Binaries Industries Fire 25-August 2005

Queensland Fire and Rescue (QFRS) responded to a report of fire at Magnesium St Narangba and requested the QFRS Scientific Unit also attended the incident involving fire with the material glyphosate. Enroute the Scientific Unit understands several explosions were reported or observed at the site. The Scientific Unit arrived at 10:30 pm.

Initial Observations

On arrival the only access to the site was down Magnesium Street which was downwind from the incident. The facility was located at the end of Magnesium Street on the right hand side (facing down the road from the road entrance). The site was raised above the road level and there were two entrances. A small brick building was located at the front on the right hand side of the property. Immediately behind this building was a large building (30m by 70-80 m). It was well involved in fire and apparently was used to manufacture the products. A second large building (30 by 70-80 m) of prefab concrete construction was located on the left hand side of the site and there was no obvious signs of fire at this structure. There was a covered area in-between these two buildings which contained a number of pallets up to three high of 220l drums. To the front of this area was an LPG cylinder and to the right of that was a bunded area containing a large tank.

It is understood the site is operated by Binary chemicals.

The two buildings were separated by a concrete apron and at different levels. At this stage it was not clear whether the buildings were bunded or how the water on site was managed. It is understood a pond and tanks were located at the rear of the first large building. The property immediately adjacent to the site on the right was vacant. The land behind was bush, and the land to the left was also a mixture of scrub and bush. There were several facilities across the road some of which were placarded.

The weather was clear and dark. There was a reasonable wind blowing which was not gusting. QFRS had requested information about the weather forecast and was informed that the winds would be remaining in a SSW direction at 10-12km per hour.

The site manager was present and provided information as to the likely products they were working on which included glyphosate and 2,4D ester. At the request of Scientific the manager made a drawing of the site and provided further information about likely products and their location on site. The owner indicated that technical grade pesticides were onsite. The manifest could not readily be obtained at this time because of inherent hazards.

Significant volumes of smoke appeared to be generated from the fire. The smoke was not readily dispersing but was lifting easily into the air and remaining intact for at least the length of Magnesium Street.

Initial Actions

The Incident controller then issued advice regarding the safety of crews, both QFRS and other agencies, which included staying out of the smoke, setting up zones of operation and ensuring respiratory protection was adopted. Scientific further advised that skin and foot protection be adopted and that personnel stay out of the run-off. The incident controller then appointed personnel from 850L to be the site safety advisor.

Further advice was sought from Scientific which included incident management strategies, community protection strategies and information about the materials their hazards, fire behaviour, and hence fire products and likely impact on people, and the environment. In particular advice about community protection was provided and was shared with the Queensland Police Service (QPS).

Air Monitoring

QFRS Scientific undertook air monitoring of the area immediately around the control point. This site was north of the incident and along the eastern side of the road opposite the binary chemicals site. Fire involving pesticides, herbicides, solvents etc generate a complex mixture of products including, organics such as benzene, oxygenated hydrocarbons like acrolein, nitrogenated hydrocarbons, inorganic oxides, other inorganic complexes like ammonia, partially decomposed products, carbon monoxide and carbon dioxide. In addition, some unburnt products are entrained in the smoke as well as other particulates. Using this information as a guide and consulting the owner and the manifest when it became available to obtain further information about product location and their possible combustion products it was decided to measure the following in order to obtain general information about the smoke composition:

- volatile organics;
- inorganic oxides- carbon monoxide, sulphur dioxide;
- hydrogen cyanide and ammonia;
- oxygenated hydrocarbons as formaldehyde and acrolein;
- flammable products;
- oxygen content;
- hydrogen sulphide, total sulphur using the AP2C; and
- phosphorous based complexes- as total phosphorous (using AP2C) and also organophosphate esters using a drager tube.

Guideline values applied include the following:

- volatile organics, <0.5ppm (parts per million);
- inorganic oxides- carbon monoxide 30ppm , sulphur dioxide 2ppm;
- hydrogen cyanide 10ppm and ammonia 25ppm;
- oxygenated hydrocarbons as formaldehyde 1ppm and acrolein 0.1ppm;
- flammable products <10%LFL (lower Flammability Limit) at incident <5% in community;
- oxygen content 19.5 -23.5%;
- hydrogen sulphide, 10ppm total sulphur using the AP2C; and
- phosphorous based complexes- as total phosphorous (using AP2C) and also organophosphate esters using a drager tube - chlorpyrifos (National Exposure Standard NES) 0.2mg/m^3 (milligrams per cubic metre) Detection Limit (DL) of organophosphate tube 0.05ppm Dichlorvos

Note the guideline values for hydrogen sulphide has been corrected from 15 ppm to 10 ppm.
The AP-2C measures in bar units

Air Monitoring Results

Initial Air Monitoring

23:00 readings taken from initial control point north of the incident and along the eastern side of the road opposite the Binary chemicals site.
ATX O2, -normal, CO < 5ppm <1ppm LFL <2% of LFL
PID < 1ppm
Formaldehyde meter not detectable (ND-Not Detectable) formaldehyde tube as acrolein (ND)
HCN <1ppm, SO2 <1ppm NH_3 < 1ppm
AP2C no bars (sulphur and phosphorous ND)

After initial air monitoring around the incident control point was completed Scientific unit attention focused on the run-off water as it was likely to contain pesticides and hence be harmful to the environment. The run-off water was checked for pH and these were consistent with the water prior to application to the fire. Runoff from the site was observed coming down each of the driveways and from a tank near the SE corner of the site. The runoff appeared to be heading to the front left of the site into the stormwater drain at the end of Magnesium St and on both sides The overflow runoff from the drain and the runoff from the tank in the SE corner was going into a scrub area with a gentle slope further away from the site to the east.

There was some difficulty with visibility and it was not possible in the dark to determine where the drains from Magnesium Street entered the waterways to the south and east of the incident site. Consequently the bridges to the east and west of the Magnesium Street/Potassium street intersection were monitored for the presence of any flow. At this time there was no indication of water flow under these bridges. Further information was necessary to determine where the water was flowing. Assistance was requested from the local council and EPA (Environmental Protection Agency).

