KIF FGD DISPOSAL SITE MEETING
JANUARY 15, 2003
ADGENDA

1) INTRODUCTION
   A. WHY ARE WE HERE
   B. PROJECT SCDEDULE
   C. WHERE ARE WE IN THE PROCESS

2) TVA INHOUSE WORK TO DATE

3) PARSONS WORK TO DATE

4) MACTEC PROPOSED WORK

5) PROJECT ROLES
   A. COMPLETION OF THE FATAL FLAW ANALYSIS
   B. HYDROGEO INVESTIGATION 3 in combination
   C. KARST MITIGATION PLAN
   D. LANDFILL DESIGN
   E. PERMITING

6) DATA NEEDS AND COORDINATION

7) DISCUSSION

8) SITE VISIT

Minghini, Cherie M.

From: Smith, Daniel R.
Sent: Tuesday, December 24, 2002 7:31 PM
To: 'Tockstein, Carl'
Cc: Minghini, Cherie M.; Petty, Harold L.
Subject: SOW for KIF Scrubber Stack Investigation


base topo.dwg (1 MB)


KIF DRAFT Geotech Invest SOW f...

Attached please find the sow in word format. As usual, we solicit your expertise in reviewing this SOW and modifying your proposal to TVA if you have other suggestions. The number of borings are a guide. You may need to alter this depending on the "ground truthing" strategy. Also attached is an autocad file with TVA aerial topo. The site has a boundary drawn around it. The potential borrow areas are outside the boundary, and probably would be the nearby hilltops. I have been unsuccessful in getting any piezometer locations, so they are yet on the map. I will provide these as soon as I receive the data. If we don't receive these prior to the field program initiation, I would be happy to meet your crew at the site to show them the piezometer location, and provide input as to potential borrow areas.

If you think a literature search is important for Phase 1, please include that in your proposal. Our geotechnical engineer thought this would be best in Phase 2, so I left it there. I would probably be surprised if there were any Holocene faults near the site. I've left that for Phase 2, and don't know how much effort is needed for something like this. If its simple, it would be good at this stage, since it's a site killer, but if it would cost a lot of bucks now we probably shouldn't do it. I don't think we discussed drilling into rock at our meeting, but our geotechnical engineer, Yogesh Shah suggested this. I left room for this in the SOW. If you think its not necessary at this phase, then leave it out.

I've included some lab work. I don't this this should include a lot of samples, or cost a great deal of money. I am curious to see if the soil has a low permeability, but if only doing one sample at this stage of the game isn't effective, then leave it out. If the soil is visually uniform over the site, I thought it would be good to get some data from a representative sample, but this can be limited. Our geotechnical engineer didn't think it was necessary now, but use your judgement.

I know our work days don't overlap this week, but if you need to call me for any clarification, its not a problem. My home phone is 691-5358, or you can call the cell no below. I will be in town, but in and out.

Thanks

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SOW for geotech investigation at KIF Scrubber Gypsum Stack 12/24/02

Purpose: A two-phase approach is requested. Phase 1 - Determine feasibility of siting a gypsum stack at this location. Site needs to be characterized for subsurface conditions and any fatal flaws identified from a geotechnical perspective. Preliminary and conceptual configuration of gypsum stack (including max height, loading, and approximate elevation of the bottom of the facility) will be provided to vendor early in the investigation.

Compliance to TN Rule 1200-1-7.04 (2) (q), Karst Terrain for the project implementation is anticipated. A full characterization (including MW installation) sufficient for development of a hydrogeological report for permitting is required during Phase 2 and is not necessary at this time. Rather, the strategy is to perform a preliminary geotechnical subsurface investigation to characterize the site sufficiently to determine its feasibility for implementation of the project.

If the project implementation is considered feasible and this site is determined to be adequate after Phase 1 study, then Phase 2 will be conducted later. Phase 2 will involve submittal of the hydrogeological report to TDEC. Sufficient data would be needed to fulfill the requirements of TN Rule 1200-1-7. It is desired to structure the Phase-1 preliminary investigation so that the information obtained can be supplemented during Phase 2 investigation to develop the data for the hydrogeological report.

The **Phase-1** study will include

- Survey (walk) the site to look for distinguishing features
- Geoprobe holes at several locations over maximum two working days to characterize soil thickness, followed by "ground truthing" using auger borings in an effort to characterize karst features to the extent possible. Air-drilled holes down to at least 15 feet into the bedrock at selected locations.
- Auger borings (six locations), with SPT soil sampling, to be within the site boundary shown on the topo. Need for rock coring in these borings to be determined after getting the probe-hole data, if necessary. Locations should be spread out and can be folded into the "ground truthing" strategy. Auger borings - continuous SPT sampling to 10 feet below existing grade and at 3-foot intervals below 10 feet depth to refusal;
- Collect representative SPT and auger samples for each soil type encountered for lab testing (moisture content, grain-size and plasticity tests)
- Develop boring logs; record water level measurements during drilling and minimum 24 hrs later to obtain stabilized groundwater level;
- Conduct 4-5 borings to required depth, similarly as above, to characterize potential borrow areas

The following items at least will be included in the **Phase-2 study (later):**

- Do a historical review of the site geology based on available published literature.
- Determine if any Holocene faults exists within 200 ft of the proposed stack location(s)
- Development of topo dwgs w/ piezometer locations

- Detailed subsurface investigation (such as additional borings and probings; appropriate geophysical survey to identify extent of Karst features,if necessary; installation of additional groundwater monitoring wells; groundwater testing, and triaxial shear and permeability testing of subsoils at specific stack location)

- Required analyses for stack stability, and impact on groundwater.

Bore holes and probe holes need to be grouted in accordance with TN Rule 1200-1-7.04 (2) (l)

Laboratory testing: atterberg limits, grain size analysis, standard proctor compaction, unit weight, natural moisture content, specific gravity, permeability testing (both in-situ and remolded) for a representative soil type. In-situ permeability tests need to be taken at depths representative of geologic buffer, and remolded samples from likely borrow locations (both from within the proposed dike and on-site borrow locations).

Prepare a narrative report that discusses the results of the investigation and includes data such as boring and probe-hole location map, boring and probe-hole logs, results of lab tests, groundwater level, and presence of Karst features. Also, discuss implications of Karst features to site suitability for this type of facility and make recommendations for any remedial methods that may be needed to address the karst features with regard to especially stack stability and abatement of groundwater contamination, if anticipated.