ACT Government
Chief Minister, Treasury and Economic Development

Authorisation No. 0748

AUSTRALIAN CAPITAL TERRITORY

ENVIRONMENTAL AUTHORISATION UNDER THE ENVIRONMENT PROTECTION ACT 1997

Note: This is a variation of the environmental authorisation granted 19 October 2011.

The Environment Protection Authority (the Authority), pursuant to section 49(1)(a) of the *Environment Protection Act 1997* (the Act), hereby authorises:

Name:	**Caltex Petroleum Pty Ltd**
ABN:	**11 000 007 876**
ACN:	**000 007 876**
Street:	**1 Webber Crescent**
Suburb:	**Calwell**
Postcode:	**2905**

to conduct the following activity/activities:

The operation of a facility designed to store more than 50m^3 of petroleum products;

On:	Block:	**8**
	Section:	**787**
	Suburb:	**Calwell**

subject to the conditions set out in **Schedules 1 and 2** attached, for an unlimited period or until earlier surrendered by **Caltex Petroleum Pty Ltd** or cancelled or suspended by the Authority.

This is a **standard** environmental authorisation. This authorisation will be reviewed.

Sch 2.2(a)(ii)

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Delegate for the Environment Protection Authority

Dated this 3rd day of May 2016

SCHEDULE 1: GENERAL CONDITIONS

Definitions

Controlled Waste: as defined in the *National Environment Protection Measure (Movement of Controlled Waste between States and Territories) Measure*.

***Groundwater Monitoring Bores*:** are the bores identified in the Environment Management Plan required under Section 17 of this schedule (the Environment Management Plan will detail any existing or proposed bores on individual sites).

Operation: includes the delivery, storage and dispensing of petroleum products.

Plant and Equipment: includes drainage systems, infrastructure and pollution control equipment associated with the delivery, storage and dispensing of petroleum products.

Regulated Waste: as defined in Schedule 1, Section 1.1A of the *Environment Protection Act 1997.*

Site: Block 8, Section 787, Calwell

Stormwater System: as defined in Schedule 1, Section 1.1 of the *Environment Protection Act 1997.*

Waterway: as defined in Schedule 1, Section 1.1 of the *Environment Protection Act 1997.*

Working day: a day other than a Saturday, or Sunday, a public holiday or a day that is a holiday for public servants.

1. Compliance with Environmental Authorisation

The Authorisation holder shall:

a) comply with any Authorisation condition immediately where no time for compliance is stated;

b) notify the Authority in writing within 2 working days of becoming aware of:

i. any event that causes, or is likely to cause, any Authorisation condition to be exceeded; or

ii. any monitoring data that show that a condition of the Authorisation has been exceeded.

2 Activities must be carried out to protect the environment

2.1 All activities carried out on the site shall be carried out in such a manner that adverse impact on the environment is minimised.

3. Maintenance of plant and equipment

3.1 All plant and equipment installed or used in or on the site shall be maintained in a safe and good condition and in accordance with manufacturer's recommendations.

3.2 Records of all maintenance and repairs performed on all plant and equipment including drainage systems, interceptors, separators and infrastructure shall be kept on the server located at Caltex Head Office for a period of seven (7) years and made available to the Authority on request.

4 Environmental practices

4.1 The Authorisation holder shall minimise emissions to the environment by adopting the practices set out in **Schedule 2.**

5 Compliance with Australian Standards, Industry Codes of Practice and Policies

5.1 The Authorisation holder shall comply with the provisions of the following Australian Standards, Guidelines, Industry Codes of Practice and Policies provided such provisions are not in conflict with the conditions in this Authorisation, and the provisions of any policies made by the Authority.

- ACT Environmental Guidelines for Service Station Sites and Hydrocarbon Storage.
- AS 1940 – The Storage and Handling of Flammable and Combustible Liquids.
- AS 2520 – Petroleum Measurement Tables.
- AS 4897 – The Design, Installation and Operation of Underground Petroleum Storage Systems.
- AS 4976 – The Removal and Disposal of Underground Petroleum Storage Tanks.
- AS 2832 – Cathodic Protection of Metals.
- Environment Protection Policies prepared under the *Environment Protection Act 1997.*

6 Fuel storage

6.1 Where there are fuel storage tanks on the site the Authorisation holder shall ensure the tanks and associated pipe work are maintained in good condition. The proposed method of demonstrating the integrity of the tanks and associated pipe should be incorporated into the Authorisation holder's Environment Management Plan required under Section 17 of this schedule.

6.2 Further to the provisions of section 6.1, special requirements are applied to the abandonment of any aboveground or underground tanks and should the need arise, the Authorisation holder agrees to contact the Authority and:

Access Canberra
Environment and Dangerous Substances Licensing
Telephone: 13 22 81
Email: dangeroussubstances@act.gov.au
Dame Pattie Menzies House
16 Challis Street
Dickson
(GPO Box 158 Canberra ACT 2601)

7 Reporting of environmental harm

7.1 In the event that an incident has caused, is causing or is likely to cause material or serious environmental harm, whether the harm occurs on or off the site, the Authorisation holder, their employee or agent shall report the incident to the Authority immediately after it becomes known to the Authorisation holder or to their employee or agent in accordance with clause 7.2.

7.2 The incident shall be reported to the Authority by telephoning Access Canberra on 13 22 81 during and outside business hours.

7.3 The Authorisation holder shall notify the Authority in accordance with clause 7.2 immediately after becoming aware that land is contaminated in such a way as to present, or to be likely to present –

a) a significant risk of harm to human health: or

b) a risk of material environmental harm or serious environmental harm

For the purposes of this section, the presence of phase separated hydrocarbon in groundwater constitutes material or serious environmental harm.

7.4 The Authorisation holder, their employee or agent shall also report an incident referred to in clause 7.1 and/or clause 7.3, in writing to the Authority within 2 working days of the incident occurring or becoming aware of contamination of land. The report must include:

a) incident or activity that has caused contamination or environmental harm;

b) nature of contamination and chemicals of concern;

c) area affected (on or off site);

d) aspects of the environment affected;

e) any planned assessment or remediation; and

f) any other relevant information.

The report may be provided by email to environment.protection@act.gov.au

7.5 The Authorisation holder shall keep a record of all other incidents in relation to pollution from, or on, the site. These records are to be provided, on request, to the Authority.

8 Record of pollution complaints

8.1 The Authorisation holder shall keep a record of all complaints received by its employees or its agents, in relation to pollution from, or on, the site. This record is to be provided, on request, to the Authority.

9 Record of activity levels

N/A.

10 Records to be maintained

10.1 The following records will be maintained and kept by the Authorisation holder for a period of seven (7) years:

a) all incidents which has affected, is affecting or could affect the integrity of the storage system;

b) field sampling record sheets and chain-of-custody forms;

c) results of environmental monitoring including surface and groundwater;

d) reconciliation records for all fuels and oils utilised and stored on site; and

e) a legible record of all complaints received by its employees or by its agents in relation to pollution associated with the activities.

10.2 The following records will be maintained and kept by the Authorisation holder for a period of one (1) year:

a) waste disposal certificates for any regulated or controlled wastes disposed off-site.

11 Responsible employees

11.1 The Authorisation holder shall authorise at least two senior employees or agents:

a) to speak on behalf of the Authorisation holder; and

b) to provide any information or document required under this Authorisation.

11.2 The Authorisation holder shall inform the Authority of the names and telephone numbers (including after hours numbers) of those persons within five (5) working days of this Authorisation coming into force. The details may be provided by email to environment.protection@act.gov.au

11.3 The Authorisation holder shall inform the Authority of any change in the information provided under this condition within five (5) working days of the change. The details may be provided by email to environment.protection@act.gov.au

11.4 Any person nominated by the Authorisation holder to meet the requirements of this condition shall be readily contactable on the person's nominated telephone numbers.

12 Authorisation shall be kept at the site

12.1 A copy of this Authorisation shall be kept at the site and shall be available for inspection by any employee or agent of the Authorisation holder working at the site.

13 Waste

13.1 No waste material is to be incinerated on site.

13.2 The Authorisation holder shall use licensed waste transporters to transport controlled and regulated wastes. Information on Controlled Waste handling and transport can be obtained from the Authority on 13 22 81.

14 Hazardous materials

14.1 The Authorisation holder shall store and manage hazardous materials in a manner that prevents adverse impacts on the environment. The handling and storage of hazardous materials must be addressed in the Environment Management Plan required under section 17 of this schedule.

15 Discharge of stormwater

15.1 There should be no dry weather discharges to the stormwater system or a waterway from the site.

16 New designs and innovations

16.1 The provisions of this Authorisation are not intended to limit the appropriate use of alternative materials, equipment, designs, or methods because they are not included.

17 Environment Management Plan

17.1 The Authorisation holder shall prepare and submit an Environment Management Plan (EMP) acceptable to the Authority within three (3) months of the date of this Authorisation.

17.2 The EMP should identify all activities that may have an adverse impact on the environment or the potential to cause environmental harm, and detail the mechanisms employed to prevent or minimise the impact of these activities. If required, the ways in which the conduct of the activity will be altered to minimise or reduce the adverse environmental impact of the activity is to be detailed including a timetable for implementation.

17.3 The EMP, once accepted by the Authority is to be implemented. It will also form the basis for future Authorisation conditions and environmental improvements.

17.4 A copy of the EMP must be kept on the site.

17.5 Where the mechanisms employed to prevent or minimise the adverse environmental impacts of the activity or the way in which the activity is carried out varies substantially from that detailed in the endorsed EMP, a revised EMP must be submitted.

18 Monitoring requirements

18.1 Groundwater Monitoring

a) Groundwater monitoring bores must be tested (visual assessment or interface probes and/or gauges) biannually for the presence of hydrocarbons.

b) Groundwater monitoring bores must be sampled and analysed annually for the parameters set out in Schedule 2, Table 4.

c) New groundwater monitoring bores must be sampled and analysed within 30 days for the parameters set out in Schedule 2, Table 4 after commissioning of installation.

d) Groundwater monitoring bores must be sampled and analysed as soon as practicable for the parameters set out in Schedule 2, Table 4 after:

i. the discovery that the groundwater may be contaminated by petroleum; and

ii. the discovery (whether through the loss monitoring procedure for the system or otherwise) that the system has a leak.

e) Sampling of bores shall be in accordance with the Groundwater Sampling Guidelines, Victorian Environment Protection Authority, Publication 669, April 2000.

18.2 Loss Detection Monitoring

a) As soon as practicable after becoming aware of any discrepancy detected by the loss monitoring procedure for a storage system, action must be taken:

i. to investigate the discrepancy, and

ii. if the discrepancy cannot be attributed to anything other than a leak, to confirm the existence of a leak, and

iii. if the existence of a leak is confirmed, to identify the source of the leak and to fix the leak.

b) Details of any action taken under this clause must be recorded.

19 Water quality standards

19.1 The Authority must be notified of any exceedence of the groundwater parameters set in Schedule 2, Table 4 as detailed in Section 7.4.

20 Reporting requirements

20.1 A copy of any environmental site assessment that is, or has been, carried out on the site must be forwarded to the Authority within three (3) months of this authorisation coming into force and/or within thirty (30) working days of receipt of new reports.

21 Sampling requirements

21.1 All sample collection, analysis and associated paperwork under this Authorisation shall be conducted in accordance with Australian Standard/New Zealand Standard 5667.1:1998, *"Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples"*, and with the American Public Health Association, American Water Works Association, and the Water Pollution Control Federation *Standard Methods for the Examination of Water and Wastewater,* 18th Edition, 1989, or other standards and methods agreed to by the Authority.

21.2 The sample collection shall be undertaken and documented by a suitably qualified person in accordance with clause 21.1. All required documentation shall be countersigned by a person authorised under clause 11.1 and shall be made available for inspection by the Authority. Sample analysis of parameters shall be conducted by a person employed as an analyst in any of the following organisations:

a) a Government laboratory;

b) an Australian university;

c) a laboratory where Authorisation parameters are accredited by the National Association of Testing Authorities; or

d) a laboratory approved by the Environment Protection Authority.

22 Provision of records

22.1 The Authorisation holder must provide any records required to be maintained under this Authorisation to the Authority upon request.

SCHEDULE 2

TABLE 1: AIR POLLUTION

Accessories/ Equipment/ Station	Requirement
Trafficked areas	Pave, seal or otherwise treat and maintain all trafficked areas within site to prevent or minimise the generation of airbourne dust.
Fuel tanks vapour venting	Take practical measures to ensure vents are not blocked. Venting vapours must not impact adjoining premises.
Refuelling	Take practical measures to ensure vapour recovery equipment is fitted and operated during fuel deliveries. Fuel deliveries must take place within the noise levels specified in Schedule 2, Table 3.

TABLE 2: WATER POLLUTION

Requirement
Manage the water catchment on the property so that runoff from: a) areas adjacent to the fuel dispensers is diverted to the sewer system (with ActewAGL approval), b) areas outside of the fuel dispensing area, without waste generating activities occurring, are permitted to drain to the stormwater system, c) all other areas are to drain to the sewer system (with ActewAGL approval).

TABLE 3: NOISE POLLUTION

Requirement
Shall manage the operations at the site so that noise levels do not exceed the following levels at any point on the boundary of the site Mon – Saturday 7 am to 10pm - 55 dB(A) 10pm to 7am – 45 dB(A) Sunday and Public Holidays 8 am to 10 pm - 55 dB(A) 10pm to 8am - 45 dB(A) The noise standard specified is in accordance with the Environment Protection Regulation 2005 (for specific noise zones refer to: www.legislation.act.gov.au).

SCHEDULE 2 (Continued)

TABLE 4: GROUNDWATER PARAMETERS

Parameter - Water	**Criteria**
Depth to water	-
pH	6.5 – 8.5
Total Petroleum Hydrocarbons $C_6 - C_9$ $C_{10} - C_{40}$	 No criterion set at this time 600µg/L
BTEX (Total) Benzene Toluene Ethyl Benzene Xylenes o-xylene m and p-xylene	 950µg/L 300µg/L 140µg/L 350µg/L 200µg/L
Ethanol	1400µg/L
Lead (Total)	3.4µg/L

1. All analysis for organic and inorganic substances must be for total concentrations unless detailed otherwise.

Meeting Minutes

CALTEX

Caltex ACT Site Update

Date: 5 February 2020

Venue: TransACT House

Attendees: ACT EPA: Sara McIntyre (SM)
Mark Heckenberg (MH)
Caltex: Dinesh Poudyal (DP)
Jonathan Lekawski (JL)

Agenda Items Discussed

1. General introductions, including introduction of JL who is currently on full-time secondment with Caltex backfilling DP's role

2. DP ran through site-by-site updates in line with the Excel summary update table provided to ACT EPA via email on 4 February 2020 (see attached). In addition to the details already captured in the table, further discussion points were as follows:

   a) Out of scope

   b) Calwell – Similar discussion to Out of scope Caltex advised that ACT EPA's recent directive to assess whether impacts identified during the latest groundwater monitoring report warrant re-notification under Section 23 of the Environment Protection Act 1997 and to address potential off-site vapour intrusion risks was forwarded onto the landowner along with a copy of the latest report. Furthermore, Caltex advised ACT EPA that the landowner directed Caltex to not discuss the matter with ACT EPA. ACT EPA advised that they cannot demand this given Caltex is the EA holder.

      ACT EPA advised that Sch 2.2(a)(ii) (not Sch 2.2(a)(ii) as indicated in Caltex's summary

sheet) is the new Auditor appointed to the site by the landowner.

c)

d)

Out of scope

e)

f)

g)

h)

i)

j)

3. Closing

Caltex Actions

1) Out of scope

2) **Calwell:** Follow up with landowner to discuss next steps, including re-notification of the site.

3) Out of scope

4)

5)

6)

7)

8)

9)

10) General:

a. Review lease arrangements to clarify UPSS ownership and maintenance responsibilities and seek legal advice on position with regard to EAs, Orders, etc. Track down copy of letter submitted to ACT EPA regarding the various operational arrangements.

b. Provide ACT EPA with these minutes, documenting discussion topics and agreed actions.

ACT EPA Actions

1) General:

a. Seek legal advice regarding issuing EAs to multiple parties in instances where occupier of site (and therefore, holder of site's EA) may not be responsible for UPSS (i.e. not own nor maintain).

CALTEX SITES IN ACT

5 February 2020 Update

Site Name	Caltex Site ID	Environmental Authorisation No.	Six-Monthly Gauging	LNAPL @ Six-Monthly Event	Annual GW Sampling	LNAPL @ Annual Event	SPEL Sampling	Reports Delivered to EPA	EA GUIDELINES EXCEEDED DURING ANNUAL GME (2019)	AUDITOR APPOINTED	Notes & January 2020 Status Update
Calwell	22176	EA 0748	Completed April 2019	None	Completed Sept. 2019	None	Completed Oct. 2019 & Dec. 2019	Annual GME – 19 Dec. '19 SPEL Sampling 1 - 20 Dec. '19 SPEL Sampling 2 - 31 Jan. '20	HSL D for F1 (MW7) and benzene (MW02). ACT EPA S5 Guidelines for TPH C10-C40, benzene, toluene, and xylenes (MW02 and MW7) and ethylbenzene (MW7).	Section 3 Auditor - Douglas Partners (appointed by Landlord)	During the September 2019 GME exceedances of adopted freshwater protection criteria, ACT service station guidelines, and HSL vapour intrusion screening criteria were identified in groundwater in the central portion of the site (MW02) and the northern boundary of the site (MW7). These results are generally consistent with previous investigations conducted in 2017 and 2018. ACT EPA advised that an assessment must be undertaken to determine whether the impacts identified warrant re-notification under section 23A of the Environment Protection Act 1997 and, where unacceptable risks to human health and/or the environment are identified, an appropriate Auditor endorsed and Environment Protection Authority supported site management plan must be provided to the land custodians of the off-site receptors to manage these risks. Appropriate remedial works, supported by the Auditor, must also be undertaken to ensure risks are acceptable for the various permitted uses of each of the impacted sites. This information has been passed along to the landlord along with the latest report. Next EA monitoring event currently planned for Q2 2020.

CALTEX SITES IN ACT

5 February 2020 Update

Site Name	Caltex Site ID	Environmental Authorisation No.	Six-Monthly Gauging	LNAPL @ Six-Monthly Event	Annual GW Sampling	LNAPL @ Annual Event	SPEL Sampling	Reports Delivered to EPA	EA GUIDELINES EXCEEDED DURING ANNUAL GME (2019)	AUDITOR APPOINTED	Notes & January 2020 Status Update

ACT Government
Environment and Sustainable Development

Authorisation No. 0748

AUSTRALIAN CAPITAL TERRITORY

ENVIRONMENTAL AUTHORISATION UNDER THE ENVIRONMENT PROTECTION ACT 1997

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to conduct the following activity/activities:

The operation of a facility designed to store more than 50m^3 of petroleum products;

On:	Block:	**8**
	Section:	**787**
	Suburb:	**Calwell**

subject to the conditions set out in **Schedules 1 and 2** attached, for an unlimited period or until earlier surrendered by **Caltex Petroleum Pty Ltd** or cancelled or suspended by the Authority.

This is a **standard** environmental authorisation. This authorisation will be reviewed annually.

Sch 2.2(a)(ii)

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Delegate for the Environment Protection Authority

Dated this 19th day of October 2011

SCHEDULE 1: GENERAL CONDITIONS

Definitions

Controlled Waste: as defined in the *National Environment Protection Measure (Movement of Controlled Waste between States and Territories) Measure.*

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Operation: includes the delivery, storage and dispensing of petroleum products.

Plant and Equipment: includes drainage systems, infrastructure and pollution control equipment associated with the delivery, storage and dispensing of petroleum products.

Regulated Waste: as defined in Schedule 1, Section 1.1A of the *Environment Protection Act 1997.*

Site: Block 8, Section 787, Calwell

Stormwater System: as defined in Schedule 1, Section 1.1 of the *Environment Protection Act 1997.*

Waterway: as defined in Schedule 1, Section 1.1 of the *Environment Protection Act 1997.*

Working day: a day other than a Saturday, or Sunday, a public holiday or a day that is a holiday for public servants.

1. Compliance with Environmental Authorisation

The Authorisation holder shall:

a) comply with any Authorisation condition immediately where no time for compliance is stated; nature of contamination and chemicals of concern;

b) notify the Authority in writing within 2 working days of becoming aware of:

   i. any event that causes, or is likely to cause, any Authorisation condition to be exceeded; or

   ii. any monitoring data that show that a condition of the Authorisation has been exceeded.

2 Activities must be carried out to protect the environment

2.1 All activities carried out on the site shall be carried out in such a manner that adverse impact on the environment is minimised.

3. Maintenance of plant and equipment

3.1 All plant and equipment installed or used in or on the site shall be maintained in a safe and good condition and in accordance with manufacturer's recommendations.

3.2 Records of all maintenance and repairs performed on all plant and equipment including drainage systems, interceptors, separators and infrastructure shall be kept on site for a period of seven (7) years and made available to the Authority on request.

4 Environmental Practices

4.1 The Authorisation holder shall minimise emissions to the environment by adopting the practices set out in **Schedule 2.**

5 Compliance with Australian Standards, Industry Codes of Practice and Policies

5.1 The Authorisation holder shall comply with the provisions of the following Australian Standards, Guidelines, Industry Codes of Practice and Policies provided such provisions are not in conflict with the conditions in this Authorisation, and the provisions of any policies made by the Authority.

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- AS 4976 – The Removal and Disposal of Underground Petroleum Storage Tanks.
- AS 2832 – Cathodic Protection of Metals.
- Environment Protection Policies prepared under the *Environment Protection Act 1997.*

6 Fuel Storage

6.1 Where there are fuel storage tanks on the site the Authorisation holder shall ensure the tanks and associated pipe work are maintained in good condition. The proposed method of demonstrating the integrity of the tanks and associated pipe should be incorporated into the Authorisation holder's Environment Management Plan required under Section 17 of this schedule.

6.2 Further to the provisions of section 6.1, special requirements are applied to the abandonment of any aboveground or underground tanks and should the need arise, the Authorisation holder agrees to contact the Authority and:

Office of Regulatory Services Workcover
Workplace Safety Inspectorate
Telephone: 02 6207 0200
Facsimile: 02 6205 0336
Block B, Level 3
Callam Offices
Easty Street
WODEN ACT 2606
(GPO Box 158 Canberra ACT 2601)

7 Reporting of environmental harm

7.1 In the event that an incident has caused, is causing or is likely to cause material or serious environmental harm, whether the harm occurs on or off the site, the Authorisation holder, their employee or agent shall report the incident to the Authority immediately after it becomes known to the Authorisation holder or to their employee or agent in accordance with clause 7.2.

7.2 The incident shall be reported to the Authority by telephoning Canberra Connect on 13 22 81 during and outside business hours.

7.3 The Authorisation holder shall notify the Authority in accordance with clause 7.2 immediately after becoming aware that land is contaminated in such a way as to present, or to be likely to present –

a) a significant risk of harm to human health: or

b) a risk of material environmental harm or serious environmental harm
For the purposes of this section, the presence of phase separated hydrocarbon in groundwater constitutes material or serious environmental harm.

7.4 The Authorisation holder, their employee or agent shall also report an incident referred to in clause 7.1 and/or clause 7.3, in writing to the Authority within 2 working days of the incident occurring or becoming aware of contamination of land. The report must include:

a) incident or activity that has caused contamination or environmental harm;

b) nature of contamination and chemicals of concern;

c) area affected (on or off site);

d) aspects of the environment affected;

e) any planned assessment or remediation; and

f) any other relevant information.

7.5 The Authorisation holder shall keep a record of all other incidents in relation to pollution from, or on, the site. These records are to be provided, on request, to the Authority.

8 Record of pollution complaints

8.1 The Authorisation holder shall keep a record of all complaints received by its employees or its agents, in relation to pollution from, or on, the site. This record is to be provided, on request, to the Authority.

9 Record of activity levels

N/A.

10 Records to be maintained

10.1 The following records will be maintained and kept by the Authorisation holder for a period of seven (7) years:

a) all incidents which has affected, is affecting or could affect the integrity of the storage system;

b) field sampling record sheets and chain-of-custody forms;

c) results of environmental monitoring including surface and groundwater;

d) reconciliation records for all fuels and oils utilised and stored on site; and

e) a legible record of all complaints received by its employees or by its agents in relation to pollution associated with the activities.

10.2 The following records will be maintained and kept by the Authorisation holder for a period of one (1) year:

a) waste disposal certificates for any regulated or controlled wastes disposed off-site.

11 Responsible employees

11.1 The Authorisation holder shall authorise at least two senior employees or agents:

a) to speak on behalf of the Authorisation holder; and

b) to provide any information or document required under this Authorisation.

11.2 The Authorisation holder shall inform the Authority of the names and telephone numbers (including after hours numbers) of those persons within five (5) working days of this Authorisation coming into force. The details may be provided by facsimile to (02) 6207 6084 or email to environment.protection@act.gov.au

11.3 The Authorisation holder shall inform the Authority of any change in the information provided under this condition within five (5) working days of the change.

11.4 Any person nominated by the Authorisation holder to meet the requirements of this condition shall be readily contactable on the person's nominated telephone numbers.

12 Authorisation shall be kept at the site

12.1 A copy of this Authorisation shall be kept at the site and shall be available for inspection by any employee or agent of the Authorisation holder working at the site.

13 Waste

13.1 No waste material is to be incinerated on site.

13.2 The Authorisation holder shall use licensed waste transporters to transport controlled and regulated wastes. Information on Controlled Waste handling and transport can be obtained from the Authority on 13 22 81.

14 Hazardous Materials

14.1 The Authorisation holder shall store and manage hazardous materials in a manner that prevents adverse impacts on the environment. The handling and storage of hazardous materials must be addressed in the Environment Management Plan required under section 17 of this schedule.

15 Discharge of stormwater

15.1 There should be no dry weather discharges to the stormwater system or a waterway from the site.

16 New designs and innovations

16.1 The provisions of this Authorisation are not intended to limit the appropriate use of alternative materials, equipment, designs, or methods because they are not included.

17 Environment Management Plan

17.1 The Authorisation holder shall prepare and submit an Environment Management Plan (EMP) acceptable to the Authority within three (3) months of the date of this Authorisation.

17.2 The EMP should identify all activities that may have an adverse impact on the environment or the potential to cause environmental harm, and detail the mechanisms employed to prevent or minimise the impact of these activities. If required, the ways in which the conduct of the activity will be altered to minimise or reduce the adverse environmental impact of the activity is to be detailed including a timetable for implementation.

17.3 The EMP, once accepted by the Authority is to be implemented. It will also form the basis for future Authorisation conditions and environmental improvements.

17.4 A copy of the EMP must be kept on the site.

17.5 Where the mechanisms employed to prevent or minimise the adverse environmental impacts of the activity or the way in which the activity is carried out varies substantially from that detailed in the endorsed EMP, a revised EMP must be submitted.

18 Monitoring Requirements

18.1 Groundwater Monitoring

a) Groundwater monitoring bores must be sampled and analysed bi-annually for the parameters set out in Schedule 2, Table 4.

b) New groundwater monitoring bores must be sampled and analysed within 30 days for the parameters set out in Schedule 2, Table 4 after commissioning of installation.

c) Groundwater monitoring bores must be sampled and analysed as soon as practicable for the parameters set out in Schedule 2, Table 4 after:

i. the discovery that the groundwater may be contaminated by petroleum; and

ii. the discovery (whether through the loss monitoring procedure for the system or otherwise) that the system has a leak.

d) Sampling of bores shall be in accordance with the Groundwater Sampling Guidelines, Victorian Environment Protection Authority, Publication 669, April 2000.

18.2 Loss Detection Monitoring

a) As soon as practicable after becoming aware of any discrepancy detected by the loss monitoring procedure for a storage system, action must be taken:

i. to investigate the discrepancy, and

ii. if the discrepancy cannot be attributed to anything other than a leak, to confirm the existence of a leak, and

iii. if the existence of a leak is confirmed, to identify the source of the leak and to fix the leak.

b) Details of any action taken under this clause must be recorded.

19 Water Quality Standards

19.1 The Authority must be notified of any exceedence of the groundwater parameters set in Schedule 2, Table 4 as detailed in Section 7.4.

20 Reporting Requirements

20.1 A copy of any environmental site assessment that is, or has been, carried out on the site must be forwarded to the Authority within three (3) months of this authorisation coming into force and/or within thirty (30) working days of receipt of new reports.

21 Sampling Requirements

21.1 All sample collection, analysis and associated paperwork under this Authorisation shall be conducted in accordance with Australian Standard/New Zealand Standard 5667.1:1998, "*Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*", and with the American Public Health Association, American Water Works Association, and the Water Pollution Control Federation *Standard Methods for the Examination of Water and Wastewater,* 18th Edition, 1989, or other standards and methods agreed to by the Authority.

21.2 The sample collection shall be undertaken and documented by a suitably qualified person in accordance with clause 21.1. All required documentation shall be countersigned by a person authorised under clause 11.1 and shall be made available for inspection by the Authority. Sample analysis of parameters shall be conducted by a person employed as an analyst in any of the following organisations:

a) a Government laboratory;

b) an Australian university;

c) a laboratory where Authorisation parameters are accredited by the National Association of Testing Authorities; or

d) a laboratory approved by the Environment Protection Authority.

SCHEDULE 2

TABLE 1: AIR POLLUTION

Accessories/ Equipment/ Station	Requirement
Trafficked areas	Pave, seal or otherwise treat and maintain all trafficked areas within site to prevent or minimise the generation of airbourne dust.
Fuel tanks vapour venting	Take practical measures to ensure vents are not blocked. Venting vapours must not impact adjoining premises.
Refuelling	Take practical measures to ensure vapour recovery equipment is fitted and operated during fuel deliveries. Fuel deliveries must take place within the noise levels specified in Schedule 2, Table 3.

TABLE 2: WATER POLLUTION

Requirement
Manage the water catchment on the property so that runoff from: a) areas adjacent to the fuel dispensers is diverted to the sewer system (with ActewAGL approval), b) areas outside of the fuel dispensing area, without waste generating activities occurring, are permitted to drain to the stormwater system, c) all other areas are to drain to the sewer system (with ActewAGL approval).

TABLE 3: NOISE POLLUTION

Requirement	
Shall manage the operations at the site so that noise levels do not exceed the following levels at any point on the boundary of the site	
Mon – Saturday	7 am to 10pm - 55 dB(A) 10pm to 7am – 45 dB(A)
Sunday and Public Holidays	8 am to 10 pm - 55 dB(A) 10pm to 8am - 45 dB(A)
The noise standard specified is in accordance with the Environment Protection Regulation 2005 (for specific noise zones refer to: www.legislation.act.gov.au).	

