



ENTER

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

September 4, 2008

Environmental Division

John E. Kieling, Program Manager
Permits Management Program
State of New Mexico, Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive, East Building 1
Santa Fe, New Mexico 87505-6303



RE: NMED comments regarding Technical Memorandum, Regional Aquifer Monitoring Well Installation Dona Ana Range Camp and Meyer Range Camp Wastewater Lagoons, SWMUs 27B and 76, Fort Bliss, New Mexico, March 2008
EPA ID No. NM42113720101
HWB-FB-07-002

Dear Mr. Kieling:

Please find enclosed Fort Bliss responses to your comments, dated 8 June 2008, on the Technical Memorandum, Regional Aquifer Monitoring Well Installation Dona Ana Range Camp and Meyer Range Camp Wastewater Lagoons, SWMUs 27B and 76. This report dated March 2008, documented the investigative activities completed in accordance with the Resource Conservation and Recovery Act (RCRA) Settlement Agreement dated 31 January 2006. An additional copy of this letter has been furnished to Mr. Rick Smith, Tulsa District Corps of Engineers.

In addition to acceptance of the enclosed responses to comments, Fort Bliss also requests NMED finalize granting No Further Action (NFA) status to these two units per the conditions agreed upon in the 2006 RCRA Settlement Agreement.

If you have any questions or need further assistance, please do not hesitate to contact Kelly Blough at 915-568-0794, or kelly.blough@us.army.mil.

Sincerely,

Keith Landreth
Chief, Environmental Division
Directorate of Public Works

Enclosure

RESPONSES TO NMED COMMENTS DATED 8 JUNE 2008

On the March 2008

Technical Memorandum, Regional Aquifer Monitoring Well Installation Dona Ana Range Camp and Meyer Range Camp Wastewater Lagoons, SWMUs 27B and 76, Fort Bliss, New Mexico.

NMED COMMENT 1:

The Permittee states that the 3rd Cavalry was reassigned from the Ft. Bliss in 1996 resulting in an approximate 80% decrease in wastewater flow to the Meyer Range Wastewater Lagoon. NMED understands that changes in the number and location of troops stationed at Ft. Bliss may take place in the future. According to Section 1.33 of the Final Supplemental Programmatic Environmental Impact Statement, Fort Bliss, Texas and New Mexico, Mission and Master Plan (March 2007), personnel at Ft Bliss will increase by more than 22,000 between 2006 and 2010. The Permittee must inform the NMED of any changes that may alter the amount and composition of influent entering Solid Waste Management Units (SWMUs) 27B and 76.

FORT BLISS RESPONSE TO COMMENT 1:

In accordance with the 2006 Settlement Agreement, Fort Bliss collects influent quality samples and measures influent flow to the ponds. In the event that Fort Bliss contemplates expanding the ponds as a result of their inability to service additional mission requirements or decides to close the ponds, NMED will be notified in accordance with regulatory requirements. Additionally, pursuant to NEPA requirements, Fort Bliss is preparing and will be distributing an EIS for the Grow the Army Initiative that will provide more information regarding the proposed expansion and support requirements.

NMED COMMENT 2:

The Permittee states that the monitoring well drilled at the Meyer' Range Wastewater Lagoon has not produced sufficient water for well development and ground water sample collection and analysis. Section IV.G.3 of the January 2006 Settlement Agreement states that one groundwater sample will be extracted from the regional aquifer beneath SWMU 27B and SWMU 76 sometime in 2007. It also states that an additional groundwater sample will be collected from the regional aquifer beneath SWMUs 27B and 76 once every five years thereafter as required depending on the status of the units. The Permittee must propose how they plan to comply with this requirement of the 2006 Settlement Agreement with regard to The Meyer Range Camp Wastewater lagoon.

FORT BLISS RESPONSE TO COMMENT 2:

As described in the March 2008 *Technical Memorandum*, the boring for the well at the Meyer Range Camp Wastewater Lagoon was advanced to 500 ft below grade. The subsurface lithology was observed to be dominantly clay with rare intervals of sand and gravel. The boring encountered two wet zones interpreted to be potential water-bearing zones; the first at approximately 356 to 358 ft below grade and the second at approximately 450 to 454 ft below grade. The geologist logging the boring noted on the boring log that these zones may not produce enough water to be developed (i.e., neither of these appeared to be significant water-bearing zones).

