

Stoltz, Carrie R - DNR

From: Stoltz, Carrie R - DNR
Sent: Friday, February 09, 2018 1:54 PM
To: 'Ken Shimko'
Subject: Jim's Bar meeting with David Swimm meeting notes
Attachments: October 2017 maps_wtr lvl_GW iso-Cs.pdf; July 2017 maps_wtr lvl_GW iso-Cs.pdf; June 2016 maps_wtr lvl_GW iso-Cs.pdf; GW Trends.xlsx; 20180209140014888.pdf

Hi Ken, below is a summary of the meeting today with myself and David Swimm RE: Jim's Bar next steps. I know you will have questions/concerns. **I have become very swamped as of late and will be out (2) days next week. So, can we set up a time/date that will work for us? I am open Monday (2/12) from 1-2 PM. Please let me know if that date/time work for you.** Thanks, Carrie

Attached are several GW flow maps and GW trends graph. **Note that as indicated on the spreadsheet "Tot IS" is the total concentration of the less soluble petroleum compounds (i.e., TMB + ethylbenzene + xylene + naphthalene). The third map in each pdf map package show Tot IS iso-concentration contours.

Ken- in the future GW flow trend maps will be necessary to help us determine what is going on here

All wells except MW-5 have decreasing trends. MW 9A/9B is side gradient. Need to determine how far plume heads to NE. May not be very far due to topography.

There is a NE GW flow. Soils have a hard pan layer. The contamination goes to the NE and wants to go below the hard pan to more permeable SGr layers and then flows back to the SW. Could be another restrictive layer. When the plume hits the deeper area and heads back to the SW that is when it impacts PWs. Make sense as to why not all PWs are impacted; just those in SW direction.

- Source clean up will not help impacted PWs.
- Additional source treatment is potentially possible, but we don't know where the site is.
- Need to determine what is going on with the GW plume. Need further effective sampling.
- Could do a LIF to determine what is going on under the H2O table below the hard pan. Need to perform a LIF in aquifer, but boulders are an issue.
- Therefore, we recommend performing additional soil borings to help pinpoint contamination. Take a lot of soil samples and some GW grab samples. Need really detailed soil logs. Most MWs were installed blind. Is there any LNAPL?
- Need to install several soil borings next to existing MWs and in excavated area. Install new MWs (see last attachment). New MWs to be installed at same depth as MW -8C (see attached) with continuous soil sampling. More GW samples to be taken from 8C. These new MWs + MW8C will help to figure out Keeper's PW replacement location.
- Try your best to sample PW at 14767. This one may be impacted.
- Could look at chemical injection, further excavation. Contamination may go to smear zone.

Please correct Figure 5 cross-section because you know the depth of the Conve Store and Keeper's well. This figure will also be corrected based on the new soil information,

