevant STDP Planning Maps are attached as Appendix 2.

The relevant issues, objectives and policies from the STDP are included below, along with a discussion specific to the activities which are the subject of these consent applications.

General Policies

2.01.5 Protecting, maintaining and enhancing the quality of the environment while meeting the needs of local residents.

Objective 5

Maintain and where practicable improve the environment around people's homes, farms, business activities and community facilities.

Objective 5.1

Maintain and where practicable improve the social, cultural, and physical health, safety and well-being of the residents and communities of the District.

Policies

5(a) To enable a variety of activities to establish provided that they do not reduce the quality, amenity values, character or sustainability of the environment.

5(h) To control noise emissions at levels acceptable to the community.

The relevant STDP commentary states in relation to these two Policies;

'The community places considerable value on the character and quality of the residential and recreational environments in the District. This quality is to be protected from the adverse effects of activities. Industrial activity has the potential for creating adverse effects on the amenity values of areas in which it is located. It is also recognised as a significant contributor to the social and economic well-being of the community. The intention is to establish controls for the establishment of industry which reflect the surrounding environments and provide for industrial development with some certainty and flexibility.'

'Environmental noise has the potential to have a significant effect on the amenity of any neighbourhood or environment. Noise is a nuisance when it reaches levels which interfere with people's normal daily activities, or sleep. The effects of noise are different depending on the type, nature and continuity of that noise. For example, noise of an intermittent kind is likely to have less impact on people than continual high pitched noise over lengthy periods of time. The Act requires that the emission of noise is kept to reasonable levels at all times. The principal areas of concern within the District are the adverse effects of noise on residential areas, and the interface between different areas. e.g. noise generated in one area impacting on an adjacent area.'

Objective 8

Avoid or mitigate the adverse effects of, and risks associated with, the use, storage, disposal and transportation of hazardous substances

Policies

8(c) To develop and implement rules for the management of hazardous facilities and the prevention or mitigation of effects associated with the use, disposal, storage and transportation of hazardous substances.

8(d) To require the preparation and operation of site management and emergency plans where activities use, store or transport hazardous substances.

8(e) To ensure that the adverse effects of the transportation of hazardous substances and waste material are assessed in a manner which results in those effects being avoided, remedied or mitigated.

The relevant STDP commentary states in relation to these Policies:

'The nature and scale of potential adverse effects on the environment associated with hazardous facilities and the use, storage and transportation of hazardous substances, are influenced by location. For example, the proximity to sensitive natural environment areas or habitats, or residential areas. Specific controls relating to the use and storage of hazardous substances will therefore directly affect the nature and scale of risk, and the scale of environmental effects.'

'Hazardous facilities are permitted to operate without a land use consent where the risk they pose is deemed to be low. However, hazardous facilities can generate adverse effects if operational procedures do not conform to minimum performance standards. A suitable monitoring programme can ensure that such effects are avoided, remedied or mitigated upon detection.'

Policies specific to the Rural Zone

Of particular relevance in the Rural Zone are:

- Objectives 2.03.1(e): *'Security from natural hazards and hazardous substances';* and
- Objective 2.03.1 (f): *'Adverse effects of noise, vibration, odour, dust, glare and nuisance are avoided, remedied or mitigated'.*

In relation to the Rural Zone, the STDP states in its Policies (2.03.2) that (relevant policies only);

(b) All activities in the rural zone shall be managed to ensure that any adverse effects on the surrounding environment are avoided, remedied or mitigated.

(c) To ensure that industrial activities based on the processing of rural products, including extractive industries, avoid, remedy or mitigate any adverse effects on the surrounding environment.

(e) To encourage industrial activities not based on the processing of rural products to establish in the Industrial Zone in an urban centre where this is an appropriate location for such an activity.

(f) To provide for industrial and commercial activities in rural settlements, subject to appropriate performance standards.

(g) To require activities to use existing utilities and services where these are available.

4.4 Discussion of activity in relation to STDP Policies & Objectives.

- Due to the nature of petroleum development, the rural zone is typically where such activities occur and it is not appropriate to require such activities to occur within an Industrial Zone.
- The following AEE will demonstrate that the potential adverse effects of the noise emissions and storage and use of hazardous substances associated with the Project are able to be avoided, remedied or mitigated.
- The hydraulic fracturing activities will be conducted at an existing wellsite, which is in keeping with policy 2.03.2(g).
- The continued operation, and enhancement, of the Kapuni Field is consistent with Policy 2.03.2(f).

- The wellsite will contribute to the social and economic well being of the community, the importance of which is recognised in the STDP. It is considered that the wellsite activity is able to continue to operate in a manner considerate of the surrounding environment.

4.5 Regional Policy Statement

The Regional Policy Statement for Taranaki states the following in relation to petroleum activities in the Region;

13.1 RECOGNISING AND PROVIDING FOR APPROPRIATE USE AND DEVELOPMENT OF MINERALS

'Minerals are natural and physical resources, the sustainable management of which are to be promoted under the Resource Management Act. Minerals include aggregate such as rocks, gravel and sand, coal, and petroleum minerals such as oil, gas and condensate. Taranaki is one of the most important mineral producing regions in New Zealand containing the country's only commercially producing oil and gas fields. Interest in petroleum exploration in the region remains high'.....

'Access to and use and development of the region's mineral resources is important to New Zealand and to the Taranaki region to enable people and communities to provide for their social, economic and cultural wellbeing and for their health and safety.'

The RPS identifies policies and objectives relating to enabling the appropriate use and development of the region's mineral resources in a way that avoids, remedies or mitigates adverse effects on the environment.

The proposed activity is therefore recognised as important to the Region, and the manner in which it will be undertaken will ensure that the effects on the environment are avoided, remedied or mitigated.

4.6 Regional Plans

The Taranaki Regional Plans were considered at the time the existing TRC consents were applied for. It is not considered necessary to discuss these in more detail as part of this application.

5. Existing Environment

5.1 General Location & Topography

The KA-6/11/17 wellsite is located at 849 Ahipaipa Road and is accessed directly from Ahipaipa Road. The Kapuni Production Station is approximately 2 km north-west of the site. See Figure 1 below.

The KA-8/12/15/18 wellsite is located at 939 Eltham Road. It is located approximately 500m from Eltham Road, accessed via a tarsealed access road. The Kapuni Production Station is approximately 4.7km south of the site. See Figure 1 below.

The topography of the surrounding land at both sites is gently rolling to flat farmland interspersed with a network of rural roads, rural dwellings and petroleum infrastructure (e.g. wellsites, production facilities and pipelines). A number of other industrial sites are also located within the vicinity of the Kapuni Production Station including the Vector gas processing facility and the Ballance Agri-Nutrients plant.

The wellsites are located on the Taranaki Ring Plain, which was formed from Pleistocene lahars and volcanic ash derived from eruptions of Mt Taranaki. The volcanic material overlies older Tertiary sediment material in which the oil and gas deposits are located.

5.2 Land Use & Community

The surrounding land is used predominantly for dairy farming (see Photos 1 and 2).

Importantly, the area has been widely used for petroleum exploration and production activities since the 1970's, and petroleum infrastructure including wellsites, production facilities and pipelines are a feature of the existing landscape. These activities are familiar to the community and are an established part of the history of the area. These activities shape the existing traffic, noise and amenity values in the area.

The land on which the wellsites are located has been owned by the Kapuni Joint Venture Parties since the 1970's.

Figure 1: General location of the KA-6/11/17 and KA-8/12/15/18 wellsites





Photo 1: Existing KA-6/11/17 Wellsite



Photo 2: Existing KA-8/12/15/18 Wellsite

5.3 Vegetation and wildlife

The two sites are located in the mid-ring plain and are dominated by grass vegetation associated with farming activities. There is no significant native vegetation in the immediate area other than the pastureland. Limited native vegetation is present along the margins of some nearby streams.

Wildlife in the immediate area is likely to be limited to common or adaptable native and introduced bird species, and limited in stream fauna. There are no scenic or recreation reserves, or State or National Parks in the immediate vicinity of the site.

5.4 Adjacent Water Ways

- The KA-6/11/17 site is located approximately 25m to the east of an unnamed tributary within the Inaha Stream catchment and 250m to the west of another unnamed tributary within the Inaha Stream catchment.
- The KA-8/12/15/18 site is located approximately 200m to the east of the Kapuni Stream and approximately 90m to the west of an unnamed tributary within the Inaha Stream catchment.

5.5 Sites of Cultural Significance

There are a number of sites of significance to Ngaruahine Iwi in the general vicinity of the KA-6/11/17 and KA-8/12/15/18 wellsites including the following:

- On the Kapuni Stream between KA-01/07 & KA-04/14 there is a waahi tapu Rua Ruru which also has a small urupa in its vicinity.
- Te Ngutu o te Manu Battle site and Historic Reserve on Ahipaipa Road, where Riwha Titokowaru (Ngati Ruanui) in 1868 had a victory against the colonial forces.
- Further to the south are a number of sites of significance including Pungarehu, Maru and Te Kopanga.

5.6 Existing Noise Environment

During consenting for drilling activities at KA-6/11/17 wellsite in 2009, background noise monitoring was undertaken by Carlton Technology. This data provides an indication of the background noise environment at both the KA-6/11/17 and KA-8/12/15/18 wellsites.

The monitoring data, which was collected over a 1 month period and filtered to provide representative data, indicated that 13.3% of the noise during the monitoring period was above the night time noise levels in the STDP (45 dBAL10), and 77% of the time the background noise was above 40dBAL10. This indicates a reasonably noisy rural environment.

A copy of this background noise report can be provided if required, however it formed part of a previous application in relation to the KA 6/11/17 wellsite (K3E South A well, October 2009) and we anticipate the STDC will be familiar with it.

6. Description of Proposed Activity

6.1 Overview of Proposal

Figure 1 shows the general location of the KA-6/11/17 and KA-8/12/15/18 wellsites and a proposed site layout for each site is included as Appendix 1.

The KA-6 and KA-11 wells were drilled during the 1970's and 1980's and the KA-17 well was drilled in 2010. The KA-8, KA-12 and KA-15 wells were drilled during the 1970's to 1990's and the KA-18 well was drilled in 2010. Since the 1970's there has been ongoing activity on both sites associated with the wells, including drilling, workovers, well enhancement operations, and the storage and use of hazardous substances.

The two sites have contained an active well head for approximately 40 years. The condensate and gas extracted from the wells is carried via pipeline to the Kapuni Production Station. As a result of utilising this existing infrastructure no new pipelines will be required for the proposed activities.

Hydraulic fracturing of both the KA-17 and KA-18 wells is programmed to be undertaken during 2013. Hydraulic fracturing is the process whereby fluids are pumped down the well into the formation under pressure to enhance well inflows. The intention is to 'fracture' the rock in the formation. The injected fluids contain a 'proppant' which is essentially a ceramic sand. This flows with the fluid into the fractures made and remains there, 'propping' the fracture open, to allow hydrocarbons to flow more freely from the formation. Photo 3 provides an example of hydraulic fracturing equipment in use.



Photo 3: Example of hydraulic fracturing equipment

The hydraulic fracturing programme will be undertaken over an approximately two month period at each site. Operations at KA-17 are likely to occur in one continuous phase lasting approximately two months.

At KA-18 there will either be one continuous programme lasting up to two months or the programme may be undertaken in two separate phases of approximately one month each. The two phases are anticipated to be separated by break of 3-6 months.

The actual process of hydraulic fracturing will be short term and intermittent within the overall programme and is anticipated to occur over approximately ten days at KA-17 and four days at KA-18. The remainder of the time will be associated with equipment mobilisation and de-mobilisation; equipment testing and associated well servicing activities.

Noise emissions associated with activities other than hydraulic fracturing will be significantly lower and primarily associated with generators, related well services activities, traffic movements, equipment mobilisation, equipment testing and general site preparation activities. Some of the well services activities (e.g. coiled tubing operations) are required to be undertaken on a continuous 24 hour per day basis but will be limited to 3-5 days within the overall programme at each wellsite. Wherever possible, significant noise producing activities will be limited to daytime hours.

The process of hydraulic fracturing involves the use of a number of hazardous substances. This includes the use of diesel to operate the hydraulic fracturing pumps and also a number of additives that are used within the hydraulic fracture treatment fluid. The main component of the treatment fluid is water (approximately 92%). Additives are used to both increase the viscosity of the water in order to transport the proppant into the fracture created by the hydraulic fracture process and then to reduce the fluid viscosity to return the fluid to surface.

6.2 Predicted Noise Emissions during KA-17 and KA-18 Hydraulic Fracturing Activities

An analysis of noise monitoring data obtained from a similar hydraulic fracturing operation at KA-18 undertaken during May 2010 has been used to predict noise levels associated with the proposed hydraulic fracturing operations at the KA-17 and KA-18 wells. This analysis has been undertaken by Carlton Technology on behalf of STOS.

The predicted noise emissions, assuming a similar level of sound screening to that utilised at the previous KA-18 hydraulic fracturing operation, are shown in the graphs below (Figures 2 and 3). The predicted noise levels generated from the hydraulic fracturing activity at KA-17 will be up to 68 dBA when measured at the closest dwelling. The predicted noise levels generated from the hydraulic fracturing activity at the KA-18 wellsite will be up to 62 dBA when measured at the closest dwelling. The full reports are included in Appendix 3.

The term "fracturing" conjures up thoughts of high impact forces (and hence noises), but in fact fracturing of wells involves the use of high-powered diesel engine/pump-sets to inject high volumes of fluid down the hole. Hence the noise character is one of high-revving engines. The engines are lined up side-by-side and operate together (see Photo 3).

The planned schedule will see a “mini” fracture followed almost immediately by a “main” fracture treatment. The “mini” fracture involves pumping viscosified fluid into the well but without the addition of proppant. The “mini” fracture is used as a diagnostic test to finalise the hydraulic fracture design for the “main” fracture treatment. The same equipment will be utilised (and the same noise levels generated) for each treatment. The difference between the “mini” and “main” stages being the duration, with the latter expected to last no more than four hours.

At KA-17 this sequence, of a ‘mini’ fracture followed by a “main” fracture will be repeated a number of times with approximately 2-3 days in-between, resulting in a total of nine fracture treatments being undertaken. At KA-18 one or two fracture treatments are planned. A further fracture treatment may be undertaken at KA-18 approximately 3-6 months after the first phase of the programme.

The overall hydraulic fracturing activities are expected to last for a duration of up to two months at both sites. Hydraulic fracturing of the wells will only occur during daytime noise hours of the STDP (i.e. 7am-10pm). The hydraulic fracturing pumps will operate only on some days, and only for part of the day (i.e. 4-6 hours). At KA-17 the hydraulic fracturing pumps are expected to operate for approximately ten days and at KA-18 for approximately four days (Phase 1 and 2 combined).

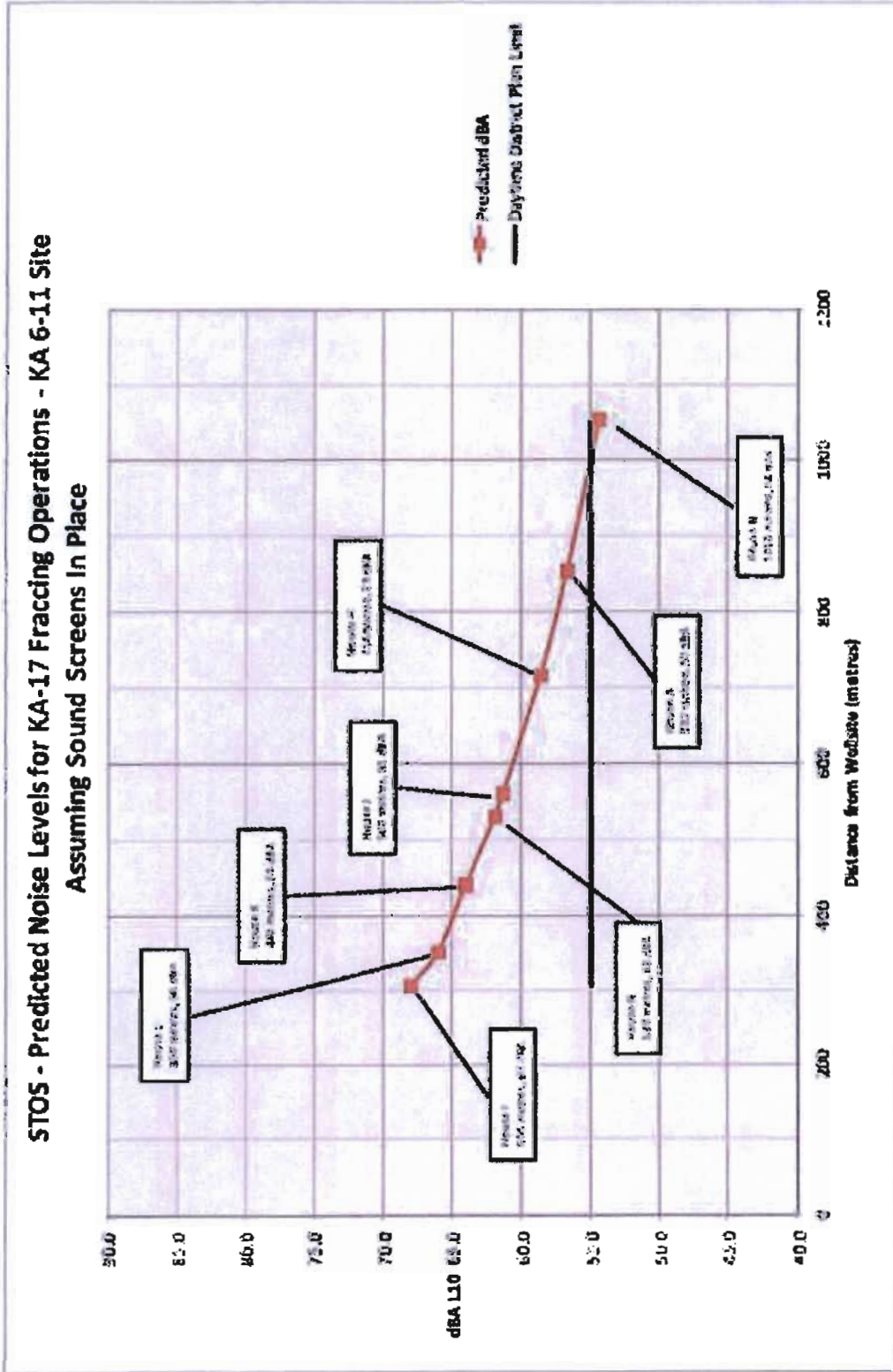


Figure 2: Predicted Noise Emissions from Hydraulic Fracturing Equipment at KA-17

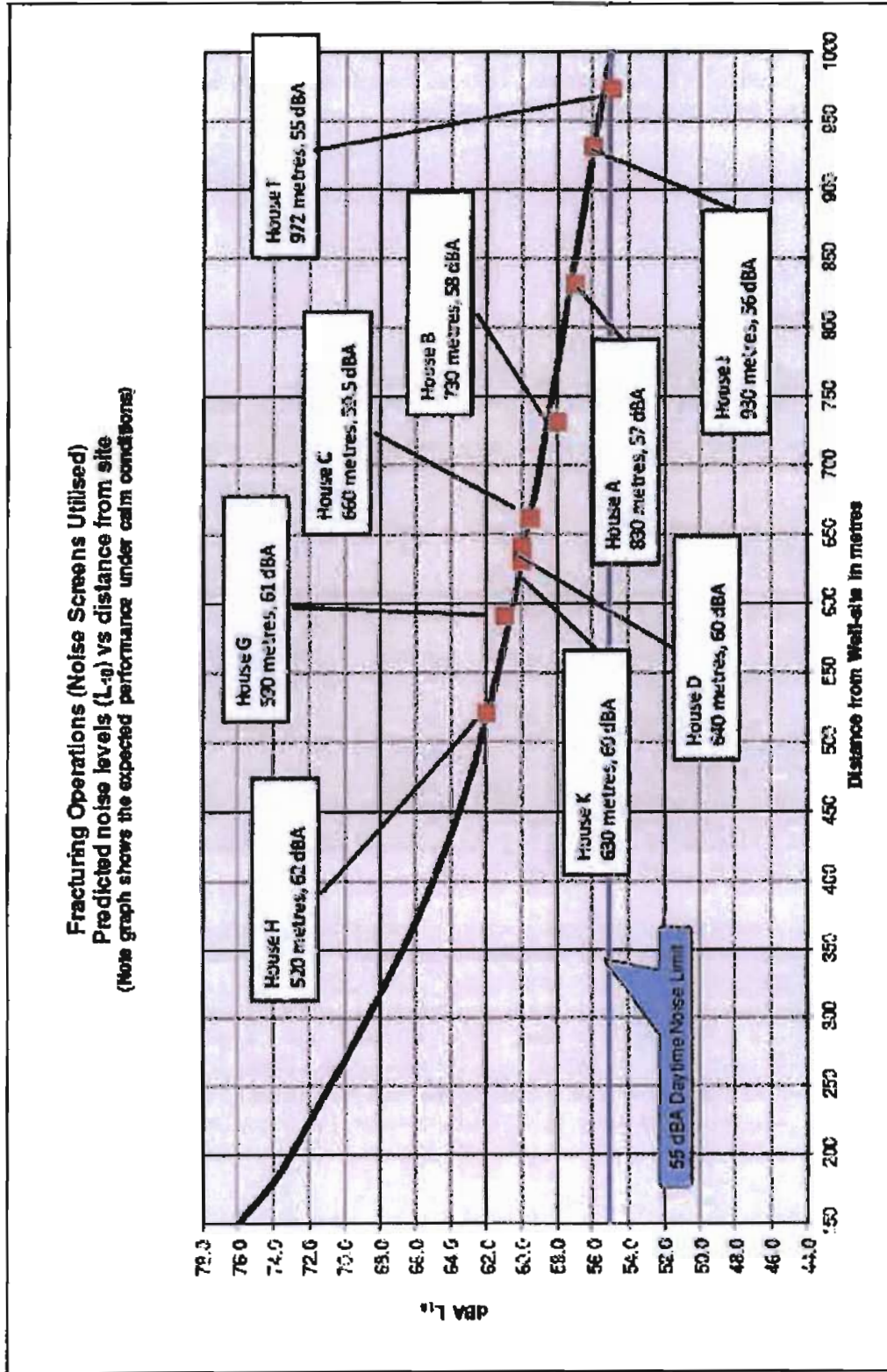


Figure 3: Predicted Noise Emissions from Hydraulic Fracturing Equipment at KA-18

6.3 Predicted Night-time Noise Emissions associated with Well Services Activities

The majority of significant noise producing activities will be limited to the daytime noise hours of the STDP (i.e. 7am-10pm). However, some well services activities associated with the programme will be 24 hour operations due to operational and safety reasons. The main 24 hour noise producing activity will be associated with the coiled tubing unit which is a long, continuous length of pipe wound on a spool. The pipe is straightened prior to pushing into a wellbore and rewound to coil the pipe back onto the spool for transport and storage. The coiled tubing unit will be used to clean-up the well prior to connection to production facilities. An example of a coiled tubing unit in use is shown in Photo 4 below. This activity will be limited to 3-5 days near the end of the overall programme at each wellsite.



Photo 4: Example of coiled tubing unit in use

The noise emissions associated with use of the coiled tubing unit have been assessed based on sound power measurements of the main items of noise producing equipment associated with the unit (see Figures 4 & 5). These measurements have been used to identify predicted noise levels at houses within 1km of both the KA-17 and KA-18 sites. The predicted noise levels generated from the coiled tubing unit at KA-17 will be up to 47 dBA when measured at the closest dwelling. The predicted noise levels generated from the coiled tubing unit operation at the KA-18 wellsite will be up to 42 dBA when measured at the closest dwelling.

