

GW EVAL
AFCEE
AFCE

February 11, 1997

Via Federal Express

Ms. Jo Jean Mullen (QAE)
AFCEE\ERD
3207 North Road
Brooks AFB, TX 78235-5363

Reference: Contract F41624-94-D-8136, Delivery Order 0023,
Environmental Services for Groundwater Evaluation, Monitoring,
and Well Installation in Support of Compliance Activities
at Camp Stanley Storage Activity, Texas

Technical Interchange Meeting Conference Agenda (CDRL B001A)

Dear Ms. Mullen:

Per the Contract Data Requirements List (CDRL) Data Item Number B001A, Parsons Engineering Science, Inc. is pleased to submit the conference agenda for Technical Interchange Meeting 2. Enclosed is one copy of the conference agenda. We are transmitting one copy to Mr. Brian Murphy, CSSA/RRAD. A copy of this transmittal letter is also being sent to Mr. Thomas McLean, HSC/PKVBB and AFCEE/ERS per CDRL B001A.

Please call me at (512) 719-6000 if you have any questions or comments.

Sincerely,



Susan V. Roberts
Project Manager

Enclosure

xc: AFCEE/ERS
Thomas McLean, HSC/PKVBB
Brian Murphy, CSSA
Rick Brettin, Parsons ES
Keith Tischler, Parsons ES

**AFCEE Contract Number F41624-94-D-8136/Delivery Order 0023
Groundwater Evaluation, Monitoring and Well Installation**

**Technical Interchange Meeting 2
Agenda**

Date: February 13, 1997

Time: 14:00 hours

Place: Camp Stanley Storage Activity

- Project Status
- Schedule and Budget
- Issues to be Resolved
 - Budget Revision
 - Options Groundwater Sampling System
 - Well Upgrades (Task 05)
- Projected Activities Next Period

AFCEE Contract Number F41624-94-D-8136/Delivery Order 0023
Groundwater Evaluation, Monitoring and Well Installation

Technical Interchange Meeting 2
Project Status

PROJECT STATUS TO DATE

D.O. Management (Task 01)

- Monthly reporting ongoing. Project budget is in revision.
- \$54,638 spent as of 31 January 1997.

Plan Addenda (Task 02)

- *Task 100% complete and on-budget.*

Technical Interchange Meeting

- TIM No. 1 on 12 November 1996.

Groundwater Sampling and Analysis (Task 04)

- Deliverables submitted since last TIM
 - Draft TIM Agenda, 6 February 1997.
- The first quarterly sampling event has been completed using a slow purge/low flow sampling system selected by AFCEE, CSSA, and Parsons ES. An evaluation of the portable slow purge/low flow system is provided in attachment A. A copy of the evaluation was mailed January 27, 1997 to AFCEE and CSSA.
- A potentiometric map of CSSA groundwater elevations for January 1997 is provided in attachment B.
- Analyses from the first quarterly sampling event are scheduled to be delivered to Parsons ES by February 11, 1997.
- Preliminary meteorological data from CSSA's well 16 weather station is provided in attachment B. The data covers the period July 21, 1996 through February 6, 1997. A data gap exists between October 4, 1996 through November 22, 1996 and reflects difficulties in achieving remote download of the station.
- Transducer data from well 16 is provided in graph format in attachment B. The data covers the period August 20, 1996 through December 30, 1996. Precipitation data from the well 16 weather station is also represented on the same graph. The large increase in water level on one day in mid-December most likely represents transducer disturbance.

- Parsons ES has requested the review and approval of the format previously used to report CSSA quarterly monitoring data. The current budget for preparation of each quarterly report is based upon the format accepted by CSSA in 1995.

Well Upgrade (Task 05)

- To be scheduled

Well Installation and Development (Task 06)

- To be scheduled

Waste Management (Task 07)

- Helped CSSA with waste classification in December 1996.

SCHEDULE AND BUDGET

- Budget revision on 23 January 1997

ISSUES TO BE RESOLVED

- The revised budget proposed on 23 January 1997.
- The benefits of a dedicated slow purge/low flow sampling system versus a portable slow purge/low flow system.
- Review of water wells selected for upgrade and the tasks to be performed at each well (*Task 05000*).