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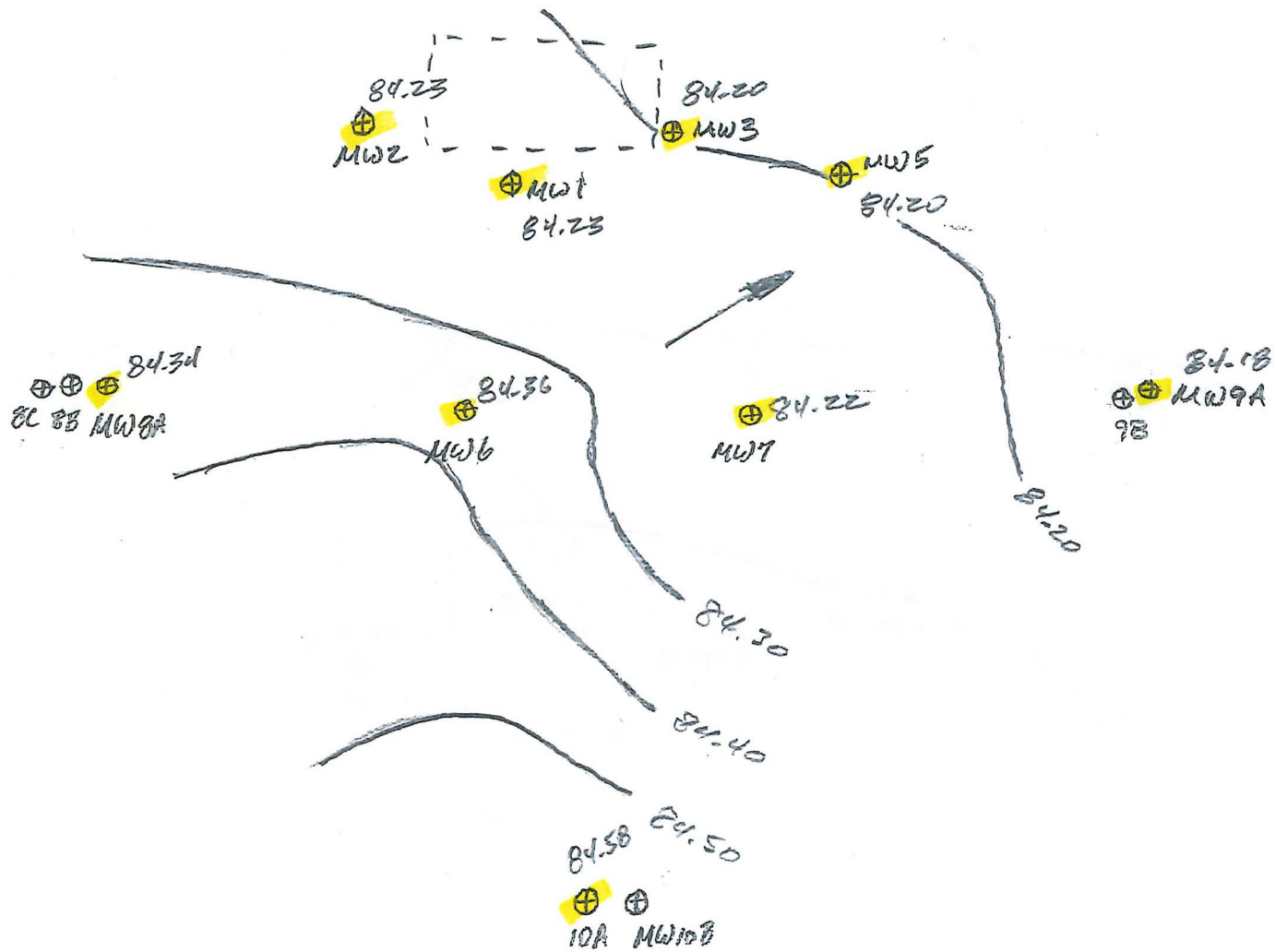
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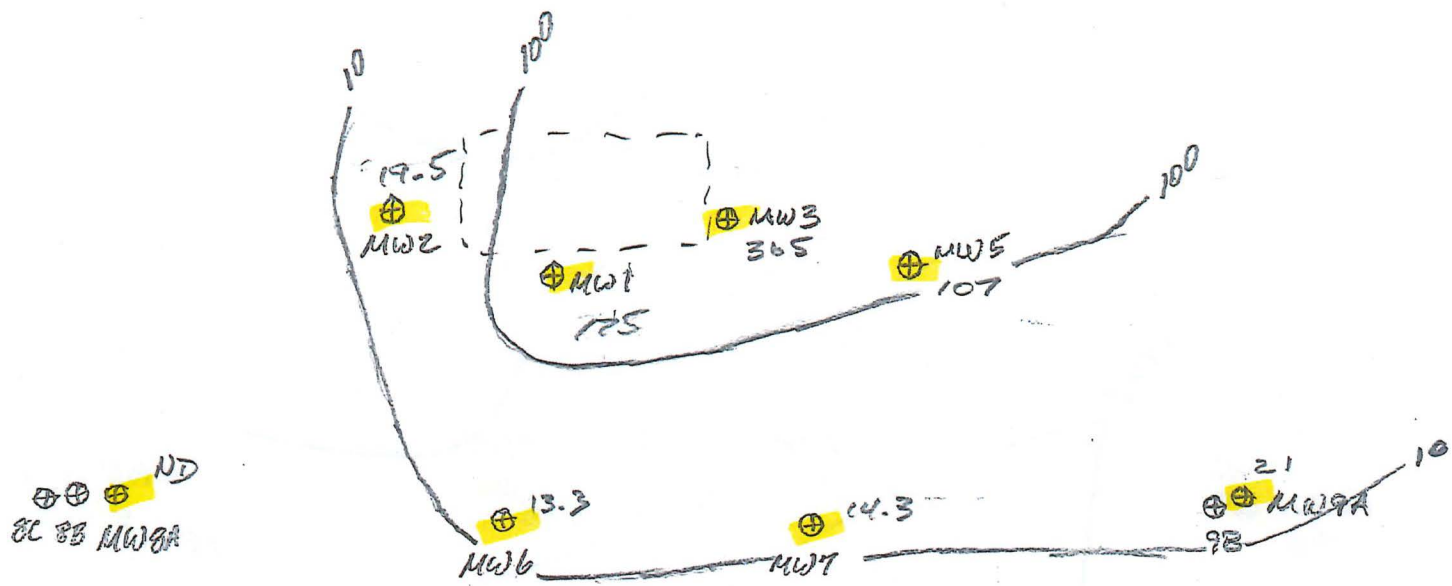
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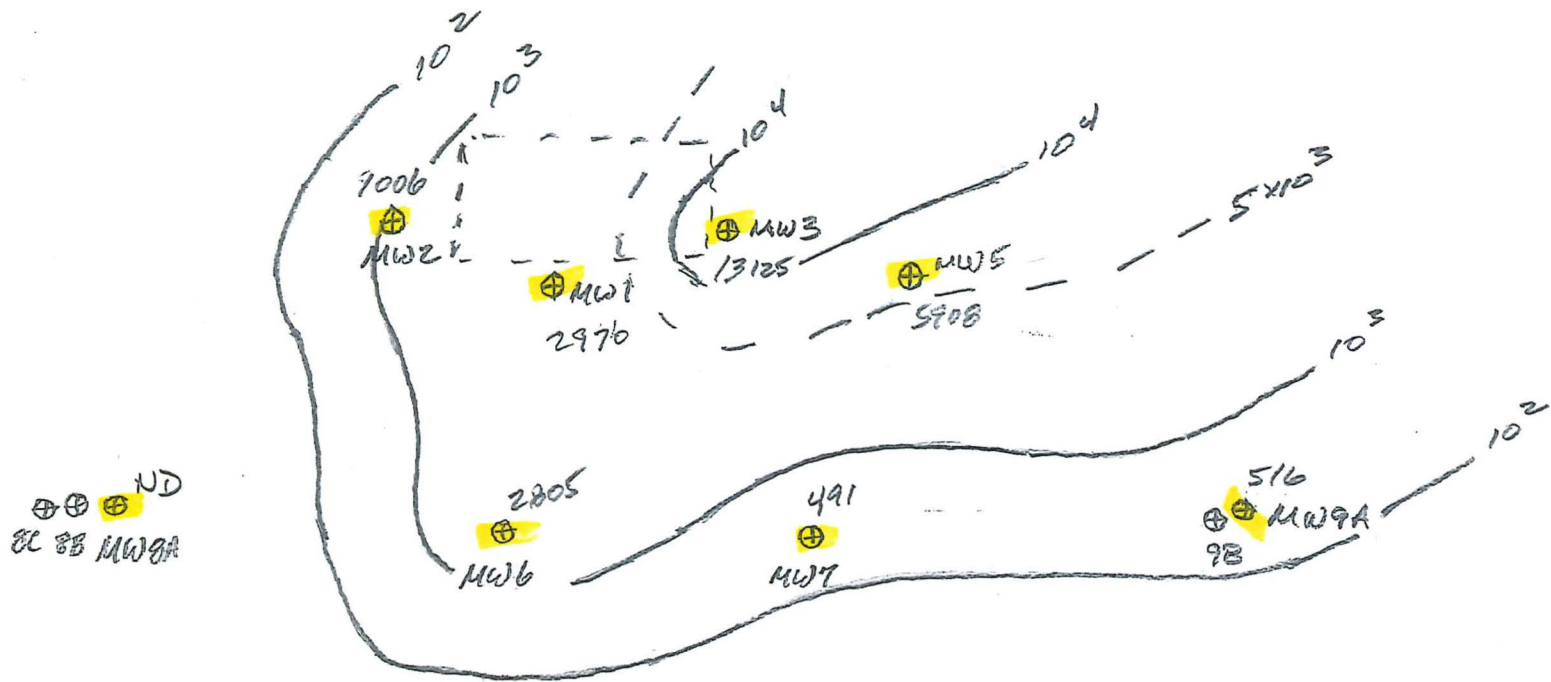
WTR LEVELS