SCHEDULE 2 (Continued)

TABLE 4: GROUNDWATER PARAMETERS

Parameter - Water	Criteria
Depth to water	-
pH	6.5 – 8.5
Total Petroleum Hydrocarbons $C_6 - C_9$ $C_{10} - C_{40}$	600µg/L
BTEX (Total) Benzene Toluene Ethyl Benzene Xylene	 300µg/L 300µg/L 140µg/L 380µg/L
Lead (Total)	5.0µg/L

1. All analysis for organic and inorganic substances must be for total concentrations unless detailed otherwise.

Balazs, Jacqui

From: Heckenberg, Mark
Sent: Tuesday, 1 April 2014 7:43 AM
To: Colin Roberts
Cc: Felicity Sinnett; Balazs, Jacqui; Dix, Rodney
Subject: RE: Caltex Calwell Possible Notification by Landlord/Caltex to the ACT EPA

Good morning Colin,

Thank you for the informal notification.

I have passed this information onto the EPA's regulation area, who look after active sites, for their information and records.

Please ensure that the landlord thoroughly reviews the notification requirements under the environmental authorisation for the site and notifies the EPA if required.

Regards

Mark Heckenberg
Contaminated Sites Officer | **Environment Protection** | Environment Protection & Water Regulation | Environment and Sustainable Development | **ACT Government**
Phone: +61 2 6207 2151 | Fax: +61 2 6207 6084 | email: mark.heckenberg@act.gov.au
Level 2 North - Dame Pattie Menzies House| 16 Challis Street Dickson | GPO BOX 158 | CANBERRA ACT 2601 | www.act.gov.au

From: Colin Roberts [mailto Sch 2.2(a)(ii) @caltex.com.au]
Sent: Monday, 31 March 2014 4:44 PM
To: Heckenberg, Mark
Cc: Felicity Sinnett
Subject: Caltex Calwell Possible Notification by Landlord/Caltex to the ACT EPA

Afternoon Mark,

Last week we undertook tank and line testing at the site and on Friday afternoon we were advised of the following:

- Tank# 1 V95: The ullage area has passed, however the wet test has failed, tank valves need to be serviced to ensure they have been excluded as the cause of the liquid ingress /egress. The stage 1 result could possibly indicate the start of a tank shell breach (wetted area). Stage 2 works to be conducted.

As the landlord has full responsibility for tank and line maintenance and repair we have formally advised them this morning. As part of this communication we have also advised the landlord of obligations to notify the ACT EPA should product be detected in the groundwater and indeed the requirement to complete delineation of dissolved phase impact at the site.

The most recent groundwater data does indicate an increase in dissolved phase in one well and we advised the landlord that we consider it prudent to notify the EPA as a result.

Caltex may complete the notification on behalf of landlord and have requested a cost from PB for the installation of extraction wells (should these be required) and off-site delineation. Caltex are however under no obligation to complete this works but will assist the landlord in the process.

I shall update you later this week, once we receive a reply from the landlord.

Happy to discuss further

Cheers

Colin

Colin Roberts
Senior Environmental Specialist
CALTEX AUSTRALIA PETROLEUM PTY LTD
2 Market St, Sydney NSW 2000 | Postal: GPO Box 3916, Sydney NSW 2001
T: (02) 9250 5862 M: [redacted]
E: [redacted]@caltex.com.au | www.caltex.com.au

OE Partnerships - Making Excellence Happen

ACT Government
Chief Minister, Treasury and Economic Development

COPY
sent 6/5/16.

Mr Oliver King
Caltex Australia Petroleum Pty Ltd
GPO Box 3916
SYDNEY NSW 2001

Dear Mr King

Re: Variations to Environmental Authorisations

Thank you for your request to vary the Caltex Environmental Authorisations. The following Authorisations have been approved with the variations as requested, in addition to some administrative amendments.

Authorisation No.	Block and section
Out of scope	
0748	b8, s787 Calwell

Out of scope

Out of scope

Under section 136 (b) of the *Environment Protection Act 1997* you may apply to the ACT Civil and Administrative Tribunal (ACAT) for a review of the conditions that have been imposed. Any appeal must be lodged, along with the prescribed fee within 28 days of the date of the grant date. Other interested parties also have a right of appeal. ACAT can be contacted by telephoning (02) 6207 1740 or e-mail tribunal@act.gov.au.

If you have questions regarding this advice please contact Sara McIntyre on (02) 6207 2144 or email sara.mcintyre@act.gov.au.

Kind Regards
Sch 2.2(a)(ii)

Jillian De Luca
Environment Protection Officer
Environment & Dangerous Substance Licensing
6 May 2016

URS

21 January 2015
Project No. 43218507

Caltex Australia Petroleum Pty Ltd
2 Market Street,
Sydney, NSW 2000

Attention: Oliver King
Senior Environmental Specialist – Eastern Region

Dear Oliver,

Subject: **Use of HydraSleeve™ Groundwater Samplers for Compliance Monitoring under ACT Environmental Authorisations**

Background

HydraSleeves™ groundwater samplers are a passive (no purge) method of collecting discrete groundwater samples. The samplers are made from a polyethylene collapsible tube which is sealed at the bottom and contains a self-sealing reed-valve at the top. The HydraSleeve™ is lowered down a well to the desired depth within the screened interval to obtain an instantaneous grab groundwater sample without purging or mixing fluid from other intervals.

The HydraSleeve™ is left in the well until the groundwater contaminate distribution and flow dynamics stabilise after any vertical mixing caused by inserting the sampler into the well (ITRC, 2007). The stabilisation time depends on the site specific hydrogeologic conditions. Typically URS Australia Ltd Pty waits at least one week for well stabilisation but the time could be less if the aquifer has a high hydraulic conductivity (e.g. sand or gravel) or longer for tight clays. The samplers can be left in the well for a year for annual sampling programs and do not infer with gauging events. The HydraSleeve™ is activated when it is pulled upwards out of the well and the one-way reed-valve will open allowing groundwater to enter through the top and fill the tube until it is full (ITRC, 2007). Once the sampler is out of the well, a straw is used to puncture through the polyethylene tube and used to fill the required sampling bottles. See **Figure 1** below for a demonstration of how a HydraSleeve™ works.

Use and Acceptance of HydraSleeve™ Samplers

In the United States, HydraSleeve™ no purge sampling is widely accepted and endorsed by numerous State EPAs and a standard protocol has been developed by the Interstate Technology Regulatory Council (ITRC). In Australia, URS Australia Ltd Pty has successfully used HydraSleeve™ samplers in the ACT, NSW, SA, and VIC. A couple of examples are provided below:

- HydraSleeve™ samplers are being used for continual biannual monitoring at a NSW service station under an Environmental Management Plan, which has been approved by the NSW Environmental Protection Agency and the Site Auditor.

URS Australia Pty Ltd (ABN 46 000 691 690)
Level 4, 407 Pacific Highway
Artarmon NSW 2064
Australia
T: 61 2 8925 5500
F: 61 2 8925 5555
www.urs.com.au

URS

- URS recently completed a managed aquifer recharge (MAR) injection trial for the ACT Government, in which HydraSleeves™ were used for continual bi-monthly monitoring of groundwater within the ACT.

Applicability to ACT Environmental Authorisation

The use of HydraSleeves™ samplers as a passive grab sampling method for groundwater sampling is in accordance with the following documents which are referenced in the standard ACT Environmental Authorisation required for service station use:

- *ACT Government, Environmental Protection Agency (EPA), Environmental Guidelines for Service Station Sites and Hydrocarbon Storage, January 2014* - requires annual sampling for leak detection but does not stipulate any specific sampling methodology.
- *Australia/New Zealand Standard, Water Quality - Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples* - According to Section 8.2 (page 20), "grab sampling should be considered when investigating the possibility of pollution".
- *Victorian Environment Protection Authority, Groundwater Sampling Guidelines, Publication 669, April 2000* – According to Section 4.5.3, passive sampling methods are approved and "have the potential to provide the best contaminant concentration data" (Puls and Powell, 1997). HydraSleeve™ sampling is a passive no purge method which is similar to a diffusion sampler, which is recommended in Section 4.7.3. for sampling volatile organic compounds.

In conclusion, URS recommends the use of HydraSleeve™ for the annual or bi-annual sampling required in the standard ACT Environmental Authorisations for the following reasons:

- The Environmental Authorisation sampling is ongoing compliance monitoring for leak detection which is a requirement of the ACT EPA Environmental Guidelines for Service Station Sites and Hydrocarbon Storage (2014).
- There is typically historic groundwater data for these sites that can be used to compare with the HydraSleeve™ samples if required.
- The sampler can be left in the well for 6 months to 1 year and does not infer with other gauging events.
- This sampling method can be used in low yield wells and in narrow, constricted or damaged wells.
- The HydraSleeve™ displaces a minimal amount of water so it reduces the impact on the local aquifer.
- The method is more sustainable than other sampling methods (e.g. low flow sampling) due to the reduced amount of purge water that is required for offsite disposal and all components of the HydraSleeve™ can be re-used with the exception of the collapsible tube.
- The method of sampling is more efficient in terms of the time required to sample. Less time on active service station sites means reduced exposure to hazards like traffic.

URS

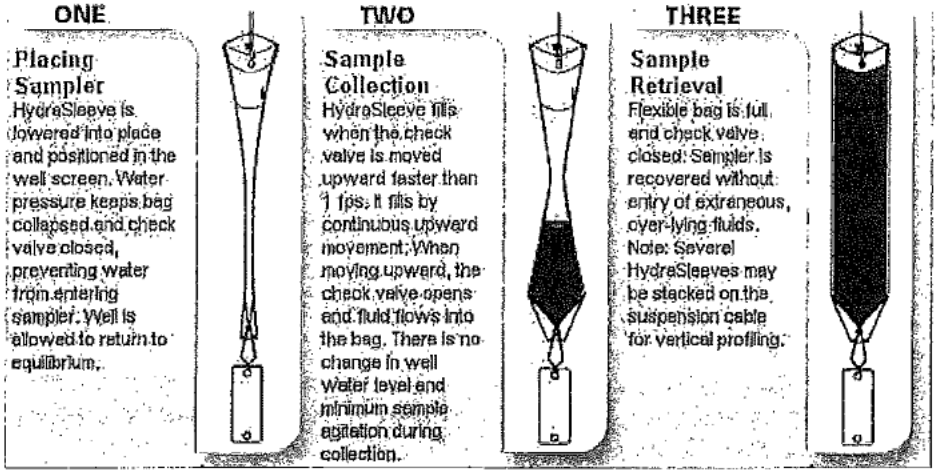

Figure 1: Demonstration of HydraSleeve™ sampling.
Source: http://www.fieldtechsoln.com/Products/hydrasleeve.html

Yours sincerely
URS Australia Pty Ltd

Sch 2.2(a)(ii)

Sch 2.2(a)(ii)

References

ITRC 2007, Protocol for Use of Five Passive Samplers to Sample for a Variety of Contaminants in Groundwater, February 2007.

Limitations

URS Australia Pty Ltd (URS) has prepared this Memo in accordance with the usual care and thoroughness of the consulting profession for the use of Caltex Petroleum Australia and only those third parties who have been authorised in writing by URS to rely on this Memo.

It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Memo.

URS

It is prepared in accordance with the scope of work outline in the email dated 9 January 2015 and under the contract executed 1 October 2014.

Where this Memo indicates that information has been provided to URS by third parties, URS has made no independent verification of this information except as expressly stated in the Report. URS assumes no liability for any inaccuracies in or omissions to that information.

This Memo was prepared during January 2015 and is based on the conditions encountered and information reviewed at the time of preparation. URS disclaims responsibility for any changes that may have occurred after this time.

This Memo should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This Memo does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

Except as required by law, no third party may use or rely on this Memo unless otherwise agreed by URS in writing. Where such agreement is provided, URS will provide a letter of reliance to the agreed third party in the form required by URS.

To the extent permitted by law, URS expressly disclaims and excludes liability for any loss, damage, cost or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this Memo. URS does not admit that any action, liability or claim may exist or be available to any third party.

Except as specifically stated in this section, URS does not authorise the use of this Memo by any third party.

It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

Any estimates of potential costs which have been provided are presented as estimates only as at the date of the Memo. Any cost estimates that have been provided may therefore vary from actual costs at the time of expenditure.

From:"Dinesh Poudyal" Sch 2.2(a)(ii) @caltex.com.au>
Sent:09/02/2017 2:49 AM
To:"McIntyre, Sara" <Sara.McIntyre@act.gov.au>
Subject:RE: Groundwater monitoring at Caltex Calwell

Thank you Sara for getting back to me promptly- really appreciate it!

Dinesh Poudyal
Senior Environmental Specialist – Eastern Region (NSW/ACT/QLD/NT)

CALTEX AUSTRALIA PETROLEUM PTY LTD
2 Market St, Sydney NSW 2000 | Postal: GPO Box 3916, Sydney NSW 2001
T: (02) 9250 5733 | M: Sch 2.2(a)(ii) | F: (02) 9250 5742
E: dpoudya@caltex.com.au | www.caltex.com.au

CALTEX | *With you all the way*

From: McIntyre, Sara [mailto:Sara.McIntyre@act.gov.au]
Sent: Thursday, 9 February 2017 1:29 PM
To: Dinesh Poudyal Sch 2.2(a)(ii) @caltex.com.au>
Subject: Groundwater monitoring at Caltex Calwell

Hi Dinesh,

In answer to your question regarding the number of wells to be sampled at the Caltex Calwell site, wells should be chosen, sampled and analysed to best monitor environmental impact at the site and off-site (where off-site impacts have been identified or suspected). The number of wells sampled can be left to the discretion of the consultant to best achieve this outcome.

Hope this helps!

Kind regards

Sara McIntyre| Environment Protection Officer | Environment Regulation and Protection
Phone: 02 6207 2144| Email: sara.mcintyre@act.gov.au
Construction, Environment and Workplace Protection | Access Canberra | ACT Government
GPO Box 158 Canberra ACT 2601 | http://www.act.gov.au/accesscbr

From:"McIntyre, Sara"
Sent:11/01/2018 9:58 PM
To:"Liane Tempest-Wilson"Sch 2.2(a)(ii)@caltex.com.au>
Cc:"Dinesh Poudyal"Sch 2.2(a)(ii)@caltex.com.au>
Subject:RE: Caltex sites- EA Reporting [SEC=UNCLASSIFIED]

Hi Liane,

The GME report for Calwell, along with any proposed remedial actions, should be forwarded to the Auditor for review and comment and a copy of the Auditor's advice on the adequacy of the assessment and remedial actions be forwarded to the EPA for its records.

Please contact me if you require any further information.

Kind regards,

Sara McIntyre | Environment Protection Officer | Environment Regulation and Protection
Phone: 02 6207 2144 | Fax: 02 6207 6084 | email: sara.mcintyre@act.gov.au
Construction, Environment and Workplace Protection | Access Canberra | ACT Government
Dame Pattie Menzies House, 16 Challis Street, Dickson | GPO BOX 158 | CANBERRA ACT 2601 | www.accesscanberra.act.gov.au

Please note that my work hours are Monday to Friday, 9.30 am to 2.30 pm.

From: Liane Tempest-Wilson [mailtoSch 2.2(a)(ii);@caltex.com.au]
Sent: Wednesday, 20 December 2017 3:07 PM
To: McIntyre, Sara <Sara.McIntyre@act.gov.au>
Cc: Dinesh PoudyalSch 2.2(a)(ii)@caltex.com.au>
Subject: RE: Caltex sites- EA Reporting [SEC=UNCLASSIFIED]

Hi Sarah,
Please see attached the GME report for Calwell 22176 (as per the monitoring requirements of EA 0748).
Can you please confirm receipt of the report on your return from leave?
Hope you have a lovely break.
Regards,

Liane Tempest-Wilson
Environmental Specialist
CALTEX AUSTRALIA PETROLEUM PTY LTD
2 Market St. Sydney NSW 2000 | Postal: GPO Box 3916, Sydney NSW 2001
T: (02) 9250 5418 | M: Sch 2.2(a)(ii) | F: 02 9250 5015
E Sch 2.2(a)(ii) @caltex.com.au | www.caltex.com.au
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From: McIntyre, Sara [mailto:Sara.McIntyre@act.gov.au]
Sent: Friday, 15 December 2017 9:07 AM
To: Liane Tempest-Wilson Sch 2.2(a)(ii) @caltex.com.au>
Subject: RE: Caltex sites- EA Reporting [SEC=UNCLASSIFIED]

Hi Liane,

Thank you for the reports. All reports have been downloaded. Today is my last work day for the year, so I will review the reports in the New Year and be in touch if we need any further information.

Have a safe and merry Christmas.

Kind regards,

Sara McIntyre | Environment Protection Officer | Environment Regulation and Protection
Phone: 02 6207 2144 | Fax: 02 6207 6084 | email: sara.mcintyre@act.gov.au
Construction, Environment and Workplace Protection | Access Canberra | ACT Government
Dame Pattie Menzies House, 16 Challis Street, Dickson | GPO BOX 158 | CANBERRA ACT 2601 | www.accesscanberra.act.gov.au

Please note that my work hours are Monday to Friday, 9.30 am to 2.30 pm.

From: Liane Tempest-Wilson [mailto Sch 2.2(a)(ii) @caltex.com.au]
Sent: Friday, 15 December 2017 7:49 AM
To: McIntyre, Sara <Sara.McIntyre@act.gov.au>
Subject: RE: Caltex sites- EA Reporting

Hi Sarah,
I am waiting on the final report for Calwell 22716 from WSP (to arrive today) and will forward it on receipt.
Regards,

Liane Tempest-Wilson
Environmental Specialist
CALTEX AUSTRALIA PETROLEUM PTY LTD
2 Market St, Sydney NSW 2000 | Postal: GPO Box 3916, Sydney NSW 2001
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E: Sch 2.2(a)(ii) @caltex.com.au | www.caltex.com.au
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From: Dinesh Poudyal
Sent: Thursday, 14 December 2017 7:00 AM
To: McIntyre, Sara <Sara.McIntyre@act.gov.au>
Cc: Liane Tempest-Wilson Sch 2.2(a)(ii) @caltex.com.au>
Subject: Caltex sites- EA Reporting

Morning Sara,

Hope you are well.

I am writing to advise that tomorrow we are planning to issue all Environmental Authorisation related monitoring reports for 2018 including Out of scope

Out of scope

Today is my last day at work before heading on leave from 15 Dec to 25 Jan. While I am away, if you have any questions, please feel free to contact Liane Tempest-Wilson copied on this email- details below.

Liane Tempest-Wilson
T: (02) 9250 5418 | M Sch 2.2(a)(ii)
E: Sch 2.2(a)(ii) @caltex.com.au

Wish you a safe and relaxing break over Xmas & New Year.

Regards,

Dinesh

Dinesh Poudyal
Senior Environmental Specialist – Eastern Region (NSW/ACT/QLD/NT)

CALTEX AUSTRALIA PETROLEUM PTY LTD
2 Market St, Sydney NSW 2000 | Postal: GPO Box 3916, Sydney NSW 2001
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E: Sch 2.2(a)(ii) @caltex.com.au | www.caltex.com.au

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From:"Dinesh Poudyal" Sch 2.2(a)(ii) @caltex.com.au>
Sent:08/01/2020 12:20 AM
To:"McIntyre, Sara" <Sara.McIntyre@act.gov.au>;"Heckenberg, Mark" <Mark.Heckenberg@act.gov.au>
Cc:"Jonathan Lekawski' Sch 2.2(a)(ii) caltex.com.au>;"Liane Tempest-Wilson" Sch 2.2(a)(ii) @caltex.com.au>
Subject:RE: Calwell 22176 (EA 0748) [SEC=UNCLASSIFIED]Liane Tempest-Wilson
Sch 2.2(a)(ii) @caltex.com.au>

Hi Sara & Mark,

Happy New Year. Hope you had a good break.

We will be forwarding the 2019 report to the landlord this week together with your email. Caltex had previously reiterated to the landlord the potential off-site vapour risk issue and the requirement to develop a remedial plan including review/endorsement by an auditor. We are not privy to whether the landlord have engaged with EPA on this matter.

Please feel free to engage with the landlord directly. In the meantime, if we get a response from the landlord, we will share with the EPA.

On a separate note, I am currently on a secondment role within Caltex managing the Divestment Program. I wanted to take the opportunity to introduce **Jonathan Lekawski** (cced) who is currently filling in my previous role and going forward will be the primary point of contact for Caltex sites in ACT.

Of course, please do not hesitate to contact me if have any questions project-related or otherwise in future.

Kind Regards

Dinesh

Dinesh Poudyal
Program Lead Divestments

CALTEX AUSTRALIA PETROLEUM PTY LTD
2 Market St, Sydney NSW 2000 | Postal: GPO Box 3916, Sydney NSW 2001
T: (02) 9250 5733 | M: Sch 2.2(a)(ii) | F: (02) 9250 5742
E: Sch 2.2(a)(ii) @caltex.com.au | www.caltex.com.au

CALTEX | *With you all the way*

From: McIntyre, Sara <Sara.McIntyre@act.gov.au>
Sent: Tuesday, 7 January 2020 2:35 PM
To: Liane Tempest-Wilson Sch 2.2(a)(ii) @caltex.com.au>
Cc: Dinesh Poudyal Sch 2.2(a)(ii) @caltex.com.au>; Jonathan Lekawski Sch 2.2(a)(ii) @caltex.com.au>
Subject: RE: Calwell 22176 (EA 0748) [SEC=UNCLASSIFIED]

Hi Liane,

The GME report for the Calwell site identifies that there is a potential off-site risk for vapour intrusion.

An assessment must be undertaken to determine whether the impacts identified warrant re-notification under section 23A of the Environment Protection Act 1997. Where unacceptable risks to human health and/or the environment are identified an appropriate Auditor endorsed and Environment Protection Authority supported site management plan must be provided to the land custodians of the off-site receptors to manage these risks.

Appropriate remedial works, supported by the Auditor, must also be undertaken to ensure risks are acceptable for the various permitted uses of each of the impacted sites.

Please contact me if you require any further information.

Kind regards,

Sara McIntyre | Environment Protection Officer | Environment Protection
Phone: 02 6207 2144 | Fax: 02 6207 6084 | email: sara.mcintyre@act.gov.au
Environment Protection Authority | Access Canberra | ACT Government
TransACT House, 470 Northbourne Avenue, Dickson | GPO BOX 158 | CANBERRA ACT 2601 | www.accesscanberra.act.gov.au

Please note that my work hours are Monday to Friday, 9.30 am to 2.30 pm.

From: Liane Tempest-Wilson [mailto:liane.tempestwilson@caltex.com.au]
Sent: Thursday, 19 December 2019 2:49 PM
To: McIntyre, Sara <Sara.McIntyre@act.gov.au>
Cc: Dinesh Poudyal Sch 2.2(a)(ii) @caltex.com.au>; Jonathan Lekawski Sch 2.2(a)(ii) @caltex.com.au>
Subject: Calwell 22176 (EA 0748)

Hi Sara,
Please find attached GME report for Calwell (EA 0748).
Can you please confirm receipt?
Thanks,

Liane Tempest-Wilson
Environmental Specialist
CALTEX AUSTRALIA PETROLEUM PTY LTD
2 Market St, Sydney NSW 2000 | Postal: GPO Box 3916, Sydney NSW 2001
T: (02) 9250 5418 | M: Sch 2.2(a)(ii) | F: 02 9250 5015
E: Sch 2.2(a)(ii) @caltex.com.au | www.caltex.com.au
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[redacted]

Environmental Management Plan

Calwell

Were Street Cnr Webber Crescent, Calwell ACT 2905

Caltex Site ID 22176

Please note this document is uncontrolled when printed

Site Name:	**Caltex Calwell**
Site ID:	**22176**
Site Address:	**Were Street Corner Webber Crescent Calwell ACT 2905**
Address for Service:	**Caltex Australia Petroleum Pty Ltd 2 Market Street Sydney NSW 2000**
Name of Person Responsible for UPSS:	**Matt Gum**
24hr Contact Number:	**0423 842 589**
Land Title:	**Block 8, Section 787 Deposited Plan 7990 district of Calwell Volume 1223 Folio 1 (Edition 9)**
Location of Records:	**Caltex Australia Petroleum 2 Market Street Sydney NSW 2000**

National Well Gauging Program

Caltex conducts a national well gauging program twice per annum. This data is managed digitally, and maintained within Caltex Head Office at 2 Market Street, Sydney. For site specific well gauging data, please contact Liane Tempest-Wilson (Environmental Specialist) on (02) 9250 5418 or Sch 2.2(a)(ii) *@caltex.com.au.*

Section A

Storage system information

Storage System Information for UPSS

Site Name:	**Caltex Calwell**
Site ID:	**22176**
Site Address:	**Were Street Corner Webber Crescent Calwell ACT 2905**
Land Title Particulars:	**Block 8, Section 787 Deposited Plan 7990 district of Calwell Volume 1223 Folio 1 (Edition 9)**
Person Responsible for UPSS:	**Caltex Australia Petroleum Pty Ltd 2 Market Street Sydney NSW 2000**

If person responsible is a corporation, the name of a natural person who is authorised to act on behalf of the corporation:
Matt Gum (Business Manager)

Postal address *(for the person responsible or natural person - may differ from site address):* **GPO Box 3916, Sydney NSW 2001**

Phone numbers *(for person responsible or natural person - may differ from 24-hour emergency phone number):* **0423 842 589**

24hr Contact Number: **1800 033 111**

Name of site owner *(if different from person responsible):*

Crown Land

Location of Records:	**Caltex Australia Petroleum 2 Market Street Sydney NSW 2000**

Access and security information
Details of access to, and security of, the system, including any locks, gates, fences, etc. and the means of opening them

Check with site operator

Date: 3 November 2020 **Revision # 1**

Site Location and Surrounding Land uses

The Site is located on the corner of Were Street and Webber Crescent. The surrounding land uses included:

- North: Commercial and retail properties including a community club and an ambulance station. Tuggeranong Creek is located approximately 150 m northeast of the Site;
- East: Webber Crescent, followed by a restaurant and commercial/retail properties;
- South: Were Street and Webber Crescent intersection, followed by residential properties. Calwell High School is located approximately 500 m to the southeast; and
- West: Were Street, followed by residential properties.

Current Land Use

At the time this EMP was prepared (October 2020), the Site was an operational service station, with a mechanic workshop.

Site Features and Observations

A summary of the Site features is provided below:

- The Site is predominantly covered by concrete hardstand;
- The sales building is located in the southern portion of the Site and a canopy extends from it towards the north. Fuel dispensing pumps were located beneath the canopy. A fill box containing remote fill points (for the underground storage tanks [USTs]) is located in the central northern portion of the Site;
- The mechanic workshop is located along the north-eastern boundary of the Site;
- Three 80 kL multi-compartment USTs are located to the north of the canopy (refer to the Table below);
- Vent pipes are located in the northern portion of the Site;
- A SPEL unit is located in front of the mechanic workshop;
- A waste oil UST was located in the north-eastern corner of the Site, adjacent to the mechanical workshop; and
- A liquefied petroleum gas (LPG) aboveground storage tank (AST) is located along the south-eastern portion of the Site.

Details of the fuel storage USTs are provided in the following table:

Tank ID	Capacity (L)	Product	Usage
DEPOT 1	40,000	Vortex 98 (V99)	IN USE
DEPOT 2	40,000	E10	IN USE
DEPOT 3	30,000	Vortex Diesel	IN USE
DEPOT 4	50,000	Vortex 95 (V95)	IN USE
DEPOT 5	30,000	Vortex Diesel	IN USE
DEPOT 6	50,000	Unleaded Petrol (ULP)	IN USE

Topography and Drainage

The Site slopes gently to the northeast. The elevation of the Site was approximately 610 m AHD with a slight regional slope to the northeast.
Surface water runoff is anticipated to flow to the various stormwater drains located across the Site or towards the eastern and/or western driveways.

Surface Water

No surface water bodies are present on site. The nearest surface water was Tuggeranong Creek situated approximately 150 m northwest of the Site.

Geology

The regional geology is mapped as mainly acid volcanics of Palaeozoic age (Canberra 1:250 000 geological Series Sheet SI 55-16, 2nd Edition 1964).
Soil Landscapes of the Canberra 1:100 000 Sheet (Department of Land and Water Conservation, 2000) describes the region (Williamsdale) as having undulating rises, fans, valley flats and depressions on Silurian Volcanics of the Canberra Lowlands with a local relief of 5 to 50 m. The original woodland has been cleared and grassland areas have been extensively altered. Soils are described as moderately deep, moderately well drained Yellow Chromosols on Red and Brown Kandosols on upper rises and fan elements. Moderately to very deep, poorly to imperfectly drained Sodosols on lower rises and fan elements. Soils can be hard setting, erodible and dispersible with acidic topsoils. Other soil limitations include seasonal waterlogging, complex terrain, flood hazard, run-on and dieback.
During the AECOM (2011) investigation subsurface soils were logged as fill materials underlain by natural sand, clays and volcanic bedrock to the maximum depth investigated of 18 metres below ground surface (m bgs).

Hydrogeology

A review of the ACTMapi Cadastre and Imagery water bore layer conducted on 10 October 2019 revealed no registered groundwater monitoring wells within a 1 km radius of the site. Previous drilling at the site indicated that the standing water level is approximately between 4 and 6 mBGL. Based on the surrounding topography, the nearest surface water body and previous environmental assessments, it is considered that groundwater flow is likely to be in a northerly direction.

Regional Meteorology

- The climatic data was obtained from the Bureau of Meteorology (BOM) website (www.bom.gov.au). The BOM weather station (070339) located at Tuggeranong indicated the following conditions for the local area:
- Mean annual rainfall of 607mm, with November typically the wettest month;
- Mean maximum temperature of 20.9*C, ranging from 29.8*C in January to 12.4*C in July; and
- Mean minimum temperature of 7*C, ranging from 14.5*C in January to 0.0*C in July.

Previous Environmental Investigations

A number of environmental investigations have been undertaken at the Site:

- AECOM 2011, *Groundwater Monitoring Well Report, Caltex Calwell (22716), Corner Were Street, and Webber Crescent, Calwell ACT*.
- Parsons Brinckerhoff Australia Pty Ltd (now WSP) 2013a, *Caltex Calwell Groundwater Monitoring Event Round 1*.
- WSP 2013b, *Caltex Calwell Groundwater Monitoring Event Round 2*.

- WSP 2014, *Caltex Calwell Groundwater Monitoring Event*.
- URS (now AECOM) 2015, *Caltex Calwell Service Station (Site ID 22176), 1 Webber Crescent, Calwell ACT 2905 Groundwater Data Report*.
- WSP 2016, *Inspection of UPSS replacement works at Caltex Calwell service station (Site ID: 22176)*.
- WSP 2018, *Caltex Calwell Service Station (Site ID 22176), Groundwater Monitoring Event July 2017 – Results Report cnr Were St, & Webber Crescent, Calwell ACT*.
- WSP 2019, *Caltex Calwell Service Station (Site ID 22176) Groundwater Monitoring Event Report November 2018 cnr Were St, & Webber Crescent, Calwell ACT*.

Copies of the reports are kept on the server located at Caltex Head Office, 2 Market Street, Sydney NSW.