The Scientific Unit was requested to undertake air monitoring of the local neighbourhood down wind (narangba-deception bay area). Using local knowledge and also consulting the maps of the area in conjunction with the predicted weather forecast it was decided to commence activities at Krause St as this was the closest residential area downwind from the incident.

Community Air Monitoring

This initial observation starting at 23:50, at the Krause St/Warren Cr intersection, determined that there was no evidence of smoke or fallout and air monitoring was conducted at this site using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (<0.08ppm), PID (<0.5 ppm), ATX (CO <2 ppm, H_2S ND, oxygen normal, flammables ND).
While driving through the Deception Bay Road/Lipscombe street intersection and looking west towards the Zammit Rd/Deception bay road intersection the first obvious signs of the presence of the smoke haze was observed. Consequently after monitoring at Krause street Scientific decided to continue monitoring through the suburb starting at the Zammit Rd/Deception Bay road intersection with air monitoring results using the AP2C (phosphorous 1 bar, sulphur ND), formaldehyde meter (0.08 ppm), formaldehyde tube (ND), PID (<0.5ppm) and ATX612 (CO <5 ppm, H_2S ND, oxygen normal, flammables ND).

Monitoring then proceeded through the suburb at the following locations:
Zammit St/Eveshan Rd intersection where a smoke haze was present with air monitoring results using the AP2C (phosphorous 2 bars, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm) ATX (CO <5 ppm, H_2S ND, oxygen normal, flammables ND)
Claverton Dr/ Old Bay Rd intersection where a smoke haze was present with air monitoring results using the AP2C (phosphorous 1 bar, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <2 ppm, H_2S ND, oxygen normal, flammables ND)
Peta St/Old Bay Rd roundabout where smoke haze was not present and air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <2 ppm, H_2S ND, oxygen normal, flammables ND)

While driving around it was observed that the houses in this area looked relatively new having brick exteriors and sliding windows. Scientific did not observe any open windows while driving around the streets of the suburb.

After returning to the incident site at 1:00am and discussing the results with the incident controller and QPS it was decided to keep the shelter in place community safety strategy and the QPS extended the PSPA to include the area bounded by Old Bay Rd, Seagull Ct and the creek west of Warroo Dr.

At 1:15am air monitoring was conducted from the incident control point along the eastern side of the street. The plume was still well formed with air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.02ppm), PID (<1ppm), ATX (CO< 5ppm H_2S ND oxygen normal, flammables <2 % of LFL), HCN ND, SO_2 ND, NH_3 ND.

The bridges on Potassium St were inspected and no flow was observed under these bridges.

At 2:00am Scientific left the incident site to perform air monitoring in the suburbs. The plume from the fire had not changed direction since the 23:50pm suburb monitoring and so it was decided to use the previous monitoring locations as a starting point for this monitoring cycle. The following results were obtained:

Krause St/Warren Cr intersection where there smoke haze was not present with air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <5ppm, H2S ND, oxygen normal, flammables ND).
Zammit St/Deception Bay Rd intersection where a smoke haze was present with air monitoring results using the AP2C (phosphorous 3 bars, sulfur ND), formaldehyde meter (0.10ppm) formaldehyde tube (ND), PID (<0.5ppm), ATX (CO <5ppm, H_2S ND, oxygen normal, flammables ND).
End of Lisa St where a smoke haze was present with air monitoring results using the AP2C (phosphorous 3 bars, sulphur ND), formaldehyde meter (0.10ppm) formaldehyde tube (ND), PID (<0.5 ppm), ATX (CO <5ppm H_2S ND, oxygen normal, flammables ND).
Zammit St/Eveshan Rd intersection where a smoke haze was present with air monitoring results using the AP2C (phosphorous 4 bars, sulphur ND), organophosphate tube (ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <5ppm, H_2S ND, oxygen normal, flammables ND)
Claverton Dr/ Old Bay Rd intersection where a smoke haze was present with air monitoring results using the AP2C (phosphorous 3 bars, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <5ppm, H_2S ND, oxygen normal, flammables ND)
Peta St/Old Bay Rd roundabout where a smoke haze was present with air monitoring results using the AP2C (phosphorous 4 bars, sulphur ND), formaldehyde meter (0.10ppm), PID

(<0.5ppm), ATX (CO <5ppm, H_2S ND, oxygen normal, flammables ND). As the smoke haze was still present at this location Scientific decided to do more monitoring through the suburbs which included the following locations:

Old Bay Rd/Blue Pacific Rd intersection where no smoke haze was present with air monitoring results using the AP2C (phosphorous 1 bar, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <2ppm, H_2S ND, oxygen normal, flammables ND).
Blue Pacific Rd/Jamaica Dr intersection where a smoke haze was present with air monitoring results using the AP2C (phosphorous 2 bars, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <2ppm, H_2S ND, oxygen normal, flammables ND).
End Bermuda Av before bend where a smoke haze was present with air monitoring results using the AP2C (phosphorous 2 bars, Sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <2ppm, H_2S ND, oxygen normal, flammables ND).
Bermuda Av Bancroft Tce East end where no smoke haze was present with air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <2ppm, H_2S ND, oxygen normal, flammables ND).
Old Bay Rd/Bruce Highway where no smoke was present with air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.5ppm), ATX (CO <2ppm, H_2S ND, oxygen normal, flammables ND).

On return to the site at 3:00am the incident control point had moved. The latest air monitoring results were discussed with the incident controller and QPS and it was decided to continue with the shelter in place community safety strategy, however preparations for an evacuation would be started with the results for the next suburb monitoring to determine if evacuation was necessary. QPS extended the PSPA (Public Safety Preservation Act declaration of Emergency Situation) to include the area bounded by Bermuda Av and Havana St.

