

# **Altona Properties Soil & Groundwater Meeting**

## **Minutes and Record of Questions and Answers**

**Date: 27 May 2002**

**Location: Altona Conference Room**

**Time: 17:00**

### **1. Present**

Valerie Gemmell (Resident)

Gerry Hein (Resident)

Dushanti Wanninayake (Resident)

Tim Kitchen (EPA)

Beatrice Schupfer (CWW)

Andrew Lipkewycz (Dow)

Noel Ryan (APPL)

Dave Adams (PPK)

Dave Wenig (PPK)

Rod Daniels (PPK)

### **2. Apologies for absence**

Michael Mozina (Resident)

Judy Hindle (Resident)

Mal Hindle (Resident)

Guy Roberts (APPL MD)

### **3. Confirmation of Agenda**

Agenda confirmed as stated.

### **4. Gerry Hein comments**

Gerry announced to the group that he was retiring from the Soil & Groundwater group. Noel thanked Gerry for his invaluable support and assistance to AV/APPL and the Soil & Groundwater Group over the years.

### **5. Minutes of last meeting**

The minutes of the last Soil & Groundwater group meeting June 2002 had been misplaced and were not /presented reviewed. Noel Ryan gave an explanation of the completion of groundwater treatment facility (GWTF) construction and commissioning of the overall system.

## 6. Groundwater treatment - update

David Wenig presented the progress on treatment. An overhead showing contaminant treatment (extracted by the GWTS) was presented (see the hardcopy graph entitled "Cumulative VCH (as EDC) Extracted based on PID readings" or the electronic file labelled "CumVCH\_asEDC\_extracted\_May02rev1.pdf"). It was explained that total volatile hydrocarbons were represented as 1,2-dichloroethane (EDC) as this comprised the major component of the contaminant stream being drawn from the ground, through the GWTS. It was also explained that these results were derived by the use of field equipment (measured daily) but matched up well with extrapolated laboratory analysis results (measured semi-annually). The total cumulative mass of contaminants extracted from the ground was shown to be in the order of over 13 tonnes of EDC.

David Wenig explained that the air sparge component of the GWTS had recently been reinstated following stabilisation of intake EDC concentrations. This was expected to result in an increase in the extraction of EDC as sparged air both stripped EDC from groundwater and enhanced biological degradation of contaminants resulting in the release of carbon dioxide (CO<sub>2</sub>) which makes up a large component of the calculated mass of extracted EDC.

*Q. Is the air sparging continuous?*

*A. Yes where stable extraction of EDC is experienced with vapour extraction running on its own which provides confidence that EPA discharge conditions will be complied with.*

*Q. When was the air sparge turned on?*

*A. Most recently on 20 May 2002.*

David Wenig presented an overhead showing cumulative volatile chlorinated hydrocarbons as EDC in waste streams (expelled following treatment by the GWTS) (see the hardcopy graph entitled "Cumulative VCH (as EDC) in Waste Streams" or the electronic file labelled "CumVCH\_asEDC\_inWaste\_May02rev1.pdf"). To summarise the graph of the 13 tonnes of VCH extracted (as EDC) approximately 180kg has been emitted to atmosphere and 0.2kg has gone to sewer, the remainder has been effectively treated (destroyed) by the catalytic oxidiser.

*Q. Over what period had 0.2kg VCH gone to sewer?*

*A. 12 months. This was well within the Trade Waste Agreement conditions set by City West Water*

*Q. Is the scrubber water going to sewer?*

*A. Yes. The scrubber overflow is directed to the waste water holding tanks from where it is discharged to sewer in accordance with APPLs Trade Waste Agreement with City West Water. Trace contaminants are included in the salty water created by the scrubbing of hydrogen chloride with caustic soda (sodium hydroxide).*

*Q. What does treated EDC smell like?*

*A. No smell as the products of treatment are carbon dioxide, water and salt.*

David Wenig presented an overhead showing cumulative resources consumed and the wastes produced (see the hardcopy graph entitled "Cumulative Resources Used & Waste Produced" or the electronic file labelled "CumResources\_Waste\_May02rev1.pdf"). To summarise the graph it was shown that the greatest waste produced was greenhouse gases through the consumption of electricity and gas to power the GWTS. The units (presented incorrectly on the RH axis at the meeting) have been amended in the version provided here.

## **6.1 Operations summary**

David Wenig presented an overhead showing the operational timeline for the GWTS (see the hardcopy graph entitled "GWTS Operational Timeline September 2001 - May 2002 " or the electronic file labelled "GWTS timeline.pdf"). The timeline shows operational issues, when problems were identified and rectified.

*Q. Who owns the equipment?*

*A. The equipment was manufactured by MetPro to specifications provided by Roy F Weston on behalf of the PolyOne Corporation. The equipment is owned by PolyOne.*

Noel Ryan explained the matters concerning the specification of float switch materials (inappropriate for a caustic environment) in the transfer pump which resulted in switch corrosion and initial GWTS shutdown on 7 September 2002.

