QUEENSLAND WATER INFRASTRUCTURE PTY LTD

TRAVESTON CROSSING DAM

OVERVIEW
CATTLE DEATHS DOWNSTREAM OF DAM SITE IN JUNE/JULY 2006

As at 27 April 2007

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1. Overview

Following the death of five cattle on the Garapine property in the vicinity of a geotechnical investigation drill pad, Queensland Water Infrastructure's (QWI) immediate concern was for the safety of the landholders, visitors to the site and stock.

While investigations found that there is a low risk to people and stock, QWI adopted a proactive approach, assuming that the activities of the drilling, combined with existing soil conditions, may have contributed.

The locality of the site is within the land purchase boundary for the proposed Traveston Crossing Dam, 500m downstream of the dam wall and **outside of the water storage facility**. (ie: No water will be stored in the vicinity of the drill hole). The land is required for access for the dam's construction. A Locality Map is attached in Appendix A.

QWI's course of action following notification from the landholder was to ensure the safety to all people and stock in the site's vicinity. All work ceased at that site, and a stock proof fence was constructed around the drill pad, in agreement with the landowner and at QWI's expense.

At the same time, the Department of Primary Industries and Fisheries (DPIF) Veterinary Laboratory were engaged to undertake an investigation. The findings ruled out arsenic, cyanide, lead and mercury as likely contaminants. Assessments suggested a possible source may have been the drillers' mud used in the drilling process. Refer to Appendix B.

SunWater, engaged by QWI to supervise the drilling activities, confirmed that there were no unusual events at the bore hole and that standard industry practices were used at all times. SunWater also confirmed that the probability of the drillers' mud being the cause of contamination was very low and that any soil sampling would have detected any contaminants. Refer to Appendix C.

Golder & Associates were then engaged to undertake a more detailed soil investigation.

Prior to the completion of the investigations, QWI worked towards a swift conclusion of financial compensation to the owner of the cattle to ensure their immediate financial welfare was considered. The settlement was based on a 'no admission liability' that was undertaken as a measure of goodwill. At no stage did QWI seek to restrict any public comment by the landholder or the owner of the cattle.

The Golder & Associates investigations found that it was 'unlikely' that there was a link between livestock deaths and mineral accumulation.

Golder & Associates' investigations concluded:

"Based on our preliminary geochemical sampling program at the Garapine property, we consider that the risk of harm to children travelling through the area for recreation activities is low. The likelihood that the water quality in Traveston Crossing Dam will be affected by mineral accumulations on the Garapine property, to the extent that the water will be a potential human health or environmental concern, is also considered to be low. Nevertheless, we have taken a precautionary approach and have requested that additional work be conducted at the site to further evaluate the risk." Refer to Appendix D.

At the completion of the investigations, QWI briefed the landholder on the findings.

Consistent with these findings, detailed soil investigations are being conducted for the whole dam site as part of the Environmental Impact Statement (EIS). If required, any necessary actions will also be addressed in the EIS, and implemented as part of the project.

It should also be noted that a review of the 579 species of vascular plants recorded for the proposed Traveston Crossing Dam survey area has been undertaken by 3D Environmental to determine species which may have the potential to be toxic to cattle causing death. This review incorporates searches of literature, most prominently the quarterly reports of Animal Health Australia, Animal Health Surveillance Quarterly Reports between 2002 and 2006 which provide a record of stock deaths with States and Territories.