Record Keeping

In accordance with Section 10 of the Environmental Authorisation for this site the following records will be maintained and kept by the Authorisation holder for a period of seven (7) years:

a) All incidents which has affected, is affecting or could affect the integrity of the storage system;

b) Field sampling record sheets and chain of custody forms;

c) Results of environmental monitoring including surface and groundwater;

d) Reconciliation records for all complaints received by its employees or by its agents in relation to pollution associated with the activities.

The records listed above are kept on the server located at Caltex Head Office, 2 Market Street, Sydney NSW.

Additionally, the following records will be maintained and kept by the Authorisation holder for a period of one (1) year:

a) Waste disposal certificates for any regulated or controlled wastes disposed off-site.

Waste disposal certificates are located on-site in the Site operations manual.

Section B

Loss Monitoring Procedure

The loss monitoring procedure –

'... must be designed to measure discrepancies between:

- the amount of petroleum that should be in the system, and
- the amount of petroleum that is actually present in the system,

so as to be capable of detecting losses of petroleum occurring at a rate of 0.76 litres per hour or more, with at least 95% accuracy' *(clause 19(4) of the UPSS Regulation).*

Statistical inventory reconciliation analysis (SIRA) is an example of a loss monitoring procedure.

Introduction to Statistical Inventory Reconciliation

For Underground Storage Tanks (USTs) and Lines

LEIGHTON O'BRIEN

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"Can Leighton O'Brien's SIRA be used as an integrity test?"
"Why did Leighton O'Brien fail my tank for a leak under 18 lpd?"
"What is the difference between:
'qualitative' and 'quantitative' SIRA methods?"
"What is this 'estimated leak rate,' 'threshold,' and 'MDLR' stuff all about?"
"Can SIRA be used as a monthly test of my piping, too?"

Why You Should Read This Document

As an owner or occupier of a premises with underground storage tanks you should be aware of your legal liabilities to maintain a safe working environment. This involves complying with state specific Acts and Regulations, or requirements, which you must undertake to, protect the environment from leaking tanks.

One of the available leak detection methods is Statistical Inventory Reconciliation Analysis (SIRA). In this method, a trained professional uses sophisticated computer software to conduct a statistical analysis of inventory, delivery, and dispensing data.

SIRA can allow the owner or operator of an UST facility to meet leak detection requirements without an extensive outlay of capital, using only the equipment that most facilities have readily at hand—a dip stick, a record of deliveries and a record of sales used for inventory control. The SIRA analysis itself is usually provided as a service by Leighton O'Brien who charge a monthly fee based on the number of tanks.

This document provides basic information on the method:

- what it is,
- how it works, and
- factors that impact data quality

To assist you in determining if SIRA is appropriate to your needs.

How Does SIRA Work?

On the face of it, SIRA looks very similar to old-fashioned inventory control—the owner or operator, using simple equipment, tracks tank volumes, deliveries, and sales. However, the similarity ends there. Simple inventory control is relatively imprecise. Depending on your system throughput, you could be losing thousands of litres every month without realising anything is wrong!

By contrast, SIRA analysis can be very sensitive and accurate. Leighton O'Brien can take the same inventory data and analyse it for releases so small that many would go unnoticed with inventory control. By using a month's worth of good tank data, it is possible for Leighton O'Brien's SIRA to detect a release of just under 18 litres per day (that's about 540 litres per month) from a tank or its product lines 95 times out of a hundred.

The mechanics of how SIRA works are beyond the scope of this booklet. Leighton O'Brien uses a variety of statistical tools to evaluate inventory data, and no two SIRA vendors' methods are exactly alike—the information collected and the results provided can vary. Still, for fundamental release detection purposes, there are only three possible bottom-line responses for any SIRA test: PASS, FAIL, or INCONCLUSIVE.

These bottom-line responses are described below:

PASS—According to the analysed data, the UST system tests tight.

FAIL—Analysed data indicates a loss of product from the system or an influx of groundwater or product. However, a FAIL does not necessarily indicate that your system is leaking. A FAIL may indicate miscalibrated dispensers, inaccurately metered deliveries, or stolen product.

There is also a chance that a FAIL is a false alarm.

INCONCLUSIVE—Analysed data cannot make the call. There is a chance that the information provided to Leighton O'Brien is so bad that it is not possible to make a determination. This often can be traced back to poor tank dipping or bookkeeping practices (for example, a new staff member who has received inadequate training).

Whatever the reason, an INCONCLUSIVE result means, in effect, that you have failed to perform leak detection on the UST in question for that month.

A 'FAIL' does not necessarily mean your system is leaking,

To many people, SIRA may seem like magic. But it's based on sound mathematical principles.

Necessary Equipment

One of the major attractions of Leighton O'Brien's SIRA for UST owners and operators is that it does not require a large up-front investment of capital—the primary cost is subscribing to our services. The equipment needed to use the method is usually already found on-site at most UST facilities.

Dip Stick or Automatic Tank Gauge

A dip stick, made of non-sparking material, is used to measure the depth of liquid in the UST. Typically, such sticks are marked or notched in 200 litre increments starting at the bottom of the stick. It is important that the stick is in good condition. Sticks that have worn ends, cut-off ends, worn-off numbers, or worn-off varnish coatings are not acceptable and should be replaced.

Other forms of gauges can also be used if they are available and in good operating condition. Automatic tank gauges, for instance, can simplify measuring tank volumes.

Whatever form of gauge you choose to use, you must follow the instructions carefully to gather useful data.

Pastes for Finding Fuel or Water

If you use a dip stick, you can improve the quality of your readings if you use a fuel-sensitive paste smeared over about 150mm of the stick where you expect the fuel level to be. The paste changes colour when it comes into contact with the fuel. Similarly, you can use a water-sensitive paste, applied to the end of the stick, to monitor for the presence of water in the bottom of the tank. Water can enter the tank either through deliveries, as a result of condensation of moisture inside the tank, from ground water seeping in through holes or through loose fittings high in your tank.

Calibrated Dispensing Meters

A poorly calibrated meter can produce data that may be mistaken for some types of releases. Although, Leighton O'Brien SIRA can identify this pattern as a possible cause of a FAIL, it is wise to avoid the problem entirely. Keep your dispensers in good operating condition and have them periodically recalibrated as recommended by your equipment manufacturer and as required by state and local weights and measures authorities.

Forms

Leighton O'Brien can provide forms on which daily dip readings, sales, and deliveries are recorded. These forms often resemble the inventory sheets usually maintained at UST facilities. There are a number of data entry options which we can discuss with you including email, web entry, or FTP.

SIRA Reporting and Record keeping

What Information You Should Provide to Leighton O'Brien

Leighton O'Brien may ask for a variety of information, some of the more common elements include:

- Tank size (capacity).
- Tank type, material of construction, and manufacturer.
- Product type.
- Date each dipstick measurement was taken.
- Daily closing dipstick measurement and volume.
- Daily sales.
- Deliveries (and dates) over the course of the month.
- Minimum of 16 days of good quality data per month.

What Leighton O'Brien will provide you

Leighton O'Brien can offer different levels of service. Please consult with us to find out the range of features. There is a core of reporting elements that should be common to all SIRA analyses. These include:

- Clear and timely reporting of results in terms of PASS, FAIL, or INCONCLUSIVE.
- Complete and annotated copies of inventory records used in the analysis, showing such problems as errors in delivery records or bad measurements removed by the test.
- Suggestions as to the likely cause of any test failure or inconclusive result.
- Instructions on follow-up actions to be taken in the event of a FAIL or INCONCLUSIVE.

In the case of quantitative testing methods, the form should report the calculated leak rate in litres per day and the leak threshold at which a leak would be declared based on the data provided for each tank. The minimum detectable leak rate (MDLR) for your data may also be provided.

Leighton O'Brien can also supply you with other useful information and services beyond the basics itemised above, which includes:

- Off-site storage of leak detection records.
- Potential reasons for a FAIL other than a release of product:
  - Apparent product theft
  - Missed product delivery entry
  - Suspected meter miscalibration
- Potential reasons and possible solutions for any INCONCLUSIVE results.
- Possible location of leak within the system.
- Assessment of tank dipping practices.

What You Should Keep on File

The minimal record keeping requirements for facilities using SIRA are the same as for other release detection methods:

- All written performance claims pertaining to the SIRA method used and the manner in which those claims were justified or tested by Leighton O'Brien are kept on file for five years from the date you started using the method at the facility.
- The monthly SIRA reports, along with the results of any other sampling, testing, or monitoring, must be kept for at least one year.
- Records of equipment calibration and maintenance must be kept for at least one year. Any schedules of required calibration and maintenance provided by the Leighton O'Brien must be kept for five years from the date you began using the method at the facility.

What to Do When You Get a "FAIL"

You need to investigate the cause of the failed test.

On the basis of the test results, Leighton O'Brien will be able to provide you with areas to examine, such as a miscalibrated meter.

You must have any defective equipment repaired or replaced immediately.

If the FAIL cannot be linked to equipment problems, you may need to have the system tightness tested or the site checked for evidence of a release (such as sampling in the excavation zone).

What to Do When You Get an 'INCONCLUSIVE'

An INCONCLUSIVE means you have failed to meet leak detection requirements. However, the steps you must take upon getting an INCONCLUSIVE depend on the requirements of the relevant authority.

In all cases, you will want to double check your operating procedures to see what caused the INCONCLUSIVE and prevent its recurrence. Leighton O'Brien will provide assistance in locating the problem and offer suggestions to improve your data collection.

An 'INCONCLUSIVE' means that you effectively have no leak detection for that month.

Answers to Frequently Asked Questions

"Can SIRA be used on manifolded tanks?"

Leighton O'Brien's SIRA can be used on tank systems that have multiple tanks linked together by siphon lines. This generally requires that each tank in the manifolded system be individually dipped for inventory measurements. As with single tank systems, no product deliveries or sales should be made during the time the dipping and meter readings are taking place.

"Can SIRA be used as an integrity test?"

It is possible to use Leighton O'Brien's SIRA in place of tank integrity testing such as a fill simulation test. The performance requirements for an integrity test are more stringent than for monthly monitoring methods. Tanks must be tested for releases of 380 ml/hr with a probability of detection (PD) of 95% and a probability of false alarm (PFA) of 5%. To act as a replacement for piping tightness testing, the requirements are even more rigorous—the SIRA method must be able to detect releases of 290 ml/hr with a PD of 95% and a PFA of 5%. To find releases of this magnitude, Leighton O'Brien need several months of good data.

"Why did Leighton O'Brien fail my tank for a leak under 18 litres per day?"

First of all, it is a misconception that any leakage into the environment is acceptable. Even small leaks over long periods of time can result in extensive contamination that can cost you substantial time and money for soil and ground water clean up.

Secondly, the performance standard by which leak detection methods (including SIRA) are measured says that leaks of 18 litres per day must be detected in 95 out of 100 times. Further, false alarms should not happen more than five times in a hundred. What this means is that the Leighton O'Brien looks at the estimated leak rate determined for a tank—say 14 litres per day—and asks the question "What is the likelihood that the true leak rate is actually 18 litres per day?" On the basis of a statistical analysis of the data you provide, Leighton O'Brien can make the call as to whether your system tests tight or not. Typically, a FAIL will be called for apparent releases of around 9 litres per day.

"What is the difference between 'qualitative' and 'quantitative' SIRA methods?"

Although there are many methods that are employed by vendors performing SIRA analyses, they break down into two major classifications: qualitative and quantitative.

Qualitative methods do not provide estimated leak rates. The qualitative method is evaluated to demonstrate its capability of meeting the EPA performance standard, it simply reports results in terms of PASS, FAIL, or INCONCLUSIVE. These results are compared with the evaluator's knowledge of which tanks are leaking in a test set of tank records.

Quantitative methods also categorize results in terms of PASS, FAIL, or INCONCLUSIVE, but they go further by actually providing a numerical estimate of the leak rate, typically in litres per day. In evaluating the performance of the method, the evaluator compares the method's estimates with the actual leak rates imposed on the test set of tank records.

"What is this 'estimated leak rate,' 'threshold,' and 'MDLR' stuff all about?"

These are rather technical statistical terms often used by Leighton O'Brien to provide you with more detailed information on the analysis. They provide insight beyond the simple PASS, FAIL, and INCONCLUSIVE, including just how bad a leak appears to be (estimated leak rate) and how good the data is that you have been providing to Leighton O'Brien for analysis (MDLR).

The estimated leak rate is the number a quantitative SIRA method comes up with for the amount of product your tank appears to be losing. The number is usually expressed in litres per day since the EPA regulations use those units.

This estimated leak rate is rarely, if ever, zero. All tanks, whether leaking or tight, will generally show a leak rate. The question is, is this leak rate significant? This is where the threshold comes in.

The threshold is basically an action level leak rate. That is, if the estimated leak rate exceeds the threshold leak rate, the Leighton O'Brien declares a FAIL. It is important to note that the threshold is not a fixed number, such as 10 litres per day. Instead, it is typically the value associated with a fixed percentage set to the probability of false alarms (that is, declaring a leak on a system that is actually tight) Leighton O'Brien is willing to accept. US EPA's regulations allow no more than 5% of analyses to turn out to be false alarms. However, Leighton O'Brien considers one failure in twenty analyses to be too high and set their thresholds to a 1% probability of false alarm.

Finally, the MDLR is the Minimum Detectable Leak Rate. The MDLR is the smallest leak rate Leighton O'Brien can determine for the data provided with a PD of 95% or better. The MDLR is tied to the threshold and is usually twice the threshold leak rate. The MDLR must be less than or equal to the EPA performance standard rate of 18 litres per day at a P(D) of 95% and a PFA of 5% in order to make a PASS/FAIL call. If the MDLR exceeds the performance standard, your system cannot be given a PASS—an INCONCLUSIVE is the best you can get. Fortunately, Leighton O'Brien provide a "plain English" translation as well.

"Can Leighton O'Brien SIRA be used as a monthly test of my piping, too?"

Yes. Leighton O'Brien's SIRA is a test of the entire UST system. Losses are reported regardless of their origins. So, whether you are losing product as a result of a tank leak, a line leak, miscalibrated equipment, or theft, a FAIL will result if the estimated leak rate exceeds the threshold for calling a leak. Remember, though, that if you are using pressurised lines, you will also need to have an automatic flow restrictor, shut off device, or continuous alarm in place to fully meet piping leak detection requirements.

This document has been produced to assist owners and occupiers with underground petroleum storage tanks understand Statistical Inventory Reconciliation.

This version has been edited from the original US EPA document, in particular, conversion of US gallons to litres, inches to millimetres.
The US EPA has reviewed this document and has agreed to it being available for public distribution.

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LEIGHTON O'BRIEN

SIRA Management and Pump Calibration Program Guideline

Caltex Australia Petroleum Pty Ltd

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1. Overview

1.1 Purpose

The purpose of this document is to summarise and provide clarification on the various responsibilities for the management of SIRA and the Pump Calibration Program

1.2 Scope

1.2.1 In Scope

This document is specifically designed to identify responsibilities for managing the various activities for both SIRA and the Pump Calibration Program

Application of this process applies to:

- SIRA: Caltex owned or leased retail or reseller channel sites that have operating UPSS infrastructure
- Pump Calibration Program: Retail or reseller sites where Caltex is responsible for the maintenance the fuel pumps that dispense fuel to the public

1.2.2 Out of Scope

This document does not apply to the following circumstances:

1.2.2.1 SIRA Out of Scope:

- Caltex retail or reseller sites that are owned by third parties and where Caltex is not responsible for the fuel system under the lease
- Sites containing only above ground tanks and lines

1.2.2.2 SIRA and Pump Calibration Program Out of Scope:

- Caltex operated or joint venture bulk storage terminals
- Caltex operated or joint venture aviation refuelling facilities
- All LPG fuel systems

1.2.3 Linked OE Processes & Documents

Application of this document must also be in compliance with the requirements of the following other Caltex Processes:

- AS 4897-2008 for design and installation of Level 1 UPSS for new installations.
- Pump Calibration Specification

This document is also fundamentally linked to the following Caltex Policies

- Caltex Environmental Policy

1.3 Objectives

The objective of this document is to ensure:

- Caltex UPSS risk is managed correctly and in accordance with this procedure (with respect to SIRA)
- Caltex is able to demonstrate compliance with UPSS and NMI regulations
- A standardised and effective SIRA loss investigation process is followed for all SIRA fail results.

2. Definitions

2.1 Terms

Statistical Inventory Reconciliation Analysis (SIRA)	Refers to regular and ongoing analysis of wet stock (fuel) volumes by an accredited Third Party company. The purpose is to detect fuel losses as required by State UPSS Regulations, and then to manage investigations to identify the cause of the fuel losses in order to manage and reduce UPSS risk.
The Pump Calibration Program	Refers to the Caltex's Pump Calibration Program (managed by FMG), in accordance with the approved model.
Site Operator	Person responsible for managing the Site. This can be one of several roles, such as a Franchisee, a Commission Agent, an Independent Reseller, or a Caltex Staff member.
SIRA failed result	SIRA provider determines that fuel losses are in excess of 0.76 litres per hour (18.2L per day) with at least 95% accuracy after allowing for percentage throughputs, temperature and ATG calibration corrections

SIRA Provider	Refers to the Third Party management of Caltex's SIRA Program (currently undertaken by LOB)
Maintenance Provider	Refers to the company that undertakes the maintenance repairs to the Fuel System Equipment owned and maintained by Caltex.

2.2 Acronyms

SIRA	Statistical Inventory Reconciliation Analysis
UPSS	Underground Petroleum Storage Systems
BM	Caltex Business Manager
Caltex	Caltex Australia Petroleum Pty Ltd, Caltex Petroleum Pty Ltd, and also any other 100% Caltex Owned subsidiaries
Site	Service Station, Depot, depot front
NMI	National Measurement Institute
LOB	Leighton O'Brien Pty Ltd
AMS	Ampol Management System

3. Background

SIRA is the Statistical Inventory Reconciliation Analysis, which is undertaken for all Caltex owned or leased sites where Caltex is responsible for the UPSS under the Lease. This process is the main system used to monitor fuel stock volumes and movements. SIRA results are used to identify potential UPSS integrity failures and trigger an investigation.

Pump Calibrations involve checking, verification and adjustment of the volume of fuel dispensed from retail bowsers. Calibrations are completed in accordance with the calibration model, which is developed by LOB and approved by Caltex. The pump calibration program is undertaken to ensure compliance with the law (National Trade Measurement Regulations 2009) and to improve profitability by reducing fuel losses.

3.1 SIRA

Caltex has adopted a national SIRA loss monitoring procedure to ensure that it meets or exceeds all state regulatory requirements and has been selected by Caltex as the most applicable for our network. The regulations have been evolving to better manage the environmental risk posed by fuel leaks from underground petroleum storage systems (UPSS).

SIRA requires that all service station operators manage their loss monitoring procedure through a more robust system than the historical process involving manual dips and meters.

SIRA is an independent third party accredited system of loss monitoring and is one of the methods accepted by UPSS Regulations. Caltex's loss monitoring procedure (SIRA) is designed to measure discrepancies between the amount of petroleum that should be present in the system, and the amount of petroleum that is actually present in the system, so as to be capable of detecting losses of petroleum occurring at a rate of 0.76 litres per hour or more with at least 95% accuracy.

Caltex has appointed Leighton O'Brien Pty Ltd (LOB) to manage SIRA analysis, and to investigate SIRA Fail results. The investigations are completed over a 3 Stage process, which includes an escalation process to move through the stages. The investigations are done by LOB as required to identify the cause of the fuel losses and to manage UPSS risk.

- Stage 1 involves LOB phoning site to ask a series of questions to determine if the fuel losses are likely to be caused by administration issues at site, or could they be potentially a physical loss. Most SIRA fails are resolved at this stage.
- Stage 2 involves LOB logging a call on Calmaint with Caltex's maintenance provider. The scope involves pump calibration checks to confirm that the fuel pumps comply with the requirements of the National Measurement Institute (NMI) and Caltex calibration specifications, and also visual inspections to try to identify the cause of the fuel losses.
- Stage 3 involves LOB providing recommendations for UPSS integrity testing to the UPSS Risk Coordinator when this is justified to manage UPSS risk. The UPSS Risk Coordinator than reviews this recommendation and arrange this testing via Caltex's integrity testing contractors.

A copy of the results of SIRA Investigations can be provided by Caltex's UPSS Risk Coordinator or by Caltex's Senior State Environmental Specialist.

Confirmed UPSS Failures via Stage 3 Investigations that are believed to have caused a leak from the UPSS are referred to Caltex's Senior State Environmental Specialist by the UPSS Risk Coordinator. The Senior State Environmental Specialist manages any remediation and Reporting that is required to comply with UPSS Regulations. Sites that are leased by Caltex and where the Lessor is responsible for the UPSS are referred to the Lessor to manage any remediation and Reporting, with a copy sent to the Regulatory authorities.

3.2 Pump Calibrations

Caltex has developed a national pump calibration program which is designed to meet or exceed NMI requirements. Pump calibrations are completed to ensure pump meters dispense within NMI legal tolerance, and also to manage any Notices issued by NMI for non-compliant pumps.

Caltex FMG (FMG fuel specialist) project manage the pump calibration program. This involves setting the calibration frequencies with the goal of achieving NMI compliance.

Caltex FMG schedule the 2 yearly calibrations on Calmaint and dispatch it to the contracted maintenance provider for completing pump calibrations. The reports are saved into Caltex's database on Calmaint and reviewed to ensure that pump meters are being adjusted as required by Caltex's calibration procedure.

The calibration schedule can be obtained from the Caltex's FMG specialist. It is not stored at site because of its dynamic nature which involves regular changes across the network of Caltex owned pumps. (due to activities such as pumps being replaced, sites opening or closing, site rebuilds etc.)

4. Management Expectations

4.1 SIRA

4.1.1 Caltex UPSS Risk Coordinator:

- Facilitates the effective application of the SIRA process
- Manages the SIRA service provider to strive for continuous improvement in SIRA's ability to quickly identify potential fuel leaks
- Receives recommendations for SIRA Stage 2 and 3 Investigations from SIRA Provider and further proceeds with calibrations or testing, or otherwise on another form of UPSS risk management as appropriate
- Manage further UPSS repair works (after stage 3 failures) under Stingray Capex program or refer it further to UPSS manager
- Communicates LOB recommendations and test / calibrations outcomes to BM
- Informs Caltex's Senior State Environmental Specialist if a leak has been identified by SIRA
- Communicates unacceptable risks to the business and makes recommendations for stopping sales
- Reports issues with UPSS integrity failures, with an estimated SIRA loss of more than 165 litres on Cintellate system and coordinate the investigation process

4.1.2 SIRA Provider

- Is currently Leighton O'Brien Pty Ltd. Contact Details are:

  Tanith Morrison
  Phone: (03) 98042200
  Fax: (03) 9804 2299
  E-mail: tanithmorrison@leightonobrien.com

- Receives wet stock (fuel) data from sites or Caltex, including daily: tank dips, fuel deliveries, and fuel sales
- Performs statistical analysis of this data, either weekly or monthly depending on the risk profile of the site as determined by Caltex

- Provides SIRA reports to Caltex. Results can be Pass (including Flag), Fail, No Data or Inconclusive
- Manages Stage 1 SIRA Investigations for any Fail results. This involves LOB phoning Site to ask a series of questions to determine if the fuel losses are likely to be caused by administration issues at site, or could they be potentially a physical loss.
- Stage 2 SIRA Investigations. This involves LOB to log a calibration task on Calmaint with Caltex's maintenance provider. The scope involves pump calibrations and also visual inspections to try to identify the cause if the fuel losses
- Informs Caltex's maintenance provider and FMG if Stage 2 results are not completed within agreed time frames, so that they can be expedited until completion
- Stage 3 SIRA Investigations. This involves LOB providing recommendations for UPSS integrity testing to UPSS Risk Coordinator when LOB considers this justified to manage UPSS Risk.

4.1.3 Caltex Business Manager (BM)

- Ensures that all Caltex owned and leased sites with UPSS in their territory are managed within Caltex's SIRA program
- Submission of six monthly SIRA declarations within Caltex
- Receives of the Monthly SIRA report from LOB
- Follows up with Site Operators for tanks that do not get a PASS result to assist the site with their wet stock obligations
- Follows up with Site Operators SIRA Investigations for fail, inconclusive or chase data results

4.1.4 FMG

- Manages the relationship with the Caltex maintenance provider
- Is responsible for the completing SIRA Stage 2 investigations in a timely manner
- Expedites overdue Stage 2 SIRA investigations as required
- Schedules and manages the pump calibrations program

4.1.5 Environmental Specialists

- Manages remediation as required following a confirmed UPSS fuel leak
- Reporting to regulators as required following a confirmed UPSS fuel leak

4.2 Pump Calibrations

4.2.1 FMG fuel specialist:

- Project Manages the pump calibration program
- Manages the pump calibration model approved by Caltex which is used to determine calibration frequency
- Responsible for approving any changes to the pump calibration program
- Optimises the pump calibration program
- Places calibration work orders with the Caltex maintenance provider
- Records the last calibration date by fuel grade
- Receives copy of calibration reports via CalMaint
- Generates monthly performance reports to track performance of the maintenance provider
- Generates monthly reports for BMs with information such as sites on the program, last calibration dates, current calibration orders and calibration results.
- Manages Notices issued by NMI by placing calibration work orders with the Caltex maintenance provider and follows up to confirm completion and compliance to the Notice

4.2.2 Business Manager (BM):

- Receives monthly reports showing last calibration dates
- Forwards any NMI Notices provided by Site to LOB for their action

4.2.3 SIRA provider:

- Recommends stage 2 calibrations / logs a call on CalMaint with maintenance provider to conduct a calibration task for SIRA fail results

4.2.4 Caltex Maintenance Provider:

- Arranges pump calibrations based on work orders from LOB
- Manages sub-contractors where applicable
- Responsible for completing calibrations and providing calibration reports by the due date(s)

4.3 Specific Training & Competency Requirements

- Training of BMs in their SIRA responsibilities is under review
- Training of site operators in their SIRA responsibilities is under review

4.4 Notification & Reporting Requirements

4.4.1 Internal Notifications/ Reporting

- LOB is responsible for communicating the results of Stage 1 & Stage 2 SIRA investigations to relevant BMs
- The Caltex maintenance provider is responsible for communicating the results and proving the test reports from SIRA Stage 3 investigations to the BM and the FMG Specialist. This report documents the recommendations of the testing company, for action by FMG and the BM
- The UPSS Risk Coordinator is responsible for informing the Senior State Environmental Specialist upon confirmation of a UPSS fuel leak
- Site Operators are responsible for forwarding any NMI Non Compliance Notices issued for pumps to their BM and logging a call on CalMaint with maintenance providers. Site Operators are responsible for locking out the pumps if required by the NMI Notice

4.4.2 External Notifications/Reporting

The Environmental Specialist is responsible for reporting to Government Regulators upon confirmation of a fuel leak identified by SIRA.

5. Resources

- This document is available within the Environment Protection Plan for all site operators and BM's via the Caltex On Line Business Centre.

5.1 Exceptional Resources

The following key exceptional resources are required to be available and maintained in order to fulfil the requirements of this process:

- Caltex IT is responsible for ensuring the Caltex On Line Business Centre is able to be accessed by all site operators and BM's.
- Sites with AMS as their back office computer system require Caltex (Senior IT Analyst - Information Technology Services) support to consolidate their AMS SIRA data from each site and provide it to LOB weekly and monthly. This is approximately 80% if sites on Caltex's SIRA program.
- Funding is to be available, as needed, for additional IT development undertaken by LOB

Waste Oil Tank

Calwell has a 5,000 L capacity waste oil tank associated with the mechanics workshop.

Section 5 of AS 4987 Equipment Requirements for Used Oil Systems identifies three leak monitoring systems for used oil.

As the waste oil tank capacity is less than 5,500 L manual tank gauging has been elected as the leak monitoring system.

An independent Environmental Consultant has been engaged by the Caltex Senior Environmental Specialist to manually gauge the waste oil tank in the mechanics workshop on a six-monthly basis using the manual tank gauging method identified in Section 5.5.2 Manual tank gauging of AS 4987:

Waste oil – manual tank gauging for tanks less than or equal to 5,500 L

Manual tank gauging shall only be used as a leak monitoring system on used oil tanks having a capacity less than or equal to 5,500 L. Such gauging shall comply with the following requirements:

a) *The level of used oil in the tank shall be measured at the beginning and end of a time interval of at least 36 hours, during which time no used oil shall be added to or removed from the tank.*
b) *Each level measurement shall be based on the average of two consecutive dipstick readings.*
c) *If, during the period referred in item (a) above, there is an unexplained variation of more than 2.0% of the tank volume, the variation shall be classified as a discrepancy and investigated as set out in Clause 7.5*

The waste oil tank dipping records are kept on the 2 Market Street (Caltex Head Office) server.

Section C

Incident Management Procedure

The incident management procedure –

'... must set out the procedures to be followed in dealing with any leaks and spills of petroleum from the [underground petroleum storage] system' *(clause 19(5) of the UPSS Regulation).*

Incident Reporting and Recording Definitions

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1. Overview

1.1 Purpose

The purpose of this document is to provide clear definitions to support consistent classification and reporting of Operational Excellence metrics.

The document describes measurements that are used for internal management as well as defining measurements which will be used for company internal and external reporting.

1.2 Scope

These definitions are to be applied to the Caltex group of companies where the Caltex OE Management System has been implemented.

1.3 Objectives

At Caltex we believe that we can learn from all incidents and near losses and we therefore encourage reporting all incidents in order to capture the information and to document learnings. The Caltex reporting database is the Loss Prevention System (Cintellate).

The objective of this process is to ensure consistent application of definitions which in turn supports comparable measurements.

2. Operational Control

Understanding Caltex's Operational control is critical when classifying incidents. Caltex shall report and record incidents that it could have prevented because it had some operational control over the activity (not necessarily the person/s or location where it occurred). Operational control exists when Caltex has the authority to implement Operational Excellence standards consistent with those required of its own employees and facilities. Operational control shall require both work relationship and applicable employee/contractor involvement.

Examples of operational control include:
- Caltex owned and operated service stations, depots, fleets, terminals or refinery
- Caltex operated joint ventures

Examples of exclusions to operational control include:
- Joint ventures not operated or maintained by Caltex. (eg non-operated JUHI sites)
- Consumer outlets not operated by Caltex
- Independent Distributors operating Caltex property
- Development sites where Caltex is not the Principal Contractor
- Acquired companies where Caltex OE Management System standards have not been implemented
- Contract carriers when not on Caltex controlled sites, i.e. on the road
  Incidents should be monitored as part of effective contractor performance management. Incident and near loss reporting is critical to investigate and capture lessons learned and prevent re-occurrences.

The Caltex department with line management responsibility for the person/s or equipment (not necessarily the location) primarily involved in the incident shall be responsible for reporting and recording.

OE & Risk can provide assistance where needed to ensure correct classification of incidents, and will provide clarification where a classification is challenged or uncertain. Where there is uncertainty, the General Manager OE & Risk will have the final decision on classification.