At 3:15 the plume was visibly lower and was approaching the ground near the Magnesium St Potassium St intersection. Air monitoring Readings taken along the side of the street down from the operations sector control point near the factory using the AP2C(phosphorous 1 bar, sulphur ND), formaldehyde meter (0.14ppm), formaldehyde tube (ND), PID (<2ppm), ATX (CO < 5ppm H_2S ND, oxygen normal, flammables ND), HCN ND, SO_2 ND, NH_3 ND.BA (Breathing Apparatus) wearing requirements were already in place.

Air monitoring at the end of Magnesium Street using the AP2C (phosphorous 2 bars, sulphur ND), formaldehyde meter (0.14ppm), formaldehyde tube (ND), PID (<2ppm), ATX (CO < 5ppm H_2S ND, oxygen normal, flammables ND). Personnel on the pumper at this site were advised to wear BA.

The bridges on Potassium St were inspected and there was no observable flow under these bridges.

At 4:00am Scientific left the incident site to perform air monitoring in the suburbs. The plume from the fire had not changed direction since the 23:50pm suburb monitoring and so it was decided to use the previous monitoring locations as a starting point for this monitoring cycle. The following results were obtained:

Krause St/Warren Cr intersection where no smoke haze was present and air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.14ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).

Zammit St/Deception Bay Rd intersection where the smoke haze was clearing and air monitoring results using the AP2C (phosphorous 2 bars, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).
End of Lisa St where the smoke haze was clearing and air monitoring results using the AP2C (phosphorous 1 bar, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).
Zammit St/Eveshan Rd intersection where the smoke haze was clearing and air monitoring results using the AP2C (phosphorous 2 bars, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).
Claverton Dr/ Old Bay Rd intersection where no smoke haze was present and air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).
Peta St/Old Bay Rd roundabout where no smoke haze was present and air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).
Old Bay Rd/Blue Pacific Rd where no smoke haze was present and air monitoring results using the AP2C (phosphorous ND, sulphur ND), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).
Bermuda Av Bancroft Tce West end Visibility: where no smoke haze was present and air monitoring results using the AP2C (phosphorous ND, sulphur ND), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).

At the request of QPS, during this monitoring cycle the intersection of Twists and Creek roads was checked due to the presence of an old people's facility. There was no smoke haze at the site with air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND,H_2S ND, oxygen normal, flammables ND).
Old Bay Rd/Bruce Highway Visibility: where no smoke haze was present and air monitoring results using the AP2C (phosphorous ND, sulphur ND), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).

While performing this monitoring incident control indicated to firecom (Brisbane Fire Communications Centre) that the fire was under control and on the way back to the incident the AP2C readings had decreased further.

After returning to the incident at 5:00am and discussing the results with the incident controller and QPS it was decided to keep the shelter in place community safety strategy. After consultation with Caboolture Shire Council it was decided to downgrade arrangements for an evacuation.

At 5:15 the bridges on Potassium Street were inspected and Council officers were present at the eastern bridge there was a small amount of water going under this bridge. During a discussion with the council officer he stated that the area upstream of the Potassium St bridge had a very large natural storage capacity and that the small trickle indicated that its capacity had only just been reached. The council was proceeding to build a dam at this point. Council also indicated that they were going to construct dams downstream to provide additional protection in case the Potassium Street dam was breached.

At 5:30 Scientific went to confirm the trend of the previous suburb monitoring results. There was no smoke haze was visible at any of the monitoring locations which was confirmed by air monitoring in these using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter

(0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND). As the plume had changed to an easterly direction the intersections of Twists Rd/Creek Rd and Old Bay Rd/Bruce Highway were monitored. There was no smoke haze present at either site and air monitoring results using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND)

On return to the incident site at 6:15am and discussing the results with the incident controller and QPS it was decided that the results indicated that all streets were now within safe levels and the PSPA was downsized to the immediate area of the incident.

At 6:30 the incident site was checked again and the readings at the Magnesium St Potassium St intersection using the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.10ppm), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND). Halfway along Magnesium St the AP2C (phosphorous ND, sulphur ND), formaldehyde meter (0.14ppm), formaldehyde tubes (ND), PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND),HCN ND, SO_2 ND, NH_3 ND. The incident was downsized to Magnesium St and the PSPA was revoked.

The eastern bridge on Potassium St was inspected and progress had been made in building dam water was now collecting behind this dam. Air monitoring using the AP2C (phosphorous ND, sulphur ND) PID (<0.05ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND) indicating that all parameters measured were within safe levels.

QFRS personnel were progressively relieved and attention started to focus on the clean up. The IC (Incident Controller) and Ops (Operations) sector commander then requested a meeting with the owner of Binary chemicals. When the owner arrived a meeting was held with the IC Ops sector commander and the Owner. IC indicated to Scientific that the owner had not agreed to pay for the clean up but after discussion had agreed to contact his insurer to see if they would cover the cost of the clean up.

The eastern bridge on Potassium St was inspected and a significant amount of water had collected behind the dam that was continuing to be built. Air monitoring using the AP2C (phosphorous ND, sulphur ND), PID (<0.5ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND) indicating that all parameters measured were within safe levels. Personnel working in the area were advised not to go into the water.

At 8:30am Samples were taken of the runoff water near the gates to the incident site as well as the water that was dammed at the Potassium Street bridge. The analytical results from these samples were consistent with what was contained in the site manifest as was believed to be on the site at the time. The results indicated that the runoff water would need to be appropriately disposed of. (Results summarised in additional details).

Due to a fire alarm starting in the laboratory of the site which was found to be a false alarm site personnel attempted to disable the alarm. Scientific went with site personnel into the office monitoring the entry using the AP2C (phosphorous 1 bar, sulphur ND), PID (<1ppm), ATX (CO <10ppm, H_2S ND, oxygen normal, flammables ND),

Friday 26 August 2005 On site

The Scientific Unit officer was relieved after discussion of the operations during the night.