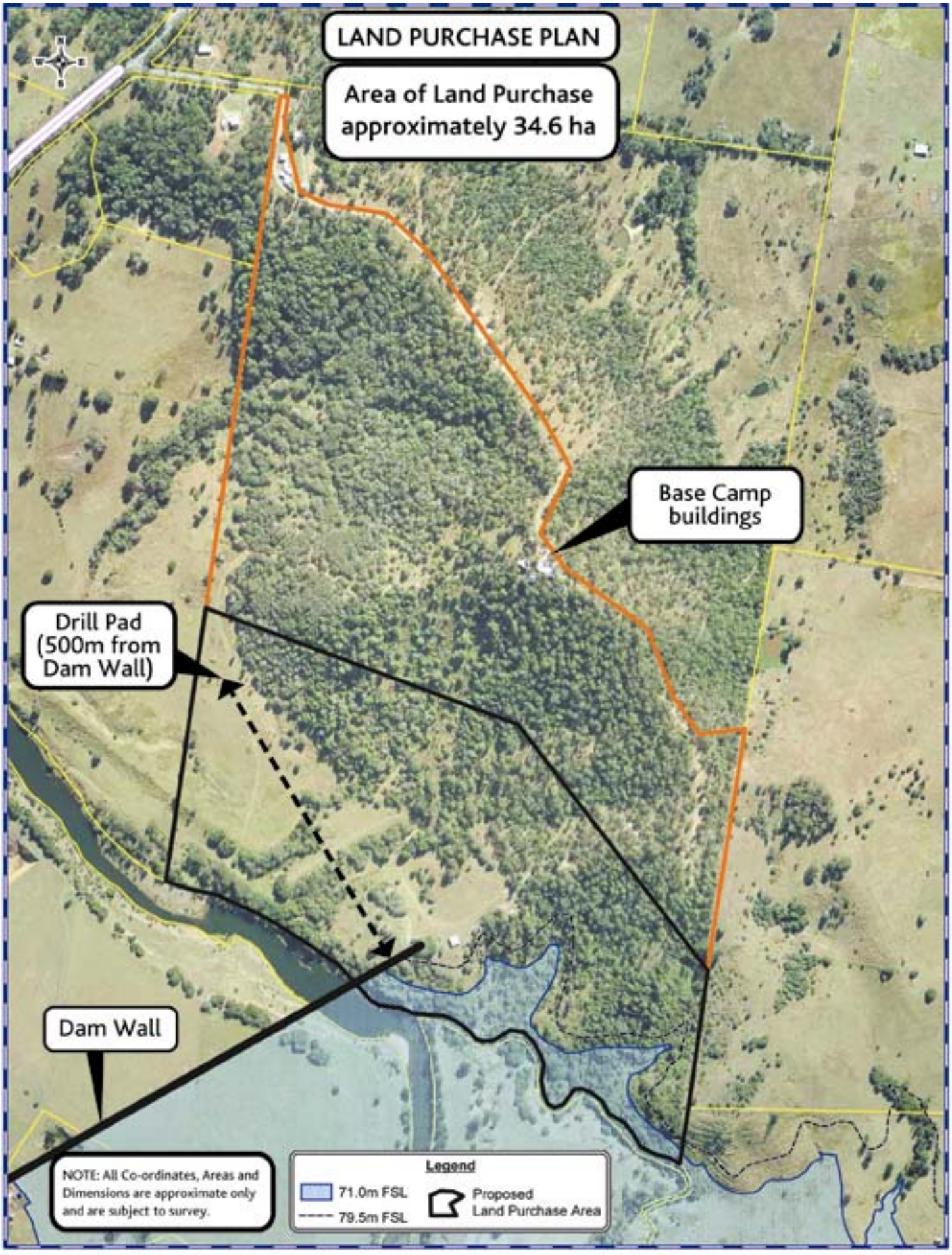
A preliminary analysis indicates a number of species known from the study area which are toxic to stock with validated records of mortality in cattle, including Bracken Fern (Pteridium esculentum), Noogoora Burr (Xanthium pungens), Lantana (Lantana camara), Poison Peach (Trema tomemtosa), Bryophyllum (Mother of Millions), Juncus continuus, Grasstree (Xanthorrhoea spp.) and Fireweed (Senecio madasgarensis). Refer to Appendix E.

QWI has had ongoing discussions with the landholder on the partial purchase of his property, including the provision of an access road to the upstream side of the dam. During these discussions, the landholder has not raised the issue of the cattle deaths since the briefing on the findings.

