EPA Region 5 Records Ctr.
209214

Comprehensive VOC Investigation Report

The Lockformer Company
Lisle, Illinois

Volume 3 of 6: Section 9.2

Clayton Project No. 15-65263.01.008
May 10, 2002

Prepared for:
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Lisle, Illinois

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Clayton
GROUP SERVICES

SECTION 9.2

FIELD LOGS

If found, please return to:

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15-65263 Vol. 1

1/22/01

0809	D. Lomsma on-site
	obj: soil borings - log soils and collect soil samples
	weather: cold, high 30-32°F
	PPE: Level D
0825	Mid-America Drilling on-site
0826	calibrate photovac 2020 PID
0957	Begin CSB-1000
1000	EPA on-site
1015	Ron Sr John (Clayton) on-site
1242	collect 5035 kit from CSB-1000 44-46 ft
1300	Break for lunch
1325	Ron Sr John off-site
1330	Back to work
1338	collect 5035 kit from CSB-1000 50-52 ft
1517	complete CSB-1000 to depth of 72 ft
1555	Begin grouting borehole
1611	complete grouting borehole
1630	Mid-America begin decon augers

[signature]
1/22/01

2

1/23/01

0740 D. Lansma on-site
obj: soil borings - log soils and collect samples
weather: cold, pr cloudy, high 30-35°F
PPE: Level D
0745 Mid-America on-site
0747 Mark location of CSB-1001 and CSB-1002
0754 calibrate Photovac 2020 PID
0755 photo #1 (East) - Mid American ATV and support truck
0840 Begin CSB-1001
0944 photo #2 (West) - drilling at CSB-1001
1040 collect 5035 kit for VOCs from CSB-1001 34-36
1120 collect 5035 kit for VOCs from CSB-1001 44-46
1208 collect 5035 kit for VOCs from CSB-1001 28-30
1210 collect 5035 kit for VOCs from CSB-1001 40-42

1124 complete CSB-1001 to depth of 44 ft

1250 Begin grouting CSB-1001
1255 photo #3 (North) - mixing grout for CSB-1001
1315 Mid-America decon augers and refuel drill rig
1316 Begin locating previous soil borings for surveying
1410 setup on CSB-1002
1554 Stop for day - CSB1002 at 30 ft
1605 D. Lansma and Mid-America Drilling off-site

Dave
1/23/01

1/24/01

0755 D. Lansma on-site; Mid-America already present
obj: soil borings and well abandonment
weather: clear, cold, high 25-30°F
PPE: Level D
0809 calibrate photovac 2020 PID
0812 begin drilling - first span 30-32 ft
0815 till encountered at 34 ft - per Ron St. John
proceed 10 more feet and call him
0827 collect 5035 kit for VOCs from CSB-1002 42-44 ft
1023 collect 5035 kit for VOCs from CSB-1002 44-46 ft
1114 collect 5035 kit for VOCs from CSB-1002 62-64 ft
1124 complete CSB-1002 to depth of 64 ft
1130 per conversation w/ Ron St John
1) grout borehole CSB-1002
2) abandon MW-104 and MW-105
1210 Begin grouting CSB-1002
1245 Complete grouting; begin decon of augers
1345 set up over MW-104
1348 photo #4 (North) - pulling pre-cover at MW-104
1) pull steel cover
2) remove ~~20~~ 5 ft of PVC (broke off)/remove grout
1403 former location of MW-104 - photo #5 (East)
1405 set up on MW-105
1) pull steel cover
2) remove upper 15 ft of PVC (broke off)/remove grout
1420 mix grout for abandoned wells locations
1430 fill holes with grout
1445 D. Lansma and Mid-America off-site

[signature]
1/24/01

4

1/25/01

0750 D. Lamsma on-site; Mid-America already present
obj: abandon wells 500/501 S
weather: clear, cold, high 25-30°F
PPE: Level D

0755 locate wells 500S and 501S

0800 Mid-America begin unfreezing parts on drill rig and support truck

1010 Set up on MW-501S
1) remove protective cover
2) remove PVC/stainless steel (25 ft)
3) remove existing grout
4) re grout abandoned well location

1023 photo #6 (West) - ATV over former MW501S

1145 complete sealing MW 501S with High Solids Bentonite

1200 set up on MW-500S
1) remove protective cover
2) remove PVC/stainless steel (26 ft)
3) auger out grout
4) replace with new grout

1208 photo #7 (SE) - pulling MW-500S

1320 Complete sealing MW-500S with High Solids Bentonite

1330 D. Lamsma off-site; Mid-America deconing augers

[signature]
1/25/01

2-9-01 FRIDAY

OBJECTIVE: RELOCATE & MARK THE CARLSON 800 SERIES BORING LOCATIONS ON THE SITE'S WEST PARCEL. VERIFY THE MARKINGS ON CLAYTON BORING LOCATIONS CSB-1000 THROUGH CSB-1002. MEET HAGENSEE SURVEYING CREW TO DOWNLOAD INFO. REQUIRED TO SURVEY THE SUBJECT BORING LOCATIONS.

WEATHER: CLOUDY, 50°F, RAINY, GROUND EXPOSED. (MINIMAL SNOW COVER)

0640 W. ELWELL ONSITE.

LOCATED ~~WELL~~ BORING LOCATIONS SB-802 THROUGH SB-806 ON THE WEST PARCEL. THE LOCATIONS WERE EVIDENCED BY STAKES & VISIBLE BOREHOLES.

VERIFIED THE MARKINGS OF BORING LOCATIONS CSB-1000 THROUGH CSB-1002.

OBSERVED 2 STAKES THAT MARKED SB-807. ONE STAKE HAD BEEN PLACED BY CARLSON DURING DRILLING & ANOTHER HAD BEEN RECENTLY PLACED NEXT TO CARLSON'S BY DARREN LAMSMA OF CLAYTON TO MORE CLEARLY IDENTIFY THE SB-807 LOCATION. NO ~~EV~~ EVIDENCE OF A SOIL BORING (i.e. DISTURBED SOIL, DEPRESSED BORE HOLE, BENTONITE MOUND) WAS OBSERVED NEAR THE STAKES. THE STAKES WERE PLACED IN AN AREA OF ROCK & CONCRETE DEBRIS.

EVIDENCE OF A SOIL BORING WAS OBSERVED APPROX. 20 FT. WEST-SOUTHWEST OF THE SB-807 STAKES.

THE EVIDENCE CONSISTED OF DISTURBED SOIL, A DEPRESSION IN THE DISTURBED AREA, & TWO IMPRINTS ~~[illegible]~~ FROM DRILL RIG JACK STANDS THAT WERE ALIGNED WITH THE DISTURBED AREA.

I LABELLED THE NEWLY OBSERVED BORING LOCATION SB-807 & THE PREVIOUSLY STAKED AREA AS SB-807B. (VERY LITTLE ELEVATION DIFFERENCE BETWEEN THEM)

ALL SUBJECT BORING LOCATIONS WERE MARKED WITH AN ORANGE FLAG WITH EACH BORING LOCATION WRITTEN ON THE FLAGS.

0700 HAGENSEE SURVEYING ONSITE - DAVE AND 2 ASSISTANTS.

VISUALLY IDENTIFIED EACH LOCATION W/ DAVE. GAVE HIM A MAP OF THE SITE W/ LOCATIONS. EXPLAINED OBJECTIVE.

0817 I LEFT THE SITE. HAGENSEE SETTING UP.

0930 DAVE RETURNED TO CLAYTON'S OFFICE TO CONFIRM THE COMPLETION OF SURVEYING ACTIVITIES.

7-9-01

[signature]

2-12-01 MONDAY

OBJECTIVE: RELOCATE CLAYTON DRUMS (DRUMS OF SOLIDS & LIQUIDS GENERATED DURING THE ADVANCEMENT OF SOIL BORINGS CSB-1000 THROUGH CSB-1002 AND THE ABANDONMENT OF MW-5005 & SOILS).

0730 W. ELWELL ON SITE.
VERIFY DRUM COUNT - 8 CLAYTON DRUMS

0815 MID-AMERICA DRILLING ON SITE W/ UNILOADER.
DUSTY & ASSISTANT.

UNLOADED MACHINE & PLACED THE FOUR DRUMS OF SOIL CUTTINGS FROM CSB-1000, CSB-1001, & CSB-1002 WITH CARLSON'S DRUMS TO BE TRANSPORTED OFF SITE FOR MANAGEMENT.

TWO DRUMS OF DECON. WATER AND TWO DRUMS OF WELL ABANDONMENT SPOILS WERE STAGE AT THE SOUTHEAST CORNER OF THE ASPHALT PARKING AREA, PENDING CHARACTERIZATION.

0900 MID-AMERICA & I OFF SITE

William S. Elwell

2-20-01 TUESDAY

OBJECTIVE: CONDUCT SITE WALK WITH BOART LONGYEAR REPRESENTATIVE

0845 BOART LONGYEAR REPRESENTATIVE - DAN TONNANCOUR & I ARRIVE AT THE SITE

SUNNY, 34°F, NO SNOW COVER.

OBSERVED EACH OF THE ELEVEN (NINE OF WHICH ARE CLUSTERS) LOCATIONS SCHEDULED FOR WELLS.

DAN DID NOT EXPRESS CONCERN ~~FOR~~ ON ANY OF THE LOCATIONS. HE STATED THAT THE GRADES/SLOPES WOULD ~~BE~~ BE SUITABLE FOR DRILLING.

0930 DAN & I OFFSITE.

[signature]

2-20-01

2/27/01

0745	D. Lansma on-site
	obj: site walk to locate utilities and location of wells
	weather: cool, high 30°F
	PPE: Level D
0802	Meet w/ Denny (village of Lisle) and Bill Elwell to locate utilities
	Boart-Longyear (B-L) continue to unload sand, bentonite, casing, etc.
0916	B-L begin unloading drums for soil + water
0924	B-L complete unloading drums
1000	locate first 2 locations to south of Lakformer Bldg
1025	B-L begin building decon pad
1209	D. Lansma off-site to get 225 gallon poly tank for water storage
1250	B-L begin getting water for truck-decon water
1320	photo #1 (East) - sonic drill rig
1410	conduct site safety meeting
1416	Ron St John (Clayton) on-site
1418	Parsons Engineering on-site
1505	Ron St John off-site after site walk/well locating
1525	Parsons Engr. off-site
1530	B-L begin decon equipment
1537	Bill Elwell off-site
1712	B-L complete decon of trucks and steel casing
1720	put labels on decon drums and sign B-L paperwork
1730	D. Lansma + B-L off-site

2/28/01

0740 D. Lansma on-site ; B-L already present
obj : soil borings and MW installation
weather : cold, clear, high 25-30°F
PPE : Level D
Personnel : D. Lansma, B. Elwell (Clayton)
Don, Larry, Alvin, Adam (B-L)
Karen (Parsons)

0745 B. Elwell on-site
0750 Karen (Parsons) on-site
0840 B-L begin set up on MW-1001 D
0842 calibrate Photovac 2020 PID
0954 photo #2 (SW) - drill rigs set up at MW-1001D
1016 Begin MW-1001 D
1050 photo #3 (East) - soil from 15-25 ft BGS
1100 First 25 ft of borehole completed w/out
outer casing - noticed fluff in hole at
that depth, so began using outer casing
1317 B-L off-site to get water
1340 B-L back on-site - resume drilling
1415 take headspace reading to depth of
44 ft BGS : none above zero
1500 encounter bedrock at 65 ft BGS
1505 photo #4 - sample of upper bedrock surface
1520 complete MW-1001 D to 71 ft BGS and
set ~~upper~~ inner outer 6" casing
1555 photo #5 (South) - installing 6" casing at MW-1001 D
1625 Bill Elwell off-site
1626 B-L mixing Portland Cement + water for
space outside 6" casing
5 bags cement
1/2 bag Baroid Quick Gel

2/28/01

1648 mix 2nd batch of grout
1706 complete removal of 8" casing
1714 complete grouting of borehole
1733 Karen (Parsons) off-site
1738 put lables on 3 drums of water generated today
1810 move drill rig to next location;
put locking cover on open hole
1830 D. Lansma and B-L off-site

use ~1000 gallons water

3/1/01

0800 D. Lamsma on-site
obj: soil borings
weather: sunny, cool, high 40°F
PPE: Level D
Personnel: Clayton - D. Lamsma, H. Mendygral
Parsons - K. Carlisle
B-L

0802 calibrate Photovac 2020 PID to span 98 ppm
0804 arrive at drilling location - B-L fixing broken air hose
1017 B-L back on-site; begin reattaching air tank
1042 Begin MW-1000 D

1140 photo #6 facing south, 8in pipe being drilled to 35 ft depth at MW-1000D

1220 collect 5035 kit for VOCs from MW-1000D 33 ft
1222 break for lunch
1300 take headspace readings from 0 to 35 ft BGS
1305 resume drilling
1305 Take static water level in MW-1001 D
DTW = 34.5 ft
1310 check calibration on PID: Isobutylene gas at 102 ppm
1412 take 5035 kit for VOCs MW-1000 D 35 ft
1515 complete MW-1000 D at 67 ft BGS
1526 Begin installing 6" outer casing for MW-1000D
1553 B-L break hydraulic hose on drill rig

1635 B. ELWELL ARRIVE AT SITE.
D. LAMSMA OFF SITE

1645 COMPLETE REPAIRS ON DRILL RIG & RESUME PERMANENT CASING INSTALLATION

DRUMMED SOIL CUTTINGS FROM WELLS

1730 BEGIN GROUTING PERMANENT CASING IN PLACE.

1808 B. Ellwell left site and began loading of Drummed soil cutting on to Bent Longyear truck and began packing up equipment

1820 Driller will not decon equipment or setup the rig on a new sight tonight. Will tommorow first thing

1830 Drillers left site for Day

1835 left site for day. H. Mendyn

use ~600 gallons water

Heidi Mendyn 3/1/01

14

3/2/01

0705 D. Lamsma on-site; B-L already present
obj: advance soil boring
weather: pt cloudy, high 35-40°F
PPE: Level D
Personnel: H. Mendygral, D. Lamsma (Clayton)
K. Carlisle (Parsons)
Boart-Longyear

0730 H. Mendygral on-site
0800 K. Carlisle on-site
0802 B-L move off MW-1100D and prepare to decon equipment
0825 B-L begin deconing equipment
0900 Baker Tanks on-site w/ 4000 gallon tank P4251
0914 Baker Tanks off-site
1000 set up on MW-1102D
1001 calibrate Photovac 2020 PID to 98 ppm

NOTE: all MWs with 1000 series (1000, 1001) are now 1100 series (1100, 1101)

1032 Begin drilling MW-1102D
1049 photo #7 (East) - installing 8" casing at MW-1102D

1244 took MW-1102D-7ft sample - for VOCs
1415 complete headspace for depths up to 45 ft BGS
1430 collect MW-1102D 39ft for VOCs
1540 complete MW-1102D to depth of 77
1555 Begin installing 6" permanent casing
1610 mix grout (Quik-Gel, Portland cement, water) for outside 6" casing
1700 H. Mendygral off-site

3/2/01

1705 complete grouting MW-1102D
1710 remove top ~2 ft of 6" casing so drill rig can move off location

NOTE: lawyer who represents homes just East of West Parcel (Elm St) was on-site from 1330-1335

1715 K. Carlisle off-site
1720 put labels on 4 drums of water generated today
1730 B-L putting locks and covers on MW-1100D and MW-1102D
1750 D. Lansma and B-L off-site

[illegible]
3/2/01

16	3/3/01
0748	D. Lansma on-site; B-L already present
	obj: install MW-1102S
	weather: sunny, cool, high 35-40°F
	PPE: Level D
	Personnel: D. Lansma (Clayton)
	K. Carlisle (Parsons)
	Larry, Alvin, Adam, Dan (B-L)
0750	B-L setting up to drill MW-1102S
0811	Begin drilling for MW-1102S
0825	K. Carlisle (Parsons) on-site
0940	per Bill Elwell (Clayton) - let borehole stay open and get a static water level after reaching silty clay
0920	encounter silty clay at ~38 ft bgs; wait and take static water level
0940	measure static water level 41.2 ft below casing (casing 5 ft ags)
0957	static water level at 41.74 ft below casing 36.74 ft bgs
1015	borehole dry; per B. Elwell advance 5 ft and take static again
1118	static water at 33.5 ft bgs
1137	per B. Elwell - set well 1 ft into silt layer
1220	encounter silt at 50 ft - set well at 51 ft
1230	per B. Elwell, put filter pack sand into glacial-fluvial material (~38 ft bgs).
1234	photo # 8 (East) - installing stainless steel 2" well pipe at MW-1102S
305	return from lunch
1318	per Dan T. (B-L) - unable to fit riser and screen together: can't put in well today

3/3/01

1320	lable 4 drums with soil cuttings from MW-1102 D/S
1335	photo #9 (NE) - hoisting drums from ground onto truck for transport to staging area
1413	B-L off load drums of water to North of Baker Tank
1415	K. Carlisle off-site
1423	B-L off loading soil drums near decon pad
1435	K. Carlisle on-site
1437	B-L begin decon
1515	B-L complete decon and go off-site to fill water Tank
1533	B-L set up on MW-1103 D
	NOTE: use 800 gallons water for MW-1102D 400 gallons water for MW-1102S
1548	calibrate Photovac 2020 PID to span 98 ppm
1605	Begin MW-1103D
1620	photo #10 (SE) - drill rig set up on MW-1103D
1709	take headspace readings 0-16 ft bgs -all reading 0.0 ppm
1730	Take head space readings 16-26 ft bgs -all 0.0 ppm
1750	stop drilling at 45 ft bgs
1800	B-L off-site
1805	Take headspace readings 26-46 ft bgs -all 0.0 ppm
1807	K. Carlisle off-site
1810	D. Lomsma off-site

[signature] 3/3/01

3/4/01

0737 D. Lamsma on-site; B-L already present
obj: complete 1103 D to bedrock; begin 1104D
weather: cloudy, cold high 35-40°
PPE: Level D
Personnel: D. Lamsma (Cloyten)
P. Johnson (Parsons)
Alvin, Adam, Don (B-L)

0750 calibrate Photovac 2020 PID to span 98 ppm
0800 P. Johnson on-site
0814 Measure static water level in open borehole:
27 ft below grade
0815 Begin drilling - First sample 45-55 ft
0920 Don indicated that outer casing might be
broken as evidenced by rocks above
10' sample tube - need to remove from
borehole to check
0940 begin attempting to retrieve 8" casing that
broke off and is still in borehole
0941 photo #11 (NE) - special bit on 8" casing used
for retrieval
1050 First attempt at retrieval unsuccessful
1110 per B. Elwell: last resort to grout casing into ground,
try retrieval again
1115 try second time to retrieve 8" casing
1210 unsuccessful at retreiving casing; per B. Elwell -
grout borehole and move 10 ft and try
again
1220 Break for lunch
1300 attempt to remove cover of MW-1102S to
take static water level - unable to remove
1300 B-L move ~10 ft south and redrill MW-1103D

3/4/01

1310 B-L off-site to get water
1355 Begin drilling new location of MW-1103D
1530 put labels on 1 drum soil cuttings and 1 drum of water from MW-1103D
1707 label second drum of soil cuttings from MW-1103D
1710 lable second drum of water generated while drilling MW-1103D
1715 complete headspace readings from 45-72 ft bgs
-all reading 0.0 ppm
1725 complete MW-1103D in bedrock at 74 ft
1740 P. Johnson off-site
1745 lable 2 drums of water from MW-1103D
1750 B-L and D. Lomsm off-site