Coiled Tubing Operations at KA-17 (Ahipalpa Rd)
Predicted noise levels (L₁₀) vs distance from site
 (Note graph shows the activity performance under calm conditions)

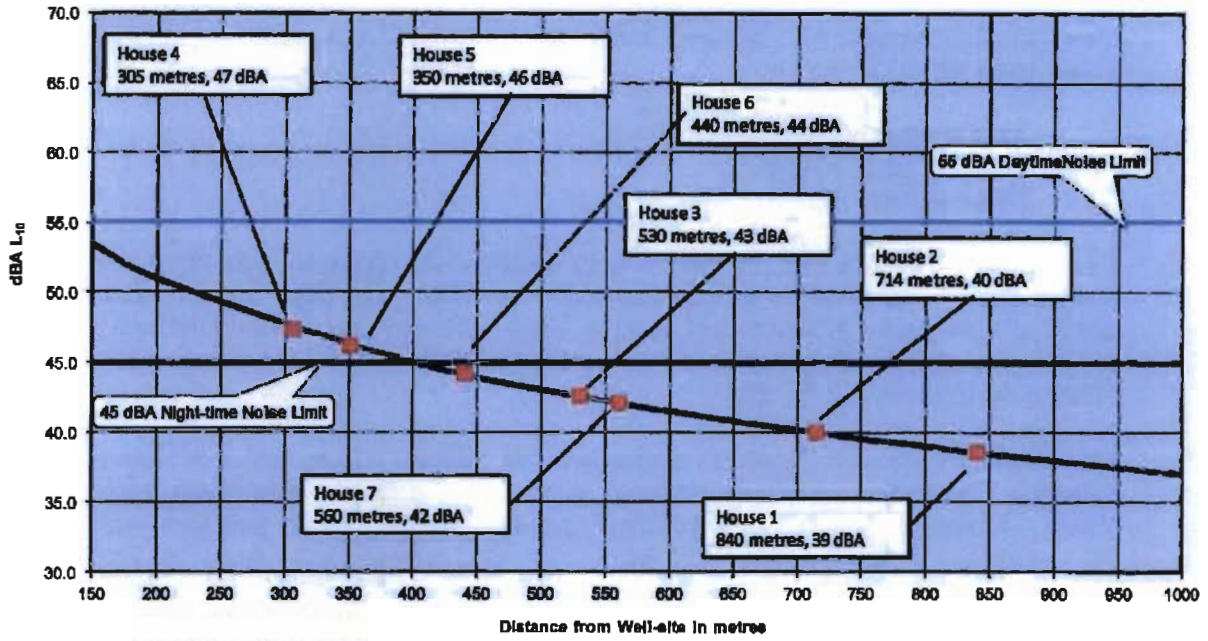


Figure 4: Predicted Noise Emissions from Coiled Tubing Unit at KA-17

CTU Operations - KA18 Well
Predicted noise levels (L₁₀) vs distance from site
 (Note graph shows the expected performance under calm conditions)

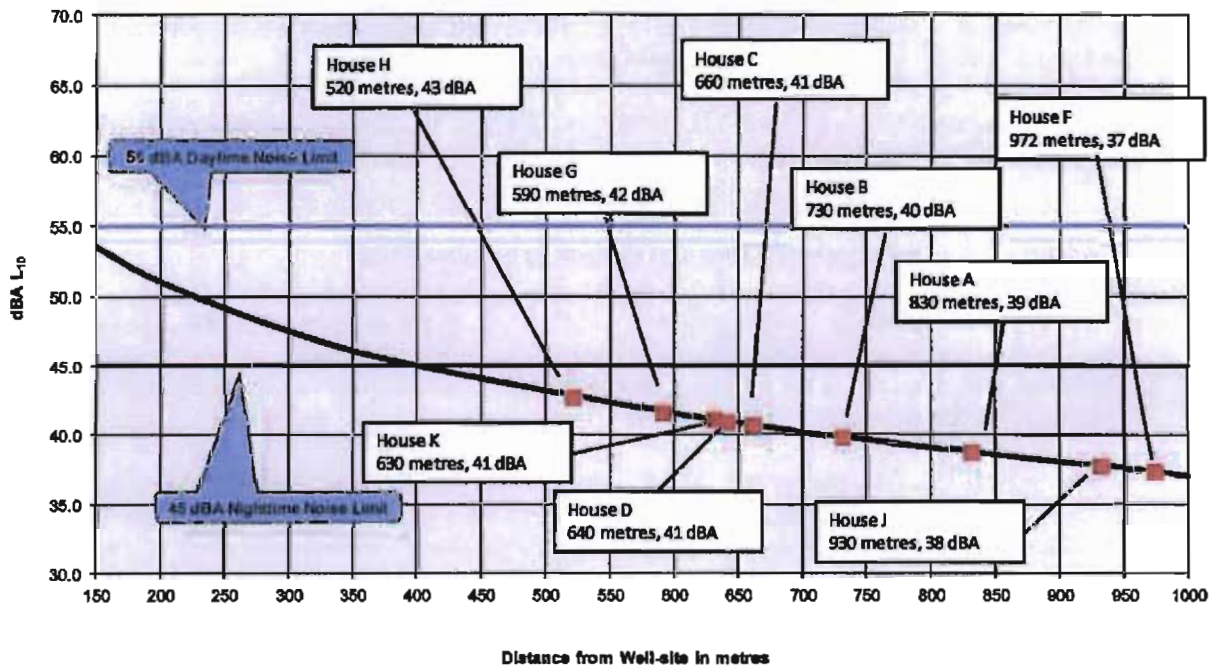


Figure 5: Predicted Noise Emissions from Coiled Tubing Unit at KA-18

6.4 South Taranaki District Plan Noise Rules

With respect to noise in the Rural Zone the STDP rules (Rule 10.02.1) specify that noise is not to exceed the following limits when measured at or within the boundary of any other Rural Zoned site:

7am to 10pm 55dBA L₁₀
10pm to 7am 45dBA L₁₀
10pm to 7am 75dBA L_{max}

The above predictions indicate that at both wellsites the daytime noise limits will be complied with at a distance of approximately 1km from each site. Seven dwellings within a 1 km radius of KA-17 will receive noise emissions of between 68 dBA and 57 dBA and nine dwellings within a 1 km radius of KA-18 will receive noise emissions of between 55 dBA and 62 dBA.

The night-time noise limits noted above are not relevant to the hydraulic fracturing activities themselves as these activities will be limited to daytime hours (7am to 10pm). However, as noted above, some associated well services activities such as the operation of coiled tubing unit will be 24 hour operations. Noise predictions undertaken for the coiled tubing unit indicate that the night-time noise limit of 45 dBA L₁₀ will be complied with at a distance of approximately 400m from each site. Two dwellings within 400m of the KA-17 site will received noise emissions of between 46-47 dBA during night-time hours. There are no dwellings within 400m of the KA-18 site. Screening of noise producing components of the coiled tubing unit will be undertaken to ensure that night-time noise levels at nearby residences are minimised as far as practicable. Offsite monitoring will be undertaken during use of the coiled tubing unit to confirm these predictions.

Written Approval has been obtained from neighbouring owners and occupiers within a 1km radius of each site on the basis that both the daytime and night-time levels within the STDP may be exceeded (see Section 8).

Further discussion regarding the potential effects of the proposed activities is contained within Section 7.2.

6.5 Storage and Use of Hazardous Substances

A number of hazardous substances are required to be used during the hydraulic fracturing programme. During the hydraulic fracturing phase at each site a number of additives are required to be added to the hydraulic fracture fluid. In addition, diesel is required on site to operate various items of equipment.

Clear protocols are stipulated for all contractors involved in hydraulic fracturing activities to ensure consistent standards for hazardous substance management are followed. Most chemicals, and especially hazardous substances, will only be handled by the contractor providing these chemicals. All contractors are required to ensure their staff are competent in handling these chemicals and provide appropriate supervision as required. Each contractor is required to provide an Approved Handler where required by HSNO legislation.

Contractors are also required to minimise the volumes of hazardous substances held on site at any one time to the minimum necessary for efficient operations.

All chemicals to be used on the project are pre-approved by the STOS HSE Department by providing a copy of the MSDS and a statement justifying why each chemical needs to be used. A copy of the MSDS will be loaded into the STOS Chemwatch system which provides electronic access to MSDS for all hazardous substances used on STOS sites. Hard copies of MSDS for all hazardous substances will also be provided on-site by the respective contractors and held in a master folder on site.

Hazardous substance storage areas will be established and maintained at each site to ensure that non-compatible chemicals are stored separately based on information contained in MSDS. Adequate secondary containment will be provided for hazardous substances to contain any spills e.g. drum bunding pallets or in suitable dry store containers.

All transportation of hazardous substances to and from the site will be undertaken in accordance with HSNO requirements for hazardous substance transportation.

A very small amount of a radioactive isotope tracer will be added to the hydraulic fracture treatments to enable the distribution of the proppant material to be confirmed following completion of the hydraulic fracturing programme at each site. The tracer is added to the proppant slurry at very low concentrations and very small volumes of the tracer are required on site (i.e. an estimated tracer weight of 0.7kg containing 0.0004 grams of radioactive material). Protechnics/Vause are licensed by the National Radiation Laboratory (NRL) to import and handle the tracer material in New Zealand and the management and use of the tracer material will be subject to strict on-site protocols. Only appropriately licensed and trained personnel will be involved in handling this material.

6.6 South Taranaki District Plan Hazardous Substances Rules

All hazardous substances that will be stored and used on site during hydraulic fracturing have been assessed against the Hazardous Facility Screening Process (HFSP) specified in the STDP. This procedure is used to assess the risks to the surrounding environment, and neighbouring properties from the hazardous substances used and stored on each wellsite. The results of the assessment determine whether the storage and use of hazardous substances fall within the permitted limits specified in the STDP or are required to be covered by a landuse consent for the site.

A summary of the Effects Ratios for the hazardous substances associated the hydraulic fracturing programme at the two sites are contained in Table 2 below. It is noted that the values calculated for the hydraulic fracturing programme are the same for both wellsites.

Table 2: Summary of Hydraulic Fracturing Programme Quantity Ratios – KA-17 & KA-18

Substance	Fire/Explosion Effect Ratio	Human Effect Ratio	Environmental Effect Ratio
Flex Sand HS	8.3333	0.9259	0.9259
20/40 Terra Prop Pro	0	15.0000	0
GLFC-5	0.4787	1.5889	1.5889
Diesel	0.3333	3.3333	3.7037
Total Effects Ratios	9.1453	20.8481	6.2185

The results of the HFSP indicate that the Hazardous Substance Effects Ratios at both the KA-6/11/17 and KA-8/12/15/18 sites are in excess of the applicable Consent Status Index of >0.25 specified in the STDP. Therefore, landuse consent is required for the storage and use of hazardous substances associated with hydraulic fracturing activities at both wellsites. Copies of the full HFSP assessment for both sites are contained in Appendix 4.

In addition, a hazardous substance risk assessment has been undertaken for each site. Full copies of these assessments are contained with Appendix 5. Based on these assessments, it is concluded that adverse effects to offsite parties from the storage and use of hazardous substances associated with hydraulic fracturing at both sites are very unlikely given the proposed control and mitigation measures that will be in place. The results of this risk assessment and hazardous substance management in relation to the requirements of the STDP are discussed further in Section 7.3.

7. Assessment & Mitigation of Environmental Effects

7.1 Overview

This section discusses the potential adverse environmental impacts that may be associated with the proposed hydraulic fracturing activities. Activities and effects that fall within the permitted limits of the STDP are discussed in Section 2.2 of this AEE and are not discussed further in this section. The two aspects that are the subject of this land use consent application are noise emissions and the storage and use of hazardous substances. An assessment of the potential effects associated with noise emissions are discussed in Section 7.2 below. Section 7.3 discusses the potential adverse effects and mitigation measures associated with the storage and use of hazardous substances. An assessment of the cultural impacts of the activities is contained in Section 7.4. Positive effects on the community due to continued development of the Kapuni Field are discussed in Section 7.5 and assessment of alternatives is addressed in Section 7.6.

7.2 Noise Emissions

Noise has potential to disturb sleep and generally detract from the overall enjoyment of the environment. The proposed hydraulic fracturing activities will result in the STDP limits for day-time noise being exceeded on an intermittent basis for a distance of up to 1km from each wellsite.

Hydraulic fracturing will only occur during daytime hours and therefore is unlikely to result in night-time sleep disturbance for occupiers of nearby dwellings. Some associated well services activities will occur on a 24 hour basis and may result in the STDP limit for night-time noise being exceeded at two residences near the KA-17 site. However, these activities will be limited to 3-5 nights within the overall programme and, wherever possible, noisy activities will be avoided during night-time hours.

It is clear that the primary intention of the noise rules in the STDP is to protect the occupants of dwellings from excessive and prolonged noise. The wording of the STDP noise rule however relates to levels at the property boundary, regardless of whether there is a dwelling there or not. Accordingly, the STDC have advised that they require the written approval of all owners and occupiers of land and residences within a 1 km radius of each wellsite. Written approvals from owners and occupiers have been obtained on this basis.

The nearby residential dwellings are shown on the plans in Appendix 3. There are seven dwellings within a 1 km radius of the KA-17 wellsite and nine dwellings within a 1 km radius of the KA-18 wellsite which may experience noise emissions at or above the day-time noise limits specified in the STDP. The owners and occupiers of all dwellings within 1 km of both sites have been approached for, and have given, their written approval for the activity (see Appendices 6 and 7). In addition, the owner and occupier of a dwelling located just outside the 1km radius of the KA-17 site (1053m from KA-17) has also been approached and given their written approval for the activity.

It is noted that the site has been used for similar activities in the past, and the activity is not a new one in the area, nor on these specific sites. Owners and occupiers of dwellings in the vicinity have either been involved with the applicant since the site was established (and on an on-going basis since this time), or have

purchased/established their dwellings fully aware of the presence of the wellsites. Close liaison will be maintained with neighbours, Ngaruahine Iwi and other stakeholders as the project progresses to ensure any potential impacts can be identified and addressed promptly.

In assessing the effects of the noise from the project, the noise must be considered against the background noise already present in the area. It is a noise environment in which industrial type sounds, particularly from petroleum infrastructure and activity, will be common. This would include noise from the Kapuni Production Station and the other industrial activities in this area, traffic noise and activities on other wellsites. The effects of the noise emissions from the activities at KA-17 and KA-18 will therefore be less noticeable than those that would be experienced in a quieter, less disturbed rural noise environment.

Section 16 of the RMA requires that *'every occupier of land.... shall adopt the best practicable option to ensure that the emission of noise from that land.... does not exceed a reasonable level'*. The following mitigation measures will be undertaken as part of the programme at both KA-17 and KA-18 to ensure that the best practicable options are implemented to minimise noise emissions and that the policies and objectives of the STDP (see Section 4.3) are complied with.

Noise Mitigation Measures

- At least six noise screens measuring 3.8 metres in height and 3.6 metres in length will be erected during the hydraulic fracturing phase of the programme. Neighbouring residences are located both north and south of both wellsites therefore these screens will be positioned either side of noise generating equipment.
- Having processes in place on the site around how people carry out certain activities to minimise noise levels (e.g. avoiding carrying out noisy activities during night-time).
- The hydraulic fracturing of the well will be limited to daytime hours (i.e. 7am-10pm). The hydraulic fracturing of the well will be intermittent (i.e. 4-6 hours per day) and will be limited to approximately ten days at KA-17 and four days at KA-18 (phase 1 and 2).
- Significant noise producing activities which must be undertaken on a 24 hour basis will be minimised as far as practicable and will be limited to a few days within the overall programme at each wellsite. Noise barriers will be used to mitigate noise associated with night-time operations.
- The overall programme of activity will be limited to a two month period at each site. At KA-17 this will occur over one continuous two month period. At KA-18 there may be two separate one month periods of activity separated by 3-6 months.
- STOS will maintain close liaison with residents in the area, and will have representatives on call to receive any queries or inquiries, and listen to concerns of the residents. This will enable any unforeseen adverse effects to be identified, and mitigation measures to be put in place.
- Noise monitoring will be undertaken at strategically placed offsite locations during hydraulic fracturing, which can be accessed remotely as required.

7.3 Hazardous Substances

A number of hazardous substances will be stored and used on the wellsites during hydraulic fracturing. As described in Section 6.6, these hazardous substances have been assessed against the Hazardous Facility Screening Process (HFSP) specified in the STDP. The results of the assessment determine whether the storage and use of hazardous substances fall within the permitted limits specified in the STDP or are required to be covered by a landuse consent for the site.

The results of the HFSP at both sites indicate that the activities will be in excess of the permitted activity limits and therefore landuse consent is required for the storage and use of hazardous substances. Copies of the full HFSP assessments for both sites are contained in Appendix 4.

In addition, a hazardous substance risk assessment has been undertaken for each site. Full copies of these assessments are contained with Appendix 5. The risk assessments for both sites concluded that the environmental risks to offsite parties associated with the hazardous substances can be effectively controlled and mitigated by the proposed site drainage and spill containment systems and by adherence with the conditions specified in the existing air and water discharge consents. As a number of the more hazardous substances are solid, the potential for stormwater contamination is significantly reduced in the event of a spill.

Small watercourses are located within 100m of each of the wellsites. Unnamed tributaries within the Inaha Stream catchment are located approximately 25m west of the KA-17 site and approximately 90m east of the KA-18 site. An appropriate form of stormwater isolation will be installed prior to the commencement of well site operations to prevent any direct discharge to these neighbouring water courses in the event of a spill.

Based on these assessments, it is concluded that adverse effects to offsite parties from the storage and use of hazardous substances associated with hydraulic fracturing activities at both sites are very unlikely given the proposed control and mitigation measures that will be in place including the mitigation measures noted below.

The STDP requires that anyone undertaking activities involving the storage or use of hazardous substances shall prepare a Hazardous Substances Management Plan. This plan will be prepared and submitted to the STDC for approval prior to the commencement of project activities. The Hazardous Substances Management Plan will form part of the overall project HSE documentation and procedures.

Hazardous Substance Management Mitigation Measures

The following mitigation measures will be in place throughout the proposed programme of activities at KA-17 and KA-18 in relation to hazardous substance management to ensure that the potential adverse effects and risks associated with hazardous substance management are avoided or mitigated as required by the policies and objectives of the STDP:

- secondary containment for the storage of hazardous substances;
- installation of an appropriate form of stormwater isolation prior to commencement of project activities to control discharges from the site in the unlikely event of a spill;
- appropriate signage and labelling of storage areas and containers;
- the use of drip trays during fluid transfer operations;

- minimisation of the volumes of hazardous substances stored on site;
- maintaining a current register of all MSDS on site;
- site specific emergency and spill response procedures for each site;
- the presence of spill response kits at each site;
- appropriate HSNO Certification at each site;
- documentation of hazardous substance management procedures within a Hazardous Substances Management Plan which will be submitted to the STDC for approval;
- appropriate documentation of hazardous substance management procedures within STOS HSE plans and procedures, Contractor HSE Plans and procedures, and emergency response procedures.

7.4 Cultural Assessment

Engagement with four hapu of Ngaruahine Iwi (Ngāti Manuhiakai hapū, Kanihi-Umutahi hapū, Okahu-Inuawai hapū and Ngāti Tu) has been ongoing and undertaken in association with these and other recent consent applications regarding activities within the Kapuni Field (see Section 8). Based on these discussions, the matters raised by hapu regarding the proposed activities include the following:

- An overall objection to hydraulic fracturing.
- Concerns around well and groundwater integrity.
- Hazardous substance and waste management.
- Consideration for waahi tapu sites.

Well integrity issues and those associated with the potential impacts on freshwater aquifers have been addressed in detail through the TRC resource consent process to undertake hydraulic fracturing at these wellsites. Groundwater monitoring will be undertaken by the TRC to confirm there are no impacts on freshwater resources in the vicinity of hydraulic fracturing activities.

Measures to ensure well integrity include pressure testing of all key well components, and well design and construction which is fully compliant with New Zealand regulations and international best practice. Consents granted by the TRC to undertake hydraulic fracturing at these wellsites require STOS to undertake well and equipment pressure testing prior to any hydraulic fracturing programme to ensure the integrity of the well and associated equipment.

Within the Kapuni Field, hydraulic fracturing is undertaken at depths of over 3,000m below ground and is separated from freshwater aquifers by a minimum of 1,500m (vertically) of geological formations. The overburden formations include the laterally extensive Otaroa formation, which provides a proven seal to the hydrocarbon accumulation in Kapuni and provides a significant barrier between hydraulic fracturing activities and freshwater aquifers.

Hazardous substance management is addressed in Section 7.4 above.

All wastes removed from the wellsites will be disposed at an appropriately licensed waste disposal facility appropriate to the nature of the waste. In addition, appropriately licensed waste transport and disposal contractors will be used for all waste transport and disposal activities. STOS is also happy to share the disposal location of the various waste streams with hapu of Ngaruahine Iwi.

No significant impacts on waahi tapu sites are anticipated. Te Ngutu o te Manu Battle site and Historic Reserve is located on Ahipaipa Road approximately 900m

from the KA-6/11/17 wellsite. Any impacts on this site will be limited to short-term and intermittent increases in background noise (see Sections 7.2 and 7.3). The STDC as owner of this land has provided Written Approval for the KA-17 consent application (see Appendix 6).

Engagement with the four hapu of Ngaruahine Iwi and consideration of concerns raised by the hapu is in accordance with the policies and objectives of the STDP regarding Tangata Whenua including objective 2.01.3a and objectives 3, 3.1 and 3.2 and associated policies.

7.5 Positive Environmental and Community Effects

For the last 40 years Kapuni has been safely providing the country with a secure supply of natural gas. Much of the “easy” Kapuni gas from high permeability reservoirs is gone. In order to make the best use of the infrastructure already in place, further development is required to extend the field life. Development of low permeability gas reservoirs (‘Tight Gas’) with hydraulic fracturing will significantly increase the life of the Kapuni field.

Hydraulic fracturing at Kapuni will unlock natural gas production from deep hydrocarbon bearing reservoirs and will allow:

- Further utilisation of existing wells to increase natural gas recovery and extend the field life;
- Maximised use of existing surface infrastructure which handles the produced natural gas;
- Extension of a highly reliable source of fuel for third party infrastructure in Taranaki.

The greater, long term socio-economic benefits to the community of the exploration in this area cannot be overlooked (and these are recognised in the STDP), and increased benefits to the Taranaki and New Zealand Economy will be experienced should the wells be productive.

In addition, the demand for energy continues to grow in New Zealand. Renewable energy sources are increasing to help meet market demand, but fossil fuels are still required to supply local energy demand. Natural gas is a clean, flexible back-up fossil fuel option to renewables and an essential part of the energy mix in New Zealand.

7.6 Assessment of Alternatives

Schedule 4 of the RMA details matters that should be included in an assessment of effects on the environment. Section 4 1(b) requires a description of any possible alternative locations or methods for undertaking the activity if the activity will have significant adverse effects on the environment. As the proposed hydraulic fracturing activities are not expected to result in significant adverse effects on the environment, no assessment of alternatives has been undertaken.

8. Consultation

During the process of obtaining written approval for the non-notification of these applications, considerable engagement with interested and affected parties has been undertaken by STOS. The result of this is that written approval has been obtained from over 30 neighbours including the owners and occupiers of all dwellings and property within 1 km of the KA-6/11/17 and KA-8/12/15/18 wellsites in relation to noise emissions from the wellsites. Written approval in relation to the storage and use of hazardous substances has been obtained from those landowners and occupiers immediately adjacent to each wellsite.

STOS has sought advice from the Ngaruahine Iwi Authority regarding the appropriate Tangata Whenua representatives to engage with regarding these and other recent activities within the Kapuni Field. Ngaruahine Iwi Authority have advised that Ngāti Manuhiakai hapū, Kanihi-Umutahi hapū, Okahu-Inuawai hapū and Ngāti Tu have kaitiakitanga status within the project area. On this basis, STOS has met with representatives of each of these four hapu to provide information regarding the project activities, to answer questions and to seek to address any concerns. Consultation with hapu was ongoing at the time of submitting this AEE.

STOS has also held two hui in recent months with the Ngaruahine Iwi Authority at which these applications and other matters relating to Kapuni operations have been discussed.

Discussions are also ongoing with Ngāti Manuhiakai hapū regarding developing a hapū monitor role in association with the project which will involve having hapu monitors on site at key project milestones. As part of these discussions, representatives of Ngati Manuhiakai hapū have undertaken some initial site familiarisation visits at Kapuni.

Engagement with neighbours, hapu and other stakeholders will be ongoing throughout the duration of the project to proactively address any effects or concerns.

Consultation is discussed throughout this application as appropriate. Completed written approval forms are attached as Appendices 6 and 7.

9. Conclusion

This assessment of environmental effects has demonstrated that the potential and actual effects of the limited duration noise emissions, and the storage and use of hazardous substances during hydraulic fracturing and associated well services activities of the KA-17 and KA-18 wells will be no more than minor.

Written approval has been received from all identified potentially affected neighbours and property owners within 1km of each wellsite. Consultation with four hapu of Ngaruahine Iwi has been undertaken to ensure that the hapu are fully informed and aware of the proposed activities and this consultation was ongoing at the time of submitting this AEE. Engagement with all stakeholders will be ongoing throughout the project to ensure that any concerns can be addressed quickly and effectively.

STOS is committed to executing hydraulic fracturing operations safely. Prevention of pollution and protection of the environment are a high priority in all operations carried out. The well services contractors used by STOS will be required to meet the high safety and environmental standards required in all STOS operations and to minimise any effects on neighbouring communities. STOS has undertaken a number of similar operations within the Kapuni Field in recent years with no identified adverse environmental effects.

10. References

Carlton Technology. 2012. STOS KA-6/11/17 Wellsite, Predicted Noise Levels for Fracturing Operations. April 2012.

Carlton Technology. 2012. STOS KA-8/12/15/18 Wellsite, Predicted Noise Levels for Fracturing Operations. April 2012.

Land Use Consent Report to establish a well at 849 Ahipaipa Road - STOS, 4 November 2009, STDC.

Land Use Consent RML090116, Issued by STDC on 4 November 2009.