The briefing included discussion about the monitoring of the fire plume that had been conducted throughout the evening as the fire progressed. In very general terms the readings from 0000hr to 0100hr readings were approaching 0.5ppm VOC's near residential areas and Phosphorous levels from AP2C measurements suggested OP levels were also approaching exposure standard levels. These levels climbed closer towards the exposure standard for both VOC's and OP's between 0100hr and 0200hr. Readings then dropped significantly from 0300 to 0400hrs as the fire came under control and between 0430hr to 0500hr monitoring suggested VOC's were back to negligible levels along levels of OP's in the atmosphere.
In addition observations of the general site layout, activities, site hazards and safety as well as the expected activities to occur during the day were discussed.

This information was relayed to Qld Public Health Maroochydore Unit, including levels of exposure and areas affected downwind. He raised concern regarding contaminant particles that may have settled in surrounding areas. Material information was sourced for a number of the pesticides which suggested that breakdown times in sunlight could be lengthy with t ½ of months.

Monitoring around the site was conducted for the safety of teams working around the building including QPS and QFRS. No levels of VOC's or OP's were detected in the area that was dammed for runoff water where council workers were conducting earthworks. Recommendations were given to wear BA within the boundaries of the fenceline of the premises until late in the day.

Construction of temporary bunds at various locations downstream of the site was underway and most were completed during the morning.

Scientific officers also attended the incident on Friday August 30. The Scientific Unit donning SCBA (self Contained Breathing Apparatus) undertook air monitoring along the boundary of the site in the vacant block north. Measurements included
AP2C (sulphur ND and phosphorous <2 bar) intermittent measurements obtained to the NW of vacant block and along the W (rear) perimeter of the site.
PID <0.1 ppm

Monitoring was also conducted monitoring along S (left hand) perimeter of the site where QFRS was extinguishing fires within burning drums located in the warehouse. Immediately around the firefighting crew the measurements were
AP2C (sulphur ND and phosphorous ND)
PID ND

Approximately 20-30 m W of the firefighters. ie. the rear of the warehouse. There was some evidence of smoke and the measurements were:
AP2C (sulphur ND and phosphorous <1 bar)
PID ND.
Further measurements were undertaken around the N and E perimeters of the site
AP2C (sulphur ND and phosphorous ND)
PID ND

Information was obtained about the environmental fate of chlorpyrifos. Some information included: TPM (11th ed) found DT50 1.5d, pH 8, 25C; DT50 100d, pH7, 15C (phosphate buffer). Hydrolysis accelerated with increasing pH, presence of Cu and other metals.

Further monitoring around specific areas of the site was then undertaken at about 1400 in conjunction with Operations Officer
For example an opening on the north side of the factory:
AP2C (sulphur ND and phosphorous ND)
PID <2.7 ppm.
Across external rear (W) of the factory and in two rooms therein:
AP2C (sulphur ND and phosphorous ND)
PID ND
Immediately at the western end of concrete apron between factory and warehouse:
AP2C (sulphur ND and phosphorous <2 bar) intermittent measurements
PID ND
Walking through west to east on the concrete apron between the factory and the warehouse:
AP2C (sulphur ND and phosphorous ND)
PID ND

Further measurements of the area around the surface of solid white material located at front of the concrete apron at the edge of the left front of the factory
AP2C (sulphur ND and phosphorous <2 bar)
PID ND

The phosphorous measurements were obtained when smoke was incident upon instrument. The results were interpreted and appropriate advice provided to the operations officer about hazardous areas, hazards and appropriate PPE (personal Protective Equipment). A possible interpretation of the data is that pesticides may be present in flammable liquids still combusting.

The Scientific Unit was requested to undertake air monitoring whilst the QPS and a representative of Binary chemicals entered the northern most office located in the front of the warehouse at about 1430. Typical measurements included
AP2C (sulphur ND and phosphorous<2 bar) intermittent measurements
PID ND along the path to and in N office. It was observed the back hall way on the ground floor adjacent to the warehouse was saturated. Typical measurements obtained immediately above the soaked carpet area were:
AP2C (sulphur < 4 bar S phosphorous ND)
PID ND.
As a result the area was considered hazardous and no persons were to enter unless adopting appropriate PPE.

At about 1530 the Scientific Unit was requested to monitor the office whilst a QFRS firefighter and two representatives of Binary chemicals entered the office area.
The results were similar to those obtained during the previous entry and typically AP2C (sulphur ND and phosphorous<2 bar) intermittent measurements
PID ND along the path to and in N office. It was observed the back hall way on the ground floor adjacent to the warehouse was saturated. Typical measurements obtained immediately above the soaked carpet area were:
AP2C (sulphur < 4 bar S phosphorous ND)

PID ND.

In general, further monitoring activities such as of equipment used in the fire for decontamination purposes was also conducted using established criteria to assess cleanliness.

The QFRS attempted to drain a large bund at the front left of the factory which lead to a sum located immediately below the large store at the edge of the facility. During this process monitoring. Typical results immediately above green liquid in bund:
AP2C (sulphur ND and phosphorous ND)
PID ND

However, after the bund drain opened/unclogged, a pink/brown liquid was observed to flow into pit drain immediately in front of the bund. Typical results
AP2C (sulphur ND and phosphorous ND)
PID <100 ppm above opening of drain.

During the afternoon, Zappaway arrived and commenced to remove water from a sump located at the edge of the facility.

The Scientific Unit advised the QFRS to wash with detergent all hoses used within the area where run-off was observed. Then they were further advised to dispose of all these hoses. In addition the Scientific Unit also liaised with agencies such as the EPA, local council and also CHEM Services (EMQ - DES) officers to determine the nature and quantity of the materials that were present on the site at the time of the incident.

QHSS gave the results of the analysis of runoff water in the creek obtained earlier that day. They indicated verbally some evidence of pesticide contamination of the water (see QHSS report previously mentioned)

The Scientific officer was relieved at about 19:00hr after a briefing on the status of the incident, significant issues and activities that had occurred during the day. The officer then inspected the site and observed a number of temporary dams had been built at the end of Magnesium St and at the outfall from the storm water drain.