3. Work Relationship

Work Relationship	Work related incidents shall be reported where: ▪ A specific event or identifiable exposure in the work environment caused or contributed to the resulting condition, or ▪ The employee is engaged in work activities whilst travelling on Caltex business, or ▪ A physician confirms in writing that Caltex work activities significantly contributed to the resulting condition (mandatory where there is a delay between time of alleged incident and time of reporting), or ▪ A specific event or identifiable exposure in the work environment significantly aggravated a pre-existing condition that would not have occurred but for that event or exposure. Aggravation of an injury where signs or symptoms have not been resolved is a continuation of the original case regardless of how much time has passed after initial report, however a new case shall be reported where the person has a different type of injury or illness affecting the same part of the body, or the same type of injury or illness affecting the same part of the body but had since recovered completely (documented clearance for pre-injury duties from a physician).
	Following are **exemptions from recording** an incident as work related: ▪ Person (including employees) was present as member of general public. ▪ Injury/illness signs or symptoms surface at work but result from a non-work related event or exposure. ▪ Result of voluntary participation in wellness program, team-building exercise, medical or fitness-related activity. ▪ Result of person eating or drinking or preparing food or drink for personal consumption. ▪ Person doing personal tasks outside of assigned working hours. ▪ Result of personal grooming, self-medication for non-work condition, or intentionally self-inflicted. ▪ Incidents that occur on a company parking lot or access road while person is commuting to or from work. ▪ Illness due to common cold or flu. ▪ Mental illness or stress where not work-related. ▪ Any injury sustained during travel while not on duty or involved in activities that are not business related. ▪ Cases related to the general home environment when working from home, e.g. sprained ankle tripping over the dog. ▪ Detours for personal reasons when travelling on work-related business. ▪ Where a physician does not support that the illness or injury is work-related.
Employee (workers)	Individuals who are on the Caltex company payroll and receive work direction from Caltex. Secondees from other companies under direct Caltex management control should also be considered employees. Secondees to other companies are not included. Contractors are included as employees where individuals are employed for a specific period filling a regular or authorised position on the organisation chart. They may be paid by Caltex or an agency, however Caltex controls significant terms and conditions of their work such as individual performance expectations, management of workers compensation or inclusion in HR employee headcounts. Service contractors and temporary staff are not part of the HR employee headcount so they are included in the Contractor category.
Contractor (workers)	A contractor is defined as any company or individual under contract, sub-contract, or purchase order that performs work or provides services to or on behalf of Caltex. Contractor generally includes: ▪ Contract employees in or on Caltex owned and operated premises. ▪ Contract employees who regularly work in a facility or area that has been designated for the sole purpose of working under a Caltex contract (e.g. contractor's office or fabrication yard). ▪ Subcontractors hired directly by contractors to perform work on behalf of Caltex contract or service agreement. ▪ Where Caltex oversees the work or has reasonable influence over work being performed on behalf of Caltex, e.g. temporary or short term administrative and clerical workers. ▪ Contract carriers loading, unloading, picking up, or delivering at Caltex premises.

	▪ Service providers who work at Caltex facilities, e.g. landscapers, cafeteria workers or security guards. ▪ Transport services arranged by Caltex and transport personnel working on Caltex property. ▪ Temporary workers contracted from agencies or other employers under Caltex operational control.
	The following are exempt from the metric recording. It is however considered good practice to report and monitor these incidents as part of effective contractor performance management: ▪ Where Caltex does not have direct operational control over the person or activity. ▪ Caltex premises where works are being undertaken and Caltex is not the Principal Contractor. ▪ Employees of spot charters and common carriers when off Caltex premises and when delivering to Caltex customers. ▪ Employees of transport companies whose services were contracted by a customer (e.g. customer sends a tanker to the Caltex Lubes plant to pick up product and an incident occurs because the tanker has not been cleared of solvents from previous delivery). ▪ Service providers not working on Caltex premises and not working exclusively for or under the direction of Caltex. ▪ Mail and courier personnel and incidental delivery services, e.g. incidental office supply and vending machine deliveries. ▪ Casual visitors, e.g. customers, public officials, tours.

4. GENERAL DEFINITIONS

Reportable	Any incident where an injury, illness or loss occurred or where a near loss which may have resulted in an injury, illness or loss. Reporting should be via the Loss Prevention System (LPS) Cintellate database.
Recordable	A recordable incident is an incident which by definition is included in the company key metrics. These measures may vary from time to time but generally will include the following types of incidents: • Caltex has operational control • Employees and contractors under Caltex control (incl subcontractors) • Meet the definitions of key metrics such as DAFW, RWD, MTI, TTA, MTA, Security, Fire, Spills, Process Safety, and Product quality
Multiple Incidents	An event involving multiple incidents subject to Caltex reporting should all be counted separately, e.g. if a petroleum spill results in a fire and a lost time injury, all three incidents should be reported. The spill should be reported even if the total volume was consumed in the fire.
Incident Date	The date recorded for a specific event or identifiable exposure is the date it occurred. Where this cannot be established, the date of first report shall be used. If reclassification occurs, it shall always apply from the incident date first reported.
Frequency Rates	**Injury/illness frequency rates** are calculated as the number of injuries/illnesses for each one million hours worked in a specified period. The rate is calculated as follows: Number of injuries in the period / Number of hours worked in the period x 1,000,000 = # **Vehicle accident rates** are calculated as the number of vehicle accidents for each one million kilometres travelled. Number of vehicle accidents in the period / Number of kilometres travelled in the period x 1,000,000 = #

High Potential Incident (HiPo)	Any incident or near miss that could, in other circumstances, have realistically resulted in one or more category 3 consequences. A High Potential Incident may not be identified as such at the time of the incident or near loss, and it is only after investigation that the true severity of the most serious probable outcome becomes clear. If, after investigation, an incident is found to fit these definitions, it should be classified as such, even if it is outside the nominated reporting timeframe. Guidance: an incident or Near loss may be classified as High Potential where: • Failure of 1 additional control would have resulted in a Category 3 impact • Where this type of incident would commonly result in a Category 3 impact eg: fall from height of 10m where someone escapes with minor injuries would be considered HiPo as such an incident would normally result in fatality

5. DEFINITIONS AND INJURY MEASUREMENTS

5.1 Definitions

Occupational Injury	An injury which results from a work-related activity or from an exposure involving a single incident or instantaneous event in the work environment that results in: • a fatality • an injury requiring 'days away from work' • a restriction in the work performed (Restricted Work Day), or a • an injury requiring medical treatment eg. instantaneous events which result in a cut, fracture, sprain, amputation, loss of consciousness, deafness from explosion, one-time chemical exposure, back disorder from a slip/trip, insect or snake bite, etc.
Occupational Illness	Any abnormal condition or disorder, or any fatality other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. Occupational illness may be caused by inhalation, absorption, ingestion of, or direct contact with the hazard, as well as exposure to physical and psychological hazards. Guidance: determining the classification of a work-related incident as occupational illness or occupational illness will depend on the mechanism of exposure. Injuries are caused by instantaneous identifiable events whereas illnesses are not. An example of an illness would be heat stress caused by exposure to sun and high temperatures while working outdoors. Other examples are injuries from prolonged repetitive computer use, asbestosis, work-related stress (supported by accepted Workers Compensation claim), hearing loss related to workplace exposure, musculoskeletal injuries or inflammation from overuse or repeated exposure lifting or stressful body positions or motions.
Fatality	The death of a person that results from a specific event or identifiable exposure in the work environment while engaged in a work-related activity. The person need not actually die in the work environment. The death of a member of the public occurring within or outside Caltex premises is not recordable although notification and reporting is encouraged.
Days Away From Work (DAFW)	A work related incident that results in a worker being certified by a physician as 'unfit' to perform any normal or suitable duties for one or more complete calendar days starting from the day after the incident occurred. Incidents are still considered to be a DAFW even if: • The first day of work missed is several days/weeks/months after the initial incident date • The injured worker is not at work except for attending treatment • The worker is prescribed days off by a physician and the worker comes to work anyway. DAFW metrics will be reported as follows: • DAFW (injury) # • DAFW (illness) # • DAFW (cases) # • DAFW days (calendar days between start and finish of the unfit period)
Restricted Work Days (RWD)	A work-related incident which results in an employee being certified by a physician as unfit for full performance of the regular job on any calendar day after the occupational incident, but capable of performing suitable duties. Suitable duties may include: • assignment to another job temporarily • restricted hours worked as part of the regular job • working full-time in the regular job but not performing all the usual duties of the job.

	RWD metrics will be reported as follows: • RWD (injury) # • RWD (illness) # • RWD (cases) # • RWD days (calendar days between start and finish of the restricted duties period)
Medical Treatment (MT)	Cases that are not severe enough to be reported as fatalities or 'Days Away From Work' cases or 'Restricted Work Day' cases but require treatment that must be provided by a physician. Medical Treatment does not include: • The conduct of diagnostic procedures, such as x-rays and blood tests, including the administration of prescription medications used solely for diagnostic purposes (e.g. eye drops to dilate pupils) • Visits to a physician or other licensed health care professional solely for observation or counselling. The following may not involve any treatment but for purposes of severity classification, will reported as Medical Treatment: • Any loss of consciousness • Significant injury diagnosed by a physician or other licensed health care professional for which no treatment is given or recommended at the time of diagnosis. Examples include punctured ear drums, fractured ribs or toes, industrial-related respiratory disease and some types of occupational cancer. • Needle stick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material. • Occupational hearing loss • Medical removal under a government standard.
First Aid	Cases that require some form of first aid treatment but not medical treatment e.g. dressing on a minor cut, removal of a splinter from a finger An incident is classified as a First Aid if the treatment of the resultant injury is limited to one or more of the 14 specific treatments: 1. Using a non-prescription medication at non-prescription strength 2. Administering tetanus immunizations 3. Cleaning, flushing or soaking wounds on the surface of the skin 4. Using wound coverings such as bandages, Band-AidsTM, gauze pads, etc., or using butterfly bandages or Steri-StripsTM 5. Using hot or cold therapy 6. Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. 7. Using temporary immobilization devices while transporting an accident victim (e.g. splints, slings, neck collars, back boards, etc.) 8. Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister 9. Using eye patches 10. Removing foreign bodies from the eye using only irrigation or a cotton swab 11. Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means 12. Using finger guards 13. Using massages, or 14. Drinking fluids for relief of heat stress. For clarity any injury or illness that can legally be treated by a trained First Aider or Nurse even if that treatment is provided by a medical practitioner will be classified as First Aid (Refer to OHSHA Std 1904)
Hours Worked	The actual hours worked including overtime. Paid non-work time such as sick leave, recreation leave, jury duty, military or other leave, and public holidays are not to be included. If actual hours worked are not available for individuals, an estimate of 2,000 hours per year may be used.
Physician	A person qualified and legally registered to practise medicine eg a Medical Doctor . In cases of conflicting opinion, the best documented and most authoritative opinion (usually an Occupational Physician) shall be preferred.

Trained First Aider	Any person who has undergone training in first aid with an accredited first aid training provider and passed examination at the end of that training so as to demonstrate competency. They must hold a current first aid certificate at a minimum "senior" level (usually valid for 3 years). Advice and support provided by a Triage Service (eg: Injury Assist) will be classified as First Aid unless it is escalated to require medical treatment by a physician.
Triage Nurse	A professionally qualified Nurse employed either directly or indirectly to provide medical Triage advice to injured workers. Triage cases will be measured as First Aid cases where the injury or illness is work related.

5.2 Personal Safety Metrics

DAFW (Injury)	occupational **injuries** resulting in 'Days Away From Work' as certified by a physician during a nominated reporting period
DAFW (Illness)	occupational **illnesses** resulting in 'Days Away From Work' as certified by a physician during a nominated reporting period
DAFW (Cases & Total Days)	Occupational **Injuries and Illnesses** resulting in 'Days Away From Work' as certified by a physician during a nominated reporting period
Medical Treatment	Occupational **Injuries** resulting in 'medical treatment' during a nominated reporting period
RWD (Injury)	Occupational **Injuries** resulting in a 'restricted work days' as certified by a physician during a nominated reporting period
RWD (Illnesses)	Occupational **Illnesses** resulting in a 'restricted work days' as certified by a physician during a nominated reporting period
RWD (Cases & Total Days)	Occupational **Injuries and Illnesses** resulting in a 'restricted work days' as certified by a physician during a nominated reporting period
First Aid Incidents	Injuries and illnesses resulting in a first aid case during a nominated reporting period
New Workers Compensation Claims	The number of new Caltex employee workers compensation claims approved by the Insurer during a nominated reporting period
Open Workers Compensation Claims	The number of open employee workers compensation claims at the end of a nominated reporting period
Workers Compensation Days Lost (WCDL)	The total number of calendar days an employee (subject to an accepted or undecided WC Claim) is unavailable to work in any capacity
Total cost of claims ($)	The total cost paid by the Insurer for all Caltex employee workers compensation claims during a nominated reporting period
Average cost of claims ($) - rolling 12 mths	12 month rolling average cost of a Caltex employee workers compensation insurance claim
Total Recordable Injury Frequency Rate (TRIFR)	The total number of **Occupational Injuries** per 1,000,000 hours worked for a nominated reporting period. This includes **injury** cases which are classified as Days Away from Work Cases, Medical Treatment cases and Restricted Work Day Cases

6. VEHICLE ACCIDENTS

A vehicle is any mechanically or electrically powered device (excluding one moved by human power, e.g. bicycle) by which persons or property is transported on roadways. The load on the vehicle is to be considered part of the vehicle if an accident occurs involving the load.

Motor Vehicle Accident (MVA) >20km/h & Tanker Truck Accident (TTA) >20km/h	Accidents are to be reported regardless of blame/fault and categorised according to the max speed of the vehicle/s involved. Accidents involving vehicles are reportable, those travelling >20km/h are recordable. These are: ▪ Motor Vehicle equivalent to Class C on driver's licence: vehicle that does not exceed 4.5 tonnes Gross Vehicle Mass (GVM) and can seat up to 12 adults including the driver. Includes: Cars, utilities, vans, non-tanker trucks and motorcycles. ▪ Tanker trucks: any vehicle exceeding 4.5 tonnes GVM ▪ Where speed of <u>any</u> vehicle involved at time of accident is greater than 20km/h ▪ Vehicles owned, leased, or rented by Caltex, i.e. Company asset or hire car ▪ Personal vehicles being operated for Caltex business ▪ Novated lease, works need or packaged vehicles involved in Caltex business at time of accident
	It excludes: ▪ Vehicles operated on fixed rails, forklifts, cranes and construction machinery.

	▪ Vehicles properly parked in a designated, safe and legal space. ▪ Minor incidental damage is reportable but only recordable where total damage to all vehicles involved < $5,000, where all vehicles involved can still be driven safely and no other collision, damage, injury or spill has occurred. ▪ Injuries that occur when entering or exiting a stopped or parked vehicle. ▪ Any event involving loading or unloading from a stopped or parked vehicle. ▪ Damage to or total loss of a vehicle solely due to criminal activity such as vandalism and theft, or environmental conditions such as hail and wind. ▪ Where the driver was not on Caltex business at the time of the accident eg customer at a Retail site ▪ Windscreen, paintwork, tyre or undercarriage damage due to animal strikes, loose objects or projectiles where no other collision, damage, injury or spill has occurred.
Kilometres Travelled	The number of kilometres travelled for tanker trucks is used to calculate Tanker Truck Accident Frequency Rate (TTAFR).
	The number of kilometres travelled by motor vehicles for Motor Vehicle Accident Frequency Rate (MVAFR) can be estimated at 12,000km per annum for regular drivers and 1,600km per annum for occasional drivers.

7. FIRES & EXPLOSIONS

Any occurrence of combustion (smoke or flame) or explosion not intentionally ignited for a planned beneficial purpose. Details of all fires are to be reported separately under the following categories:

Major Fires	• Major fires resulting in treated injury and/or where the immediate damage to plant or environment exceeds $5,000. • This includes any use of fire fighting equipment on Marketing sites and vehicles (but not on third party fires).
Minor Fires	• Minor fires where the immediate damage caused is less than or equal to $5,000.

8. PROCESS SAFETY DEFINITIONS (API RP 754)

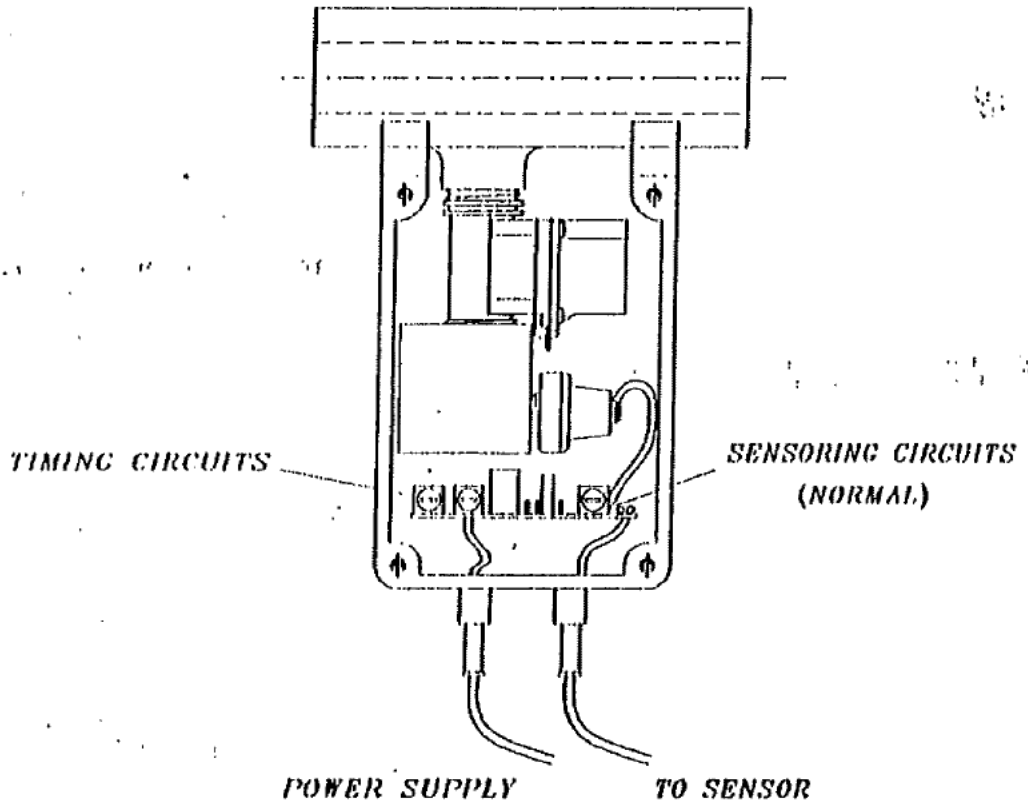
Reporting definitions are per the American Petroleum Institute Recommended Practice (API RP) 754 for process safety reporting.

For further clarification refer to the API RP754.

Tier 1 Process Safety Event:	An uncontrolled or unplanned loss of primary containment (LOPC) from a process that results in one, or more, of the following consequences; i) employee or contractor LTI or fatality ii) hospitalisation or fatality to a third party iii) officially declared community evacuation or shelter-in-place (SIP) iv) fire or explosion resulting in damage of >US$25k direct costs v) a pressure relief device discharging to atmosphere that results in one, or more, of the following consequences; a. liquid carry over b. discharge to an unsafe location c. an on-site shelter-in-place d. public protective measures (eg road closure) and a discharge quantity in any 1 hour period which is greater than Tier 1 threshold quantities. vi) a release of material which is greater than the Tier 1 threshold quantities in any one hour period. Tier 1 events also include LOPC of non-flammable and non-toxic materials (eg steam, Nitrogen, compressed air).	Tier 1 threshold quantities include; • flammable gases (500kgs) • PGII flammable liquids (1000kgs) • PGIII flammable liquids (2000kgs) PG = Packing Group
Tier 2 Process Safety Event:	An uncontrolled or unplanned loss of primary containment from a process that results in one, or more, of the consequences listed below and is not reported as a Tier 1 PSE; i) an employee, or contractor, recordable injury	Tier 2 threshold quantities include: • flammable gases (50kgs) • PGII flammable liquids (100kgs) • PGIII flammable liquids (1000kgs).

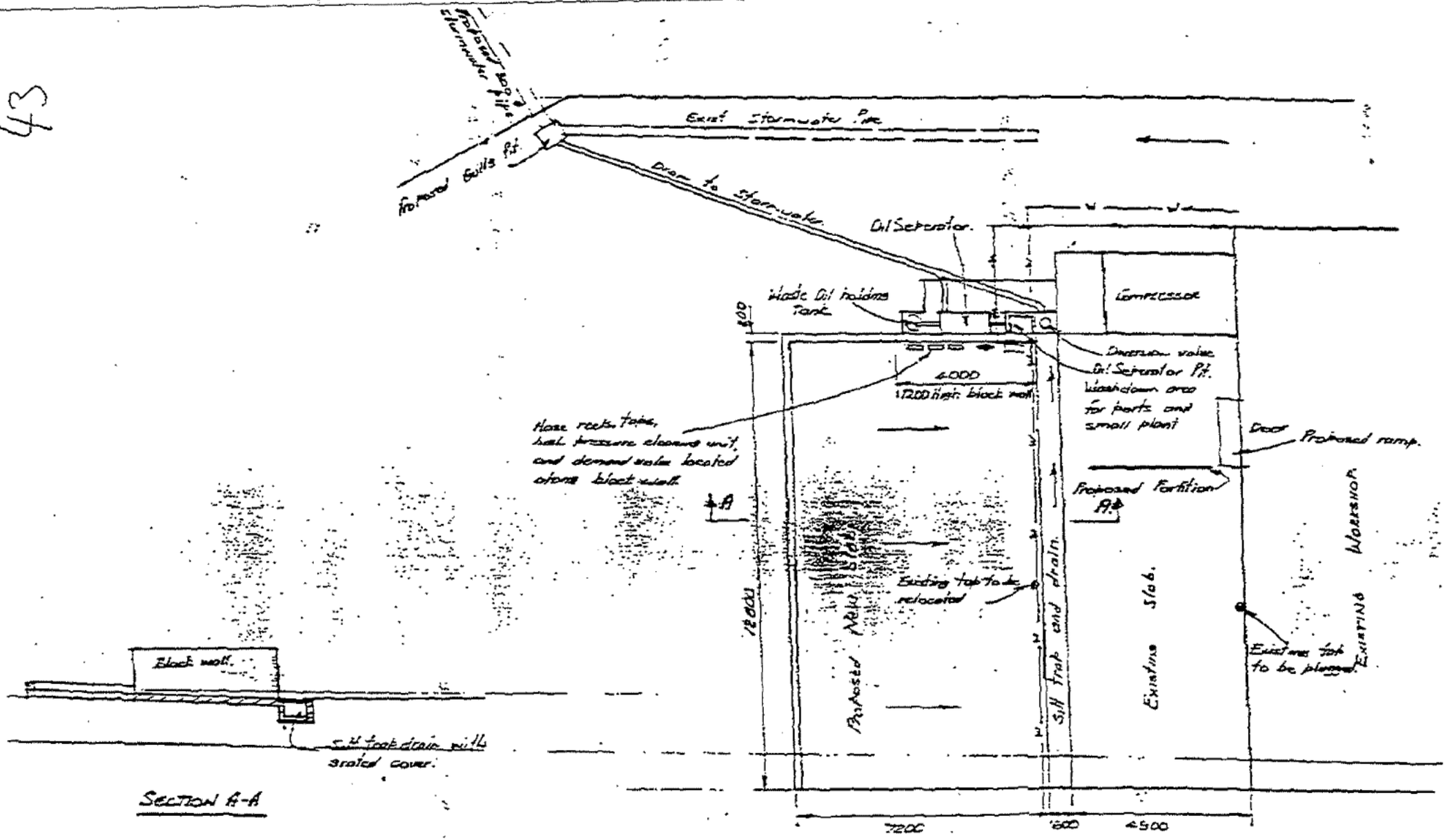
FOX
Wastewater Diversion Systems

Unit 6B, Weland Complex,
Deefa Street, CALOUNDRA,
QUEENSLAND, AUSTRALIA, 4551.
Fax: 074-92 5733. Ph: 074-92 5722.



TIMING CIRCUIT SET BETWEEN 5 & 24 HOURS DEPENDING ON REQUIREMENTS TO HAVE THE FIRST FLUSH "READY", WHEN FIRST FLUSH IS ACTIVATED IT IS RESET AT A PRE-DETERMINED TIME . NO HOSE DOWN IS REQUIRED IN THIS SITUATION

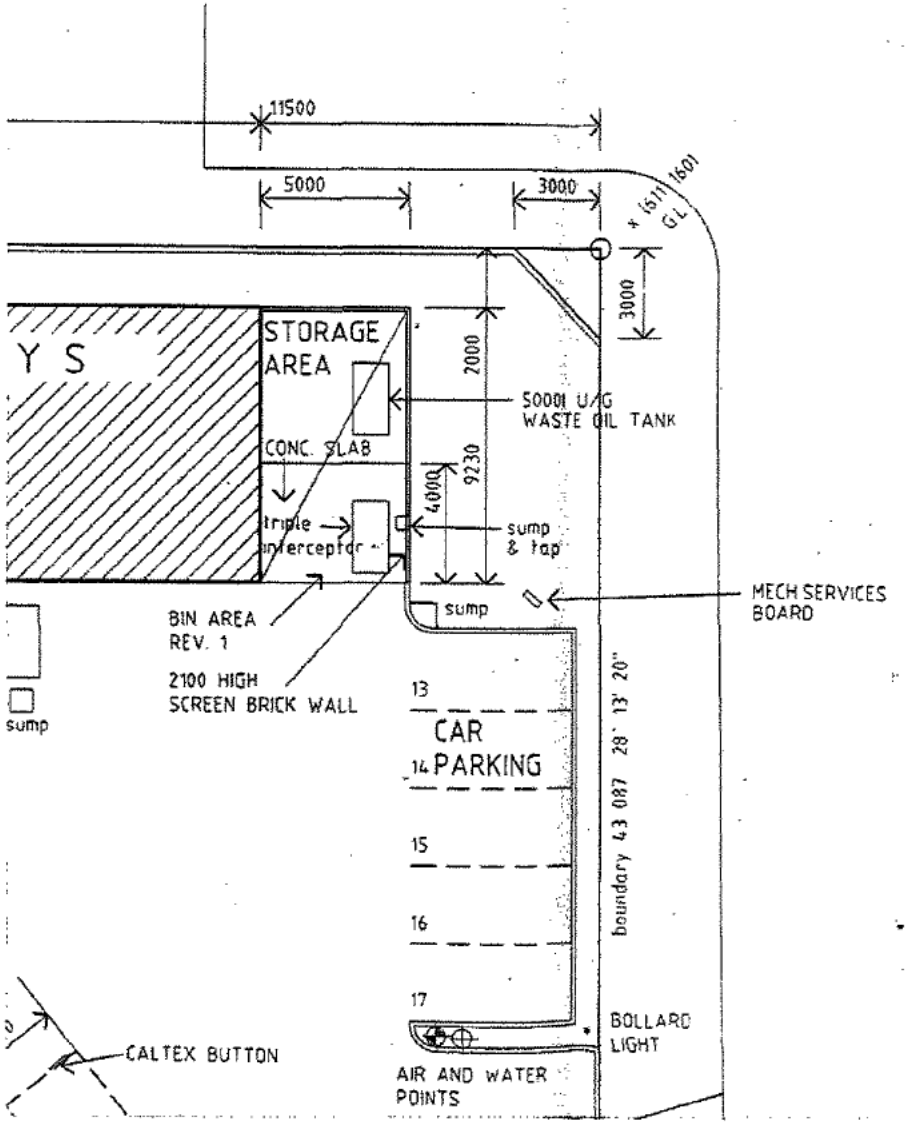
43

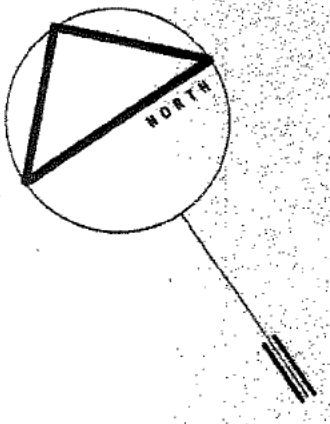


PROPOSED WASHDOWN BAY.

CALOUNDRA CITY COUNCIL.