[illegible]
3/4/01

3/5/01

1320 stop for lunch while Bentonite pellets hydrate and swell
1340 begin grouting borehole
1345 A. Mason off-site
1400 complete grouting MW-1103S to ~~8~~ 5 ft bgs
1418 label drum of soil cuttings from MW-1103D
1438 photo # 12 (North) - Monitoring Wells 1103D and 1103S (right)
1440 B-L set up on MW-1102S to set well at 51 ft bgs w/ 10 ft screen
1450 Begin installing MW-1102S
1605 complete installation of MW-1102S
1625 B-L begin off loading drums of soil and water from support truck; also begin decon
1630 measure water level in MW-1103S
41.2 ft below Top of stainless steel casing
38.7 ft below ground surface
1635 K. Carlisle off-site
1649 photo #13 (South) - general area of MW-1102, MW-1103, MW-1104
1710 Stan (IEPA) on-site
1717 Stan (IEPA) off-site
1720 B-L putting matting down at MW-1104D
1736 B-L setting up Rotosonic drill rig on MW-1104D
1745 B-L and P. Lamsma off-site

[signature]
3/5/01

3/6/01

0800 D. Lomsma on-site; K. Carlisle, A. Mason, B-L already present
obj: soil boring + well installation
weather: cloudy, breezy, high 35°F
PPE: Level D
Personnel: D. Lomsma, A. Mason (Clayton)
K. Carlisle (Parsons)
Don T., Don R., Andy, Alvin (B-L)

0801 B-L unfreezing pipes and decon
0811 Stan and Chris (IEPA) on-site
0826 Stan and Chris off-site
0901 calibrate Photovac 2020 PID to span 98 ppm
0911 Begin drilling MW-1104D
0950 Don B. and Vince (Lockformer) on-site
-spoke with them about field screening results
0957 Lockformer personnel off-site
1026 photo #14 (East) - driving 8" outer casing at MW-1104D
1055 take headspace readings from 0-14 ft: all 0.0 ppm
1110 label 2 drums of water generated while drilling MW-1104D
1135 take headspace readings from 14-36 ft bgs: all 0.0 ppm
1319 take headspace readings from 36-72 ft bgs: all 0.0 ppm
1320 complete MW-1104D to depth of 74 ft - set 6" casing
1348 begin installing 6" casing
1430 begin grouting MW-1104D

3/6/01

1511	complete removing 8" casing from borehole
1540	set up on MW-1104S
1548	Begin drilling MW-1104S
1640	label 3 drums of soil cuttings from MW-1104D and MW-1104S
1756	complete drilling MW-1104S to 48 ft bgs - set well at 47 ft w/ 10 ft screen
1812	A. Mason off-site
1840	lable 2 drums of water generated while drilling MW-1104S
1850	K. Carlisle off-site
1900	complete installation of MW-1104S
1925	D. Lansma and B-2 off-site

[illegible]

3/6/01

4

3/7/01

0754 D. Lansma on-site ; B-L and K. Carlisle already present
obj: soil boring and MW installation
weather: sunny, cool, high: 35-40 °F
PPE: Level D
Personnel: D. Lansma (Clayton)
K. Carlisle (Parsons)
Don T., Don R, Alvin, Adam (B-L)

0755 B-L deconing casing and staging drums
0835 Bill Elwell on-site
0836 measure static water levels in shallow wells
MW-1102S : 45 ft below T.O.C. (2.45 ft stickup)
MW-1103S : 41.48 ft below T.O.C. (2.54 ft stickup)
MW-1104S : 44.30 ft below T.O.C. (2.98 ft stickup)

0930 per B. Elwell / R. St John - leave broken 8" casing in ground and grout in place
0955 B-L setting up on MW-1105D
1002 calibrate Photovac 2020 PID to span 98 ppm
1018 B-L off-site to get replacement part for water pump on drill rig
1040 B-L on-site — begin replacing water pump
1155 A. Mason on-site
1300 Begin drilling MW-1105D
1320 break for lunch
1335 continue drilling MW-1105D
1530 having trouble with Photovac 2020 PID, switch to HNU 10.2eV PID - calibrated to span of 55 ppm
1-8 take headspace readings from 0-35 ft bgs
- max 1.0 ppm from 26-28 ft interval
1700 complete MW-1105D to depth of 78 ft

3/7/01

1705 complete taking headspace readings from 35-75 ft bgs : highest at 1.2 from 44-46 ft

1709 photo #15 (East) - MW-1104D/s (S in front)

1715 A. Mosen off-site

1718 begin installing 6" permanent casing

1730 complete installation of 6" casing ; begin mixing grout

1805 complete removing outer 8" casing

1812 K. Carlisle off-site

1813 complete grouting borehole ; move drums from ground to truck

1839 B-L complete clean-up around MW-1105D ; begin off-loading drums

1853 B-L complete off-loading drums

1905 B-L and D. Lansma off-site

~ 700 gallons water used during drilling

3/7/01

3/13/01

1535 Take water level measurements in wells
B-1 thru B-3
P-1 thru P-3

	BTW
P-1	32.98 ft
BW1	88.93 ft
BW2	35.24 ft
P-2	29.86 ft
BW-3	44.32 ft
P-3	45.66 ft

3/14/01

0750	D. Lansma on-site
	obj: soil borings and MW installation
	weather: mostly sunny, high 45-50°F
	PPE: Level D
	Perssonnal: D. Lansma (Clayton)
	K. Carlisle (Persons)
	Don T., Alvin, Jason (B-L)
0850	B-L begin setting up on MW-1105S
0953	Begin drilling MW-1105S
1010	photo #16 (West) - drilling MW-1105S, 1105D in foregound
1130	broken hydraulic hose - shut down drill rig
1346	fix hydraulic hose - resume working
1424	complete MW-1105S to 50 ft - per B. Ekwell: no well
	at this location due to insufficient water
	in sand & gravel; grout hole
1455	table 2 drums of soil from MW-1105D/S
1600	B-L move support truck to get supplies for
	drilling MW-1103M
1605	set drill rig up on MW-1103M
1650	support truck stuck - need mats to move it
1800	K. Carlisle off-site
1805	get support truck set up at MW-1103M
1820	D. Lansma and B-L off-site

3/15/01

0740 D. Lansma on-site
obj: drill MW-1103M
weather: rain, wind, high 35-40°F
PPE: Level D
Personnel: D. Lansma (Clayton)
K. Carlisle (Parsons)
Dan, Alvin, Jason (B-L)

0745 spoke with Dan, unsure about working in rain - safety issues
0754 call B. Elwell and let him know about situation
0830 Begin setting up to drill MW-1103M
0856 Begin MW-1103M
1100 encounter bedrock at 71.5 ft bgs
1118 complete drilling MW-1103M to depth of 71.5 ft
1140 begin installing MW-1103M on top of bedrock with a 10 ft screen
1200 break for lunch
1240 return to work
1255 stop work - hydraulic leak at water pump
1310 ~~fiten~~ tighten fittings on pump and begin working
1325 H. Mendygral on-site
1345 complete installation of MW-1103M
1347 Begin grouting open borehole at first location of MW-1103D
1440 per Dan T. - hydraulic pump is broken, need to bring to repair shop and get fixed before drilling can resume; he will ~~be~~ AM keep me updated on situation
1445 H. Mendygral off-site
1449 K. Carlisle off-site

3/15/01

1450 label 2 drums of soil cuttings from MW-1103M

1550 per Dan T. - demob drill rig tomorrow and he will let me know when it will be ready

1555 D. Lamsma and B-L off-site

use ~350 gallons water during drilling
- fill 2 drums

[illegible]
3/15/01

3/19/01

0746 D. Lamsma on-site
obj: soil borings
weather: pt sunny, high 40-45°F
PPE: Level D
Personnell: D. Lamsma (Claxton)
K. Carlisle (Parsons)
Dan, Alvin, Jason (B-L)

0750 B-L decon 6" casing to be used in MW-~~1109~~ 1106 D
0840 B-L set up on MW-1106 D
0850 calibrate Photovac 2020 PID to span 98 ppm
0858 photo #17 (NE) - core barrel at MW-1106 D
0900 Begin drilling MW-1106 D
1228 photo #18 (NW) - driving 8" casing at MW-1106 D
1325 break for lunch
1330 Take headspace readings from 0-35 ft
- all 0.0 ppm
1357 Don Biederman + Ron St John on-site
1440 Don B and R. St John off-site
1451 Take headspace readings from 35-55 ft
- all 0.0 ppm
~~1305~~ 1505 B. Elwell on-site to collect sample of water in Baker Tank
~~1320~~ 1520 B-L off-site to get water
1545 B. Elwell off-site
1620 resume drilling MW-1106 D
1800 stop drilling at depth of 65 ft
1805 K. Carlisle off-site
1807 D. Lamsma + B-L off-site

3/20/01

0752 Darren Lomsma on-site
obj: soil borings
PPE: Level D
weather: mostly sunny; high near 50°F
Personnel: D. Lomsma (Clayton)
K. Carlisle (Parsons)
Alvin, Dan, Jason (B-L)

0750 B-L begin drilling
0827 calibrate Photovac 2020 PID to span 98 ppm
0905 photo #19 (North) - drilling at MW-1106D
1015 complete MW-1106D to depth of 92.5 ft
1030 Take headspace readings from 55-92.5 ft bgs
- high of 2.2 at 65-70 interval
1040 B-L stacking 6" permanent casing onto support truck
1115 begin installing 6" casing in open borehole MW-1106D
1137 complete installing 6" casing for MW-1106D
1143 begin mixing high solids grout
5 bags cement
1 bag Quik-Grout
~70 gallons water
1145 begin removing outer 8" casing
1217 mix second barrel of grout
4 bags of cement
2 bags of Quik-Grout
~70 gallons water
1227 complete removing outer 8" casing
1230 complete grouting MW-1106D
1240 K. Carlisle off-site
1300 complete MW-1106D: generate 5 drums of soil, 4 drums of water (~700 gallons used)

3/20/01

1315	B-L break for lunch
1344	B-L begin hoisting drums on to support truck
1416	B-L unloading drums of water by Baker Tank
1420	B. Elwell on-site
1430	B-L unloading drums of soil and casing to be deconed
1440	K. Carlisle on-site
1500	B. Elwell and K. Carlisle off-site
1515	K. Carlisle on-site
1555	per Don T. (B-L) - drilling done for today; K. Carlisle off-site
1700	B-L deconing casing and trucks
1810	D. Lamsma and B-L off-site

[illegible]
3/20/01

3/21/01

0750	D. Lansma on-site
	obj: soil borings
	weather: mostly sunny; high 45-50°F
	PPE: Level D
	Personnel: D. Lansma (Clayton)
	K. Carlisle (Parsons)
	Dan, Alvin, Jason (B-L)
0751	B-L deconing steel casing
0840	set up on MW-1107D
0845	calibrate Photovac 2020 PID to 98 ppm
0908	Begin drilling MW-1107D
1018	photo #1 (NE) - drilling at MW-1107D
1020	photo #2 - glaciofluvial sand + gravel deposits
1152	Take headspace readings from 0-55 ft
	- highest of 5.8 ppm from 10-15 ft interval
1155	collect MW-1107D 10-15 ft for VOCs
1312	encounter bedrock at ~80 ft bgs; complete drilling
1315	break for lunch
1345	return to work
1405	begin installing 6" permanent casing
1416	photo #3 (SE) - installation of 6" casing
1426	complete installing 6" casing
1429	begin mixing grout
	~70 gallons of water
	5 bags Portland Cement
	1 bag Quik Grout
1437	B. Elwell on-site
1505	mix second barrel of grout w/ same as first
1519	complete removal of 8" casing
1610	B. Elwell off-site

3/21/01

Note: 1) use ~700 gallons of water while drilling MW-1107D
2) recover 2 drums of water from drilling, 3 Total drums of water
3) fill 3 drums w/ soil cuttings from MW-1107D

1630 complete hoisting drums onto tank truck
1631 K. Carlisle off-site
1636 B-L unloading drums of soil + water
1710 D. Lomsma + B-L off-site

3/27/01

0735 D. Lomsma on-site
obj: soil borings + MW installation
weather: cloudy, high 40-45°F
PPE: Level D
Personnel: D. Lomsma (Clayton)
K. Carlisle (Parsons)
Alvin, Don, Rick (B-L)

0750 B-L off site to get water
0856 B-L setting up to PQ core
1000 B-L decon equipment needed to core bedrock
1300 K. Carlisle on-site
1447 B-L begin changing to high speed drill head
1600 complete attaching high speed drill head to Rotasonic drill rig
1650 begin using air pressure to remove water from inside 8" casing at MW-1107D
1840 K. Carlisle off-site
1925 B-L and D. Lomsma off-site

3/27/01

3/28/01

0750	D. Lomsma on-site
	obj: core at MW-1107D
	weather: pt cloudy, high near 45°F
	PPE: Level D
	Personnel: D. Lomsma
	K. Carlisle
	Don, Alvin, Rick
0830	B-L continue repairs to rock coring barrel
1030	B. Elwell on-site
1107	B. Elwell off-site
1110	B-L begin coring bedrock at MW-1107D
1207	retrieve first core (R-1) from 83-88 ft
1316	retrieve second core (R-2) from 88-92.3 ft
1350	photo #4 - R-1 and R-2 of MW-1107D
1410	per Don T. (B-L): use ~100 gallons of water during 10 ft of coring
1500	B-L fix hydraulic hose and resume drilling
1600	retrieve R-3 from 92.3-97.3 ft
1614	photo #5 - R-3 of MW-1107D
1650	retrieve R-4 from MW-1107D at depth of 97.3-102.1 ft
1708	photos #6/7/8 - core run 4, bottom to center to top
1747	retrieve ~~R-4~~ R-5 from 102.1-107.3 ft
1757	photos #9/10 - core R-5 from bottom to top
1800	B-L begin removing high speed drill head
1812	K. Carlisle off-site
1815	per Don T.: use ~10 gallons of water while coring lower 15 ft of bedrock
1816	B-L crew with ATV on-site (Mike, Jason)
1820	B-L begin picking up around MW-1107D
1940	B-L and D. Lomsma off-site

3/29/01

0750 D. Lansma on-site

obj: set up ATV to core bedrock, put covers-on shallow wells, decon equipment

weather: Cloudy, chance showers, high near 50°F

PPE: Level D

Personnel: D. Lansma (Clayton)
K. Carlisle (Parsons)
Mike, Jason, Rick, Alvin, Don (B-L)

0800 B-L determine which ATV setup is best for situation and how to core bedrock/packer test

0954 B-L measure depth in deep borings to get accurate for cutting pipe

1030 B. Elwell and Jeff E. on-site

1100 B-L setting up to core on MW-1105D

1600 B. ELWELL ONSITE TO REPLACE D. LANSMA

1605 BEGIN CORING - WATER PUMP BROKE

1645 RESTART CORING ON 1105D W/O WATER.
BEGAN TO SIEZE AT 2.5 FT., NO RUN, DUE TO DRY CONDITIONS. ADDED WATER TO LUBRICATE.

1841 STOPPED CORING AT 10' ON 1105D.

1900 B-L & I OFFSITE

3-29-01

3/30/01

0730 D. Lamsma on-site
obj: continue at 1105D with coring
weather: pt cloudy, high near 50°F
PPE: Level D
Personnel: D. Lamsma, B. Elwell (Clayton)
K. Carlisle (Parsons)
Don, Alvin, Rick, Mike, Jason (B-L)

0800 B-L setting up to do Packer Test on first (Top)
10 ft of bedrock core at MW-1105D
- remove 100 gallons of water
0806 photo #12 - core from MW-1105D
0835 collect 2 vials for VOCs from MW-1105D
labeled: 1105D-PT1
sample collected from ~~83~~ 78-88 ft w/ submersible pump
0845 B-L offsite to get parts for water pump
0950 B. Elwell + R. St John on-site
0955 B-L on-site
1012 Begin coring R-3 from 88.7 - 93.6 ft
1050 Begin coring R-4 from 93.6 - 98.6 ft

Note: omitted R-2 and R-1 was 10 ft long

1055 photos #13/14 - core R-3 of MW-1105D
1126 set up to run second Packer Test from 88.7 to 98.6 ft - Test bottom 6" of borehole
- remove 100 gallons of water: use ~50 gallons during drilling and remove 3 volumes from annular space (~50 gal)
- Packer inflated balloon at 92 ft bgs
1135 photo #15 (South) - water level measurements during Packer Tests
1147 collect 2 vials for VOCs 1105D-PT2 from approx

depth of 88-98 ft

1150 pump rate of 7 min/55 gal during Packer Test-2; post sample collection - pumping was continued and bladder was released: water level dropped indicating a good seal between bladder and bedrock

1200 B. Elwell + R. St John off-site

1210 Break for lunch

1245 A. Mason (Clayton) on-site

1315 resume coring at MW-1105D

1349 retrieve core R-5 from 98.6-103.6 ft

1421 photo #16/17 - core R-5

1425 set pump 4-6" off bottom of hole and pump 100 gallons of water

1445 collect 2 vials for VOC analysis: 1105D-PT3
- water pumped from 93.6-103.6 ft bgs
- pump rate of ~~5 gpm~~ 55 gal/8 min
- water dropped 6" after pumped turned on

1450 B-L begin cleanup around MW-1105D

1537 photo #18 (South) - bladder + pump for Packer Tests

1600 B-L decon equipment

1620 K. Carlisle off-site

1630 A. Mason off-site

1800 B-L setting up on MW-1100D

1850 D. Lamsma + B-L off-site

[signature]
3/30/01

3/31/01

0730 D. Lomsma on-site
obj: core bedrock at 1100D
weather: cloudy, chance showers late, high 45-50°F
PPE: Level D
Personnel: D. Lomsma, A. Mason (Clayton)
K. Carlisle (Parsons)
Alvin, Dan, Rick, Jason, Mike (B-L)

0735 B-L getting supplies for coring at MW-1100D
0740 A. Mason, K. Carlisle on-site
0815 begin putting inner casing into MW-1100D
1030 get core barrel unstuck - put back into hole
1046 Begin coring R-1
- only 3 ft long, will core additional 2 ft
or bottom of hole
1125 retrieve R-1 (3 ft long) from 65.4 - 68.5 ft
1138 B. Elwell on-site
1150 break for lunch
1130 retrieve R-2 from 68.5 - 73.1 ft (actual recovery
of 5.1 ft)
1250 turn on pump and remove ~100 gallons of water:
50 gallons in borehole + 50 injected during
coring
1300 water level above bladder rising - small leak in
discharge hose
1313 collect 2 vials for VOCs: ~~1000T~~ PNL 1100D-PT1
- pump 55 gallons in 7 min = 7.9 gal/min
1345 encounter large fracture in bedrock at ≈ 74 ft bgs
- water spouting out of MW-1101D
400 per B. Elwell - remove what core is in barrel and
take another water sample at this depth
1430 begin pumping 100 gallons of water

1433	photos #19/20 - core from MW-1100D (R-1, R-2, R-3)
	photo #21 (SW) - drill rig set up for coring at MW-1100D
1448	collect 2 vials for VOCs : 1100D-PT2
	pump rate of 55gal/8min
1450	B-L cleaning up from around MW-1100D
1500	B. Elwell off-site
1545	B-L complete pulling casing from MW-1100D
1600	~~B-L~~ K. Carlisle off-site
1610	B-L setting up on MW-1102D
1621	A. Mason off-site
1700	D. Lamsma and B-L off-site

4/1/01

0800 D. Lamsma on-site
obj: core at location 1102D
weather: sunny, cool, high near 40°F
PPE: Level D
Personnel: D. Lamsma, A. Mason (Clayton)
K. Carlisle (Parsons)
Rick, Mike, Jason (B-L)

0805 B-L continue setting up at MW-1102D
0840 pump out water from inside 8" casing
0845 K. Carlisle on-site
0900 B-L reporing leak in discharge hose of submersible pump
0935 begin installing inner casing in MW-1102D
1030 begin coring bedrock at MW-1102D
1045 retrieve R-1 from 77 to 81.8 ft - sand in top of core barrel
1100 photo #22 - core R-1
1112 head on drill head cracked - begin repairs and removal of piece from collar
1144 photo #23 - core R-2
1146 photo #24 (South) - broken piece on drill rig
1215 per Mike (B-L): new part will be here in AM (Monday)
1225 A. Mason, D. Lamsma, K. Carlisle, and B-L off-site

