

Triassic Park Hazardous Waste Disposal Facility

Meeting held June 8, 1995 in Santa Fe

Topics:

- 1) Introduction (intro selves & sign up sheet)
- 2) Questions and Comments on Geology and Hydrogeology
- 3) Questions and Comments on the Landfill
- 4) Questions and Comments on the Surface Impoundment
- 5) Conclusions

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Introduction:

- reason for meeting (technical issues)
- status of RFA and Permit Application review
- general items (prior to getting into details):
 - In addition to the 1:200 scale map required by the regulations, NMED needs a 1:24000 scale map, for 4 miles around proposed facility boundaries, showing the location of all water wells; oil and gas wells, abandoned wells, dry holes, and borings done for Gandy-Marley's landfarms and waste disposal sites. Information required: type of well, status, TD, and available tops.
 - also need land ownership map for same area; and
 - a high-resolution aerial photo (to be used in locating surficial features, sink holes, springs, lineaments, etc.);
 - Has an Environmental Assessment been done? Has Game & Fish been contacted? Kevin Graham w/ Stoller (Roswell) has contacted Game & Fish in Roswell.
 - from the May 19 meeting at the proposed site - Dale Gandy to provide plans for removal of rainwater collected in the landfill - Larry Gandy to contact TerraMatrix for samples of geotextile, geonet, and geomembrane - Larry Gandy will provide list of chemicals to be stored on site.

TJ Species
Fed. State
List

(Is he
Hatched
or changed
+ BLM

contacted
EPA
State Endangered
Species Act - Plans
- none

Stoller
623-9076

Triassic Park - Geology/Hydrogeology

Item Questions/Comments

- 1 Section 3.5.3.1, 12th para., page 3-14. "...unsaturated thickness of 600' to 650' of Lower Dockum..." - the GR-N logs for WW-1 and WW-2 indicate water at 143' and 158', respectively, below ground surface.
- 2 Section 3.6.1, 2nd para., page 3-15. "...tanks on adjacent lands...receive water from an underground pipeline." - are any wells connected to this system?
- 3 Section 3.7.1.2, 2nd para., page 3-17. "...Santa Rosa Sandstone is not present..." - cf. Plate 3-1, to what did WW-2 lose circulation??
- 4 Section 3.7.1.2, 4th para., page 3-17. "...Upper Dockum...permeable zones ...produce small quantities of groundwater." Produce to what? wells?
- 5 Section 3.7.1.2, 4th para., page 3-17. "...overlying aquifers." What are these??
- 6 Section 3.7.2, page 3-17. "...drilling within this boundary has encountered no groundwater." No borehole went below 100 feet; water logged in PB-14o at 91' (cf. GR-N).
- 7 Section 3.7.2.2, 3rd para., page 3-18. - refers to saturated lithologies 2,500 feet east of the proposed landfill site. From the maps and logs provided with the Permit App. no drilling was done east of the proposed facility.
- 8 Section 3.7.2.2, 3rd para., page 3-18. "...regional dip...is to the east." How was this determined?
- 9 Section 3.7.2.2, 4th para., page 3-18. "In a single drill hole...a small accumulation of groundwater...". Please define. How was this determined? Water was found in both PB-14 and PB14o.
- 10 Section 3.7.2.2, 5th para., pages 3-18 and 3-19. The paragraph discusses briefly the water level in PB-14. Note that no mention of water was included on the lithology log (14JUL94), water was found with the GR-N log (15JUL94) at 62 feet, and stabilized at 42 feet following pumping. This may be more than the "small" accumulation of the previous paragraph.