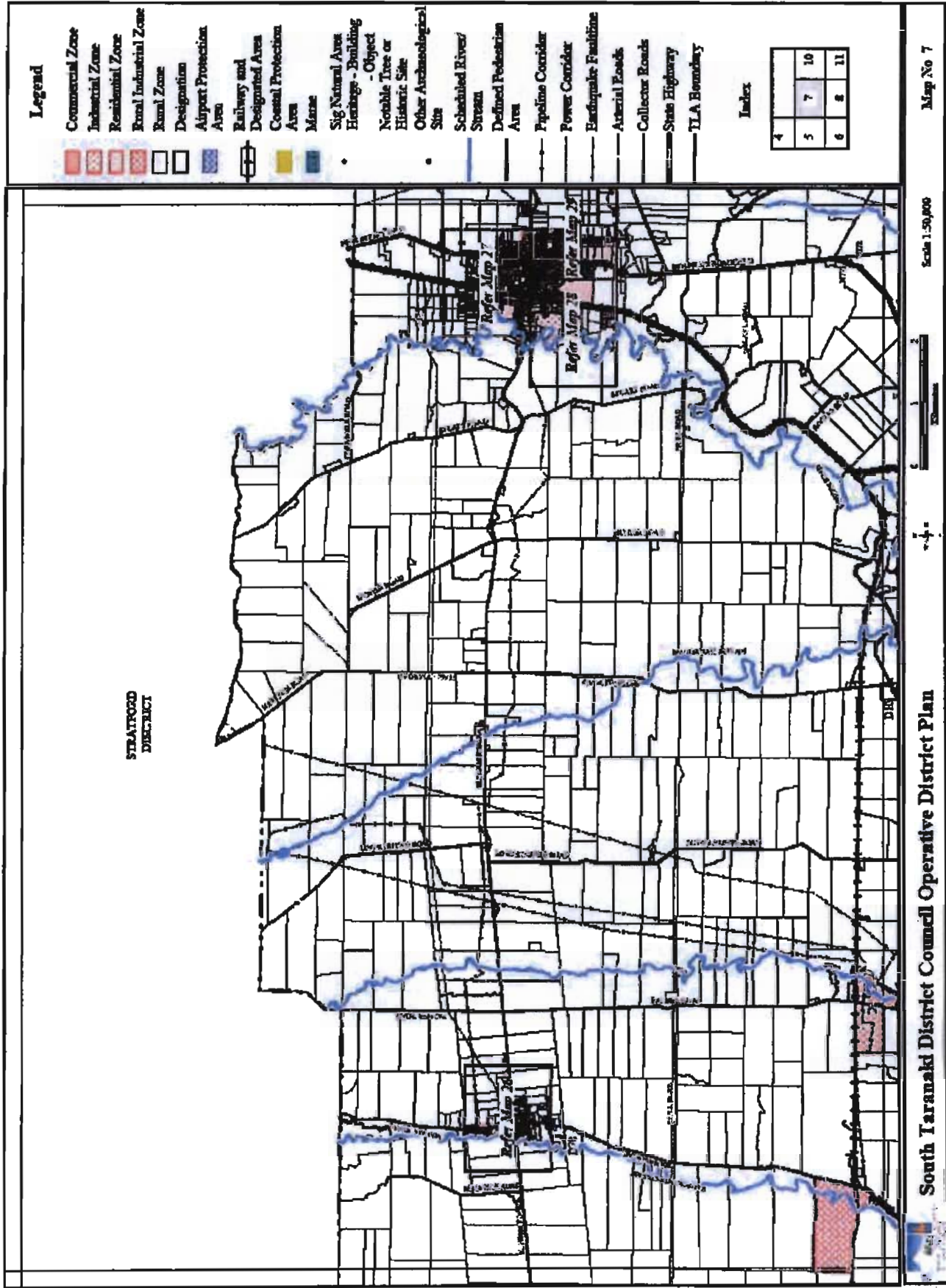
Taranaki Regional Council (2009). Regional Policy Statement for Taranaki, 2009.

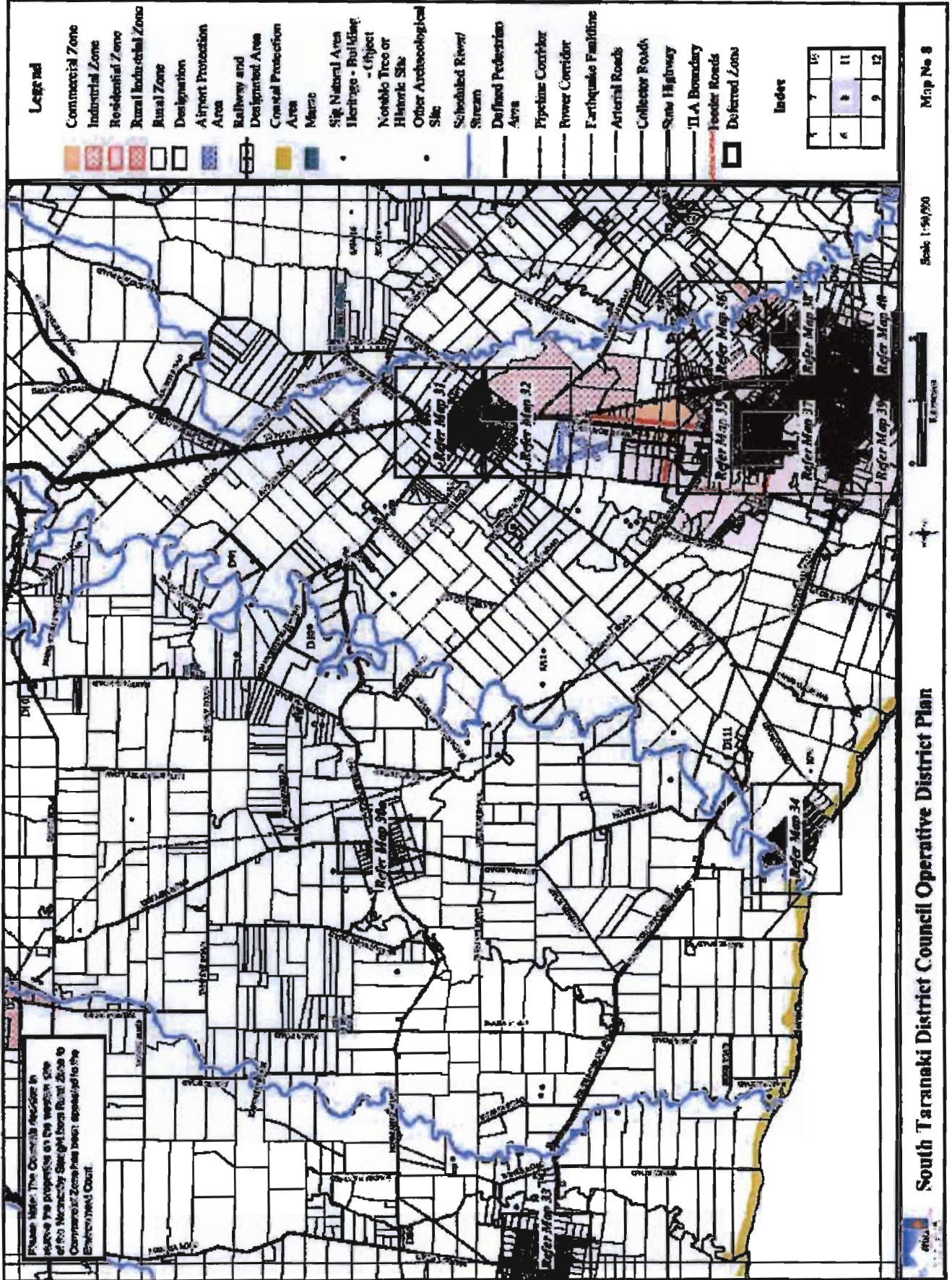
Resource Management Act 1991 and amendments.

South Taranaki District Council, 2003. *Operative District Plan for the South Taranaki District Council*, December 2004.

Appendix 1
Indicative Site Layout Plans

Appendix 2
STDC Planning Maps





- Legend**
- Commercial Zone
 - Industrial Zone
 - Residential Zone
 - Rural Industrial Zone
 - Rural Zone
 - Designation
 - Airport Protection Area
 - Railway and Designated Area
 - Coastal Protection Area
 - Marine
 - Sign Natural Area
 - Heritage - Building - (Subject)
 - Notable Tree or Historic Site
 - Other Archaeological Site
 - Scheduled River/Stream
 - Defined Pedestrian Area
 - Pipeline Corridor
 - Power Corridor
 - Earthquake Faultline
 - Arterial Roads
 - Collector Roads
 - State Highway
 - T.L.A. Boundary
 - Feeder Roads
 - Deferred Zone

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7	8	9	10
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10	11	12	

Map No. 8

Scale 1:50,000



South Taranaki District Council Operative District Plan

Please Note: The Council has been advised that the properties on the western side of 100 McCarthy Street (from R. 301) Zone 10 Commercial Zone has been applied to the Environment Coat.

Appendix 3

Predicted Noise Reports – Carlton Technology

23 April 2012

Bruce Colgan

Shell Todd Oil Services Ltd

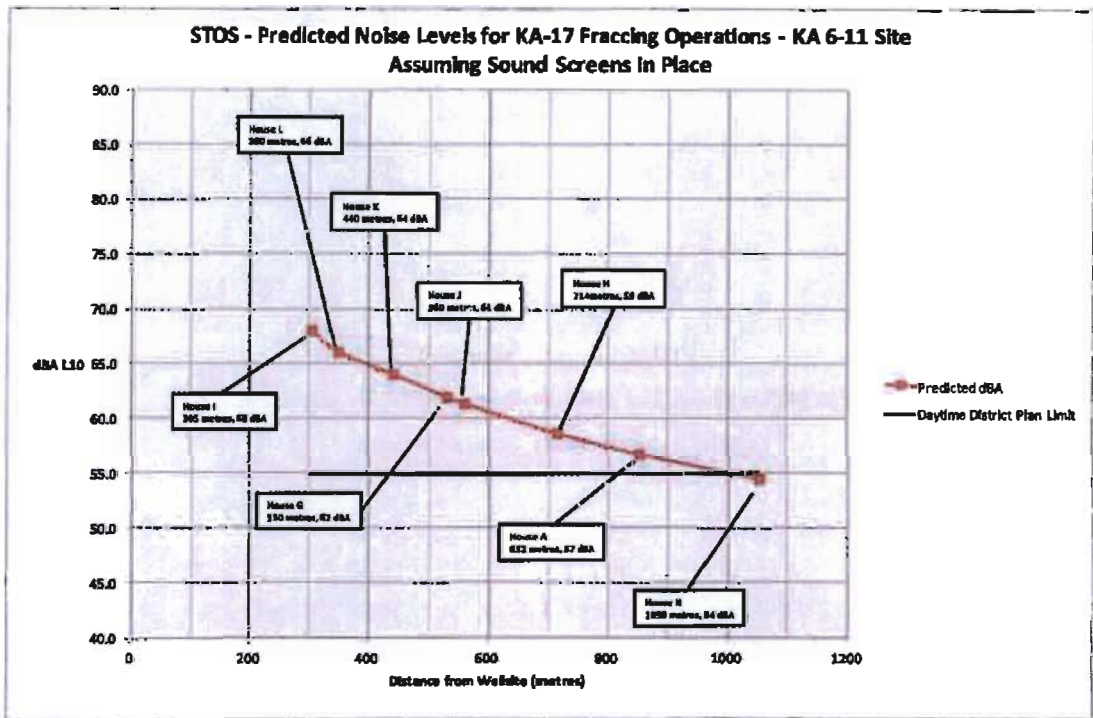
**STOS KA 6-11-17 WELLSITE
PREDICTED NOISE LEVELS FOR FRACTURING OF THE KA-17 WELL
(BAKER HUGHES FRACING EQUIPMENT)**

Dear Bruce,

Thank you for requesting a prediction of noise levels for fracturing of the KA-17 well. This well is situated at the 6-11-17 wellsite on Ahipaipa Rd. We have familiarity with that site, having firstly predicted and then monitored noise levels for drilling of that well in December 2009 – January 2010.

As discussed, the KA-17 fracturing operation will utilise the same equipment and sound screens as were employed for the KA-18 project in May 2010. For that operation we predicted and then monitored the noise levels also. Using the outcomes from that monitoring we can make similar noise predictions for the KA-17 fracturing operation which will also be limited to daytime hours. The well-engineering team have advised that the generous layout of the site will allow the machinery to be screened to the north and the south. This is advantageous given that the neighbouring houses extend in both those directions from the site. (See attached aerial map).

A graph showing the predicted noise levels for the affected occupied dwellings is shown below.



Please reference the house lettering system from the following aerial map:



Table 1: Owners of Distances from Wellhead

Distance	Owner	Address	Phone	City	State	Zip
0-100	A	1000	1000	1000	1000	1000
100-200	B	2000	2000	2000	2000	2000
200-300	C	3000	3000	3000	3000	3000
300-400	D	4000	4000	4000	4000	4000
400-500	E	5000	5000	5000	5000	5000
500-600	F	6000	6000	6000	6000	6000
600-700	G	7000	7000	7000	7000	7000
700-800	H	8000	8000	8000	8000	8000
800-900	I	9000	9000	9000	9000	9000
900-1000	J	10000	10000	10000	10000	10000
1000-1100	K	11000	11000	11000	11000	11000
1100-1200	L	12000	12000	12000	12000	12000
1200-1300	M	13000	13000	13000	13000	13000
1300-1400	N	14000	14000	14000	14000	14000
1400-1500	O	15000	15000	15000	15000	15000
1500-1600	P	16000	16000	16000	16000	16000
1600-1700	Q	17000	17000	17000	17000	17000
1700-1800	R	18000	18000	18000	18000	18000
1800-1900	S	19000	19000	19000	19000	19000
1900-2000	T	20000	20000	20000	20000	20000

btw company

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 New Plymouth, NZ 5042
 Phone: +64 75 382 200
 Fax: +64 75 382 201
 Email: info@btw.co.nz
 Website: www.btw.co.nz

LANDOWNERS WITHIN 1000ft OF KA-01117 WELL-SITE

Parcel No.	Owner Name	Address	Phone	City	State	Zip
1	John Smith	1000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
2	Jane Doe	2000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
3	John Smith	3000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
4	Jane Doe	4000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
5	John Smith	5000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
6	Jane Doe	6000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
7	John Smith	7000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
8	Jane Doe	8000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
9	John Smith	9000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042
10	Jane Doe	10000 Main St	0123 456 789	New Plymouth	Tairāwhiti	5042

Scale: 1:10000
 Date: 01/10/2018
 User: JSM

I trust that this report meets your requirements.

Please do not hesitate to contact me if you require further assistance.

Yours faithfully,

A handwritten signature in black ink that reads "C. Townsend". The signature is written in a cursive style with a large, looped initial "C".

Carl T Townsend

Principal

16 April 2012

Bruce Colgan

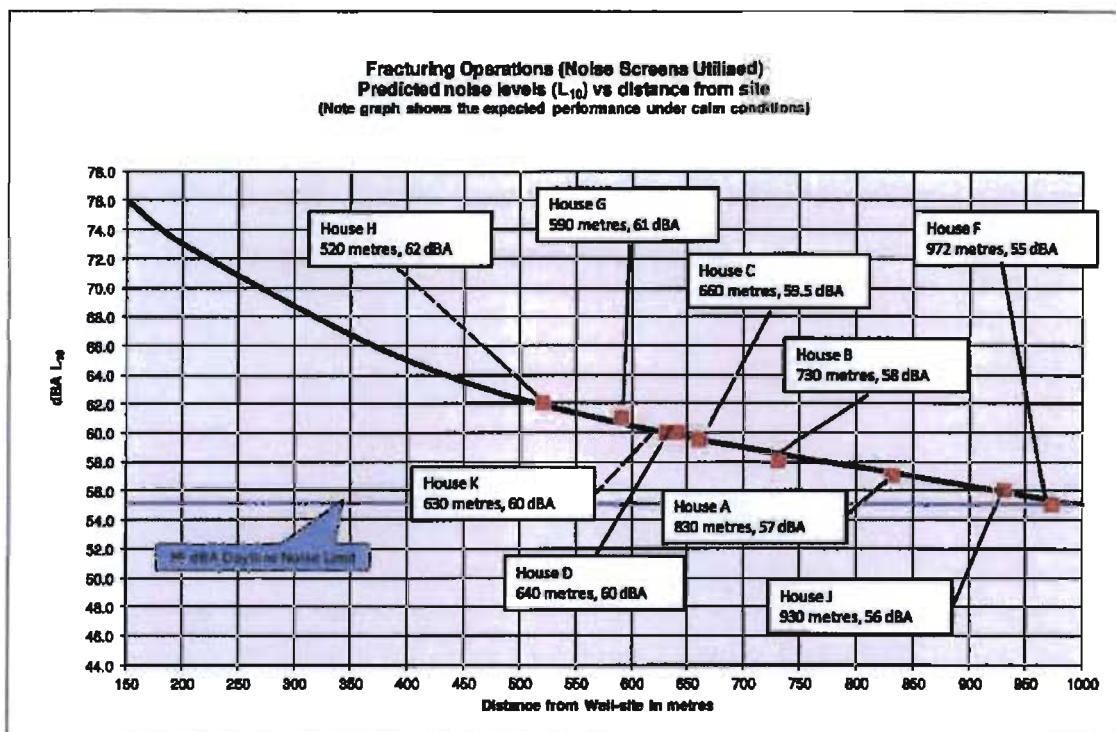
Shell Todd Oil Services Ltd

STOS KA 8-12-15-18 WELLSITE
PREDICTED NOISE LEVELS DURING WELLSITE FRACTURING OPERATIONS
(BAKER HUGHES FRACING EQUIPMENT)

Dear Bruce,

As requested I have reviewed the data collected during noise monitoring of fracturing operations of the KA-18 well which took place in May 2010. The proposed repeat operation will see the same equipment utilised, and the same site layout incorporating the six noise screens of 3.8 metre height strategically placed to provide the most effective noise attenuation in the direction of the closest houses. Large tanks were also strategically placed last time to assist in the noise screening, and will again be positioned for similar effect. As in 2010, I understand the operation will be restricted to daylight hours. The arrangements made back then were successful from a noise management perspective; it is my understanding that the work was completed without any complaint from surrounding residents.

Analysis of the data collected from the 2010 operation shows that actual noise levels showed good correlation with the predicted noise levels. A graph of the predicted noise levels for the affected houses is shown below.



The house lettering system used above is referenced from the recently-updated aerial map as seen below:



Quarter	ES	Distance from Well
A	1	200m
B	2	700m
C	3	1000m
D	4	1500m
E	5	2000m
F	6	2500m
G	7	3000m
H	8	3500m
I	9	4000m
J	10	4500m
K	11	5000m
L	12	5500m

LANDOWNERS WITHIN 500M OF KA 0121518 WellSITE	
1	...
2	...
3	...
4	...
5	...
6	...
7	...
8	...
9	...
10	...
11	...
12	...

I trust that this report meets your requirements.

Please do not hesitate to contact me if you require further assistance.

Yours faithfully,

A handwritten signature in black ink that reads "C. Townsend". The signature is written in a cursive style with a large initial "C" and a period following it.

Carl T Townsend

Principal

Appendix 4
Hazardous Facilities Screening Procedure Assessments

Shell Todd Oil Services Ltd

Kapuni 6/11/17 Wellsite –

Hydraulic Fracturing & Operations Hazardous Facilities Screening Procedure Assessment

Quality Assurance Statement	
<p>BTW Company Ltd Cnr Courtenay & Eliot Sts. P. O. Box 501, New Plymouth, 4340, New Zealand. Phone: +64 6-759 5040 Fax: +64 6-759 5049. Mobile: +64 274 344 886 www.btwcompany.co.nz</p>	Project Manager: Kathryn Hooper
	Prepared By: David Riley
	Reviewed By: Kathryn Hooper <i>K. Hooper</i>
	Approved for Issue By: <i>K. Hooper</i>

October 2012

Prepared by BTW Company Ltd

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Appendix 2	Hazardous Facilities Screening Procedure Spreadsheets
Appendix 3	Hazardous Facilities Screening Procedure Assumptions

1. PURPOSE & SCOPE

Shell Todd Oil Services Ltd (STOS) is proposing to undertake hydraulic fracturing of KA-17, located at the KA-6/11/17 wellsite, 849 Ahipaipa Road, Kapuni.

A regulatory obligation in order for the project to proceed is to gain Land Use Consent from the South Taranaki District Council (STDC). Part of the land use assessment involves undertaking a Hazardous Facility Screen to determine whether consent is also required for the storage and use of hazardous substances onsite.

STOS has engaged BTW Company Ltd to undertake the Hazardous Facility Screening Procedure (HFSP) which is the initial assessment to determine whether consent is required. If consent is required the HFSP will also be used to form part of the Hazardous Substance Risk Assessment (HSRA) element of the AEE in support of the land use consent application. A HSRA is required under Schedule 4 of the RMA where an activity includes the use of hazardous substances.

The completion of a Hazardous Substance Screening Procedure (HFSP) will assess the risks to the surrounding environment, and neighbouring properties from the hazardous substances used and stored on the wellsite. The results of the assessment are used to ensure appropriate storage, handling, transportation, use, management and that a complete register is kept.

The assessment addresses substances associated with the ongoing operation of the well site and hydraulic fracturing.

The risks to onsite parties is outside the scope of this assessment and is administered by the New Zealand Department of Labour (DoL) in accordance with the Health and Safety in Employment Act 1992, the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999 and the Hazardous Substances and New Organisms (HSNO) Act 1996 and associated regulations.

It is noted that in order to comply with other District and Regional Council provisions further resource consents are currently held for aspects such as:

- Stormwater discharges
- Air emissions
- Hydraulic Fracturing

2. METHODOLOGY

2.1 Introduction

The Hazardous Facility Screening Procedure (HFSP) has been designed as a screening tool to assist the Council in making decisions on whether a proposed hazardous facility is permitted, or whether it is a controlled or a discretionary activity requiring additional assessment of risks.

The HFSP will be applied to any proposed facility using or storing hazardous substances. Its purpose is to determine whether the facility will be permitted subject to defined minimum performance standards, or will require a land use resource consent.

2.2 Overview

The HFSP is based on the assessment of hazardous substances in terms of three major *Effects Groups*: fire/explosion, human health, and the environment. Each substance is assigned a *Base Threshold* (B) - expressed as a weight or volume - for each of the three defined *Effect Groups*. The *Base Threshold* is dependent only on the intrinsic hazardous properties of a substance.

Depending on the physical state of the substance(s), the type of storage and activity, site separation distances and the environmental sensitivity of the location, *Adjustment Factors* (F) are applied to the *Base Thresholds*. *Base Thresholds* and *Adjustment Factors* are then multiplied to generate an *Adjusted Threshold* (T) for each of the *Effects Groups*.

The next step is the calculation of the *Effects Ratio* (R), which represents the proposed quantity of a substance (Q) to be used/stored in relation to the *Adjusted Threshold*. The *Effects Ratio* forms the basis to determine the consent status of a particular facility, and to evaluate the cumulative effects presented by multiple substances.

2.2 HFSP

Screening of the hazardous substances on site has been undertaken in accordance with the Hazardous Facilities Screening Procedure (HFSP) detailed in Appendix 2 of the South Taranaki District Plan (STDP).

3. STUDY CONTEXT

3.1 Proposal and Site Selection

The wellsite lies on flat land approximately 1.9 kilometres south of the Kapuni Production Station. To the west of the site, approximately 20m, is located an unnamed tributary of the Inaha Stream to which site stormwater discharges directly. To the east is Ahipaipa Road. There are residences in close proximity to the site, with the closest <200m away.

3.2 Site Description

Information regarding the site is summarised in Table 1.

Table 1 – Site Information

Facility Name	Kapuni 6/11/17 (site established in the early 1970s)
Address	849 Ahipaipa Road
Map Reference	1701943.3 5627694.7
Description of Activity	1. Operation 2. Hydraulic Fracturing
Nature of adjoining Land Use	Farming Milk Shed Dwellings **No schools in close proximity to site
Proximity to Potable Water Resource	Not applicable
Within 100m of a Water Body	The nearest watercourse to the wellsite is an unnamed tributary within the Inaha Stream catchment. This waterway lies approximately 20m west of the site.

The well site covers a total area of 2.87ha. This area includes accommodation facilities, vehicle parking, and soil stockpile areas etc. The site is shown within Appendix 1 but the proposed layout of relevant equipment has not yet been indicatively drawn. It is assumed that hazardous substances will be stored in areas used previously during well site activities. The wellsite also contains other typical infrastructure such as gas/condensate pipes.

The waterway to the west of the site exists as a vegetated waterway with a small volume of flowing water. The skimmer pit system, consisting of 2 pits (at least 30m³ combined volume), discharges from the site directly to this unnamed tributary.

3.3 Design Criteria and Statutory Requirements

3.3.1 HSNO & RMA

The Management of hazardous substances in New Zealand is predominantly governed by the Hazardous Substances and New Organisms Act 1996 (HSNO) and the Resource Management Act 1991 (RMA), and their respective Regulations. The two Acts are designed to complement each other, with HSNO providing the overall framework for managing hazardous substances anywhere in New Zealand, while the RMA provides additional controls over and above those available through HSNO to ensure that site-specific circumstances can be taken into account. Guidance on achieving compliance with the requirements of the HSNO and RMA is provided by the Assessment Guide for Hazardous Facilities produced by the Ministry for the Environment.

3.3.2 AS/NZS 4360:2004

AS/NZS 4360 is the adopted standard for risk management within Australia and New Zealand and details a structure for the systematic management of risks.

3.3.3 Health & Safety in Employment (Petroleum Exploration & Extraction) Regulations

The Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999 apply to any mining operation in connection with naturally occurring hydrocarbons (excluding coal) and lays down the rules to be followed for such mining operations. Particular reference is made to Part 2 – Duties Relating To Well-Drilling Operations.

The application of the Regulations is administered by the Chief Petroleum Inspector of the Department of Labour, Occupational Health and Safety Service (OSH).

3.4 Site Risk Acceptance Criteria

The STDP includes a Consent Status Matrix containing a series of Consent Status Indices for each land use zone in the district. These indices reflect the level of risk which is considered appropriate and acceptable for different land use zones as a permitted activity. If the proposed facility falls outside this index then the proposal can only proceed as a limited discretionary or discretionary activity following the completion of a satisfactory AEE.

The Hazard rating is applied to a particular hazardous substance for the purpose of an HFSP calculation based on its HSNO classifications. For the purposes of this HFSP each effect type is divided into three Hazard Rating Levels:

- High
- Medium
- Low

Where a substance is neither found in the list of HFSP-related substances available within the STDP nor the HSNO databases on the MfE/ERMA websites, default ratings should be used (Fire/Explosion Effect Type: Medium, Human Health Effect Type: Medium and Environment Effect Type: High).