[illegible]
4/1/01

0755 D. Lomsma on-site
obj: continue coring at MW-1102D
weather: cloudy, high 50-55°F
PPE: Level D
Personnel: D. Lomsma (Clayton)
K. Carlisle (Parsons)
Rick, Mike, Jason (B-L)

0802 Begin coring R-2b from 82.75
0837 retrieve core R-2b from 82.75 - 86.6 ft
0852 K. Carlisle on-site
0855 Begin Packer Test-1: interval isolated from 77-86.6 ft, pump at approx 84 ft bgs
- remove 100 gallons: 50 gal from drilling and 50 gal from borehole volumes
0914 collect 2 vials for VOC analysis: 1102D-PT1
0921 photo #25 - cores R-1, R-2, R-2b from MW-1102D
1005 Jeff. E (Clayton) on-site
1010 retrieve R-3 from 86.6 - 91.7 ft
1026 photo #26 - core R-3 from MW-1102D (top and bottom)
1050 retrieve R-4 from 91.7 - 96.85
1100 begin pumping for Packer Test-2: remove 100 gallons of water
1122 collect 2 vials of water for VOCs: 1102D-PT2 - omit, taken from wrong interval
1123 observe water level increase during pumping; dropped when bladder was released
1130 per Mike M. (B-L) pump was set at wrong depth (caught on casing) - redo at correct interval; remove 100 gallons of water
- remove additional 50 gallon to let turbidity level go down
1224 collect 2 vials for VOCs: 1102D-PT2

4/2/01
cont

1730	Jeff. E. off-site to drop off samples at First Environmental Lab
1242	photo #1 - core R-4 from MW-1102D
1310	photo #2 (South) - water spraying out of borehole from increased pressure created during coring of bed rock
1316	retrieve core R-5 from 96.85 - 101.7 ft bgs
1330	photos 3/4 - core R-5 of MW-1102D
1331	Jeff E. on-site
1413	retrieve core R-6 from 101.7 - 106.8
1420	Begin pumping for packer test-2: remove 100 gallons of water from 96.85 - 106.8 ft bgs
	- pump at approx 104 ft bgs
1444	collect 2 vials of water for VOCs from MW-1102D -1102D-PT3
	- no drawdown during pumping
1519	photo #5 - bottom half of R-6
1525	per Mike M. - water usage up to 70 gal/5 ft
1531	retrieve core R-7 from MW-1102D
1632	retrieve core R-8 from MW-1102D
1647	pump 200 gallons (50 in borehole, 150 used during drilling) from interval 106-116 ft
1722 am	- pump set at ~114 ft bgs
~~1522~~	collect 2 vials for VOCs: 1102D-PT4
~~1523~~	collect 2 vials for VOCs: Dup 1
1723	- observe steady water levels during pumping
	- pump rate ~8 gal/min
1811	complete drilling for today
1825	Jeff E and K. Carlisle off-site
1830	B-L clean-up around MW-1102D and refuel drill rig
1900	D. Lamson + B-L off-site

4/3/01

0725 D. Lomsma on-site
obj: continue coring at MW-1102D
weather: mostly sunny, high 50-55°F
PPE: Level D
Personnel: D. Lomsma, J. Endsley (Clayton)
K. Carlisle (Parsons)
Rick, Jason, Mike (B-L)

0735 begin coring
0818 retrieve R-9 from 116.85-121.85 ft
0835 photos #6/7 - core R-9 of MW-1102D
0844 retrieve R-10 from 121.85-126.8 ft
0931 collect 2 vials of water for VOCs: 1102D-PT5
- remove ~190 gallons of water (used 100 during coring)
- pump rate of ~7 gal/min
- observe no drawdown during pumping
- pumping interval ~117-127 ft w/ pump at approx 124 ft bgs
1000 drill rig shut down - will not restart
1218 K. Carlisle off-site
1400 Scott of First Env. Lab on-site to pick up water samples
1500 Baker Tanks on-site w/ second 4000 gal poly tank for water

NOTE: D. Lomsma and Mike M. off-site in afternoon to get new parts for drill rig; Jeff Endsley on-site for Clayton

1720 repair drill rig - resume coring
1730 photo ~~#9~~ #8 - core R-10

4/3/01
cont

1731 retrieve core R-11
1750 photos #9/10 - top and bottom of core R-11 from 126.8 to 131.9 ft bgs
1805 retrieve core R-12 from 131.9 - 136.9 ft
1815 pump 150 gallons from interval 127-137 ft bgs
- 100 gal input while drilling plus 50 gal from borehole space
- pump set at ~134 ft bgs
1822 photos #11/12 - core R-12
1841 collect 2 vials for VOCs : 11020-PT6
- remove additional 15 gallons of water
- observe no drawdown during pumping
1845 B-L begin cleanup around MW-11020
1847 K. Carlisle off-site
1855 J. Endsley off-site
1940 B-L and D. Lamsma off-site

Dan v L
4/3/01

4/4/01

0735 D. Lansma on-site
obj: complete coring at MW-1102D
weather: mostly sunny, high of 55°F
PPE: Level D
Personnel: D. Lansma, J. Endsley (Clayton)
K. Carlisle (Parsons)
Jason, Rick, Mike (B-L)

0745 begin coring
0807 retrieve R-13 from MW-1102D
0840 retrieve R-14 from MW-1102D
0850 pump 165 gallons (used ~165 during drilling) from interval of 137-146 ft
- pump set at ~144 ft bgs
0909 photo #13 - top and bottom of core R-14
0919 collect 2 vials of water for VOCs: 1102D-PT7
- observe no drawdown during pumping
0925 Ron Crick (Baker Tanks) on-site to see if any questions regarding the 2 poly tanks
0958 recover core R-15 from 146.6-151.65
1017 photo #14 - bedding planes at bottom of core
1037 retrieve core R-16 of MW-1102D
1040 complete coring MW-1102D to depth of 156.75 ft
1055 pump 165 gallons from interval of 147-157 ft bgs
- pump at ~155 ft
- used 110 gallons during drilling
1116 collect 2 vials for VOCs: 1102D-PT8
- observe no drawdown during pumping
- pump at ~8 gal/min
1130 break for lunch
1230 B-L on-site begin pulling inner casing from MW-1102D
1235 B. Elwell and B. Lombardi on-site

4/4/01

1300	D. Lombardi, B. Elwell, and J. Endsley off-site
1315	Scott (First Env. Lab) on-site to pick up samples for 24 hr turn-around
1412	B-L begin decon of equipment
1550	B-L setting up for coring at MW-1103D
1614	B-L begin putting inner casing in MW-1103D
1620	K. Carlisle off-site
1640	~~Com~~ Begin flushing out MW-1103D
1700	B-L cleaning up around MW-1103D and decon area
1815	D. Lansmo + B-L off-site

Dan L
4/4/01

4/9/01

1215 D. Lamsma on-site
obj: set up and begin coring 1103D
weather 165-69°F, breezy, chance showers
PPE: Level D
Personnel: D. Lamsma, J. Endsley (Clayton)
K. Carlisle, D. McGowan (Parsons)
Mike, Jason, Rick (B-L)

1220 B-L getting set up to drill on MW-1103D
1330 K. Carlisle and Drew McGowan
1430 Begin coring at MW-1103D
1453 recover R-1 from 74 to 76.5 ft (only drilled 2.5 ft)
1520 recover R-2 from 76.5 to
1545 remove 130 gallons of water ~~at~~ ow water for packer test
- used 80 gallons during drilling
- 50 gal from annular space
1551 photo #15 - cores R-1 and R-2 from MW-1103D
1605 collect 2 vials for VOCs: 1103D-PT1
- pump from 74-81.6 ft; pump set at bottom of hole
- no drawdown during pumping
1625 per B. Elwell - wait to drill until he calls back: water coming out of MW-1102D
1634 per B. Elwell - keep drilling at MW-1103D
1637 photo #16 (East) - water coming out of MW-1102D during drilling
1653 retrieve core run R-3 from 81.6 to 86.6 ft
1718 retrieve core run R-4 from 86.6 to 91.6
1730 pump 165 gallons of water for packer test
- used 110 gallons during drilling
- 55 gallons in borehole space
- pump rate: ~8 gal/min

4/9/01

1756 collect 2 vials for VOCs: 1103D-PT2
- pump interval of 84.6 to 91.6 ft
- pump set at ~ 90 ft

1810 K. Carlisle + D. McGowan off-site

1816 J. Endsley off-site

1900 D. Lansma + B.L off-site

4/10/01

0730 D. Lamsma on-site
obj: continue core at MW-1103D
weather: cloudy, high 60-65°F
PPE: Level D
Personnel: D. Lamsma, J. Endsley (Clayton); O. McGowan (Parsons); Rick, Jason, Mike
0735 retrieve core R-5 from 91.6 to 96.6 ft
0757 retrieve core R-6 from 96.6 to 101.65 ft
0805 pump 165 gallons from interval of 94.6-101.65 ft
- use 110 gallons of water during drilling
- 50 gal from annular space
0826 photos #17/18/19 - cores R-5 and R-6
0833 collect 2 vials for VOCs: 1103D-PT3
- observe no drawdown during pumping
- pump rate ~8 gal/min
0905 retrieve core R-7 from 101.65 to 106.6 ft
0932 retrieve core R-8 from 106.6 to 111.6 ft
0940 pump 165 gallons for packer test
- use 105 gal during drilling
- 50 gal. in borehole annular space
1016 collect 2 vials for VOCs: 1103-PT4
1016 collect 2 vials for VOCs: 1103-PT4 MS/MSD
- pump interval of 104.6 to 111.6 ft
- pump set at ~110 ft
- pump rate 8 gal/min
1048 retrieve core R-9 from 111.6 to 116.7 ft
1102 photos #20/21 - cores R-6, R-7, R-8
1103 photos #22/23 - cores R-8 and R-9
1115 retrieve core R-10 from 116.7 to 121.65
1145 remove 165 gallons of water for packer test
- used 100 during drilling
- remove 65 for annular space and turbidity

4/10/01

1211 collect 2 vials for VOCs: 1103D-PT5
- observe no drawdown during pumping
- pump interval of 114.6 to 121.65 ft
- pump set at ~120 ft

1215 break for lunch

1228 take water level in PW2 (from St)
DTW: 29.81 ft
Total: 29.86 ft

1252 collect 2 vials for VOCs analysis from decon water generated while drilling CSB-1000/1001/1002: DW-1

1300 begin pulling pump out of borehole

1330 retrieve core R-11 from 121.65 to 126.6 ft

1346 photos #24/25/26 - cores R-10 and R-11

1403 retrieve core R-12 from 126.6 ft to 131.65

1404 Fred (first Eng.) on-site to pick up samples

1415 pump 165 gallons from 1103D for packer test
- 100 gal used during coring
- 65 gal for annular space and turbidity

1445 collect 4 vials for VOCs: 1103D-PT6 and DupZ
- pumped from 124.65 to 131.65 ft
- pump at ~129 ft bgs
- observe no drawdown during pumping
- pump rate ~8 gal/min

1515 retrieve core R-13 from 131.65 to 136.65 ft

1532 photos #1/2/3 - cores R-12 and R-13 (photo #3 is close-up)

1543 retrieve core R-14 from 136.65 to 141.6 ft

1547 remove 165 gallons of water for packer test
- use 100 during coring
- additional 65 for annular space and turbidity

1621 collect 2 vials for VOCs: 1103D-PT7
- observe no drawdown during pumping

- pump rate ~ 8 gal/min
- pump interval of 134.6 to 141.6 ft
- pump set at approx. 140 ft bgs

1650 retrieve core R-15 from ~~146.6 to~~ 141.6 to 146.65 ft

1720 retrieve core R-16 from 146.65 to 151.6 ft

1735 photos #4/5 - cores R-15 and R-16

1740 remove 165 gallons of water for packer test
- used 100 gal during coring
- additional 65 for annular space and turbidity

1801 collect 2 vials for VOCs : 1103D-PT8
- observe no diesel during pumping
- pump interval of ~~134.6~~ 144.6 to 151.6 ft
- pump set at ~ 150 ft
- pump rate of 8 gal/min

1830 complete coring MW-1103D to depth of 154.1 ft

1851 J. Endsley off-site

1900 remove ~ 80 gallons of water for packer test
- use 30 gal during coring
- additional 50 gal in annular space

1910 collect 2 vials for VOCs : 1103D-PT9
- pump set on bottom of borehole
- pump interval of 147-154 ft

1920 D. McGowen off site

1921 B.L removing inner casing from MW-1103D

1945 D. Lamsma + B.L off-site

[illegible]
4/10/01

4/11/01

0740 D. Lansma on-site
obj: bedrock coring
weather: showers, high near 70°F
PPE: Level D
Personnel: D. Lansma, H. Mendygral (Clayton)
D. McGowan (Parsons)
Rick, Jason, Mike (B-L)

0741 B-L removing inner casing and begin decon
0913 B-L setting up on MW-1106D
0920 take static water level in well: 46.25 ft from TOC
0925 B-L putting inner casing in borehole
1100 delivery of stainless steel screen and riser office
1135 B-L off-site for lunch
1140 H. Mendygral off-site; J. Endsley on-site
1251 Begin coring at MW-1106D
1305 retrieve core R-1 (only cored 4 ft) from 92.6 to 96.6 ft
1334 retrieve core R-2 from 96.6 to 101.6 ft
1355 photos # 6/7 - cores R-1 and R-2
1400 retrieve core R-3 from 101.6 to 106.6 ft
1424 Fred (First Env.) on-site to pick up water samples
1429 retrieve core R-4 from 106.6 to 111.6 ft
1441 photos # 8/9 - cores R-3 and R-4
1443 photo # 10 (West) - coring at MW-1106D
1455 retrieve core R-5 from 111.6 to 117.65 (cored 5 ft plus 1 ft)
~~1554~~ 1534 photos # 11/12 - cores R-5 ~~&~~ DNL
1540 B-L pulling inner casing out of borehole
1545 J. Endsley off-site
1700 B-L begin decon and set up drill rig on MW-1104D
1730 B-L, D. McGowan, D. Lansma off-site

[signature] 4/11/01

4/12/01

0730 D. Lamsma on-site
obj: bedrock coring
weather: mostly cloudy, windy, high 60°F
PPE: Level D
Personnel: D. Lamsma, J. Endsley (Clayton)
D. McGowan (Parsons)
Rick, Jason, Mike (B·L)

0735 B·L installing inner casing in MW-1104D
0745 J. Endsley and D. McGowan on-site
0858 Begin coring at MW-1104D
0907 retrieve core R-1 from 74.35 to 76.35 ft (only cored 2 ft)
0932 photo #13 - core R-1
0933 retrieve core R-2 from 76.35 to 81.55 ft
0945 remove 145 gal of water for packer test
- used 95 during coring
- additional 50 for annular space
1009 collect 2 vials for VOCs: 1104D - PT1
- pump set at 80 ft
- pump interval of 74.5 to 81.5 ft
- pump rate ~ 8 gal/min
- remove additional 70 gallons for turbidity
1045 retrieve core R-3 from 81.55 to 86.5 ft
1111 retrieve core R-4 from 86.5 to 91.55 ft
1120 remove 170 gallons of water for packer test
- used 120 during coring
- additional 50 gal. for annular space
1130 photos #14/15 - cores R-3 and R-4
1140 after 40 gallons, borehole is dry - let sit for 5 min and retry
1145 still dry, break for lunch

4/12/01

1245	back to work - borehole still dry
1300	per B. Elwell: omit packer test and continue coring; unable to collect water sample at this depth
1335	retrieve core R-5 from 91.55 to 96.55 ft
1358	retrieve core R-6 from 96.55 to 99.55 ft
1410	after removing 10 gallons borehole is dry
1415	Fred (First Env. Lab) on-site to pick up water sample
1425	remove 10 gallons from borehole and went dry
1427	per B. Elwell, let sit for 10 minutes and collect water sample; if no water, collect no sample and continue
1444	attempt to collect water sample from bottom of hole: still dry
1448	photos #16/17/18 - cores R-5 and R-6 of MW-1104D
1450	B-L begin removing inner casing
1600	D. Lemsma off-site; B-L begin decon; J. Endsley on-site for Clay Ton

[illegible]

4/12/01

4/13/01

0730 D. Lamsma on-site

obj: put protective covers on MW-1102, 1103, 1104 S and 1103M

weather: mostly sunny, high near 60°F

PPE: Level D

Personnel: D. Lamsma (Clayton)

D. McGowan (Parsons)

Jason, Rick, Mike (B-L)

0731 B-L deconing equipment

0840 B-L completes decon and off-site

0845 D. McGowan and D. Lamsma off-site

D. McGowan

4/13/01

4/16/01

1210 D. Lamsma on-site
obj: core bedrock at MW-1101D
weather: cloudy, windy, chance sleet/snow
PPE: Level D
Personnel: D. Lamsma (Clayton)
K. Carlisle (Parsons)
Mike, Rick, Kevin (B-L)

1215 B-L setting up on MW-1101D
- install casing
- get water for drilling
1314 K. Carlisle on-site
1400 used 120 gallons of water to flush out bottom of borehole - lost all of it into formation
1532 begin coring at MW-1101D
1557 retrieve core R-1 from 71.3 to 76.3 ft
1635 retrieve core R-2 from 76.3 to 81.35 ft
1655 B-L setting up to run first packer test at MW-1101D
- conduct morning on 4/17
1700 K. Carlisle off-site
1715 D. Lamsma and B-L off-site

[illegible]
4/16/01

0740 D. Lamsma on-site
obj: continue coring at MW-1101D
weather: mostly sunny, cold, high 45°F
PPE: Level D
Personnel: D. Lamsma
K. Carlisle
Mike, Rick, Kevin

0742 begin pumping water from MW-1101D
- remove 5.5 drums of water
1) 120 gal lost to formation before drilling
2) 50 gallons for annular space
3) used ~165 gallons during coring
0908 collect 2 vials for VOCs: 1101D-PT1
- pump interval of 74.3 to 81.3 ft
- pump set at ~80 ft
0952 retrieve core R-3 from 81.35 to 86.4 ft
1005 photos #19/20 - cores R-2 and R-3
1018 retrieve core R-4 from 86.4 to 91.43 ft
1028 begin pumping for second packer test
1038 pump dry after ~5 gallons
- pump interval of 84.4 to 91.4 ft
1050 pump turned on and hole is still dry: unable to collect sample at this location
1125 retrieve core R-5 from 91.43 to 96.4 ft
1135 begin pumping 80 gallons
- dry after 10 gallons: let set for 10 min and try again
1145 photos # 21/22/23 - cores R-4 and R-5 of MW-1101D
1210 borehole still dry: unable to collect water sample at this location
1212 B-L removing pump and inner casing from MW-1101D

4/17/01

1410	B-L setting up on MW-1101S ; blind drill ~30 ft
	and sample with split spoon after that
1413	Begin drilling MW-1101S
1512	complete drilling MW-1101S to depth of 40 ft
	-set bottom of well at 39ft
1620	complete installing MW-1101S
1710	B-L setting up to decon augers and coring rods
1722	K. Carlisle off-site
1745	B-L putting pro-covers on shallow wells
1850	D. Lamsma and B-L off-site

[illegible]

0700	D. Lamsma on-site
	obj: install MW-1100S; develop wells
	weather: mostly sunny, high near 55°F
	PPE: Level D
	Personnel: D. Lamsma (Clayton)
	K. Carlisle, D. Groux (Parsons)
	Mike, Rick, Kevin (B-L)
0705	B-L begin drilling MW-1100S
0710	photo #24 (south) - drilling at MW-1100S
0720	K. Carlise and D. Groux on-site
0735	K. Carlise off-site
0828	complete drilling MW-1100S to depth of 39 ft
	- set bottom of well at 39 ft
0835	begin installing MW-1100S; 10 ft screen
0925	complete installing MW-1100S
0926	B-L begin cleanup around MW-1100S
1010	B-L decon augers and bedrock coring equipment
1115	B-L break for lunch
1118	Scott (First Env. Lab) on-site to pick up water
	samples
1200	B-L on-site; continue decon equipment
1230	per B. Elwell: remove amount of water in well and
	sand pack -
	0.5641 gal/ft
1245	set up to develop MW-1104S
	DTW: 43.79 ft (from TOC)
	Total: 50.92 ft (from TOC)
	- remove 10 well volumes plus water lost to formation
	during drilling
	= 40 gallons + 300 gallons = 340 gallons
1300	Grundfos pump too fast; switch to whale pump for developing
1349	begin developing MW-~~1103S~~ 1104S