2. Sequence of Events

Date	Event
19-21 June 2006	Drilling undertaken on site
15 July 2006	Landholder reports the death of 5 cattle in the proximity of the drill pad QWI mobilised course of action
20-21 July 2006	DPIF Veterinary Laboratory testing undertaken – ruled out arsenic, cyanide, lead and mercury as likely contaminants SunWater confirm no unusual events on site and standard industry practice is undertaken and that it is unlikely that concentration would occur in drillers' mud QWI informed landholder of findings
31 July 2006	Stock proof fence constructed around the site Golder & Associates appointed to undertake further investigations
11 August 2006	QWI offer compensation to stock owner as measure of goodwill
15 August 2006	Golder & Associates conduct soil geochemistry survey
23 October 2006	Golder & Associates investigations find it "unlikely" that there is a link between livestock deaths and mineral accumulation QWI informed landholder of findings
Ongoing	Discussions with landholder for partial purchase of property, including provision of access to upstream
To be completed by October 2007	Environmental Impact Statement underway, including detailed soil investigations for whole dam site and construction site area

APPENDIX A



MAP INFORMATION

Cadastre: Shown in yellow with subject lot shown in red. Digital Cadastral Database (DCDB) is current at October 2006. Positional accuracy representing the 'maximum error' has been calculated at ± 5.0 metres.

Imagery: Flying date of aerial photography: June 2006 Photo detail: 9445 Gympie 1:10 000

Local Authorities: Cooloola Shire

Locality: Kybong

Date: 22/10/2006

TRAVESTON CROSSING DAM

Mary River AMTD 207.6 km

Comprising 11/RP837925

GDA

0m 150m 300m

Scale 1:7500

Queensland Government Natural Resources and Water

Val No.13112/0000000

APPENDIX B

Investigation of cattle deaths associated with test drilling on Traveston Crossing dam site (20th July, 2006)

Investigating QDPI&F Officers: Bruce Hill and Ian Fraser

Property location: Mountain View Road, Traveston Crossing

Property Number: QJCH 0572

History:

Five cattle have died on the farm following the entry of drilling equipment as follows:

- 19th June, drilling commenced
- 29th June, 9-month old Jersey steer found dead
- 9th July, 3-month old Drought-Master heifer calf died
- 11th July, 12-month old Brahman/D'Master cross steer died
- 13th July, 18 month old Swiss steer died
    - This animal had been observed in a moribund state on the 12th July. A practitioner from Gympie attended and took some samples but a post mortem was not done.
    - Tests undertaken indicated a low parasite burden and no evidence of tick fever. Remaining blood has been re-submitted for lead assay.
- 15th July, 3-month old D'Master bull calf died.

Four of the five animals died within 50 metres of the drill site and the fifth approximately 150 metres away.

All carcases had been buried at the time of investigation. The remaining estimated 12 cattle on the farm appeared healthy.

The owner operates 'Base Camp Adventure Company Pty Ltd" on the farm and the cattle present were not part of any commercial beef operation. They were monitored every few days for husbandry purposes. The owner admitted to having no real experience in cattle management.

Inspection of the farm paddocks did not reveal any probable cause of death. Similarly, discussions with the drilling crew (now operating in a different paddock) did not discover any procedures that might have caused the mortalities.

Samples of disturbed soil and drilling extracts were taken for analysis including, mercury, lead, arsenic and cyanide. There was anecdotal evidence that the adjacent hillside was the site of an old gold mine. It is remotely possible therefore that drilling could have disturbed strata of old tailings and wash chemicals used to extract gold. There was ample evidence through hoof prints that the drill site was well trampled by the cattle.

Given the background to this investigation it is important to note that the owner was not antagonistic in any way and appeared genuinely concerned about discovering the cause of the mortalities. The probability of old gold mine chemicals being involved was not offered by the owner but thought a remote possibility by the investigators, given the limited information available and no access to carcases or sick animals.

A picture of the drill site and hillside is shown below for general background information.

Results of soil analyses will be forwarded when available.