After handover the worksite around the dam was inspected and monitored using the AP2C (phosphorous ND, sulphur ND), PID (<0.5ppm), ATX (CO <2ppm, H_2S ND, oxygen normal, flammables ND) indicating safe levels. Dams only had small amounts of liquid in them. Work was to resume the next morning and the site was left with a single pumper. Instructions where given to the SO to keep a watching brief on the site and only work on any flare ups. The site fence boundaries were designated as the start of the warm zone requiring BA to be worn.

Scientific left site at 20:15 26/8/05.

Saturday 27 August 2005 On Site

Scientific returned to site at 6:55 27/8/05

On arrival the Potassium St dam was inspected and the water level was well below the installed overflow pipe and the dam looked stable. Discussion with the EPA indicated that little fire water had got past the Potassium St dam. But in case there was a problem and the liquid overflowed from this dam there were 3 other dams that had been built down stream to reduce the possibility of liquid getting to sensitive areas.

Once all QFRS personnel were on site a meeting was held to discuss the items to be address during the day. These included:

1. Making safe the southern wall of the southern building
2. Resolving the remaining observable hot spots.
3. Starting the cleanup of the road outside the premises
4. Starting the cleanup of the bush area at the end of Magnesium St where liquid from the site had collected.

For all work during the day a boot wash was set up and all personnel on the site were requested to use this wash whenever they went past the first Binary chemical gate on onto the site.

With regard to item 1. After advice from Scientific it was decided to pull the wall out rather than push it in as this would reduce the amount of pesticide dust released into the air. While the wall was being pulled down a light fog spray would also be used to further reduce any dust generation. When the wall was pulled down these strategies proved successful with minimal offsite impact from airborne dust. Air monitoring results using the PID (<0.5ppm), ATX (CO ND, H_2S ND, oxygen normal, flammables ND).

With regard to item 2 the machine operator and spotter both wore BA during the operation of this item and item 1 as did QFRS personnel involved in these operations.

With regard to item 3 it was decided to mix lime with clean sand and then cover the affected areas of the road with this mixture, EPA agreed with this approach. Council suggested 1 2kg bag of lime to 1m3 of sand and both EPA and Scientific agreed to this. The lime was added to aid in the breakdown of the pesticides thereby meeting one of the IC's requirements to use this stage of the incident to prepare for the future cleanup of the site.

With regard to item 4 it was decided to use the lime sand mix from item 3 and spread this over the affected areas in the bush at the end of Magnesium St. EPA agreed with this approach and also requested that the affected areas be pushed up and the piles that were made by doing this were covered to protect from the weather.

For Items 3 and 4 a bobcat was used to distribute the sand lime mix to minimise the risk of QFRS personnel coming in contact with the pesticide.

After the southern wall had been removed it was observed that there was potential for pesticide to be washed offsite in the event of rain. It was therefore decided to build a spoon drain on that

side of the building to direct any rain water runoff to the dams previously built at the end of Magnesium Street.

During these operations liquid was removed from all the dams built the previous day including the Potassium St dam.

Similarly during the morning QFRS fire investigators requested scientific to perform monitoring of the site to determine suitability for fire investigation at that time. The following are the results of this monitoring:

The area of concern to the fire investigators were the buildings to the north of the site.
The bunded area between the north and southern buildings: pH 7 PID (<0.5ppm)
Room SE corner of eastern building pH 7 PID (<0.5ppm)
Middle room eastern side of eastern building pH 2 PID (<0.5ppm)
Room NE corner of eastern building pH 7 PID (<0.5ppm)
NE corner of undercover area between the buildings on the northern side pH 4, PID (<13ppm) organophosphate tube (ND). This area of the site did not have as much water covering the floor as did the other areas measured.
After the initial inspection while doing the monitoring the fire investigators decided to leave the investigation until the readings were lower.

Between 13:45 and 17:00, VOC levels were monitored using the ppbRAE (ppb parts per billion) in areas around the site where QFRS personnel and other individuals such as EPA and council personnel were located. QFRS personnel wearing SCBA were continuing to apply water to fire hotspots within the premises, both at ground level and later from an aerial monitor. Advice was given on several occasions to QFRS personnel not wearing SCBA to move further away from the areas in which these operations were being conducted.

At 1425 a meeting was held at the incident control point between the QFRS Incident Controller, the EPA Scientific and two representatives from community groups (Narangba Industrial Estate Reference Group and the Caboolture Local Government Monitoring Association. The community representatives were requesting access to the site in order to take water samples. The EPA representative on site advised that the community representatives should refer to the results of on-site sampling being undertaken by EPA, which would be made publicly available. The community group representatives then departed.
H_2S
The officer was relieved after a briefing at about 16:45. The briefing included developments since the officer had earlier departed and planned activities as well as site safety issues. Scientific then undertook a further inspection of the site and observed the following:

The dam constructed at Potassium St appeared to be intact with no obvious leakages. The liquid level remained below the intake of the overflow pipe.
The main dam that was constructed around the overflow pipe outtake was essentially empty.
The dams located at the end of Magnesium St were in the process having their contents removed. The contents were to be temporarily stored at Nationwide. The bunded area on site appeared to be intact with no obvious signs of leakage and was no attempts to remove the contents had begun.

The road and parts of the driveway into the Binary Chemicals were covered with the sand lime mixture and bush area at the end of Magnesium St had also been covered with the mixture. The surface layer of dirt from the bush at the end of Magnesium St had been pushed up but had not been covered.

The spoon drain on the southern side of the site was in place.

As the work for the day was being completed the IC discussed with QPS the issue of overnight site security as there was no need for a QFRS presence. QPS indicated to the IC that the owner needed to provide this security which the owner did. It was the intention of the IC to leave the site with these security personnel. They were instructed to keep off the site and keep others away from the site. They were informed that during the day motorcyclists had to be removed from the area and that they may come back.