4. HAZARD IDENTIFICATION & ANALYSIS

4.1 Hazardous Facilities Screening Procedure (HFSP)

Preliminary hazard identification was conducted using the Hazardous Facilities Screening Procedure (HFSP) detailed in Appendix II of the STDC District Plan. In accordance with this process, a HFSP Calculation Spread sheet for the KA 6/11/17 site was completed for the hydraulic fracturing and operation phases, See Appendix 2 (HFSP Spread Sheets). This spread sheet was used to determine the hazard rating and calculate the base quantities, adjusted quantities and quantity ratios. From these sheets, those substances which contribute significantly to the Total Quantity Ratio can be identified.

Note that a number of important assumptions were used when completing the HFSP Worksheets and these are detailed in Appendix 3 (Assumptions).

Also note that a radioactive tracer is being used during Hydraulic fracturing. The volumes of this material are of such a minute quantity that the quantity ratio is very low. The risk assessment to human health from radioactive material is outside the scope of this HFSP. Those using the material will be suitably qualified.

4.1.1 HFSP Summary

The Total Quantity Ratios (Fire/Explosion Effects, Human Health Effects, and Environmental Effects) are in excess of the applicable Consent Status Index of >0.25 (Rural Environment, no applicable overlays) for both aspects of the activities being undertaken on the KA 6/11/17 site (see Table 1 & 2 below for a quantity ratio summary). Therefore, according to the criteria specified in the STDP the facility will require resource consent. This consent application process includes the preparation of an Assessment of Environment Effects (AEE) and also requires compliance with relevant performance standards outlined within the STDP to be demonstrated – Section 11.

Table 1 – Summary of Operations Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Health Effects Ratio	Environmental Effects Ratio
EC1450 Inhibitor	0	1.6667	1.8519
Methanol	0.5333	0.5333	1.7778
Total Effects Ratio of all substances	0.5333	2.2000	3.6297

Table 2 – Summary of Hydraulic Fracturing Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Health Effects Ratio	Environmental Effects Ratio
Flex Sand HS	8.3333	0.9259	0.9259
20/40 Terra Prop Pro	0	15.0000	0

GLFC-5	0.4787	1.5889	1.5889
Diesel	0.3333	3.3333	3.7037
Total Effects Ratios	9.1453	20.8481	6.2185

The HFSP (worksheets provided in Appendix 2) reveals that the specific substances that contribute significantly to the Total Quantity Ratios are EC-1450 Inhibitor, Methanol, Flex Sand HS, 20/40 Terra Prop Pro & Diesel.

Reductions in the quantities of contributing substances on site could result in the ratios falling to beneath the applicable Consent Status Index, thereby providing justification for 'Permitted Activity' status. However, significant reduction in the quantities on site to a level which reduces each of the Total Quantity Ratios to less than the applicable Consent Status Index is not practicable. Therefore a risk assessment is justified to demonstrate that the significant or 'priority status' hazardous substances can be managed so as to eliminate or minimise the risk to offsite parties.

5. Conclusion

This HFSP has been completed in accordance with the South Taranaki District Plan to assess whether the KA 6/11/17 well site is classified as a hazardous facility during hydraulic fracturing activities. Assessments have concluded that the quantity ratios exceed permitted status guidelines within the STDP and therefore land use consent will be required for all phases. As part of the AEE to this application a hazardous substance risk assessment will need to be completed in accordance with Schedule 4 of the RMA.

Appendix 1

Site Plan

Appendix 2

Hazardous Facilities Screening Procedure Spreadsheets

Appendix 3**Hazardous Facilities Screening Procedure Assumptions**

No.	Assumption
1.	All information in relation to substance quantities is assumed to be correct.
2.	Distance to boundary <30m
3.	Above ground storage
4.	Low environmental hazard levels applied as a minimum to manually entered data, even where MSDS advice is that product is not regarded as dangerous for environment or where bioaccumulation is not expected.
5.	The Consent Status index for a permitted activity in the applicable zone (ie. Rural Environment, no applicable overlays) is <0.25.
6.	Distance to a water course has been calculated to be less than 100m from the site boundary.

Shell Todd Oil Services Ltd

Kapuni 8/12/15/18 Wellsite –

Hydraulic Fracturing & Operations Hazardous Facilities Screening Procedure Assessment

Quality Assurance Statement	
<p>BTW Company Ltd Cnr Courtenay & Eliot Sts. P. O. Box 551, New Plymouth, 4340, New Zealand. Phone: +64 6-759 5040 Fax: +64 6-759 5049. Mobile: +64 274 544 886 www.btwcompany.co.nz</p>	Project Manager: Kathryn Hooper
	Prepared By: David Riley
	Reviewed By: Kathryn Hooper 
	Approved for Issue By: 

October 2012

Prepared by BTW Company Ltd

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Appendix 1	Preliminary Site Layout Plan
Appendix 2	Hazardous Facilities Screening Procedure Spreadsheets
Appendix 3	Hazardous Facilities Screening Procedure Assumptions

1. PURPOSE & SCOPE

Shell Todd Oil Services Ltd (STOS) is proposing to undertake hydraulic fracturing of KA-18, located at the KA-8/12/15/18 wellsite, 939 Eltham Road, Kapuni.

A regulatory obligation in order for the project to proceed is to gain Land Use Consent from the South Taranaki District Council (STDC). Part of the land use assessment involves undertaking a Hazardous Facility Screen to determine whether consent is also required for the storage and use of hazardous substances onsite.

STOS has engaged BTW Company Ltd to undertake the Hazardous Facility Screening Procedure (HFSP) which is the initial assessment to determine whether consent is required. If consent is required the HFSP will also be used to form part of the Hazardous Substance Risk Assessment (HSRA) element of the AEE in support of the land use consent application. A HSRA is required under Schedule 4 of the RMA where an activity includes the use of hazardous substances.

The completion of a Hazardous Substance Screening Procedure (HFSP) will assess the risks to the surrounding environment, and neighbouring properties from the hazardous substances used and stored on the wellsite. The results of the assessment are used to ensure appropriate storage, handling, transportation, use, management and that a complete register is kept.

The assessment addresses substances associated with the ongoing operation of the well site and hydraulic fracturing.

The risks to onsite parties is outside the scope of this assessment and is administered by the New Zealand Department of Labour (DoL) in accordance with the Health and Safety in Employment Act 1992, the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999 and the Hazardous Substances and New Organisms (HSNO) Act 1996 and associated regulations.

It is noted that in order to comply with other District and Regional Council provisions further resource consents are currently held or are being sought for aspects such as:

- Stormwater discharges
- Air emissions
- Hydraulic Fracturing

2. METHODOLOGY

2.1 Introduction

The Hazardous Facility Screening Procedure (HFSP) has been designed as a screening tool to assist the Council in making decisions on whether a proposed hazardous facility is permitted, or whether it is a controlled or a discretionary activity requiring additional assessment of risks.

The HFSP will be applied to any proposed facility using or storing hazardous substances. Its purpose is to determine whether the facility will be permitted subject to defined minimum performance standards, or will require a land use resource consent.

2.2 Overview

The HFSP is based on the assessment of hazardous substances in terms of three major *Effects Groups*: fire/explosion, human health, and the environment. Each substance is assigned a *Base Threshold (B)* - expressed as a weight or volume - for each of the three defined *Effect Groups*. The *Base Threshold* is dependent only on the intrinsic hazardous properties of a substance.

Depending on the physical state of the substance(s), the type of storage and activity, site separation distances and the environmental sensitivity of the location, *Adjustment Factors (F)* are applied to the *Base Thresholds*. *Base Thresholds* and *Adjustment Factors* are then multiplied to generate an *Adjusted Threshold (T)* for each of the *Effects Groups*.

The next step is the calculation of the *Effects Ratio (R)*, which represents the proposed quantity of a substance (Q) to be used/stored in relation to the *Adjusted Threshold*. The *Effects Ratio* forms the basis to determine the consent status of a particular facility, and to evaluate the cumulative effects presented by multiple substances.

2.2 HFSP

Screening of the hazardous substances on site has been undertaken in accordance with the Hazardous Facilities Screening Procedure (HFSP) detailed in Appendix 2 of the South Taranaki District Plan (STDP).

3. STUDY CONTEXT

3.1 Proposal and Site Selection

The wellsite lies on flat land approximately 4 kilometres north of the Kapuni Production Station. To the east of the site approximately 90m is located an unnamed tributary of the Inaha Stream to which to site stormwater discharges via overland flow. To the West (215m) is the Kapuni Stream and to the north is Eltham Road. There are no commercial, industrial or residential buildings in close proximity to the site. The nearest residence to the well site is 500m away.

3.2 Site Description

Information regarding the proposed site is summarised in Table 1.

Table 1 – Site Information

Facility Name	Kapuni 8/12/15/18 (site established in late 1970s)
Address	939 Eltham Road
Map Reference	1701615.9 5634672.2
Description of Activity	1. Operation 2. Hydraulic Fracturing
Nature of adjoining Land Use	Farming Milk Shed Dwellings **No schools in close proximity to site
Proximity to Potable Water Resource	Not applicable
Within 100m of a Water Body	The nearest watercourse to the wellsite is an unnamed tributary within the Inaha Stream catchment. This waterway lies approximately 90m east of the site.

The well site covers a total area of 2.56ha (including access track). This area includes accommodation facilities, vehicle parking, and soil stockpile areas etc. The site is shown within Appendix 1 but the proposed layout of relevant equipment has not yet been indicatively drawn. It is assumed that hazardous substances will be stored in areas used previously during well site activities. The wellsite also contains other typical infrastructure such as compressors and pipes.

The waterway to the east of the site exists as a semi vegetated waterway with a small volume of flowing water. It originates from a piped nova-flow pipe system within a paddock. The skimmer pit from the site discharges to land 10m from this waterway through an underground culvert.

3.3 Design Criteria and Statutory Requirements

3.3.1 HSNO & RMA

The Management of hazardous substances in New Zealand is predominantly governed by the Hazardous Substances and New Organisms Act 1996 (HSNO) and the Resource Management Act 1991 (RMA), and their respective Regulations. The two Acts are designed to complement each other, with HSNO providing the overall framework for managing hazardous substances anywhere in New Zealand, while the RMA provides additional controls over and above those available through HSNO to ensure that site-specific circumstances can be taken into account. Guidance on achieving compliance with the requirements of the HSNO and RMA is provided by the Assessment Guide for Hazardous Facilities produced by the Ministry for the Environment.

3.3.2 AS/NZS 4360:2004

AS/NZS 4360 is the adopted standard for risk management within Australia and New Zealand and details a structure for the systematic management of risks.

3.3.3 Health & Safety in Employment (Petroleum Exploration & Extraction) Regulations

The Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999 apply to any mining operation in connection with naturally occurring hydrocarbons (excluding coal) and lays down the rules to be followed for such mining operations. Particular reference is made to Part 2 – Duties Relating To Well-Drilling Operations.

The application of the Regulations is administered by the Chief Petroleum Inspector of the Department of Labour, Occupational Health and Safety Service (OSH).

3.4 Site Risk Acceptance Criteria

The STDP includes a Consent Status Matrix containing a series of Consent Status Indices for each land use zone in the district. These indices reflect the level of risk which is considered appropriate and acceptable for different land use zones as a permitted activity. If the proposed facility falls outside this index then the proposal can only proceed as a limited discretionary or discretionary activity following the completion of a satisfactory AEE.

The Hazard rating is applied to a particular hazardous substance for the purpose of an

HFSP calculation based on its HSNO classifications. For the purposes of this HFSP each effect type is divided into three Hazard Rating Levels:

- High
- Medium
- Low

Where a substance is neither found in the list of HFSP-related substances available within the STDP nor the HSNO databases on the MfE/ERMA websites, default ratings should be used (Fire/Explosion Effect Type: Medium, Human Health Effect Type: Medium and Environment Effect Type: High).

4. HAZARD IDENTIFICATION & ANALYSIS

4.1 Hazardous Facilities Screening Procedure (HFSP)

Preliminary hazard identification was conducted using the Hazardous Facilities Screening Procedure (HFSP) detailed in Appendix II of the STDC District Plan. In accordance with this process, a HFSP Calculation Spread sheet for the KA 8/12/15/18 site was completed for the hydraulic fracturing and operation phases, See Appendix 2 (HFSP Spread Sheets). This spread sheet was used to determine the hazard rating and calculate the base quantities, adjusted quantities and quantity ratios. From these sheets, those substances which contribute significantly to the Total Quantity Ratio can be identified.

Note that a number of important assumptions were used when completing the HFSP Worksheets and these are detailed in Appendix 3 (Assumptions).

Also note that a radioactive tracer is being used during Hydraulic Fracturing. The volumes of this material are of such a minute quantity that the quantity ratio is very low. The risk assessment to human health from radioactive material is outside the scope of this HFSP. Those using the material will be suitably qualified.

4.1.1 HFSP Summary

The Total Quantity Ratios (Fire/Explosion Effects, human Health Effects, and Environmental Effects) are in excess of the applicable Consent Status Index of >0.25 (Rural Environment, no applicable overlays) for both aspects of the activities being undertaken on the KA 8/12/15/18 site (see Table 1 & 2 below for a quantity ratio summary). Therefore, according to the criteria specified in the STDP the facility will require resource consent. This consent application process includes the preparation of an Assessment of Environment Effects (AEE) and also requires compliance with relevant performance standards outlined within the STDP to be demonstrated – Section 11.

Table 1 – Summary of Operations Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Effects Ratio	Environmental Effects Ratio
EC1450 Inhibitor	0	2.2333	2.4815
Methanol	1.3500	1.3500	4.5000
Shell Corena Oil NG220	0.0400	0.400	0.1333
Pegasus 710	0.0400	0.400	0.1333
Total Effects Ratio of substances >0.1	1.3500	3.5833	6.9815
Total Effects Ratio of all substances	1.4300	4.3833	7.2481

Table 2 – Summary of Hydraulic Fracturing Phase, Quantity Ratios

Substance	Fire/Explosion Effects Ratio	Human Health Ratio	Environmental Effects Ratio
Flex Sand HS	8.3333	0.9259	0.9259
20/40 Terra Prop Pro	0	15.0000	0
GLFC-5	0.4787	1.5889	1.5889
Diesel	0.3333	3.3333	3.7037
Total Effects Ratios	9.1453	20.8481	6.2185

The HFSP (worksheets provided in Appendix 2) reveals that the specific substances that contribute significantly to the Total Quantity Ratios are EC-1450 Inhibitor, Methanol, Flex Sand HS, 20/40 Terra Prop Pro & Diesel.

Reductions in the quantities of contributing substances on site could result in the ratios falling to beneath the applicable Consent Status Index, thereby providing justification for 'Permitted Activity' status. However, significant reduction in the quantities on site to a level which reduces each of the Total Quantity Ratios to less than the applicable Consent Status Index is not practicable. Therefore a risk assessment is justified to demonstrate that the significant or 'priority status' hazardous substances can be managed so as to eliminate or minimise the risk to offsite parties.

5. Conclusion

This HFSP has been completed in accordance with the South Taranaki District Plan to assess whether the KA 8/12/15/18 well site is classified as a hazardous facility during hydraulic fracturing activities.. Assessments have concluded that the quantity ratios exceed permitted status guidelines within the STDP and therefore land use consent will be required for all phases. As part of the AEE to this application a hazardous substance risk assessment will need to be completed in accordance with Schedule 4 of the RMA.

Appendix 1

Site Plan

Appendix 2

Hazardous Facilities Screening Procedure Spreadsheets

ATTACHMENT 1: HSP CALCULATION SPREADSHEET

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736	SP-737	SP-738	SP-739	SP-740	SP-741	SP-742	SP-743	SP-744	SP-745	SP-746	SP-747	SP-748	SP-749	SP-750	SP-751	SP-752	SP-753	SP-754	SP-755	SP-756	SP-757	SP-758	SP-759	SP-760	SP-761	SP-762	SP-763	SP-764	SP-765	SP-766	SP-767	SP-768	SP-769	SP-770	SP-771	SP-772	SP-773	SP-774	SP-775	SP-776	SP-777	SP-778	SP-779	SP-780	SP-781	SP-782	SP-783	SP-784	SP-785	SP-786	SP-787	SP-788	SP-789	SP-790	SP-791	SP-792	SP-793	SP-794	SP-795	SP-796	SP-797	SP-798	SP-799	SP-800	SP-801	SP-802	SP-803	SP-804	SP-805	SP-806	SP-807	SP-808	SP-809	SP-810	SP-811	SP-812	SP-813	SP-814	SP-815	SP-816	SP-817	SP-818	SP-819	SP-820	SP-821	SP-822	SP-823	SP-824	SP-825	SP-826	SP-827	SP-828	SP-829	SP-830	SP-831	SP-832	SP-833	SP-834	SP-835	SP-836	SP-837	SP-838	SP-839	SP-840	SP-841	SP-842	SP-843	SP-844	SP-845	SP-846	SP-847	SP-848	SP-849	SP-850	SP-851	SP-852	SP-853	SP-854	SP-855	SP-856	SP-857	SP-858	SP-859	SP-860	SP-861	SP-862	SP-863	SP-864	SP-865	SP-866	SP-867	SP-868	SP-869	SP-870	SP-871	SP-872	SP-873	SP-874	SP-875	SP-876	SP-877	SP-878	SP-879	SP-880	SP-881	SP-882	SP-883	SP-884	SP-885	SP-886	SP-887	SP-888	SP-889	SP-890	SP-891	SP-892	SP-893	SP-894	SP-895	SP-896	SP-897	SP-898	SP-899	SP-900	SP-901	SP-902	SP-903	SP-904	SP-905	SP-906	SP-907	SP-908	SP-909	SP-910	SP-911	SP-912	SP-913	SP-914	SP-915	SP-916	SP-917	SP-918	SP-919	SP-920	SP-921	SP-922	SP-923	SP-924	SP-925	SP-926	SP-927	SP-928	SP-929	SP-930	SP-931	SP-932	SP-933	SP-934	SP-935	SP-936	SP-937	SP-938	SP-939	SP-940	SP-941	SP-942	SP-943	SP-944	SP-945	SP-946	SP-947	SP-948	SP-949	SP-950	SP-951	SP-952	SP-953	SP-954	SP-955	SP-956	SP-957	SP-958	SP-959	SP-960	SP-961	SP-962	SP-963	SP-964	SP-965	SP-966	SP-967	SP-968	SP-969	SP-970	SP-971	SP-972	SP-973	SP-974	SP-975	SP-976	SP-977	SP-978	SP-979	SP-980	SP-981	SP-982	SP-983	SP-984	SP-985	SP-986	SP-987	SP-988	SP-989	SP-990	SP-991	SP-992	SP-993	SP-994	SP-995	SP-996	SP-997	SP-998	SP-999	SP-1000

Appendix 3**Hazardous Facilities Screening Procedure Assumptions**

No.	Assumption
1.	All information in relation to substance quantities is assumed to be correct.
2.	Distance to boundary <30m
3.	Above ground storage
4.	Low environmental hazard levels applied as a minimum to manually entered data, even where MSDS advice is that product is not regarded as dangerous for environment or where bioaccumulation is not expected.
5.	The Consent Status index for a permitted activity in the applicable zone (ie. Rural Environment, no applicable overlays) is <0.25.
6.	Distance to a water course has been calculated to be less than 100m from the site boundary.

Appendix 5

Hazardous Facility Risk Assessments



Shell Todd Oil Services Ltd

Kapuni 6/11/17 Wellsite –

**Hydraulic Fracturing & Operations Hazardous
 Substance Risk Assessment**

Quality Assurance Statement	
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April 2012

Prepared by BTW Company Ltd

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1. PURPOSE & SCOPE

Shell Todd Oil Services Ltd (STOS) is proposing to undertake the hydraulic fracturing of KA 17, located at the KA 6/11/17 wellsite, 849 Ahipaipa Road, Kapuni.

A regulatory obligation in order for the project to proceed is to gain Land Use Consent from the South Taranaki District Council (STDC). Part of the land use assessment involves undertaking a Hazardous Facility Screen (HFSP) to determine whether consent is also required for the storage and use of hazardous substances onsite.

STOS has engaged BTW Company Ltd to undertake the Hazardous Facility Screening Procedure (HFSP) which is the initial assessment to determine whether consent is required. This assessment was completed in March 2012 which displayed total quantity ratio figures (a sum of all individual hazardous substances) for all three effects groups - fire/explosion, human health and the environment. For each effect group the permitted level identified within the STDC District Plan, Section 11.02 was exceeded.

As consent is required, a Hazardous Substance Risk Assessment (HSRA) needs to be completed to form part of the Assessment of Environmental Effects (AEE) within the relevant site land use consent application. An HSRA is required under Schedule 4 of the RMA where an activity includes the use of hazardous substances.

2. HFSP SUMMARY

The Total Quantity Ratios (Fire/Explosion Effects, Human Health Effects, and Environmental Effects) are in excess of the applicable Consent Status Index of >0.25 (Rural Environment, no applicable overlays) for both phases of the TGP being undertaken on the KA 6/11/17 site. Therefore, according to the criteria specified in the STDP the facility will require resource consent. This consent application process includes the preparation of an Assessment of Environment Effects (AEE) and also provides information relevant to display compliance with performance standards outlined within the STDP – Section 11.

The HFSP reveals that the specific substances that contribute significantly to the Total Quantity Ratios are EC-1450, Methanol, Flex Sand HS, 20/40 Terra Prop Pro & Diesel. These substances can be described as the 'Priority Substances'.

2.1 Priority Substances

As a result of assessment using the HFSP, the risk assessment is therefore limited to assessment of the following priority hazardous substances:

- Methanol
- EC-1450 Inhibitor

- Flex Sand HS
- 20/40 Terra Prop Pro
- Diesel

The potential effects of the priority substances are discussed below.

Methanol

Form: Liquid

Composition: Contains methanol (methyl alcohol)

Methanol rated by Chemwatch as HSNO Class: 3.1B, 6.1D (oral), 6.4A, 6.8B, 6.9A (inhalation), 9.3C.

Highly flammable liquid and vapour, Harmful if swallowed, causes serious eye irritation, Suspected of damaging fertility, causes damage to organs by inhalation, harmful to terrestrial vertebrates.

Used as a hydration inhibitor and octane booster.

Methanol Hazard Rating

Fire/Explosion	Human Health	Environment
High	High	High

EC-1450 Inhibitor

Form: Liquid

Composition: Contains benzalkonium chloride, sodium hydroxide, hydroxyethanediphosphonic acid, methylenephosphonic acid and water

EC-1450 Inhibitor rated by Chemwatch as class: 8.1D, 6.5A, 6.5B, 8.1A, 8.2C, 8.3A & 9.1A

Inflammable, moderate toxicity and extreme body contact risk. Very toxic to aquatic life with long lasting effects.

Used as a concentrate corrosion inhibitor.

EC-1450 Hazard Rating

Fire/Explosion	Human Health	Environment
	High	Medium

FlexSand HS

Form: Solid

Composition: Aluminium needles & Cured resin

International hazard assessment; not listed as an Extremely Hazardous Substance, Does not contain ingredients on the List of Toxic Chemicals.

May cause skin irritation by abrasion, may cause irritation, may cause shortness of breath, prolonged exposure could cause; coughing, sputum production, weakness, anorexia, basal crackles, dyspnea, pneumothorax and cardiac failure.

FlexSand HS additives control proppant flowback and reduces the effect of stress on the proppant grains, while at the same time maintaining fracture conductivity in high-rate gas producers and storage wells.

FlexSand HS Hazard Rating

Fire/Explosion	Human Health	Environment
Low	Low	Low

20/40 Terra Prop Pro (Ceramic Proppant)

Form: Solid

Composition: Quartz, Aluminium Oxide, Kyanite

Not classified as hazardous.

High chronic toxicity (inhalation), may result in mucous membrane irritation of the respiratory tract, chronic exposure to crystalline silica may result in silicosis (lung fibrosis). Crystalline silica is classified as carcinogenic to humans.

20/40 Terra Prop Pro is used as a ceramic proppant during the fracturing process.

20/40- Terra Prop Pro Hazard Rating

Fire/Explosion	Human Health	Environment
	Low	

Diesel

Form: Liquid

Composition: >99% Petroleum hydrocarbon liquids; <1% additives

Rated by Chemwatch as HSNO Class: 3.1D, 6.1E, 6.3B, 6.7B, 9.1B

Combustible liquid, may be harmful if swallowed, causes mild skin irritation, suspected of causing cancer, toxic to aquatic life.

Used as fuel (all the power required for hydraulic fracturing operations will be supplied by diesel generators onsite).

Diesel Hazard Rating

Fire/Explosion	Human Health	Environment
Low	Medium	Medium

3. RISK ANALYSIS

3.1 Risk Assessment Matrix

Assessment of the risk posed by the priority hazardous substances was facilitated by the use of the Risk Assessment Matrix shown below in Table 3.1. This matrix was adapted from an example provided in the MFE Assessment Guide for Hazardous Facilities. The results from this assessment are presented in the Risk Worksheet below detailing the type and magnitude of the hazard, together with the assessed risk level.

Control and mitigation measures are discussed in detail in Section 4 below. Note that the risk level has been assigned with consideration given to the proposed control and mitigation measures being in place.