4/18/01

1359	check pump rate: 6 min per 5 gallons
1400	water cloudy (brown) for first ~15 gallons; surge pump in bottom of well
~~1440~~ 1420 DML	take static water level: 44.3 ft below TOC
1427	B. Elwell on-site
1500	B. Elwell off-site
1513	fill first 55 gallon drum w/ purge water
1530	take static water level: 43.8 ft below TOC
1534	whale pump not working
1544	new pump; rate of 1 gal / 1:15 min
1614	static water level: 44.83 ft
1633	fill second drum of purge water
1720	fill third drum of purge water
1817	fill fourth drum of purge water (~220 gal removed)
1822	D. Groux off-site
1830	B-L empty 4 drums into Baker Tank and clean-up around MW-1104S
1910	B-L and D. Lamsma off-site

[signature]

4/19/01

0740 D. Lamsma on-site
obj: develop wells
weather: mostly sunny, high 60-65°F
PPE: Level D
Personnel: D. Lamsma (Clayton)
D. Groux (Parsons)
Mike, Kevin, Rick (B-L)

0745 take water level in MW-1103M and -1103S

	DTW	Total
1103M	~~41.47~~ 42.22	41.4
1103S	76.12 ft	

	DTW (ft)	Total (ft)
1103M	42.22	76.12
1103S	41.47	48.80

Remove: 1103M – 250 gallons lost during drilling
plus 190 gallons in borehole
= 440 gallons of water
1103S – 300 gallons lost during drilling
plus 41 gallons = 341 gallons

0820 contine pumping water from MW-1104S
(DTW = 43.76 ft)
0835 surge pump in MW-1104S: water slightly cloudy for
1.2 gallons, then clears up
0928 begin development of 1103M with Claytons
Grundfos pump
0936 photo #25 (East) - pumping/well development at MW-1103M
1002 fill 2nd drum of water from MW-1103M
1036 fill 4th drum of purge water from MW-1103M (~220 gal)
1046 surge pump in 1104S - no change in turbidity of water

4/19/01

1047 photo # 26 (East) - development of MW-1104S

1056 complete development of MW-1104S; ~~static~~ DTW water level after pumping of 43.89 ft below TOC

1109 complete 6th drum of purge water from MW-1103M

1125 B-L decon whole pump used to develop MW-1104S

1141 complete development of MW-1103M; remove 440 gal of water

- surge pump: turbidity increases minor amounts and returns to clear after 1-2 gallons

DTW = 42.81 ft

1200 decon Grundfos pump used to develop MW-1103M

1222 begin developing MW-1103S (remove 341 gallons)

1256 MW-1103S dry after pumping ~15 gallons

1400 MW-1103S dry for 5th time

1420 Mike M. (B-L) begin welding 6" casing

1525 MW-1103S dry for 9th time (45 gal. purged)

- remove pump and set in MW-1102S

1531 MW-1102S

DTW: 44.97 ft

Total: 53.42 ft

Remove: 300 gallons lost during drilling plus 50 gallons in annular space = 350 gallons of water for development

1550 B. ELWELL ONSITE - D. LAMSMA OFFSITE

MEASURED	DTW	TD FROM TOC IN 1100S & 1101S
1100	35.26	~~45.00~~ wet 41.80
1101	35.62	42.15

4/19/01

#

1645 MIKE BACKED OVER MW-520. PULLED OUT STICKUP & PVC RISER TO ≈ 6' BGS. BENT. CHIPPED WELL FROM 43' BGS TO SURFACE.

1700 35 GALLONS OUT OF MW-1102S STILL CLOUDY BROWN. BEGIN DEVELOPING MW-1101S WITH SECOND PUMP - CLOUDY BROWN.

1714 MW-1101S WENT DRY (1) ~~W/ ≈ .15 GALS REMOVED.~~ WSE

1724 RESTART PUMPING MW-1101S, SLIGHTLY CLOUDY ~~AFTER 7 MORE GALS.~~ WSE

1734 MW-1101S IS DRY (2) AGAIN ~~AFTER ≈ 26 GAL TOTAL REMOVED.~~ WSE

1744 MW-1102S 1 DRUM FULL ~~OUT OF~~ WSE. TOOK ≈ 1 HR 40 MIN. RESTART ON MW-1101S, CLOUDY FOR .2 MIN → ≤1 LL

1750 MW-1101S DRY (3) AFTER 16 GAL TOTAL REMOVED.

1800 RESTART ON MW-1101S

1804 MW-1101S DRY (4)

1814 RESTART MW-1101S - CLEAR.

1820 1101S DRY FOR 5TH TIME - ≈ 26 GALS TOTAL OUT.

1823 MW-1102S STILL DEV. ≈ 70 GAL. - STOP FOR NIGHT.

1830 OFFSITE W/ DRILLERS & DOUG

[signature] 4-19-01

66

4/20/01

0650 D. Lansma on-site

obj: complete development on shallow monitoring wells

weather: mostly cloudy, chance showers, high 75-80°F

PPE: Level D

Personnel: D. Lansma (Clayton)

D. Groux

Alvin, Rick, Kevin, Dan, Mike (B-L)

0651 B-L already developing MW-1102S; remove 280 gallons of water to complete development

0845 D. Lansma and M. Meuller off-site to return welder and pump

1020 D. Lansma + M. Meuller on-site

1030 remove 40 gallons of water for development of MW-1100S

1037 begin pumping from MW-1100S

1042 MW-1100S dry (First)

1131 stop pumping with whole pump - water too silty; continue with bailer

1155 MW-1100S dry for second time

1206 MW-1100S dry for third time

1218 MW-1100S dry for fourth time

1232 MW-1100S dry for fifth time (remove ~5 gal H_2O)

DTW = 39.33

1339 complete development of MW-1102S

- DTW = 45.79 ft
- remove total of 370 gallons
- Turbidity: clear

1400 B-L clean-up around staging area

1443 B. Elwell on-site

1449 take water level in P-2 DTW: 29.47 ft

Total: 29.85 ft

4/20/01

1540 photo #27 (East) - B-L clean up in staging area
1555 B. Elwell off-site
1740 photos #1-5 (all directions) - gallon jugs of transmission fluid and oil in dirt piles south of bldg
- at first notice 4 jugs were present and full of fluid
1810 D. Lemsma and B-L off-site

Page 1

68

4/22/01

0845	D. Lemsme on-site
	obj: drill source area borings
	weather: cloudy, chance showers; high 65°F
	PPE: Level D
	Personnel: D. Lemsme
	D. Groux
	Alvin, Don
0905	calibrate Photovac 2020 PID to span 98 ppm
0909	Begin CSB-1200
1000	collect CSB-1200 6-8 ft for VOCs
1117	complete drilling CSB-1200 to depth of 55 ft; fill with grout
1200	unable to zero out Photovac 2020 PID; begin using HNu PID; calibrate to span 55 ppm
1230	collect CSB-1200 48-50 for VOCs
1235	collect CSB-1200 12-14 for VOCs
1242	Begin CSB-1201
1254	collect CSB-1200 32-34 for VOCs
1309	collect CSB-1200 46-48 for VOCs
1439	photo #6 (NE) - drilling at CSB-1201
1526	recheck calibration of HNu PID
1530	begin taking headspace reading from CSB-1201
1552	complete drilling CSB-1201 to depth of 60 ft
1558	collect CSB-1201 56-58 for VOCs
1604	collect CSB-1201 52-54 ft for VOCs
1615	collect CSB-1201 20-22 ft for VOCs
1620	D. Groux off-site
1622	collect CSB-1201 14-16 ft for VOCs
1631	collect CSB-1201 6-8 ft for VOCs
1640	B-L finish grouting CSB-1201; Begin clean-up around CSB-1200/1201
1800	B-L begin decon

4/22/01

1847 B-L Finish decon and set up on CSB-1202
1900 D. Lansma and B-L off-site

Dawe

4/23/01

0650	D. Lamsma on-site
	obj: source area soil borings
	weather: pt sunny, chance showers, high near 70°F
	PPE: Level D
	Personnel: D. Lamsma
	D. Groux
	Alvin, Don
0724	Begin drilling CSB-1202
0746	calibrate Photovac 2020 PID to span 98
0830	Take headspace readings from 0-20 ft
0831	photo # 7 (North) - silty clay at ~15 ft bgs
0910	per B. Elwell and R. St John: continue CSB-1201 to depth of bedrock; collect soil samples from till at highest PIP/5 ft
0920	collect CSB-1202 8-10 ft for VOCs
0924	collect CSB-1202 12-14 ft for VOCs
0940	R-3 on-site to remove drums of soil cuttings from abandonment of MW-104/105/500S/501S
0942	collect CSB-1202 26-28 ft for VOCs
1027	collect CSB-1202 38-40 ft for VOCs
1040	no water accumulation in bottom of borehole - continue to top of bedrock
1124	collect CSB-1202 48-50 ft for VOCs
1226	Begin pumping 110 gallons of water from CSB-1202 for water sample
1330	collect CSB-1202 50-52 ft for VOCs
1337	collect CSB-1202 56-58 ft for VOCs
1343	collect CSB-1202 60-62 ft for VOCs
1348	collect CSB-1202 66-68 ft for VOCs
1353	collect CSB-1202 72-74 ft for VOCs
1355	Fred (First Env. Labs) on-site to pick up soil samples

4/23/01

1520	pump borehole dry (approx 40-45 gallons removed)
1525	Battery on Photovac 2020 out of power; switch to HNu 10.2 eV PID
1547	collect 2 vials of GW from CSB-1202 for VOCs
1630	complete CSB-1202 to depth of 85 ft
1649	collect CSB-1202 78-80 ft for VOCs
1653	Collect CSB-1202 82-84 ft for VOCs
1655	D. Gray off-site
1720	B-L complete grouting CSB-1202
1810	B-L begin decon equipment
1835	B-L set up to drill CSB-1203
1845	D. Lemsma and B-L off-site

[illegible]
4/23/01

4/24/01

0650	D. Lamsma on-site
	obj: source area soil borings
	weather: sunny, high 55-60°F
	PPE: Level D
	Personnel: D. Lamsma, M. Germann
	D. Groux
	Don, Alvin
0655	B-L setting up at CSB-1203
0726	Begin drilling CSB-1203
0820	calibrate Photovac 2020 PID to span 55
0840	collect CSB-1203 8-10 ft for VOCs
0909	collect CSB-1203 10-12 ft for VOCs
0923	collect CSB-1203 22-24 ft for VOCs
1000	complete CSB-1203 to depth of 55 ft
1009	collect 3 vials of water for VOCs: W-1203
1010	B-L begin grouting borehole
1030	collect CSB-1203 30-32 ft for VOCs
1032	collect CSB-1203 48-50 ft for VOCs
1035	B-L complete grouting borehole
1110	B-L unloading soil drums from CSB-1203
1212	B-L setting up on CSB-1204
1222	photo #8 (SE) - drill rig at boring CSB-1204
1230	Break for lunch
1300	Begin drilling CSB-1204
1415	collect CSB-1204 6-8 ft for VOCs
1416	collect CSB-1204 10-12 ft for VOCs
1445	collect CSB-1204 26-28 ft for VOCs
1450	Scott (First Env) on-site to pick up soil and groundwater samples
1452	photo #9 - glaciofluvial sands and gravels (~39 ft bgs)
1516	M. German off-site

1533	collect CSB-1204 30-32 for VOCs
1548	collect CSB-1204 42-44 ft for VOCs
1600	no water collected in silty clay at 52 FT; continue CSB-1204 to top of bedrock
1700	collect CSB-1204 50-52 ft for VOC
1705	collect CSB-1204 53 ft for VOCs
1715	complete CSB-1204 to depth of 85 ft
1728	B-L begin grouting hole
1730	collect CSB-1204 68-70 ft for VOCs
1735	collect CSB-1204 56-58 ft for VOCs
1745	D. Groux off-site
1810	B-L complete grouting CSB-1204; begin moving drums of soil and water
1900	B-L setting up on CSB-1205
1930	D. Lomsma and B-L off-site

Dave L

4/25/01

0720	D. Lamsma on-site
	obj: source area soil borings
	weather: chance showers, high 60-65°F
	PPE: Level D
	Personnel: D. Lamsma, M. Germann
	D. Groux
	Alvin, Don
0725	B-L decon equipment
0905	Begin drilling CSB-1205
1005	calibrate Photovac 2020 PID to span 88 ppm
1020	collect CSB-1205 8-10 ft for VOCs
1020	collect CSB-1205 10-12 ft for VOCs
1045	encounter lower till; wait 30 minutes to see if water accumulates in bottom of bore hole
1105	collect CSB-1205 20-22 ft for VOCs
1125	no water in bottom of borehole; continue drilling after lunch
1130	collect CSB-1205 34-36 ft for VOCs
1135	collect CSB-1205 44-46 ft for VOCs
1230	continue drilling - first sample from 50-55 ft
1240	Scott (First Env. Lab) on-site to pick up soil samples
1330	complete drilling CSB-1205 to depth of 84 ft
1340	B-L begin grouting CSB-1205
1345	collect CSB-1205 46-48 ft for VOCs
1350	collect CSB-1205 50-52 ft for VOCs
1355	collect CSB-1205 56-58 ft for VOCs
1430	D. Groux off-site
1435	M. Germann off-site
1445	B-L cleaning up around CSB-1205
1600	fill CSB-1200 thru 1204 with Bentonite chips

to within a few inches of surface and cap
rest with concrete

1610 B-L begin decon equipment

1700 photo #10 (NE) - drum covering open borehole
not concreted at surface

~~1720~~ 1820 D. Lamsma and B-L off-site

Page 2

4/30 and 5/1

0650 Darren Lansma on-site

obj: collect water levels w/ Parsons

PPE: Level D

MW	DTW
1100D	38.32
1101D	39.34
1102D	45.71
1103D	42.40
1104D	43.81
1105D	47.80
1106D	63.61
1107D	54.91
126	51.40
521	53.64
BW-1	88.74
BW-2	34.77
BW-3	44.03

D. Lansma + D. Groux off-site

2350 D. Lansma on-site

MW	DTW
1100D	38.24
1101D	39.26
1102D	45.65
1103D	42.32
1104D	43.73
1105D	47.74
1106D	63.54
1107D	54.84

4/30 + 5/1 cont

MW	DTW	
126	~~51.53~~	morning reading from PVC not pro cover — DTW = 51.31
521	~~53.78~~	53.61 (PVC)
BW-1	88.57	
BW-2	34.64	
BW-3	43.94	

0.22 difference in PVC and casing on MW-126

0055 D. Lansmo + K. Carlisle off-site

[illegible]
5/1/01

5/1/01

0700 D. Lansma on-site
obj: source area soil borings
weather: mostly cloudy, high 80-85°F
PPE: Level D
Personnel: D. Lansma, M. Gorman (Clayton)
K. Carlisle (Parsons)
Don, Alvin, Rick (B-L)

0710 B-L setting up on CSB-1206
0750 M. Gorman on-site
0830 K. Carlisle on-site
0843 Begin drilling CSB-1206
0855 collect 4oz jar for non-volatile carbon; collect gallon ziploc for physical analysis CSB-1206 3'
0926 calibrate photo voc 2020 PID to span 98 ppm
0945 collect 4oz jar for non-volatile carbon; collect gallon ziploc for physical analysis CSB-1206 33'
1007 collect 4oz jar for non-volatile carbon; collect gallon ziploc for physical analysis CSB-1206 36'
0955 collect CSB-1206 2-4 for VOCs
1008 collect CSB-1206 10-12 for VOCs
1030 collect 4oz jar for non-volatile carbon and gallon ziploc for physical analysis from CSB-1206 47'
1034 collect 4oz jar for non-volatile carbon and gallon ziploc for physical analysis from CSB-1206 49'
1034 collect CSB-1206 22-24 ft for VOCs
1048 collect CSB-1206 36-38 ft for VOCs
1053 collect CSB-1206 44-46 ft for VOCs
1120 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis CSB-1206 53'.
1145 collect 3 vials of a grab water for VOC analysis from CSB-1206

1145	collect 4 oz jar for non-volatile organic carbon and gallon ziploc bag for physical analysis from CSB-1206 56' and 59'
1147	break for lunch
1220	B-L cutting down casing of MW-1100D/1101D
1300	collect CSB-1206 ~~fx~~ 48-50 for VOCs
1313	collect CSB-1206 52-54 ft for VOCs
1332	collect 4 oz jar for organic carbon (non-volatile) and gallon ziploc for physical analysis from CSB-1206 75 ft
1340	complete drilling CSB-1206 to depth of 86 ft
1400	B-L begin grouting CSB-1206
1400	collect CSB-1206 58-60 for VOCs
1440	M. Germann off-site; to First Env. Lab with samples
1445	B-L setting up on CSB-1207
1515	Begin drilling CSB-1207
1537	collect 4 oz jar for non-volatile organic carbon and gallon ziploc bag for physical analysis from CSB-1207 3'
1540	photo #11 (NE) - drilling at CSB-1207
1616	collect 4 oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1207 33'
1640	collect 4 oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1207 36'
1717	collect CSB-1207 6-8 ft for VOCs
1721	collect CSB-1207 12-14 ft for VOCs
1724	collect CSB-1207 22-24 ft for VOCs
1735	collect 4 oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1207 47'

80

5/1/01

1741	collect CSB-1207 30-32 ft for VOCs
1750	collect CSB-1207 36-38 ft for VOCs
1753	collect CSB-1207 44-46 ft for VOCs
1805	no water collecting in borehole, continue to bedrock
1824	collect 4 oz jar for non-~~organic~~ volatile organic carbon and gallon ziploc for physical analysis from CSB-1207 51 ft
1837	B-L off-site
1845	D. Lamsma + K. Carlisle off-site

[illegible]

5/1/01

0650	D. Lomsma on-site
	obj: source area soil borings
	weather: mostly cloudy, chance showers, high 85°F
	PPE: Level D
	Personnel: D. Lomsma, M. Germann
	D. Groux
	Rick, Alvin, Don
0710	Begin drilling CSB-1207; First sample from 55-65 ft
0757	collect 4oz jar for non-volatile organic carbon and gallon ziplock for physical analysis from CSB-1207 64' and 67'
0810	collect 4oz jar for non-volatile organic carbon and gallon ziplock for physical analysis from CSB-1207 75'
0811	complete drilling CSB-1207 to depth of 81 ft
0815	calibrate Photovac 2020 PID to span 98 ppm
0835	B-L begin grouting CSB-1207
0840	collect CSB-1207 50-52 ft for VOCs
0842	collect CSB-1207 58-60 ft for VOCs
0847	collect CSB-1207 74-76 ft for VOCs
0900	problems w/ hydraulics on drill rig
1030	complete removal of casing; begin grouting borehole
1037	calibrate Photovac 2020 to span 102 ppm; re check headspace readings from CSB-1207
1130	B-L begin decon
1147	photo #12 (South) - survey equipment
1200	Break for lunch
1235	First Env. Lab on-site to collect soil samples
1340	H. Mendygral, M. Germann, D. Groux on-site

5/2/01

Note: PID reading on CSB-1206 and 1207 are suspect; rental PID not working properly; new PID on-site

1356 Begin drilling CSB-1208

1405 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1208 5'

1410 encounter sanitary sewer @ 7.5 ft - move 5 ft south and try again

1539 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1208 28' and 32'

1546 collect CSB-1208 8-10 ft for VOCs (only 2 vials)

1615 collect CSB-1208 12-14 ft for VOCs

1632 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1208 44'