6/7/16



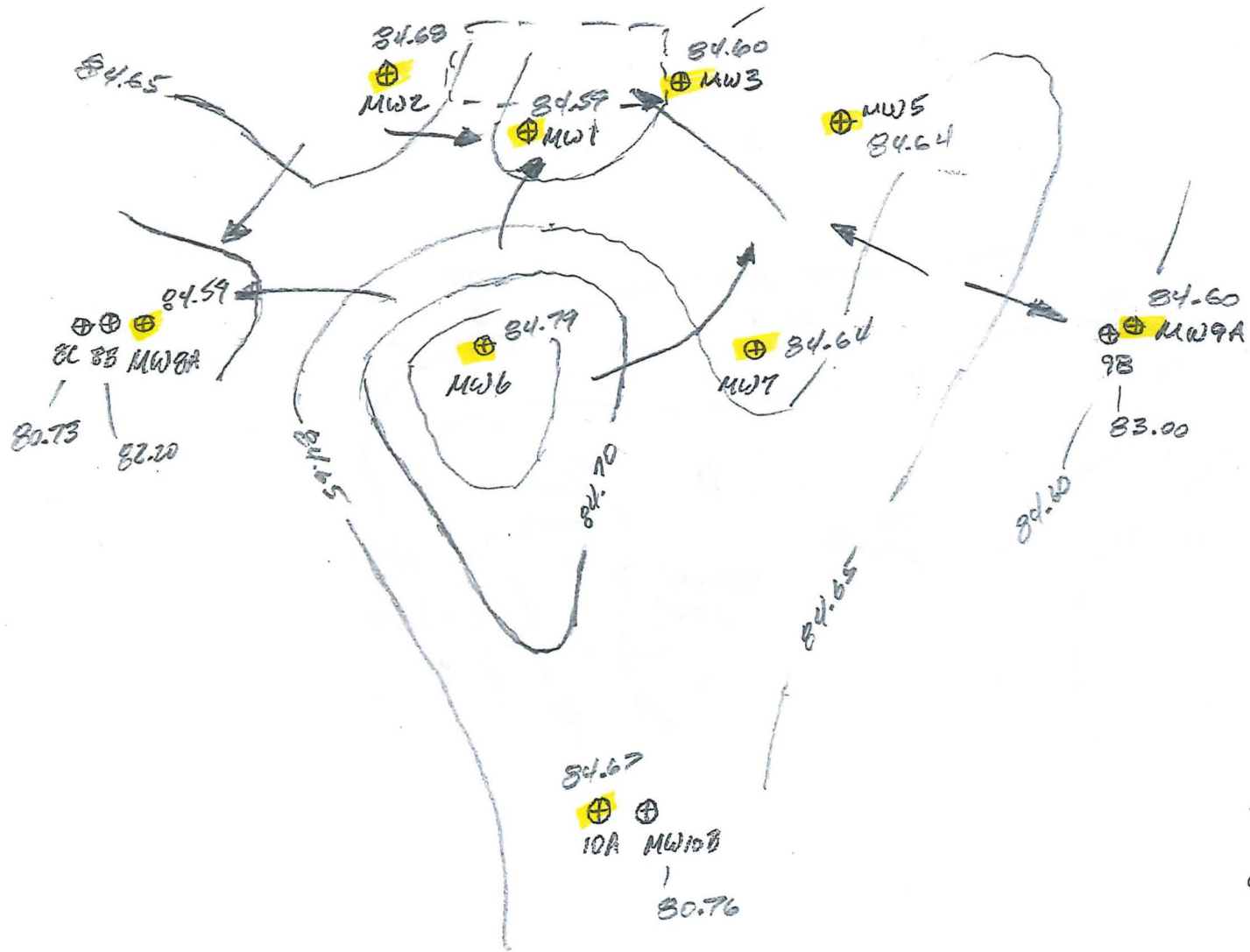
ND
 10A MW10B

Benzene ug/L
 6/7/16



ND
 MW10A
 MW10B

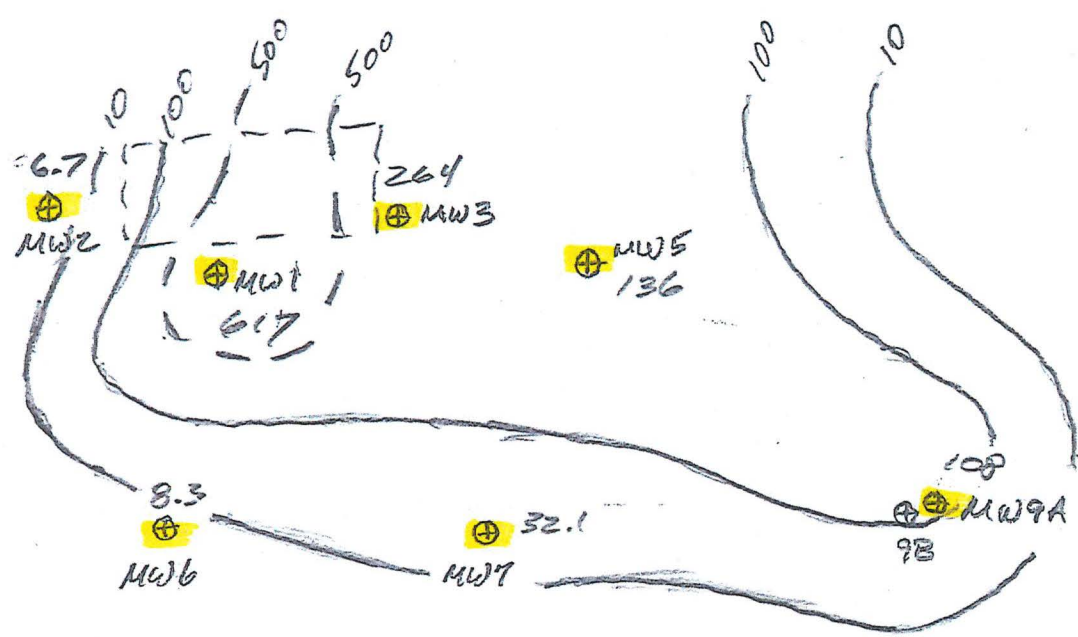
Tot 15 wells
 6/7/16



"mounding"
 WTR LWS.