- 11 Section 3.7.2.2, 6th para., page 3-19. "There was no water observed in these holes..." PB-140 was one of the nine holes cased. The GR-N log indicates groundwater at 91 feet below ground surface but the casing was perforated from 20-40 ft. (information provided by Stoller after Permit App. was submitted).
- 12 Section 3.7.2.3, 4th para., page 3-20. Water levels for WW-1 and WW-2 are given as 155 and 467 feet, respectively. The GR-N logs indicate water at 143 ft. in WW-1 and 158 ft. in WW-2.
- 13 Section 3.7.2.4, 2nd para., page 3-20. "Perched groundwater ...2500 feet downgradient of the site is the uppermost aquifer that could be affected..." Is "downgradient" to the east? How was it determined? What subsurface control is there east of the proposed facility? Deepest drilling within proposed facility boundary is 100 feet - some borings stopped within siltstone/sandstone beds - is there groundwater directly below the proposed site? (see page 8 of this handout)
- 14 Section 3.7.2.4, 2nd para., page 3-21. Location of the uppermost aquifer and the Upper Dockum/Lower Dockum contact is unknown for the east part of the proposed location. Several borings TDed in silts/sands (cf. Item 19).
- 15 Section 3.7.2.4, 6th para., page 3-22. Where did the elevations 4555 and 4025 come from?
- 16 Section 3.8.1, 1st para., page 3-23. "The Upper Dockum is not saturated within the facility boundaries." This is questionable. Water has been found in PB-140 and the drill holes on the east side of the proposed facility bottomed in siltstone/sandstone (and didn't reach the Lower Dockum).
- 17 Section 3.8.1, 3rd para., page 3-24. "...upgradient and downgradient...". - how were these determined?
- 18 Figure 3-9. What did the other three Areas of Investigation show regarding geology and hydrogeology?
- 19 Figure 3-13. What's preventing the water east and west of the proposed facility from flowing beneath it?

20 Some log information that doesn't tie together:

(from appendices C, D, G & Fig. 3-13):

PB-1 - location on GR-N log is Section 18; location on lithology log and on Fig. 3-13 is Section 8.

- PB-26 - no location on GR-N log; location on lith. log is NWNW of Sec. 9; location on Fig. 3-13 is NWNE of Sec. 9; elevation on lith. log is 4183 feet which is ok for the NWNW location; lith. log TD = 200 ft., GR-N log drillers TD = 180 ft.
- PB-27 - no location on GR-N log; location on lith. log is NWNE of Sec. 9; location on Fig. 3-13 is NWNW of Sec. 9; elevation on lith. log is 4144 feet which is incorrect for either of the locations in Sec. 9.
- Plate 3-1 - has the N log for PB-27 west of that for PB-26, but they're labeled in the reverse order; the plate shows water at 145 ft. (approx.) on the PB-27 N log (for which there's no indication on either the N log or the lith. log).
- PB-34 - GR-N log location is Section 18; lith. log and Fig. 3-13 location is Sec. 7.
- PB-35 - GR-N log location is Section 18; lith. log and Fig. 3-13 location is Sec. 8.
- WW-1 - GR-N log location is Section 17; lith. log and Fig. 3-13 location is Section 8.
- WW-2 - GR-N log location is Section 18; lith. log and Fig. 3-13 location is Section 19.

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Triassic Park - Landfill (use SWB's notes)

Item Questions/Comments

- 1 Section 2.5.1.2, 1st paragraph, page 2-15. Incorrect construction - see comments in Items 11 & 12 below. Also, for Lower Dockum, what is dip of beds? Are there cracks, fractures, faults in the mudstone?
- 2 Section 2.5.1.2, 3rd para., page 2-16. See comments on Fig. 2-9 below. Also - geotextile materials' seams must run up and down the slope and not horizontal (at least within 5 feet of bottom per SWB). "...proper thread..."???
- 3 Section 2.5.1.3, 1st para., page 2-16. Define "...well-graded drainage material...". Also, does geotextile lend itself to clogging?

- 4 Section 2.5.1.3, 4th & 5th para., page 2-16. Need to specify a maximum depth of leachate. What head of leachate will be maintained on the liner? Show sump design, pump design, disposal design for quantity of liquid to be removed. Calculate or demonstrate adequacy of liner, LCRS, and LDS to accommodate a (eg. 1mm) hole in the liner.
- 5 Section 2.5.1.4, 1st para., page 2-17. 8-inch diameter piping? Is this excessive?
- 6 7 Section 2.5.1.6, page 2-18. What will daily cover thickness be? Applying water to the landfill might create leachate.
- 8 Section 2.5.1.9, 3rd paragraph, page 2-19. Base, and sides, of proposed landfill may rest on Upper Dockum silts and sands. What are permeabilities of the Lower Dockum mudstones?
- 9 Section 2.5.3.2, page 2-21. Define the preventive maintenance program.
- 10 Section 2.5.3.9, 4th para., pages 2-24 & 2-25. "...remove all standing water..." - how?? Also, how will damages be repaired??
- 11 Figure 2-9, Detail B (Slope). Need to extend liner to top of slope (cf. 40CFR264.301(a)(1)(iii)).
- 12 Figure 2-9, Details D (Floor), C (Toe of Slope), and B (Slope). Cf. 40CFR264.301 (and my sketch on the yellow sticky.
- 13 Section 4.2.1, 2nd para., pages 4-1 & 4-2. "...will collect in low spots..." - need to design and operate so ponding, infiltration, and formation of leachate do not occur. Also, "...within 24 hours..." - will have infiltrated by then!!!
- 14 Section 4.3, 2nd para., page 4-3. "...in a timely manner to minimize the head..." - define please.
- 15 Section 6.2.2, 6th para., page 6-4. "...covered or managed in such a way as to control..." - define please.