1633 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1208 47'

1636 collect CSB-1208 28-30 ft for VOC

1647 collect CSB-1208 32-34 ft for VOCs

1703 no water collecting in borehole; continue drilling to bedrock

1716 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1208 52'

1735 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1208 57'

1750 collect 4oz jar for non-volatile organic carbon

5/2/01

and gallon ziploc for physical analysis
from CSB-1208 71'

1800	complete drilling CSB-1208 to depth of 83'
1815	collect CSB-1208 48-50 ft for VOCs
1816	B-L begin filling hole w/ grout
1820	collect CSB-1208 52-54 ft for VOCs
1830	collect CSB-1208 62-64 ft for VOCs
1654	collect CSB-1208 44-46 ft for VOCs
1835	D. Groux off-site
1855	H. Mendygral off-site
1900	B-L complete grouting CSB-1208
1910	D. Lamsma + B-L off-site

[signature]
5/2/01

84

5/3/01

0650	D. Lamsma on-site
	obj: source area soil borings
	weather: mostly sunny, chance showers, high 75°F
	PPE: Level D
	Personnel: D. Lamsma, J. Endsley
	D. Groux
	Rick, Alvin, Don
0700	B-L on-site
0715	D. Groux on-site
0730	B. Elwell on-site
0732	J. Endsley on-site
0735	B-L decon equipment; Clayton locating MW-1108S
0815	B. Elwell off-site
0825	B-L setting up on MW-1108S
0900	Begin drilling MW-1108S
0914	collect 4oz jar for non-volatile organic carbon
	and gallon ziploc for physical analysis
	from ~~CSB-110~~ MW-1108S 4'
1015	collect MW-1108S 2-4 ft for VOCs
1030	photo #13 (North) - drilling at MW-1108S; MW-101
	in foreground
1049	collect MW-1108S 14-16 ft for VOCs
1113	collect 4oz jar for non-volatile organic carbon and
	gallon ziploc for physical analysis from
	MW-1108S 32'
1134	collect 4oz jar for non-volatile organic carbon and
	gallon ziploc for physical analysis from
	MW-1108S 35'
1200	Break for lunch
1203	Collect 4 oz jar for non-volatile organic carbon
	and gallon ziploc for physical analysis from
	MW-1108S 45'

1205	collect 4 oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from MW-1108S 49'
1217	collect MW-1108S 20-22 ft for VOCs
1220	collect MW-1108S 28-30 ft for VOCs
1230	collect MW-1108S 36-38 ft for VOCs
1240	collect MW-1108S 46-48 ft for VOCs
1300	continue drilling MW-1108S
1344	collect 4 oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from MW-1108S 55'
1347	Fred (First Env. Lab) on-site to pick up samples
1350	set outer 8" casing at 52 ft below ground surface
1355	collect 4 oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from MW-1108S 60'
1356	B. Elwell off-site
1357	stop drilling at depth of 65'; fill bottom 10' with bentonite chips
1425	collect MW-1108S 56-58 ft for VOCs
1435	collect MW-1108S 64-66 ft for VOCs
1405	collect MW-1108S 48-50 ft for VOCs
1530	D. Lamsma off-site; J. Endsley still present for Clayton
1549	B-L begin filling hole with grout
1630	BL complete grouting.
1721 ~~1635~~	B-L is grouting ~~two~~ five holes
1832	B-L and Jeff Endsley off site.

5/4/01

0700 D. Lemsmo on-site
obj: soil borings in source area
weather: chance showers, high 60-65°C
PPE: Level D
Personnel: D. Lemsmo, J. Endsley
D. McGowan
Rick, Dan, Alvin

0710 B-L begin decon equipment
0835 B-L setting up on CSB-1209
0853 Begin drilling CSB-1209
0901 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1209 3'
1000 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1209 29'
1003 calibrate photovac 2020 PID to span 102 ppm
1023 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1209 33'
1025 Scott (First Env. Lab) on-site to pick up samples
1030 collect CSB-1209 8-10 ft for VOCs
1035 collect CSB-1209 12-14 ft for VOCs
1117 collect 4oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from CSB-1209 44' and 46'
1135 collect CSB-1209 22-24 ft for VOCs
1140 collect CSB-1209 28-30 ft for VOCs
1145 collect CSB-1209 34-36 ft for VOCs
1150 Collect CSB-1209 40-42 ft for VOCs
1155 no water collecting in borehole; continue to bedrock

5/4/01

1215	collect 4oz jar for non-volatile organic carbon and gallon ziplock for physical analysis from CSB-1209 52'
1235	collect 4oz jar for non volatile organic carbon and gallon ziplock for physical analysis from CSB-1209 57'
1250	collect 4oz jar for non-volatile organic carbon and gallon ziplock for physical analysis from CSB-1209 70'
1302	complete drilling CSB-1209 to depth of 85'
1330	B-L begin grouting borehole
1345	collect CSB-1209 46-48 ft for VOCs
1350	collect CSB-1209 52-54 ft for VOCs
1355	collect CSB-1209 64-66 ft for VOCs
1400	B-L complete grouting CSB-1209
1500	B-L setting up on CSB-1210
1512	Begin drilling CSB-1210
1519	collect 4oz jar for non-volatile organic carbon and gallon ziplock for physical analysis from CSB-1210 3'
1617	collect 4oz jar for non-volatile organic carbon and gallon ziplock for physical analysis from CSB-1210 28' and 31'
1625	collect CSB-1210 6-8 ft for VOCs
1635	collect CSB-1210 10-12 ft for VOCs
1710	stop drilling at 45 ft for today
1714	collect CSB-1210 24-26 ft for VOCs
1726	collect 4oz jar for non-volatile organic carbon and gallon ziplock for physical analysis from CSB-1210 45'
1730	B-L off-site
1745	D. McGowen, J. Endsley, D. Lemsma off-site

88

5/5/01

0700 D. Lemsma on-site
obj: Source area soil borings
weather: cloudy, chance showers, high 60°F
PPE: Level D
Personnel: D. Lemsma, H. Mendygral
K. Carlisle
Rick, Alvin, Dan

0720 collect CSB-1210 42-44 ft for VOCs
0724 Begin drilling; first sample from 45-50 ft
0730 collect CSB-1210 36-38 ft for VOCs
0741 collect 4oz jar for non-volatile organic carbon and gallon Ziploc for physical analysis from CSB-1210 46'
0805 re-water collecting bottom of borehole; continue drilling to bedrock
0830 collect 4oz jar for non-volatile organic carbon and gallon Ziploc for physical analysis from CSB-1210 54'
0847 collect 4oz jar for non-volatile organic carbon and gallon Ziploc for physical analysis from CSB-1210 57'
0905 collect 4oz jar for non-volatile organic carbon and gallon Ziploc for physical analysis from CSB-1210 69'
0915 complete CSB-1210 to depth of 85 ft
0927 begin grouting CSB-1210
0930 calibrate photovac 2020 PID to span 102 ppm
0940 collect CSB-1210 48-50 ft for VOCs
0945 collect CSB-1210 54-56 ft for VOCs
0950 collect CSB-1210 58-60 ft for VOCs
0955 collect CSB-1210 68-70 ft for VOCs

5/5/01

1010	B-L decon equipment
1145	B-L setting up to drill MW-520
1230	Begin drilling MW-520 approx. 10 ft west of original location
1352	Stop drilling at 55 ft; let water level equilibrate
1412	water level of 45.3 ft below 6" casing (4.85 ft ags)
1430	casing set on bottom of borehole; lift up and remeasure water level
1452	per Ron St John, set bottom of well @ 55 ft
1455	begin installing MW-520
1500	H. Mendygral off-site
1547	complete installing MW-520 - bottom set at 55 ft - 10 ft screen
1605	photo #14 (West) - new MW-520
1610	B-L setting up to complete MW-1108S
1612	K. Carlisle off-site
1630	B-L and O. Lemsma off-site

Dave L
5/5/01

5/6/01

0715	D. Lansma on-site	07
	obj: source area soil borings	
	weather: mostly sunny, high ~65°F	
	PPE: Level D	
	Personnel: D. Lansma	
	K. Carlisle	
	Dan, Rick, Alvin	
0716	B-L setting up to complete MW-1108S	07
0737	K. Carlisle on-site	07
0820	Begin drilling MW-1108S: first sample from 65-75 ft	0
0910	complete drilling MW-1108S; total depth of 82.5 ft	0
0915	calibrate Photovac 2020 PID to span 102 ppm	
45	per Ron St John - set MW-1108S on top of bedrock (82.5 ft) with 10 ft screen	
0955	collect 4 oz jar for non-volatile organic carbon and gallon ziploc for physical analysis from MW-1108S 75'	09 10.
1010	begin installing MW-1108S	
1016	photo #15 (North) - installation of MW-1108S	
1200	complete installation of MW-1108S	
1220	K. Carlisle off-site	
1237	B-L putting new pro-cover on MW-520	
1310	B-L putting concrete on top of CSB-1209/1210 and MW-520	
1400	D. Lansma + B-L off-site	

5/7/01

0730 D. Lemsma on-site
obj:
weather: cloudy, showers, high 70°F
PPE: Level D
Personnel: D. Lemsma, J. Endsley
K. Carlisle
Dan, Alvin, Rick

0731 B-L decon equipment
0745 K. Carlisle to office; call her if any work today
0830 J. Endsley off-site
0900 Take water level in MW-1108S
DTW: 55.79 ft
Total: 84.24 ft
Stickup: 2.15 ft (2.33 ft removed)
0930 B-L complete deconing
1015 B-L cutting down MW-1108S to make flushmount;
D. Lemsma off-site to First Env. Lab

5/7/01

5/8/01

1315 D. Lansma on-site

obj: drum count, water level in Baker Tanks

weather: sunny, breezy, high 70-75°F

PPE: Level D

Drums

source area: 31 drums

monitoring wells: 33 drums

Water Levels (11.6 ft total depth)

P4251: 10.38 ft from top

EP4203: 6.88 ft from top

MW-52C

DTW: 45.38 ft

Total: 57.14 ft

stickup: 2.39 ft

1415 D. Lansma off-site

Duane

0750 D. Lansma on-site
obj: water level measurements
weather: warm, humid, chance showers
PPE: Level D

1310 complete water level survey
1315 D. Lansma off-site

1600 D. Lansma onsite
1605 MW-401
DTW: 51.26'
Total: 54.65'

1610 count number of drums from each boring location
1635 complete drum count
1640 D. Lansma off-site

5/17/01

1210 D. Lensma on-site
obj: indoor soil borings
weather: warm, mostly sunny, high 82°F
PPE: Level D
Personnel: D. Lensma, B. Elwell
K. Carlisle
Omar, Chuck

1300 Mid-America drilling on-site
1320 Health and Safety Meeting
1340 Begin coring concrete at CSB-1310 - 6" thick
1427 Begin drilling CSB-1310
1430 calibrate Photovac 2020 PID to span 102ppm
1447 unsure if current location is in backfill material, core concrete over sewer to check type of backfill material
- backfill around pipe is silty clay; continue drilling original CSB-1310 location
1531 complete CSB-1310 to depth of 16 ft
1554 collect CSB-1310 0-2 ft for VOC
1600 collect CSB-1310 2-4 ft for VOCs
1603 collect CSB-1310 14-16 ft for VOCs
1610 Begin CSB-1311
1634 photo #1 (West) - Geoprobe equipt. at CSB-1311
1651 complete CSB-1311 to depth of 16 ft
1700 collect CSB-1311 2-4 ft for VOCs
1710 collect CSB-1311 8-10 ft for VOCs
1715 collect CSB-1311 14-16 ft for VOCs
1758 Begin CSB-1312
- refusal @ 2 ft; move and try again
1907 complete CSB-1312 to depth of 16 ft
1910 collect CSB-1312 14-16 ft for VOCs

1920	collect CSB-1312 2-4 ft for VOCs
1925	collect CSB-1312 8-10 ft for VOCs
1934	Begin CSB-1309
2015	complete CSB-1309 to depth of 16 ft
2018	collect CSB-1309 14-16 ft for VOCs
2022	collect CSB-1309 2-4 ft for VOCs
2028	collect CSB-1309 8-10 ft for VOCs
2035	Mid-America concreting open cores
2042	complete drawing figures of boring locations
2050	K. Carlisle off-site
2100	D. Lemsma and Mid-America off-site

[illegible]
5/17/01

5/18/01

1230	D. Lansma on-site
	obj: interior soil borings
	weather: pt sunny, high 70-75°f
	PPE: Level D
	Personnel: D. Lansma (Clayton)
	K. Carlisle (Parsons)
	Juan, Chuck (M. A. D.)
1255	K. Carlisle on-site.
1256	Mid-America Drilling on-site
1305	set up to drill CSB-1306
1325	calibrate Photovac 2020 PID to span 102ppm
1430	photo #2 (South) - Hand-cart set up at CSB-1306
1432	Begin drilling CSB-1306
1500	complete CSB-1306 to depth of 16 ft
1503	collect CSB-1306 14-16 ft for VOCs
1515	collect CSB-1306 4-6 ft for VOCs
1520	Collect CSB-1306 10-12 ft for VOCs
1529	Begin drilling CSB-1308
	-refusal at 2' & move 6" and try again
1615	complete CSB-1308 to depth of 16 ft
1617	collect CSB-1308 14-16 ft for VOCs
1625	collect CSB-1308 2-4 ft for VOCs
1631	collect CSB-1308 12-14 ft for VOCs
1650	Begin drilling CSB-1307
1714	complete CSB-1307 to depth of 16 ft
1720	collect CSB-1307 14-16 ft for VOCs
1727	collect CSB-1307 8-10 ft for VOCs
1730	collect CSB-1307 10-12 ft for VOCs
1735	D. LAMSMA OFFSITE - BILL ELWELL REPLACE

5-18-01 (FRIDAY)

1740 DINNER BREAK

1800 BEGIN CORING CSB-1301

1808 TILE PROBED IN TWO SPOTS W/IN COREHOLE TO ≈ 2.5 FT. - NO UTILITIES ENCOUNTERED.

SAND FILL TO ≈ 6' BGS, ST-CL ≈ 6 - 16' BGS.

1900 FINISHED CORING / SAMPLING CSB-1301.

1920 COLLECT CSB-1301 (6-8), START CORING CSB-1300.

1922 " CSB-1301 (10-12)

1924 " CSB-1301 (14-16)

1940 BEGIN SAMPLING CSB-1300

2022 FINISH CORING CSB-1300

2035 SAMPLED CSB-1300 (2-4)

2039 " " " (4-6)

2043 " " " (12-14)

2050 PATCHED CONCRETE COREHOLES FOR THE DAY.

2105 OFFSITE.

5-18-01

98

5/21/01

1230 D. Lamsma on-site
obj: interior soil borings
weather: showers, high 70°F
PPE: Level D
Personnel: D. Lamsma
K. Carlisle
Juan, Chuck
1245 calibrate Photovac 2020 PID to span 102 ppm
1247 Mid-America Drilling on-site
1310 K. Carlisle on-site
1321 Begin coring CSB-1305
1335 Begin drilling CSB-1305
1418 complete drilling CSB-1305 to depth of 16 ft
1423 collect CSB-1305 14-16 ft for VOCs
1430 collect CSB-1305 8-10 ft for VOCs
1435 collect CSB-1305 10-12 ft for VOCs
1443 photo #3 (North) - concrete coring machine at CSB-1303
1458 core concrete at CSB-1303
1505 Begin drilling CSB-1303
1555 complete drilling CSB-1303 to depth of 16 ft
1600 collect CSB-1303 14-16 ft for VOCs
1605 collect CSB-1303 2-4 ft for VOCs
1610 collect CSB-1303 4-6 ft for VOCs
1630 Begin drilling CSB-1302
1634 photo #4 (SW) - drilling at CSB-1302
1712 complete CSB-1302 to depth of 16 ft
1717 collect CSB-1302 14-16 ft for VOCs
1724 collect CSB-1302 2-4 ft for VOCs
1729 collect CSB-1302 8-10 ft for VOCs

1730 Break for lunch
1825 begin coring CSB-1304

5/21/01

1840	Begin drilling CSB-1304
1851	photo #5 (West) - drilling at CSB-1304
1927	complete drilling CSB-1304 to depth of 16 ft
1932	collect CSB-1304 14-16 ft for VOCs
1939	collect CSB-1304 2-4 ft for VOCs
1942	collect CSB-1304 8-10 ft for VOCs
2000	Begin drilling CSB-1313
2039	complete CSB-1313 to depth of 16 ft
2045	collect CSB-1313 14-16 ft for VOCs
2051	collect CSB-1313 2-4 ft for VOCs
2057	collect CSB-1313 8-10 ft for VOCs
	Mid-America use 1 pail pellets
	1 bag of sand
	1 bag of portland cement
	To fill borings completed today
	- All property of Boart-Longyear
0925	Mid-America, K. Carlisle, D. Lamsma off-site

Dan V L
5/21/01

100

5/22/01

1230 D. Lonsma on-site
obj: interior soil borings
weather: cloudy, chance showers, high 60°F
PPE: Level D
Personnel: D. Lonsma
K. Carlisle

NOTE: Boart-Longyear on-site to install 10" casing for MW-1108D; using mud-rotary drilling

1235 K. Carlisle on-site
1245 Mid-America Drilling on-site
1320 calibrate Photovac 2020 PID to span 102 ppm
1332 Begin drilling CSB-1314
1430 complete CSB-1314 to depth of 16 ft
1433 collect CSB-1314 14-16 ft for VOCs
1438 collect CSB-1314 4-6 ft for VOCs
1444 collect CSB-1314 8-10 ft for VOCs
1515 Begin drilling CSB-1315
1548 photo # 6 (East) - drilling at CSB-1315 - South of degreaser
1615 complete CSB-1315 to depth of 16 ft
1628 collect CSB-1315 4-6 ft for VOCs
1645 collect CSB-1315 6-8 ft for VOCs
1650 collect CSB-1315 14-16 ft for VOCs
1632 Begin drilling CSB-1316
1720 complete CSB-1316 to depth of 16 ft
1725 collect CSB-1316 2-4 ft for VOCs
1730 collect CSB-1316 4-6 ft for VOCs
1735 collect CSB-1316 14-16 ft for VOCs
1737 Break for lunch
1800 Begin coring concrete at CSB-1317

5/22/01

1828	Begin drilling CSB-1317
1915	complete CSB-1317 to depth of 16ft
1920	collect CSB-1317 2-4ft for VOCs
1925	collect CSB-1317 4-6 ft for VOCs
1927	collect CSB-1317 14-16 ft for VOCs
1935	Begin drilling CSB-1318
2023	collect CSB-1318 4-6 ft for VOCs
2028	collect CSB-1318 6-8 ft for VOCs
2042	unable to drill past 18ft; complete CSB-1318 to depth of 18ft
2047	collect CSB-1318 16-18 ft for VOCs
2054	collect CSB-1318 10-12 ft for VOCs
2057	collect CSB-1318 12-14 ft for VOCs
~~120~~ 2110	D. Lamsma, K. Carlisle, Mid-America off-site

[signature]

102

5/23

1100 D. Lansma on-site
obj: locate soil borings; interior soil borings
weather: pt sunny, chance shower, high 60°F
PPE: Level D
Personnel: D. Lansma
K. Carlisle
Juan, Chuck

1105 Begin locating borings
1135 complete locating borings
1140 D. Lansma off-site

NOTE: Boart-Longyear on-site to install 10" casing @ MW-1105D

1230 D. Lansma on-site
1244 K. Carlisle on-site
1300 Mid American on-site
1330 calibrate Photovac 2020 PID to span 102 ppm
1351 Begin drilling CSB-1319
-refusal @ 3 ft; move and try again
1420 refusal at 3 f, move and redrill
1423 point fumes registering on PID - high background readings
1540 complete CSB-1319 to depth of 16 ft
1546 collect CSB-1319 14-16 ft for VOCs
1552 collect CSB-1319 0-2 ft for VOCs
1555 collect CSB-1319 2-4 ft for VOCs
1605 photo #7 (NE) - Hard-cart Geoprobe at CSB-1320
1606 Begin drilling CSB-1320
1700 complete CSB-1320 to depth of 16 ft
1705 ~~complete~~ DM collect CSB-1320 2-4 ft for VOCs