Table 3.1 – Risk Assessment Matrix

			CONSEQUENCES				
			1	2	3	4	5
			Insignificant	Minor	Moderate	Major	Catastrophic
LIKELIHOOD			No injuries, negligible environmental damage, etc	1 st aid treatment required, onsite release contained with spill kit, minor damage to property, etc	1 st aid treatment required, on-site release contained with outside assistance, moderate damage to on-site property, minor damage to off-site property, etc	Extensive injuries, loss of production capability, significant environmental damage, moderate damage to off-site property.	Fatalities both on and off site, major and widespread environmental damage, exposure to toxic release by numerous people
A	Almost certain	The event is expected to occur in most circumstances	S	S	H	H	H
B	Likely	The event will probably occur in most circumstances	M	S	S	H	H
C	Moderate	The event should occur at some time	L	M	S	H	H
D	Unlikely	The event could occur at some time	L	L	M	S	H
E	Rare	The event may occur only in exceptional circumstances	L	L	M	S	S

Legend:

- H – High risk (risk deemed to be intolerable and must be demonstrably reduced)
- S – Significant risk (risk to be demonstrably reduced unless no other option exists and exposed parties are well informed)
- M – Moderate risk (risk may be deemed tolerable if can be shown to be as low as reasonably practicable)
- L – Low risk (risk can be managed through routine procedures)

Table 3.2 Operations and hydraulic fracturing – Risk Worksheet

Hazardous Substance	Quantity (m)	Hazardous Properties	Potential Failure Mode	Affected Parts of Environment	Offsite Risk Level
Methanol	3.16	Flammable, toxic, ecotoxic	Spill	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
			Fire in holding area	People. Property. Ecosystems. People/property effects to offsite personnel would be limited.	D-2 Low
EC-1450 Inhibitor	6.7	Toxic, ecotoxic	Spill	People, ecosystems. People/property effects restricted to on-site only	D-2 Low
Flex Sand HS	25	Flammable, toxic, ecotoxic	Spill	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
20/40 Terra Prop Pro	405	Toxic	Spill	People People/property effects restricted to on-site only	D-2 Low
Diesel	50	Flammable, toxic, ecotoxic	Tank leak or rupture	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
			Diesel equipment leak	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
			Fire in storage area	People. Property (in case of ignition). Ecosystems. People/property, potentially off-site effects.	E-3 Moderate

There is currently an established pipeline which connects the wellsite to the Kapuni Production Station. This would negate the need to store any hydrocarbons on site or use the road for tanker transport of hydrocarbons.

3.2 Offsite Risk

In the quantities proposed, the priority hazardous substances on site have potential effects which could be considered up to moderate (particularly in terms of human health and environmental effects) if adequate controls are not in place and the effectiveness of these controls is not maintained over the duration of the wellsite operations.

However, with the exception of a diesel tank accident, the potential fire and human health effects are limited to onsite personnel. Personal exposure to offsite parties is not credible given the properties of the substances and the location of the wellsite relative to surrounding land users.

Environmental risks to offsite parties associated with the hazardous substances can be effectively controlled and mitigated by the proposed site drainage and spill containment systems and by adherence to the conditions specified in the existing wellsite air and water discharge permits.

3.2.1 Road Tanker & Transport Truck Risks

Hazardous substances will need to be transported to the site by road. A road accident involving a transport vessel/vehicle has the potential to result in injury to both the driver and other road users, particularly if speed is involved or if a hazardous substance is released and ignited. If unignited, there may still be significant environmental harm, particularly if the substance is liquid and enters a water course. Specific controls for this hazard include:

Prevention measures & control, mitigation and recovery measures

- Traffic management arrangements, including consideration of higher traffic periods, eg. School bus times.
- Driver training and competency (i.e. hazardous substances transport licensing)
- Employment of competent, specialist contractors.

It is considered that these prevention, control, mitigation and recovery measures are sufficient to ensure the risk of a vehicle accident involving a hazardous substance is maintained to as low as reasonably practicable, and can therefore be deemed to be tolerable in terms of the risk criteria specified within section 3.4 of the Hazardous Facility Screening Procedure document for the KA 8/12/15/18 wellsite.

4. RISK EVALUATION & CONTROL

4.1 Offsite Risk

Under the Resource Management Act site specific controls for the use, storage and handling of hazardous substances have to be provided. Hazardous facility minimum performance standards are detailed in the MFE Land Use Planning Guide. These minimum performance standards address the following aspects:

- A. Site design
- B. Site layout
- C. Storage of hazardous substances
- D. Site drainage systems
- E. Spill containment systems
- F. Washdown areas
- G. Underground storage tanks (not applicable)
- H. Signage
- I. Waste Management

Proposed measures for achieving adherence to these performance standards during hydraulic fracturing are detailed in Table 4.1 below. Full details of the methods of compliance are provided in the AEE.

Table 4.1 – Adherence to Minimum Performance Standards

Performance Standard	Phase	KA6/13/17/Wellbore Compliance
A. Site design	Hydraulic fracturing	The site design is being initiated. The final site design will be tailored to prevent the occurrence of any offsite adverse effects unless permitted by a resource consent, and to prevent the contamination of air, land, or water in the event of a spill or release.
B. Site layout	Hydraulic fracturing	Maximum separation between onsite facilities and the property boundary will be provided to protect neighbouring facilities, land users and sensitive environments.
C. Storage of hazardous substances	Hydraulic fracturing	Will have significant quantities of hazardous solids which will be contained appropriately. Liquids will be securely stored in approved storage tanks, which are bonded to 110% of their total volume, and situated

		<p>inside the isolating perimeter drain or alternatively, double skinned tanks will be used. All other hazardous substances on site will be managed to meet industry safety and health requirements including HSNO regulatory requirements with respect to fire protection/extinguishers.</p> <p>Produced hydrocarbon liquids and gas will be piped to the Kapuni Production Station.</p>
D. Site drainage systems	Hydraulic fracture	<p>Stormwater drainage from clean areas of the site and from surrounding land will flow into perimeter drains around the outer edge of the site. The perimeter drains discharge into two oil skimmer pits with a combined capacity of approximately 30m³ where any hydrocarbons in the water float to the surface of the pit and can be retrieved prior to releasing water offsite. The stormwater from the skimmer pit will then flow to an unnamed tributary within the Inaha Stream catchment which is located 20m from the site. This skimmer pit needs to include a choke valve in the event discharge from the site can be managed.</p>
E. Spill Containment Systems	Hydraulic fracturing	<p>Fluids will be stored onsite within isolated tanks. Disposal of fluids has not yet been finalised but the preferred method will be in accordance with Taranaki Regional Council consents. STOS maintains an onshore Spill Response Plan and Emergency Management Manual which includes response measures specific to the KA 6/11/17 wellsite to deal with unforeseen spillages, blowouts or other emergency situations. A copy of these plans has been provided to the TRC and will be supplied to the STDC prior to hydraulic fracturing operations beginning.</p> <p>The plan includes a contingency map which identifies the wellsite, catchment boundaries, downstream water users (with names and telephone numbers), a range of spill control points and their access details, and onsite and offsite containment methods. The plans also detail control methods, procedures in the event of an emergency, procedures for reporting spillage, actions to be taken and responsibilities of personnel and the communication network.</p>
F. Wash-down areas	Hydraulic Fracture	N/A -- Wash-down activities will not be undertaken onsite.

H. Signage	Hydraulic Fracture	Hazardous substance signage will be in accordance with the relevant codes of practice, regulations and/or the HAZCHEM signage system.
I. Waste Management	Hydraulic Fracture	<p>The proposed activities produce three types of waste. These are:</p> <ul style="list-style-type: none"> • contaminated produced water from hydraulic fracturing activities and contaminated stormwater from working areas around the site, collectively referred to as 'wastewater'. • stormwater from the general site excluding the working area (from 'clean' areas) • domestic wastewater & sewerage from onsite accommodation and administration facilities. <p>Site establishment will include installation of wastewater control, treatment and disposal facilities. These comprise a stormwater drain (skimmer pit) excavated around the perimeter of the site and a septic tank which will be periodically emptied. Produced and return fluids will be stored within tanks or piped directly to the KPS and deep well injected.</p>

Further control and mitigation measures are discussed below.

4.2 Mitigation of Risks Particular to Site Activities

Due to the nature of the activity, i.e. hydraulic fracturing under pressure, any activity onsite presents a number of particular risks. The key controls and mitigation of these risks are discussed below.

4.2.1 Gas Flaring

Flaring is likely to occur as a result of the following:

- An emergency release during hydraulic fracturing; or
- If hydrocarbon gas is entrained within hydraulic fracture flow-back fluids.

Flaring is carried out under tightly controlled and intensively managed conditions to ensure the safety of personnel and to protect property and equipment at the wellsite or beyond the perimeter of the site.

Most commonly, materials directed to the flare are in a gaseous state. In some circumstances they may be liquid. Hydrocarbon gases are inherently easier to burn than liquids and typically complete the combustion reaction completely oxidised. Therefore there is no smoke. Liquids on the other hand require more extreme conditions in order to oxidise completely and are likely to produce smoke while burning. Burning of liquids may take place during start-up or shut-down of well testing equipment.

Any smoke produced during the burning of liquids includes elemental carbon (which is visible as smoke or soot), carbon monoxide, CO² and water.

An air discharge consent exists for the site and therefore gas flaring and smoke generation is not covered further in this HSRA.

4.2.2 Safety Procedures

All the hydraulic fracturing, on-going operation and emergency procedures associated with the KA-17 well will be in accordance with industry standards and STOS policies and procedures. The Petroleum Inspector from the Department of Labour provides an independent audit of well site activities and safety procedures. The site is required to operate in accordance with the Health and Safety in Employment Act (1992) in general, and more specifically the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations (1999).

The hydraulic fracturing contractor is required to apply a detailed HSE Manual to their operations. A copy of the Manual will be kept on site. Contractors are required to ensure personnel are available on site with the appropriate Approved Handler status as described in the HSNO Act for all relevant hazardous substances.

All materials, construction techniques, safety procedures, blowout prevention procedures, equipment testing and emergency procedures will be in accordance with industry standards and current best practise. STOS applies a detailed HSE Risk Management system to all its operations. The wellsite will be operated under exploration and production specific emergency management systems and tools including, for example:

- Permit To Work System – a planning and work control system to ensure work is carried out in accordance with safe operating practices.
- Job Safety Analysis – a system for highlighting hazards associated with particular tasks.
- Accident/Incident Reporting – reporting and investigation of HSE incidents in accordance with the STOS incident/Accident Reporting Guideline.
- Inspections and Audits – in accordance with the STOS Inspection & Checklists Guides and STOS Audit Guidelines.

A hazardous area classification regime also exists on all STOS sites. This system exists as a section of the Permit To Work System and ranks areas within a site according to an areas associated danger levels (gas, height, machinery operating etc). The total risk assessment number allocated to an activity is dependent on the task being undertaken. Appropriate safety measures are ensured before work is initiated.

5. SUMMARY & CONCLUSION

In summary, the priority substances during hydraulic fracturing activities (i.e. those which significantly exceed the 'Rural Area' Consent Threshold) have been determined to be the following:

- Methanol
- EC-1450 Inhibitor
- Flex Sand HS
- 20/40 Terra Prop Pro
- Diesel

In the quantities proposed, these substances have effects which have been assessed as up to moderate, particularly in terms of human health and environmental effects, if adequate controls are not in place and the effectiveness of these controls is not maintained over the duration of the wellsite operations.

However, with the exception of fire, the potential human health effects are limited to onsite personnel. Personal exposure to offsite parties is not credible given the properties of the substances and the location of the wellsite relative to the surrounding land users.

Environmental risks to offsite parties associated with the hazardous substances can be effectively controlled and mitigated by the proposed site drainage and spill containment systems and by adherence with the conditions specified in the existing air and water discharge consents. As significant volumes of the priority substances are solid, the potential for stormwater contamination is significantly reduced in the event of a spill. A stormwater shut off valve will be installed prior to the commencement of well site operations to control any direct discharge to the neighbouring unnamed tributary in the event of a spill.

Therefore, it can be concluded that adverse effects to offsite parties from the storage and use of hazardous substances associated with hydraulic fracturing and on-going production operations from the KA 6/11/17 wellsite are very unlikely if the proposed control and mitigation measures are in place and the facility is operated within the assigned discharge permits.

Shell Todd Oil Services Ltd

Kapuni 8/12/15/18 Wellsite –

Hydraulic Fracturing & Operations Hazardous Substance Risk Assessment

Quality Assurance Statement	
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April 2012

Prepared by BTW Company Ltd

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1. PURPOSE & SCOPE

Shell Todd Oil Services Ltd (STOS) is proposing to undertake hydraulic fracturing of KA 18, located at the KA 8/12/15/18 wellsite, 939 Eltham Road, Kapuni.

A regulatory obligation in order for the project to proceed is to gain Land Use Consent from the South Taranaki District Council (STDC). Part of the land use assessment involves undertaking a Hazardous Facility Screen (HFSP) to determine whether consent is also required for the storage and use of hazardous substances onsite.

STOS has engaged BTW Company Ltd to undertake the Hazardous Facility Screening Procedure (HFSP) which is the initial assessment to determine whether consent is required. This assessment was completed in March 2012 which displayed total quantity ratio figures (a sum of all individual hazardous substances) for all three effects groups - fire/explosion, human health and the environment. For each effect group the permitted level identified within the STDC District Plan, section 11.02 was exceeded.

As consent is required, a Hazardous Substance Risk Assessment (HSRA) needs to be completed to form part of the Assessment of Environmental Effects (AEE) within the relevant site land use consent application. A HSRA is required under Schedule 4 of the RMA where an activity includes the use of hazardous substances.

2. HFSP SUMMARY

The Total Quantity Ratios (Fire/Explosion Effects, Human Health Effects, and Environmental Effects) are in excess of the applicable Consent Status Index of >0.25 (Rural Environment, no applicable overlays) for both phases of the TGP being undertaken on the KA 8/12/15/18 site. Therefore, according to the criteria specified in the STDP the facility will require resource consent. This consent application process includes the preparation of an Assessment of Environment Effects (AEE) and also provides information relevant to display compliance with performance standards outlined within the STDP – Section 11.

The HFSP reveals that the specific substances that contribute significantly to the Total Quantity Ratios are EC-1450, Methanol, Flex Sand HS, 20/40 Terra Prop Pro & Diesel. These substances can be described as the 'Priority Substances'.

2.1 Priority Substances

As a result of assessment using the HFSP, the risk assessment is therefore limited to assessment of the following priority hazardous substances:

- Methanol
- EC-1450 Inhibitor

- Flex Sand HS
- 20/40 Terra Prop Pro
- Diesel

The potential effects of the priority substances are discussed below.

Methanol

Form: Liquid

Composition: Contains methanol (methyl alcohol)

Methanol rated by Chemwatch as HSNO Class: 3.1B, 6.1D (oral), 6.4A, 6.8B, 6.9A (inhalation), 9.3C.

Highly flammable liquid and vapour, harmful if swallowed, Causes serious eye irritation, suspected of damaging fertility, causes damage to organs by inhalation. Harmful to terrestrial vertebrates.

Used as a hydration inhibitor and octane booster.

Methanol Hazard Rating

Fire/Explosion	Human Health	Environment
High	High	High

EC-1450 Inhibitor

Form: Liquid

Composition: Contains benzalkonium chloride, sodium hydroxide, hydroxyethanediphosphonic acid, methylenephosphonic acid and water

EC-1450 Inhibitor rated by Chemwatch as class: 6.1D, 6.5A, 6.5B, 8.1A, 8.2C, 8.3A & 9.1A

Inflammable, moderate toxicity and extreme body contact risk, very toxic to aquatic life with long lasting effects.

Used as a concentrate corrosion inhibitor.

EC-1450 Inhibitor Hazard Rating

Fire/Explosion	Human Health	Environment
	High	Medium

FlexSand HS

Form: Solid

Composition: Aluminium needles & Cured resin

International hazard assessment; not listed as an Extremely Hazardous Substance, Does not contain ingredients on the List of Toxic Chemicals.

May cause skin irritation by abrasion, may cause irritation, may cause shortness of breath, prolonged exposure could cause; coughing, sputum production, weakness, anorexia, basal crackles, dyspnea, pneumothorax and cardiac failure.

FlexSand HS additives control proppant flowback and reduces the effect of stress on the proppant grains, while at the same time maintaining fracture conductivity in high-rate gas producers and storage wells.

FlexSand HS Hazard Rating

Fire/Explosion	Human Health	Environment
Low	Low	Low

20/40 Terra Prop Pro (Ceramic Proppant)

Form: Solid

Composition: Quartz, Aluminium Oxide, Kyanite

Not classified as hazardous.

High chronic toxicity (inhalation), May result in mucous membrane irritation of the respiratory tract, Chronic exposure to crystalline silica may result in silicosis (lung fibrosis). Crystalline silica is classified as carcinogenic to humans.

20/40 Terra Prop Pro is used as a ceramic proppant during the fracturing process.

20/4- Terra Prop Pro Hazard Rating

Fire/Explosion	Human Health	Environment
	Low	

Diesel**Form:** Liquid**Composition:** >99% Petroleum hydrocarbon liquids; <1% additives

Rated by Chemwatch as HSNO Class: 3.1D, 6.1E, 6.3B, 6.7B, 9.1B

Combustible Liquid, may be harmful if swallowed, causes mild skin irritation, suspected of causing cancer, toxic to aquatic life.

Used as fuel (all the power required for rig operations will be supplied by diesel generators onsite).

Diesel Hazard Rating

Fire/Explosion	Human Health	Environment
Low	Medium	Medium

3. RISK ANALYSIS

3.1 Risk Assessment Matrix

Assessment of the risk posed by the priority hazardous substances was facilitated by the use of the Risk Assessment Matrix shown below in Table 3.1. This matrix was adapted from an example provided in the MFE Assessment Guide for Hazardous Facilities. The results from this assessment are presented in the Risk Worksheet below detailing the type and magnitude of the hazard, together with the assessed risk level.

Control and mitigation measures are discussed in detail in Section 4 below. Note that the risk level has been assigned with consideration given to the proposed control and mitigation measures being in place.

Table 3.1 – Risk Assessment Matrix

			CONSEQUENCES				
			1	2	3	4	5
LIKELIHOOD			Insignificant	Minor	Moderate	Major	Catastrophic
			No injuries, negligible environmental damage, etc	1 st aid treatment required, onsite release contained with spill kit, minor damage to property, etc	1 st aid treatment required, on-site release contained with outside assistance, moderate damage to on-site property, minor damage to off-site property, etc	Extensive injuries, loss of production capability, significant environmental damage, moderate damage to off-site property.	Fatalities both on and off site, major and widespread environmental damage, exposure to toxic release by numerous people
A	Almost certain	The event is expected to occur in most circumstances	S	S	H	H	H
B	Likely	The event will probably occur in most circumstances	M	S	S	H	H
C	Moderate	The event should occur at some time	L	M	S	H	H
D	Unlikely	The event could occur at some time	L	L	M	S	H
E	Rare	The event may occur only in exceptional circumstances	L	L	M	S	S

Legend:

- H – High risk (risk deemed to be intolerable and must be demonstrably reduced)
- S – Significant risk (risk to be demonstrably reduced unless no other option exists and exposed parties are well informed)
- M – Moderate risk (risk may be deemed tolerable if can be shown to be as low as reasonably practicable)
- L – Low risk (risk can be managed through routine procedures)

Table 3.2 Operations and hydraulic fracturing – Risk Worksheet

Hazardous Substance	Quantity (m)	Hazardous Properties	Potential Failure Mode	Affected Parts of Environment	Offsite Risk Level
Methanol	3.16	Flammable, toxic, ecotoxic	Spill	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
			Fire in holding area	People. Property. Ecosystems. People/property effects to offsite personnel would be limited.	D-2 Low
EC-1450 Inhibitor	6.7	Toxic, ecotoxic	Spill	People, ecosystems. People/property effects restricted to on-site only	D-2 Low
Flex Sand HS	25	Flammable, toxic, ecotoxic	Spill	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
20/40 Terra Prop Pro	405	Toxic	Spill	People People/property effects restricted to on-site only	D-2 Low
Diesel	50	Flammable, toxic, ecotoxic	Tank leak or rupture	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
			Diesel equipment leak	People. Property (in case of ignition). Ecosystems. People/property effects restricted to on-site only.	D-2 Low
			Fire in storage area	People. Property (in case of ignition). Ecosystems. People/property, potentially off-site effects.	E-3 Moderate

There is currently an established pipeline which connects the wellsite to the Kapuni Production Station. This would negate the need to store any hydrocarbons on site or use the road for tanker transport of hydrocarbons.

3.2 Offsite Risk

In the quantities proposed, the priority hazardous substances on site have potential effects which could be considered up to moderate (particularly in terms of human health and environmental effects) if adequate controls are not in place and the effectiveness of these controls is not maintained over the duration of the wellsite operations.

However, with the exception of a diesel tank accident, the potential fire and human health effects are limited to onsite personnel. Personal exposure to offsite parties is not credible given the properties of the substances and the location of the wellsite relative to surrounding land users.

Environmental risks to offsite parties associated with the hazardous substances can be effectively controlled and mitigated by the proposed site drainage and spill containment systems and by adherence to the conditions specified in the existing wellsite air and water discharge permits.

3.2.1 Road Tanker & Transport Truck Risks

Hazardous substances will need to be transported to the site by road. A road accident involving a transport vessel/vehicle has the potential to result in injury to both the driver and other road users, particularly if speed is involved or if a hazardous substance is released and ignited. If unignited, there may still be significant environmental harm, particularly if the substance is liquid and enters a water course. Specific controls for this hazard include:

Prevention measures & control, mitigation and recovery measures

- Traffic management arrangements, including consideration of higher traffic periods, eg. School bus times.
- Driver training and competency (i.e. hazardous substances transport licensing)
- Employment of competent, specialist contractors.

It is considered that these prevention, control, mitigation and recovery measures are sufficient to ensure the risk of a vehicle accident involving a hazardous substance is maintained to as low as reasonably practicable, and can therefore be deemed to be tolerable in terms of the risk criteria specified within section 3.4 of the Hazardous Facility Screening Procedure document for the KA 8/12/15/18 wellsite.

4. RISK EVALUATION & CONTROL

4.1 Offsite Risk

Under the Resource Management Act site specific controls for the use, storage and handling of hazardous substances have to be provided. Hazardous facility minimum performance standards are detailed in the MFE Land Use Planning Guide. These minimum performance standards address the following aspects:

- A. Site design
- B. Site layout
- C. Storage of hazardous substances
- D. Site drainage systems
- E. Spill containment systems
- F. Washdown areas
- G. Underground storage tanks (not applicable)
- H. Signage
- I. Waste Management

Proposed measures for achieving adherence to these performance standards during hydraulic fracturing and operations are detailed in Table 4.1 below. Full details of the methods of compliance are provided in the AEE.

Table 4.1 – Adherence to Minimum Performance Standards

Performance Standard	Phase	KAB/12/13/18 Well and Compliance
A. Site design	Hydraulic fracturing	The site design is being initiated. The final site design will be tailored to prevent the occurrence of any offsite adverse effects unless permitted by a resource consent, and to prevent the contamination of air, land, or water in the event of a spill or release.
B. Site layout	Hydraulic fracturing	Maximum separation between onsite facilities and the property boundary will be provided to protect neighbouring facilities, land users and sensitive environments.
C. Storage of hazardous substances	Hydraulic fracturing	Will have significant quantities of hazardous solids which will be contained appropriately. Liquids will be securely stored in approved storage tanks, are banded to 110% of their total volume, and situated

		<p>Inside the isolating perimeter drain or alternatively, double skinned tanks will be used. All other hazardous substances on site will be managed to meet industry safety and health requirements including HSNO regulatory requirements with respect to fire protection/extinguishers.</p> <p>Produced hydrocarbon liquids and gas will be piped to the Kapuni Production Station.</p>
D. Site drainage systems	Hydraulic fracture	<p>Stormwater drainage from clean areas of the site and from surrounding land will flow into perimeter drains around the outer edge of the site. The perimeter drains discharge into one oil skimmer pit with a capacity of approximately 30m³ where any hydrocarbons in the water float to the surface of the pit and can be retrieved prior to releasing water offsite. The stormwater from the skimmer pit will then flow to an unnamed tributary within the Inaha Stream catchment which is located 90m from the site. This skimmer pit needs to include a choke valve in the event discharge from the site can be managed.</p>
E. Spill Containment Systems	Hydraulic fracturing	<p>Fluids will be stored onsite within isolated tanks. Disposal of fluids has not yet been finalised but the preferred method will be in accordance with Taranaki Regional Council consents. STOS maintains an onshore Spill Response Plan and Emergency Management Manual which includes response measures specific to the KA 8/12/15/18 wellsite to deal with unforeseen spillages, blowouts or other emergency situations. A copy of these plans has been provided to the TRC and will be supplied to the STDC prior to hydraulic fracturing operations beginning.</p> <p>The plan includes a contingency map which identifies the wellsite, catchment boundaries, downstream water users (with names and telephone numbers), a range of spill control points and their access details, and onsite and offsite containment methods. The plans also detail control methods, procedures in the event of an emergency, procedures for reporting spillage, actions to be taken and responsibilities of personnel and the communication network.</p>
F. Wash-down areas	Hydraulic Fracture	N/A – Wash-down activities will not be undertaken onsite.
H. Signage	Hydraulic	Hazardous substance signage will be in accordance

	Fracture	with the relevant codes of practice, regulations and/or the HAZCHEM signage system.
I. Waste Management	Hydraulic Fracture	<p>The proposed activities produce three types of waste. These are:</p> <ul style="list-style-type: none"> contaminated produced water from hydraulic fracturing activities and contaminated stormwater from working areas around the site, collectively referred to as 'wastewater'. stormwater from the general site excluding the working area (from 'clean' areas) domestic wastewater & sewerage from onsite accommodation and administration facilities. <p>Site establishment will include installation of wastewater control, treatment and disposal facilities. These comprise a stormwater drain (skimmer pit) excavated around the perimeter of the site and a septic tank which will be periodically emptied. Produced and return fluids will be stored within tanks or piped directly to the KPS and deep well injected.</p>

Further control and mitigation measures are discussed below.