Prepared by: Dr Bruce Hill
Friday, 21 July 2006

BIOSECURITY SCIENCES LABORATORY

Department of Primary Industries & Fisheries Animal Research Institute 665 Fairfield Road YEERONGPILLY QLD 4105

COPY

SUBMITTER :

BD Hill
D P I & F
Biosecurity Sciences Laboratory
665 Fairfield Road
YEERONGPILLY QLD 4105

Your submitter code is :

HILBYEE

Please quote this code on future accessions.

Pathology Report

Enquiries - Ph: (07)33629471 Fax: (07)33629440

Date Sent : 21/07/06
Date Received: 21/07/06
Reason for Submission: diagnostic

Accession No: **06-131734**
Species : cattle
Pathologist : B.D. Hill

Property No: QJCH0572
Owner : MJ Stewart
Mountain View Road
Traveston Qld 4570

DIAGNOSIS

Diagnosis : No diagnosis

Comment :

As you can see Hg is present in the soil. While there was good evidence for the cattle being attacted to the disturbed area I could not determine how much of the soil was consumed. Carcases had been buried.

The "drillers mud" used to lubricate the drill pipes is recycled and therefore could have increased dissolved Hg independent of how much was actually in the disturbed soil. The drillers mud, although recycled, would have had reasonable spillage on the site.

We could analyse some of this mud depending on how you would like to proceed. Please advise.

BIOCHEMISTRY

Results provided on samples as received. Responsibility for sampling and delivery rests with submitter.

Distribution *** fax : (07)33629440 ***
SUBMITTER

FILE

../..

Accession No: 06-131734

Quantitative Results :

Animal: 1			
soil arsenic (mg/kg)	<1.00	soil lead (mg/kg)	1.70
soil mercury (ug/kg FW)	93.00		
Animal: 2			
soil arsenic (mg/kg)	<1.00	soil lead (mg/kg)	2.50
soil mercury (ug/kg FW)	61.00		
Animal: 3			
soil arsenic (mg/kg)	<1.00	soil lead (mg/kg)	1.40
soil mercury (ug/kg FW)	94.00		

Qualitative Results :

Animal: 1	
soil cyanide	negative
Animal: 2	
soil cyanide	negative
Animal: 3	
soil cyanide	negative

Comment :

Arsenic and cyanide were not detected in the soil samples. The lead level in the soil will not affect stock.

For mercury a dose of 0.1 mg Hg/kg of body weight is tolerated by calves for 90 days. With the level of mercury found in the soil, animals would have to eat more than one kilogram of soil a day to show toxic symptoms. The mercury level of the soil will not affect stock.

NATA registration does not cover the performance of this service. Namely:

biochemistry:

biochemical analysis for cyanide

biochemical estimation for mercury

--> Final Page <--

for Manager, Regional Veterinary Laboratory
28/07/06

APPENDIX C

www.sunwater.com.au ABN 17 020 276 523

Level 9, 120 Edward Street PO Box 15536 City East Qld 4002

Water Supply Services | Operations & Maintenance | Engineering Services | Corporate

Your ref:
Our ref: G-81604-02-01-03
Contact Name: Russell Paton
Telephone:

28th March 2007

Mr Graeme Newton
Chief Executive Officer
Queensland Water Infrastructure Pty Ltd
119 Charlotte Street
PO Box 15940
City East
BRISBANE QLD 4002

Dear Graeme,

TRAVESTON CROSSING DAM – CATTLE DEATHS AT GARAPINE

I refer to our conversations with Queensland Water Infrastructure in July 2006 and the actions undertaken by SunWater as soon as the property owner, Murray Stewart, advised us that cattle deaths had occurred in proximity of borehole BH13.

The drilling of BH13, undertaken as part of a geotechnical investigation, commenced on the 19th June 2006 and concluded on the 21st June 2006. This was the first borehole drilled on the Garapine property. Following completion of BH13, several boreholes were drilled on other properties. The drilling rig did not return to the Garapine property until the 27th of July 2006 for the drilling of borehole BH25.