Because no significant water-bearing zone (i.e., that might represent a regional aquifer) was obvious in the lithology, Fort Bliss engaged NMED in a conference call on 4 September 2007 to update the agency and to involve them in the decision of where to screen the well. A record of communication is provided as Attachment A. Fort Bliss reported that the geology was dominantly clay and that Fort Bliss did not believe the regional aquifer had been encountered to a depth of 500 ft. NMED requested to see a boring

RESPONSES TO NMED COMMENTS DATED 8 JUNE 2008

On the March 2008

Technical Memorandum, Regional Aquifer Monitoring Well Installation Dona Ana Range Camp and Meyer Range Camp Wastewater Lagoons, SWMUs 27B and 76, Fort Bliss, New Mexico.

log before discussing further. A draft boring log was provided via email to NMED on 5 September 2007. The draft boring log is provided as Attachment B.

On 5 September 2007, NMED responded via email, requesting that the well be constructed with a 20-ft screened interval from 340 to 360 ft below grade. A record of communication is provided as Attachment C. Fort Bliss completed the well as directed by NMED. As described in the March 2008 *Technical Memorandum*, the well was developed by introducing potable water, surging, and bailing (three development events involving the introduction of approximately 100, 150, and 60 gallons of potable water). The results of infiltration testing (a 31-ft drop in water levels over a three-hour period) verified that the screen is open and the formation is permeable enough at the screened interval to take water. The final well construction and lithologic logs (no lithologic changes relative to the draft provided to NMED on 5 September 2007 and here as Attachment B) were provided as attachments in the March 2008 *Technical Memorandum*. Fort Bliss most recently measured the water level in the Meyer Range Camp Wastewater Lagoon well, on 30 July 2008 where a water column of approximately six inches was observed. This volume is not sufficient for sampling.

In summary, Fort Bliss advanced a boring to 500 ft below grade and installed a well at the Meyer Range Camp Wastewater Lagoon at a depth considered reasonable to both the Army and to NMED. Fort Bliss kept NMED abreast of conditions encountered in the field, and completed the well as directed by NMED. The well, while functional, has not produced adequate groundwater. A groundwater sample could not be collected due to the character of the water bearing zones encountered. While constituent chemistry of the groundwater could not be determined during this round of sampling, Fort Bliss believes the conditions observed are relevant to the intent of long term monitoring portion of the settlement agreement. During the 4 September 2007 conference call (Attachment A), NMED stated that if significant tight clays are present, completing a monitoring well beneath them may not be useful for evaluating potential contamination associated with the wastewater lagoon at the Meyer Range Camp. Fort Bliss retained core and chip samples to physically document the clay lithology encountered in the boring and will provide those to NMED if requested.

Fort Bliss believes that in coordination with NMED, it has met the intent of the 2006 settlement agreement at the Meyer Range Wastewater Lagoon. As a result Fort Bliss proposes to attempt to sample the well again during the next monitoring period in 2012.



Russ K. Johnson

Originator

PHONE CONVERSATION RECORD

Conversation with:

Name NMED

Company

Address

Phone 866 222 7056-c 2031404

Subject Fort Bliss Deep Wells - Meyer Range Camp Warden's Legion

Date 4 Sept 07

Time 1300 10T AM/PM

Originator Placed Call Conference

Originator Received Call

W.O. No. 3586525.019

Notes: Paul Coburn - NMED

Cheryl Frischkorn - NMED

Russ K. Johnson - WESTON

Rick Smith } USACE

Jeanne Carroll

Ron Bach } FORT BLISS

Kelly Blouin

RKJ Fort Bliss Deep Wells - Meyer Range

- Settlement Agreement & Fact Sheet/Statement of Basis

suggest ~350 ft bgs for regional aquifer

- Weston Work Plan suggests 480 ft bgs for regional aquifer

- We are currently boring @ ~450 ft bgs, through thick sequences of clay, no inter-bearing zone is evident.

- Our understanding is that the NMED-Ft. Bliss settlement agreement calls for a sample from the regional aquifer at Meyer. we do not believe we have encountered the regional aquifer at this location

- Our intent is to update NMED - let them know where we stand, involve them in the decisions to be made concerning this well

- Continued on Page 2 -

File

Tickle File

Follow-Up By:

Copy/Route To:

Follow-Up-Action:

Originator's Initials

Russ K. Johnson



Russ K. Johnson
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name NMED
Company _____
Address _____
Phone 866222 7456 - 2431444
Subject Feet 6135 Deep Wells - Meigs Range Camp Wastewater by own

Date 4 Sept 07
Time 1300 CDT AM/PM
 Originator Placed Call conference
 Originator Received Call
W.O. No. 43886.525.019

Notes: Continued from Page 1

David Cbrain → NMED Settlement Agreement statement of Basis was likely based on information previously obtained from Fort Bliss
→ Asked about boring log - would like to have something to look at
RCS → I do not have that right now, can get it