4.2 Mitigation of Risks Particular to Site Activities

Due to the nature of the activity, i.e. hydraulic fracturing under pressure, any activity onsite presents a number of particular risks. The key controls and mitigation of these risks are discussed below.

4.2.1 Gas Flaring

Flaring is likely to occur as a result of the following:

- An emergency release of gas during hydraulic fracturing; or
- if hydrocarbon gas is entrained within hydraulic fracture flow-back fluids.

Flaring is carried out under tightly controlled and intensively managed conditions to ensure the safety of personnel and to protect property and equipment at the wellsite or beyond the perimeter of the site.

Most commonly, materials directed to the flare are in a gaseous state. In some circumstances they may be liquid. Hydrocarbon gases are inherently easier to burn than liquids and typically complete the combustion reaction completely oxidised. Therefore there is no smoke. Liquids on the other hand require more extreme conditions in order to oxidise completely and are likely to produce smoke while burning. Burning of liquids may take place during start-up or shut-down of well testing equipment.

Any smoke produced during the burning of liquids includes elemental carbon (which is visible as smoke or soot), carbon monoxide, CO² and water.

An air discharge consent exists for the site and therefore gas flaring and smoke generation is not covered further in this HSRA.

4.2.2 Safety Procedures

All the hydraulic fracturing, on-going operation and emergency procedures associated with the KA-18 well will be in accordance with industry standards and STOS policies and procedures. The Petroleum Inspector from the Department of Labour provides an independent audit of well site activities and safety procedures. The site is required to operate in accordance with the Health and Safety in Employment Act (1992) in general, and more specifically the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations (1999).

The hydraulic fracturing contractor is required to apply a detailed HSE Manual to their operations. A copy of the Manual will be kept on site. Contractors are required to ensure personnel are available on site with the appropriate Approved Handler status as described in the HSNO Act for all relevant hazardous substances.

All materials, construction techniques, safety procedures, blowout prevention procedures, equipment testing and emergency procedures will be in accordance with industry standards and current best practise. STOS applies a detailed HSE Risk Management system to all its operations. The wellsite will be operated under exploration and production specific emergency management systems and tools including, for example:

- Permit To Work System – a planning and work control system to ensure work is carried out in accordance with safe operating practices.
- Job Safety Analysis – a system for highlighting hazards associated with particular tasks.
- Accident/Incident Reporting – reporting and investigation of HSE incidents in accordance with the STOS Incident/Accident Reporting Guideline.
- Inspections and Audits – in accordance with the STOS Inspection & Checklists Guides and STOS Audit Guidelines.

A hazardous area classification regime also exists on all STOS sites. This system exists as a section of the Permit To Work System and ranks areas within a site according to an areas associated danger levels (gas, height, machinery operating etc). The total risk assessment number allocated to an activity is dependent on the task being undertaken. Appropriate safety measures are ensured before work is initiated.

5. SUMMARY & CONCLUSION

In summary, the priority substances during hydraulic fracturing activities (i.e. those which significantly exceed the 'Rural Area' Consent Threshold) have been determined to be the following:

- Methanol
- EC-1450 Inhibitor
- Flex Sand HS
- 20/40 Terra Prop Pro
- Diesel

In the quantities proposed, these substances have effects which have been assessed as up to moderate, particularly in terms of human health and environmental effects, if adequate controls are not in place and the effectiveness of these controls is not maintained over the duration of the wellsite operations.

However, with the exception of fire, the potential human health effects are limited to onsite personnel. Personal exposure to offsite parties is not credible given the properties of the substances and the location of the wellsite relative to the surrounding land users.

Environmental risks to offsite parties associated with the hazardous substances can be effectively controlled and mitigated by the proposed site drainage and spill containment systems and by adherence with the conditions specified in the existing air and water discharge consents. As significant volumes of the priority substances are solid, the potential for stormwater contamination is significantly reduced in the event of a spill. A stormwater shut off valve will be installed prior to the commencement of well site operations to control any direct discharge to the neighbouring unnamed tributary in the event of a spill.

Therefore, it can be concluded that adverse effects to offsite parties from the storage and use of hazardous substances associated with hydraulic fracturing and on-going production operations from the KA 8/12/15/18 wellsite are very unlikely if the proposed control and mitigation measures are in place and the facility is operated within the assigned discharge permits.

Appendix 6

Written Approvals & Consultation Documents - KA-17



Kapuni KA-17 Work Programme

The Kapuni field has been operating safely for more than 40 years and is a key contributor to NZ's energy supply. We value our neighbours and thank you for your ongoing support.

We are intending to commence a project in late 2012 or during 2013 at KA-17 and we thought it important to consult with you, our closest neighbours as early as practical. The exact timing is yet to be confirmed and you will be advised well in advance of this project commencing. Our programme involves short periods of intermittent hydraulic fracturing and associated well services activities over an approximately two month period.

As much of the "easy" gas at Kapuni is gone, use of hydraulic fracturing enables us to reach natural gas that is trapped in the deep formations, to make the most of existing wells and production facilities. Hydraulic fracturing will be limited to daytime hours, however, some of the associated well services activities will be 24 hour operations. There will be no drilling. Over the years, we have safely completed limited hydraulic fracturing within the Kapuni field in accordance with regulations and with minimal environmental impact.

Our operating standard is Goal Zero, no harm to people and protect the environment. We have a comprehensive safety and environmental plan in place and will continue to comply with all NZ regulations. We are happy to share these with you at any time.

As part of this process, we would like to provide you with an understanding of how we will be managing any noise and hazardous substances associated with the project, and ask you to complete the attached form giving your support for the consent.

Noise

During the project, the level of daytime noise will fluctuate. Hydraulic fracturing of the well will only occur during daytime hours (7am-10pm). The hydraulic fracturing equipment will operate only on some days, and only for part of the day (4-6 hours). Associated well services activities will occur on a 24 hour basis but will be limited to a few days within the overall programme and will involve a lower level of noise than that associated with hydraulic fracturing activities.

To minimise the level of noise coming from the site at any given time, we will be taking a number of steps, including:

- Installing noise insulation panels around the machinery being used.
- Having processes in place on the site around how people carry out certain activities to minimise noise levels (e.g. avoiding carrying out noisy activities during night-time).
- Installing noise monitoring units near the site so we know the noise level at any time.

Hazardous Substances

A number of hazardous substances will be stored and used on the site as part of the project. To ensure there are no offsite effects due to hazardous substances, a number of measures will be put in place including the following:

- Secondary containment for the storage of hazardous substances.
- Stormwater from the site is able to be isolated within the site in the unlikely event of a spill.
- Compliance with all HSNO requirements including storage, signage, and documentation.
- Comprehensive emergency response plans are in place for the project.

Contacting us

We are committed to being a good neighbour. You can contact any of the Kapuni team, day or night on:

- 0800 243 8577 the 24 hour phone number at the plant
- Paul O'Dowd 027 286 0794
- Jacqueline Baker 027 477 5137

Thanks for your continued support. This is an exciting opportunity to further enhance the Kapuni field and we look forward to working with you.

Paul O'Dowd
Kapuni Activity Manager

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details			
The Council requires approval of <u>all</u> legal owners and <u>all</u> occupiers of the property.			
I/We,	Ainsley, Lynette, Philip & Robert Luscombe, South Taranaki Trustees Ltd, Neil Alexander <i>120932</i>		
being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input type="checkbox"/>	being the occupier(s) <input type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the property at: 933 Ahipalpa Road, Kapuni			

Give my approval for the application on behalf of:
Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipalpa Road, Kapuni.

The proposal is to:
Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements:
Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information	
The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	<input checked="" type="checkbox"/>
I have signed a copy of the site plan and any other relevant documents.	<input type="checkbox"/>
I have signed a copy of the photos (where the application is to relocate a building).	<input type="checkbox"/>
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	<input checked="" type="checkbox"/>

	25 '10' 12
	25 '10' 12
	25 '10' 12

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

Stephen Campbell.			
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input checked="" type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="radio"/>
of the property at: 933 Ahipaipa Road, Kapuni			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to:

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

[Signature]	21/10/2012
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
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 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

Ahipaipa Farms Ltd

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 907 Ahipaipa Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional Information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

M. H. Bentley

4' 9' 12

1 1

1 1

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.

You may withdraw your written approval at any time prior to the Council making a decision on the application.

If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

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 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, 125277 125277

being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input type="radio"/>
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of the property at: 907 Ahipaipa Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

<u>Tim Mackay</u>	<u>21/9/12</u>
	/ /
	/ /

Signature(s) of person giving written approval (or person authorised to sign on behalf of person giving written approval) Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
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 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

Ahipaipa Farms Ltd

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 925 Ahipaipa Road, Kapuni

Give my approval for the application at:

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to:

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

It involves the following District Plan requirements:

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

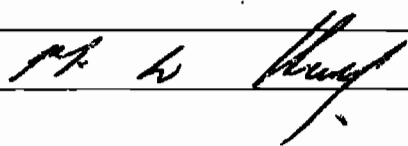
Additional information:

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

	4.9.12
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.

You may withdraw your written approval at any time prior to the Council making a decision on the application.

If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

- 1. The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.***
- 2. The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:***
 - (a) Traffic Generation***
 - (b) Noise***
 - (c) Odour***
 - (d) Vibration***
 - (e) Air Pollution***
 - (f) Shading, loss of daylight and sunlight***
 - (g) Loss of Privacy***
- 3. The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.***

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

Ricky May

being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input checked="" type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input type="radio"/>
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of the property at: 925 Ahipaipa Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

<i>Ricky May</i>	<i>7/9/12</i>
	/ /
	/ /

Signature(s) of person giving written approval
 (or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
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 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Ahipaipa Farms Ltd			
being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input checked="" type="checkbox"/>	being the occupier(s) <input checked="" type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>	
of the property at: 876 Ahipaipa Road, Kapuni				

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

Complying with District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

<i>M. W. Worsley</i>	21.9.12
	/ /
	/ /

Signature(s) of person giving written approval (or person authorised to sign on behalf of person giving written approval) Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

4

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
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 - (f) *Shading, loss of daylight and sunlight*
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3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Gillian Langridge, John Langridge & Leslie Wallis		
being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input checked="" type="checkbox"/>	being the occupier(s) <input checked="" type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the property at: 792 Ahipaipa Road, Kapuni			

Give my approval for the application at:

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to:

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements:

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information:

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

	4 1 9 1 2 0 1 2
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

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Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Gillian Langridge, John Langridge & Leslie Wallis

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 809 Ahipaipa Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and I also agree to the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

✓

I have signed a copy of the site plan and any other relevant documents.

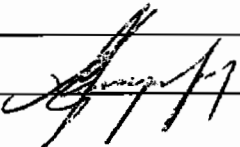
○

I have signed a copy of the photos (where the application is to relocate a building).

○

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

✓

	4/9/2012
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
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South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranakl.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, KAYLA + CAMERON TORO

being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input checked="" type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="radio"/>
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of the property at: 809 Ahipaipa Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

<u>Kayla</u>	<u>14/09/2012</u>
	/ /
	/ /

Signature(s) of person giving written approval (or person authorised to sign on behalf of person giving written approval) Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

- 1. The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.***
- 2. The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:***
 - (a) Traffic Generation***
 - (b) Noise***
 - (c) Odour***
 - (d) Vibration***
 - (e) Air Pollution***
 - (f) Shading, loss of daylight and sunlight***
 - (g) Loss of Privacy***
- 3. The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.***

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Gillian Langridge, John Langridge & Leslie Wallis

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 820 Ahipaipa Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional Information:

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

✓

I have signed a copy of the site plan and any other relevant documents.

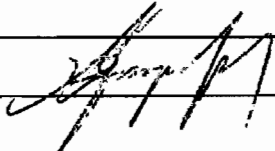
○

I have signed a copy of the photos (where the application is to relocate a building).

○

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

✓

	4/9/2012
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form BA of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Richard Rukuwai		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input checked="" type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input type="radio"/>
of the property at: 820 Ahipaipa Road, Kapuni			

Give my approval for the application at:

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to:

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

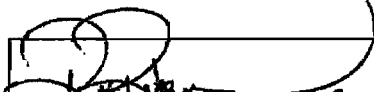
and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	<input checked="" type="checkbox"/>
I have signed a copy of the site plan and any other relevant documents.	<input type="checkbox"/>
I have signed a copy of the photos (where the application is to relocate a building).	<input type="checkbox"/>
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	<input checked="" type="checkbox"/>

	4 / 9 / 2012.
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

**If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.**

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Detail:

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

John & Phyllis Malcolm

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 392 Tempsky Road

Give my approval for the application:

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to:

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements:

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information:

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

John Malcolm

28 ' 9 ' 2012

/ /

/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

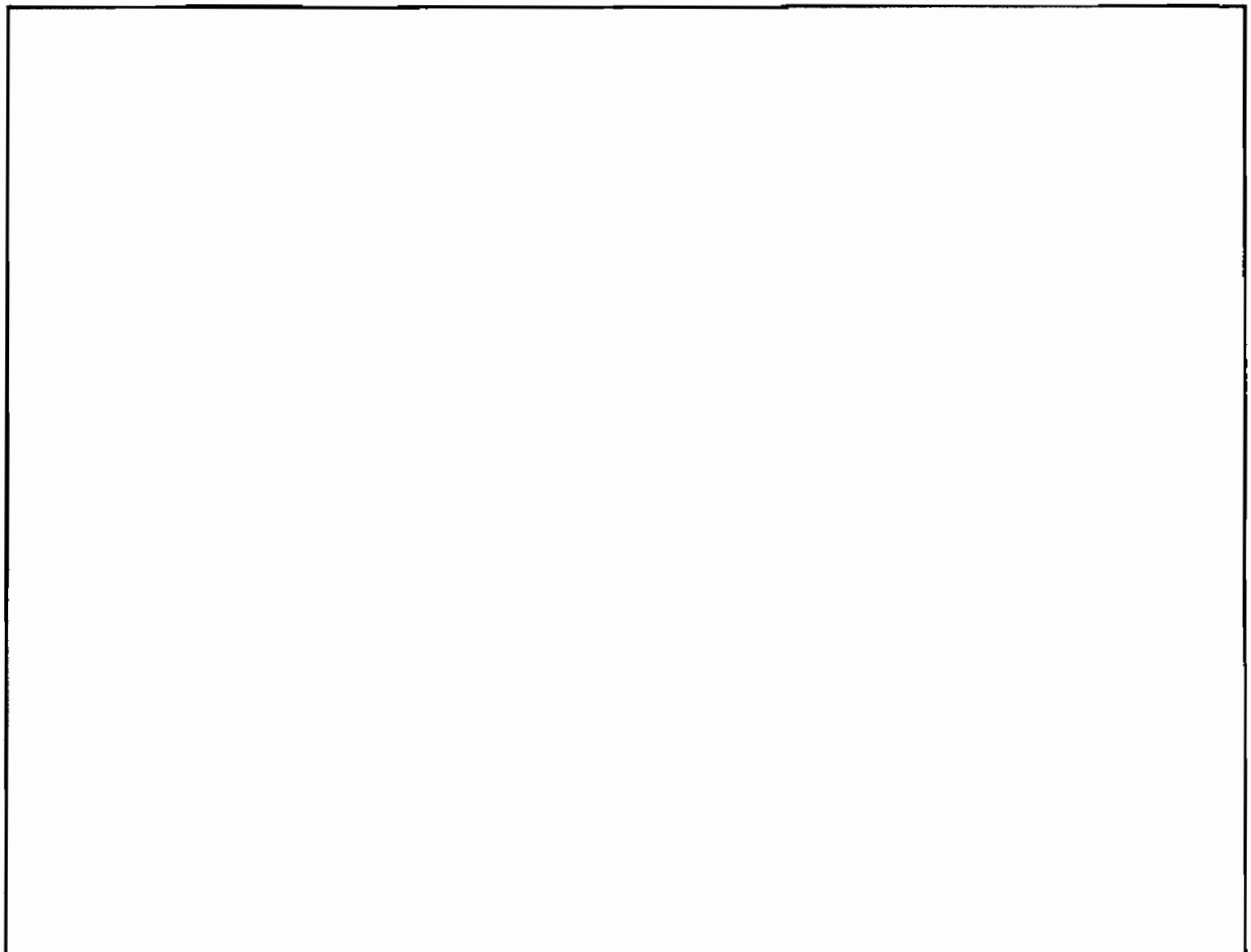
Date

**If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.**

If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

- 1. The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.**
- 2. The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:**
 - (a) Traffic Generation**
 - (b) Noise**
 - (c) Odour**
 - (d) Vibration**
 - (e) Air Pollution**
 - (f) Shading, loss of daylight and sunlight**
 - (g) Loss of Privacy**
- 3. The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.**



Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Hendham Farm Company Ltd

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: Skeet Road (Property ID: 1227016300)

Giving my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements:

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

	25/10/12
	25/10/12
	25/10/12

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.

You may withdraw your written approval at any time prior to the Council making a decision on the application.

If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Te Ngutu Land Holding Company Ltd		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input checked="" type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="radio"/>
of the property at: Skeet Road (Property ID: 1227016900)			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

	21/9/12
	1 1
	1 1

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The Impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



The Council requires approval of all legal owners and all occupiers of the property.

I/We,	South Taranaki District Council		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input checked="" type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="radio"/>
of the property at: Te Ngutu O Te Manu, Ahipaipa Road			

Give my approval for the application at
 Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to
 Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements
 Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information	
The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

John Shepherd on Behalf of [Signature] 14/9/12
 / /
 / /

Signature(s) of person giving written approval (or person authorised to sign on behalf of person giving written approval) Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	MJ & T Barr Ltd		
being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input type="checkbox"/>	being the occupier(s) <input type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the property at: 873 Skeet Road			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

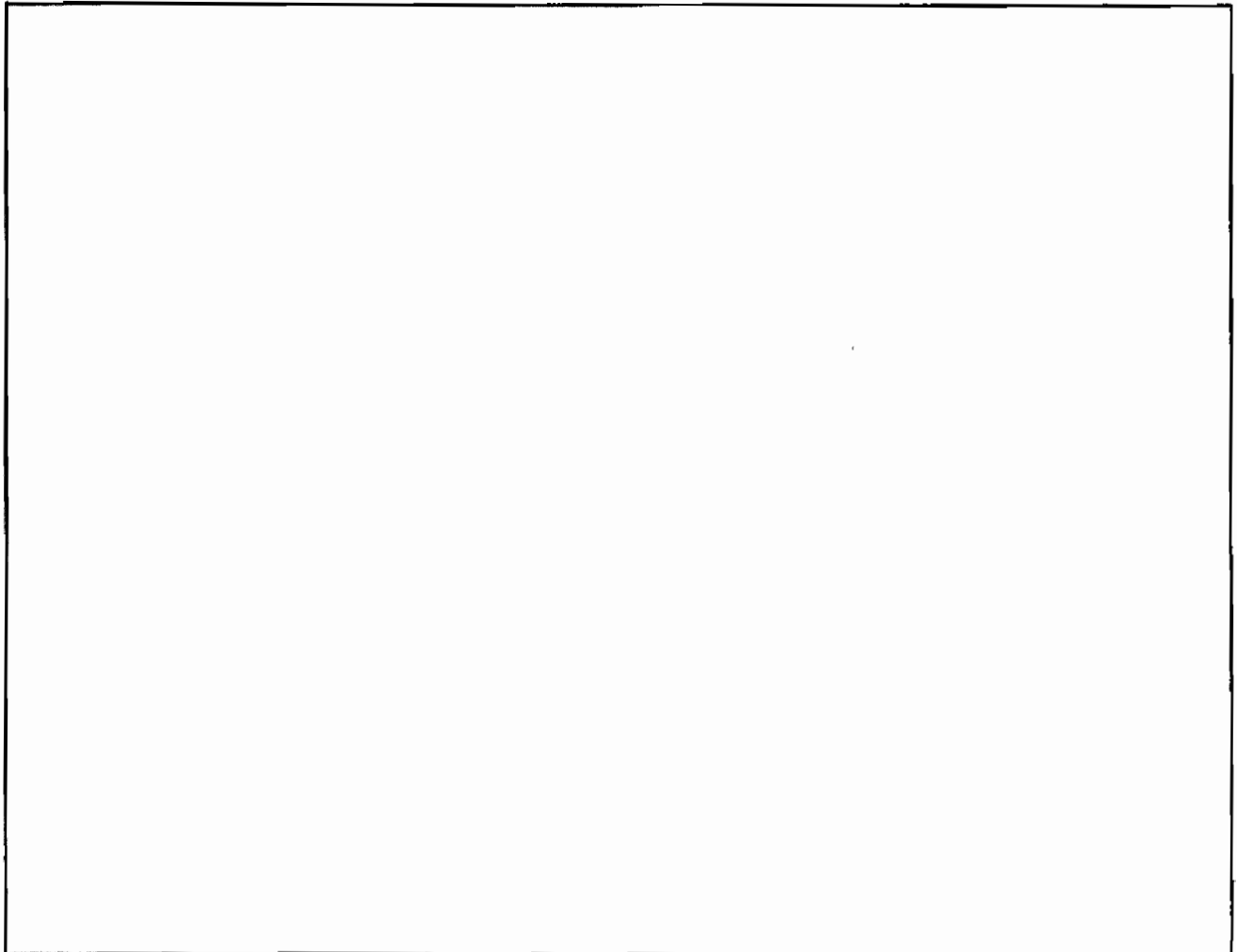
<i>M J Barr</i>	26/10/2012
	/ /
	/ /

Signature(s) of person giving written approval (or person authorised to sign on behalf of person giving written approval) Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*



Written Approval

Form BA of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Kelvin Buckthought Farm Ltd		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input checked="" type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="radio"/>
of the property at: Palmer Road (Property ID: 1227016600)			

Give my approval for the approval on at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

K. Buckthought

5/10/12

/ /

/ /

Signature(s) of person giving written approval
 (or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Patricia Malone		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input checked="" type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="radio"/>
of the property at: Ahipaipa Road (Property ID: 1227016700)			

Give my approval for the application at:

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to:

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

<i>Patricia Malone</i>	<i>21/9/12</i>
	/ /
	/ /

Signature(s) of person giving written approval
 (or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
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 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*



Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Gillian Langridge, John Langridge & Leslie Wallis

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: Ahipaipa Road, Kapuni

Property ID's 1227023300; 1227023800; & 1227017900

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

✓

I have signed a copy of the site plan and any other relevant documents.

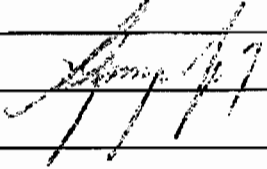
○

I have signed a copy of the photos (where the application is to relocate a building).

○

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

✓

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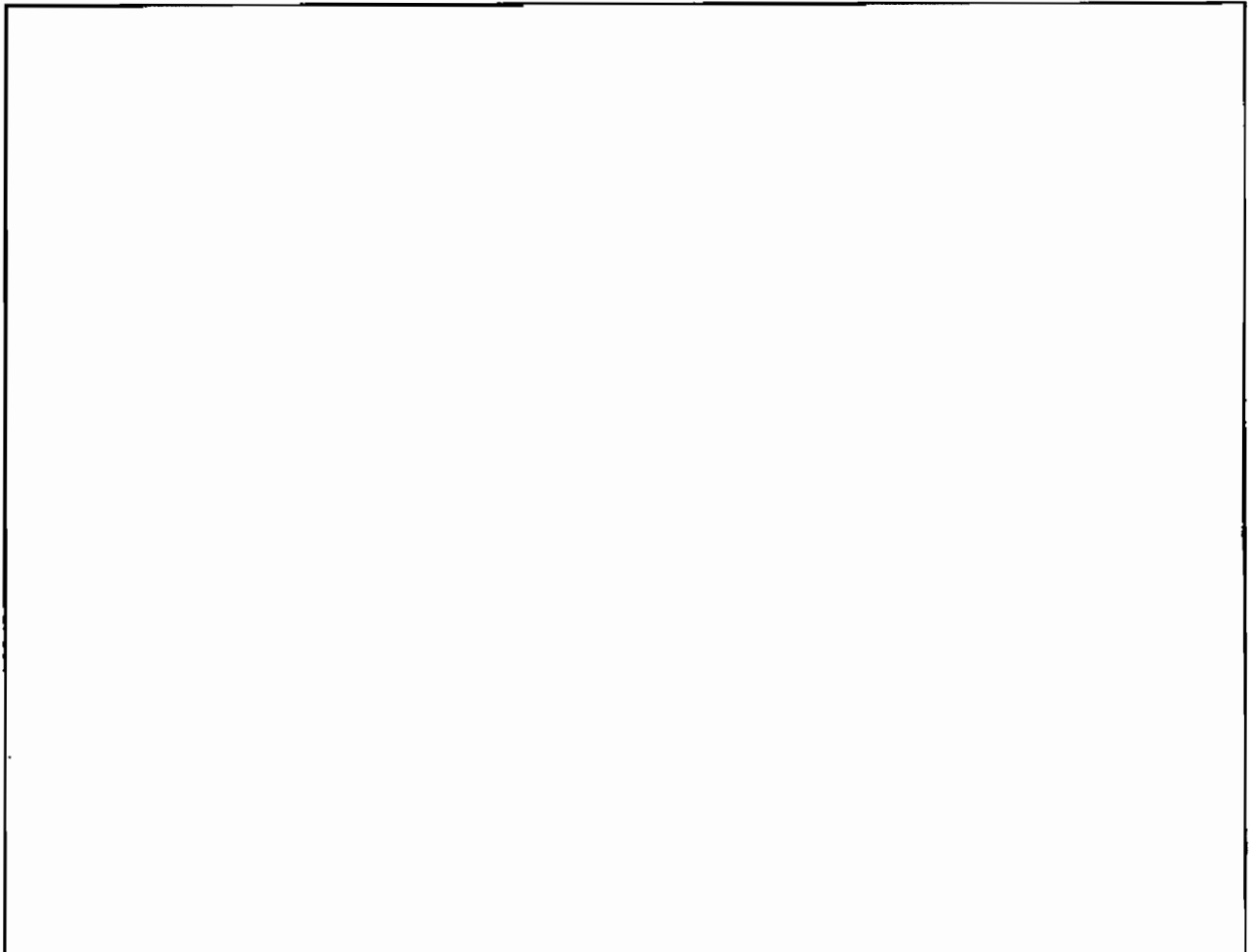
Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

- 1. The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.***
- 2. The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:***
 - (a) Traffic Generation***
 - (b) Noise***
 - (c) Odour***
 - (d) Vibration***
 - (e) Air Pollution***
 - (f) Shading, loss of daylight and sunlight***
 - (g) Loss of Privacy***
- 3. The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.***



Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Edward Bourke, Nicola Bourke, Michael Swift, Jennifer Washer

being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input checked="" type="checkbox"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
---	--	---	--

of the property at: 424 Tempsky Road

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipalpa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Add my information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

	12/10/2012
	/ /
	/ /

Signature(s) of person giving written approval
 (or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

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- 2. The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:***
 - (a) Traffic Generation***
 - (b) Noise***
 - (c) Odour***
 - (d) Vibration***
 - (e) Air Pollution***
 - (f) Shading, loss of daylight and sunlight***
 - (g) Loss of Privacy***
- 3. The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.***

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

Maureen & Peter Malcolm

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 392 Tempsey Road

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipalpa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

I understand the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

	21/9/12
	/ /
	/ /

Signature(s) of person giving written approval

Date

(or person authorised to sign on behalf of person giving written approval)

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.