Throughout the drilling of BH13, standard geotechnical drilling practices were employed. Tri-cone washboring was utilised whilst drilling the unconsolidated strata to 30.20m and NMLC coring was utilised from 30.20m to the total borehole depth of 35.50m.

Biodegradable synthetic drilling mud/additive "Liquid Polymer" was used during the drilling process. This process involved the polymer being introduced to water and then recirculated up and down the borehole in solution. Recirculation of the solution involves storage of the drilling fluid (water and polymer) in the steel "mud tank". Some drill cuttings also accumulated within the "mud tank" during the drilling process. Drilling fluid loss during the drilling of BH13 was minimal and there were no spills of hydrocardons or hydraulic fluids.

"Liquid Polymer" is termed "NOT Hazardous" according to criteria of Worksafe Australia and is widely used by the drilling industry and was used during the drilling of almost every geotechnical borehole at the Traveston Crossing damsite.

Upon completion of drilling the contents of the "mud tank" (water, liquid polymer and drilling cuttings) were disposed of to the ground surface immediately downslope of the drilling location. These materials were then dispersed with water and left to dry out and biodegrade. The borehole was backfilled with cement grout and the drilling area was left in a tidy condition. This method of borehole completion is considered suitable and is widely practiced across the drilling industry and was the practice adopted by SunWater for every borehole completed.

The intersection or not of any heavy metals during the drilling process was not assessed during the drilling process as this is not standard practice. It is highly unlikely that background quantities of any heavy metals potentially intersected within the borehole profile would have been concentrated within the "mud tank" contents throughout the drilling process.

Should any heavy metals have been extracted from the sub-surface by the drilling and subsequently accumulated in the "mud tank" residue that was dispersed to surface upon completion of the drilling, it is likely that they would have been detectable by sampling and laboratory testing of the dispersed "mud tank" residue. I understand that Queensland Water Infrastructure engaged an environmental consultant to undertake that assessment subsequent to the reporting of the cattle deaths.

I advise that SunWater was unaware of the cattle deaths until advised by Murray Stewart a couple of weeks after the completion of the drilling of borehole BH13. At that time, we immediately notified Queensland Water Infrastructure. We have had numerous discussions with Murray Stewart throughout the second half of 2006 and at no time did Murray express the view that he was unhappy with Queensland Water Infrastructure nor SunWater regarding the investigation of the cattle deaths.

Yours sincerely

Russell Paton
MANAGER PLANNING
ENGINEERING SERVICES

APPENDIX D

Golder Associates Pty Ltd
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23 March 2007

016-06633018

Queensland Water Infrastructure Pty Ltd
Level 8
119 Charlotte Street
PO Box 15940
City East 4002

Attention: Mr Graeme Newton

Dear Graeme,

SUMMARY OF PRELIMINARY SOIL GEOCHEMISTRY SURVEY AT TRAVESTON DAM SITE

Following a request from Queensland Water Infrastructure, a soil sampling program was carried out by Golder Associates Pty Ltd on the 15th August 2006 at the Garapine property (Lot 11 on RP837925) at Traveston. The sampling program was requested as a result of the deaths of some livestock at the property. A concern was held that the deaths might have been the result of the livestock drinking or eating mineral accumulations in the ground which were toxic. Information suggested that an old gold mine site, referred to as the Mount Kelly mine, was located on the property and that this may have been the source of the minerals. The landowner was interviewed with respect to the location of the mine site and other possible sources of contamination, however, he could not provide any assistance in locating the Mt Kelly mine.

The Garapine property is situated on the eastern bank of the Mary River. The old Mount Kelly mine is thought to have been located on the western facing slope of Mount Kelly at a site accessible by the Mountain View Road. The site is situated amongst dense bush land on the upper portion of the hill. An adventure and community centre currently occupies the area at the top of Mount Kelly. A number of large activity buildings are present, surrounded by bush land. Small dirt tracks extend down the hill from this area and lead to the cleared flood plain area of the Mary River. The cleared areas are utilised for grazing of cattle.