7/24/17

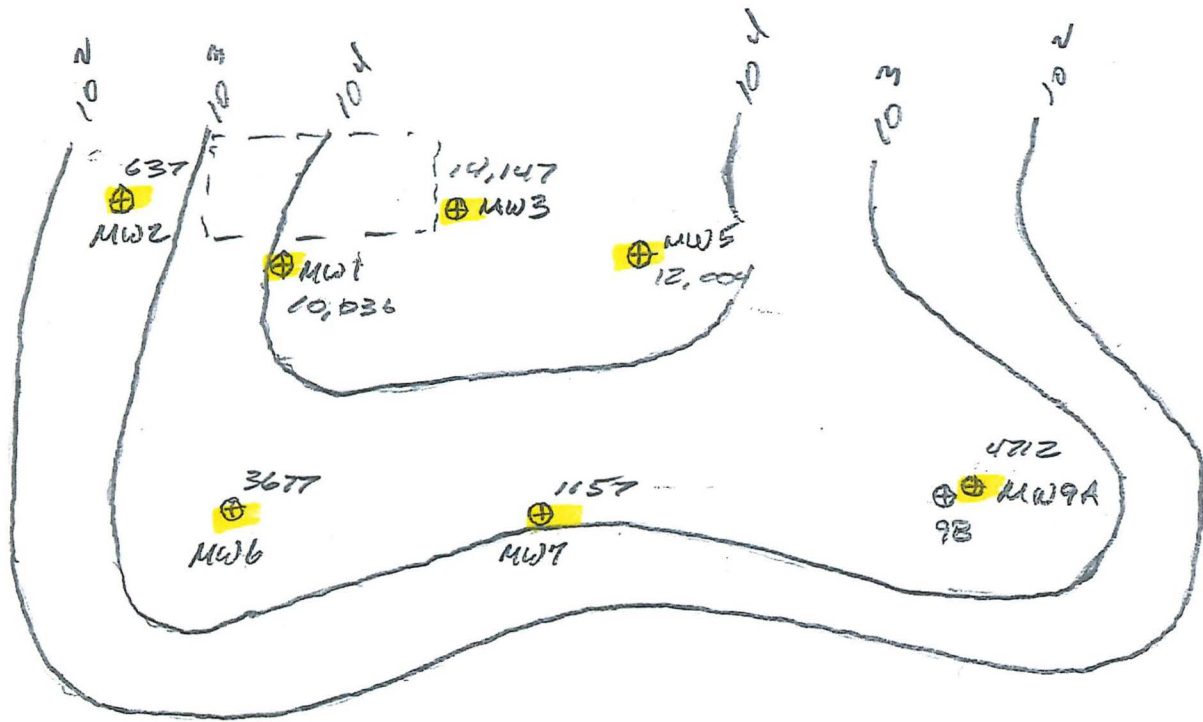
ND
8C 8B MW9A



ND
10A MW10B

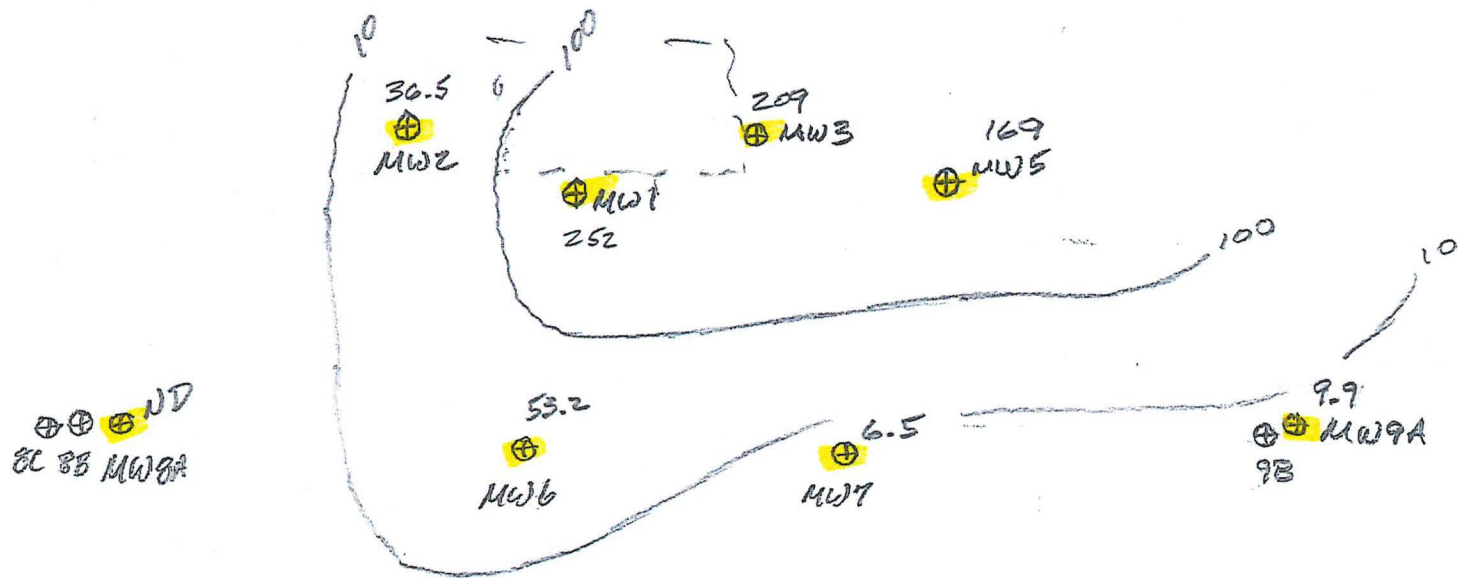
Banyone ug/L
7/24/17

ND
MW8A
MW8B
MW8C



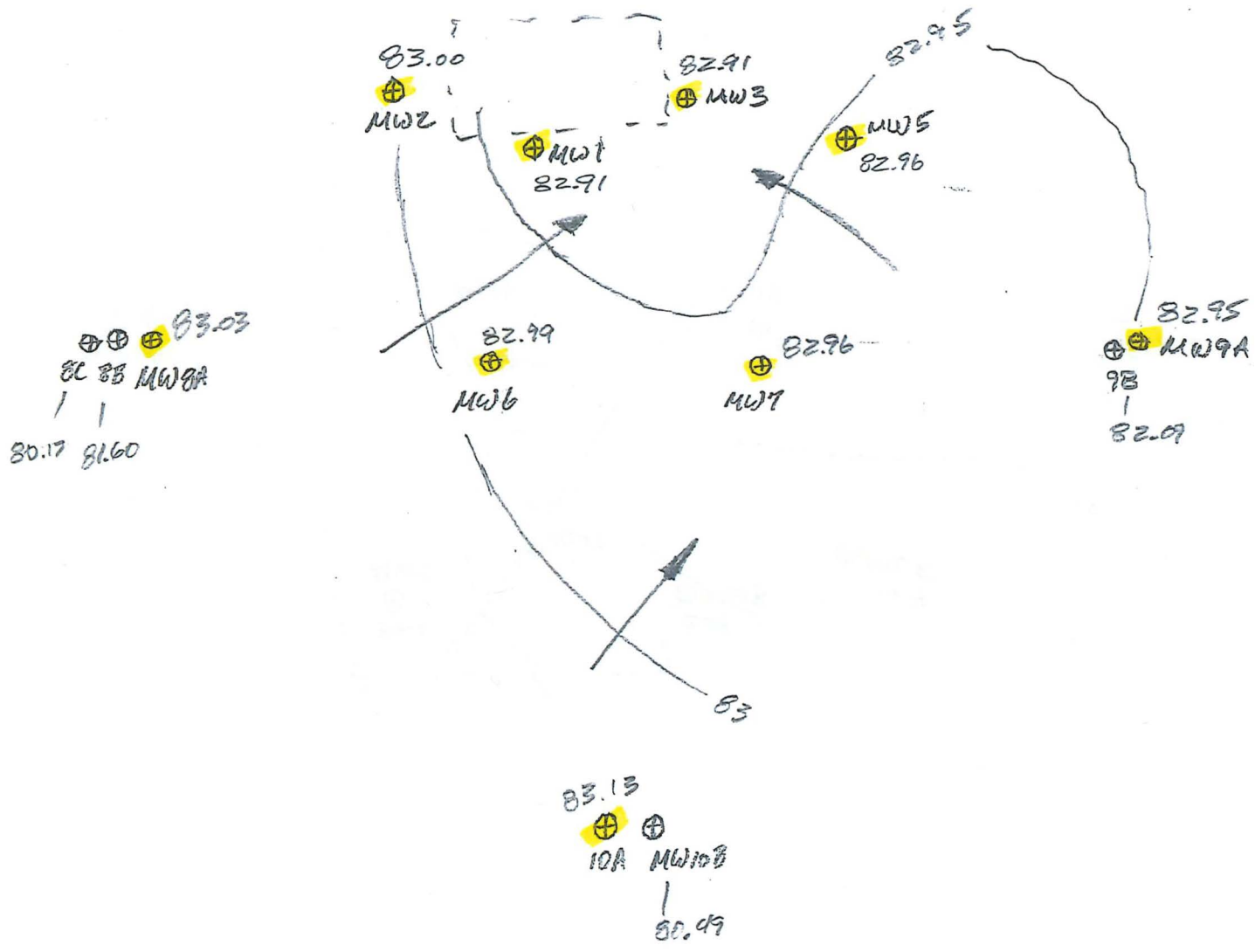
ND
MW10A
MW10B

TOT IS up/L