LANDSBOROUGH DEPOT

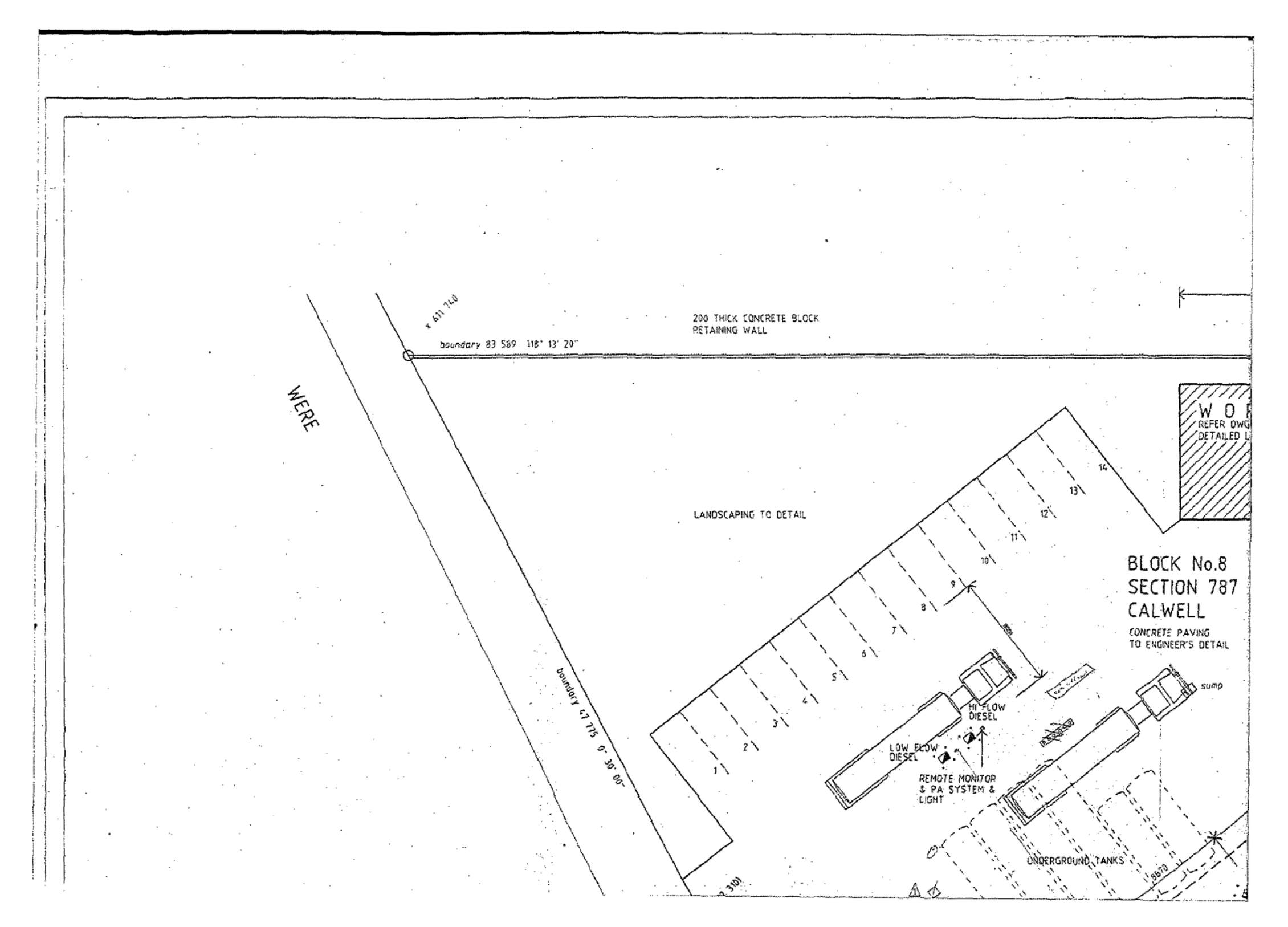




MARK	BY	DATE	DESCRIPTION OF CHANGE	CHKD.
A	WS	6-90	ISSUED FOR D/A	
B	HL	10 8 90	TO BA	
C	HL	27 9 90	BUILDING MOVED, SUMPS AND INTERCEPTORS ADDED DIMENSIONS ADDED L.P.G INSTALLATION SHOWN WORKBAYS MOVED LEVELS ADDED	
0	HL	10-90	ISSUED FOR CONSTRUCTION	
1	JR	11-90	ADDITIONAL SUMPS ADDED PRICE BOARDS LOCATED AND REF DRAWINGS ADDED	
2	EMD	7-93	DIESEL PUMPS LOCATED	

NOTES:

1. PIPEWORK INSTALLED FOR FUTURE INSTALLATION OF 4TH MPP & RELOCATION OF ADO & LPG PUMPS


x 611 74.0
boundary 83 589 118° 13' 20"
200 THICK CONCRETE BLOCK
RETAINING WALL
WERE
LANDSCAPING TO DETAIL
boundary 67 775 0° 30' 00"
BLOCK No.8
SECTION 787
CALWELL
CONCRETE PAVING
TO ENGINEER'S DETAIL
HI FLOW
DIESEL
LOW FLOW
DIESEL
REMOTE MONITOR
& PA SYSTEM &
LIGHT
sump
UNDERGROUND TANKS
1
2
3
4
5
6
7
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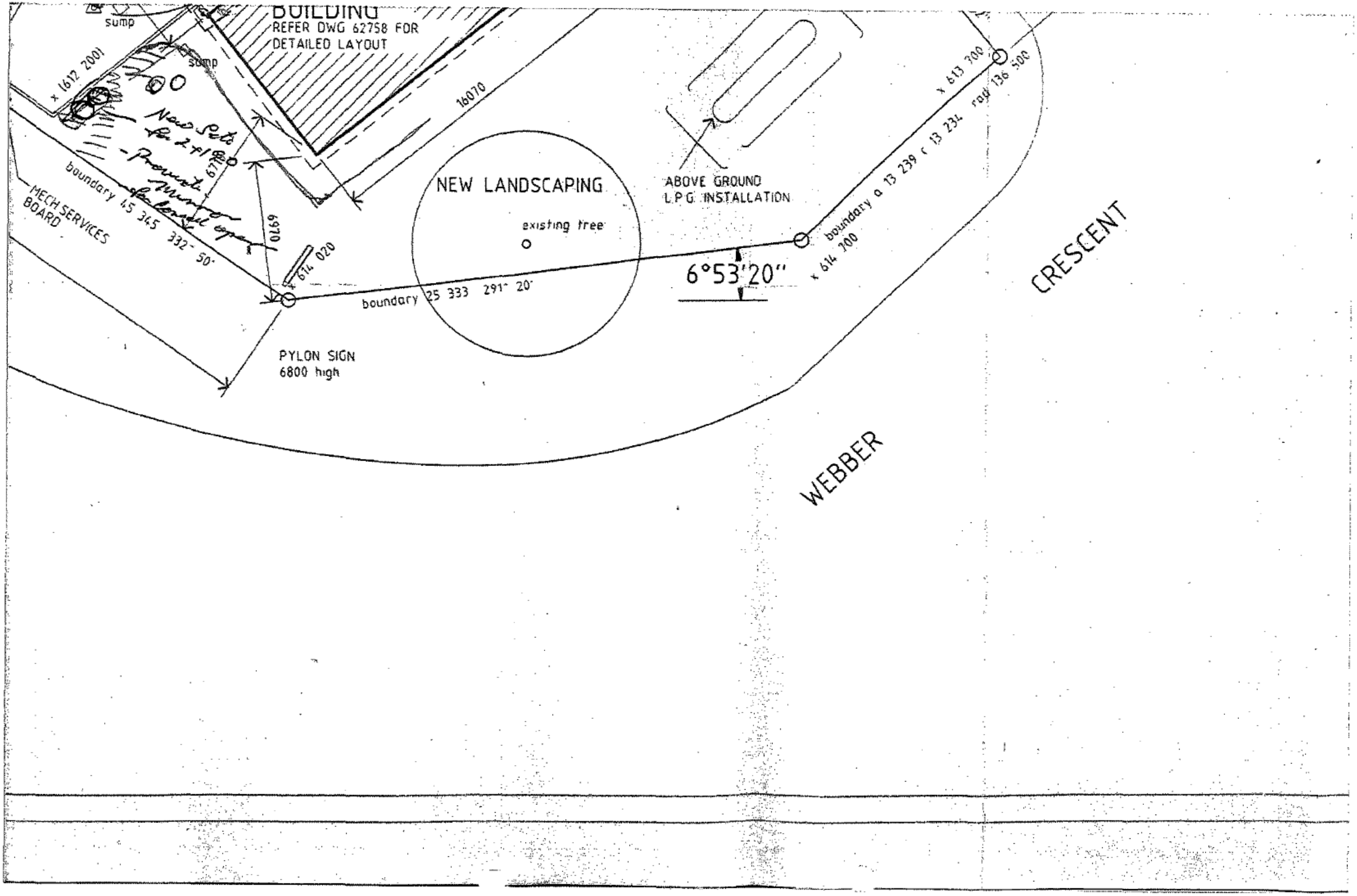
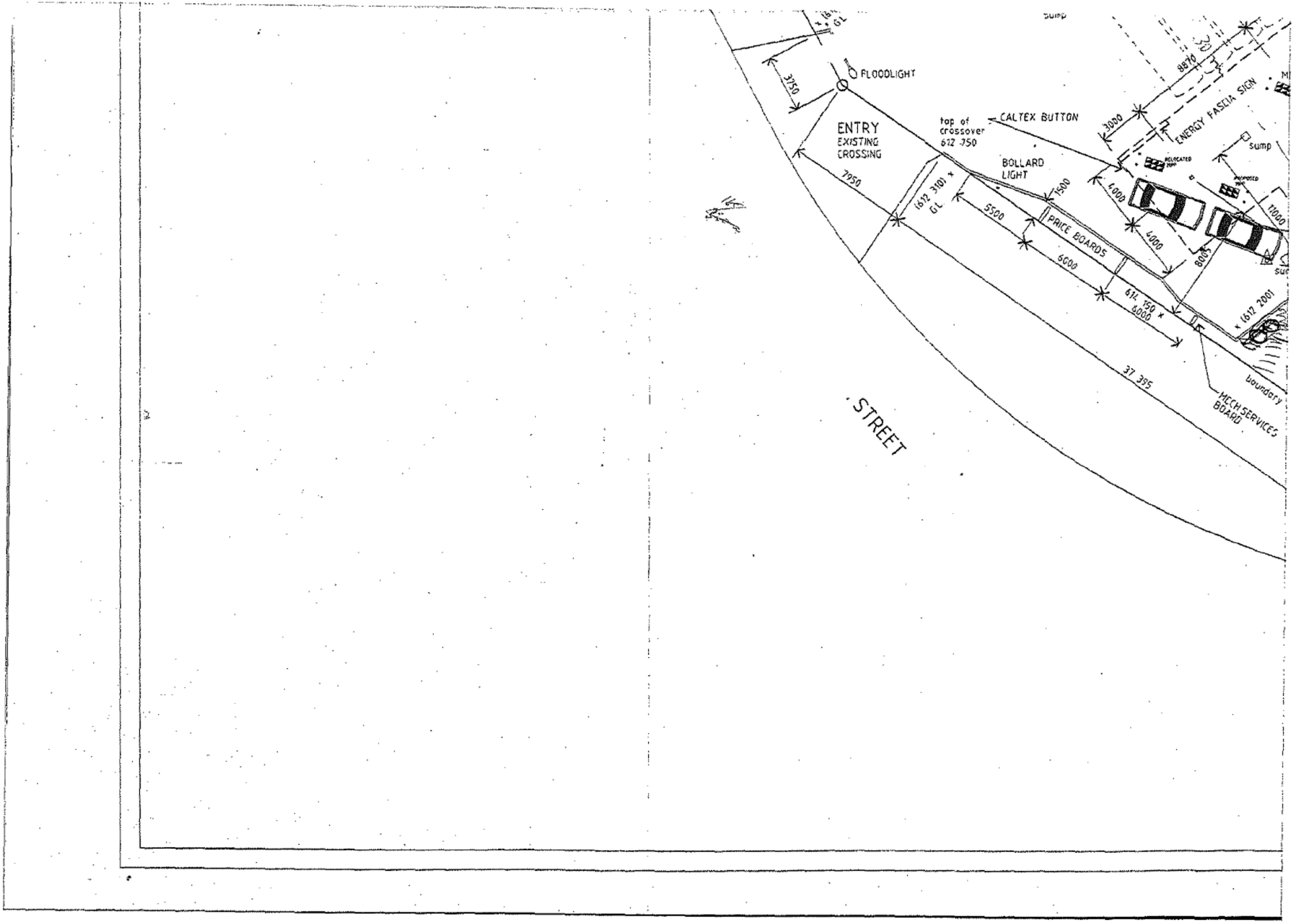
11
12
13
14



BUILDING
REFER DWG 62758 FOR
DETAILED LAYOUT
sump
sump
x (612 200)
16070
6770
6970
boundary 45 345 332° 50'
MECH SERVICES
BOARD
614 020
boundary 25 333 291° 20'
PYLON SIGN
6800 high
NEW LANDSCAPING
existing tree
ABOVE GROUND
L.P.G. INSTALLATION
6°53'20"
boundary a 13 239 c 13 234 rad 136 500
x 613 700
x 614 700
CRESCENT
WEBBER


FLOODLIGHT
3750
ENTRY
EXISTING
CROSSING
7950
top of
crossover
612 350
CALTEX BUTTON
BOLLARD
LIGHT
1500
5500
PRICE BOARDS
6000
4000
4000
3000
ENERGY FASCIA SIGN
sump
1000
800
612 2001
612 350 x
6000
37 395
boundary
MECH SERVICES
BOARD
STREET

Section B

Loss Monitoring Procedure

Australian Standard AS4897 requires a loss monitoring procedure capable of detecting losses of petroleum occurring at a rate of 0.76 litires per hour or more, with at least 95% accuracy' (ACT EPA, 2009. *Environmental Guidelines for Preparation of an Environmental Management Plan.* Dated May 2009)

Statistical inventory reconciliation analysis (SIRA) has been selected by Caltex as the most applicable loss monitoring procedure for use on the Caltex network, and SIRA for all owned or leased sites where there is an underground petroleum storage system.

SIRA (Statistical Inventory Reconciliation Analysis)

An overview

As an owner, manager or occupier of premises with underground storage tanks you should be aware of your legal liabilities to maintain a safe working environment, the various Acts and Regulations and other requirements that you must undertake to protect the environment from leaking tanks.

One of the available leak detection methods is Statistical Inventory Reconciliation and Analysis. In this method, a trained professional uses sophisticated computer software to conduct a statistical analysis of inventory, delivery, and dispensing data.

To meet leak detection requirements without an extensive outlay of capital, SIRA uses only the equipment that most facilities have readily at hand—a dip stick, a record of delivery and a record of sales used for inventory control.

Dip Stick or Automatic Tank Gauging

A dip stick, made of non-sparking material, is used to measure the depth of liquid in the tank. Typically, such sticks are marked or notched in 200 litre increments starting with the bottom of the stick. It is important that the stick be in good condition. Sticks that have worn ends, cut-off ends, worn-off numbers, or worn-off varnish coatings are not acceptable and should be replaced.

Other forms of gauges can also be used if they are available and in good operating condition. Automatic tank gauges, for instance, can simplify measuring tank volumes.

Whatever form of equipment you have, you must follow the dip and meter reading instructions safely and carefully to gather accurate data.

Pastes for Finding Fuel or Water

If you use a dip stick, use a fuel-sensitive paste smeared over about 150mm of the stick where you expect the fuel level to be. The paste changes colour where it comes into contact with the fuel. Similarly, you can use a water-sensitive paste on the end of the stick to monitor for the presence of water in the bottom of the tank. While water in the tank can come with your deliveries or as a result of condensation of moisture inside the tank, it can also come from ground water leaking in through holes or through loose fittings high in your tank.

If you have Automatic tank gauging system, the report will show if there is evidence of water and the quantity.

By contrast, SIRA analysis can be very sensitive and accurate. A SIRA vendor can take the same inventory data and analyse them for releases so small that many would go unnoticed with general inventory control. By using a month's worth of good tank data, it is possible for SIRA methods to detect a release of just under 18 litres per day (that's about 540 litres per month) from a tank or its product lines, 95 times out of a hundred.

SIRA actually use a variety of statistical tools to evaluate inventory data. The data is received from the site, it is then analysed and reported back and decisions made on the investigation process depending on the following possible results:

PASS, FAIL, FLAG, INCONCLUSIVE or NO DATA PROVIDED

Explanation of results:

PASS—According to the analysed data, the Underground Storage Tank system tests tight.
No action required as results are good.

FAIL—Analysed data indicate a loss of product from the system or an influx of groundwater or product. However, a ***FAIL*** does not *necessarily* indicate that

your system is leaking. A *FAIL* may indicate miscalibrated dispensers, inaccurately metered deliveries, or stolen product.

What to Do When You Get A *"FAIL"*
If a tank system reports as a FAIL, your SIRA contractor starts the 3-stage product loss investigation process.

Product Loss Investigation Process

- There are 16 causes of fuel losses

Broadly split into 2 categories

- **Non physical** losses. For instance, administration issues, dipping procedures
- **Physical** losses include meters out of calibration, theft, or leaking tanks or lines

Stage 1 is to determine whether losses are physical or not

This is where The SIRA contractor call the site and go through a process of elimination:

- What is the storage configuration
- Reconciliation practices.
- Is there poor or delayed dipping?
- Any staff and operator changes?
- Are tanks checked for water ingress each week?
- Are fill points locked? Now that tow trucks run on gas, this issue has mostly gone away
- Are there any pump communication issues or console problems
- When were the meters last calibrated?

The good news is that most of the issues are solved at this stage.

There are three possible outcomes from the initial Stage 1 investigation

- Problem identified therefore no further action
- Problem appears to have been resolved, but the file remains open at Stage 1 until the next full month of data has been analysed and the system passes.
- Problem not identified so proceed to Stage 2

This stage is co-ordinated by SIRA contractor with the Business Manager requesting TSM (the Caltex facilities manager) to arrange the physical work

Stage 2 investigation looks at physical causes

- Meter calibration checks
- Visual inspection at pumps and tank top turrets,
- Check site for any physical evidence of leaks, ie storm water drains, inspection wells, smell of fuel - Monitoring bore inspections
- Check condition of dipstick, Is it the correct one, or is it damaged?

There are three possible outcomes from the initial Stage 2 investigation

- Problem identified therefore no further action
- Problem appears to have been resolved, but the file remains open at Stage 2 until the next full month of data has been analysed and the system passes.

- Problem not identified so proceed to Stage 3

This stage is co-ordinated by the SIRA contractor with the Business Manager arranging for MassTech Australia to carry out the precision tank and line integrity test

- Vent lines
- Tank top fittings
- Product line leak
- Remote fill lines
- Dry area of tank
- Wetted area of tank, for both ingress and egress

FLAG— This result highlights various issues, less than twenty days data provided for the month, an increase in the loss trend, an unusual gain trend over the month or where daily dips are being calculated rather than actual dips.

What to do when you get a 'FLAG' result:

You will need to make sure you dip the tank every day the site is operational and review dipping procedures, make sure that site is dipping the tank and recording actual sales and not calculating dips and sales.

INCONCLUSIVE—Analysed data: cannot make the call. There is a chance that the information provided to the SIRA vendor is so bad that it is not possible to make a determination. This often can be traced back to poor tank dipping or bookkeeping practices (for example, a new staff member who has received inadequate training).

What to do when you get an 'INCONCLUSIVE' result

1. Make sure that the correct dipping procedure is used to get an accurate reading.
2. Ensure fuel reconciliation (closing of sales or withdrawals and dip recording) is done at a quiet time at site. Also that there is minimal time difference between the closing of sales (withdrawals) and the closing dip.
3. Ensure the sales (withdrawals) that are recorded are accurate.
4. Record deliveries on the day they are received.
5. Record delivery volumes at ambient temperature. Check the delivery docket to make sure the correct delivery was recorded.

NO DATA—This means that no data was received from the site.
Dips have not been entered, Business Manager to investigate.

CALTEX Caltex Australia Pty Ltd	SIRA – RESPONSIBILITY SUMMARY DOCUMENT Uncontrolled When Printed			
	Department:	Marketing OE	Document Number:	MKT-EHS-XXX-XXX-XXX
	Document Author:	Simon Caples	Revision / Issue:	1
			Issue Date:	March 2009
	Document Approver:		Review Date:	December 2010

1. Introduction

The following document has been prepared to summarise and provide clarification on the various responsibilities of the Statistical Inventory Reconciliation Analysis process.

In 2002 Victorian EPA released guidelines for design, installation and management requirements for underground petroleum storage systems (UPSS). The Victorian guidelines require that all service station "operators" manage their wet stock reconciliation process by a more robust system than the industry traditional dips and meters using an independent third party accredited system of reconciliation. Additionally, New South Wales introduced the Protection of the Environment Operations (Underground Petroleum storage Systems) Regulation 2008 which requires the underground petroleum storage systems to have a loss monitoring procedure.

Statistical Inventory Reconciliation Analysis (SIRA) is one of the accepted methods of meeting these requirements and has been selected by Caltex as the most applicable for our network.

2. Caltex SIRA Coordinator

Caltex has appointed a SIRA Coordinator to facilitate the effective application of the SIRA process in Marketing. The SIRA Coordinator manages the SIRA service provider to ensure that all sites with UPSS owned or operated by Caltex have SIRA. In addition the SIRA Coordinator evaluates the application of SIRA in accordance with the Interim Risk Management Framework.

3. SIRA Service Provider

Caltex uses SIRA for all owned or leased sites where there is an underground petroleum storage system to minimise the potential for breaches of those fuel systems.

There is one service provider currently used by Caltex. Contact details are provided below.

Leah Schwartz
SIR Operations & Analysis Services
Leighton O'Brien Pty. Ltd.
Phone: (03) 9813 5122
Fax: (03) 9813 5144
E-mail: leahschwartz@lob.com.au

4. Interim Risk Management Framework

The Interim Risk Management Framework documents the SIRA process and presents Key Performance Indicators associated with response time for undertaking investigation conducted based on the results of SIRA.

There are three stages of investigation that may be initiated based on the results of SIRA. These stages include:

Stage 1 – Data Verification
Stage 2 – Equipment Inspection and Meter Calibration
Stage 3 – Equipment Integrity Testing

5. Investigation Responsibility

Responsibility for management of investigations resulting from the SIRA process is summaries below:

Stage 1 Investigation

The SIRA Provider is responsible for undertaking Stage 1 Investigation. The Caltex SIRA Coordinator monitors the response time of the SIRA Provider in accordance with the Interim Risk Management Framework.

Stage 2 Investigation

The SIRA Provider is responsible for ordering the works necessary for a Stage 2 Investigation. The SIRA Provider contacts Caltex's appointed site maintenance contractor (Tungsten). The Caltex SIRA Coordinator monitors the response time of the SIRA Provider and Caltex's appointed site maintenance contractor (Tungsten) in accordance with the Interim Risk Management Framework.

Stage 3 Investigation

The SIRA Provider is responsible for notifying Caltex's Facility Maintenance Group (FMG) of the need for Equipment Integrity Testings. FMG are responsible for ordering the works necessary for a Stage 3 Investigation (Equipment Integrity Testing). The Caltex SIRA Coordinator monitors the response time of the SIRA Provider and the Equipment Integrity Testing works in accordance with the Interim Risk Management Framework.

Section C

Incident Management Procedure

"The incident management procedure will need to document how the person responsible can meet the following requirements:

- *as soon as practicable, take such actions as required to identify the source and cause of a leak of spill; and*
- *stop and mitigate any impact the leak or spill is having, or may have, on human health and the environment"* (DECCEW, 2011)

"Under Section 23A of the Act there is also a duty to notify the EPA of the existence of contaminated land. The occupier or lessee of the land must notify the EPA in writing as soon as practicable after becoming aware that land which they are the lessee or occupier of is contaminated in such a way as to present or likely to present a significant risk of harm to human health and/or a risk of material or serious environmental harm." (DECCEW, 2011).

1.0 Incident Management

1.1 Activities that have the potential to cause contamination

The following table summarised the identified activities undertaken on site that have the potential to cause contamination, and their respective mitigation strategies.

Activity	Description	Mitigation Strategies
Petroleum Sales	Sales of petroleum products at the Site have the potential to impact the environment through incidental spillage at dispensing equipment. Monitoring and infrastructure must be in place to ensure discharges and emissions do not cause environmental harm to surface waters and ultimately subsurface soil materials or local/regional groundwater aquifers.	The following physical mitigation measures are used to manage environmental impacts from petroleum sales: • All dispensing areas are covered by a canopy. • Dispensing areas to be designed & maintained to contain spills (Forecourt Pollution Control System). • Spill trays to be installed beneath each dispensing pump. • Site equipped with spill kit with capacity to clean up spills up to 200L. • Regular Maintenance of system equipment. • Inspection by site staff to check functionality of the system.
Petroleum Delivery	Delivery of petroleum products to the Site has the potential to impact the environment. Monitoring and infrastructure must be in place to ensure discharges and emissions do not cause environmental harm to the air or surface waters or ultimately subsurface soil materials or local/regional groundwater aquifers.	The following physical mitigation measures are used to manage environmental impacts from the delivery of petroleum products into on-site petroleum storage infrastructure: • Vent pipes are located on the western boundary of the Site • Fill points are located within a safe spill box to contain incidental spillage. • Regular Maintenance of system equipment. • Inspection by site staff to check functionality of the system. • Site equipped with spill kit with capacity to clean up spills up to 200L.
Waste Oil Storage	Storage of waste oil at Sites in waste oil USTs have the potential to impact the environment through incidental spillage during filling / pump out. Monitoring and infrastructure must be in place to ensure	The following physical mitigation measures are used to manage environmental impacts from waste oil storage:

Activity	Description	Mitigation Strategies
	discharges do not cause environmental harm to surface waters and ultimately subsurface soil materials or local/regional groundwater aquifers.	• Caltex personnel will implement a monthly gauging program of waste oil tanks which will comprise the gauging on the tanks on a Friday and following Monday.

1.2 Emergency Response Plan

The Site specific Emergency Response Plan (ERP) has been included in this section. The aim of the ERP is to control or limit the effects that an emergency or potential emergency may have on the site and its infrastructure, and any neighbouring areas/facilities. The ERP is designed to give both:

- Caltex staff the knowledge on how to handle potential emergencies that could occur at the site; and
- Emergency Authorities the understanding of what potential emergencies could occur on Site and the necessary steps Caltex has taken to control the emergency should it occur.

1.3 Spill Containment

A spill containment plan has been included in this section, detailing the anticipated flow direction of surface spills based on the local topography and indicative location for temporary bunding to attempt to contain a spill. For more information regarding spill containment refer to **Appendix C – Handling Emergencies** in the attached ERP.

1.4 Incident Investigation, Site Assessment and Remediation

Following an incident, notification and the investigation shall be completed in a timely fashion. Caltex internal reporting shall occur through the use of the Caltex Loss Prevention System (LPS), unless the incident is subject to Caltex Legal Department's serious incident reporting requirements.

Following an incident involving a potentially contaminating activity Caltex will engage a suitably qualified consultant to investigate the extent of the contamination and identify remediation options.

1.5 Incident Notification

In accordance with Section 7 of the Environmental Authorisation for this Site, in the event that an incident has caused, is causing or is likely to cause material serious environmental harm, whether the harm occurs on or off the site, the Authorisation holder, their employee or agent shall report the incident to the Authority immediately after is becomes known to the Authorisation holder or to their employee or agent by telephoning Canberra Connect on 13 22 81 during or outside business hours.

The authorisation, their employee or agent shall also report an incident [referred to in clause 7.1 and/or 7.3] in writing to the Authority within 2 working days of the incident occurring or becoming aware of contamination of land.

Included in this section is an ACT EPA Contaminated Land Notification Form.

Under Section 23A of the Act there is also a duty to notify the EPA of the existence of contaminated land. The occupier or lessee of the land must notify the EPA in writing as soon as practicable after becoming aware that land which they are the lessee or occupier of is contaminated in such a way as to present or likely to present a significant risk of harm to human health and/or a risk of material or serious environmental harm. Actual or likely remedial works in excess of $5000 or the detection of phase separated hydrocarbons in groundwater are examples of the existence of contaminated land which require the EPA to be notified.

Where monitoring identifies concentrations of petroleum hydrocarbons and/or lead greater than the adopted groundwater assessment criteria, a Remedial Action Plan should be prepared detailing what action is to be undertaken in response to the results at the site, any further investigations including delineation works undertaken, any remediation works as well as further ongoing monitoring.

Where monitoring identifies the presence of phase separated hydrocarbons, the Authority must be notified *immediately.* A *Remedial Action Plan must be prepared, it must include delineation works undertaken,* remediation works undertaken and include how the site will be managed for residual impacts.

Emergency Response Plan

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1. Site Details

1.1 Site Location

Caltex Calwell
Cnr Were St & Webber Cres CALWELL ACT 2612

A site location map is included as Appendix A.
A site layout plan is included as Appendix B.

1.2 Definitions

Emergency

An emergency is defined as an act (or threatened act) that may endanger the lives of people, cause damage to property or pose a threat to the environment. Emergencies at a Caltex service station facility embrace such things as fire, explosion, spillage, leak, whether by accident or sabotage (including vandalism).

Emergency Response Plan

A document that allows for an emergency, or potential emergency to be controlled or managed to minimise the impact on persons, property and/or the environment.

Service Stations

Service stations are bulk storage facilities whereby fuel is on-sold to the general public through a mechanism of self-service with an associated retail store. Dependent upon the size of the service station other products may be available for purchase either through the retail store, or an associated workshop if present. These products may include pool chlorine, car batteries, LPG decanting or the "swap & go" facility, lube and oil products.

2. Purpose

2.1 Aim

The aim of the Emergency Response Plan (ERP) is to control or limit any effects that an emergency or potential emergency may have on the site and its infrastructure, and any neighbouring areas/facilities.
This ERP is designed to give both:

- Caltex staff the knowledge on how to handle potential emergencies that could occur at the site, and
- Emergency Authorities the understanding of what potential emergencies could occur on site and the necessary steps Caltex has taken to control the emergency should it occur.

2.2 Objectives

The objectives of this ERP are:

- to facilitate emergency response and to provide such assistance at the emergency location as is appropriate to the situation,
- to ensure communication of all vital information as soon as possible,
- to facilitate the re-organisation and reconstruction activities so that normal operations can be resumed,
- to provide a training guide so that a high level of preparedness can be continually maintained, and
- to provide a basis for updating and reviewing emergency procedures.

3. Emergency Plan Administrative Details

3.1 Responsibilities

Site Manager

It is the responsibility of the Site Manager to ensure:

- all site personnel are familiar with this Emergency Response Plan;
- the plan is reviewed and updated as changes occur with site specific details in line with Section 3.6, and
- should an emergency occur on site, this Emergency Response Plan is implemented and followed.

Site Employees

It is the responsibility of each employee at the site to be familiar with this Emergency Response Plan, and to follow the plan should an emergency occur on site.

Emergency Controller

The most senior person on site at the time of identifying the emergency becomes the Emergency Controller until relieved by either a more senior Caltex person, or the relevant Emergency Services. It is the responsibility of the Emergency Controller to ensure this Emergency Response Plan is followed.

3.2 Distribution List

Caltex Internal Requirements

- Hard Copy: Caltex – Bondi
- This Emergency Response Plan will be kept on site in a manifest box located near the main entrance to site. The location of this box is indicated on the site layout plan in Appendix B.

New South Wales Additional Requirements

- Hard Copy: Waverly Fire Brigade
- Emailed Copy: NSW Fire Brigade Fire Safety Unit, Greenacre NSW (Firesafety.NSWFB@fire.nsw.gov.au)

3.3 Contact Details

The following is a list of typical Government Departments, company personnel and other emergency contacts that may need to be notified in the case of an emergency. Please complete the list with current contact details. It may be placed in other prominent locations at the site to make it readily accessible.

Department or Company	Name	Position	Phone Number
Olmos Investments Pty Ltd	Gonzalo Olmos	Operator	Sch 2.2(a)(ii)
Caltex Australia	Matt Gum	Business Manager	
Caltex Emergency	Emergency Response Service Centre –		**1800 033 111**
Local Council Environmental Section			
Workcover or Workplace Health & Safety Authority	Workcover	Inspector	6205 2139
Environment Authority	EPA	Inspector	
FIRE, Ambulance, Police – Emergency	Duty Officer	Emergency Operator	000
Caltex Master Maintenance Contractor	UGL	Customer Service	1300 796 664
Security Contractor			
Water Corporation	Actew AGL	Emergency or Service Difficulties	131 493

Department or Company	Name	Position	Phone Number
Gas Supplier – Vitalgas	Pump repairs Emergencies	Serviceman	02 9962 4467
Pump Repair Contractor	UGL	Serviceman	1300 796 664
Caltex	Terminal Order Centre	Deliveries Orders	1300 656 923
EFTPOS Engineering	Duty Officer	Caltex Help Desk	1800 657 127

3.3.1 Neighbouring Properties

Neighbour	Contact Person	Phone Number
Calwell Auto electrics	Mick	02 62926373
Midas Calwell		02 6291 0466
Newsagency		02 6291 9792
Woolworths Calwell		02 6292 8794

3.4 Amendment Record

Date	Description of Amendments	Review & Authorised Date	Date of Notification to NSWFB (NSW only)
April 2006	Draft Emergency Response Plan reviewed by NSW FB		
	Amended template to reflect specific site details		

3.5 Training of Emergency Response Plan

As a guide, all site personnel should be trained on the following topics:

- Contents of this Emergency Response Plan
- *Emergency Response Activation procedure*
- Properties of petroleum products
- Static electricity
- Safe transfer of petroleum products
- Fire protection
- Clean-up and site restoration

Exercises shall be conducted at least annually and involve all staff to familiarise them with emergency response. Exercises may be limited to a 'desk top' discussion, however 'hands-on' exercises using emergency response equipment such as spill kits must also be conducted.