A drilling pad was present on the Garapine property as a result of geotechnical investigations that were being conducted for the proposed Traveston Crossing Dam. The livestock deaths occurred in the vicinity of this drilling pad. Traverses were conducted from the drilling pad up-slope to the recorded location of the Mount Kelly mine in an attempt to identify a likely point source for chemical contamination such as a mine shaft, historic tailings site, or waste rock stockpile. The Mount Kelly mine shaft was not located and there was no evidence of a shaft, historic tailings or

waste rock dump. There was little environmental disturbance in the area that could be confidently attributed to past mining activities.

Soil sampling was conducted at 10 locations to identify any mineral accumulations due to past mining activities. Three soil samples were collected from the drilling pad area, two soil samples from the gully to the south of the drilling pad, two soil samples from the gully to the north of the drilling pad, one sample from a test pit part way up the hill and two samples from the top of the hill, nearest the reported location of the Mount Kelly gold mine.

Mercury and Arsenic are two elements which tend to be a focus of environmental investigations particularly in areas which are known for gold mining activity. The results of the initial chemical analysis of the 10 soil samples indicated that these elements would not present environmental and/or human health risks as their concentrations were below EPA's Environmental Investigation Levels (Mercury of 1 mg/kg, Arsenic of 20 mg/kg) and were also below Health Based Investigation Levels (Mercury of 15 mg/kg, Arsenic of 100 mg/kg). However, Golder Associates undertook tests with water to assess the reactivity of the soil samples. We found that concentrations of Mercury in the leachate of the 10 soil samples were elevated when compared with the Australian Drinking Water Guidelines, indicating that there are potential environmental and human health risks with respect to Mercury. We think that this potential environmental concern may be better quantified through further investigations.

Manganese concentrations in the soil were elevated compared with EPA's Environmental Investigation Levels (Manganese of 500 mg/kg) and Health Based Investigation Levels (Manganese of 1500 mg/kg) and this tends to suggest that there may be environmental and human health risks present as a result of Manganese. Water reactivity tests showed that 4 of the 10 samples returned leachate with Manganese concentrations above the Australian Drinking Water Guideline aesthetic value of 0.1 mg/L and the leachate from one of these samples returned a concentration which was also elevated compared with the Australian Drinking Water Guideline health value of 0.5 mg/L. These elevated results indicate that there may be a potential risk with respect to manganese. Again, we think that this potential environmental concern may be better quantified through further investigations.

Although the indication is that Mercury and Manganese are somewhat soluble in these soils, we would not expect any surface water runoff in the area to contain the same concentrations of these elements, as the runoff is over grass/vegetation and organic matter, not over disturbed soil surface. We note that the Mercury concentrations in the soil leachate samples are only slightly higher than the short and long term guideline trigger values for Mercury in Australian and New Zealand irrigation waters. The Manganese concentrations are much lower than the corresponding guideline trigger values. Therefore, based on the results of our preliminary geochemical survey we think it is unlikely that the livestock died as a result of ingesting mineral accumulations. Queensland Water Infrastructure has advised us that, as a precaution, a fence has been constructed around the disturbed area of the drilling pad to prevent livestock from entering the area.

Based on our preliminary geochemical sampling program at the Garapine property, we consider that the risk of harm to children travelling through the area for recreation activities is low. The likelihood that the water quality in Traveston Crossing Dam will be affected by mineral accumulations on the Garapine property, to the extent that the water will be a potential human health or environmental concern, is also considered to be low. Nevertheless, we have taken a precautionary approach and have requested that additional work be conducted at the site to further evaluate the risk.

Yours faithfully,
GOLDER ASSOCIATES PTY LTD

Marshall Lee

Marshall Lee
Manager Environment

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APPENDIX E

Note on Toxic Plants known to cause Cattle Mortality which may occur in the vicinity of the Proposed Traveston Crossing Dam, Mary River.

Prepared by 3D Environmental, 26 April 2007.