5/23/01

1710	collect CSB-1320 4-6 ft for VOCs
1716	collect CSB-1320 14-16 ft for VOCs
1720	Break for dinner
1750	Begin setting up to drill CSB-1326
1807	Begin drilling CSB-1326
1848	complete CSB-1326 to depth of 16 ft
1905	collect CSB-1326 14-16 ft for VOCs
1856	collect CSB-1326 2-4 ft for VOCs
1900	collect CSB-1326 4-6 ft for VOCs
1930	Begin CSB-1325
2010	complete CSB-1325 to depth of 16 ft
2014	collect CSB-1325 14-16 ft for VOCs
2019	collect CSB-1325 0-2 ft for VOCs
2022	collect CSB-1325 2-4 ft for VOCs
2045	D. Lonsma, K. Carlisle, Mid-America off-site

[illegible]
5/23/01

5/24/01

1215	D. Lomsma on-site
	obj: interior soil borings
	weather: mostly cloudy, chance showers, high 60°F
	PPE: Level D
	Personnel: D. Lomsma, K. Carlisle
	Juan, Chuck
1252	Mid-America Drilling on-site
1300	K. Carlisle on-site
1323	Begin coring CSB-1323
1330	Begin drilling CSB-1323
1331	calibrate Photovac 2020 PID to span 102 ppm
1428	complete CSB-1323 to depth of 16 ft
1432	collect CSB-1323 14-16 ft for VOCs
1436	collect CSB-1323 2-4 ft for VOCs
1441	collect CSB-1323 8-10 ft for VOCs
1450	Begin drilling CSB-1322
1533	complete CSB-1322 to depth of 16 ft
1536	collect CSB-1322 14-16 ft for VOCs
1543	collect CSB-1322 2-4 ft for VOCs
1546	collect CSB-1322 8-10 ft for VOCs
1602	Begin drilling CSB-1321
1647	complete CSB-1321 to depth of 16 ft
1652	collect CSB-1321 14-16 ft for VOCs
1657	collect CSB-1321 2-4 ft for VOCs
1700	collect CSB-1321 8-10 ft for VOCs
1827	Begin CSB-1324
1838	photo #8 (East) - drilling at CSB-1324
1905	complete CSB-1324 to depth of 16 ft
1909	collect CSB-1324 14-16 ft for VOCs
1915	collect CSB-1324 2-4 ft for VOCs
1918	collect CSB-1324 8-10 ft for VOCs
1935	Lucky Locators on-site

5/24/01

1950 complete locating 2 borings in basement
2030 K. Carlisle, D. Lemsma, Mid-America off-site

5/25/01

0712 D. Lansma on-site
obj: interior soil borings
weather: mostly sunny; high 60-65°F
PPE: Level D
Personnel: D. Lansma
K. Carlisle
Owen, Chuck

0723 Mid-America Drilling on-site
0745 K. Carlisle on-site
0748 Begin coring concrete at CSB-1327
0816 Begin drilling CSB-1327
- encounter pipe below concrete; move and try again
0850 photo #9 (SW) - drilling near sump in basement at CSB-1327
0925 complete drilling CSB-1327 to depth of 16 ft
0927 collect CSB-1327 14-16 ft for VOCs
0937 collect CSB-1327 2-4 ft for VOCs
0940 collect CSB-1327 10-12 ft for VOCs
1015 check pump room with PID: no readings
1016 Begin drilling CSB-1328
1017 photo #10 (East) - drilling in pump room at CSB-1328
1025 water coming into borehole from sand below concrete - stop drilling
1055 collect 2 vials of water from CSB-1328 for VOCs
1121 K. Carlisle off-site

1103 collect CSB-~~1362~~ DM 1328 0-2 ft for VOCs

1130 Mid-America decon equipment and pick up

5/29/01

supplies from staging area

1205 Mid-America and D. Lensmo off-site

5/30/01

0723 D. Lamsma on-site
obj: soil borings at south door
weather: sunny, cool, high 65°F
PPE: Level D
Personnel: D. Lamsma, H. Mendygral
K. Carlisle

0725 K. Carlisle on-site
0727 H. Mendygral on-site
0750 Mid-America on-site
0825 Begin CSB-1406
0826 calibrate Photo vac 2020 PID
0842 complete CSB-1406 to depth of 16 ft
0850 collect CSB-1406 14-16 ft for VOCs
0921 collect CSB-1406 8-10 ft for VOCs
0945 collect CSB-1406 0-2 ft for VOCs
0854 Begin CSB-1401
0906 complete CSB-1401 to depth of 16 ft
0915 collect CSB-1401 14-16 ft for VOCs
0955 collect CSB-1401 0-2 ft for VOCs
1000 collect CSB-1401 8-10 ft for VOCs
0924 Begin CSB-1402
0938 complete CSB-1402 to depth of 16 ft
0942 collect CSB-1402 14-16 ft for VOCs
1035 collect CSB-1402 0-2 ft for VOCs
1040 collect CSB-1402 8-10 ft for VOCs
1002 Begin CSB-1405
1017 complete CSB-1405 to depth of 16 ft
1025 collect CSB-1405 14-16 ft for VOCs
1115 collect CSB-1405 2-4 ft for VOCs
1120 collect CSB-1405 8-10 ft for VOCs
1047 Begin CSB-1403

5/30/01

1058	complete CSB-1403 to depth of 16 ft
1105	collect CSB-1403 14-16 ft for VOCs
~~1115~~	
1121	Begin CSB-1404
1135	complete CSB-1404 to depth of 16 ft
1140	collect CSB-1404 14-16 ft for VOCs
1150	collect CSB-1403 2-4 ft for VOCs
1155	collect CSB-1403 8-10 ft for VOCs
1225	collect CSB-1404 2-4 ft for VOCs
1230	collect CSB-1404 4-6 ft for VOCs
1240	Begin CSB-1407
1251	complete CSB-1407 to depth of 16 ft
1255	collect CSB-1407 14-16 ft for VOCs
1330	collect CSB-1407 2-4 ft for VOCs
1335	collect CSB-1407 8-10 ft
1305	Begin CSB-1408
1318	complete drilling CSB-1408 to depth of 16 ft
1320	collect CSB-1408 14-16 ft for VOCs
1340	collect CSB-1408 2-4 ft for VOCs
1345	collect CSB-1408 8-10 ft for VOCs
1350	K. Carlisle off-site
1404	Mid-America Drilling off-site
1425	complete making figures of interior borings
1430	Dr. Lamsma + H. Mendygral off site

5/22/01

1:50 ~~Boart-Long~~ Jeff Endsley on site
objective: Drilling of MW~~08~~1108D and setting of 10" Casing, 51' Deep.
Weather: 55°F, intermittant Showers, Wind from South 10-15 mph.

1:50 Boart-Longyear (BL) setting up over CSB-1202 and is boring through asphalt with 14" Triclone bit.
2:10 BL starts boring with 14" Triclone bit.
3:23 BL Paused drilling to clean the screens in the mud pit, resumed in mins.
4:49 BL Paused drilling due to strong rain
4:55 BL Resumed drilling.
5:30 BL Attached 1st extention to cutting head
5:45 BL Ceased operation due to strong rain; boring reached 20'.
5:55 BL off Site
6:15 Jeff Endsley off Site.

Jeff Endsley

5/23/01

0730 A. MASON onsite
obj: observe Drilling of MW-1108D and setting of casing;
weather: Intermittent Showers, wind approx. from South @ 15mph.
PPE: Level D
Personnel: Bill Elwell, Ann MASON, Dan (Parsons)

0730 Bill Already on site and drilling MW-1108D
0750 Bill off site
0820 finished 1(15') length
0828 - Bill Elwell and Ron St. Jon on site for meeting.
0832 - Bill offsite / + Ron to meeting
0841 - Drillers went to fill up truck for H_2O - offsite.
0856 - Drillers back from collecting H_2O - onsite
0930 - Collected sample from (Soil) MW-1108D - Checked PID - Ø
0931 - Bill onsite to verify location/Depth.
0935 - Bill offsite to meeting
10^30 - Started welding lengths together - took pictures
gave camera to Darren when he arrived at 12^30 approx.
1101 - casing height 50'6" in ground - w/stickup at 54'6"
- Drillers capping / welding circular disk on top.
1235 - Drillers left site for Lunch
12^34 - Karen (Parsons) + Darren (Clayton) onsite to perform indoor operation
12^38 - Tour of meeting on site.
12^52 - Tour offsite - I labelled 55 gallon drum's.
1^45 - Drillers onsite
2^30 - Deconning in process and cleanup site - arranged
orange cones around stick-up
3^40 - Offsite -

Ann Mason 5/23/01

6/4/01

1008 D. Lomsma + J. Campbell on-site
obj: downhole video of bedrock cores
weather: cloudy, chance showers, high 60-65°F
PPE: Level D
Personnel: D. Lomsma, J. Campbell, B. Elwell, S. Hoppel, A. Mosen, J. Endsley (Clayton)

1015 Drew McGowan, S. Jazic (Parsons) on-site
1045 S. Jazic off-site
1111 Jerry and Vince (Layne-~~western~~ pne) on-site to down hole video
1156 Begin videoing MW-1106D
1258 complete videoing MW-1106D
1322 Begin videoing MW-1102D
1513 Complete videoing MW-1102D
1530 per B. Elwell - bring first 2 videos to office
1545 Begin videoing MW-1103D
1630 D. McGowan off-site
1700 A. Mosen, J. Endsley, S. Hoppel off-site
1742 Complete videoing MW-1103D
1811 J. Campbell off-site
1815 D. Lomsma and Layne off-site

0640 D. Lansma on-site
obj: downhole video of bedrock cores
weather: showers, high 65°F
PPE: Level D
Personnel: D. Lansma, J. Campbell (Clayton)
A. Mason, S. Hoppel, J. Endsley (Clayton)
D. McGowan (Parsons)
Jerry, Vince (Layne)

NOTE: Mason, Hoppel, Endsley onsite to collect groundwater samples

0645 Layne on-site and setting up at MW-1100D
0700 Begin videoing MW-1100D
- fracture at 70'1" ½"
- fracture at 71'11" 1-3"
0740 complete videoing of MW-1100D

0710 J. Campbell on-site
0720 B. Glvell on-site to get 2 video-cassettes
0800 J. Campbell off-site to office
0802 Begin videoing MW-1101D
- GW at 34'03"
- Bottom of casing at 68'07"
- fracture at 69'10" ½-2"
- fracture at 70'02" 3+" flow
- fracture at 74'10" 2" flow
- fracture at 75'6" ½-1" flow
- fracture at 76'3" ½-1" flow
- fracture at 78'4" 1" little flow
- seam at 79'0" no flow
- fracture at 79'4" ½" little flow

6/5/01

video log of MW-1101 cont.

- fracture at	81'04'	<1/2"	no flow
- fracture at	81'11"	<1/2"	no flow
- seam at	83'1		no flow
- fracture at	84'04"	1/2"	little flow
- seam at	85'04"		no flow
- fracture at	86'01"	<1/2"	no flow
- seam at	86'11"		no flow
- seam at	87'04"		no flow
- fracture at	87'11"	<1/2"	no flow

0855 complete video log of MW-1101D

0840 J. Campbell on-site.

1045 Begin video log of MW-1104D

- GW at 42'0"
- Bottom of casing at 75'0"

- fracture at	77'6"	2"	flow
- fracture at	78'8'	1/2-1"	flow
- fracture at	80'10"	<1/2"	no flow
- fracture at	81'1"	<1/2"	no flow
- fracture at	82'0"	1"	no flow
- fracture at	85'10"	1/2-1"	little flow
- fracture at	89'11"	<1/2"	no flow
- fracture at	91'1"	<1/2"	no flow
- fracture at	91'8"	<1/2"	no flow
- fracture at	93'7"	<1/2"	no flow
- cavity at	94'8"	1x3"	little flow
- fracture at	95'8"	<1/2"	no flow

1130 complete video log of MW-1104D

1155	Begin video log of MW-1105D		
	- GW at 46'9"		
	- Bottom of casing at 80'9"		
	- fracture at 86'7"	½-1"	no flow
	- vert fractures 87-96'		no flow
	- fracture at 88'6"	½-1"	no flow
	- fracture at 91'4"	½-1"	no flow
	- cavity at 92'5"	1x3"	little ~~no~~ flow
	- cavity at 92'9"	3x3"	little flow
	- fracture at 93'2"	<½"	no flow
	- cavity at 93'3"	2x3"	flow
	- seam at 94'0"		no flow
	- fracture at 94'7"	<½"	no flow
	- fracture at 95'11"	½-1"	little flow
	- cavity at 96'3"	1x2"	no flow
	- fracture at 97'2"	<½"	no flow
	- seam at 98'2"	<½"	no flow
	- cavity at 98'7"	1x1½"	no flow
1252	complete video log of MW-1105D		
1330	S. Campbell off-site with video ropes		
1333	Begin video log of MW-1107D		
	- GW at 53'8"		
	- Bottom of casing at 82'3"		
	- fractures at 82'6"	<½"	no flow
	- fracture at 83'6"	1-1½"	little flow
	- vert fracture 83'6" to 84'10"	½-2"	little flow
	- fracture at 84'10"	1"	flow
	- fracture at 85'9"	1½"	little flow
	- fracture at 86'5"	1"	little flow
	- fracture at 90'4"	2"	little flow
	- fracture 92'2"	2½"	flow

6/5/01

video log of MW-1107D cont.

- Fracture at	92'9"	<1/2"	no flow
- fracture at	93'8"	1 1/2"	flow
- seams at	95'5"	<1/2"	no flow
- seam at	96'7"	<1/2"	no flow
- fracture at	96'9"	2"	flow
- fracture at	98'9"	<1"	no flow
- cavities at	99'5"	1x1"	no flow
- fracture cavity at	101'6"	<1/2"	no flow
- seam at	103'	<1/2"	no flow
- fracture at	103'4"	<1/2"	no flow

1415 complete video log of MW-1107D

1420 meet with Z Layne representatives to learn about Hermit 3000

1630 observe collection of GW sample from MW-1103M

1640 J. Campbell and D. Lansman off-site

[illegible]
6/5/01

6/6/01

0645 D. Lomsma on-site
obj: Packer test at MW-1102D
weather: cloudy, chance showers, high 65°F
PPE: Level D
Personnel: D. Lomsma, B. Elwell, J. Campbell (Clayton)
D. McGowan (Parsons)
Vince, Howard (Layne)

0652 B. Elwell on-site; Layne getting water for decon
0655 J. Campbell on-site
0700 Begin setting up for Packer Tests of MW-1102D
Transducer #1 is in MW-1101D : DTW - 37.70' BTOC : T1 @ 42.70 BTOC
Transducer #2 is in MW-1103D : DTW = 42.65' BTOC
Transducer #3 is in MW-1102D (Below)
Transducer #4 is in MW-1102D (Above)

1100 unable to fit packer system into core hole - return on Monday with different system
1530 help collect samples from MW-1104S and MW-1102S
1540 D. Lomsma and J. Campbell off-site

6-11-01

OBJ.: PACKER TEST MW-1102
WEATH.: SUNNY 85°F

0830 ONSITE w/ HEIDI MENDY GRAY
LAYNE ONSITE

TRANS #3 IN MW-1103.
WATER = 42.65, TRANS. @ = 47' BTOC
TRANS #1 IN MW-1101
WATER 36.61, TRANS @ = 41' BTOC
TRANS #2 IN BOTTOM OF PACKER
TRANS #4 AT TOP OF PACKER

MW-1102 D SPT-1 142.5 - 150.5

1030 LAYNE IDENTIFIED LEAKING BLADDER, EVIDENCED BY LOSS OF PRESSURE. MUST PULL & FIX.

1120 AIR LEAKAGE WAS DETERMINED TO BE CAUSED BY LEAKING AIR LINE. REPLACED LINE & BEGAN TO REPLACE PACKER.

1142 TRANSDUCER TEST INDICATES ALL 4 ~~PACK~~ TRANSDUCERS ARE READING MANUAL CHANGES IN WATER LEVELS. (WE RAISED & LOWERED THE TRANSDUCER TO TEST THEIR READING CAPABILITIES.) THE HERMIT 3000 IS SET TO READ "DRAWDOWN" OF WATER IN FEET. THEREFORE, A DROP IN WATER WOULD REGISTER A POSITIVE DRAWDOWN VALUE.

6-11-01

1153 START HERMIT TEST #1.
BLADDERS WERE ALREADY INFLATED.
GRUNFOS WAS IN PLACE PRIOR TO START.

@ 1155 BEGIN PUMPING.

1158 PUMPING RATE : 1GAL = 28 SEC. ⇒ 2+ GAL/MIN
BLADDER PRESSURE AT 125 @ HOLDING

12:15 Pumping Rate upped to 4+ gal/min

1330 STOPPED PUMPING.

1347 STOPPED HERMIT TEST

1500 PURGED @ 2GAL W/ BLADDER PUMP
DO WAS 6.8, NOW 1.51

1505 pH: 6.89, DO: 1.16, temp 16.68°C, orp: -102
Cond: 1.59

1510 pH: 7.05, cond: 1.56, DO: 0.83, temp 16.78
ORP: -115

1515 pH: 7.08 cond: 1.55 DO: 0.83 temp 15.70
ORP: -114

1520 pH: 7.06, cond: 1.53 DO: 0.62, temp: 14.95
ORP: -110

1525 pH: 7.09, cond: 1.52 DO: 0.59, temp 15.45
ORP: -108

6-16-01

1530 pH: 7.10 cond: 1.53 DO: 0.56 temp: 16.02
ORP: -109

1535 pH: 7.11 cond: 1.51 DO 0.62 temp 17.22
ORP: -111

1540 pH: 7.12 cond: 1.52 DO: 0.71 temp 17.81
ORP: -109

1545 pH: 7.12 cond: 1.52 DO: 0.65 temp 18.47
ORP: -110

1547 SAMPLED 3-40ml VOAS w/ HCL : MW-1102D-SPT1
PARSONS SPLIT w/ 3 ADDITIONAL VOAS.

SUN WAS HEATING THE TUBING & LIKELY CAUSING THE RISE IN TEMP.

APPROX. 12 GAL. TOTAL PURGED w/ BLADDER PUMP.

~~1700~~ HERMIT TEST (DURING REMOVAL OF PACKER) INDICATES T2 & T4 WORKING PROPERLY.

1700 HEIDI OFFSITE
LAYNE OFFSITE.

1749 ELWELL OFFSITE.

William S. Elwell
6-16-01

OBJECTIVE: CONDUCT PACKER TESTING ON MW-1102D

PERSONNEL: BILL ELWELL, JOE CAMPBELL → CLAYTON
KAREN CARLISLE → PARSONS
VINCE, MIKE → LAYNE

6-12-01

WEATHER: OVERCAST, 85 °F.

0730 ONSITE W/ JOE CAMPBELL & LAYNE

0800 SET ~~BLADDER~~ STRADDLE PACKER FROM 132.5 FT BTOC TO 140.5 FT BTOC. (TAPE AT 129 FT BTOC). HAD TO RAISE PACKER 2 FT TO AVOID A DANGEROUS AREA AT 143.5 FT BTOC.