*Q. Does it run 24hrs around the clock?*

*A. Yes.*

*Q. How do people know how to turn it off?*

*A. The operations manual specifies the means for switching the unit off. Additionally PB (PPK) staff and Noel are also trained in system deactivation.*

*Q. How do the neighbours feel about the GWTS being unattended should there be a fire?*

*A. The GWTS is designed for unattended operation and will shut itself down in the event of abnormal operating conditions. There is a remote possibility that these might fail and the CATOX Unit might catch fire. Even in this situation the fire would be contained within a bunded area and is not expected to pose any threat to the surrounding facilities. The GWTF can be shut down by remote switch isolation*

Noel Ryan explained that aside from fire (discussed above) the only other risk associated with unattended operation was a water supply line failure. The consequences of this would be the spilling of potable town water to the ground surface – not considered to be of significant consequence with respect to facility safety.

*Q. How often is the GWTS attended?*

*A. PB (PPK) attend the GWTS daily.*

## **6.2 Summary of EPA Waste Discharge Licence**

David Wenig presented an overhead showing the emission limits for the GWTS (see the hardcopy graph entitled "Table 1. Emission Limits and Discharge Requirements, EPA Waste Discharge License No. EA5280" or the electronic file labelled "EPAWDL\_emissionlims.pdf"). The overhead shows emission limits by contaminant mass and rate of emission and also the monitoring frequency as defined by the EPA.

*Q. Are limits ground level or stack limits?*

*A. Stack limits. The determination of these limits has been based upon modelling completed using AUSPLUME which is EPA's model for determining ground level concentrations from emission sources. The emission limits typically provide a safety margin of 10 times acceptable ground level concentrations.*

*Q. Do you measure the HCl as vapour?*

*A. Yes, stack samples include HCl as vapour.*

Noel Ryan explained that the site licence (including the former Australian Vinyls plant operations) had been amended to include the GWTS as an emission source. The licence was transferred from Australian Vinyls to the new land owners (Altona Properties Pty Ltd).

Noel Ryan explained that monitoring frequencies were determined in part by results from monitoring undertaken during the EPA's RD&D (research design and development) Approval period. RD&D emission limits were set to achieve ground level concentrations 1% of the legislated limits. The new Waste Discharge License included emission limits designed to achieve ground level concentrations 10% of the legislated limits for some compounds.

*It was asked that an explanation of the relevant State Environment Protection Policy and the model be prepared for the next general community meeting.*

*Q. With air sparge on, will substances other than EDC be extracted first (as happened at the commencement of GWTS operation)?*

*A. This may be the case however as the other contaminants have been preferentially removed by operations to date their mass/concentrations are expected to have decreased. Yes they will still be extracted first but they are expect to tail off more quickly.*

## **6.3 Environmental Improvement Plan (EIP)**

David Wenig presented an overhead showing the summary requirements of the EPA Waste Discharge License which includes an Environmental Improvement Plan (see the hardcopy graph entitled "Environmental Improvement Plan (EIP)" or the electronic file labelled "EPAWDLsummary.pdf").

Noel Ryan proposed that the EIP could be met by two existing documents, the Groundwater Management Plan (GWMP) and the second, the GWTS Operations Manual. The GWMP would be open to consultation and is to be internet-based. The GWTS Operations Manual would be "available" for review but is not intended that this be open to full consultation on contents.

It was put forward that the community was to continue its involvement in the GWMP, groundwater treatment issues and information dissemination regarding groundwater status. Noel Ryan agreed and supported this view.

Gerry Hein commented that he would maintain his position on the Soil and Groundwater Group to facilitate community review of the GWTS operations manual. (*Gerry subsequently completed this review and provided comments to the Group for inclusion in the GWTS Operations Manual*).

## 7. Groundwater Monitoring

David Wenig presented an overhead showing historical (May-June 1997) groundwater flow (see the hardcopy map entitled "Interpolated Groundwater Contour Category 2 Wells, Top of Upper Aquifer" or the electronic file labelled "rcwl\_concs\_MayJune1997.pdf") and recent groundwater level assessment (March 2002) (see the hardcopy map entitled "Interpolated Groundwater Levels Category 2 Wells, Top of Upper Aquifer" or the electronic file labelled "rcwl\_concs\_March2002.pdf"). These maps did not indicate any significant change in the groundwater flow regime and therefore that the GWTS was determined not to have influenced groundwater movement beneath the Altona site.

*Q. What do the different colours mean? Has the water level changed?*

*A. The different colours are an artefact of different printers used to produce the maps. The colours shall be standardised. The water level has not changed significantly, the only changes are expected to be attributable to climatic rainfall variations over the years.*

David Wenig presented an overhead showing historical (May-June 1997) EDC concentrations (see the hardcopy map entitled "Interpolated EDC Concentration Category 2 Wells, Top of Upper Aquifer" or the electronic file labelled "edc\_concs\_MayJune1997.pdf") and recent groundwater monitoring results for EDC (March 2002) (see the hardcopy map entitled "Interpolated EDC Concentration Contour Category 2 Wells, Top of Upper Aquifer" or the electronic file labelled "edc\_concs\_March2002.pdf"). Separation of "plume" bodies is thought to be a result of biodegradative processes and may or may not be attributed to GWTS operation (more time is needed to determine this).