Introduction

A review of the 579 species of vascular plants recorded for the proposed Traveston Crossing Dam survey area has been undertaken to determine species which may have the potential to be toxic to cattle causing death. This review incorporates searches of literature, most prominently the quarterly reports of Animal Health Australia, Animal Health Surveillance Quarterly Reports between 2002 and 2006 which provide a record of stock deaths with States and Territories.

A preliminary analysis indicates a number of species known from the study area which are toxic to stock with validated records of mortality in cattle. It should be understood that the properties where the deaths occurred have not been inspected for these species.

Bracken Fern (*Pteridium esculentum*)

Bracken is known to occur in remnant and non remnant vegetation throughout the Traveston area and is considered of economic significance as a toxic plant in a number of States where it is known to cause a substantial number of stock deaths every year (Tas. DPI, Water and Environment 2002). While cattle are known to vary in their susceptibility to bracken poisoning, young cattle are reported to be most often affected, with older cattle also at risk. Cattle do not normally eat bracken, however, are more likely to do so in circumstances of drought where feed is scarce, or in need of fibre intake while grazing lush pasture. Additionally cattle which are new to an area are susceptible. All parts of the plant are considered to be toxic, and animals may also be affected through ingesting slashed bracken fronds, exposed bracken rhizomes following cultivation and hay containing bracken (TDPI 2002).

Bracken poisoning is reported to be acute causing sudden-death or chronic in nature with deaths known to occur up to several weeks after animals have been removed from bracken infested pastures (TDPI 2002). Animal Health Australia reports a number of cases of mortality from Bracken or suspected Bracken poisoning in Queensland including:

- *"Bracken fern poisoning was presumed to be the cause of death of an 18-month-old heifer from 30 at risk in Cooloola shire in late October 2006. The heifer had access to bracken fern. Clinical signs of recumbency and convulsions were observed before death and serosal haemorrhages of the bladder and oedema of the abomasal and intestinal walls were seen at autopsy. Mucosal haemorrhages were seen in the abomasal and small intestinal walls on histopathological examination. There was also submucosal haemorrhage and oedema and subserosal haemorrhage of the intestinal wall. Multiple septic infarcts were present in the liver. These histological findings are consistent with bracken fern poisoning";*
- "Bracken fern (*Pteridium esculentum*) was the suspected cause of death of two yearling heifers and of tarry faeces in another 11 head near Cooroy in southeast Queensland" (Animal Health Australia 2005b);
- *"Twenty out of 40 Holstein Friesian dairy cattle died after showing signs of diarrhoea and jaundice on a property in Eacham Shire during October 2006. Autopsy revealed profuse haemorrhaging throughout the body, especially in the skin, eyes and intestine, an enlarged bronzed liver with yellowing around the edges and blood that was not clotting. Arsenic poisoning, anthrax and Salmonella were ruled out through negative laboratory results. Given the clinical presentation, histology and pathology, these deaths were highly likely to have been the result of bracken fern (Pteridium esculentum) poisoning"* (Animal Health Australia 2006);

- "Acute ptaquiloside poisoning associated with bracken or mulga fern ingestion was suspected as the cause of death of cattle on five properties in southern Queensland during April and May of 2003. Animals were of mixed ages. Clinical signs were fever, swelling of the lower head and neck, mucoid nasal and oral discharge (sometimes tinged with blood), diarrhoea (again sometimes bloody) and straining, and some evidence of mucosal haemorrhages. Haematology of most animals showed severe leucopaenia and thrombocytopaenia, with occasional pancytopaenia. Bone marrow, where supplied, was hypoplastic. Bacterial infarcts and haemorrhagic lesions were present in tissue sections. Diagnosis was confirmed by identification of plant material in the rumen or suspected, due to history of access to potentially toxic plants" Animal Health Australia (2003c).

