
PURPOSE AND SCOPE OF WORK TO BE PERFORMED

The purpose of our work on the project will be to perform the five year reevaluation of NMOC emissions from the Rapid City Landfill under air quality regulations.

In order to accomplish the above purpose we propose to provide professional services to the City of Rapid City (City) in the form of labor, equipment, supplies, insurance, and other necessary work components necessary to perform the following tasks for Rapid City's Solid Waste Operations Division:

- preparing and submitting to the Air Quality Program, SDDENR, the location of vapor monitoring points, methods to be used, dates of testing and all other required items, and receiving approval in writing from the SDDENR prior to performing the work;
- preparing a work completion schedule;
- completing boring logs for each probe installation;
- mobilizing a two person drill crew out of our Rapid City, South Dakota Office;
- installing 50 temporary monitoring points to a depth of six to eight feet below grade (minimum of 1 meter below landfill cap) at locations provided by the City using Geoprobe® direct push (DP) equipment;
- collecting landfill gas samples from 50 temporary monitoring points and compositing four samples per canister in compliance with 40 CFR Part 60, subpart WWW, Appendix A, Method 25C;
- analyzing the samples for non methane organic compounds (NMOCs) and total gas non methane organics (TGNMOs) using EPA Method 25C, and oxygen (O₂), nitrogen (N₂) and methane (CH₄) using EPA Method 3C; and
- preparing a formal report on the analysis of findings in accordance with Federal requirements.

*ALTERNATE A
Proposal for NMOC Sampling and Reporting
Rapid City Landfill, Rapid City, South Dakota*

September 10, 2003

ASSESSMENT TEAM

American Engineering Testing, Inc. is a full service consulting firm providing environmental, geotechnical and construction materials engineering services to both private and governmental clients in South Dakota, North Dakota, Minnesota, Nebraska, Wisconsin and Wyoming. AET personnel have completed assessment activities, remedial feasibility studies and corrective action plans for a variety of solid waste related projects. The biosolids have included wood waste, creosote and chloropentaphenol contaminated wood and soil, herbicide/pesticide impacted soils, nitrate impacted soils, medical waste, PCB contaminated soils, heavy metal contaminated tank sludge and soil as well as numerous hydrocarbon contaminated media. AET personnel are knowledgeable of site conditions at the Rapid City Landfill and have worked with Landfill personnel on many projects in the past. AET has also installed permanent methane monitoring wells at the Newcastle, Wyoming landfill and permanent vapor probes at sites located in Fort Yates, North Dakota and Lantry, South Dakota.

AET proposes to utilize personnel from the Rapid City office of AET to perform the services as presented in this proposal. Roger Hodson and Byron Schulz will service as AET Project Managers for the project and they will be assisted by the balance of the Rapid City staff. Resumes for key AET staff are attached to this proposal for your review. Analytical services will be subcontracted to Pace Analytical, Minneapolis, Minnesota.

PROPOSED WORK COMPLETION SCHEDULE

AET proposes the following work completion schedule:

- Submitting to the Air Quality Program, SDDENR, the location of vapor monitoring points, methods to be used, dates of testing and all other required items within two working days of receiving a notice to proceed.
- Commence field sampling activities within five working days of receiving approval in writing from the SDDENR. We anticipate approximately five working days for completion of the field sampling activities and 15 working days for receipt of the laboratory analytical results.
- Following receipt of the laboratory analytical results, we anticipate approximately 20 to 30 working days to complete the formal report on the project.

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COST ESTIMATE and TERMS OF PAYMENT

The scope of work listed in this proposal will be performed and compensated for on a time and materials basis and our "General Terms and Conditions." A copy of the Cost Estimate and "General Terms and Conditions" is attached. AET estimates a total cost of \$17,341.38 to complete this project.

If conditions at the site require that AET provide services beyond the scope of this proposal or in excess of the above estimates, the additional services will require additional approval and will be charged according to the attached rates.

Our efforts will be directed at performing the work and accomplishing the objectives defined within the estimated cost and schedule proposed. The estimated cost and schedule are based on our judgement of the requirements known at the time of the proposal. The successful completion within cost and schedule limits can be influenced - favorably or adversely - by changes in work scope and schedules as indicated by your needs and presently unforeseen circumstances. We will notify you in advance if scheduled costs are expected to exceed the estimate. In such events, you may wish to 1) authorize additional funds to complete the work as originally defined, 2) re-define the scope of work in order to fit the remaining funds, or 3) request that work be stopped at a specific expenditure level. If option 3 is chosen, we will turn over such data and results, and materials completed at the authorized level without further obligation or liability by either party except for payment for work performed.

**COST ESTIMATE FOR SAMPLING, ANALYSIS AND REPORTING RELATED TO FIVE YEAR NMOC TESTING
RAPID CITY LANDFILL**

Sampling and Analysis

Preparation, Loading/Unloading (2-person crew/5 trips)	5	hours	@ \$	100.00	= \$	500.00
Geoprobe Mileage	50	miles	@ \$	0.65	= \$	32.50
Travel Time	3.75	hours	@ \$	100.00	= \$	375.00
Site Time - Sample Collection (Geoprobe w/2-person crew)	40	hours	@ \$	110.00	= \$	4,400.00
Geoprobe Sampling Supplies (50 vapor probe locations)	1	each	@ \$	917.95	= \$	917.95
Sampling Equipment (sampling train gauges, valves and tubing)	1	each	@ \$	500.00	= \$	500.00
Sample Prep. (pack/ship samples to lab)	2	hours	@ \$	50.00	= \$	100.00
Project Management	4	hours	@ \$	75.00	= \$	300.00
Laboratory Services (Pace Analytical)						
TGNMO & NMOC by Method 25C (Composite - 4 samples per canister)	13	samples	@ \$	117.00	= \$	1,521.00
O ₂ , N ₂ and CH ₄ by Method 3C	13	samples	@ \$	75.00	= \$	975.00
Canister Rental Fee	13	each	@ \$	45.00	= \$	585.00
Shipping	1	each	@ \$	150.00	= \$	150.00
Chemistry Markup - 3% (includes invoice processing fee)					= \$	96.93
Additional sample collection and analytical fees ¹	4	each	@ \$	717.00	= \$	2,868.00
SUB TOTAL - Sampling and Analysis						\$ 13,321.38

Report Preparation (methodology submittal to DENR and formal report)

Project Manager	12	hours	@ \$	75.00	= \$	900.00
Staff Professional (methodology submittals)	3	hours	@ \$	60.00	= \$	180.00
Staff Professional (NMOC report in accordance with Federal Requirements)	40	hours	@ \$	60.00	= \$	2,400.00
Draftsperson	5	hours	@ \$	50.00	= \$	250.00
Clerical	4	hours	@ \$	30.00	= \$	120.00
Senior Review	2	hours	@ \$	85.00	= \$	170.00
SUB TOTAL - Report Preparation						\$ 4,020.00

TOTAL COST² \$ 17,341.38

¹ Includes costs for loading/unloading, travel time, site time, and analytical fees for up to 4 additional composite samples, if required.

² This cost estimate is based on the assumption that the DENR will approve composite sampling. Brian Gustafson/DENR/Air Quality has indicated that