other items:

- 16 question from the regulations: 40CFR264.301(c)(2) - "...ensure that the leachate depth over the liner does not exceed one foot." - can this also mean one foot of head? Slope will be 1.75%, landfill length approx. 1000 feet, lower end will be 17.5 feet below higher end! Trying to get answer from RCRA Hotline.
- 17 How will the operations layer be compacted to ensure protection of the underlying LCRS and liners?

- 18 Method for testing integrity of the upper drainage layer and its perforated collection pipe?
- 19 How will the location of any leaks be detected?

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Triassic Park - Surface Impoundment

Item Questions/Comments

- 1 Section 2.6.1.1, 2nd para., page 2-27. How will the geographical location of the facility prevent migration of haz. constituent to soils (and possibly groundwater)?
- 2 Section 2.6.1.1, 4th para., page 2-27. Leachate generated from what?
- 3 Section 2.6.1.1, 6th para., page 2-27. How will geonet prevent head from developing? The impoundment will be constructed with a 2% slope and is 400 feet from the northwest corner to the sump at the southeast corner. this will allow a maximum of 8 feet of head.
- 4 Section 2.6.1.2, 2nd para., page 2-28. cf. Item 3 above. Also, from 6th bullet, please explain (orally) how geonet will feed liquids to the sump - how will liqs move between rolls?
- 5 Section 2.6.1.3, page 2-29. Will all of the lagoon be excavated to below current ground level or will some of the dirt removed be used to berm the sides? Also, if waste will not exceed 8 feet, then 8 feet at the sump will mean 0 feet at the opposite corner (cf. Item 3 above).
- 6 Section 2.6.2.4, 3rd para., page 2-30. What specified level? Also, how/why stabilized? Concerns about chemical changes? Why not just put it back in the evap. pond, if it came from there, and find and repair the leak?
- 7 Section 2.6.3, page 2-30. GMI intends to accept liquid waste containing PCBs up to 500 ppm (cf. Section 2.5.1.1)?
- 8 Section 2.6.4.3, 2nd para., page 2-32. The surf. impound. will be shut down due to how much drop in level? How will leaks be found and repaired? To where will impoundment be emptied?
- 9 Figure 2-11, Cross-Section C-C'. How deep is the sump? Will fluid head on bottom liner > 1 foot? (cf. 40CFR264.222(a))