PROJECTED ACTIVITIES FOR NEXT PERIOD

- Submittal of analytical results (Draft ITIR) and Draft January 1997 Quarterly Groundwater Monitoring Report.
- Submittal of Final January 1997 Quarterly Groundwater Monitoring Report within 3 days after receipt of comments.
- Second quarterly groundwater sampling event scheduled for April 1997.

Attachment A

Evaluation of Groundwater Pump System

January 28, 1997

Commander
Attn: Brian Murphy
Camp Stanley Storage Activity
25800 Ralph Fair Rd.
Boerne, TX 78015-4800

Re: USAF Contract F41624-94-D-8136, Delivery Order 0023, Groundwater
Evaluation, Monitoring, and Well Installation in Support of Compliance Activities at
Camp Stanley Storage Activity (CSSA), Texas

January 1997 quarterly monitoring field summary and
evaluation of QED pump system

Dear Brian:

The following summarizes the field actions performed for the first quarter of 1997
groundwater monitoring under the referenced delivery order.

January 6-10, 1997

- Measured water levels.
- Sampled Wells 9, 10, and H.
- Set up and tested decontamination procedures for pump and tubing.
- Tested equipment at MW 1. Determined industrial air compressor cannot provide sufficient pressure to operate the pump at the depths required at CSSA.
- Gas cylinders (compressed nitrogen) proved effective at operating pump at required depths. It was determined that a high pressure regulator will be required in the future should water levels drop.
- Sample MW-1, MW-2, and Well 3 with QED system.

January 13-15, 17

- Obtained high pressure regulator and nitrogen cylinders from CSSA.
- Sample Wells 2 and G.
- Set up equipment at Well D; had difficulties with the pump. Troubleshoot pump difficulties with QED technical support.
- Shipped pump and pump controller back to QED for testing.

January 20 and 21, 1997

- Sampled Well 11 by bailer due to low water level (maximum depth with current system is 350 feet below ground level).
- Received pump and controller from QED Monday afternoon.
- Sampled Well D.
- Sampled Well 16 pre-and post-purge, and measure drawdown (drawdown negligible).

Difficulties Encountered with the Sampling System

Several difficulties have been encountered with the QED sampling system, the majority related to moving the system from well to well. The reeling and unreeling of 350 feet of semi-flexible airline and discharge tubing has initiated the majority of difficulties encountered. The problems encountered are listed below.

1. The pump controller throttle occasionally fails to engage resulting in zero pump pressure. This problem has been corrected by QED.
2. The airline has pulled free of the reel once and free of the pump once.
3. The discharge tube has repeatedly been pinched, blocking flow. Once pinched these areas are susceptible to future blockage and failure.
4. The pump caught on irregularities downhole in Well D during retrieval.
5. On Wednesday, January 15, the airline pulled free of the pump downhole. After retrieval and repair the system still failed to bring water to the surface. Several hours were spent in an attempt to find the problem with QED's assistance. The pump and controller (due to prior difficulties with the throttle) were shipped via Federal Express to QED in Ann Arbor, Michigan. QED identified a loose nut on the pump controller throttle, a collapsed pump bladder, and damaged threads on the pump body. QED repaired the pump free of charge.
6. Decontamination of the equipment between sampling each well greatly increases the hours required by the field team to accomplish quarterly monitoring. Decontamination fluids must also be collected and disposed of.

Evaluation of Portable QED System and Options

The QED low flow purge and sampling system achieved the goal of purging and sampling with minimum disturbance to the borehole water column. Measured drawdown stabilized within 17 minutes and did not exceed 0.03 feet. Temperature, pH, and conductivity readings generally stabilized in 1-2 hours of pumping at each well. Quarterly groundwater monitoring options are as follows:

- Sample monitoring wells using the entire QED system as a portable unit.
- Sample monitoring wells using dedicated QED pumps and tubing and employ the QED well controller as a portable unit.

Parsons ES' Recommendation

Numerous problems have surfaced with the implementation of the portable QED system for groundwater at the depths observed at CSSA. Based on the above discussions, it is likely that these problems will continue. Therefore, Parsons ES recommends the use of dedicated tubing and pumps for the following wells: MW-1, MW-2, Well 2, Well D, and Well 16. The proximity of Wells 2, 3, and 4 makes dedicated pumps for each of these three wells unnecessary. In addition, Well 4 is occasionally dry.