7/24/17



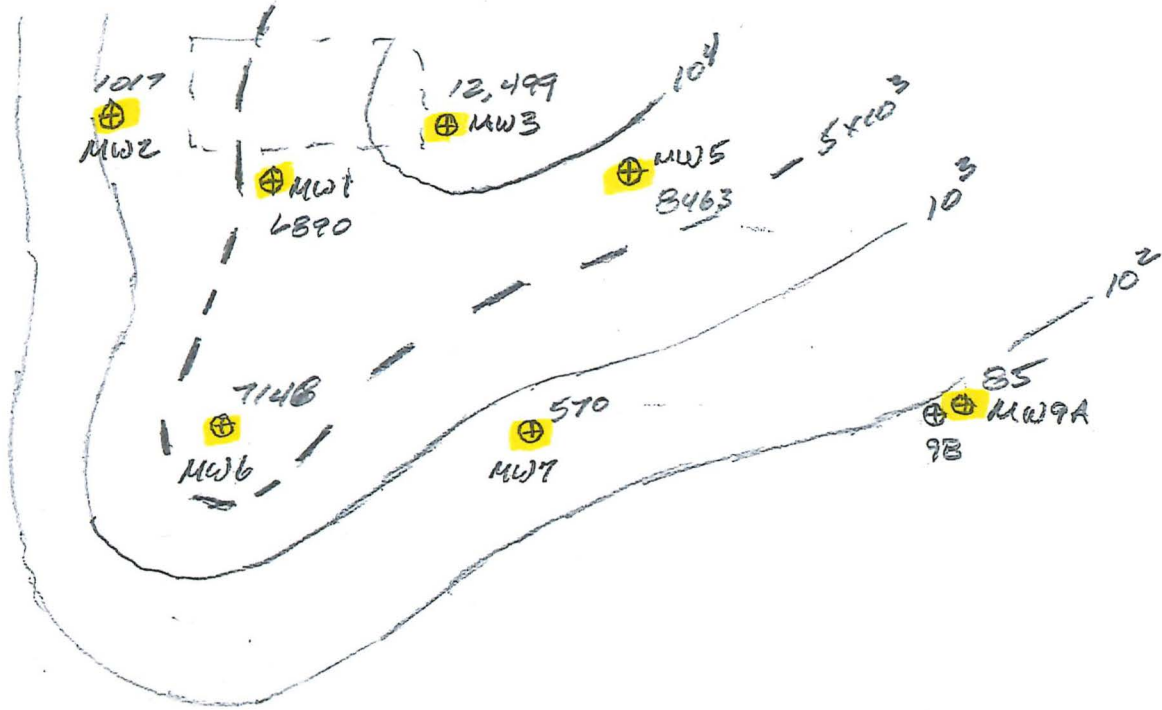
ND
 ⊕ ⊕
 10A MW10B

Benzene w/L
 10/23/17



10/23/17

ND -
Trace
⊕ ⊕ ⊕
8C 8B MW8A



ND
⊕ ⊕
10A MW10B

Total 15 ug/l
10/23/17

2013 Excavation

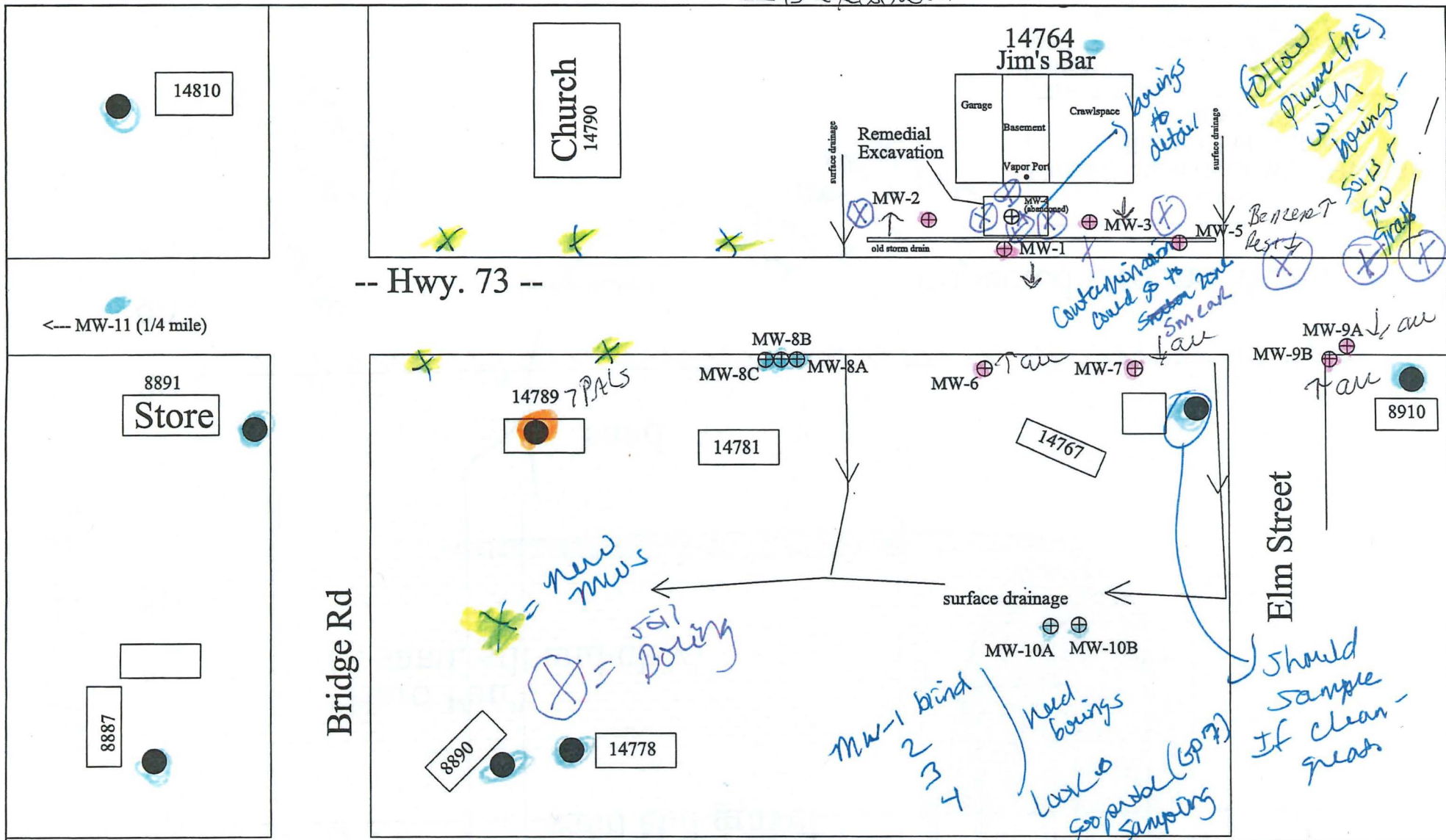

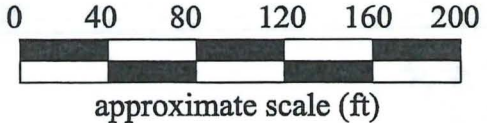


Figure 4
Monitoring Well Network
Jim & Cindy's Bar
Jump River, WI

PROJECT NO. 05F781	PREPARED BY KAS	 Meridian Environmental Consulting, LLC
DATE 1/2/18	REVIEWED BY KAS	

