LEGISLATIVE COUNCIL
Question On Notice

Wednesday, 27 June 2018

1435. Hon Robin Chapple to the Minister for Environment

I refer to the former Pillara lead and zinc mine, now classified as a contaminated site, which is 25km south east of Fitzroy Crossing and adjacent to a proposed irrigation development at Gogo Station in the Kimberley, and I ask:
(a) when did the mine commence;
(b) was there an environmental assessment by the Environmental Protection Authority (EPA);
(c) if no to (b), why not;
(d) if yes to (b), will the Minister table the EPA report and recommendations on the mine;
(e) when did the mine cease operations;
(f) has the mine been rehabilitated to the satisfaction of the Government;
(g) if no to (l), why not;
(h) when was the former mine site classified as a contaminated site;
(i) what contaminants have been found in elevated concentrations in groundwater near the former mine's tailings storage facility and when was it first realised they were discharging into the environment;
(j) according to a briefing note to the Director General of Lands, one of the contaminants at the site is thallium which is "...a highly toxic metal, cannot be broken down and is comparable to lead or mercury" and that "Australia does not currently have standards for acceptable limits of thallium."? Is the Minister aware that thallium exceeded the trigger value in the Australia and New Zealand guidelines outside the mining tenement, that is on the Gogo Station pastoral lease;
(k) is the Minister aware that Lennardshelf redirected groundwater discharge from the northern vents to a man-made wetland via a constructed trench, and that the wetland area where discharge was redirected was created in 1997 by Western Metals for discharge of excess dewatering from sediment and de-leading ponds;
(l) is the Minister aware that during the wet season water from the man-made wetland flowed down a creekline through a Gogo Station paddock area, and that it was understood by Lennardshelf that water from the creek line was used by the pastoralist for use in irrigation to grow cattle feed and excess was possibly released into Blariyaning creek;
(m) if yes to (l), is the Minister concerned that water containing heavy metals, including thallium and arsenic was used to irrigate cattle feed on Gogo station;
(n) is the Minister aware that the department requested Gogo Station conduct bore water testing for thallium, arsenic, cadmium, copper, lead and zinc;
(o) is there evidence to show that Gogo Station conducted the bore water testing on the bores requested by the department;
(p) if yes to (o), will the Minister table the evidence;
(q) Gogo Station provided leaf tissue analysis of samples collected from agricultural crops, does the department have evidence to show that these samples were collected from an area that was being irrigated by potentially contaminated water;
(r) will the Minister ensure that any future testing be done by departmental staff rather than entities which may have a conflict of interest;
(s) if no to (r), why not;

(t) is the Minister aware that water flowing through Blariyaning Creek eventually flows through the floodplains of Mount Pierre Creek and Margaret River which then drain into Duck Hole Creek which flows into the Fitzroy River;
(u) when was the detailed site investigation initially due;
(v) if there is a delay, why has the detailed site investigation been delayed;
(w) does the detailed site investigation now due for completion in May 2018 undertake a risk assessment of any build-up of heavy metals including thallium, which is highly poisonous, in dams or waterways; and
(x) when will the Minister release the detailed site assessment?

Answer

(a) The mine site was established in February 1996, and underground mining commenced in August 1997.

(b) – (c) No, because the proposal was not referred to the EPA.

(d) Not applicable

(e) Mining was suspended in October 2003 and the site went into care and maintenance. Mining recommenced in August 2006 for a short period before operations were suspended again on 15 July 2008. Decommissioning of the site commenced in 2008.

(f) – (g) Questions on the requirement for mine site rehabilitation should be directed to the Minister for Mines and Petroleum.

(h) Part of the former mine site was first classified *contaminated – remediation required* on 14 April 2015. The classified site now includes all mining tenements and part of Gogo Station's lease area. The classification has been updated on three occasions: 27 October 2015, 30 November 2016 and 1 August 2018, and remains classified as *contaminated – remediation required.*

(i) In October 2015, the then Department of Environment Regulation identified that groundwater near the tailings storage facility required further investigation under the *Contaminated Sites Act 2003*. This was based on a review of historical groundwater monitoring results. The Department also noted the surface discharge of surplus water from the tailings storage pond while the mine was operating, and during care and maintenance. An above ground pipeline was also found to be leaking in November 2007.