The following advantages apply to a dedicated pump and tubing sample system.

1. Reduced field time and associated costs. A portable system requires 5-6 hours per well, a dedicated system 2-2.5 hours per well. This difference is reflected in a total field time of 10-11 days versus 4-5 field days (based on 10-hour days).
2. Reduced maintenance. Repair time and materials necessary to splice tubing and replace fittings associated with repetitive flexing will be minimized.
3. Reduction in storage, use, and disposal of decontamination fluids. Approximately 4 liters of hexane and methanol and 2 liters of isopropyl alcohol were used for a single monitoring event. The use of these fluids on a regular basis would be eliminated.

Please call me if you have any questions regarding the above information.

Sincerely,

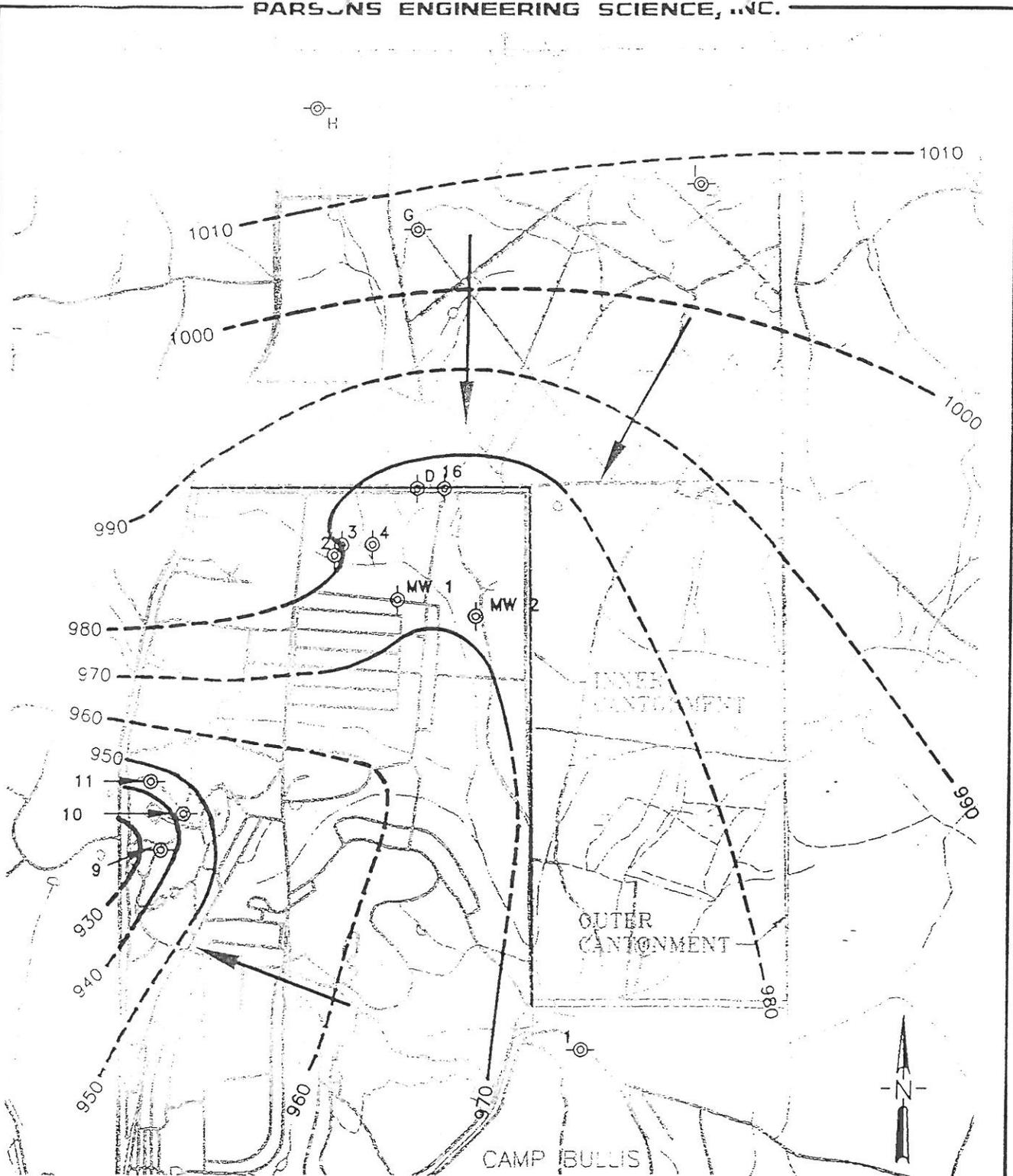


Keith Tischler
Project Geologist

xc: J.J. Mullen, HQ AFCEE/ERD
R. Hefner, HQ AFCEE/ERC
S. Roberts, Parsons ES

Attachment B

Figures and Graphs



JAN. 1997	
WELL	GW ELEVATION (FT-MSL)
1	976.67
2	981.46
3	974.52
4	DRY
9	936.3
10	943.52
11	942.28
16	972.17
D	977.34
G	1009.21
I	1009.79
MW1	971.92
MW2	971.16

LEGEND

- ⊙ = WATER PRODUCTION WELL
- ⊙ = MONITORING WELL

INFORMATION FROM DRY WELL 4
INCORPORATED INTO POTENTIOMETRIC MAP

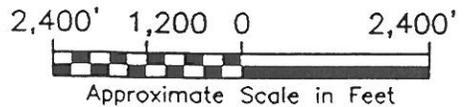


FIGURE 1

POTENTIOMETRIC MAP
(JANUARY, 1997)

FEB., 1997

CAMP STANLEY STORAGE ACTIVITY

Met Data							
	Date Time	To	RH	BP	Rd	WS	dir
Minimum	7/21/96 9:30	12 F	0 %	28.86 i	0 i	0 mph	0 o
Maximum	2/6/97 11:30	104 F	100 %	29.78 i	0.37 i	38 mph	338 o
Average		65.0 F	29.7 %	29.3 i	0.0 i	4.2 mph	137.7 o