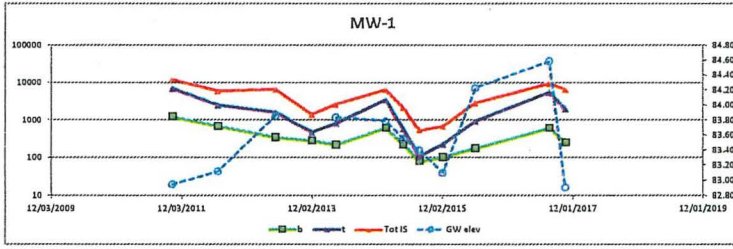
→ = ES
→ = PALS
→ = OL

● Potable Well
 MW-1 ⊕ Monitoring Well

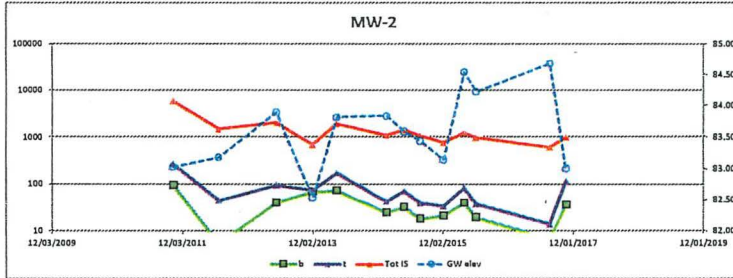


Jim & Cindy's - Jump River
Contaminant Trends

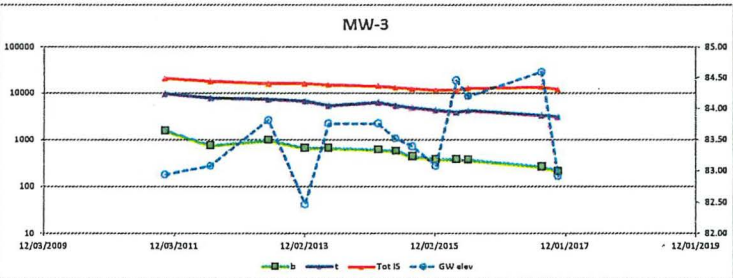
MW-1	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
10/14/2011	3510	1250	2080	6560	182	553	7110	12713	82.95
06/23/2012	1618	682	619	3870	172	157	2590	6264	83.12
05/14/2013	1916	348	883	3050	143	311	1650	6957	83.86
12/03/2013	4482	278	367	608	8.7	62.6	476	1485.8	83.84
04/15/2014	793	219	439	1440	11.2	101	842	2773	83.84
01/20/2015	1782	621	998	3760	12.1	239	3480	6779	83.79
04/28/2015	709	223	344	1150	15.8	65.7	577	2268.7	83.55
07/29/2015	182.2	79.6	170	184	9.4	25.9	108	562.1	83.40
12/08/2015	181.3	102	230	276	4.2	28.5	229	715.8	83.10
06/07/2016	586	175	489	1480	8.5	115	966	2970	84.23
07/24/2017	2363	617	1390	6010	12.1	373	5640	10036	84.59
10/23/2017	1923	252	1110	3560	9.7	297	2030	6890	82.91



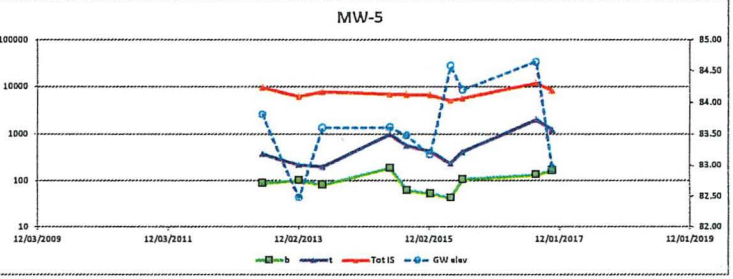
MW-2	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
10/14/2011	2429	94.5	680	2601	87.4	292	276	6002	83.03
06/23/2012	787	5.4	164	497	15.5	79.9	44.6	1527.9	83.18
05/14/2013	1006	39.3	234	753	11.9	114	95.8	2107	83.90
12/03/2013	763.2	68.3	127	276	12.7	53.6	75.8	719.8	82.53
04/15/2014	811	72.3	295	750	16.4	119	175	1975	83.82
01/20/2015	598	24.5	155	534	11	63.3	42.7	1150.7	83.84
04/28/2015	782	32.1	183	430	34.9	77.7	70.8	1472.7	83.59
07/29/2015	637	18.1	128	284	30	57	39.2	1106	83.44
12/08/2015	361.6	21	135	238	10.8	68.2	33.9	802.8	83.14
03/31/2016	642	39.2	183	362	10	74.7	83.7	1261.7	84.54
06/07/2016	585	19.5	110	260	13.8	51.3	38	1006.3	84.23
07/24/2017	354.6	6.7	84.6	154	23.3	43.8	13.8	637	84.68
10/23/2017	485	36.5	167	304	11.8	61.4	118	1017.4	83.00



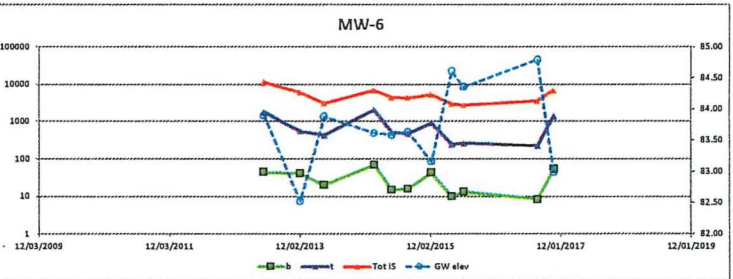
MW-3	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
10/14/2011	5240	1560	2910	12480	169	856	9780	21486	82.94
06/23/2012	4333	742	2560	11200	19	632	7910	18725	83.08
05/14/2013	4074	978	2230	9720	19	606	7450	16930	83.82
12/03/2013	4268	662	2300	9720	18.5	577	6850	16865	82.47
04/15/2014	3758	663	2200	9100	24.2	567	5520	15625	83.76
01/20/2015	3699	605	1930	8610	12.1	482	6350	14721	83.76
04/28/2015	3658	572	1710	7780	12.1	468	5480	13516	83.52
07/29/2015	3557	436	1730	7180	9.7	445	5000	12812	83.39
12/08/2015	3335	378	1580	6600	9.7	443	4340	11958	83.08
03/31/2016	3364	371	1550	6430	4.7	456	3980	11800	84.46
06/07/2016	3785	365	1500	7360	4.7	480	4320	13125	84.20
07/24/2017	4460	264	1330	7790	9.7	567	3380	14147	84.60
10/23/2017	3915	209	1260	6860	9.7	464	3140	12499	82.91