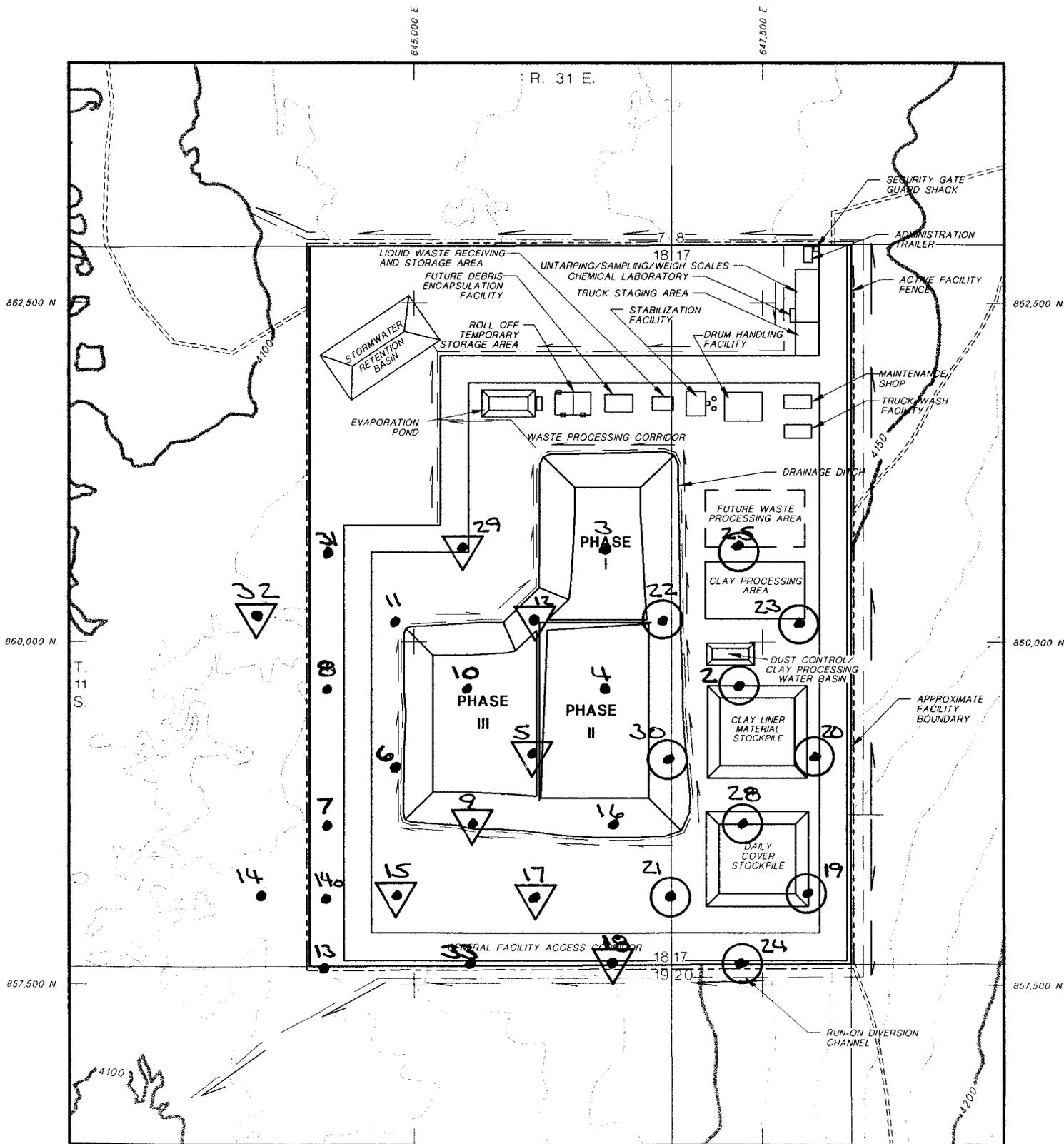
- 10 Section 6.2.3, 2nd para., page 6-4. "The surface of the waste will be visually checked for any sign of the primary liner floating, which may indicate a leak in the liner." Please explain this sentence. Also, need to construct and operate so liner leaks don't occur.

other items:

- 11 Method for removing sludge from impoundment?
- 12 How will birds and small animals be kept out of the impoundment?

(11) Typically not removed. allow to accumulate until dense
use vacuum truck to ~~remove~~ remove
then to solidify

(12) Sencing
tagging or netting - best sdn will
be based on animal populations



- - borehole location, TD 100', with PB.#, TD in mdst on lith. & GR-N logs
- ▽ - TD in mudstone per lith. log; may be siltst or sandstone per GR-N log.
- - TD in siltst/sandstone per lith. log and GR-N.

Meeting of Gard. - Marley Representatives w/ HRMB,
6/8/95

<u>Name</u>	<u>Organization</u>	<u>Phone #</u>
Cornelius Amindyas	NMED-HRMB	(505) 827-4308
Teri Davis	NMED-HRMB	827-4308
John V. [unclear]	TERRA MATRIX	303-763-5140
Alan [unclear]	Terra Matrix	(303) 379-6280
Ronald Kern	NMED/HRMB	(505) 827-4308
Jim Bonner	S.M. Stoller	(505) 255-6200
Trey Greenwood	S.M. Stoller	(505) 985-0172
Harry Gandy	GMI Inc	" 398-4960
Bill Marley	G M Inc.	(505) 626-6513
Walt Dandy	G M Inc	505-396-4948
KEN SCHULTZ	GMI	(505) 275-5750
Bob Sweeng	HRMB	827-4308