

KAFB BFFS
ST-106 and ST-111
Gas Bubbles in
Groundwater

Cobrain, Dave, NMENV

From: Blaine, Tom, NMENV
Sent: Monday, January 06, 2014 6:15 AM
To: BITNER, LUDIE W JR GS-13 USAF AFMC 377 MSG/CEIR; Amdurer, Mike; Cooper, Thomas; Agnew, Diane; JOHN MCBEE (John.M.McBee@usace.army.mil); Hobbs, Rachel G
Cc: LANNING, JEFFREY W Col USAF 377 MSG 377 MSG/CC; WILSON, DENZIL B GS-15 USAF AFMC 377 MSG/CE; BOHANNON, HERBERT C III GS-14 USAF AFMC 377 MSG/CE2; Kieling, John, NMENV; Cobrain, Dave, NMENV
Subject: RE: Teleconference Discussion
Attachments: Air Bubbles.xlsx



All -

Please see the attached spreadsheet showing the data of the wells containing air bubbles. I would expect that the occurrence of air would be dropping over time. Can someone explain to me why the percent of wells is increasing with time and not falling off. The spreadsheet divides the data into shallow, intermediate and deep categories. There are other things that we can do with the data to show trends. I think that there is more going on than just charging the aquifer with air during drilling. Is there something in the formation that is causing the release of trapped air?

As we identify the cause of the gas bubbles in the samples, I think that we need to look at the sensitivity of the samples to the gas bubbles. NMED will establish the statistical accuracy of the concentrations that is acceptable to guide remediation during interim measures. During our phone conference on Friday, we discussed some paths forward and suggested an approach that involves calculating constituent concentrations in the presence of gas bubbles and with no gas bubbles. This will provide an expected range of accuracy of the samples. NMED will evaluate the data and determine the threshold accuracy that will be acceptable for interim measures.

If there are other suggestions, please let me know.

Thanks

Tom Blaine

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

From: BITNER, LUDIE W JR GS-13 USAF AFMC 377 MSG/CEIR [<mailto:ludie.bitner@us.af.mil>]
Sent: Friday, January 03, 2014 10:40 AM
To: Blaine, Tom, NMENV; Amdurer, Mike; Cooper, Thomas; Agnew, Diane; JOHN MCBEE (John.M.McBee@usace.army.mil); Hobbs, Rachel G
Cc: LANNING, JEFFREY W Col USAF 377 MSG 377 MSG/CC; WILSON, DENZIL B GS-15 USAF AFMC 377 MSG/CE; BOHANNON, HERBERT C III GS-14 USAF AFMC 377 MSG/CE2
Subject: Teleconference Discussion

Today the individuals listed above gathered on the phone to discuss two persistent questions:

Status of investigation of Gas Bubbles in BFF Groundwater Samples
Status of Indoor Air Quality at the Bulk Fuels Facilities

CB&I has agreed to present discussion of gas bubble analytical calculations/outcomes concerning BTEX/EDB - Last week of Jan 2014

KAFB4846



Mr. Blaine is crafting response/acceptance letter to Indoor Air Quality Reporting which will, in part, acknowledge delivery of "risk assessment" in the pending March 2014 Vadose Zone RFI as described in KAFB Hazardous Waste Permit Section 6.2.4.5. - Draft to be provided by the week of 6 Jan 2014

//SIGNED//

Wayne Bitner

Chief, Environmental Restoration

ludie.bitner@us.af.mil

505-853-3484

DSN 263-3484

KAFB-106072	Intermediate		1	1		1		1	4
KAFB-106073	Intermediate		1		1	1	1	1	5
KAFB-106077	Intermediate					1	1	1	3
KAFB-106080	Intermediate								0
KAFB-106083	Intermediate		1	1	1		1	1	5
KAFB-106086	Intermediate			1	1	1	1	1	5
KAFB-106089	Intermediate		1	1	1	1	1	1	6
KAFB-106092	Intermediate	1	1	1		1	1	1	6
KAFB-106095	Intermediate			1		1	1	1	4
KAFB-106097	Intermediate		1	1	1		1	1	5
KAFB-106099	Intermediate	1	1			1		1	4
KAFB-106101	Intermediate			1			1		2
KAFB-106103	Intermediate	1							1
KAFB-106105	Intermediate		1				1	1	3
KAFB-106202	Intermediate					1	1		2
KAFB-106205	Intermediate					1		1	2
KAFB-106205R	Intermediate					1			1
KAFB-106206	Intermediate					1	1	1	3
KAFB-106206R	Intermediate					1			1
KAFB-106208	Intermediate						1	1	2
TOTAL		7	16	11	10	19	24	27	114
		6.1%	14.0%	9.6%	8.8%	16.7%	21.1%	23.7%	100.0%
KAFB-106043	Deep (590 ft)		1	1			1	1	4
KAFB-106061	Deep (590 ft)								0
KAFB-106062	Deep (590 ft)								0
KAFB-106068	Deep (590 ft)		1	1	1		1	1	5
KAFB-106071	Deep (590 ft)	1	1	1		1	1	1	6
KAFB-106074	Deep (590 ft)		1		1				2
KAFB-106078	Deep (590 ft)			1					1
KAFB-106081	Deep (590 ft)								0
KAFB-106084	Deep (590 ft)		1	1	1		1	1	5
KAFB-106087	Deep (590 ft)			1	1	1	1	1	5
KAFB-106090	Deep (590 ft)	1	1	1	1	1	1	1	7
KAFB-106093	Deep (590 ft)		1	1	1		1	1	5
KAFB-106096	Deep (590 ft)	1	1			1			3
KAFB-106031	Deep (550 ft)				1	1	1	1	4
KAFB-106034	Deep (550 ft)		1		1	1	1	1	5

KAFB-106040	Deep (550 ft)	1	1	1		1	1	1	6
KAFB-106045	Deep (550 ft)				1				1
KAFB-106048	Deep (550 ft)					1	1	1	3
KAFB-106051	Deep (550 ft)		1	1	1	1	1	1	6
KAFB-106054	Deep (550 ft)	1	1						2
KAFB-106058	Deep (550 ft)		1			1	1	1	4
KAFB-106066	Deep (550 ft)		1			1	1	1	4
KAFB-106098	Deep (550 ft)		1	1			1	1	4
KAFB-106100	Deep (550 ft)		1				1	1	3
KAFB-106102	Deep (550 ft)								0
KAFB-106104	Deep (550 ft)	1	1	1	1	1	1	1	7
KAFB-106107	Deep (550 ft)		1	1	1	1	1	1	6
KAFB-106203	Deep					1	1	1	3
KAFB-106209	Deep					1	1	1	3
KAFB-106209R	Deep					1			1
TOTAL		6	18	13	12	16	20	20	105
Percent		5.7%	17.1%	12.4%	11.4%	15.2%	19.0%	19.0%	
KAFB-3									0
KAFB-15									0
KAFB-16									0
KAFB-106160									0
KAFB-106161							1		1
KAFB-106007-R									0
KAFB-2819-R-CRT									0
KAFB-VA2									0
KAFB-ST106-VA2									0

ft Foot/feet 28.138546 82.451779 56.300301 54.302005 72.339048 121.721 126.7473 540
ID Identification