0854 PACKERS SET, BLADDERS INFLATED, GRUNDFOS IN PLACE,
0857 BEGIN SPT 2 FROM 132.5 TO 140.5 AT MW-1102D
0904 BEGIN PUMPING, 3.5 gal/MIN FLOW RATE

0926 T1 (MW-1101D) 0.087
T2 (BELOW PACK) 0.669
T3 (MW-1103D) 0.029
T4 (ABOVE PACK) 0.029

0948 T1 0.101
T2 0.902
T3 0.043
T4 0.073

1000 BLADDER PRESSURE → 100 PSI, CONSTANT FROM INITIAL INFLATION.

1014 T1 0.101
T2 1.105
T3 0.014
T4 0.059

1025 T1 0.687
T2 1.178
T3 0.000
T4 0.044

6-12-01

1031 SHUT OFF GRUNDFOS PUMP AND STAND.
≈ 320 GAL PUMPED IN 87 MIN (10:31 - 0904)
≈ 3.67 G/MIN

1051 T1 0.087 * DUPLICATE DATA,
T2 1.178 HERMIT FLASHED POWER AT ≈ 10:23
T3 0.000 AND STOPPED THE TEST. HERMIT CLOCKED
T4 0.044 LAST READING AT 10:23:26.

1054 RAN NEW TEST TO VERIFY RECHARGE. TEST # 3
WILL ONLY RUN IT FOR A FEW MINUTES TO SUPPLEMENT READINGS
IN THE END OF TEST # 2

1113 RESET HERMIT CLOCK. CLOCK HAD RESET 50 MIN. AGO.
TEST # 3 DID NOT RECORD ANY DATA.
1116 RESTART TEST # 3.
1118 T1 0.113
T2 0.364
T3 ~~-0.014~~ -0.014
T4 0.015
1119 STOP TEST #3

1127 SET BLADDER PUMP IN PACKER (AFTER GRUNDFOS REMOVED) AND
PUMPED AND; MONITOR STABILIZATION PARAMETERS W/ A CALIBRATED
HORIBA U-22.

1140 CUT DOWN THE BLADDER PUMP DISCHARGE LINE TO HELP ELIMINATE AIR
BUBBLES IN SAMPLE WATER.

6-12-01

Time	Purge Vol	Temp (°C)	DO (mg/L)	ORP (mV)	pH	Cond. (mS/cm)
1204	2 1/3 Gal	20.52	0.98	-116	7.02	1.75
1210	3 Gal	19.63	0.84	-115	7.02	1.75
1218	3 1/2 Gal	19.69	0.80	-116	7.03	1.74
1225	4 Gal	19.96	0.69	-121	7.05	1.74
1230	4 1/2 Gal	20.19	0.70	-123	7.08	1.73

1232 SAMPLED MW-1102D - SPT 2
3 - 40ml VOAs

1245 DEFLATE BLADDERS & RESET FROM 123.5 ft BTOC TO 131.5 BTOC (TOP AT 120 BTOC). A THE INTERVAL WAS ELEVATED 1 FT. TO AVOID A RIGID AREA AT 125 FT BTOC.

1301 START TEST #4 ON MW-1102D - SPT 3 FROM 123.5 - 131.5 ft BTOC.

1303 T1 0.101 (HAVE NOT STARTED PUMPING YET)
T2 0.480
T3 0.014
T4 0.029

1306 BEGAN PUMPING W/ GRUNDFOS → ≈ 3.8 Gal/min

1331 T1 0.087
T2 0.829
T3 -0.014
T4 0.015

1352 T1 0.087
T2 1.061
T3 -0.014
T4 0.015

6-12-01

1425 T1 0.101
T2 1.163
T3 0.000
T4 0.015

1434 ~~1432~~ PUMP OFF. 320 GALLONS REMOVED IN 88 MINUTES ~~20~~ 3.64 GAL/MIN.

1435 ~~1435~~ T1 0.101
T2 1.177
T3 0.000
T4 0.029

1448 T1 0.101
T2 1.192
T3 0.014
T4 0.29

1450 STOP TEST 4
1455 REMOVE SUBMERSIBLE GRUNDFOS & INSTALL BLADDER PUMP.

TIME	PURGE VOL.	pH	COND (µS/cm)	DO (mg/L)	TEMP (°C)	ORP (mV)
1526	2 GAL	6.89	1.72	1.94	20.46	-89
1531	3 GAL	7.01	1.73	1.83	19.27	-93
1540	4 GAL	7.09	1.72	1.79	20.20	-99
1554	5 GAL	7.03	1.72	1.78	19.66	-100
1603	6 GAL	7.10	1.72	1.71	19.70	-100
1613	7 GAL	7.14	1.72	1.72	19.66	-102

1615 SAMPLED MW-1102D-SPT 3 w/ 3 40ml VOAs

1630 PULLED PACKER & TRANSDUCERS. SECURED WELLS.

6-12-01

1700 ~~LANY~~ LAYNE OFFSITE

JOE OFFSITE

B. ELWELL OFFSITE

William S. Elwell

6-12-01

6/13/01

objective: conduct packed testing on MW-1102D
weather: sunny, 90's
personel: Clayton - Heidi Mendygral, Joe Campbel, Layne - vince, mike, parsons - chris
level of protection: D

7:00 arrive on site, Joe campbell arrive on site

7:05 Layne arrive on site begins decoring

7:10 MW-1103 probe set at 48.7ft, water level 43.7ft
MW-1101 probe set at 42.6ft

7:12 probe #3 - MW-1103
probe #1 - MW-1101
probe #2 - bottom of packer
probe #4 - Top of packer

7:45 Set tape at 110 ft, straddle packer set at 113.5 and 121.5, Bladders inflated

7:48 Began ~~SPT 3~~ SPT 4 from 113.5 to 121.5ft at MW-1102D

7:50 Began pumping at 3.7gpm

7:55 probe #1: 0.058
probe #2: ~~0.3~~ 0.363 (stable)
probe #3 = 0.029
probe #4: 0.044

8:25 T1 = 0.072
T2 = 0.45
T3 = 0.014
T4 = 0.059

8:43 purged approx 200 gallons

8:45 T1 = 0.058
T2 = 0.552
T3 = -0.014
T4 = 0.059

8:56 Calibrated U-22 Horiba water quality monitor
stabilization parameters

8:57 Bladder pressure was stabilized at 115psi,
constant from the initial inflation

9:10 finished initial purging of 300 gallons, shut off pump

T1 = 0.072
T2 = 0.[illegible]
T3 = 0.000
T4 = 0.059

9:25 T1 = 0.072
T2 = 0.712
T3 = 0.00
T4 = 0.059

926 Stop test 5

930 Removed submersible pump + installed bladder pump

	Purgevol	pH	cond (m/cm)	DO (mg/L)	Temp (°C)	ORP (mV)
939	0.25 gal	7.29	1.62	9.39	22.75	-12
945	1.25 gal	7.32	1.68	4.73	20.45	-20
952	2.0 gal	7.35	1.64	4.52	22.09	-29
957	2.5 gal	7.37	1.65	5.10	22.67	-34
1002	~~3.0 gal~~ 2.5 gal	7.38	1.67	4.86	21.72	-36
1007	2.75 gal	7.37	1.66	4.97	21.16	-42
1014	3.25 gal	7.37	1.67	4.23	20.61	-51
1020	4.0 gal	7.38	1.67	4.23	20.84	-47
1025	4.5 gal	7.38	1.64	~~[illegible]~~ 4.06	20.94	-47

958 Controller for bladder pump not working properly
Switched to another controller

1030 Sampled MW-1102D SPT-4 ~~for~~ with 3 40 mL VOA
w/ HCl.

1050 Deflated bladders and reset from 121.5 to 113.5 ft BTOC
(tape at 102 ft), Started Test # 6 on MW-1120D-SPT5

~~1044~~
1055 T1 = 0.00
T2 = 0.305
T3 = -0.029
T4 = -0.015

1105 pump started at 3.7 gpm

11:10 T1 = 0.072
T2 = 0.407
T3 = -0.014
T4 = 0.00

1125 T1 = 0.072
T2 = 0.494
T3 = -0.029
T4 = 0.00

1140 T1 = 0.087
T2 = 0.552
T3 = -0.014
T4 = 0.029

1147 Shut off groundfb pump due to STP-5 area running dry allowing to recover

1158 Water was flowing in area STP-5 turned pump down 3.0 gpm

12:00 STP-5 went dry

12:01 T1 = 0.072
T2 = 0.567
T3 = -0.043
T4 = -0.015

12:06 Water was flowing ~~again~~ again from STP-5 with a PSI of 25 at 1.0 gpm

1210 Shut groundflow pump down - Removed only approximately 50 gallons of water due to well area SPT-5 drying out

1216 T1 = ~~0.089~~ 0.087
T2 = 0.610
T3 = 0.00
T4 = 0.029

1230 T1 = 0.072
T2 = 0.625
T3 = -0.014
T4 = 0.015

1235 Removed groundflow pump and set bladder pump in packer

1237 Started SPT-5 test (#6), began stabilization parameters

	purge vol.	pH	cond (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mv)
1245	0.5 gallon	7.56	1.38	12.54	22.33	27
1250	1.0 gallon	7.34	1.66	5.04	21.71	-52
1255	1.5 gallon	7.36	1.65	6.00	22.00	-46
1300	~~2.5~~ 3.0 gallon	7.38	1.64	7.19	22.01	-49

1305 Sampled MW-1102D SPT-5 with 3 VOAs + 40mL w/ HCl

1315 Removed bladder pump and deflated bladder and reset from 113.5ft BTOC to 105.5ft (tape at 94ft)

1335 Started test #7, MW-1102D SPT-6

1340 T1 = 0.058
T2 = 0.276
T3 = -0.014
T4 = -0.015

1345 Began ground flow pump started at 4.0 gpm

1350 T1 = 0.72
T2 = 0.407
T3 = -0.014
T4 = 0.00

1355 ~~Sat~~ SPT-6 ran dry

1400 Stopped ground flow pump after ~~150~~ 45 gal

1414 T1 - .058
T2 - .450
T3 - -.014
T4 - -.029

1415 Stopped test SPT-7 (#6) Test #7 on hold

1420 Set up for stabilization parameters

	purge vol.	pH	cond. (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)
1424	1 gal	7.36	1.76	4.48	25.32	-60
1429	2 gal	7.31	1.76	2.70	22.45	-70
1435	2.5 gal	7.31	1.76	2.55	22.17	-70
1440	3.0 gal	7.32	1.73	2.27	22.14	-70

1445 Sampled MW-1102D SPT-6 with 3-40mL vials w/HCl

1525 Layne left site for day

1530 Heidi Mendyguel & Joe Capbell left site for day

Heidi Mendyguel
6/13/87

6/14/01

objective: Conduct Packered Testing on MW-1102D

Weather: Sunny, 90's

Personel: Heidi Mendygral, Joe Campbell, William Elkwell, (Clayton), Vince, Mike (Layne), Drew (Parsons)

level of protection: level D

7:00 Arrive on site, Joe Campbell on site, Layne on site.

7:30 Set groundflow pump and packer, inflated bladders at 91.5 to 99.5 ft BTOC (tape at 88.5 ft) to avoid ridged area beg. at 88.9 ft

T1 = at Bottom 412.6 ft (at MW-1101D)
T2 = ~~top~~ Bottom of packer
T3 = at 487 ft (at MW-1103D)
T4 = top of packer

7:41 T1 = 0.029
T2 = 0.044
T3 = 0.00
T4 = 0.015
Began Hermet test #8

7:43 Began groundwater flow pump on SPT-7 from 91.5 to 99.5 ft pump flow rate is 3.5 gpm

7:50 T1 = 0.072
T2 = 0.203
T3 = 0.000
T4 = 0.000

6/14/01 cont.

805 T1 = 0.087
T2 = 0.290
T3 = -.029
T4 = 0.000

8:20 T1 = 0.072
T2 = 0.421
T3 = 0.014
T4 = 0.015

8:35 T1 = 0.087
T2 = 0.450
T3 = 0.00
T4 = 0.029

8:50 T1 = 0.087
T2 = 0.523
T3 = -0.029
T4 = 0.029

855 Calibrated Horiba U-22 water quality monitor

905 T1 = 0.087
T2 = 0.595
T3 = 0.014
T4 = 0.059

906 pumped 300 gallons w/ ground flow pump. Shut off pump, allowing for 15 min of stabilization

6/14/01 cont.

920 T1 = 0.087
T2 = 0.581
T3 = -0.029
T4 = 0.015

924 Sloped hermit test #8

925 Removed ground-flow pump and installed bladder pump ~~for~~

932 Set up Horiba-22 for water quality monitoring and stabilization parameters

	purge vol	pH	cond (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mv)
935	0.25gal	7.43	0.466	8.61	27.63	187
940	0.75gal	7.34	1.72	4.72	28.04	15
945	1.0gal	7.33	1.80	4.72	27.63	-5
950	1.5gal	7.33	1.81	3.82	27.54	-14
955	2.0gal	7.32	1.80	3.63	27.52	-34
10:00	2.5gal	7.32	1.80	2.82	27.65	-42
10:05	3.0gal	7.34	1.83	3.34	28.09	-47
10:11	3.0gal	7.33	1.84	2.88	27.46	-51
10:20	3.25gal	7.33	1.84	3.06	26.16	-51
10:25	3.5gal	7.34	1.83	3.43	25.63	-53
10:31	3.75gal	7.35	1.84	3.75	26.63	-57
10:35	4.00gal	7.35	1.83	2.72	26.51	-55
10:43	4.25gal	7.36	1.84	3.29	27.55	-60

954 preformed test on probe #3 + probe #7 to make sure they were working properly, DO is high due to bubbles in the line which we were unable to get out

6/14/01 cont

1050 Sampled MW-1102D SPT-7 with 3-40ml Vial w/ HCl

1100 Deflated bladder and reset ~~from 99.5~~ to 83.0 to 91.0 (tape placed at 79.5 ft) This interval is avoiding cracks from 88.4 to 84.08

1105 Bladders inflated and groundflow pumped at 91.0 to 83.0 ft interval for SPT-8

1106 Began hermes test #9

T1= ~~0.015~~ 0.087
T2= 0.406
T3= 0.029
T4= 0.015

1130 Began pumping w/ groundflow at a rate of 3.8 gpm

T1= ~~0.029~~ 0.072
T2= 0.537
T3= 0.029
T4= 0.102

1155 T1= 0.058
T2= 0.566
T3= -0.014
T4= 0.307

6/14/01 cont

1212 T1 = 0.087
T2 = 0.610
T3 = 0.000
T4 = 0.395

1235 T1 = 0.072
T2 = 0.624
T3 = -0.014
T4 = 0.424

1245 T1 = 0.058
T2 = 0.624
T3 = -0.029
T4 = 0.409

1250 Shutoff groundflow pump, 300 gallons has been purged from SPT-8, allowing 15min to equilibrate.

1305 T1 = 0.043
T2 = 0.624
T3 = -0.043
T4 = 0.205

1315 Stoped hermit test #9

1316 Set up Horbia-22 for water quality + Stabilization parameters

1325 Bladder pump is not working, layne is trying to find the problem

6/14/01 cont

~~purge vol. pH cond (mS/cm) DO (mg/L) Temp (C) ORP (mV) x~~

1343 Bladder pump problem was resolved, and is now working properly.

	purge vol.	pH	cond. (mS/cm)	DO (mg/L)	Temp (C)	ORP (mV)
1357	0.75 gal	7.30	1.91	3.01	23.05	-80
1403	1.50 gal	7.27	1.87	1.40	20.93	-81
1408	2 gal	7.28	1.86	1.19	20.61	-83
1415	2.5 gal	7.27	1.85	.85	20.86	-87
1422	3 gal	7.28	1.86	.87	20.86	-89
1433	3.5 gal	7.28	1.85	.89	20.75	-90
1440	4 gal	7.29	1.85	.82	20.90	-91

1450 Sampled MW-1102D SPT-8 with 3-40 ml vials with HCl

1455 Removed bladder pump and placed groundflow pump and packer at 73.0 ft to ~~81.0 ft~~ 81 ft BGS (tape placed at 69.5 ft) & Inflated Bladders

15:09 Began Helmi test #10

T1 = 0.058
T2 = 0.029
T3 = 0.000
T4 = 0.000

1520 Started groundflow pump at ~~gr~~ SPT-9 from 73.0 ft to 81.0 ft at apprx 3.0 gpm

6/14/01 cont

1532 T1 = 0.101
T2 = 0.276
T3 = -0.014
T4 = 23.268

1534 Spoke w/ Vince (Layne) about high readings on tranducer #4 (top of packer) he said that the top packer was in the casing, which has an ~~and~~ increased diameter, ~~which~~ this may have meant the seal on the top packer was not good. He ~~tru~~ turned up the pressure on the top packers seal and readings stabalized at 23.69 & will slowly go down

1543 T1 = 0.115
T2 = 0.334
T3 = 0.029
T4 = 23.516

1546 tranducer #4 readings are slowly going down due to recharge

1555 SPT-9 went Dry after purging 35 gallons

1556 T1 - 0.115
T2 - 0.334
T3 - 0.000
T4 - 22.975

6/14/01 cont.

16:13 T1 = 0.115
T2 = 0.319
T3 = 0.000
T4 = 21.456

1615 Stopped hermit test #10

1616 Removed groundflow pump and inserted bladder pump, and set up Horiba-22 for water quality and stabilization parameters

	purge vol.	pH	cond	DO	Temp	ORP
1625	0.5gal	7.72	1.68	7.50	21.61	11
1634	1.75gal	7.70	1.67	2.33	17.81	-159
1637	2.25gal	7.71	1.66	1.09	17.19	-182
1645	3.0gal	7.72	1.65	0.91	17.41	-188
1650	3.25gal	7.71	1.70	0.83	17.43	-190
1657	3.75gal	7.71	1.69	0.83	17.05	-187
1702	4.5gal	7.70	1.69	0.84	17.25	-182

1705 Sampled MW-1102B SDT-9 with 3-40mL vials w/ HCl

1715 Layne removing bladder pump and packer from MW-1102B, removed tranducers

1716 Removed tranducers and secured wells

1725 J. Campbell left site, Layne is Deconing equipment and moving to the next well MW-1103

6/14/01 cont.