Scientific left the site at 17:57 27/8/05

Sunday 28 August 2005 On site

14:43 28/08/05 QFRS phoned from firecom to get details of the chemicals involved at the incident for firecom to use to tell doctors if tagged people present to a medical center, which one person had. Scientific indicated that chemicals involved included organophosphates such as were chlorpyrifos, pyrethrums, solvents and a multitude of combustion products generated in the fire.

Scientific returned to site at 9:00 29/8/05 to provide monitoring to the fire investigators.
The QFRS Scientific Unit was requested to undertake air monitoring of the facility and hence provide advice to the QFRS fire investigators about areas that were to be deemed unsafe unless appropriate respiratory and skin protection were adopted. Given the types of products generated in the fire and the likely residue products likely to remain within the confines of the burn out area it was decided to initially measure the following contaminants
volatile organics/inorganics using PID
flammability,
oxygen
carbon monoxide and hydrogen sulphide
acrolein as formaldehyde
organophosphate esters

pH measurements of the solution were also undertaken at some locations.

The initial measurement was undertaken at the immediate left entrance to the main manufacturing building located on the right side of the facility
Typical results included

organophosphate ND
formaldehyde (as acrolein) ND
PID <0.5 ppm
flammability ND
oxygen normal
CO

Monitoring was undertaken in the same areas as performed on the 27/8/05. pH readings remained the same. The OP and formaldehyde tubes were negative. PID readings in each of the rooms on the eastern side of the eastern building were < 0.5ppm. However the PID reading for the NE corner of the undercroft area between the buildings had dropped to <5ppm. Measurements near the southern end of the undercroft indicated PID readings of <2ppm approximately 0.5 m from the surface of the liquid covering this area. It was recommended that the NE corner of the undercroft area be ventilated to get the PID readings lower. Fire investigators decided not to go into this area until the readings were lower.

Scientific left the Site 11:00 29/8/05

September 2 2005 On site

The QFRS Scientific Unit was requested to undertake air monitoring of the facility and hence provide advice to the QFRS fire investigators about areas that were to be deemed unsafe unless appropriate respiratory and skin protection were adopted. Given the types of products generated in the fire and the likely residue products likely to remain within the confines of the burn out area it was decided to initially measure the following contaminants

volatile organics/inorganics using PID
flammability,
oxygen
carbon monoxide and hydrogen sulphide
organophosphate esters

As a guide the National Exposure Standards were applied for measurement comparison purposes and in the case of measurements obtained by the PID the Indoor air quality standard (0.5 ppm) was used as a guide.

The initial measurement was undertaken at the immediate left entrance to the main manufacturing building located on the right side of the facility
Typical results included

organophosphate ND
PID <0.5 ppm
flammability ND
oxygen normal
CO ND
hydrogen sulphide ND
Further measurements were undertaken at the most right door entrance to the manufacturing area and typical measurements included
organophosphate ND
PID <8 ppm
flammability ND
oxygen normal
CO ND
hydrogen sulphide ND

It was also noticeable that significant pools of liquid were present within the space. As a result of these measurements any further measurements within the space required appropriate respiratory protection. Advice was provided to FIRU (Fire Investigation Research Unit) that any officer entering the space required respiratory protection and skin protection. In addition decontamination systems and safety would need to be established

Further measurements were obtained around the site and typical results included:
B) Along N side of N factory, PID readings <0.1 ppm. flammability ND, oxygen normal CO ND H2S ND
C) N factory, SW corner, in vicinity of large pools of liquids on ground: PID <1.8 ppm.flammability ND, oxygen normal CO ND H2S ND
D) Drum storage, W side of corridor between factories: PID <0.4 ppm.flammability ND, oxygen normal CO ND H2S ND
E) S of liquid pools (C) corridor between factories: PID <0.1 ppm.flammability ND, oxygen normal CO ND H2S ND
F) Further towards S factory, W of rubble: PID ND.flammability ND, oxygen normal CO ND H2S ND
G) S factory, NW corner, behind fallen wall: PID <1.2 ppm.flammability ND, oxygen normal CO ND H2S ND
H) S factory, middle of W wall (fallen), measured through crack in wall to drum storage area: PID <9 ppm.flammability ND, oxygen normal CO ND H2S ND
I) Corridor between factories, S of 'shed' area: PID <0.4 ppm.flammability ND, oxygen normal CO ND H2S ND
J) Corridor between factories, '2,4-D' IBC storage area to N of S factory: PID<0.9 ppm.flammability ND, oxygen normal CO ND H2S ND
K) Corridor between factories, under awning to S of N factory: PID <1.9 ppm.flammability ND, oxygen normal CO ND H2S ND
L) At E boundary of bunded area to S of N factory: PID <0.4 ppm.flammability ND, oxygen normal CO ND H2S ND
The interpretation of this information was provided to FIRU.

Incident Location Information

Location: Binary Chemicals
69 Magnesium Street
Narangba, 4504

Setting: Industrial facility **Neighbourhood:** Industrial

QFRA Region: Brisbane North **Area:** Caboolture

Callout Agency: QFRS

Involvement Summary

Involvement Summary:

RACE Activities: Provided data and/or advice, Conducted monitoring, Liased with other agencies, Protective gear - Level: 2

Materials Involved

Materials Involved:

Material Number: 1
Trade Name: Various Chlorpyrifos trade names
Chemical Name: Chlorpyrifos Tech 98%
Manufacturer: Various
CAS Number:
Quantity Present: 35464kg
Quantity Involved: 35464kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 2783 Packing Group: II Hazchem: 2X
ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC
Physical State: Coarse solid (granules and larger)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 2
Trade Name: Gyphosate
Chemical Name: Glyphosate isopropylamine salt
Manufacturer:
CAS Number:
Quantity Present: Unk
Quantity Involved: Unk
Quantity Released: Unk
Assisted Identification: No
Dangerous Goods: No

Physical State: State of substance undetermined or not reported
Primary Hazard: Toxic substances, insufficient information to classify further
Secondary Hazard: None
Container Type: Container undetermined or not reported