David Cbrain → acknowledged that if significant, tight clays are present, completely a monitoring well beneath these ^{may} not be used for evaluating the presence of contamination from the pond
→ however, well will need to be installed, b/c that's part of the agreement

ACTION ITEMS - Russ to get a boring log from Phil, the field geologist, and transmit to Khayl, David
- subsequent communications will be via email

- File _____
- Tickle File _____
- Follow-Up By: _____
- Copy/Route To: _____

Follow-Up-Action: _____
Originator's Initials Russ Johnson

ATTACHMENT B DRAFT BORING LOG - 4 SEPTEMBER 2007

Meyer Pond Monitor Well (SWMU 76)

PRELIMINARY DRAFT SUMMARY LITHOLOGIC LOG SUBJECT TO REVISION

Drilled by mud rotary w/ periodic pitcher barrel cores collected, TD = 500' bgs

Depth Interval	Description	
0	31.5 Unconsolidated Alluvium, poorly sorted, subround to subangular silts, sands, and gravels, minor caliche near surface	
31.5	50 Silty Clay, brown, increasing stiffness with depth, plastic, trace sand	
50	55 Sandy Gravel w/ Silt, poorly to moderately sorted, subround, weakly consolidated	
55	60 Clayey Sand and Gravel, increase in clay from above, weakly consolidated	
60	75 Sandy Clay	
75	115 Silty Clay w/ very fine Sand, clay stiffness from soft to medium stiff over interval, light brown to brown coloration, variable plasticity	
115	120 Clay with Silt and Sand, reddish brown, poorly sorted, clay is medium stiff, plastic	
120	135 Sandy Silt, decrease in clays, coloration change to medium brown	
135	205 Silty Clay, variable stiffness (soft to medium stiff) and color (light brown to reddish brown) over interval	
205	220 Sandy Silt, sand generally fine, but minor larger grains also present, weakly consolidated	
220	240 Silty Clay, decrease in sands, only minor very fine sands present, clay is medium stiff, core collected 231.5 to 233.5 (moist clay)	~231.5-233.5
240	270 Clayey Silt, increased consolidation from above, reddish brown	
270	290 Silty Clay, stiff to medium stiff, medium brown, balls easily, plastic	
290	295 Clayey Silt, increase in overall grain size, weakly to moderately consolidated siltstone	
295	300 Silty Clay, decrease in overall grain size	
300	305 Clayey Silt, increase in overall grain size	
305	310 Silty Clay, decrease in overall grain size	
310	335 Clayey Silt, brown, very fine sand increasing with depth (up to 10%), weakly consolidated	
335	340 Silty Clay, decrease in sand content from above	
340	343 Clayey Silt, moderately consolidated, poorly sorted, interbedded brown clays (0.1 cm thick) and medium gray silts (1.0 cm thick), dry	
343	344.4 Silty Clay, reddish brown, stiff, moist	
344.4	346 Sandy Silt, gray, very weakly consolidated, moist	
346	347.5 Silty Clay, dark brown, very stiff, moist, minor light green mineral deposits visible (soft, dull luster, no structure visible, possibly chloritic)	~340-370
347.5	352 Clayey Silt, light brown to medium gray over interval, moist	
352	354 Silty Clay, less clay toward bottom of core, medium gray, very minor chloritic deposits, moist	
354	356 Unknown, no recovery, trace calcified gravels (~0.5 cm) identified when reamed with tricone, moist	
356	358 Silt with Sand, only minor clay present, bottom 0.75' of core lost, moist, not dilatent*	
358	366 Clay, dark brown, very stiff, plastic, moist to slightly moist throughout	
366	390 Silty Clay, variable stiffness (soft to medium stiff) and color (gray to tan / light brown) over interval	
390	400 Clayey Silt, increase in silts from above, brown	
400	430 Silty Clay, dark brown, very stiff, plastic; cored sample at 400 to 402' is moist, minor amounts of slightly moist white-gray calcite present	~400-402
430	443.5 Silt with Clay, purplish brown, well consolidated (siltstone)	
443.5	450 Silt with Clay, significant color change to medium gray, much less consolidated than above	
450	452 Silt and Sand, very fine sand, well sorted, subround, medium gray, unconsolidated, moist, rapid dilatency (pitcher barrel sample)*	~450-452
452	454.5 Silt and Sand, same as above	
454.5	465 Silty Clay with Sand, light brown, poorly sorted, medium stiffness	
465	498 Clayey Silt, dark brown, well consolidated, stiff trace very fine sands, high clay content	
498	500 Silty Clay, dark brown, very stiff, plastic, moist (core sample)	~498-500