You may withdraw your written approval at any time prior to the Council making a decision on the application.

If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
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 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The Impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Alpen Rose Farms Ltd		
being the owner(s) and occupiers(s) <input checked="" type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the property at: 732 Ahipaipa Road			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-6/11/17. 849 Ahipaipa Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-6/11/17 wellsite for an approximately 2 month period. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	✓
I have signed a copy of the photos (where the application is to relocate a building).	✓
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

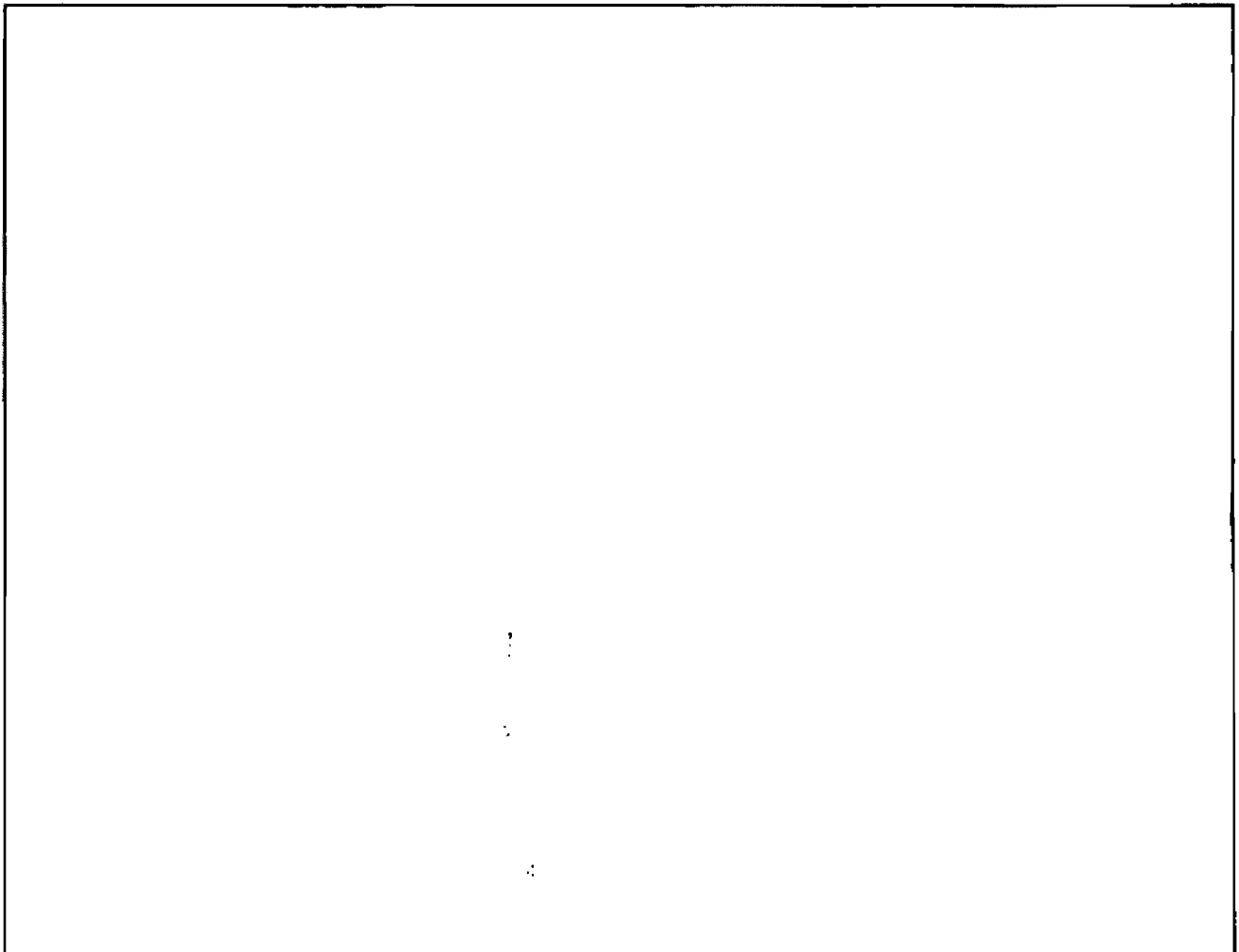
	/ /
	/ /
<i>Richard H. Meinh.</i>	/ /

Signature(s) of person giving written approval (or person authorised to sign on behalf of person giving written approval) Date 31/8/12.

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council,

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
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 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*



Appendix 7

Written Approvals & Consultation Documents- KA-18



Kapuni KA-18 Work Programme

The Kapuni field has been operating safely for more than 40 years and is a key contributor to NZ's energy supply. We value our neighbours and thank you for your ongoing support.

We are intending to commence a project in late 2012 or during 2013 at KA-18 and we thought it important to consult with you, our closest neighbours as early as practical. The exact timing is yet to be confirmed and you will be advised well in advance of this project commencing. Our programme involves short periods of intermittent hydraulic fracturing and associated well services activities over an approximately one month period. This may be followed by a second programme approximately 3-6 months later which will also occur over an approximately one month period.

As much of the "easy" gas at Kapuni is gone, the use of hydraulic fracturing enables us to reach natural gas that is trapped in the deep formations, to make the most of existing wells and production facilities. Hydraulic fracturing will be limited to daytime hours, however, some of the associated well services activities will be 24 hour operations. There will be no drilling. Over the years, we have safely completed limited hydraulic fracturing within the Kapuni field in accordance with regulations and with minimal environmental impact.

Our operating standard is Goal Zero, no harm to people and protect the environment. We have a comprehensive safety and environmental plan in place and will continue to comply with all NZ regulations. We are happy to share these with you at any time.

As part of this process, we would like to provide you with an understanding of how we will be managing any noise and hazardous substances associated with the project, and ask you to complete the attached form giving your support for the consent.

Noise

During the project, the level of daytime noise will fluctuate. Hydraulic fracturing of the well will only occur during daytime hours (7am-10pm). The hydraulic fracturing equipment will operate only on some days, and only for part of the day (4-6 hours). Associated well services activities will occur on a 24 hour basis but will be limited to a few days within the overall programme and will involve a lower level of noise than that associated with hydraulic fracturing activities.

To minimise the level of noise coming from the site at any given time, we will be taking a number of steps, including:

- Installing noise insulation panels around the machinery being used.
- Having processes in place on the site around how people carry out certain activities to minimise noise levels (e.g. avoiding carrying out noisy activities during night-time).
- Installing noise monitoring units near the site so we know the noise level at any time.

Hazardous Substances

A number of hazardous substances will be stored and used on the site as part of the project. To ensure there are no offsite effects due to hazardous substances, a number of measures will be put in place including the following:

- Secondary containment for the storage of hazardous substances.
- Stormwater from the site is able to be isolated within the site in the unlikely event of a spill.
- Compliance with all HSNO requirements including storage, signage, and documentation.
- Comprehensive emergency response plans are in place for the project.

Contacting us

We are committed to being a good neighbour. You can contact any of the Kapuni team, day or night on:

- 0800 243 8577 the 24 hour phone number at the plant
- Paul O'Dowd 027 286 0794
- Jacqueline Baker 027 477 5137

Thanks for your continued support. This is an exciting opportunity to further enhance the Kapuni field and we look forward to working with you.

Paul O'Dowd
Kapuni Activity Manager

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Julie Landers, Roger Landers, Christopher Shcurr

being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input type="checkbox"/>	being the occupier(s) <input type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
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of the properties at: 1002 Eltham Road, Kapuni & 990 Eltham Road; (Property ID 1213100700)

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	<input checked="" type="checkbox"/>
I have signed a copy of the site plan and any other relevant documents.	<input type="checkbox"/>
I have signed a copy of the photos (where the application is to relocate a building).	<input type="checkbox"/>
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	<input checked="" type="checkbox"/>

<i>R.P. Landers. - Roger Peter Landers.</i>	<i>1819112</i>
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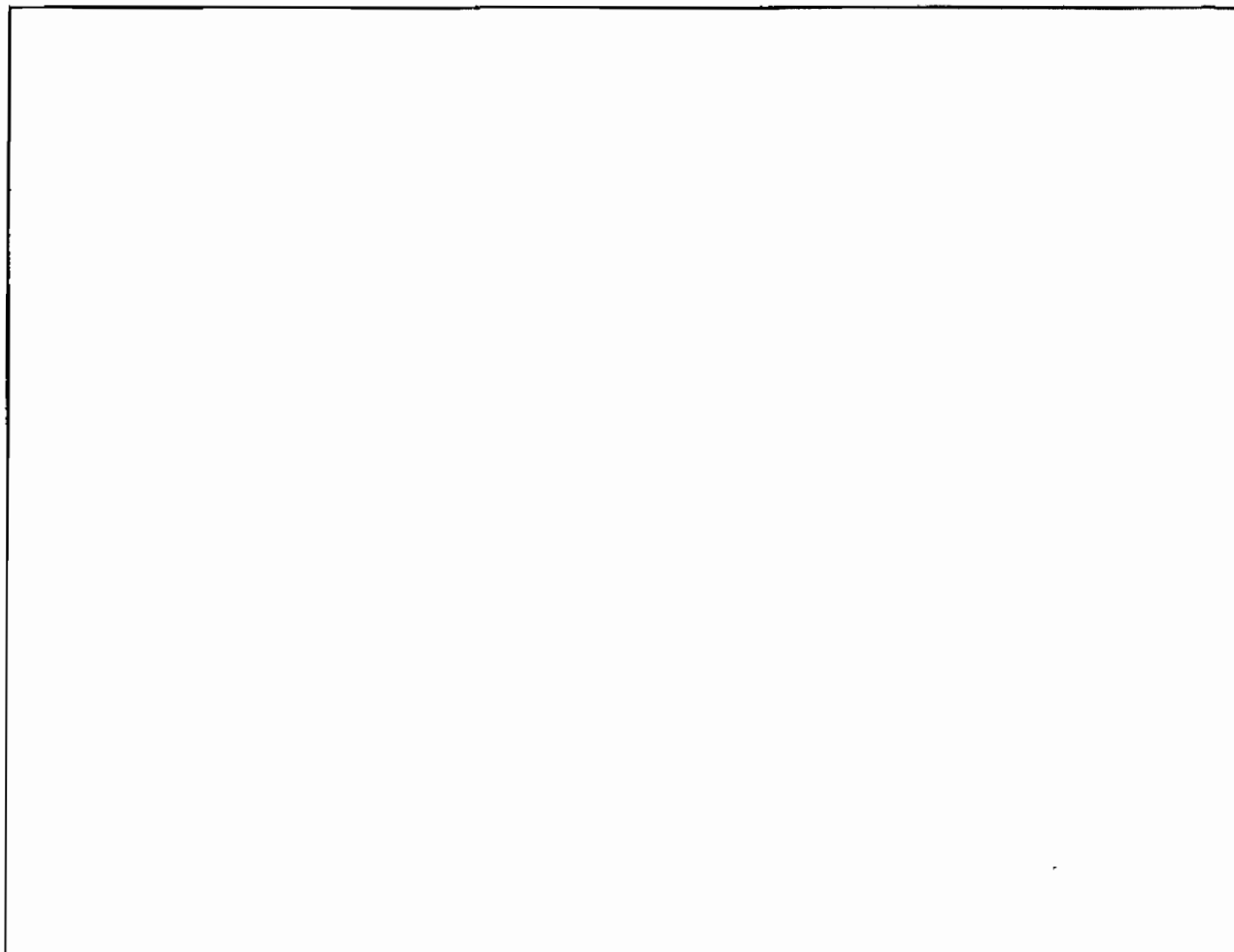
Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*



Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Pat Hammersley		
being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input type="checkbox"/>	being the occupier(s) <input type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input type="checkbox"/>
of the property at: 1032 990 Eltham Road, Kapuni			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	<input checked="" type="checkbox"/>
I have signed a copy of the site plan and any other relevant documents.	<input type="checkbox"/>
I have signed a copy of the photos (where the application is to relocate a building).	<input type="checkbox"/>
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	<input checked="" type="checkbox"/>

	7 19 12
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	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
 Private Bag 902, Hawera 4640
 Telephone: 06 278 0555 or 0800 111 323
 Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Neil Buckthought, Rajan Rai		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input checked="" type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the properties at: 922 Eltham Road & 926 Eltham Road, Kapuni (Property ID 1213101000)			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and that it meets the Resource District Plan requirements:

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information:

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

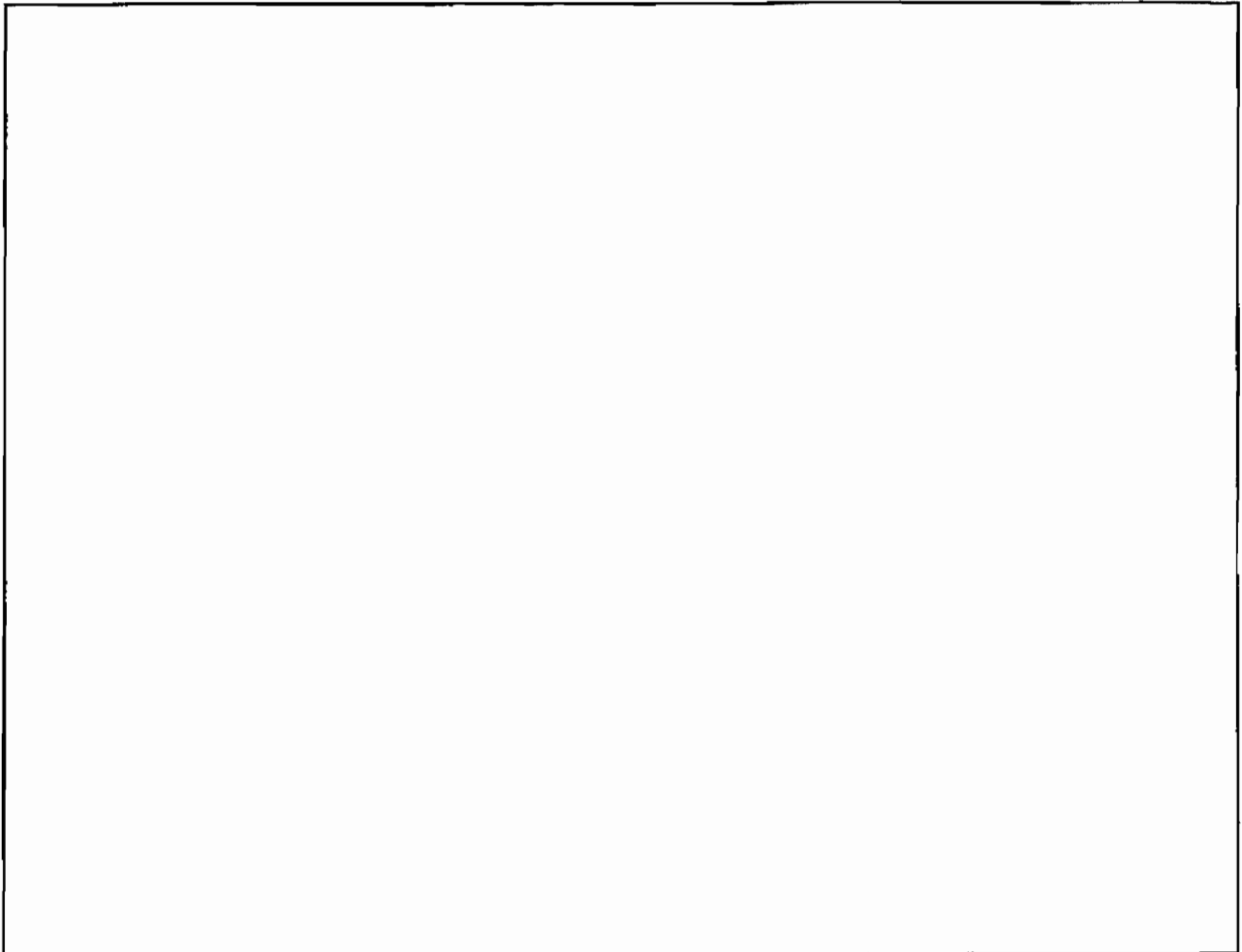
<i>Neil Buckthought</i>	16/10/12
	/ /
	/ /

Signature(s) of person giving written approval (or person authorised to sign on behalf of person giving written approval) Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
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 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*



Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



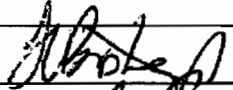
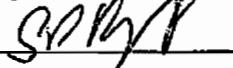
Details			
The Council requires approval of <u>all</u> legal owners and <u>all</u> occupiers of the property.			
We, Grant & Helen Bishop			
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input checked="" type="radio"/>	<input checked="" type="checkbox"/> have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the property at: 922 Eltham Road, Kapuni			

Give my approval for the application at:
Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to:
Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements:
Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information	
The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	<input checked="" type="checkbox"/>
I have signed a copy of the site plan and any other relevant documents.	<input type="checkbox"/>
I have signed a copy of the photos (where the application is to relocate a building).	<input type="checkbox"/>
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	<input checked="" type="checkbox"/>

	22/10/2012
	22/10/2012
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

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 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Mary Buckthought

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 926 Eltham Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

Mary Buckthought

18 / 10 / 12

 / /

 / /

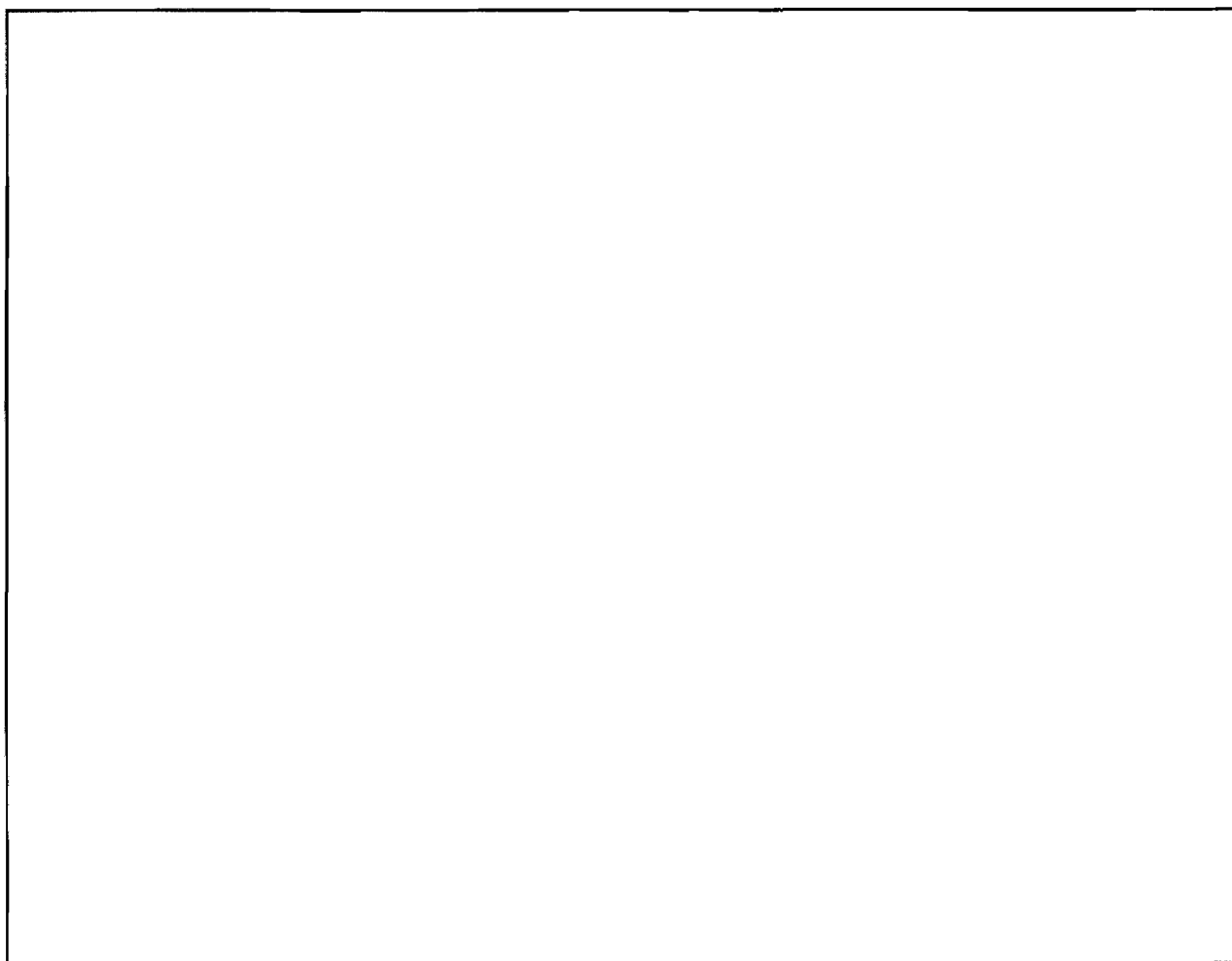
Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

**If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.**

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*





Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com

Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

Hawera Trustees Ltd, Bryan Luond, Gloria Luond

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 836 Palmer Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

✓

I have signed a copy of the site plan and any other relevant documents.

○

I have signed a copy of the photos (where the application is to relocate a building).

○

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

✓

<i>[Signature]</i>	<i>[Date]</i>
	/ /
	/ /

Signature(s) of person giving written approval

Date

(or person authorised to sign on behalf of person giving written approval)

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.

You may withdraw your written approval at any time prior to the Council making a decision on the application.

If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,

Tina - Maurice Lanning
Andrew Dejaeger-rich

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 836 Palmer Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

	19/10/12.
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
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1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	G/M Nominees Ltd, Maree Horner, Roger Peters		
being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input type="checkbox"/>	being the occupier(s) <input type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input type="checkbox"/>
of the property at: 979 Eltham Road, Kapuni			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional Information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

	15/8/2012
	18/8/2012
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

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 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Myles Hughes

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the property at: 967 Eltham Road, Kapuni

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

<u>Myles Hughes</u>	<u>24/9/2012</u>
<u>Nicola Plaisted</u>	<u>24/9/12</u>
	<u>1 1</u>

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.

You may withdraw your written approval at any time prior to the Council making a decision on the application.