Material Number: 3
Trade Name: Dimethoate Tech
Chemical Name: Dimethoate Tech 98%
Manufacturer:
CAS Number:
Quantity Present: 1186.7116kg
Quantity Involved: 1186.7116kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 2783 Packing Group: II Hazchem: 2X
ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC
Physical State: Coarse solid (granules and larger)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 4
Trade Name: 2,4D Ester
Chemical Name: 2,4D Ethyl Ester
Manufacturer:
CAS Number:
Quantity Present: Unknown
Quantity Involved: Unknown
Quantity Released: Unknown

Assisted Identification: No
Dangerous Goods: No

Physical State: Liquid (including slurries)
Primary Hazard: Toxic substances, insufficient information to classify further
Secondary Hazard: None
Container Type: Container undetermined or not reported

Material Number: 5
Trade Name: Various Dichlorvos trade names
Chemical Name: Dichlorvos Tech 98%
Manufacturer:
CAS Number:
Quantity Present: 2720kg
Quantity Involved: 2720kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 3018 Packing Group: III Hazchem: 2X

ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC
Physical State: Liquid (including slurries)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 6
Trade Name: 4Farmers Cypermethrin Tech
Chemical Name: Cypermethrin Tech 92%
Manufacturer:
CAS Number:
Quantity Present: 143Kg
Quantity Involved: 143kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 3349 Packing Group: II Hazchem: 2X

PYRETHROID PESTICIDE, SOLID, TOXIC
Physical State: Coarse solid (granules and larger)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 7
Trade Name: Various Alpha Cypermethrin trade names
Chemical Name: Alpha Cypermethrin Tech 96%
Manufacturer:
CAS Number:
Quantity Present: 1704.5kg
Quantity Involved: 1704.5kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 3349 Packing Group: II Hazchem: 2X

PYRETHROID PESTICIDE, SOLID, TOXIC
Physical State: Coarse solid (granules and larger)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 8
Trade Name: Various Bifenthrin trade names
Chemical Name: BiFenthrin Tech 95%
Manufacturer:
CAS Number:
Quantity Present: 960kg
Quantity Involved: 950kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 3349 Packing Group: II Hazchem: 2X
PYRETHROID PESTICIDE, SOLID, TOXIC
Physical State: Coarse solid (granules and larger)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 9
Trade Name: Deltamethrin Technical 98%
Chemical Name: Deltamethrin Technical 98%
Manufacturer:
CAS Number:
Quantity Present: 47kg
Quantity Involved: 47kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 3349 Packing Group: II Hazchem: 2X
PYRETHROID PESTICIDE, SOLID, TOXIC
Physical State: Coarse solid (granules and larger)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 10
Trade Name: Various bulk pesticide preparations
Chemical Name: Including chlorpyrifos preparations
Manufacturer:
CAS Number:
Quantity Present: 12992l
Quantity Involved: 12992l
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 3018 Packing Group: III Hazchem: 2X
ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC
Physical State: Liquid (including slurries)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 11
Trade Name: Dimethoate 300
Chemical Name: Dimethoate preparation
Manufacturer:
CAS Number:
Quantity Present: 683l
Quantity Involved: 683l
Quantity Released: Unknown
Assisted Identification: No

Dangerous Goods: Yes UN Number: 3017 Packing Group: III Hazchem: 3W

ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash point not less than 23 deg. C

Physical State: Liquid (including slurries)
Primary Hazard: 6.1 - Toxic substances
Secondary Hazard: 3 - Flammable liquids
Container Type: Container undetermined or not reported

Material Number: 12
Trade Name: Dimethylamine 60%
Chemical Name: Dimethylamine
Manufacturer:
CAS Number:
Quantity Present: 28600L
Quantity Involved: 28600L
Quantity Released: Unknown
Assisted Identification: No

Dangerous Goods: Yes UN Number: 1160 Packing Group: II Hazchem: 2PE

DIMETHYLAMINE, AQUEOUS SOLUTION

Physical State: Liquid (including slurries)
Primary Hazard: 3 - Flammable liquids
Secondary Hazard: 8 - Acids
Container Type: Container undetermined or not reported

Material Number: 13
Trade Name: Alcoflex 100 HG
Chemical Name: Ethyl Alcohol solution
Manufacturer:
CAS Number:
Quantity Present: 1391Kg
Quantity Involved: 1391kg
Quantity Released: Unknown
Assisted Identification: No

Dangerous Goods: Yes UN Number: 1170 Packing Group: II Hazchem: 2[Y]E

ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Physical State: Liquid (including slurries)
Primary Hazard: 3 - Flammable liquids
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 14
Trade Name: Iso Butanol
Chemical Name: Iso butanol
Manufacturer:
CAS Number:
Quantity Present: 85300kg
Quantity Involved: 85300kg
Quantity Released: Unknown
Assisted Identification: No

Dangerous Goods: Yes UN Number: 1212 Packing Group: III Hazchem: 3[Y]

ISOBUTANOL (ISOBUTYL ALCOHOL)

Physical State: Liquid (including slurries)
Primary Hazard: 3 - Flammable liquids
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 15
Trade Name: Monoisopropyl amine 99%
Chemical Name: Monoisopropylamine
Manufacturer:
CAS Number:
Quantity Present: 26130.3698kg
Quantity Involved: 26130.3698kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 1221 Packing Group: I Hazchem: 2WE
ISOPROPYLAMINE
Physical State: Liquid (including slurries)
Primary Hazard: 3 - Flammable liquids
Secondary Hazard: 8 - Acids
Container Type: Container undetermined or not reported