Cored Samples

~1 ft thick wet zone, perched? likely poorly producing, not dilatent, may not produce adequate water for development

~2-5 ft thick wet zone, water present, dilatent, most recoverable GW observed in boring, likely poorly producing, may not produce enough water for development

* - dilatency - property of unconsolidated sample to produce beads of water when shaken by hand

ATTACHMENT C
RECORD OF COMMUNICATION
Regarding Completion of the Meyer Range Camp Wastewater Lagoon Regional
Aquifer Monitoring Well

RECORD OF COMMUNICATION 1

-----Original Message-----

From: Blough, Kelly T. [mailto:kelly.blough@us.army.mil]
Sent: Wednesday, September 05, 2007 9:01 AM
To: Frischkorn, Cheryl, NMENV; Cobrain, Dave, NMENV
Cc: Baca, Ronald H. (Contractor); 'Smith, Richard P SWT'; Carroll, Jeanne M SWT; 'Johnson, Russ (ATX)'
Subject: Preliminary draft drilling log for Myer Pond monitoring well

Good Morning:

Attached is the field data as we discussed yesterday. Let me know via e-mail how you would like us to proceed or if you would like us to set up a conference call later today to discuss it further. Thanks.

Kelly Blough

Directorate of Environment
Fort Bliss, TX 79916
(915) 568-0794

RECORD OF COMMUNICATION 1 (CONTINUED)

-----Original Message-----

From: Frischkorn, Cheryl, NMENV [mailto:cheryl.frischkorn@state.nm.us]
Sent: Wednesday, September 05, 2007 12:24 PM
To: Blough, Kelly T.; Cobrain, Dave, NMENV
Cc: Baca, Ronald H. (Contractor); Smith, Richard P SWT; Carroll, Jeanne M SWT; Johnson, Russ (ATX)
Subject: RE: Preliminary draft drilling log for Myer Pond monitoring well

Kelly:

Based on our telephone conversation (9/4/07) and the preliminary lithologic log you sent, NMED would like to see a well constructed with a twenty foot screened interval from 340 to 360 bgs, and a five foot sump below the screen. We expect that the boring below 365 feet bgs will be either grouted or filled with bentonite (hydrated). Please send us proposed well construction details prior to beginning the installation of the well and also notify us if there are any revisions to the draft lithologic log, which may affect the placement of the well screen.

Thanks, Cheryl

Cheryl Frischkorn

Geologist/Environmental Scientist-Specialist HWB-RCRA Permits Management Program
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505
PHONE: 505.476.6058
MAIN PHONE: 505.476.6000
FAX: 505.476.6030

ATTACHMENT C
RECORD OF COMMUNICATION
Regarding Completion of the Meyer Range Camp Wastewater Lagoon Regional
Aquifer Monitoring Well

RECORD OF COMMUNICATION 1 (CONTINUED)

-----Original Message-----

From: Blough, Kelly T. [mailto:kelly.blough@us.army.mil]
Sent: Friday, September 07, 2007 10:58 AM
To: Frischkorn, Cheryl, NMENV; Cobrain, Dave, NMENV
Cc: Baca, Ronald H. (Contractor); Smith, Richard P SWT; Carroll, Jeanne M SWT; Johnson, Russ (ATX)
Subject: RE: Preliminary draft drilling log for Myer Pond monitoring well

Cheryl:

Attached is the well construction diagram for the deep well at the Meyer Range Wastewater Lagoon. The well design targets the 340-360 ft bgs interval as you requested. There are no revisions to the boring log at this point, nor are any anticipated, except to provide more detail on lithologic descriptions, color etc. We will advise of the well performance and sampling viability once installation and development are complete. Thanks, and have a nice weekend.

Kelly

RECORD OF COMMUNICATION 1 (CONTINUED)

-----Original Message-----

From: Frischkorn, Cheryl, NMENV [mailto:cheryl.frischkorn@state.nm.us]
Sent: Friday, September 07, 2007 12:53 PM
To: Blough, Kelly T.
Subject: RE: Preliminary draft drilling log for Myer Pond monitoring well

Kelly:

Thanks for sending the proposed well construction diagram. Looks good. Please keep us updated. Thanks and enjoy your weekend.

Cheryl Frischkorn
Geologist/Environmental Scientist-Specialist HWB-RCRA Permits Management Program
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505
PHONE: 505.476.6058 MAIN PHONE: 505.476.6000 FAX: 505.476.6030