In recent groundwater monitoring as part of the Detailed Site Investigation, sulfate and the metals boron, cadmium, chromium, copper, iron, manganese, nickel, selenium and vanadium exceeded assessment criteria. However, it is not yet clear whether substances in groundwater represent background conditions (due to the local geology), or whether they are the result of discharges from the tailings storage facility. Additional groundwater monitoring wells are required to assess background conditions.

(j) Thallium concentrations in surface water outside the mining tenement have exceeded a low-reliability value for the protection of freshwater aquatic ecosystems in the 2000 *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. There are no published Australian assessment criteria for thallium that are relevant to agricultural irrigation or stock watering.

Thallium in soil and surface water on the pastoral area did exceed site-specific assessment criteria for thallium, which were used in the Detailed Site Investigation report. Exceeding a relevant assessment criterion indicates that further investigation or risk assessment is required.

The Department of Health (DoH) has advised that there does not appear to be a risk to human health or to cattle based on recent results. As a precautionary control, the Department of Primary Industries and Regional Development (DPIRD) has recommended a clean source of water for cattle for four weeks before sale. The Department of Water and Environmental Regulation (DWER) has relayed this advice to the pastoral leaseholder. Further investigation and ecological risk assessment is required to determine the risk to the environment; these actions are regulated under the *Contaminated Sites Act 2003*.

(k) - (l) I have been advised that the discharge from the northern vent rise was the reason the Department first classified the site under the *Contaminated Sites Act 2003*. The northern vent rise discharge route, and water in the dam, was tested as part of the recent Detailed Site Investigation. After reviewing the report and seeking advice from DoH and DPIRD, DWER concluded there does not appear to be a risk to human health or to beef cattle, based on recent results and current agricultural activities. As noted in response to (j), DPIRD has recommended a clean source of water for cattle for four weeks before sale as a precautionary control, and DWER has relayed this advice to the pastoral leaseholder.

I am also aware that the Blariyaning creek and Blariyaning wetland are downstream of the dam. Further investigation is required to determine the risk to the environment.

(m) See answer to (k) - (l).

(n) Yes. The Department's October 2015 request was made consistent with DoH's standard advice that all bore owners regularly test bore water to ensure that it is suitable for its intended use.

In August 2018, DWER wrote to Gogo Station again and reiterated DoH's advice to regularly test water used for agricultural purposes. This advice is precautionary, as recent sampling found that there did not appear to be a risk to human health or to beef cattle at Gogo Station, based on current agricultural activities.

(o) – (p) Yes. I table a laboratory report documenting the results of November 2015 bore water testing commissioned by Gogo Station. This is in addition to more recent groundwater testing carried out by the mining tenement holder and documented in the Detailed Site Investigation.
[see tabled paper no.].

(q) The Department was advised that Gogo Station collected sorghum plant roots from five sites along the northern vent discharge route, and submitted them to a laboratory for analysis

of thallium. The Department has not relied upon the results for the purposes of risk assessment, because DoH advised on 8 March 2016 that the laboratory's limit of reporting was too high to assess thallium exposure through plant material.

(r) – (s) It is appropriate that investigations be commissioned by the mining tenement holder, in accordance with the "polluter pays principle" and the hierarchy of responsibility for remediation in Part 3 of the *Contaminated Sites Act 2003*. The investigations are subject to a detailed technical review by DWER, in consultation with DoH.

(t) Yes.

(u) By the end of April 2018.

(v) Not applicable; DWER received the Detailed Site Investigation report on 30 April 2018.

(w) The Detailed Site Investigation documented recent sampling of water and sediment in the dam on Gogo Station, as well as the northern vent rise discharge route and other surface water bodies within the mining tenement. It also included a risk assessment and a conceptual site model. DWER has advised me that further investigation and ecological risk assessment is required to assess the risk to the environment.

(x) I table the Detailed Site Investigation report.
[see tabled paper no.].

Hon Stephen Dawson MLC
MINISTER FOR ENVIRONMENT; DISABILITY SERVICES