If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

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 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Robert England, Christopher Schurr		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input type="radio"/>
of the properties at:			
869 Eltham Road, Kapuni (Property ID 1213120900)			
905 Eltham Road, Kapuni (Property ID 1213121000)			
722 Palmer Road, Kapuni (Property ID 1213121300)			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Permitted Activity limits for the use, storage and transportation of hazardous substances

Additional information

The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

	25 / 9 / 12
	/ /
	/ /

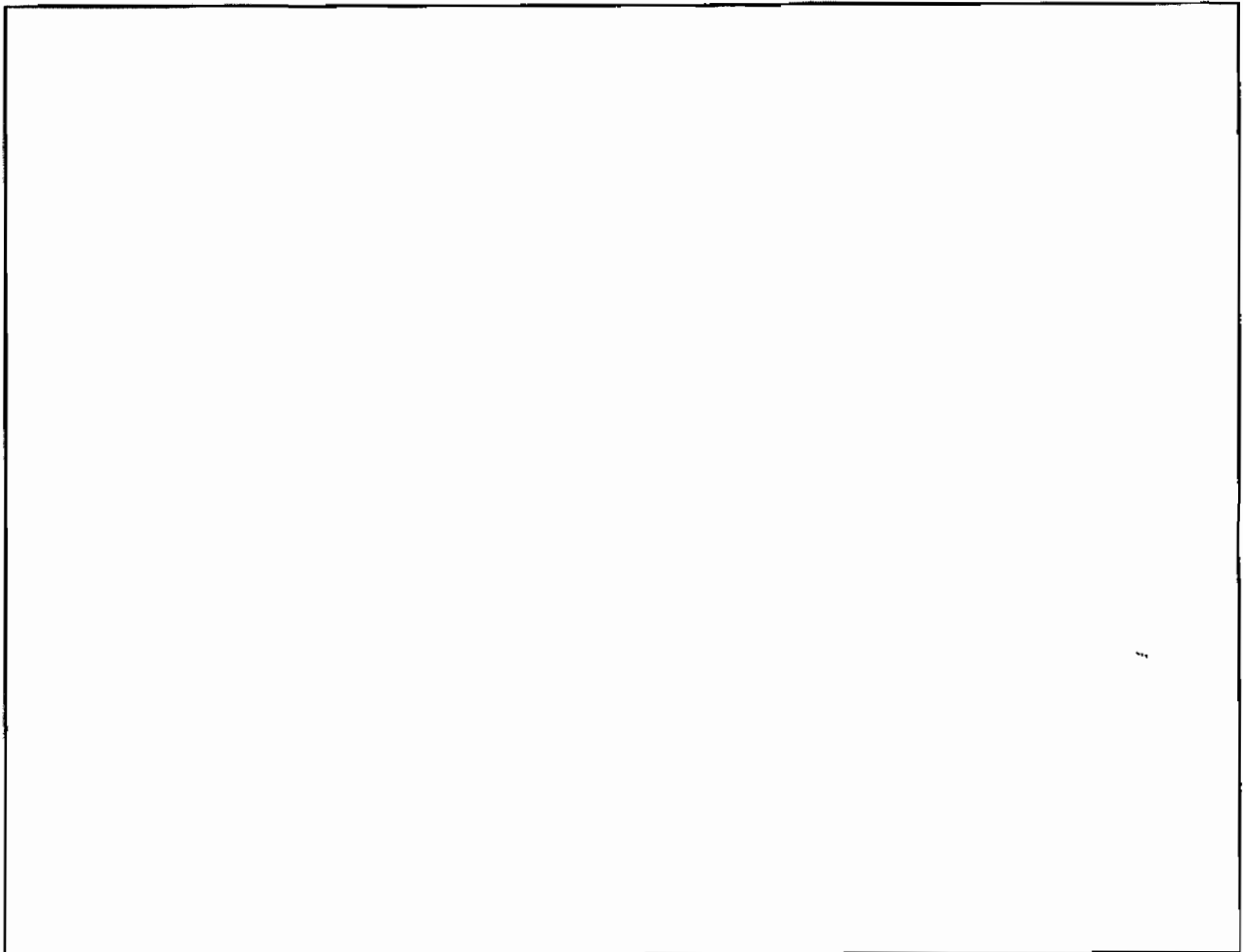
Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

**If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.**

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 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*



Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We,	Grant & Nicole Leigh		
being the owner(s) and occupiers(s)	being the owner(s)	being the occupier(s)	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so.
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
of the property at: 869 Eltham Road, Kapuni			

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

✓

I have signed a copy of the site plan and any other relevant documents.

✓

I have signed a copy of the photos (where the application is to relocate a building).

✓

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

✓

	K. Leigh 18/09/2012
	/ /
	/ /

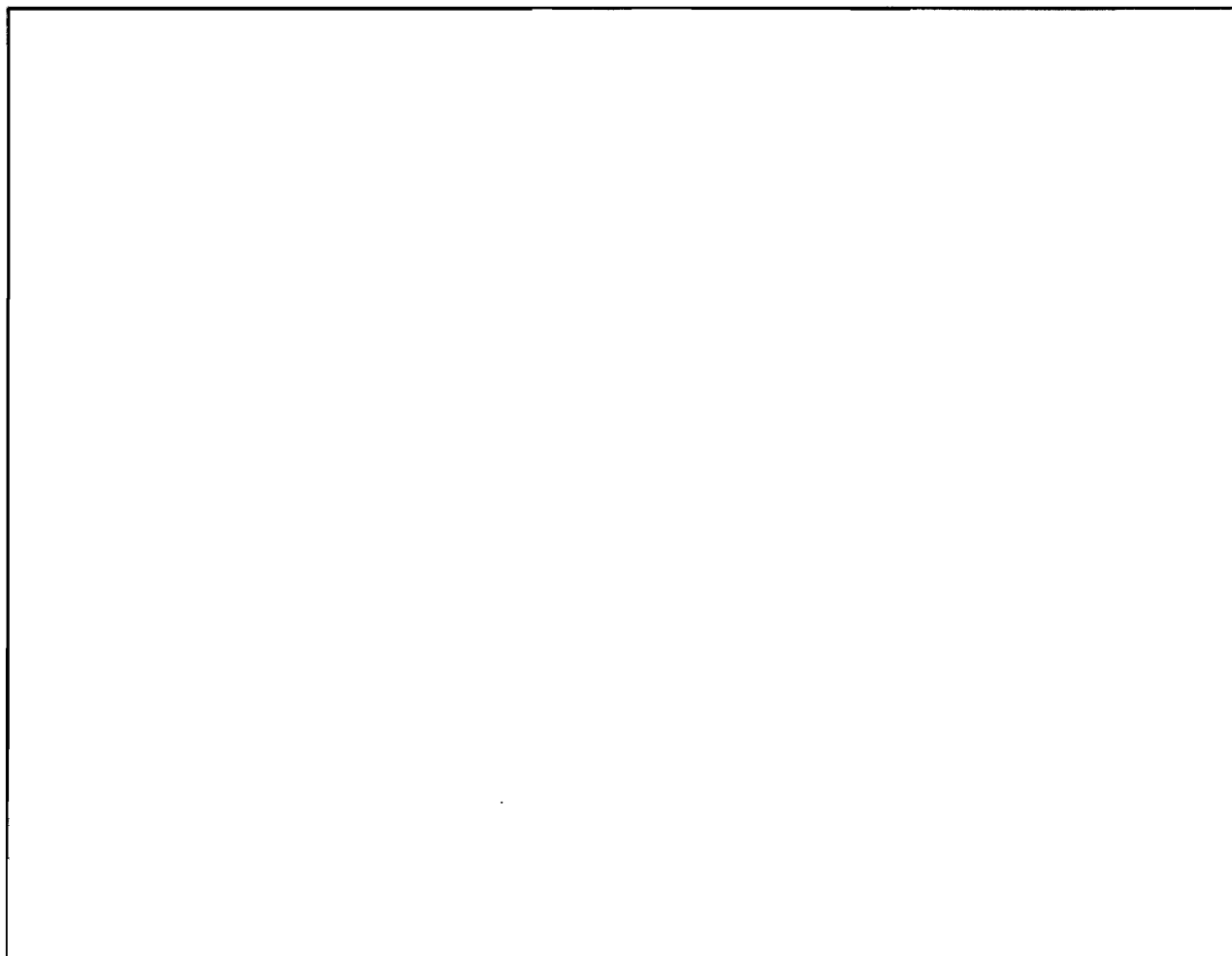
Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

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 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*



Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details			
The Council requires approval of <u>all</u> legal owners and <u>all</u> occupiers of the property.			
I/We,	Colin & Carolyn Koch		
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input type="radio"/>	being the occupier(s) <input checked="" type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="radio"/>
of the property at: 905 Eltham Road, Kapuni			

Give my approval for the application at:
Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to
Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

And does not meet the following District Plan requirements
Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)
Permitted Activity limits for the use, storage and transportation of hazardous substances.

Additional Information	
The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

	14/09/12
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
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The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

- 1. The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.***
- 2. The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:***
 - (a) Traffic Generation***
 - (b) Noise***
 - (c) Odour***
 - (d) Vibration***
 - (e) Air Pollution***
 - (f) Shading, loss of daylight and sunlight***
 - (g) Loss of Privacy***
- 3. The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.***

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details			
The Council requires approval of <u>all</u> legal owners and <u>all</u> occupiers of the property.			
I/We,	Daniel Hurley, Simon Shera		
	E.J. & BA MARX Owners		
being the owner(s) and occupiers(s) <input checked="" type="checkbox"/>	being the owner(s) <input type="checkbox"/>	being the occupier(s) <input type="checkbox"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the property at: 57 Upper Duthie Road, Kapuni			

Give my approval for the application at
Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.
The proposal is to
Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.
and does not meet the following District Plan requirements
Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Adult cons. Information	
The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	✓
I have signed a copy of the site plan and any other relevant documents.	○
I have signed a copy of the photos (where the application is to relocate a building).	○
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	✓

<i>E.J. Marx</i>	19/10/12
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

- 1. The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.***
- 2. The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:***
 - (a) Traffic Generation***
 - (b) Noise***
 - (c) Odour***
 - (d) Vibration***
 - (e) Air Pollution***
 - (f) Shading, loss of daylight and sunlight***
 - (g) Loss of Privacy***
- 3. The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.***

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details			
The Council requires approval of <u>all</u> legal owners and <u>all</u> occupiers of the property.			
I/We, Beverly Trustees Ltd, Grant Pease & Christopher Shurr			
being the owner(s) and occupiers(s) <input type="radio"/>	being the owner(s) <input checked="" type="radio"/>	being the occupier(s) <input type="radio"/>	have authority to sign on behalf of all the other owners/occupiers and am legally entitled to do so. <input checked="" type="checkbox"/>
of the property at: Eltham Road (Property ID: 1213121100)			

Give my approval for the application at:	
Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.	
The proposal is to:	
Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.	
and does not meet the following District Plan requirements:	
Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)	
Permitted Activity limits for the use, storage and transportation of hazardous substances.	
Additional Information	
The proposal has been explained to me and I understand its effect on me. (See reverse of form for a list of some possible effects)	<input checked="" type="checkbox"/>
I have signed a copy of the site plan and any other relevant documents.	<input type="checkbox"/>
I have signed a copy of the photos (where the application is to relocate a building).	<input type="checkbox"/>
I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.	<input checked="" type="checkbox"/>

	12/10/2012
	/ /
	/ /

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
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If you have any questions contact a Planner at the South Taranaki District Council.

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Written Approval

Form 8A of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



Details

The Council requires approval of all legal owners and all occupiers of the property.

I/We, Malcolm Donald & Margaret Revell

being the owner(s)
and occupiers(s)

being the owner(s)

being the occupier(s)

have authority to sign on behalf
of all the other owners/occupiers
and am legally entitled to do so.

of the properties at:

499 Lower Duthie Road, Kapuni (Property ID 1213120700)

547 Lower Duthie Road, Kapuni (Property ID 1213120800)

Give my approval for the application at

Shell Todd Oil Services Ltd. Wellsite KA-8/12/15/18. 939 Eltham Road, Kapuni.

The proposal is to

Undertake hydraulic fracturing and associated well servicing activities at the KA-8/12/15/18 wellsite. It is anticipated that these activities will occur on two separate occasions each lasting for a duration of approximately one month. The activities will be undertaken at some stage within a 2 year period from when the Landuse Consent becomes effective.

and does not meet the following District Plan requirements

Noise emissions at site boundary (night-time noise limit 45 decibels; daytime noise limit 55 decibels)

Additional information

The proposal has been explained to me and I understand its effect on me.
(See reverse of form for a list of some possible effects)

I have signed a copy of the site plan and any other relevant documents.

I have signed a copy of the photos (where the application is to relocate a building).

I also understand that if I give my approval, the application may be processed without notification and the Council cannot take into account any effects that the proposal may have on me, when it considers the application.

Malcolm Donald

11/10/12

1 1

1 1

Signature(s) of person giving written approval
(or person authorised to sign on behalf of person giving written approval)

Date

**If you do not fully understand the proposal or do not agree with the proposal do not sign this form.
You may withdraw your written approval at any time prior to the Council making a decision on the application.
If you have any questions contact a Planner at the South Taranaki District Council.**

The following is a list of effects you may wish to consider when deciding whether or not this application will affect you and the use of your land.

1. *The visual impact of the proposal in terms of its scale, location on the site, distance from the boundary, external design and appearance and relationship to the site boundary.*
2. *The likelihood of the proposal generating effects on your land and the use of that land in terms of the following:*
 - (a) *Traffic Generation*
 - (b) *Noise*
 - (c) *Odour*
 - (d) *Vibration*
 - (e) *Air Pollution*
 - (f) *Shading, loss of daylight and sunlight*
 - (g) *Loss of Privacy*
3. *The impact of the proposal on the neighbourhood in general and the things that contribute to the pleasantness, aesthetics and cultural and recreational attributes of the neighbourhood.*

Appendix 8
STDC Application Forms

Application for Resource Consent

Form 9 of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



1. Applicant Details			
Name:	Shell Todd Oil Services Ltd.		
Contact Person:	Louise Bullen		
Postal Address:	Private Bag 2035		
Street Address / Registered Office:	New Plymouth	Contact Numbers:	Phone (06) 757 7248
	167 Devon Street West New Plymouth		Mobile 022 658 4937
Address for Invoices:	Private Bag 2035, New Plymouth		
Email Address:	l.bullen@stos.co.nz		
2. Property Details			
Site Address:	849 Ahipaipa Road, Kopuni (KA-6/11/17 Wellsite)		
Legal Description:	Lot 1 DP 10950 Blk XVI Kaupokonui SD		
Valuation Number:	1227016701		
Property Owner:	Shell Todd Oil Services Ltd.		
3. Project Description			
Undertake hydraulic fracturing and associated well servicing activities at KA-6/11/17 wellsite.			
4. The following additional resource consents are required for this project			
n/a			
5. The following additional information is attached			
An Assessment of Environmental Effects:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Other information:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
If Yes, please list:			

Privacy Statement

Information on these forms must be provided under legislation administered by the Council and is required to process your application. This information must be made available to members of the public (including businesses). In appropriate circumstances, it may be made available to other units of the Council, Contractors and other government agencies. Under the Privacy Act 1993, you may access the personal information held about you by the Council and you may request that the Council correct any personal information it holds about you.

	30/10/12
Signature of owner/ agent on behalf of and with the authority of the owner	Date
Louise Bullen	
Name (print clearly)	

Note to applicant: You have the option of applying for consent directly to Environmental Protection Authority. Please contact us if you would like to do this.

Application for Resource Consent

Form 9 of the Resource Management Act 1991

South Taranaki District Council
Private Bag 902, Hawera 4640
Telephone: 06 278 0555 or 0800 111 323
Web: www.southtaranaki.com



1. Applicant Details			
Name:	Shell Todd Oil Services Ltd		
Contact Person:	Louise Bullen		
Postal Address:	Private Bag 2035		
Street Address / Registered Office:	New Plymouth	Contact Numbers:	Phone (06) 757 7248
	167 Devon Street West		Mobile 022 658 4937
	New Plymouth		Fax (06) 757 7301
Address for Invoices:	Private Bag 2035, New Plymouth		
Email Address:	l.bullen@stos.co.nz		

2. Property Details	
Site Address:	939 Eltham Road, Kapuni (KA-8/12/15/18 Wellside)
Legal Description:	Lot 1 DP 11292
Valuation Number:	1213121001
Property Owner:	Shell Todd Oil Services Ltd

3. Project Description	
Undertake hydraulic fracturing and associated well servicing activities at KA-8/12/15/18 Wellside.	

4. The following additional resource consents are required for this project	
n/a	

5. The following additional information is attached		
An Assessment of Environmental Effects:	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Other information:	<input type="radio"/> Yes	<input checked="" type="radio"/> No
If Yes, please list:		

Privacy Statement

Information on these forms must be provided under legislation administered by the Council and is required to process your application. This information must be made available to members of the public (including businesses). In appropriate circumstances, it may be made available to other units of the Council, Contractors and other government agencies. Under the Privacy Act 1993, you may access the personal information held about you by the Council and you may request that the Council correct any personal information it holds about you.

	30/10/2012
Signature of owner/ agent on behalf of and with the authority of the owner	Date

Louise Bullen
Name (print clearly)

Note to applicant: You have the option of applying for consent directly to Environmental Protection Authority. Please contact us if you would like to do this.

APPENDIX 4: Limited Notification Correspondence (Letter to Affected Parties)

16 November 2012

Dear [Click **here** and type name]

Notification of Resource Consent – Shell Todd Oil Services Limited, Wellsite activities at two existing wellsites, 849 Ahipaipa Road, Kapuni and 939 Eltham Road, Kapuni

The South Taranaki District Council has received an application for resource consent from Shell Todd Oil Services Limited (STOS) for noise non-compliance and the storage and use of hazardous substances for well operations at two existing sites as set out above. The well operations include well service activities and hydraulic fracturing.

The application for the proposed activity is attached. Resource consent is required for the following reasons:

- The storage and use of hazardous substances would fall outside the Effects Ratio levels specified in the HFSP Activity Matrix in the District Plan and subsequently the activity is assessed as a Discretionary Activity.
- The proposed well service and hydraulic fracturing activities would generate noise which would not comply with the provisions of the District Plan, and as such this non-compliance is assessed as a Discretionary Activity.

If no submissions are received, the application will be considered under delegated authority as soon as is practicable. If any submissions are received, the matter will need to be considered by the Council's Environment and Hearings Committee at a hearing. Submissions must be received by the Council by 4.00pm on Tuesday 18 December 2012.

The submission must be dated, signed by you and include the following information:

1. Your name, postal address and telephone number
2. Details of the application in respect of which you are making the submission
3. Whether you support or oppose the application
4. Your submission, with reasons
5. The decision you wish the Council to make
6. Whether you wish to be heard in support of your submission

A copy of the submission must be served as soon as reasonably practicable on the applicant whose address for service is:

Louise Bullen
Shell Todd Oil Services Limited
Private Bag 2035
New Plymouth 4342

Email: Louise.bullen@stos.co.nz

Yours sincerely

Andrea Te Puni
Planner
andrea.tepuni@stdc.govt.nz

APPENDIX 4: Limited Notification Correspondence (Letter to Applicant)

16 November 2012

Louise Bullen
Shell Todd Oil Services Limited
Private Bag 2035
New Plymouth 4342

Dear Louise

Notification Decision on Application for Resource Consent

I am writing regarding your application for resource consent to undertake hydraulic fracturing and associated well servicing activities at the existing KA 6/11/17 and KA 8/12/15/18 wellsites.

Notification of your application has been sent to the affected parties which are:

1. Okahu Inuawai Hapu
Ivy Kearney (Secretary)
17 Reid Street
Hawera 4610
2. Ngati Tu Hapu
Ken Rei (Secretary)
55 Ngatai Street
Manaia
3. Kanihi – Umutahi Hapu
Cyril Tamou (Chairperson)
7 Omahuru Road
Hawera 4675
4. Ngati Manuhiakai
Maria Robinson
26 Reminschneider Street
Manaia

If no submissions are received, the application will be considered as soon as is practicable. If any submissions are received, the matter will need to be considered by the Council's Environment and Hearings Committee at a hearing. Submissions must be received by the Council by 4.00pm on Tuesday 18 December 2012.

If you wish to discuss anything further with me, please do not hesitate to contact me.

Yours sincerely

Andrea Te Puni
Planner
andrea.tepuni@stdc.govt.nz

APPENDIX 5: Haig Elgar on behalf of Okahu-Inuawai Hapu

Hi Andrea,

The purpose of this email is to formally advise that in respect to the Resource Consent sought by Shell Todd Oil Services Limited for well site activities at their 849Ahipaipa Road and 939 Eltham Road well sites, our Hapu has no substantive grounds to object, hence will not be raising a submission in regards to this particular Resource consent Application.

Notwithstanding this, our Hapu is still very concerned of the potential serious negative effects 'fracking' maybe having on our customary land and sea areas, and once we obtain more information and a greater understanding of fracking, the RMA and the resource consent processes; we will be raising letters to both the STDC and the Taranaki Regional Council.

Last Thursday, members of our Hapu meet with Jax Baker and Paul ODowd, at Aotearoa Pa. Not only did they fully answer all the queries we had in respect to their Resource Consent Application, but we used the opportunity to continue the dialogue and the 'relationship building' between our two organisations. Overall, from my perspective this was a very good meeting.

As Blair may have advised, I also meet and had a very informative meeting with Blair last Thursday. I now have a far better understanding of the Resource Consent process and the role the STDC plays in this process. I must admit I was 'taken back' when Blair advised that the Taranaki Regional Council does not consider the STDC as an 'affected party' when it comes to the Regional Council consulting over Shell Todd Oil Services, Kapuni well site resource consent applications.

Hopefully there will be an opportunity in the near future so we can meet.

Kindest regards

Haig
(Tue 22/01/2013 8:21a.m.)

Hi Andrea,

Thank you for the update. We will continue preparation of our submission, with the intent that this submission will be forwarded to you by 4pm, 21 January 2013.

For you information, Jacqueline Baker the Iwi Liaison for STOS has been in contact with me. She has compiled a range of background information about the general resource consent process, Okahu-Inuawai's previous submissions, STOS's reply to this submission and details of their current Resource Consent application, and this information is being forwarded to me in the mail.

We have also arranged a meeting, at our Pa, on the morning of 17 January 2013 in order to be briefed on the Resource Consent process and application and discuss issues associated with the application.

Given that our Hapu Hui wants to form strong working relationships with all bodies/organisations that effect our traditional and customary land and sea areas I think it would be good that either yourself or other members of your STDC team also the

meeting on the 17th. I don't if this is 'politically correct' or the 'usual process' but I am putting out the invitation anyway, as I need to be more informed on the Resource Consent process in order to ensure our Hapu's subsequent submission is accurate, comprehensive and actionable.

Kindest regards

Haig
(Sat 22/12/2012 8:56 a.m.)

Hi Andrea,

As briefly discussed over the phone, hopefully this email will clarify our Hapu's position:

- a. Our Hapu intends to raise a submission in regards to Shell Todd's Oil Services (STOS) Resource Consent Application. We currently are not in position to state what will be the "substance and issues" of our submission because the new Executive Committee of the Hapu has had insufficient time to read all the relevant documentation. Indeed, after reading all the relevant documentation, our Hapu's submission may simply state "we have no objection to the resource consent application".
- b. Our submission will be submitted no later than 4pm, 21 January 2013.
- c. The STDC has provide all relevant resource consent documentation to our Hapu in a timely manner and we presume within the timeframes as legislated.
- d. Due to our Hapu's own internal administrative oversights, we have failed to meet the Resource Consent deadlines of forwarding a submission to the STDC that includes information detailing whether our Hapu:
 - (1) Support or Opposes the Application,
 - (2) The reason why we support or oppose the Application,
 - (3) The decision we wish the Council to make, and
 - (4) Whether we wish to be heard in support of our submission.

Accordingly, since our Hapu has not supplied a detailed submission with the required information, by the required stated timeframe, we accept that the STDC does not have to support our Hapu's request to accept a 'late submission'. Paragraph 3 of the attached letter is simply asking "will the STDC accept a late submission from our Hapu in respect to the STOS Resource Consent Application?" Yes or No?

I totally agree the letter could have been better worded and the letter should have stated that our Hapu's late submission (if it were to be accepted) would be submitted by 4pm, 21 January 2013.

I hope this email has not further 'clouded' the issue. I look forward to the STDC reply.

Please feel to ring me on 06 344 4100 or 021 911 243 if further clarification is required.

Kindest regards

Haig
(Tue 18/12/2012 4:30 p.m.)

Okahu-Inuawai (me etehi atu) Hapū
Sonya Kahui (Secretary)
39 Maratahu Street
NEW PLYMOUTH 4310
(027) 4220180

17 December 2012

Andrea Te Puni
Planner
South Taranaki District Council
Private Bag 902
Hawera 4640

Dear Andrea,

OBJECTION TO RESOURCE CONSENT SOUGHT BY SHELL TODD OIL SERVICES LIMITED, WELL SITE ACTIVITIES AT TWO EXISTING WELL SITES, 849 AHIPAIPA ROAD, KAPUNI AND 939 ELTHAM ROAD, KAPUNI

References:

- A. Okahu-Inuawai (me etehi atu) Hapu Hui meeting dated 16 December 2012
 - B. Your letter RML12091 dated 16 November 2012
 - C. Your various previous correspondences concerning Resource Consents for Ahipaipa and Eltham Road Well sites
 - D. The Parliamentary Commissioner for the Environment Interim Report on Fracking released in November 2012
1. At a meeting of our Hapu on 16 December 2012, your letter dated 16 November 2012 was tabled and considered (References A and B refer).
 2. Due to:
 - a. The changes in our Hapu's Executive (which meant the Executives were not aware of all the correspondence that had previously transpired in relation to the Resource Consent application).
 - b. The limited understanding of the Resource Consent process by those present,
 - c. The limited time to read and analyse Dr Jan Wright's Interim Report on Fracking, and
 - d. The requirement to lodge any submission in regards to the Resource Consent to the South Taranaki District Council (STDC) by 4pm, Tuesday 18 December 2012

the meeting passed a resolution that the STDC is to be advised our Hapu would be lodging a Resource Consent submission based on our previously raised concerns but due to the reasons outlined above, the submission detailing our observations, concerns and comments on the Resource Consent would not be able to be forwarded to the STDC by the stated date and time.

3. Accordingly, it is requested that the STDC acknowledge our intention to raise a submission and it is hoped that there is sufficient flexibility in the Resource Consent process to allow for our 'late' submission to be accepted.

4. It is also requested that the STDC also:
 - a. Note; that a formal letter advising the composition of our Hapu Executive has been drafted and you should received this letter within the next few days.
 - b. Note; that we are looking to continue to work in a collaborative manner with the STDC so the best interests of our Hapu's traditional and customary land and sea areas are retained, preserved and developed for future generations.
 - c. Accept our apologies and regret for failing to forward a submission by the required date. Our Hapu had received all the appropriate documentation supplied by the STDC in a timely manner, and if it was not for a complete change in the Hapu's Executive on the 18th of November then the required submission would have been completed by the due date.

Yours sincerely

Sonya Kahui
Secretary
okahu.inuawai.hapu@gmail.com

cc: Louise Bullen
Shell Todd Oil Services Limited
Private Bag 2035
New Plymouth 4342
Louise.bullen@stos.co.nz