Transducer Data

	Transducer Data Dates
Start	8/20/96 18:13
End	12/30/96 16:13

Met Data Legend

To-Temperature

RH-Relative Humidity

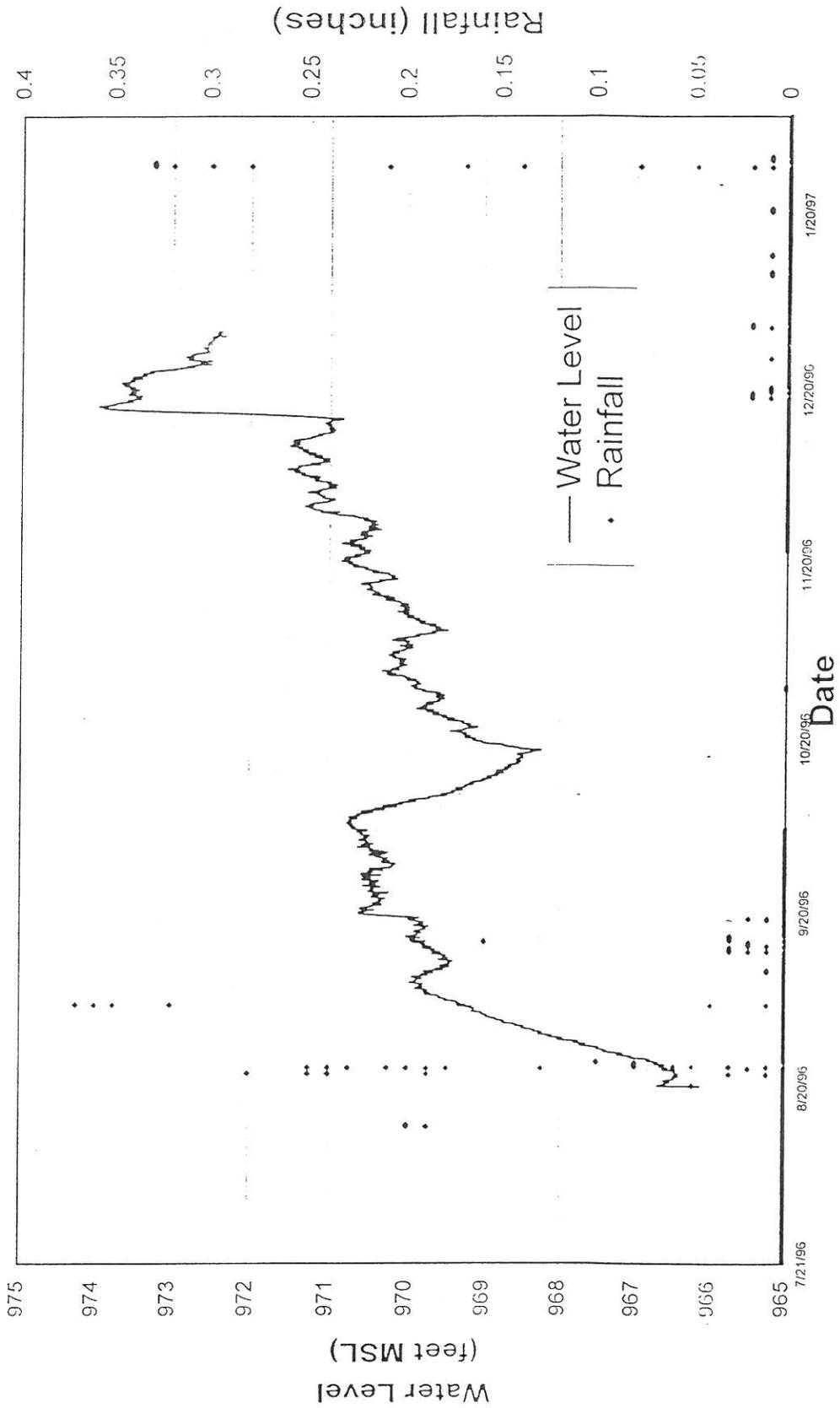
BP-Barometric Pressure

Rd-Daily Rainfall

WS-Wind Speed

dir-Wind Direction

CSSA Well 16 Water Level and Rainfall



PARSONS ENGINEERING SCIENCE, INC.

A UNIT OF PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC.

8000 Centre Park Drive, Suite 200 • Austin, Texas 78754-5140 • (512) 719-6000 • Fax: 512 719-6099

GW EUL
Parsons
AFCEE
→ PO 23

March 12, 1997

Via Federal Express

Ms. Jo Jean Mullen (QAE)
AFCEE\ERD
3207 North Road
Brooks AFB, TX 78235-5363

Reference: Contract F41624-94-D-8136, Delivery Order 0023,
Environmental Services for Groundwater Evaluation, Monitoring,
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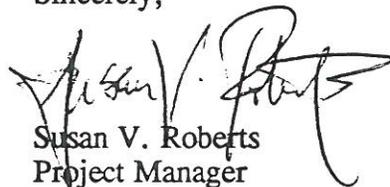
Technical Interchange Meeting Minutes (CDRL B002A)

Dear Ms. Mullen:

Per the Contract Data Requirements List (CDRL) Data Item Number B002A, Parsons Engineering Science, Inc. is pleased to submit the meeting minutes for the Technical Interchange Meeting 2. Enclosed is one copy of the meeting minutes and attendance sign-in sheet. We are transmitting one hard copy and one copy on disk to Mr. Brian Murphy, CSSA/RRAD. A copy of this transmittal letter is also being sent to Mr. Thomas McLean, HSC/PKVBB, and to AFCEE/ERS per CDRL B002A.

Please call me at (512) 719-6000 if you have any questions or comments.