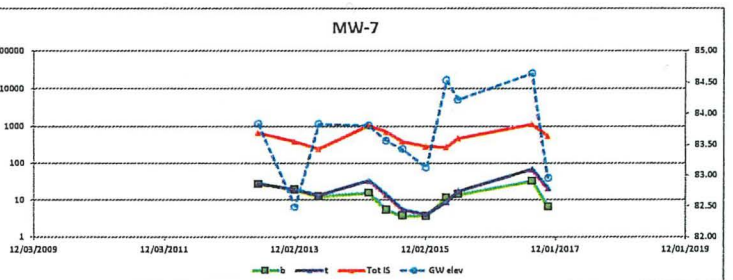
MW-5	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
05/14/2013	4009	88.8	1120	4040	9.5	655	387	9824	83.82
12/03/2013	3180	103	770	2050	4.6	450	223	6450	82.48
04/15/2014	4168	82.5	890	2330	6.1	501	201	7889	83.60
04/28/2015	3512	188	841	2340	9.7	425	1020	7118	83.61
07/29/2015	3474	61.9	848	2150	6.1	413	572	6985	83.48
12/08/2015	3513	52.4	826	2110	6.05	432	439	6881	83.18
03/31/2016	2807	42.5	666	1380	5.8	364	242	5217	84.58
06/07/2016	3057	107	718	1750	6.05	383	425	5908	84.20
07/24/2017	3786	136	1550	5940	12.1	728	2060	12004	84.64
10/23/2017	3697	169	1020	3210	5.8	536	1260	8463	82.96



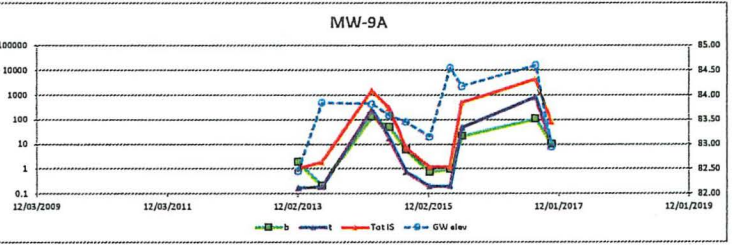
MW-6	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
05/14/2013	3211	44.6	1280	6470	16.1	446	1810	11407	83.90
12/03/2013	2711	41.5	747	2490	10.7	282	357	6230	82.52
04/15/2014	1416	20.4	343	1280	4.8	103	430	3142	83.88
01/20/2015	2164	68.9	925	3720	4.8	258	2060	7057	83.61
04/28/2015	1912	15	492	1990	11.3	185	509	4579	83.58
07/29/2015	2090	15.8	397	1770	18.8	177	475	4434	83.63
12/08/2015	1939	43.3	726	2500	8.4	229	912	5394	83.16
03/31/2016	1560	9.9	287	1050	7.1	117	245	3014	84.61
06/07/2016	1482	13.3	261	957	9.9	105	261	2805	84.36
07/24/2017	1923	8.3	334	1260	4.8	160	224	3677	84.79
10/23/2017	2465	53.2	848	3530	12	305	1370	7148	82.99



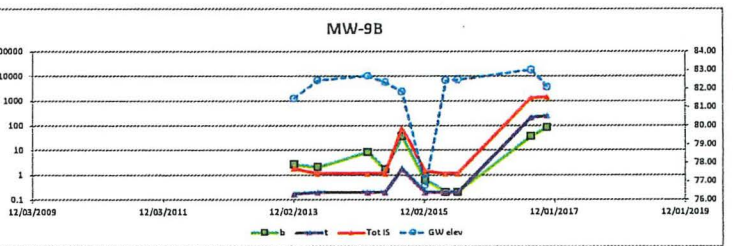
MW-7	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
05/14/2013	422	26.8	92.3	135	6.7	41.4	29.2	690.7	83.84
12/03/2013	149.4	18.8	85.6	131	6.7	32.2	19.7	398.2	82.49
04/15/2014	111.6	12.4	53.4	69.8	9.3	19.8	13.5	254.6	83.84
01/20/2015	337.7	15.6	211	443	6.9	80.7	34.3	1072.4	83.81
04/28/2015	368.7	5.4	133	275	16.3	59	14	735.7	83.57
07/29/2015	165.3	3.7	72.2	118	14.5	38.6	5.6	394.1	83.43
12/08/2015	151.5	3.6	45.8	75.5	7.6	24.1	4.1	296.9	83.13
03/31/2016	122.8	11.7	58.4	74.2	5.3	28.4	9.2	283.8	84.53
06/07/2016	154.7	14.3	116	188	8.1	52.7	17.5	491.4	84.22
07/24/2017	384.9	32.1	238	431	10.2	103	69.5	1156.9	84.64
10/23/2017	223.3	6.5	125	173	3.6	48.5	20.9	569.8	82.96



MW-9A	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
12/03/2013	0.18	1.9	0.17	0.5	1.7	0.185	0.17	1.035	82.45
04/15/2014	0.21	0.2	0.97	0.6	2	0.21	0.19	1.59	83.84
01/20/2015	543	129	420	491	4.3	160	268	1614	83.82
04/28/2015	80.2	48.6	112	67	7.2	54.3	17.9	313.5	83.58
07/29/2015	0.21	6	6	6	0.8	0.58	0.76	7.39	83.45
12/08/2015	0.21	0.74	0.195	0.6	0.24	0.21	0.195	1.215	83.15
03/31/2016	0.21	0.95	0.195	0.6	0.49	0.21	0.195	1.215	84.55
06/07/2016	207.8	21	131	123	2.2	54.4	49.2	516.2	84.18
07/24/2017	1420	108	853	2150	6.4	289	850	4712	84.60
10/23/2017	10.24	9.9	43.8	18.8	0.63	12.6	10.7	85.44	82.95



MW-9B	TMB	b	eb	x	MBE	n	t	Tot IS	GW elev
12/03/2013	0.18	2.7	0.17	0.5	1.7	0.185	1.1	1.35	81.46
04/15/2014	0.21	2.1	0.195	0.6	0.56	0.21	0.195	1.215	82.44
01/20/2015	0.21	8.5	0.195	0.6	0.7	0.21	0.195	1.215	82.67
04/28/2015	0.21	1.7	0.195	0.6	0.58	0.21	0.195	1.215	81.83
07/29/2015	0.48	36.5	69.7	2.3	6.9	7.4	1.8	79.88	81.83
12/08/2015	0.21	0.61	0.195	0.6	0.5	0.46	0.195	1.465	76.79
03/31/2016	0.21	0.2	0.195	0.6	0.24	0.21	0.195	1.215	82.44
06/07/2016	0.21	0.2	0.195	0.6	0.24	0.21	0.195	1.215	82.46
07/24/2017	287.1	36.9	318	701	5.7	83.4	214	1369.5	83.00
10/23/2017	274	83	545	587	3.9	127	251	1533	82.09



sample MW-9A & B may have been mixed up