

Introduction

I advised Gandy et al. that most or all of the comments and questions discussed at the meeting will be included in the NOD comments due later this year. The meeting will simply give them more time to work on the things we're most concerned about.

Maps/aerial photos - Gandy et al. didn't balk at the request and will provide them soon.

Environmental Assessment - Trey Greenwood advised this was done as part of the Permit Application and that Kevin Graham (Stoller/Roswell) has already contacted Fish and Game about it. (cf. "Running Log" document entry for 9JUN95)

Geology/Hydrogeology

- 1 WW-1 water probably from Upper Dockum (high GR zone); WW-2 water probably from lost circ. zone (Santa Rosa?); both wells were dry (air drilling produced "dust") while drilling.
- 2 Yes - wells are on caprock - thought to produce from Ogallala - Jim B. thinks Ogallala is 200 feet thick, Upper Dockum doesn't outcrop at escarpment, and springs are at base of escarpment (at Ogallala/Upper Dockum contact) - this doesn't agree with Fig. 3-13 or with our observations in the field (not all spgs at base of escarpment; red beds of Upper Dockum appear about 50 feet down the escarpment).
- 3 supposed to pinch out about 20 miles west of the facility (although there's probably a permeable zone at the base of the Lower Dockum).
- 4 stock water production several miles north - there is saturation, but no production, locally.
- 5 Ogallala
- 6 may have been rainwater in hole - saw none while drilling.
- 7 saturation was a projection from the north
- 8 3-point solution from oil wells
- 9 water was stagnant; cross-section shows scouring.
- 10 amount of water in this accumulation is an open question
- 11 casing was open-ended; recovered no water - possibly it seeped downward into the Lower Dockum

- 12 WW-2 water is from Lower Dockum - hydrostatic head?
- 13 2500 ft. was a projection - questions will be answered by additional borings.
- 14 local projection - additional borings will be done.
- 15 4555 may be a typo - Jim B. will check.
- 16 already discussed above
- 17 already discussed
- 18 they were looking for shallow Lower Dockum mudstones - found 25-50 feet of Q alluvium.
- 19 Jim B. feels water to west is stratigraphically trapped - water to east is recharge from Ogallala and moves slightly toward the facility before flowing downdip.
- 20 Jim B. will review the questions and his info.

Landfill

- 1 Jim B. feels there are no fracs in Lower Dockum (based on regional studies); John K. feels dessication is not a problem due to existence of some moisture in the mdsts.
- 2 there will be horizontal seams even though geotextiles are installed running up & down the slope since the slope will be covered piecemeal (desiccation, deterioration, costs incr. if entire slope done at one time) - cf. Koerner's book (SWB or TerraMatrix) for liner seams; proper thread will be a final design issue.
- 3 1×10^{-2} cm²/sec; will be an envelope of geotextile on either side of granular material.
- 4 will be a final design issue
- 5 will be a final design issue
- 6 item doesn't exist - I misnumbered the comments page!
- 7 daily cover thickness will vary - will be thinner than for solid waste landfills since vermin not a problem; water will be used in low amounts and spread properly so it will help form a crust and not creat leachate.
- 8 Lower Dockum similar to Upper Dockum - have no Lower Dockum cores t datecould do a packer test in the new borings - could do an infiltrometer test (a pilot test) on compacted Lower

- Dockum sediments.
- 9 rigorous CQA program during construction.
 - 10 vacuum trucks; repairs may require a specialist to visit the site.
 - 11 the head on the liner will develop below the point where geomembrane ends; this is the basis for the waiver request.
 - 12 meets MTR
 - 13 10-30 acres will be open at any time; will remove asap;
note: can pptn falling on unopened parts of the landfill migrate to the working portion and create leachate?
 - 14 TerraMatrix needs us to define "head".
 - 15 covered earlier
 - 16 sump/pump designed to keep head < 1 foot.
 - 17 will spread with dozer and compact with roller - 2 ft. lifts on slopes, 6"-9" lifts on bottom.
 - 18 CQA during construction; stipulated frequency of testing;
need to check existing CQA.
 - 19 there's no good way to locate a leak; a network of lysimeters is not standard practice; need careful operations to preserve the liner; no liquid will be placed in the landfill (per Dale G.); pptn will be only liq is impoundment; **note:see item 13 above; also, cf. 2nd para. on page 2-23.**

Surface Impoundment

- 1 this was a general statement for a arid region.
- 2 leachate from landfill or any other unit with sumps.
- 3 water will move rapidly thru geonet to sump area.
- 4 rolls of geonet will overlap - water will move freely from one roll to the next.
- 5 a final design issue - TerraMatrix will redesign slope.
- 6 TerraMatrix will suggest a level; standard procedure is to analyze anything recovered from a LCRS/LDS.
- 7 Stoller will look into this; **cf. 40CFR268.42(a)(1).**
- 8 a couple of inches can be detected with gauges; leaks will be

- located by visual inspection; impoundment emptying will require renting of pumps, tanks, etc.
- 9 normally 4-6 ft. deep; has to do with size of pump; a final design issue.
 - 10 "floating" will be a result of air accumulation beneath the liner - an indication of leakage.
 - 11 could remove with vacuum truck - then stabilize; typically it's not removed but allowed to accumulate until closure.
 - 12 fencing, flagging, netting, noise & human activity associated with the site - best solution will be based on animal population.

Conclusions

TerraMatrix has already done 60 landfill designs (solid & hazardous waste) and feels this is the best location they've seen for a landfill.

The maps/aerial photos we requested will be sent as soon as they can be created. Will include info from other three "Areas of Investigation".

A proposal for doing additional borings for the east part of the facility (and further east beyond the boundary) will be sent - depths will be sufficient to penetrate Lower Dockum. If water is found east of the facility aquifer testing, to determine size of the water body, etc., will be required.

Jim B. will provide info on the 3-point solution to regional dip.

TerraMatrix provided samples of geomembrane, geotextile, and geonet.

Jim Bonner and John Kendall will attempt to locate cores (lab may have disposed of them) and will let me know what's available. If they've been tossed Jim will provide cores from other areas.

I'll be including most of what was discussed today in the NOD.

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