*Q. Is the change in plume shape real?*

*A. The shape may be attributed to numerical interpolation of the data and to changes in some of the reported well concentrations.*

*Q. How often does groundwater monitoring occur of QP (Qenos) wells in the south?*

*A. PB (PPK) monitor BH3-2QP and BH3-3QP quarterly, the remainder are monitored annually.*

Noel Ryan commented that the EDC plume shape changes are encouraging but are not necessarily attributable to GWTS operation.

*Q. Have groundwater levels changed much over the monitoring period?*

*A. There may be some drop of water levels exhibited due to the current drought conditions we are experiencing in Victoria.*

*Q. Are (or should) these results examined in the context of Dow and Qenos monitoring results?*

*A. No, APPL has only samples wells which we believe will shed light on the state of the plume arising from sources on the APPL site.*

Noel Ryan commented that it may be appropriate that this issue be raised at the next Altona Complex Neighbourhood Consultative Group meeting.

Eastings and northings of well OSW-34A were noted to require attention.

David Wenig presented an overhead showing historical (May-June 1997) VCM concentrations (see the hardcopy map entitled "Interpolated VCM Concentration Category 2 Wells, Top of Upper Aquifer" or the electronic file labelled "vcm\_concs\_MayJune1997.pdf") and recent groundwater monitoring results for VCM (March 2002) (see the hardcopy map entitled "Interpolated VCM Concentration Contour Category 2 Wells, Top of Upper Aquifer" or the electronic file labelled "vcm\_concs\_March2002.pdf"). Very small changes in VCM concentrations have occurred.

*Q. Have detection limits changed over the life of the project?*

*A. Yes. Problems with sample analysis prior to 1999 have resulted in a set sampling order, dilution of more contaminated samples (to prevent damaging laboratory analysis equipment) which has resulted in raising practical quantitation (detection) limits.*

Noel Ryan commented in general patterns of contaminant distribution are the same and that results are encouraging. EDC concentrations appear to be decreasing but the cause for this is as yet uncertain. VCM concentrations remain relatively static.

## **8. Groundwater Management Plan**

Noel Ryan said that in general the Groundwater Management Plan (GWMP) would be adapted from the former Australian Vinyls Altona plant GWMP and placed its own web site. The domain name suggested was [www.altonagroundwater.info](http://www.altonagroundwater.info) which was generally commented on as a good name.

David Wenig presented a conceptual web site layout (see the attached hardcopy or the electronic file labelled "sitemap.gif"). It was agreed that the GWMP would be delivered by 30 June 2002.

*Q. Who would review the website before its placement on the internet?*

*A. A community meeting (Soil & Groundwater Group) would be convened.*

It was generally agreed that new data would be added to the website following Soil & Groundwater Group meetings where maps, data, etc. would be reviewed, edits suggested (where required) and accepted. It was agreed that a "What's New?" link on the home page would assist regular site visitors in going to new data and that a layman's description of data interpretation should also be provided.

## 9. Altona Plant Closure

Noel Ryan detailed plant shutdown step and process as follows:

- The site was being cleaned only (not demolished)
- No dangerous goods were left on-site
- All stormwater drains and sumps were to be cleaned

Noel Ryan commented that he was currently in the final stages of making the plant chemical free. The last step would be in the removal of 200 tonnes of PVC dust from the stormwater ponds. The aim for surface runoff was to allow it to flow to stormwater (rather than sewer) once the site had been cleaned. APPL is in the process of speaking with buyers and demolishers to relocate/remove plant equipment. It is also APPL's intent to separate the site into two separate titles (essentially north and south with an access route maintained for the southern end of the property along the eastern edge of the northern property boundary.

*Q. Is there asbestos on site?*

*A. Yes, most of which is asbestos cement sheeting which is in good condition. Where possible this will be removed from the site.*

*Q. Who will control/regulate asbestos removal (assuming it is not APPL)?*

*A. Worksafe regulations (government) and a contract manager will control/regulate the asbestos removal process.*

## 10. General discussion & questions

It was agreed that the Soil & Groundwater Group would meet at 4pm on 17 June 2002; the sole agenda item being to review the GWTS Operations Manual and GWMP. A hard copy of the GWMP would be circulated 1 week prior to review.

*Q. Is it possible to obtain an overall picture of groundwater across the Altona complex?*

*A. Through the Altona Complex Neighbourhood Consultative Group.*

*(The meeting took place as scheduled and all agreed with the GWMP proceeding as planned).*

## 11. Next meeting

Special meeting at 4pm 17 June 2002 to review the Operation Manual and the GWMP. The next regular meeting was scheduled to be in three months following this – September 2002.

Meeting closed at 8.00 pm.