Sincerely,



Susan V. Roberts
Project Manager

Enclosure

xc: Thomas McLean, HSC/PKVBB
AFCEE/ERS
Brian Murphy, CSSA
Rick Brettin, Parsons ES
Keith Tischler, Parsons ES

NOT
COPIED
for GW EVAL
These are
draft.

GW EVAL
→ DO 23

MEETING MINUTES

Reference: Contract F41624-94-D-8136, Delivery Order 0023
 SOW Para 4.2.2.1: Meeting Minutes
 Environmental Services for Groundwater Evaluation, Monitoring,
 and Well Installation in Support of Compliance Activities
 at Camp Stanley Storage Activity (CSSA), Texas
 TIM Meeting Minutes (CDRL B002A)

Meeting: 13 February, 1997
 CSSA, Boerne, Texas

Subject: Technical Interchange Meeting (TIM) 2 Draft Meeting Minutes

The Groundwater Evaluation Technical Interchange Meeting (TIM) 2 was held in CSSA building 1 on 13 February, 1997 at 14:00. The attendance sign-in sheet is attached. The following were in attendance:

Name	Organization
Jo Jean Mullen	AFCEE/ERD
Elizabeth Berman	AFCEE/ERC
Beth Garland	AFCEE/ERC
Rod Chatham	CSSA
Brian Murphy	CSSA
Susan Roberts	Parsons ES, Austin
Keith Tischler	Parsons ES, Austin

The TIM 2 meeting addressed project status to date, budget modifications, and actions to be performed pursuant to future sampling events, well upgrades, and monitoring well installation. The TIM 2 agenda included a review of the quarterly groundwater monitoring status (by WBS task), a budget review, and a discussion of the budget modifications, groundwater sampling options, and well upgrades.