It is the responsibility of the Site Manager to train and develop all site staff to a level of proficiency to be able to handle all emergencies likely to occur on site.

A record of all Emergency Response training shall be maintained in the Service Station Operations Register.

After each training exercise, as with a real emergency, the effectiveness of the response should be reviewed and if necessary, modifications to the response plan made.

3.6 Review of Emergency Plan

To ensure this document remains current and functional, this Emergency Response Plan shall be reviewed either:

- Following a simulated emergency exercise drill,
- Following the identification of a new risk which is not addressed by the current plan,
- After an emergency where this response plan had been activated, which ever occurs first.

At a minimum, this review shall occur on an annual basis.

4. Dangerous Goods & Hazardous Materials

The following products are stored on this site:

Unleaded Petrol>
Premium Unleaded>
Diesel>
<LPG – Retail sales, dispensing facility and/or swap & Go Cylinders>
<E10>
Minor supplies of lubricants and oils for retail sale within the store.
Supply of cleaning products on site as per the working environment..

MSDS are maintained on site in an MSDS register for each listed product, in a location readily accessible to staff and emergency services. If required by the relevant Authorities then MSDS's for Dangerous Goods and Hazardous Substances may be attached to this plan, otherwise a copy can be obtained from within the store. Refer to Appendix D for the Site Manifest.

5. Emergency Response

5.1 Potential Emergencies

The potential emergencies that this facility may encounter include:

- Fire / Explosion
- Spill / Release
- LPG Leak
- Natural Disaster
- Motor Vehicle Accident
- Persons Doused with Flammable Liquids
- Civil Disturbances
- Bomb Threat

The methods of handling emergencies such as those listed are presented in Appendix C.

5.2 Caltex Notification

Upon discovering an emergency, immediate action is required to ensure the safety of all site personnel and members of the public. Caltex has established a single point of contact to the appropriate emergency organisational level through the use of the Caltex Emergency Response Line (**1800 033 111**). This service classifies the emergency in respect to the scale of the emergency situation, notifies the Caltex Crisis Management Team as applicable to the emergency class, ensures contact is established with appropriate Emergency Authorities (whether contacted already or not) and provides specialist advice eg. material specifications.

5.3 Initial Response

An alarm shall be raised at the premises through the use of verbal communication.
Sirens, a recorded message, or verbal communication
The most senior person on site at the time of the emergency will assume the role of Emergency Controller until relieved by a more senior employee, or the Emergency Authorities. The Emergency Controller shall delegate tasks to others, and s/he is the person responsible for overseeing the whole operation until relieved. Tasks that require consideration during the initial response include:

	Job Description
♦	Take control of the whole situation and delegate tasks to others.
♦	Effectively communicate to all emergency organisations.
♦	Be responsible for all first aid and accounting for personnel during an emergency.

Job Description
♦ *Use of fire extinguisher and control of spills.*
♦ Keep onlookers at a safe distance and notify neighbours of any immediate problems (Section 3.3.1).

5.3.1 Incident Notification

Notification of incidents to Caltex and Emergency Authorities shall include the details outlined below:

Item	Caltex Notified	Emergency Authorities Notified
Site facility name and address	✓	✓
Location of incident (if transport related with Depot)	✓	✓
Facts of incident (product involved, casualties, damage, pollution, brief explanation of how incident occurred)	✓	✓
Response action taken so far	✓	✓
Emergency authorities already contacted	✓	✓

An emergency action checklist shall be completed to ensure that all appropriate actions are taken in a timely manner:

Item	Actioned	Time
Situation Sized Up	Yes / No	
Fire Brigade called	Yes / No	
Ambulance called	Yes / No	
Police called	Yes / No	
Caltex **1800 033 111** called	Yes / No	
Port Authority called	Yes / No	
Head count completed (Caltex)	Yes / No	
Vehicles moved	Yes / No	
Personnel & general public evacuated	Yes / No	
Company representatives called	Yes / No	
Additional services contacted:	Yes / No	
Power	Yes / No	
Council	Yes / No	
Clean up equipment	Yes / No	
Emergency Authorities arrived on site		
Caltex representative arrived on site		
Control of site returned to Caltex from Emergency Authorities		
Closure of Emergency Response		

5.3.2 Facility Preparation

Caltex personnel on site must ensure that on discovering an emergency, all steps are taken to stop the scale of the emergency increasing. Such steps can include:

- Stopping all fuel and LPG dispensers
- Evacuate all persons from the site, including Caltex personnel, customers, contractors and the general public
- Turning off the main power switch (Emergency lights remain on)
- *Pushing cars clear of driveways (only if safe to do so)*

- Preventing spilt products from entering drains
- Putting out small fires using extinguishers where safe

5.4 Equipment Available on Site

Facilities are required to hold a spill kit on site that contains:

- 3x Floor Sweep (5kg bags)
- 2x Absorbent Socks (1.2m x 10cm)
- 2x Absorbent Pillows (35cm x 35cm)
- 2x Absorbent Wipe Packs (45cm x 45cm, pack of 50)
- 2x PVC Gloves
- 1x Instruction Card
- 1x Dust Pan & Brush

Fire fighting extinguisher facilities are located within the site boundary (refer to Appendix B: Site Plan).

5.5 Association with Emergency Authorities

The most senior person on site at the time of the emergency will assume the role of Emergency Controller until relieved by a more senior employee, or the Emergency Authorities.

Upon arrival of the Emergency Authorities, the control of the premise and the emergency will stand with the Emergency Authorities until the site is deemed safe. At this point the Emergency Authorities will hand control of the site back to Caltex and depart the site.

During an emergency where the Emergency Authorities have control of the site, the Site Manager, Business Manager or another Caltex delegated representative shall remain on site to assist the Emergency Authorities in any matter necessary.

5.6 Public Relations

If a news media report is required, the person shall be senior enough to be seen to speak with authority. Unless expressly appointed to do so, no other staff should make statements to the media.

If statements are issued to the news media during an emergency they must be confined to the facts as they are known with no speculation. Hints for speaking with news media include:

- Decide what you want to say before the interview and make notes
- Write down essential facts and figures before the interview
- Establish the question(s) and record them
- Do not discuss liability or blame
- Establish whether you will be quoted

If the consequences of the incident are likely to be far reaching, the news media may expect comment from either State Office or Head Office.

Caltex has an Information Release Policy that applies to all incidents and Caltex Business Manager and delegated Duty Managers should make themselves aware of the content. Corporate Affairs shall endorse all news releases, media statements and other materials prior to public release.

6. Post Emergency

6.1 Site Clean-Up

Where the site is handed back to Caltex and clean-up is still required, the health and safety of all persons shall be given first priority.

- All persons not required for the site clean-up shall be asked to leave the site
- All staff involved in the clean-up shall be adequately trained in safe handling of petroleum products
- All staff shall be protected from exposure to the hazardous nature of the petroleum products through the use of correctly selected Personal Protective Equipment. As a minimum, this equipment shall include:
    - Chemically resistant gloves
    - Safety glasses with side shields
    - Safety footwear

- Coveralls, or neck to toe clothing.

Consideration should be given to bringing in external companies that specialise in hazardous substance clean-ups.

6.2 Internal Debrief & Incident Investigation

Incident notification and the investigation shall be completed in a timely fashion. Internal reporting shall occur through the use of the Caltex Loss Prevention System (LPS), unless the incident is subject to Caltex Legal Department's serious incident reporting requirements.

A debrief session shall be conducted with all staff that were involved with the emergency. Input can be sought from the Emergency Authorities if considered necessary. Notes shall be maintained on this session and entered into LPS to substantiate any outcomes and learning's from the emergency.

6.3 Emergency Response Plan Review & Reissue

Immediately following an incident, this document shall be reviewed in accordance with Section 3.6, and include any recommendations that result from the incident investigation. The ERP shall be reissued to all listed in Section 3.2.

7. External References

New South Wales

- Occupational Health and Safety Act (2000), and
- Occupational Health and Safety Regulation (2001): Chapter 6A Dangerous Goods.

WorkCover Authority
Telephone: 13 10 50
Dangerous Goods Licensing Hotline: (02) 9370 5187
www.workcover.nsw.gov.au

Australian Capital Territory

- Dangerous Substances Act 2004, and
- Dangerous Substances (General) Regulation 2004.

WorkCover Authority
Telephone: (02) 6205 0200
www.workcover.act.gov.au

Queensland

- Dangerous Goods Safety Management Act 2001, and
- Dangerous Goods Safety Management Regulation 2001.

*Smart*Licence
Telephone: 1300 363 711
www.sd.qld.gov.au

Victoria

- Dangerous Goods Act 1985, and
- Dangerous Goods (Storage and Handling) Regulations 2000.

WorkSafe Victoria Licensing Branch
Telephone: 1300 852 562
www.workcover.vic.gov.au

South Australia

- Dangerous Substances Act 1979, and
- Dangerous Substances Regulations 2002.

Safe Work SA
Telephone: 1300 365 255
www.safework.sa.gov.au**Error! Hyperlink reference not valid.**

Northern Territory

- Dangerous Goods Act 1998, and
- Dangerous Goods Regulations 1985.

NT Work Safe
Telephone: (08) 8999 5545
Toll free (within NT): 1800 019 115
www.worksafe.nt.gov.au

Western Australia

- Explosive and Dangerous Goods Amendment Act 1990, and
- Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Amendment Regulations 2006.

Department of Minerals & Energy
Telephone: (08) 9222 3333
www.doir.wa.gov.au

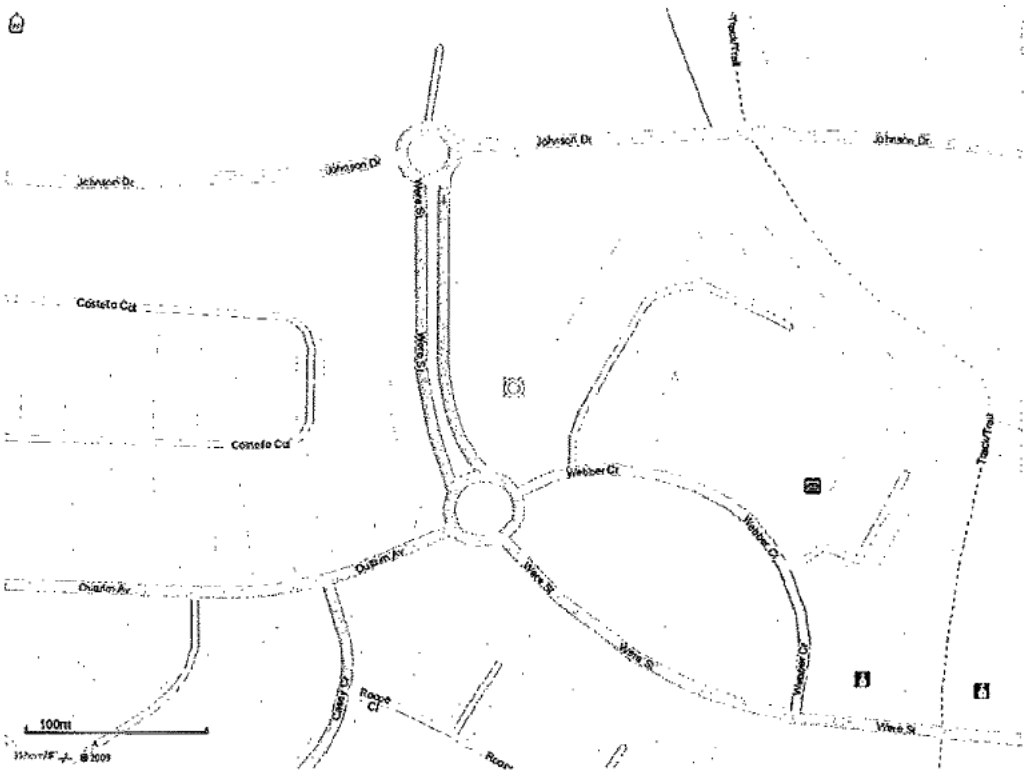
Tasmania

- Dangerous Goods Act 1998, and
- Dangerous Goods (General) Regulations 1998.

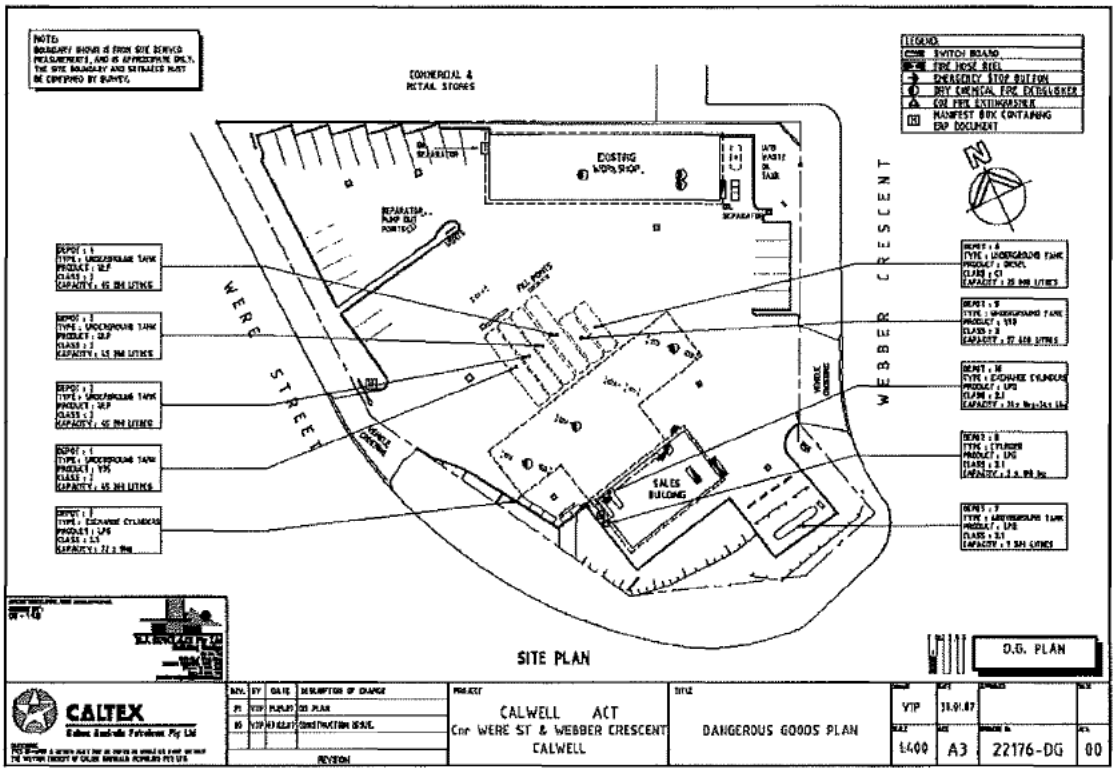
Workplace Standards Tasmania
Telephone: 1300 366 322(inside Tasmania)
(03) 6233 7657 (outside Tasmania)
www.wst.tas.gov.au

Appendix A - Site Location Map

Caltex Woolworths Calwell 22176



Appendix B - Site Layout Plan



Appendix C – Handling Emergencies

Fire

	Fire on Forecourt		Fire in Building
1	Assess situation	1	Assess situation
2	Push emergency stop (fuel and LPG)	2	Evacuate customers and staff
3	Call fire brigade **(000)** *Call Emergency Response Number*	3	Call fire brigade **(000)** *Call Emergency Response Number*
4	Evacuate customers	4	Push emergency stop (fuel / LPG) Switch off all electric power, leave lights on if possible
5	If minor fire, use appropriate extinguisher to extinguish fire. (If safe).	5	If minor fire, use appropriate extinguisher to extinguish fire. (If safe).
6	Move vehicles clear of area, if safe. *Abandon them if too close to fire*	6	Move vehicles clear of area, if safe. *Abandon them if too close to fire*
7	Switch off all electric power, leave lights on if possible.	7	Start time related log (located in back tab of Caltex Emergency Action Flipchart)
8	Start time related log (located in back tab of Caltex Emergency Action Flipchart)	8	Account for all staff / visitors / contractors
9	Account for all staff / visitors / contractors	9	Report missing / injured persons to Emergency Services
10	Report missing / injured persons to Emergency Services	10	Follow Emergency Services Instructions
11	*Follow Emergency Services Instructions*	11	*Contact Store Manager and Caltex Business Manager*
12	Contact Site Manager and Caltex Business Manager		

After The Fire

- Do not leave the premises unattended.
- Advise the owner, ascertain damage and loss and arrange for clean up.
- Arrange for recharging of extinguishers.
- *Complete incident report and forward to BM*

Clothing on Fire

1. Smother the flames with a fire blanket (or similar articles), or roll the victim on the ground.
2. Hose the victim gently with a cold water spray for at least ten minutes.
3. Refer to the instructions for "Persons affected by flammable liquids".

Spillage of Fuels (non LPG)

Fuel Spills (non LPG)		Fuel Spills (non LPG)	
(Spill covers less than 2m² and can be cleaned with spill kit kept on site.		*All other spills*	
1	-Assess the situation -Immediately push Emergency Stop (Fuel & LPG) -Shut down electric power at switchboard if necessary. At night, leave lights on if possible.	1	-Assess the situation -Immediately push Emergency Stop (Fuel & LPG) -Shut down electric power at switchboard if necessary. At night, leave lights on if possible.
2	-Advise customers of spillage. -Do not allow engines to be started. -Do not allow any smoking. -Place fire extinguishers to advantage.	2	-Call fire brigade (000) and Caltex Emergency Response Number_____
3	-Cover the entire spillage area with absorbent material from spill kit. Do not walk in spilled product. -Sweep up & remove the contaminated material in accordance with instructions.	3	-Clear site of people
4	-Start time related log (located in back tab of Caltex Emergency Action Flip Chart)	4	-Do not allow engines to be started
5	-If source of spill / leak is unknown, do not restart pumps until the system has been checked by an authorised technician.	5	-Eliminate all sources of ignition.
6	-When clean up is complete and area safe, advise customers, thank them for their co-operation and resume filling operations.	6	-Place fire extinguishers to advantage.
7	-Notify Site Manager and Caltex Business Manager.	7	- Start time related log (located in back tab of Caltex Emergency Action Flip Chart).
		8	-Stop all workshop activities.
		9	-Attempt to contain the spillage and prevent it from entering drains. Use materials available in spill kit. **Note:** this will not suppress vapours so ensure ignition sources are kept away.
		10	-Notify Site Manager and Caltex Business Manager.
		11	-Assist Fire Brigade and Police
		12	-If source of spill / leak is unknown, do not restart until the system has been checked by an authorised technician.

Tanker Discharge Spills and Overflows

The driver shall notify the site as soon as practicable after any spill occurs. The tanker driver is responsible for organising and carrying out emergency procedures and cleaning up to a suitable standard. However, the service station operator must provide any assistance that may be requested and ensure that the driver has isolated the area and contained the spilt product.

Overfilling of the storage tanks can cause petrol to leak from a pump. Usually, this leakage can be seen overflowing from the nozzle holster or from underneath the dispenser panel.

Spills shall be treated in the same way as detailed in the *Spillage of Flammable Liquids* above.

Natural Events

Natural events can be floods, earthquake, cyclones, wind and electrical storms. In the event of any of these events occurring, it will be necessary for the control officer to size up the situation and then decide whether to close down the site, shut down all electrical systems, make safe workshops etc. and determine the safest way to ensure the health and safety of staff, customers and the general public.
Refer to other emergency handling procedures as necessary.

Persons Affected by Flammable Liquids

Swallowed

- If fuel has been swallowed, call an ambulance immediately and refer to the product MSDS.

Contaminated Clothing or Skin

- Do not allow a customer to enter a vehicle or to drive away with contaminated clothing or skin.
- If necessary, stop all filling operations and switch off the pumps. Self-serve operators must advise customers of the incident and request their co-operation.
- Remove the affected person from the filling area to a location free from any possible source of ignition. Do not allow any smoking by the affected person or anyone else in the vicinity.
- Clean up any spillage on the forecourt or customer's vehicle before moving the affected vehicle.
- When safe to do so, advise customers and resume normal filling operations.
- If the contamination is minor, slowly remove the affected items of clothing and hang the clothing in the open air until free of vapour. Wash any affected skin with soap and water. The affected area of the clothing should also be washed.
- If clothing is saturated, use a hose, sponge or shower to thoroughly wet all items before removing the clothes. Wash skin with soap and water. Clothing should be washed before being worn.
- If petrol has entered the eyes, wash liberally with water and call for medical assistance.
- Warn the owner of the contaminated clothing to thoroughly air all items before placing the clothing in a washing machine / dryer.

Motor Vehicle Accidents

As most service stations are situated alongside fast flowing roads, there is a likelihood that a motor vehicle accident may occur on or near the facility.

- If in the case of an accident on your site, if injury is minor offer first aid assistance and to call an ambulance. If injury is serious, ring 000 to report accident and provide first aid assistance if possible.
- Do not move any injured persons unless it is life threatening to that person. Temporarily close site until person(s) treated and transported from site by ambulance.
- Control the crowds and other vehicles until emergency services arrive. In the case of an accident adjacent to the site, call 000 to report accident.

Civil Disturbances

In the event of civil disturbances it will be necessary for the control officer to size up the situation and then take action as considered necessary to look after employees, customers and the general public. These may include closing down the site and isolating all electrical equipment.

Gas Fire and Leaks

	LPG Leak		LPG Fire
1	Assess situation	1	Assess situation
2	Push emergency stop (fuel and LPG)	2	Push emergency stop (fuel and LPG)
3	Close all valves of LPG tank (if safe to access)	3	Call Fire Brigade **(000)**
4	Keep bystanders away / Evacuate site	4	Call LPG supplier.
5	No smoking. No naked lights / flames.	5	Call Caltex Emergency Response Number **1800 033 111**
6	No engine to be started.	6	Close all valves of LPG tank (if safe to access)
7	Call Fire Brigade **(000)**	7	Keep bystanders away / Evacuate site.
8	Call LPG Supplier.	8	Isolate electricity by switching off the main switch on the main switchboard (leave for supply authority if main switchboard cannot be accessed safely)
9	Call Emergency Response Number **1800 033 111**	9	Follow fire fighters instructions.
10	Isolate electricity by switching off the main switch on the main switchboard (leave for supply authority if main switchboard cannot be accessed safely)	10	Notify Site Manager and Caltex Business Manager.
11	Notify Site Manager and Caltex Business Manager		

Bomb Threat

Staff receiving a telephone call or letter pertaining to sabotage or a bomb threat should immediately refer the matter to the Site Manager or most senior person on site at the time.

Staff should record the telephone message verbatim, trying to establish as much information as possible about the caller, the device, location, timing, etc and *keep calm*. **Do not hang up the phone**. Try to attract the attention of either the Site Manager or other employees whilst keeping the caller on the line. If possible transfer the call to the Site Manager.

A checklist follows, and copies shall be kept near telephones for easy access.

Getting Information

- Pretend difficulty with hearing and ask caller to repeat statements
- Keep caller talking -- **DO NOT HANG UP THE PHONE WHEN CALL HAS FINISHED**
- If caller seems agreeable to further conversation, ask questions as listed on the checklist
- If building is occupied, inform caller that detonation could cause injury or death
- Try to form a mental picture of the caller and where the phone is located – in room, call box etc

After Call Has Ended

- Report the call immediately to the Site Manager
- Complete the remainder of the checklist
- Write out the entire message and any other comments on a separate sheet of paper and attached to checklist.
- Ignore everything else until you have completed this information
- The contents of this report must be strictly confidential and may not be discussed with anyone without management authorisation

Telephone Bomb Threat Checklist

Report call *immediately to:*	Name 1 ..... 2 ..... 3	Telephone No ....
Bomb Threat Received by:	*Name:* ..... Position:	*Date:* ..... Telephone No: .....

	Questions To Ask	Exact Wording of Threat
1	When is the bomb going to explode?	
2	Where is it right now?	
3	When was it put there?	
3	What does it look like?	
4	What kind of bomb is it?	
5	What will make it explode?	
6	Did you place the bomb?	
7	Why?	
	What is your name?	
8	Where are you now?	
9	What is your address?	

Caller's familiarity with threatened facility: ☐ *Much* ☐ *Some* ☐ *None*

Origin of Call ☐ Local ☐ Trunk ☐ STD ☐ Private ☐ Public

The following information requires opinions, perceptions and judgements. Please give your very first impressions.

Caller was: ☐ Male ☐ Adult ☐ Child ☐ Female ☐ Adult ☐ Child

Estimated Age ☐ Pre-teen ☐ Teenage ☐ 20-40 ☐ 40-50 ☐ Over 50

Caller's speech ☐ Accent ☐ Heavy ☐ Slight

☐ Australian ☐ Irish ☐ Scottish ☐ German

☐ English ☐ French ☐ Other ☐ Italian

Caller's Voice ☐ Calm ☐ Angry ☐ Soft ☐ Deep breathing

☐ Excited ☐ Normal ☐ Loud ☐ Clearing throat

☐ Rapid ☐ Slow ☐ Distinct ☐ Cracking voice

☐ Slurred ☐ Crying ☐ Lisp ☐ Deep

☐ Ragged ☐ Nasal ☐ Raspy ☐ Laughing

☐ Stutter ☐ Disguised ☐ *Familiar* (If familiar who does it sound like?)

Background Sounds ☐ *Street Noises* ☐ *House Noises* ☐ *Clear* ☐ *Aeroplane*

☐ Motor ☐ Crockery ☐ Static ☐ Train

☐ Voices ☐ Office Machinery ☐ Tram

☐ PA System ☐ Factory Machinery ☐ Bus

☐ Music ☐ Animal Noises ☐ Other

Threat Language ☐ Well spoken (educated) ☐ Foul ☐ Incoherent ☐ Message read by threat maker

☐ Irrational ☐ Taped

Remarks

_____

_____

_____

_____

Appendix D – Manifest of Dangerous Goods

Register of Dangerous Goods & Hazardous Materials	
Facility Name	
Facility Address:	
Facility Phone:	
Emergency Contact:	
NSW Workcover or State Workplace Authority Dangerous Goods Notification No:	Licence No.

CALTEX CALWELL

Name of Dangerous Substance	Class of Dangerous Substance	Subsidiary Risk	Packing Group	Expected maximum quantity of each dangerous substance	Expected average quantity of each dangerous substance
Flammable Gases	2.1	N/A	N/A	8253	5755
Non-flammable, non-toxic gases	2.2	5.1	N/A		
Non-flammable, non-toxic gases	2.2	Other than 5.1	N/A		
Aerosols	2	N/A	N/A	50	48
Flammable Liquids	3		I		
Flammable Liquids	3		II	162014	109005
Flammable Liquids	3		III	27	11
Toxic Substances	6.1		III	9	4
Corrosive Substances	8		II		
Corrosive Substances	8		III	0.15	0.15
Miscellaneous dangerous substances and articles	9		III		
Combustible Liquid	C1	N/A	N/A	27122	14096
Combustible Liquid	C2	N/A	N/A	284	174

1. Purpose, Scope & Objectives 1
2. Reporting Requirement 2
3. Resources, Roles & Accountabilities 2
4. Measurement, Verification & Validation 2
   4.1 Monitoring Plan 2
   4.2 Verification / Validation 2

1. Purpose, Scope & Objectives

All UPSS are required to have an appropriate Incident Management Procedure documented and in place. This procedure must be retained in the EPP and include appropriate responses to a leak or spill from the system and actions to be taken in the event of an incident.

This Incident Reporting Procedure documents the notification required as the as the result of a loss of containment or spill. The intervention required as a result of a loss of containment or spill will be dependant of the nature of the incident and the potential for human health or environmental risk. This procedure is not intended to direct the intervention required in response to a loss of containment or spill.

The response to an incident will, however, need to consider the following requirements:

- Contacting emergency services;
- Advise the Appropriate Regulatory Authority (ARA);
- Action to prevent any further release of petroleum product into the environment;
- Identify and mitigate any fire, explosion or vapour hazards;
- Actions to prevent migration of petroleum that has leaked or spilled;
- Steps to recover or remove petroleum that has leaked or spilled;
- Remove or repair of any leaking components of the UPSS in accordance with industry best practices;
- Action to reduce health and environmental risk;
- Action to ensure safety.

2. Documentation

Spills or Loss of containment

Event	Internal Reporting			
	Report by	To whom	Timeframe	Additional reporting
Spill / LOC < 5	Employee	Supervisor	Within 24 hours	Nil
Spill / LOC > 5 < 8,000 L	Employee	Supervisor	Immediately	• Supervisot to Manager • Manager to MLT member • MLT member to GM Marketing IMMEDIATE NOTIFICATION REQUIRED
• Spill / LOC > 8,000 or • Any spill requiring immediate notification to a government agency or requiring response from an outside agency • Events that had potential to cause major spill	Employee	Supervisor	Immediately	• Supervisot to Manager • Manager to MLT member • MLT member to GM Marketing, Legal & CEO. IMMEDIATE NOTIFICATION REQUIRED

3. Resources, Roles & Accountabilities

Refer to Section 2.1.

4. Measurement, Verification & Validation

Monitoring Plan

All spills of Loss of containment over 5 litres are recorded by Caltex. In addition the loss monitoring procedure used by Caltex (SIRA) is designed to identify losses from the UPSS.

Verification / Validation

All incidents and responses to incidents are recorded in Caltex's Loss Prevention System (LPS). All incidents will be investigated in accordance with the LPS procedures.

Appendix B: Contaminated Land Notification Form

ENVIRONMENT PROTECTION AUTHORITY

Section 23A of the *Environment Protection Act 1997*

1. Where to send completed forms	
Environment Protection Authority GPO Box 158 Canberra ACT 2601 Fax: 6207 6084 *Email: Environment.Protection@act.gov.au*	**IMPORTANT** please print clearly in capital letters
2. Lessee or Occupier details	
Name:	Telephone Numbers (business hours): Fax Numbers (business hours):
Address:	I am: ❑ the lessee of the site ❑ the occupier of the site
3. Site Details	
Site or Establishment Name (if appropriate):	Street Address: Post Code:
Block(s): / Section: / Suburb:	
Owners(s) / Lessee(s):	Occupier(s):
4. Cause of Contamination	
5. Contamination	
Contaminants of concern:	Source of information on contamination:

6. What aspects of the environment are/may be affected?	*7. Who/what is potentially at risk?*
Tick all that apply: ❑ Air ❑ Groundwater ❑ Surface Water ❑ Soil ❑ Sediments ❑ Stormwater ❑ Drinking water ❑ Wetlands ❑ Other (please specify) _____	Tick all that apply: ❑ Residents ❑ Workers ❑ School/ kindergarten children ❑ Threatened species ❑ Aquatic life ❑ Plants ❑ Animals ❑ Other (Please specify) _____

8. Are any other sites effected or at risk? (ie. outside the lease/sub lease boundary)
Tick appropriate box: ❑ No ❑ Yes
If "Yes" is ticked, indicate which of the matters listed in item 6 and 7 apply to other sites: Details of other sites affected: _____ –
9. Additional pages attached (eg. Results of sampling, photographs, environmental reports, etc.)
If you have attached additional pages to this notification, indicate the number of pages. When the notification is certified, the person(s) who certify the notification must initial each page attached. Number of pages attached:
10. Certification (in the case of a notice lodged on behalf of a body corporate)
I certify that: (a) I have personally examined and am familiar with the information contained in this notification; and (b) to the extent they are within my knowledge, the matters contained in this notification are true, accurate and complete.