Material Number: 16
Trade Name: White Spirits
Chemical Name: hydrocarbon solvent
Manufacturer:
CAS Number:
Quantity Present: 100kg
Quantity Involved: 100kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 1300 Packing Group: III Hazchem: 3[Y]
TURPENTINE SUBSTITUTE
Physical State: Liquid (including slurries)
Primary Hazard: 3 - Flammable liquids
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 17
Trade Name: Cyclohexanone
Chemical Name: Cyclohexanone
Manufacturer:
CAS Number:
Quantity Present: 1305.0706kg
Quantity Involved: 1305.0706kg
Quantity Released: Unknown
Assisted Identification: No
Dangerous Goods: Yes UN Number: 1915 Packing Group: III Hazchem: 3[Y]
CYCLOHEXANONE
Physical State: Liquid (including slurries)
Primary Hazard: 3 - Flammable liquids
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 18
Trade Name: ICINOL PM
Chemical Name: 1-methoxy-2-propanol
Manufacturer:
CAS Number:
Quantity Present: 175kg
Quantity Involved: 175kg
Quantity Released: Unknown
Assisted Identification: No

Queensland Government
Department of Emergency Services

Dangerous Goods: Yes UN Number: 3092 Packing Group: II Hazchem: 2Y

1-METHOXY-2-PROPANOL
Physical State: Liquid (including slurries)
Primary Hazard: 3 - Flammable liquids
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 19
Trade Name: Butylated Hydroxy Tolulene
Chemical Name: 2,6-di-tert-butyl-4-methylphenol
Manufacturer:
CAS Number:
Quantity Present: 132kg
Quantity Involved: 132kg
Quantity Released: Unknown
Assisted Identification: No

Dangerous Goods: Yes UN Number: 3077 Packing Group: III Hazchem: 2X

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Physical State: Coarse solid (granules and larger)
Primary Hazard: 9 - Miscellaneous dangerous goods
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 20
Trade Name: Calcium Nitrate
Chemical Name: Calcium Nitrate
Manufacturer:
CAS Number:
Quantity Present: 775kg
Quantity Involved: 775kg
Quantity Released: Unknown
Assisted Identification: No

Dangerous Goods: Yes UN Number: 1454 Packing Group: III Hazchem: 1[Z]

CALCIUM NITRATE
Physical State: Coarse solid (granules and larger)
Primary Hazard: 5.1 - Oxidising agents
Secondary Hazard:
Container Type: Container undetermined or not reported

Material Number: 21
Trade Name: Various environmental hazards
Chemical Name: Kenso Ken-tac 100, Grow choice Alpha Duop 100
Manufacturer:
CAS Number:
Quantity Present: 760l
Quantity Involved: 760l
Quantity Released: Unknown
Assisted Identification: No

Dangerous Goods: Yes UN Number: 3082 Packing Group: III Hazchem: 2X

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Physical State: Liquid (including slurries)
Primary Hazard: 9 - Miscellaneous dangerous goods
Secondary Hazard:
Container Type: Container undetermined or not reported

Queensland Government
Department of Emergency Services

Material Number:	22
Trade Name:	Antarox SC 138E
Chemical Name:	Surfactant
Manufacturer:	
CAS Number:	
Quantity Present:	2665.8542kg
Quantity Involved:	2665.8542kg
Quantity Released:	Unknown
Assisted Identification:	No
Dangerous Goods:	Yes UN Number: 3082 Packing Group: III Hazchem: 2X
	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Physical State:	Coarse solid (granules and larger)
Primary Hazard:	9 - Miscellaneous dangerous goods
Secondary Hazard:	
Container Type:	Container undetermined or not reported

Material Number:	23
Trade Name:	Various combustable liquids
Chemical Name:	Including 2 ethyl hexanol Solvent 150 Diethylene glycol kemmat HF 60 Diethanolamine, ar
Manufacturer:	
CAS Number:	
Quantity Present:	90823.9476kg
Quantity Involved:	90823.9476kg
Quantity Released:	Unknown
Assisted Identification:	No
Dangerous Goods:	No

Physical State:	Liquid (including slurries)
Primary Hazard:	Combustible liquids
Secondary Hazard:	None
Container Type:	Container undetermined or not reported

Materials Summary: Materials as per Binary Chemical - Manifest 42 Magnesium St Narangba dated 15/3/05 7:08 User Id DP1 from Database BINLIVES page code ZRCBIN06. Document contained 2 pages. Third page with same page code no page number and no useful information.

Notes
Firecom initially indicated Glyphosate was involved. This was not on the manifest as not classified as a DG. Poisons Schedule S5. Site technical manage on Friday morning confirmed the presence of glyphosate.
2,4 D Ester on site - Information provided by owner of premises. This was not on the manifest as not classified as a DG. Poisons Schedule S5.
Sulphuric acid not on manifest. Informatation provided by CHEM Unit of acid inbetween northern work sheds.

Additional Details: QHSS Lab No 05PW172 05PW173

Compound	Water at Potassium St Bridge (Concentration (in ppm) at)	Entrance to stormwater drain at Magnesium St (Concentration (in ppm) at)
Dichlorvos	0.1	9.6
Diuron (bd)	0.08	2.0
Dichloraniline (bd)	ND	2.4
Tirfluralin	0.4	7.8
Simazine	0.1	0.8
Atrazine	0.2	0.4
Dimethoate	1.4	5.4
Ametryn	0.08	3.1

Chlorpyrifos	0.5	2.2
Metolachlor	0.1	1.7
Bifenthrin	ND	0.2
Hexazinone	0.2	29
Permethrin isomers	ND	0.2
Glyphosate	160	9400

Notes:
bd = breakdown products
ND = not detected limit of quantitation <0.05mg/L
Results from report dated 26th August 2005 reference 05PW172-173.

Other compounds detected in 05PW173 (Sample taken at entrance to stormwater drain at Magnesium St)

Compound
Carbitol or related
2-Pyrrolidinone-1 methyl
Butyl carbitol
3,4-Xylidine
N-Ethyl-2,3xylidine or related
2,4-Formoxylidide or related
Trichlorophenol
2,4-Dichlorophenoxy acetic acid
2,4-D isobutyl ester or related
Palmitic acid
Stearic acid

Matters Arising:

Incident Scale: Very major