Discussion

The meeting began with the distribution of copies of the meeting agenda/status, modified budget, and budget assumptions. Susan Roberts reviewed the status of the groundwater monitoring by WBS task and noted that Task 02 was completed on schedule and under budget. Keith Tischler provided a brief description and evaluation of the first quarterly sampling event and slow purge/low flow sampling system. A written summary and evaluation of the system was sent to AFCEE and CSSA on 27 January, 1997 and was referenced in the review. Parsons ES recommended the use of dedicated pumps and tubing in selected monitoring wells to reduce total cost and improve efficiency. CSSA and AFCEE approved this recommendation. The attendees then discussed which wells were to be assigned dedicated pump and tubing systems. It was agreed that the proximity of wells 2, 3, and 4 required that only one well of this group have a dedicated system. The remaining wells in the group could be sampled with a bailer or the portable system every other quarter or as needed. Well 4 had been dry for two measuring events and was eliminated. CSSA said either 2 or 3 would suffice. Parsons identified a similar situation with regard to sample frequency and proximity for wells 9, 10, and 11. These wells have (or will for well 11) dedicated submersible pumps. However, CSSA wanted to sample all three wells quarterly since they are drinking water supply wells. In summary, Brian Murphy reviewed the number of wells to receive dedicated slow purge/low flow sampling systems. It was agreed these would be MW1, MW2, well 2 or 3, well D, well 16, and three future monitoring wells for a total of eight systems.

Rod Chatham requested the cost for this be reviewed and Brian Murphy emphasized the advantages to obtaining the system for the next quarterly monitoring event. Jo Jean Mullen indicated that obtaining the system would not take long once AFCEE received a finalized budget from Parsons ES. CSSA and AFCEE would then finalize the budget and submit to Thomas McClean (COR).

Susan Roberts continued with a review of the tasks status to date following a call for any further questions. The budget was then addressed with regard to changes, issues, and actions still to be resolved. Susan mentioned that 100' of temporary casing was a contingency to be considered when installing the monitoring wells (Task 06). It was proposed the casing could be listed as a contingency option. The decision could be made in the field and Parsons ES would receive reimbursement on this as a stated contingency. AFCEE and CSSA agreed the casing should be left in as a cost. Susan noted the waste stream disposal was cost in general terms. This could be addressed as either a single waste stream or multiple. AFCEE and CSSA suggested that a single waste stream be listed for several events. The meeting schedules and locations for future TIMs were then addressed. Brian Murphy mentioned with the number of meetings being held for different projects it would be advantageous to coordinate all of them, holding some at Parsons ES Austin. Susan Roberts and Jo Jean Mullen agreed and emphasized for scheduling meetings with TNRCC attendance, Austin meetings would prove beneficial. AFCEE, CSSA, and Parsons ES agreed to pursue scheduling meetings to coincide and take place in Austin when possible. The discussion then addressed well upgrades (Task 05).

TIM #1

2/13/97

Julie Burdey
BRIAN MURPHY
Elizabeth Berman
Jo Jean Mullen
ROD CHATHAM
KEN RICE
Beth Garland

CSSA
AFCEE/ERC
AFCEE/ERDE
CSSA
PARSONS ES
AFCEE/ERC

(210) 698-5208
210-~~536~~-536-4171
(210) 536-5940
(210) 698-0210
512-719-6050
210-536-5658

TIM #5

Brian Vanderglas
Susan Roberts
Same as above

Parsons ES

512/719-6051

TIM #2

KEITH TISCHLER

PARSONS ES

512/719-6053

SAME AS ABOVE, except:

→ B. Vanderglas, J. Burdey & K. Rice of Parsons ES returned to PB office.