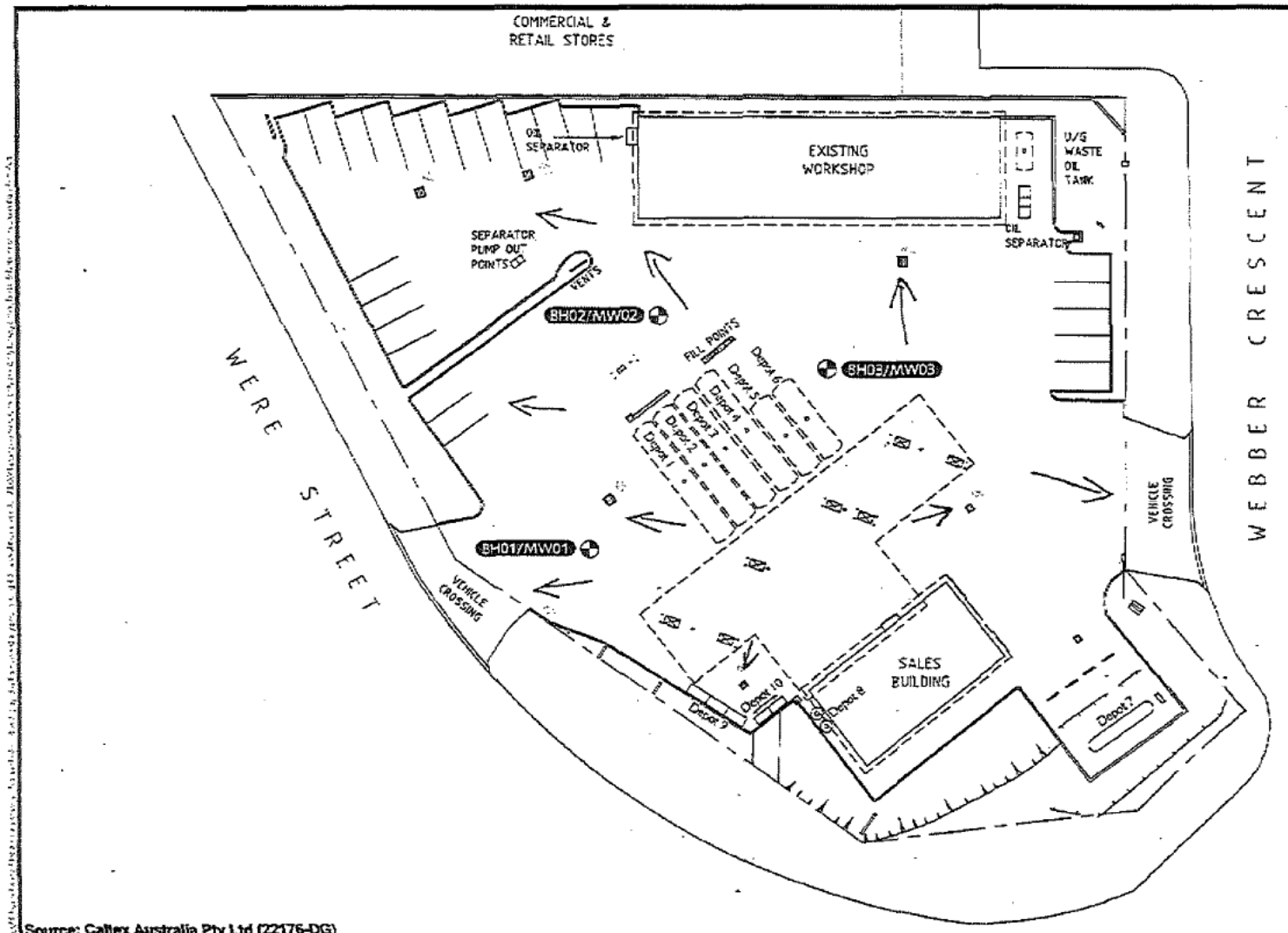
Name: Position: Signature: Date:	Name: Position: Signature: Date:	CORPORATE SEAL AFFIXED IN ACCORDANCE WITH CONSTITUTION OF BODY CORPORATE

11. Signature (in the case of a notice lodged by one or more individuals)

The matters contained in this notification are, to the best of my knowledge, true, accurate and complete.

Name: Signature: Date:	Name: Signature: Date:

If the notification is made by one or more individuals, the form must be signed by each individual concerned.
If the notification is made by a corporation, the form must be signed:
(a) by affixing the common seal of the corporation; or
(b) personally by a person authorised to do so by the corporation



Source: Caltex Australia Pty Ltd (22176-DG)

Tank Details

Tank ID	Capacity	Product
DEPOT 1	45 200 L	V95
DEPOT 2	45 200 L	ULP
DEPOT 3	45 200 L	ULP
DEPOT 4	45 200 L	ULP
DEPOT 5	27 400 L	V98
DEPOT 6	25 000 L	Diesel
DEPOT 7	7 500 L	LPG AST
DEPOT 8	22 x 9 kg	LPG Exchange Cylinders
DEPOT 9	24 x 9 kg – 24 x 4 kg	LPG Exchange Cylinders

Key

→ Anticipated direction of surface sp'll

Fuel dispensing pump

UST

Borehole/monitoring well location (AECOM, 2011)

AECOM

www.aecom.com

Emergency bund location

: Spill Containment Plan

Caltex Australia Pty Ltd
Groundwater Monitoring Well Report
Caltex Calwell (22175)
Cnr Were Street and Webber Crescent
Calwell ACT 2905

Figure -

A4 Size

Section D

Maintenance Schedule

"The EMP must also include a maintenance schedule which outlines the maintenance to be carried out on the underground petroleum storage system and associated pollution control equipment including all gauges, indicators, probes, sensors and any other measuring instruments in the system. All checks, maintenance and calibration (where necessary) should be carried out in accordance with the manufacturer's specifications and/or maintenance schedule detailed in the EMP.

All data produced by the gauges, indicators, probes, sensors, monitoring wells and any other measuring instruments in the system must be recorded in a suitable format" (DECCEW, 2011).

1.0 Maintenance Schedule

The calibration of fill point spill boxes, tank access chambers and pump dispensers and the maintenance of electrically hazardous areas are completed annually.

CALTEX FACILITIES MAINTENANCE CONTRACT - PREVENTATIVE MAINTENANCE ITEMS

SECTION SA - FORECOURT PUMPS / DISPENSERS & FUEL SYSTEM EQUIPMENT

Items: 1-6

OBJECTIVE

To ensure that all forecourt Pumps & Dispensers, Submersible Turbine Pumps and Associated Fuel System Equipment is fully operational and compliant with all applicable Laws.

08.01 The work will be reactive to a 'call for service', unless otherwise specified, which shall be responded to in order of priority as defined in the Response and Job Completion Time schedule. The Contractor must report any modifications to the Pumps & Dispensers and any change to Asset records of Pumps & Dispensers installed at each site.

08.01 *There are two (2) items of periodic 'preventative maintenance' work*
- annual leak detector testing on pressure fuel systems
- scheduled meter calibration.

Rev		DESCRIPTION / SCOPE ELEMENT	Frequency per year
Rev	1	FORECOURT PUMPS & DISPENSERS	
08.01		Complete maintenance of all parts and components above ground level, in accordance with the manufacturers specifications, necessary to allow the system to perform all its specified functions of controlling, computing and displaying, shall be undertaken including but not limited to the following:	Reactive to 'call for service'
		• the complete internal eg. pumping mechanism, meters, modules, pulsers, transmitters	
		• all electrical and electronic parts and components above and including the electrical junction box in the base of the pump and include termination at the switchboard including the replacement of circuit breakers and fuses but excluding the wiring back to the switchboard	
		• for suction system pumps the suction line coupling including all accessible isolation valves	
		• for pressure system dispensers the isolation valve and shear valve	
		• supply and replace all hoses, nozzles, splash guards. Note all hoses shall be *replaced like for like – length and type. A hose requires replacement / repair* when cracked through the outer casing, exposing the reinforcing or webbing. A hose can only be cut / reduced up to 5% of its original length when conducting these repairs.	
		• supply and replace cracked &/or frosted over acrylic or glass dial faces where necessary	
		• supply and replace any defective globes, tubes, starters or other illuminating *devices which comprise part of dispensers and light boxes attached to any* dispenser	
		• supply all required spare part materials, items and/or reconditioning of all components as may be required. Un-reconditioned second hand and/or non-manufacturer approved spare parts are not acceptable under any circumstances	
		• drain, gas free and/or transfer product from the equipment when necessary to *effect repairs or service and account for such product involved.*	
08.01		**Note:** 1. Warranty is specific to the purchase agreement. 2. Pumps & Dispensers warranty will expire on the last day of the month of the warranty period.	

CALTEX FACILITIES MAINTENANCE CONTRACT - PREVENTATIVE MAINTENANCE ITEMS			
Rev	2	**CALIBRATION**	
08.01		Undertake fuel dispenser calibration inspection in accordance with Caltex Fuel Dispenser Pump Meter Calibration Standard.	Refer to Caltex calibration schedule
08.01		Forward all required compliance certificates to statutory authorities and maintain records of reporting and calibration status for Caltex.	
08.01		**Note:** additional calibration requests will be required at times initiated by Caltex or the SIRA service provider. These services will be paid for under the ad-hoc unit rates in Section J13.	
Rev	3	**SUBMERSIBLE TURBINE PUMPS (STP's) INCLUDING LEAK DETECTORS**	
08.01	3.1	Complete maintenance of all parts and components, in accordance with the manufacturers specifications, necessary to allow the equipment to perform all its specified functions of supplying fuel on demand while mounted within the underground storage tank (UST) to the forecourt dispensers including but not limited to:	Reactive to 'call for service'
		• the pump, the motor and function element	
		• all associated power and communication connections and junction boxes, including termination at the switchboard and the replacement of circuit breakers and fuses but excluding the wiring back to the switchboard	
		• all fluid control and isolation valves	
		• supply all required spare part materials, items and/or reconditioning of all components as may be required. Un-reconditioned second hand and/or non-manufacturer approved spare parts are not acceptable under any circumstances	
		• inspect all pump access chambers for presence of water and/or fuel and pump out as required, to facilitate maintenance access to pumps and associated fuel system equipment *Note: Where site is equipped with an oily water separator (coalescing plate or hydro cyclone type) process effluent (water with 'rainbow sheen') through the site separator.*	
	3.2	Inspect and report on mechanical leak detectors fitted to submersible turbine pumps all in accordance with the manufacturers test procedures (Report to include proof of test and operation compliance for all leak detectors).	1
	3.3	Inspect and report on electronic pressure line leak detectors (PLLD's) fitted to submersible turbine pumps all in accordance with the manufacturers test procedures. (Report to include proof of test and operation compliance for all leak detectors).	1

CALTEX FACILITIES MAINTENANCE CONTRACT - PREVENTATIVE MAINTENANCE ITEMS

SECTION SA - ASSOCIATED FUEL SYSTEM EQUIPMENT

Rev			
Rev	4	**MECHANICAL COMPUTING EQUIPMENT**	
08.01		Complete maintenance of all parts and components, in accordance with the manufacturers specifications, necessary to allow the equipment to perform all its specified functions of controlling, computing and displaying.	Reactive to 'call for service'
Rev	5	**AUTOMATIC TANK GAUGE (ATG)**	
08.02		Complete maintenance of all parts and components, in accordance with the manufacturers specifications, necessary to allow the equipment to perform all its specified functions including:	1
		• Tank probes	
		• Control console	
		• Dial-up modem and communication interfaces	
		• all electrical and electronic parts and components including termination at the switchboard, the replacement of circuit breakers and fuses but excluding the wiring back to the switchboard.	
	6	**CONSOLES**	
08.01	6.1	CASH REGISTER TYPE Complete maintenance of all parts and components, in accordance with the manufacturers' specifications, necessary to allow the equipment to perform all its specified functions.	Reactive to 'call for service'
08.01	6.2	NON-CASH REGISTER (PUMP CONTROL ONLY TYPE) Complete maintenance of all parts and components, in accordance with the manufacturers specifications, necessary to allow the equipment to perform all its specified functions.	Reactive to 'call for service'

SECTION SB

Rev		DESCRIPTION / SCOPE ELEMENT	Frequency per year
Rev		**UNDERGROUND HOLDING TANK**	
08.02	18	Check that underground storage tank has legible identification signage e.g. Confined space entry) and is suitably fixed.	1
08.02	19	Check general appearance and condition (damage, missing bolts, etc.) of manway.	1
08.02	20	Check sediment level in holding tank does not exceed 100mm. NOTE: If sediment level exceeds required limit, Contractor is NOT required to pump out sediment. Non-conformance should be listed on report/inspection sheet and identified to the site manager.	1
08.02	21	Check for any petroleum product present in holding tank. NOTE: if petroleum product exists in holding tank, Contractor is NOT required to pump out content. Non-Conformance shall be listed on report and identified to the site manager.	1
08.02	22	Check high level alarm probes and pump cut-out probes are installed and functioning. Test floats to ensure correct operation settings of system with high level start function and low level stop function for pump operation.	1
Rev		**EFFLUENT SAMPLE**	

CALTEX FACILITIES MAINTENANCE CONTRACT - PREVENTATIVE MAINTENANCE ITEMS			
08.02	23	Collect inlet and discharge samples and arrange for testing of samples to ensure compliance with local regulatory limits, e.g. Sydney Water.	1

CALTEX FACILITIES MAINTENANCE CONTRACT - PREVENTATIVE MAINTENANCE ITEMS

SECTION SC - FILL / DIP POINTS, SPILL CONTAINMENT BOXES, BULK STORAGE TANKS, VENTS & UNDERGROUND PIPING

Items: 1-11

OBJECTIVE

To check and make good fill dip points, including spill containment box, for the presence of fuel, water & sediment and in doing so determine the effectiveness of containment. To ensure that all product identification markers are present. To check monitoring system of all double wall tanks.

Rev		DESCRIPTION / SCOPE ELEMENT	Frequency per year
Rev	**FILL POINT SPILL CONTAINMENT BOXES (single or multi)**		
08.02	1	Check correct operation of all lids and handles, external and internal. Confirm correct alignment and closure (no lid should be in contact with caps)	1
08.02	2	Check pipe penetration seals and confirm they are intact. Note: reinstate and check earthing wire continuity & resistance after replacing seal(s). Confirm integrity of containment.	1
08.02	3	Check drain valve operation and destination label is installed and legible, confirm that box drains completely to the valve. Refer Caltex Specification "Maintenance, Inspection, And Repair of Fill Point Containment Box Static Earthing System" .	1
	4	Inspect and test all earthing stakes and electrical continuity of bonding wires to confirm compliance with AS/NZS 2381, AS/NZS 3000 and Caltex Specification "Maintenance, Inspection, And Repair of Fill Point Containment Box Static Earthing System". **NOTE:** Earthing stake tests shall be the "fall-of-potential" or "3 pin resistance test" method, where it is possible to install a reference rod without breaking concrete; If the above test is not feasible for the site, then inspection will suffice without earthing stake test. Costings shall be given for both options and identified in the report which method was undertaken.	
08.02		Static Earthing Test	2
08.02		Equipotential Bonding Test	2
08.02	5	Complete all inspections, tests and checksheets as per Caltex Specification "Maintenance, Inspection, And Repair of Fill Point Containment Box Static Earthing System", not covered in tasks above.	1

CALTEX FACILITIES MAINTENANCE CONTRACT - PREVENTATIVE MAINTENANCE ITEMS			
Rev	**FILL & DIP POINTS**		
08.02	6	Inspect Fill, Dip and vapour recovery markers for damage, wear, missing items or non-compliance with AIP CP5.	1
08.02	7	Check all fill and dip point ground boxes and caps for any mechanical damage and condition of seals.	1
Rev	**TANK DIP STICK**		
08.02	8	Inspect all Tank Dip Sticks for integrity or damage. Ensure Safe Fill Level is marked. Measure and ensure 150mm marker from base of dip stick exists and is accurate.	1
Rev	**DOUBLE WALL TANK INTEGRITY**		
08.02	9	For fibreglass jacketed steel tanks: Inspect tank vacuum gauge to verify if a vacuum exists in the interstitial space. Refer to manufacturer's specifications for acceptable tolerances. Confirm gauge is operational and readable. If vacuum is not indicated on gauge report immediately to Caltex for direction on remedial action.	2
08.02	10	For double wall fibreglass tanks: Inspect liquid level monitor reservoir to confirm within recorded level range. Refer to manufacturer's specifications for acceptable tolerances. If liquid outside range or no longer visible report immediately to Caltex for direction on remedial action.	2
Rev	**TANK VENTS**		
08.02	11	Check all vent caps exist and are not damaged.	1

CALTEX FACILITIES MAINTENANCE CONTRACT - PREVENTATIVE MAINTENANCE ITEMS

SECTION SD - FUEL SYSTEM - ACCESS CHAMBERS & PITS

Items: 1-6

OBJECTIVE

To check the condition of access chambers, covers and pits and to ensure there is no fuel in access chambers.

Rev		DESCRIPTION / SCOPE ELEMENT	Frequency per year
08.02	1	All driveway and other surface covers are to be examined for correct seating and damage.	1
08.02	2	For all tanks with fibre-glass or moulded plastic chambers inspect all the cables and pipework penetration entry boots to ensure seals are intact.	1
08.02	3	Check that each access point cover has the required colour coded external product/tank number identification disc in accordance with AIP CP5. Inspect for wear and damaged discs.	1
08.02	4	Conduct a visual inspection of all access chambers and pits for presence of fuel. If fuel is found, investigate the source.	1
08.02	5	Conduct a visual inspection of all access chambers for presence of water. If water is discovered investigate the source. Where site is equipped with an oily water separator (Triple interceptor, coalescing plate or hydrocyclone type) process effluent through the site separator.	1
08.02	6	Inspect the condition of all valves, spades, flanged connections and other fittings within access chambers.	1

SECTION SF - CATHODIC PROTECTION (CP)

Items: 1-3

OBJECTIVE

To confirm that installed Cathodic Protection is operating as designed and ensure that all compliance

Rev		DESCRIPTION / SCOPE ELEMENT	Frequency per year
08.02	1	Check that sacrificial anode Cathodic Protection system is correctly connected and that anodes are still operational. Potential should be above 0.85 volt threshold.	1
08.02	2	Check Impressed Current control panel is fully operational and record amperage. Record output amps and volts of transformer rectifier. Adjust output of transformer rectifier if necessary to maintain the 0.85 volt threshold. Report on condition.	2
08.02	3	Forward all required compliance certificates to statutory authorities and maintain record of reporting for Caltex.	1

CALTEX Caltex Australia Pty Ltd	CALIBRATION SCHEDULE Uncontrolled When Printed			
	Department:	Marketing OE	Document Number:	MKT-EHS-XXX-XXX-XXX
	Document Author:	Simon Caples	Revision / Issue:	1
			Issue Date:	March 2009
	Document Approver:		Review Date:	December 2010

1. Introduction

Caltex's policy is to ensure that all pumps are Certified at least every 2 years, using National Measuring Institute (N.M.I.) standards. Pumps are checked for calibration accuracy at pre-determined frequencies, of 6, 12 or 24 months. This frequency depends on a number of factors including fuel throughput per pump meter, age and type of pumps.

Caltex requires pump meters to be adjusted if dispensing fuel outside of a +/- 0.2% tolerance (less than the +/- 0.5% legal requirement).

2. Caltex SIRA Coordinator

Caltex has appointed a SIRA Coordinator to facilitate the effective application of the SIRA process in Marketing and to coordinate the Caltex pump calibration program.

3. Calibration Service Provider

Caltex has appointed an external Project Manager (currently Leighton O'Brien Pty Ltd) to manage the pump calibration program. In this capacity, Leighton O'Brien places the calibration orders on Caltex's maintenance contractor and then records the last calibration dates. Calibration reports are entered into Leighton O'Brien's database.

Contact details are provided below.

Jason Park
SIR Operations & Analysis Services
Leighton O'Brien Pty. Ltd.
Phone: (03) 9804 2212
Fax: (03) 9813 5144
E-mail: jasonpark@leightonobrien.com

4. Calibration Reporting

Leighton O'Brien provide monthly reports to the Caltex SIRA Coordinator verifying the completion of pumps.

5. Continual Improvement

This procedure shall be reviewed on, or before 21/05/2010.

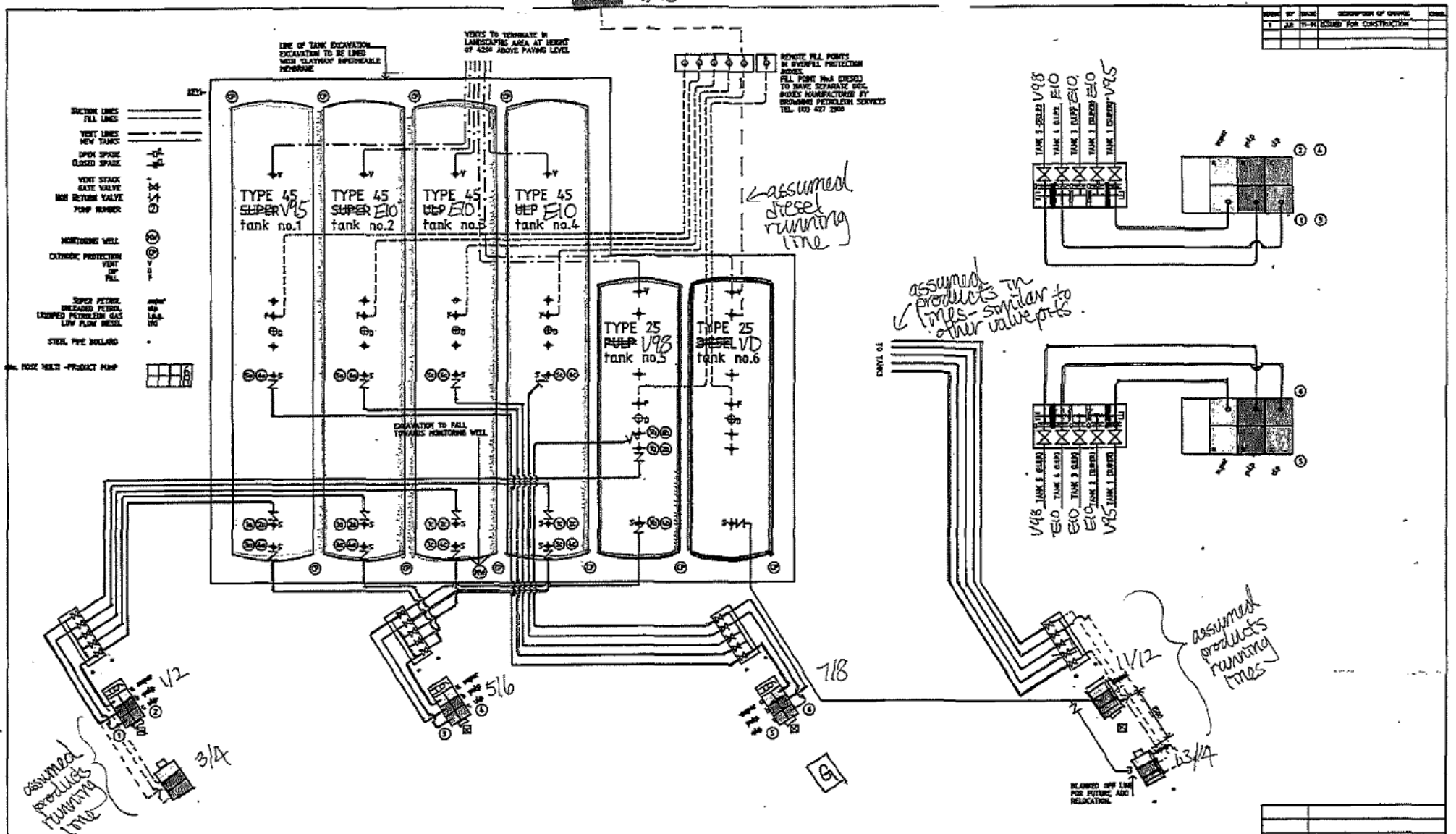
Section E

Current 'as built' drawings for the system

"A copy of the as-built drawings of the system must be included in the EMP along with a plan of the site showing the storage system, all buildings and associated infrastructure, all fences and gates, all groundwater monitoring wells including codes by which they are designated and any unsealed ground surfaces.

All as-built drawings and plans must include the date in which they were prepared" (DECCEW, 2011).

9/10 - Diesel dual HF/LF - Comm

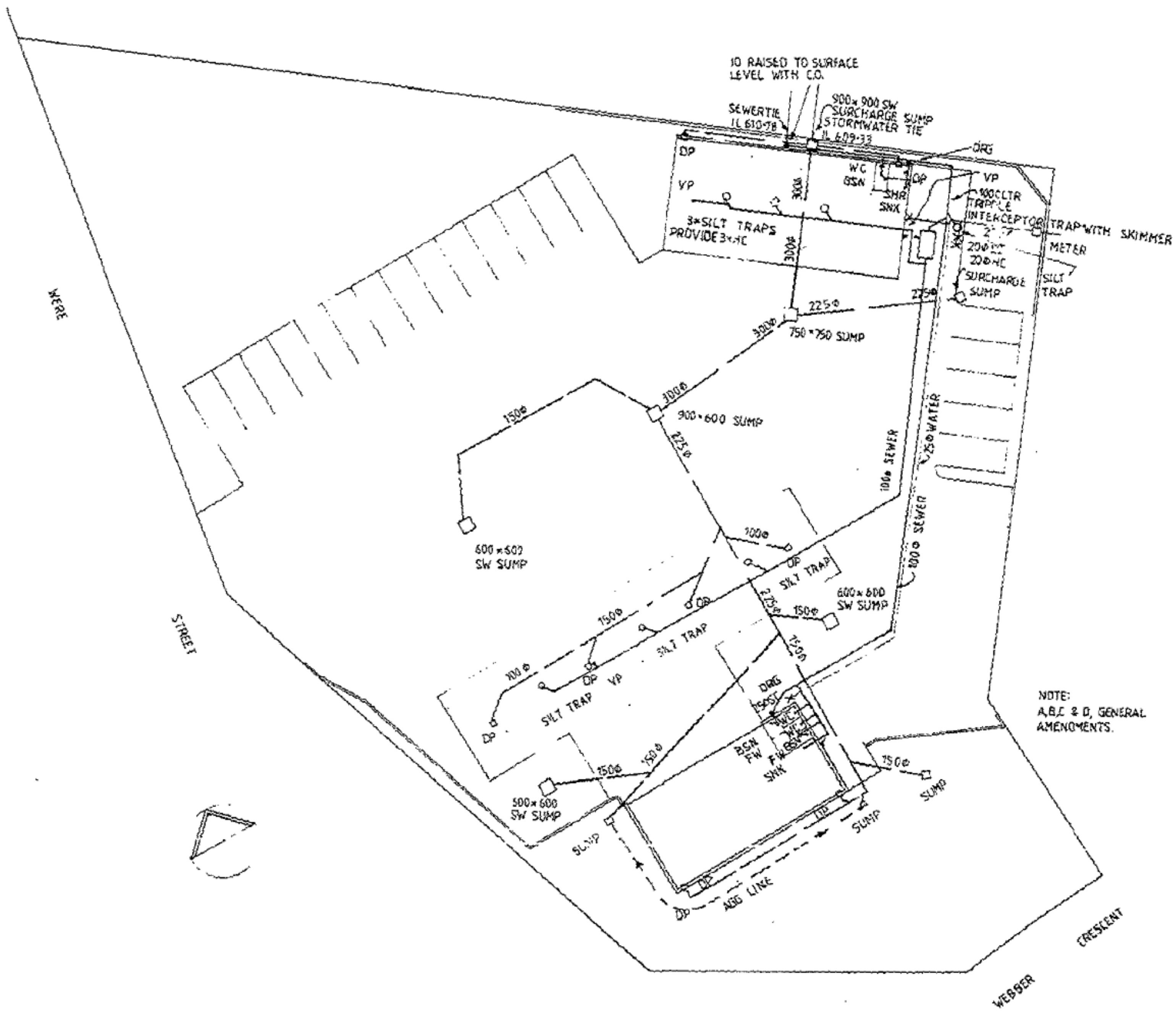


22176 Calwell
Existing Layout - Based on 1990 T&L Drawing & E10 - June 2007 info & post ULP photos displacement

A3-62737	SITE LAYOUT
No.	TITLE
REFERENCE DRAWINGS	

CALWELL
Cnr WERE STREET AND WEBBER CRESCENT
pump and tank layout

		A1	62774
			1



GENERAL NOTES:

1. Existing SEWER MAINS shown thus: —S—
2. Existing STORMWATER MAINS shown thus: —SW—
3. Existing WATER MAINS shown thus: —WM—
4. Existing SANITARY DRAINAGE shown thus: —SD—
5. Existing SANITARY PLUMBING shown thus: —SP—
6. Existing STORMWATER DRAINS shown thus: —SW—
7. Existing WATER SERVICE shown thus: —WS—
8. Proposed SANITARY DRAINAGE shown thus:
9. Proposed SANITARY PLUMBING shown thus:
10. Proposed STORMWATER DRAINS shown thus:
11. Proposed SUB SOIL DRAINS shown thus:
12. Proposed WATER SERVICE shown thus:
13. All work must be carried out in conformity with the Canberra Sewerage and Water Supply Regulations.
14. Manholes to be constructed in accordance with Dept. Housing & Construction standard drawing No. H.12, and shall be fitted with approved Cast Iron covers.
15. Grated sumps to be constructed in accordance with the details shown.
16. QS and R type sumps to be constructed in accordance with Dept. Housing & Construction standard drawing No. H.25.
17. Meter Pit to be constructed in accordance with Dept. Housing & Construction standard drawing No. H.50, or in accordance with details shown on these drawings.
18. UPVC pipe drains to be constructed in accordance with AS 2032-1977.
19. Stormwater system designed for normal roof and surface runoff for a 5 year recurrence interval and no responsibility will be accepted for any surface flooding which may occur in or adjacent to any ground floor unit, house, office, etc.
20. SANITARY PLUMBING, SANITARY DRAINAGE and WATER SERVICES shown for coordination purposes only and will be subject to separate approval.
21. Minimum grades for stormwater pipes: 1.0% unless otherwise shown.
22. REFERENCE:
    - SMH Sewer Manhole
    - SWMH Stormwater Manhole
    - SPD Stormwater Pipe Drain
    - SVP Soil Vent Pipe
    - DT Disconnector Trap
    - GT Gully Trap
    - IO Inspection Opening
    - VP Vent Pipe
    - EV Educt Vent
    - EJ Expansion Joint
    - DP Down Pipe
    - UPVC Unplasticised Polyvinyle Chloride
    - SW Stormwater
    - S Sewer
    - CW Cold Water
    - WS Water Service
    - QCV Quick Coupling Valve
    - SC Stop Cock
    - SV Stop Valve
    - FHR Fire Hose Reel
    - FH Fire Hydrant
    - SSD Subsoil Drains
    - COP Clean Out Point
    - GO Grated Outlet
23. MATERIALS:
    - 100 sewer drains : vitrified clay
    - 150 sewer drains : vitrified clay
    - 90 stormwater drains : U.P.V.C.
    - 100 stormwater drains : vitrified clay
    - 150 stormwater drains : vitrified clay
    - 225 stormwater drains : concrete class "X"
    - 300 stormwater drains : concrete class "X"
    - 20 water supply : copper