Noogoora Burr *(Xanthium pungens)*

Noogoora Burr is widespread in Queensland found along river and creek flats, on roadsides and in pasture lands following seasonal rain or floods. It is known to occur in the Mary Valley often in riparian situations. Seedlings are known to be poisonous to domestic stock, causing death if eaten in sufficient quantities (Department of Natural Resources and Water 2006). The caboxyatractylosides toxins in the seeds probably function to inhibit the growth of other plants which may compete with young burrs and are known to severely damage the liver of animals which eat them (McKenzie 1997). Noogoora Burr is toxic to most livestock at the seedling stage while the cotyledon (first two) leaves are still present. They can cause contact allergy, dermatitis and mechanical injury both to humans and animals. Mature plants are not toxic (NSW Department of Agriculture 2004). A number of researchers and graziers have maintained that adult plants are not easily eaten by livestock, because of the roughness of the leaves and stems (NSW Department of Agriculture 2004). Symptoms of stock poisoning include intense pain, salivation, muscular spasms, tremors, vomiting, scouring and death within two or three hours or up to two days later (NSW Department of Agriculture 2004).

Lantana (*Lantana camara*)

Lantana is a widespread species that occurs throughout the area and is known to be toxic to stock. Animal Health Australia (2006c) reports an increased incidence of reports of lantana toxicity in cattle located in coastal central Queensland during February and March 2006. These increases were; "*possibly due to owners not being familiar with the clinical signs of lantana toxicity (and consequently misdiagnosing other illnesses as lantana toxicity), and seasonal influences (dry weather, which limited pasture growth) increasing lantana toxicity. Another factor is that introduced cattle that are naive in their choice of diet browsed lantana as a source of green feed in the dry summer experienced in the region. Locally bred cattle do not generally consume the local toxic plants such as lantana* (Animal Health Australia 2006c). Mortality records in southern Queensland are limited to a case in the Ipswich Shire where Lantana poisoning was the likely cause of death of 40 cattle, and sickness in another 12 out of 200 at-risk cattle in Ipswich shire in late November 2006 (Animal Health Australia 2006c).

Poison Peach (*Trema tomemtosa*)

Poison Peach was recorded within the Traveston area and may be found in regrowth rainforest particularly on margins. Reports of sudden death from ingestion are available in the far north near Mareeba (Animal Health Australia 2006b). Heavy losses suspected to be from Poison Peach are also known from the Pioneer Shire (154 from 1200 head of recently introduced cows) and are reported from a property unstocked for some time with losses occurred within one week of the introduction of the cattle (Animal Health Australia 2005a).

***Bryophyllum* (Mother of Millions)**

This succulent plant of disturbed areas is reported to have caused multiple deaths of cattle in southern and central Queensland (Animal Health Australia 2002a, 2005a). Post mortem examination of 15 yearling heifers at a site in southern Queensland revealed flowers in the rumen with 14 deaths reported from a herd of cattle having access to the plant one week earlier (Animal Health Australia 2002a).

Juncus continuus

The rush *Juncus continuus* is a common species in grazed alluvial areas throughout south eastern Queensland. Animal Health Australia (2005b) reports this species to be suspected as responsible for the death of a cow in Tiaro Shire in late September. The cow was one of 10 affected from 25 that had access to a paddock usually empty of animals. There was evidence of local irritation of the mouth, diarrhea, and heart failure, consistent with plant poisoning (Animal Health Australia 2005b).

***Grasstree (Xanthorrhoea* spp.)**

Grasstrees do not occur on the lower river terraces of the Mary River however are known to be present in open forests and woodlands generally on steep hillslopes. An instance of poisoning from Grasstree (typified by lack of coordination), is known from a beef cattle on a south Queensland grazing property where prevailing drought conditions resulted in the limited availability of alternative fodder (Animal Health Australia 2003c).

Fireweed (*Senecio madasgarensis*)

Fireweed in a declared species in Queensland and may occur in pastures in the Traveston area. While no reports of stock death are apparent from the literature reviewed, a report of six deaths from gastrointestinal disease related to Fireweed ingestion is known from the NSW south coast in October–November 2006 (Animal Health Australia 2006a).

References

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