No.	Date	Description	Ref.
		Amendments	

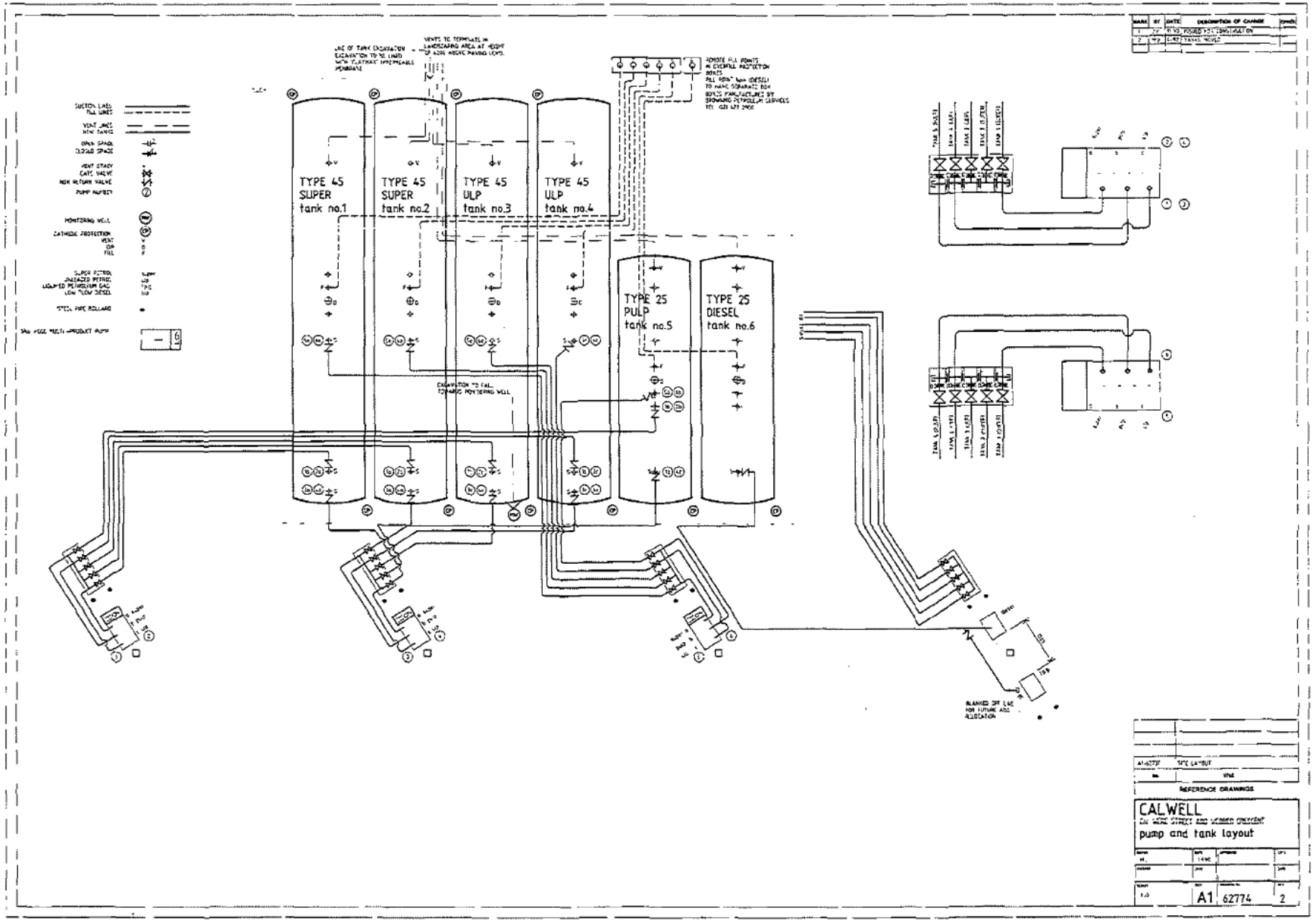
BIRD MOORE & PARTNERS
Hydraulics & Plumbing Consultants

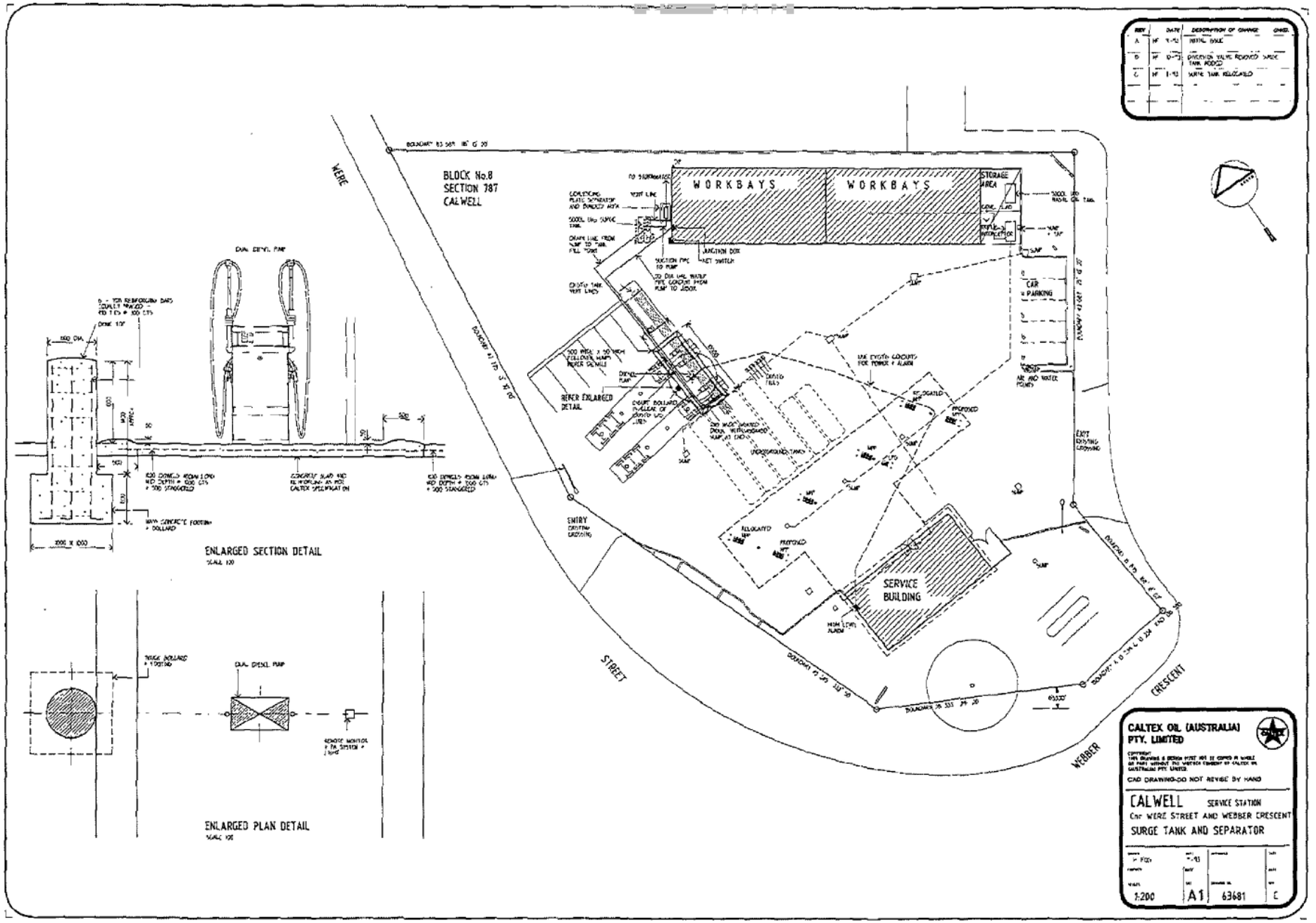
Architect: STIRLING ARCHITECTS

Client: TSOULIAS GROUP DEVELOPERS

Project:
PROPOSED SERVICE STATION
Block 8 Section 787 CALWELL
SITE LAYOUT
HYDRAULIC SERVICES

Scale 1 : 200 — Date SEPTEMBER 199
Drawn GM — Sheet 1 of 1
ATTY. — Drawing number 90109-HS.01 — Amdt. D


TYPE 45
SUPER
tank no.1
TYPE 45
SUPER
tank no.2
TYPE 45
ULP
tank no.3
TYPE 45
ULP
tank no.4
TYPE 25
PULP
tank no.5
TYPE 25
DIESEL
tank no.6
CALWELL
pump and tank layout
A1
62774
2

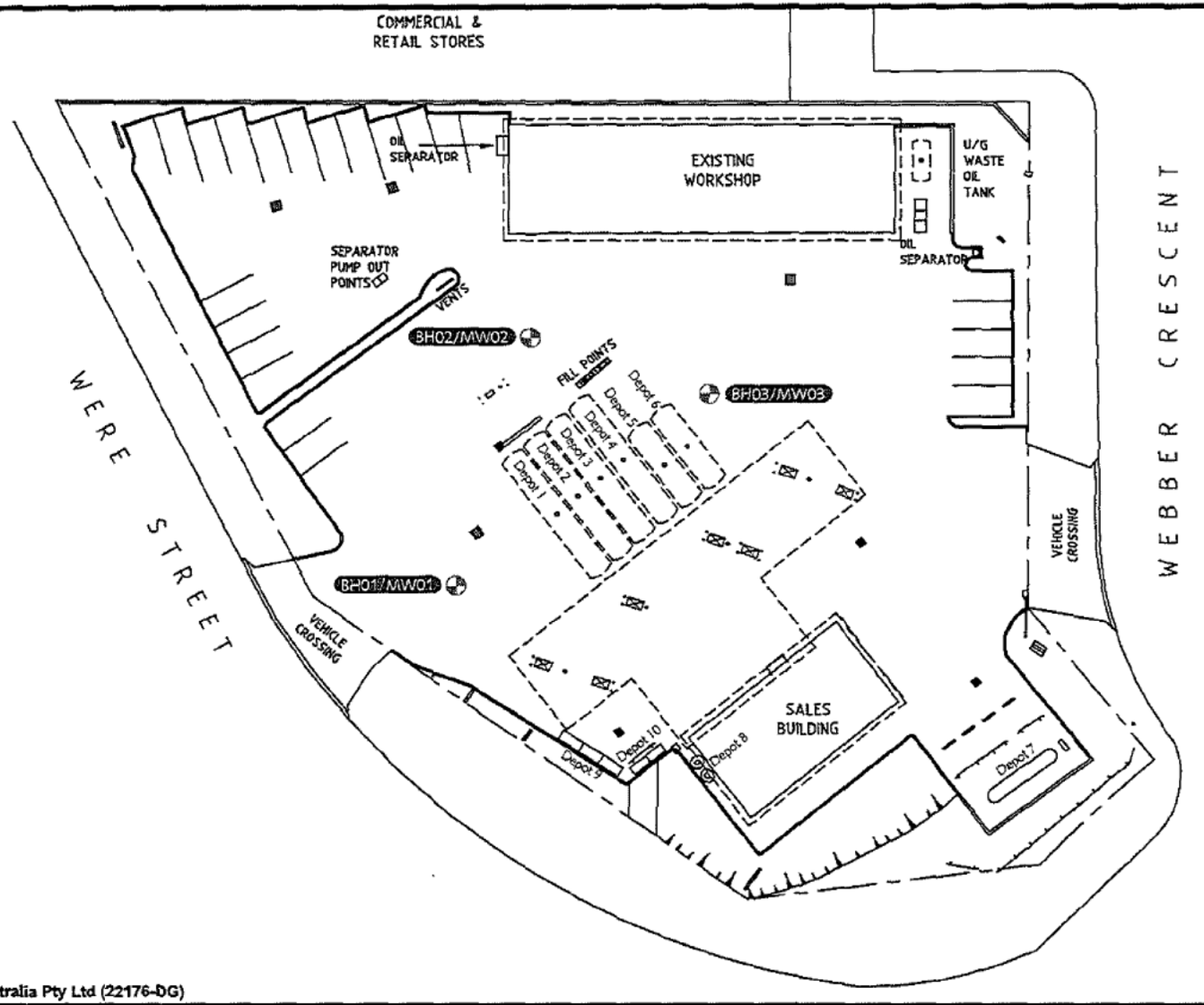

BLOCK No.8
SECTION 787
CALWELL
WERE
STREET
WEBBER
CRESCENT
WORKBAYS
WORKBAYS
STORAGE AREA
SERVICE BUILDING
CAR PARKING
EXIT
ENTRY
REFER ENLARGED DETAIL
ENLARGED SECTION DETAIL
ENLARGED PLAN DETAIL
CALTEX OIL (AUSTRALIA) PTY. LIMITED
CAD DRAWING-DO NOT REVISE BY HAND
CALWELL SERVICE STATION
Cnr WERE STREET AND WEBBER CRESCENT
SURGE TANK AND SEPARATOR
1:200
A1
63681
C

Section F

Plan of the storage site

"[the EMP should include] *a plan of the storage site that shows the location of:*

- *The storage system;*
- *All buildings and associated infrastructure including tanks, lines, dispensers and vents;*
- *All gates and fences;*
- *All groundwater monitoring wells;*
- *All tank pit observation wells; and*
- *Any unsealed ground surfaces"* (DECCEW, 2011).



Source: Caltex Australia Pty Ltd (22176-DG)

Tank Details

Tank ID	Capacity	Product
DEPOT 1	45 200 L	V95
DEPOT 2	45 200 L	ULP
DEPOT 3	45 200 L	ULP
DEPOT 4	45 200 L	ULP
DEPOT 5	27 400 L	V98
DEPOT 6	25 000 L	Diesel
DEPOT 7	7 500 L	LPG AST
DEPOT 8	72 x 9 kg	LPG Exchange Cylinders
DEPOT 9	24 x 9 kg + 24 x 4 kg	LPG Exchange Cylinders

Key

- Fuel dispensing pump
- UST
- Borehole/monitoring well location (AECOM, 2011)

PROJECT ID: 60196918
CREATED BY: TO
LAST MODIFIED: TO 20 07 2011
AECOM
www.aecom.com

0 20m

Site Layout and Sampling Locations

Caltex Australia Pty Ltd
Groundwater Monitoring Well Report
Caltex Calwell (22176)
Cnr Were Street and Webber Crescent
Calwell ACT 2905

Figure F2

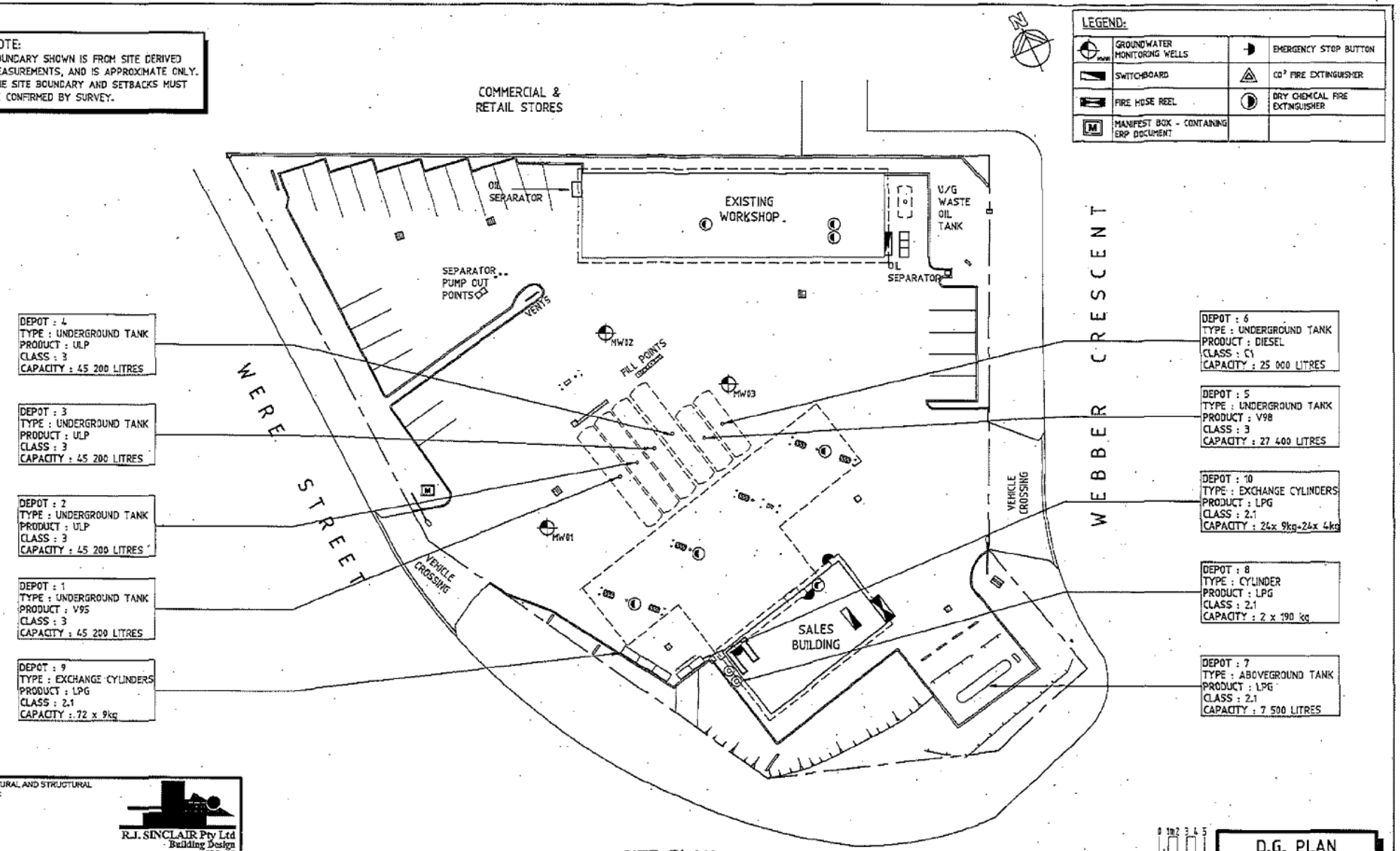
Map Document: G:\Projects\60\60196918 Caltex\Caltex Calwell ACT\60196918 F2 Site Layout and Sampling Locations

A4 Size

NOTE:
BOUNDARY SHOWN IS FROM SITE DERIVED MEASUREMENTS, AND IS APPROXIMATE ONLY. THE SITE BOUNDARY AND SETBACKS MUST BE CONFIRMED BY SURVEY.

LEGEND:

MW	GROUNDWATER MONITORING WELLS		EMERGENCY STOP BUTTON
	SWITCHBOARD	CO^2	CO^2 FIRE EXTINGUISHER
	FIRE HOSE REEL		DRY CHEMICAL FIRE EXTINGUISHER
M	MANIFEST BOX - CONTAINING ERP DOCUMENT		



SITE PLAN

0 1m2 3 4 5

D.G. PLAN

ARCHITECTURAL AND STRUCTURAL DESIGN BY :
06 - 118

R.J. SINCLAIR Pty Ltd
Building Design
PO Box 50
Suite 6a, 3 Ward Place
ROUND CORNER NSW 2158
Phone : 02 9651 1645
Fax : 02 9651 1543
E-mail : rsinclair@bigpond.com.au

CALTEX
Caltex Australia Petroleum Pty Ltd

REV.	BY	DATE	DESCRIPTION OF CHANGE
P1	VTP	31.01.07	DG PLAN
00	VTP	09.02.07	CONSTRUCTION ISSUE.
A	JB	22.03.11	MONITORING WELLS LOCATION

REVISION

PROJECT
CALWELL ACT
Cnr WERE ST & WEBBER CRESCENT
CALWELL

TITLE
DANGEROUS GOODS PLAN

DRAWN	DATE	APPROVED	DATE
VTP	30.01.07		
SCALE	SIZE	DRAWING No.	REV.
1:400	A3	22176-DG	A

Section G

Industry standards

"[The EMP should include] *lists of industry standards with which the industry has complied*" (DECCEW, 2011).

Design Standards

- AS1020 The Control of Undesirable Static Electricity.
- AS/NZS 1940 The Storage and Handling of Flammable and Combustible Liquids.
- AS/NZS 2430.3 & 60079.10 Classification of Hazardous Areas.
- AS 3000 Australian/New Zealand Wiring Rules.
- AS 4897 Design, Installation and Operation of Underground Petroleum Storage Systems
- AS 1596 (for sites with LPG facilities) The Storage and Handling of LP Gas.
- Australian Dangerous Goods Code.
- Tank Manufacturer's Handling & Installation Instructions.
- Petroleum Industry Contractors Association (PICA)
  RP 001 Recommended Practices for Installation of Underground Liquid Storage Systems.

Section H

Specifications

"[The EMP should include] *a copy of all specifications adopted in the design and installation of the storage system*" (DECCEW, 2011).

CALTEX
Caltex Australia

MARKETING PROPERTY-PROJECT SERVICES

STD - D905

VOLUME 2

Service Station Construction SPECIFICATION

Section 23

Underground Petroleum Storage System

Index

23.1	*(Rev 06.2)*	Extent of Works & General
23.2	*(Rev 06.2)*	Standards
23.3	*(Rev 07.8)*	Equipment and List of Approved Fittings/ Equipment
23.4		Transportation and Handling
23.5		Excavation
23.6	*(Rev 04.2)*	Tank Installation
23.7	*(Rev 07.8)*	Pipe work General
23.8	*(Rev 04.2)*	Remote Fills
23.9		Air Vent Pipes
23.10		Vapour Recovery Pipes
23.11		Product Pipes
23.12	*(Rev 03.2)*	Leak Monitoring
23.13		Pump/Dispenser Bases
23.14	*(Rev 03.1)*	Electrical Service
23.15		Initial Integrity Test
23.16	*(Rev. 07.8)*	Protection during Construction & after Hydrostatic Testing
23.17	*(Rev 03.2)*	Backfilling
23.18		Paving

23.19		Pump/Dispenser Installation
23.20	*(Rev 03.2)*	Acceptance of Product
23.21	*(Rev 07.8)*	Commissioning of Fuel System
23.22	*(Rev 03.1)*	Interface of work to Building Contract
23.23	*(Rev 07.8)*	System Certification & As Built Drawings
		Additional Items related to work on existing operational UPSS
23.24	*(Rev 03.1)*	Pavement Opening & Restoration
23.25		EIT of Modified/Replaced UPSS Components
23.26		Replacement of Gaskets & Seals
23.27	*(Rev 07.8)*	Tanks and Associated Works
		Attachments
	(Rev 04.2)	A1 UPS System Installation Check List
	(Rev 08.2)	A2.1 Tank Data sheet A2.2 UPSS Master Record Sheet *(Excel document issued separately)*
	(Rev 03.1)	A3 Owner/Operator Checklist
	(Rev 03.1)	A4 Equipment Integrity Test Requirements

CROSS REFERENCES

This section must be read together with:

Section 1 Section 3 Section 4 Section 16 Section 24
Section 26, Section 31 Appendix B

Volume 3, Section 1

Caltex standard work processes shall be followed when required, including but not limited to:

Use of hand held power tools in hazard zones

Product change in an operating UST

Relevant standards include, but are not limited to:

AIP - CP4	AIP - CP5	AS 1596	AS 1841	AS 1850
AS 1940	AS 2380	AS 2381	AS 2430.1	AS 3000
AS 4897	SAA HB 13			

Quality Assurance			
03.2	Leak Monitoring details and protection during construction/hydrostatic testing added. List of equipment and approved fittings updated. Clause 23.26 Removal & Disposal of Existing Tanks added	LP	11/08/03
04.1	PetroTechnik UPP electrical conduit system added to approved equipment table	DWO	20/08/04
04.2	Backfilling & Ballasting, installation safety, spill box drain & reference to photo records amended	DWO	27/10/04
06.1	Treloar ground box lid ref. corrected	CL/DWO	13.02.06
06.2	Reference to LPG work including temporary arrangements added	LP/DWO	10.03.06
06.3	Insertion of requirement of certificate for fill point resistance to earth and update of file server from sydhofs2 to TSOfpsp1	LP/KS	05/12/06
07.8	Fill Point/box requirements changed plus all other sections affected	DWO	22.11.07
08.1	Formatting changes only	NS	16.01.2008
08.2	AS 4897 added to replace AIP CP4. Treloar Fill point box added & reference to Gaskets replacement & EIT on maintenance works added	NS/DWO	07/03/2008
Rev	**Details**	**Initiating Engineer**	**Date**

23.1 Extent of Works & General

(Rev. 06.2) The Work shall be as indicated on the Drawings and/or in the Project Scope of Works. This may include:

- A complete Underground Petroleum Storage System (UPSS), i.e., one (1) or more completely buried tanks (UST's) that will contain petrol, diesel or used oil and all piping to, from or associated with the tank(s) complete with leak monitoring systems and corrosion protection systems. This section details work for petrol, diesel and waste oil only. For LPG systems refer to Section 24.
- The repair and/ or upgrading of an existing UPSS
- The forecourt product dispensers/ pumps and integration with their sales control system
- The commissioning of, a new UPSS, or the replaced, upgraded components in an existing UPSS
- The provision of all system certification documents.

Only Company pre-qualified Associated Separate Contractors shall carry out work on a UPSS.

Safety

(Rev 04.2) All works shall be carried out with due regard to the safety of employees carrying out the work, other personnel employed on the site, and third parties. All works shall be executed in accordance with statutory regulations pertaining to safe work practices. State Occupational Health and Safety Regulations and Contractors Safety for Service Stations shall be observed at all times. (Refer Section 1 of this Specification). Discuss work practices for Occupational Health Safety (e.g. tank excavation & installation).

Notice and permits

Work permits will be required from the Superintendent prior to commencement on site. 48 hours notice must be given for the Company to arrange the permit(s).

Insurance

(Rev 03.1) The Contractor shall make arrangements for appropriate insurance cover for damage to works and injury to persons and property during course of works.

Fees

All fees that may be required by any Statutory Authority shall be paid by the Contractor including tip fee required to dispose of any spoil.

Customer inconvenience sign

At existing operating service station sites a double sided self supporting customer inconvenience sign shall be displayed at all times during the course of work on areas accessible to the general public. The Contractor shall liaise with the Superintendent with regards to the type and availability of such signage.

23.2 Standards

(Rev. 06.2) This specification shall be read in conjunction with:

(08.2) the current edition of all relevant Australian Standards and AIP Codes of Practice, including but not limited to:

- AS 4897 - "The Design Installation and Operation of Underground Petroleum Storage Systems"
- AS 1940 – "The Storage and Handling of Flammable and Combustible Liquids"
- AS 1596 – "The Storage and Handling of LP Gas"
- A.I.P. Code of Practice, CP-4 "Design Installation & Operation of Underground Petroleum Storage Systems (UPSS)"(Transition to new AS4897)
- A.I.P. Code of Practice, CP22 "The Removal and Disposal of Underground Petroleum Storage Tanks"
- SAA HB13/NEEITC 181-1-1992

- Caltex Standard and project specific drawings and Contract Scope of Works
- all other Statutory Authority requirements pertaining to the excavation and installation of underground tanks, installation and alteration of underground pipe works, installation and alteration of services lines and dispensers.

(Rev 97.1) Caltex Standard Drawings prefixed STD-F*** provide schematic information and typical details of how to assemble and install the various components of the UPSS. All UPSS works shall be completed using these standards.

Note: Standard Drawings currently available only refer to a pressure fuel system. Existing Ampol and Caltex drawings for suction fuel systems shall be used until they are converted to the new standard formats.

23.3 Equipment and List of Approved Fittings/Drawings

(Rev. 07.8) The equipment installed in a UPSS shall be of proprietary types and, where possible, form part of a complete system sourced from a single manufacturer and/ or supplier. Where this is not possible the number of different sources shall be kept to the practical minimum. Avoid mixing components from different manufacturers unless specifically instructed to in this specification.

In no UPSS shall the equipment installed be less than that recommended in the current edition of AIP CP4.

These listings shall be read in conjunction with the Caltex Standard Fuel System Drawings (STD-F** series drawings)

Underground Petroleum Storage System

Equipment Item	Minimum Acceptance Standards		Approved Equipment/Fittings
	New UPSS or complete tank/ line replacement	Existing UPSS repair	Details/drawing reference
TANK (UST)			
	Double wall, non corrodible with manufacturer fitted leak monitoring to the interstitial space		Envirotank double wall FRP tank with liquid level interstitial space monitoring system. Preferred all new installations
		FRP jacketed steel tanks only acceptable at Class B & C sites as replacement tank in an existing tank farm	'Permatank' FRP jacketed steel tank with vacuum interstitial space monitoring system. Acceptable retrofit to existing system.

Underground Petroleum Storage System

Equipment Item	Minimum Acceptance Standards		Approved Equipment/Fittings
	New UPSS or complete tank/ line replacement	**Existing UPSS repair**	**Details/drawing reference**
Lock Boxes	250mm diameter with mechanically fixed lid, removable without disconnection.		
Tank Access Chamber Cover			Treloar MC1000 series for trafficable areas Refer to STD-F295 for non-trafficable
Dip Point			STD-F290
Additional tank access point			
Riser	80NB galvanised steel (Denso wrapped)		
Plug	80NB galvanised steel (Denso wrapped)		
Lock Box (Rev 06-1)	250mm diameter with mechanically fixed lid, removable without disconnection.		Treloar 63-250-AL/CL

Underground Petroleum Storage System

Equipment Item	Minimum Acceptance Standards		Approved Equipment/Fittings
	New UPSS or complete tank/ line replacement	Existing UPSS repair	Details/drawing reference
Interstitial Space Monitor			
Riser – vacuum monitor	90 NB UPVC (slotted) pipe		
Riser – liquid monitor			STD-F208
Lock Box (Rev 06-1)	250mm diameter with mechanically fixed lid, removable without disconnection.		Treloar 63-250-AL/CL
PIPING			
Proprietary Piping Systems	Lined polyethylene pipe with welded fittings		• PetroTechnik UPP • NUPI