1805 Layne left site for day

1810 H. Mendygral left site for day

Heidi Mendygral
6/14/01

6/15/01

objective: Conduct Packered Testing on MW-1103D

weather: Sunny, 80's

personel: Heidi Mendygral, Joe Campbell (Clayton)
Vince, Mike (Layne), Drew (Parsons

level of protection: D

7:00 Arrive on site, Layne arrives on site, J. Campbell arrives on site

7:10 Set transducers

T1 - MW-1104D set at 49.1 ft
T2 - bottom of packer
T3 - MW-1102D set at 52.0 ft
T4 - top of packer

7:15 Layne is setting the packer at an interval 136.5 - 144.5 ft BTOC (tape set at 133 ft)
~~BTOC~~ SPT-10

7:35 Performed initial test on transformer to insure they are working properly

7:36 Bladders are inflated and ~~set~~ groundflow pump is set, began hemit test #11 (01 in hemit)

7:42 T1 = 0.00
T2 = 0.044
T3 = 0.00
T4 = 0.00

6/15/01 cont

743 began inital groundflow pumping of SPT-10
136.5 - 144.5 packer zone MW-1103D
at a rate of 3.75gpm

8:00 T1 = 0.130
T2 = 2.022
T3 = 0.029
T4 = 0.029

8 05 Spoke w/ ~~[illegible]~~ Vince (Lavine) about T2 and the slight drop in water level, He said the pressure was up as high as possible and ~~[illegible]~~ it was most likley due to vertical fractures

8:10 T1 = 0.130
T2 = 2.094
T3 = 0.043
T4 = 0.059

8 22 T1 = 0.130
T2 = 2.153
T3 = 0.014
T4 = 0.059

840 T1 = 0.130
T2 = 2.182
T3 = 0.029
T4 = 0.059

841 Calibrated Horiba-22 for water quality & stabilization parameters

6/15/01 cont

850 T1 = 0.130
T2 = 2.225
T3 = 0.029
T4 = 0.073

900 T1 = 0.159
T2 = 2.269
T3 = 0.043
T4 = 0.103

901 groundflow pump is shut down, approx 300 gallons purged, allowing 15 min for stabilization

913 T1 = 0.144
T2 = 0.655
T3 = 0.029
T4 = 0.073

914 Stopped hand test #11 (01 interval)

915 ~~removing of~~ removing groundflow pump and placing in bladder pump for water quality and stabilization parameters

6/13/01 cont

	purged	pH	cond	DO	temp	ORP
924	0.25gal	6.88	1.61	1.28	14.35	-133
930	1.75gal	6.98	1.67	0.66	13.44	-146
934	2.25gal	6.97	1.69	0.61	13.31	-138
939	3.0gal	6.96	1.72	0.44	13.22	-127
944	3.75gal	7.03	1.66	0.28	13.16	-114
949	4.75gal	7.05	1.62	0.09	13.19	-104
954	5.5gal	7.07	1.63	0.06	13.05	-104
959	~~7.0~~ 6.75gal	7.10	1.62	0.02	13.15	-105

1005 Sampled MW-1103D SPT-10 w/ 3-40mL vial w/HCl

~~1005~~ 1010 removing bladder pump and setting the packer at 128.5 to 136.5 ft btoc (tape placed at 125 ft) SPT-11

1018 Started hermit test #12 (O2 in hermit)

1020 T1 = 0.130
T2 = 0.334
T3 = 0.029
T4 = 0.000

1022 Started groundflow pump on MW-1103D SPT-11 128.5 to 136.5 ft at a rate of 3.8 gpm

1035 T1 = 0.159
T2 = 0.582
T3 = 0.029
T4 = 0.029

6/15/01 cont

1045 T1 = 0.130
T2 = 0.611
T3 = 0.000
T4 = 0.029

1055 T1 = 0.130
T2 = 0.625
T3 = -0.014
T4 = 0.015

1110 T1 = 0.130
T2 = 0.640
T3 = -0.014
T4 = 0.029

1120 T1 = 0.130
T2 = 0.654
T3 = -0.014
T4 = 0.044

1130 T1 = 0.130
T2 = 0.649
T3 = 0.000
T4 = 0.029

1135 Stopped groundflow pump, approx 300 gallons purged, allowing 15 min for stabilization

6/15/01 cont

1150 ~~0~~ T1 = 0.130
T2 = 0.625
T3 = -0.029
T4 = 0.029

1151 Stoped hermit test #12 (O2 in hermit)

1152 Removing groundflow pump and inserting bladder pump, and set up Horiba-22 for water quality and stabilization parameters

	purge vol.	PH	Cond	DO	Temp	ORP
1204	0.5gal	7.33	1.47	8.01	14.00	158
1209	1.0gal	7.27	1.52	6.14	14.23	152
1215	2.0gal	7.19	1.55	3.10	14.10	136
1220	2.75gal	7.15	1.53	1.64	13.89	54
1225	3.0gal	7.13	150	1.27	13.28	-3
1230	3.5gal	7.12	149	1.19	13.21	22
1235	4.5gal	7.12	1.49	0.89	13.06	32
1240	5.25gal	7.10	1.48	0.78	12.90	34
1245	6.0gal	7.09	1.49	0.66	12.73	37
1250	6.75gal	7.08	1.52	0.72	12.55	~~25~~ 35
1255	7.25gal	7.08	1.53	0.66	12.65	33
1300	8.50gal	7.07	1.58	0.61	12.51	-34

~~1310 Sampled MW-1103 D SPT-11 with 3-40mL vial w/HCl~~

6/15/01 cont.

1245 Norman Bolivar (Clayton) MW-1109 was rear ended with the Clayton truck. The well was knocked out of the ground.

1310 Sampled MW-1103D SPT-11 w/3-40ml vials w/HCl

1325 Removing bladder pump and setting packer at 119.0 to 127.0 ft BTOC (Tape at 115.5 ft) 1.5 ft down ~~this~~ is due to a fissure at 120.34 ft which would have damaged the bladder, SPT-12

1335 Started hermit test #13 (03 in hermit)

1335 T1 = 0.058
T2 = 0.029
T3 = 0.000
T4 = 0.000

1337 Started groundflow pump on MW-1103D SPT-12 119.0 to 127.0 ft BTOC at 4.0 gallons per min.

1347 T1 = 0.144
T2 = 0.334
T3 = 0.00
T4 = 0.015

1355 T1 = 0.144
T2 = 0.378
T3 = 0.014
T4 = 0.029

6/15/01 cont.

1404 T1 - 0.144
T2 - 0.407
T3 - 0.029
T4 - ~~0.2~~ 0.029

1425 T1 = 0.144
T2 = 0.436
T3 = 0.029
T4 = 0.029

1435 T1 = 0.202
T2 = 0.480
T3 = 0.072
T4 = 0.073

1442 Shut groundflow pump off, purge appx 300 gallons

1452 T1 - ~~.465~~ 0.159
T2 - 0.465
T3 - 0.043
T4 - 0.059

1454 Stop hermit test #B (03 in hermit)

1454 removing groundflow pump and inserting bladder pump, setting up Horiba-22 for water quality + stabilization and removing transducers #1 + #3 from wells MW-4102D + MW-1104D and securing these wells

	purged	pH	Cond	DO	Temp	ORP
1505	0.75 gal	7.28	1.53	6.07	15.13	138
1509	1.25 gal	7.26	1.56	5.31	14.25	133
1512	2.00 gal	7.18	1.57	4.08	14.18	121
1517	2.75 gal	7.18	1.60	3.21	14.02	107
1522	3.25 gal	7.14	1.61	2.12	14.00	72
1527	3.75 gal	7.10	1.62	1.85	13.75	25
1535	5.0 gallon	6.94	1.64	2.06	13.67	2
1539	5.5 gallon	7.03	1.65	2.02	13.67	-21
1544	~~6.0~~ 6.25 gal	7.05	1.65	2.03	13.69	-35
1548	6.75 gal	7.07	1.65	2.03	13.67	-45

1555 Sampled MW-1103D ~~STP~~ SPT-12 with 3-40mL vials w/ HCl

1600 removing bladder pump, transducers and securing the wells, removing the pecher.

1620 J. Campbell left site

1625 Layne left site

6/18/01

0820 D. Lomsme on-site
obj: Packer Test at MW-1103D
weather: chance showers, high 90°F
PPE: Level D

0935 Layne on-site
0940 Set up for Packer Testing at MW-1103D
T1 (1102D) at 51.2 ft BTOC
T2: (1103D ~~above~~ below)
T3: (1104D) at 50.2 Ft BTOC
T4: (1103D ~~below~~ above)

11:00 Began placing SPT-13 at 111.0 to 119.0 ft (tape placed at 107.5 ft) Setting packer and 8" casing and groundflow pump

12:32 Started hermit test #14 (04 in hermit) bladders inflated

T1 = 0.043
T2 = NC
T3 = 0.00
T4 = NC

1235 Stopped hermit test #14 and erased due to T2 + T4 cards not hooked up

1240 Restarted hermit test #14 (04 in hermit)

T1 = 0.043
T2 = 0.073
T3 = 0.00
T4 = 0.015

1244 Layne Started grandflow pump with 3" casing on MW-1103D GPT-13 at 12.0 gpm

T1 = 0.115
T2 = 0.596
T3 = 0.000
T4 = 0.015

1250 MW-1103D GPT-13 run's dry approx 60 gallons removed, allowing 15 min for Stabilization + recharge

1252 Calibrated Horiba-22 water quality and for Stabilization parameters

1310 T1: 0.087
T2: 0.828
T3: -0.014
T4: 0.015

1315 Sheet of Hanna test #14 (04)

1320 began removing grandflow pump and placing in bladder pump for water quality and Stabilization parameters using Horiba-22

	purge vol.	pH	cond	DO	Temp	ORP
1336	0.5 gal	7.02	1.72	3.60	18.06	-71
1340	1.0 gal	6.97	1.70	0.89	15.79	-96
1345	2.0 gal	7.03	1.68	0.50	15.54	-110
1351	2.75 gal	7.03	1.68	0.28	15.10	-114
1355	3.25 gal	7.01	1.69	0.36	15.44	-113
1400	4.00 gal	6.99	1.70	0.61	15.27	-109
1405	4.50 gal	6.98	1.70	1.05	15.19	-103
1410	5.25 gal	7.01	1.69	1.11	15.31	-103
1416	6.25 gal	7.05	1.69	1.32	15.15	-103
1420	6.75 gal	7.09	1.69	1.51	14.97	-102
1425	7.25 gal	7.10	1.71	1.95	15.29	-101

1425 Sampled MW-1103D SPT-13 with 3-40mL vials/HCL

1435 Removing bladder pump and casing, tranducers and securing the wells for the day

1500 D. Lamsma, ~~J. Campbell left site~~ left site

1505 Vince from Layne left site.

1543 Layne left site

1545 Heidi Mendyod left site

Heidi Mendyod 6/18/01

6/19/01

objective: Conduct packered testing on MW-1103D
weather: Sunny 90's
personel: Heidi Mendygral, Darren Lamsma, Joe Campbell (Clayton
level of Vince, Mike (Layne)
protection: D

7:00 H. Mendygral, D. Lamsma, J. Campbell, Layne arrive on site

T1: 51.17 ft Below TOC in MW-1102D
T2: Bottom of packer
T3: 50.2 ft Below TOC in MW-1104D
T4: Top of packer

7:15 Setting packer at 111.0 to 103.0 ft BTOC (tape set at 99.5 ft) for SPT-14

7:50 Inflated bladders + Set grunfos pump at SPT-14 111.0 to 103.0 ft

7:51 Started hermit test #15 (01 in hermit)

T1 - 0.014
T2 = 0.087
T3 = 0.00
T4 = 0.00

7:53 Pump started w/ 120 gpm

8:01 T1 = 0.087
T2 = 0.814
T3 = -0.014
T4 = 0.000

156

8:09 T1 = 0.101
T2 = ~~0.845~~ 0.915
T3 = -0.014
T4 = 0.015

8:15 Ran ~~Deep~~ Dry SPT-14 with approx 50 gallons removed, allowing for 15 min to stabalize.

8:30 T1 = 0.087
T2 = 1.133
T3 = -0.014
T4 = 0.029

8:31 Stopped hermit test #15 (01 in hermit)

8:32 Removing grundfos pump and inserting bladder pump for water quality and stabilization. Calibrated Horiba-22 for water quality + stabilization parameters

8:35 Started pumping with the bladder pump and stabilization of parameters w/ Horiba U-22

840 Air leaks are present in bladder pump connection

9:00 Air leak in bladder pump connection fixed

	purge vol. (gal)	pH	cond (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)
9:04	~~1.0 gal~~ 1.25	7.00	1.77	1.10	13.16	-73
9:07	2.0 gal	7.00	1.77	1.00	13.05	-75
9:10	3.0 gal	6.93	1.78	1.29	12.94	-67
9:14	4.0 gal	6.80	1.77	1.27	12.76	-65
9:17	5.0 gal	6.86	1.76	1.49	13.05	-61
9:20	6.0 gal	6.86	1.75	1.48	12.95	-61
9:24	7.0 gal	6.91	1.76	1.55	12.94	-65
9:28	8.0 gal	6.98	1.76	1.44	12.90	-69
9:32	9.0 gal	7.04	1.76	1.50	12.93	-71
9:36	10.0 gal	7.06	1.76	1.43	12.91	-75
9:39	11.0 gal	7.10	1.75	1.52	12.95	-75

9:43 Sampled MW-1103D SPT-14 3-40mL vials w/ HCl

9:51 Finished sampling, pulled up the bladder pump and dropped down the Grundfos pump for MW-1103D SPT 15 (103.0 ft to 95.0 ft) tape set at 91.5 ft

10:05 Started hermit #16 (O2 in hermit)
T1 = 0.029
T2 = 0.058
T3 = 0.014
T4 = 0.00

1007 Started grundfos pump on MW-1103D SPT-15 103.0 ft to 95.0 ft at 11.0 gpm

1021 Since of pump only appears 25 gallons were removed, this is due to the flow rate being changed and the pump stoped several times due to the well drying up allowing 15min for stabilization.

1021	T1 = 0.130 T2 = 0.595 T3 = 0.014 T4 = 0.015
10:35	T1 - 0.144 T2 - 0.683 T3 - 0.029 T4 0.029
10:55	Spoke w/ Bill Elwell (Clayton) about the MW-1103D intervals that were running dry informed that we need 30 min of pumping
10:55	Began grunfos pump in interval MW-1103D STD - 15
10:57	T1 - 0.101 T2 - 0.741 T3 - 0.029 T4 0.015
10:57	MW-1103D ran dry a second time after an additional 20 gal for a total of 45 gal, waiting for well to stabilize.
11:08	T1 - 0.101 T2 - 0.741 T3 - 0.029 T4 - 0.015
11:09	Stopped active test on Hermit #16 SPT #15 pulled out Grunfos pump + dropped down bladder pump.

11:16 Began pumping w/ Bladder pump for water quality and stabilization parameters. hermit was reset due to power failure at 10:56

	purge vol	pH	Cond	DO	Temp	ORP
1125	0.5 gal	7.01	1.74	5.25	16.89	-91
1128	2.0 gal	6.98	1.74	.71	13.75	-102
1132	3.0 gal	6.91	1.75	.42	13.60	-96
1136	3.75 gal	6.85	1.74	.27	13.59	-87
1142	5.0 gal	6.83	1.74	.21	13.67	-85
1145	6.0 gal	6.87	1.73	.27	13.55	-86

1149 Started sampling MW-1103D, SPT15 3-4mL vials w/ HCl

1200 Removed Bladder pump and set casing + grundfos at 95.0 to 87.0 ft BTOC (tape set at 83.5 ft) SPT-16

1210 Started hermit test #17 (03 in hermit)

T1 = ~~0.00~~ 0.043
T2 = 0.029
T3 = 0.00
T4 = 0.015

1222 Began grunfos pumping on SPT-16 95.0 to 87.0 ft ~~at~~

1222 Stopped pumped moved packer to 92.0 to 84.0 ft tape set at 83.5 ft due to fissure at 85.67 ft

T1 = 0.087
T2 = 0.087
T3 = -0.014
T4 = -0.015

1235 Started pumping STP-16 92.0 to 84.0 ft BTOC (tape at 80 sft) at 11.5 gpm

1250 T1 = 0.173
T2 = 0.145
T3 = 0.058
T4 = 0.44

1305 Stoped pumping purged approx 320 gallons allowing 15 min for stabilization + recharge

1319 T1 = 0.130
T2 = 0.145
T3 = 0.014
T4 = 0.015

1320 Stoped hermit test # ~~16~~ 17 (03 in hermit)

1321 Removed grunfos and instented bladder pump for water quality + stabization parameters. Set up Horiba-22 for water quality parameters

Heidi Mendivil 6/19/01

cont. Volume #2

If found, please return to:

Clayton
GROUP SERVICES

Chicago Regional Office
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Downers Grove, IL 60515

Darren W. Lamsma
Staff Geologist

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15-65263 Vol. 2

Lockformer Project

6/4/01 A. Mason on site

objective: To collect Groundwater samples at wells on site

weather: over cast, possible rain, 50°

PPE: Level D

Personnel: Drew McGowan, Sasa Jazic, Joe Campbell, Darren Lamsa, Scott Hoppel; Jeff ENDSLEY

10:15 all personnel above on site

10:45 Sasa Jazic offsite

11:10 Layne-northwest on site (2 vehicles)

12:00 Bill onsite

12:10 Jeff ENDSLEY & Scott Hoppel on site, sampling crew of (3).

12:10 Deconning Equipment

12:19 Took picture #1

13:12 finished Deconning

13:13 Started on MW-1103S to collect samples.

13:15 Lunch break

13:46 Back from Lunch

13:52 measured H_2O depth 41.80 and documented

14:10 Assembled gear for bladder pump - tubing and gas leak

15:12 Jeff offsite to purchase connector for gas hose + tubing.

15:42 Jeff on site - unsuccessful in acquiring connector or tubing

15:44 Scott attempted to call Manufactor to order parts (QED) for pump.

16:00 Scott was successful in ordering parts to be delivered tomorrow.

16:15 Called Bill to inform him of our status

16:20 Broke down equipment on MW-1103S and moved to decon area.

16:30 Deconning of equipment

17:45 offsite Jeff, Scott, and Ann

A. Mason

6/4/01

2

6/5/01

Objective: To collect Groundwater Data at wells.

weather: drizzle, possible lighting; heavier Rain 50°

PPE: Level D

Personnel: A. MASON; Jeff ENDSLEY; Scott Hoppel

0729 A. MASON onsite; Bill Elwell onsite already.

0731 Drew McGowan Parsons overseer onsite

0735 Jeff ENDSLEY and Scott Hoppel onsite

0745 Jeff and Scott offsite to purchase tubing at Grainger store

0750 Bill offsite

0751 Ann setting up for sampling well MW-403M

0935 Jeff & Scott on site

0941 Measured depth of water (H_2O) 42.26 ft

0952 inserted Pump Grundfos; used new tubing (1/2 ID)

10 36 Generator surging - over current error and stalls pump - to compensate will run ~~Gener~~ Am pump to make up difference. 207 Hz was frequency of pump.

Purge vol.

11 05 Shut pump off - produced 80 gallons and 42.71 for final depth measurement.

11 09 Broke down and pulled tubing

11 15 Jeff & Scott went to warehouse to retrieve parts and pick up tube connector part that was Fedex to office and to have Lunch.

1335 Jeff & Scott back from getting supplies and parts

1342 Deconning bladder pump

1402 Completed deconning

1404 setting up bladder pump

1405 - Bill on site

1409 - Bill offsite

1415 - Began pump and took 1st set of Parameters and restart new parameters.

1457 - Documented flowrate 4 minutes and 51 seconds. for 0.25 volume removed (3 volume purged).

Temp	pH	Conduct.	TDS	DO	Eh	Turbid	Visual clarity
12.1 °C	7.05	2.42 mS/cm	1.55 grams/Liter	0.78 mg/L	-51 mV	10.4	clear

Cont.

Time	Flow Rate	No gal Removed	vol purged	Depth to H2O	Drawdown	Temp °C	pH	Cond	TDS	DO	Eh	Turbid
1511	4.51	0.25	3 gal	N/A	N/A	12.2	7.05	2.38	1.52	0	-86	52.1
1533	4.51		"	"	"	12.2	7.09	2.28	1.45	0	-101	152
1542	"		"	"	"	12.1	7.1	2.16	1.39	0	-106	64.2
1609	"		"	"	"	12.1	7.11	2.03	1.30	0	-108	35.1

1621 - Collected Samples for well MW-1103M and stored in prepared cooler w/ice.

1629 - collected MS/MSD at well MW-1103M and stored in prepared cooler w/ice.

1649 - Broke down equipment and deconning of equipment

1745 - finished deconning & Drew McGowan offsite

1747 - offsite Jeff, Scott & Ann

6/5/01

Ann Flam

6/6/01

Objective: To collect groundwater samples and parameters from wells onsite.
weather: Partly Cloudy
PPE: Level D
Personnel: A. Mason; Jeff ENDSLEY; Scott Hoppel
0729 Ann Mason onsite
Bill Elwell; Darren Lanza; Joe Campbell; Scott Hoppel onsite already
0735 Jeff ENDSLEY onsite
0736 Setting up equipment on well MW-1103S to collect Groundwater data.
0810 Drew McGowan onsite (Parsons overseer); Bill offsite
0813 Calibrated U22 Horiba instrument

pH	conductivity	Standard	Turbidity	Temp	DO	Eh
3.99	4.51 mg/cm	449	0 ntu	13.9C	9.80	272 mV

0815 Started pump

TIME	TEMP	pH	Conduct.	TDS	DO	Eh	Turbidity	visual clarity
0816	12.0	6.69	1.48	1.14	5.76	55	148.0	Slightly cloudy
0822	11.8	6.76	1.73	1.11	Ø	13	208.0	
0832		6.76	1.71	1.10		2	202.0	
0842		6.77	1.70	1.09		Ø	182.0	
0849		6.77	1.69	1.08		Ø	161.0	
0856		6.78	1.68	1.08		1	138.0	
0901		6.78	1.68	1.08		2	139.0	clear
0907		6.78	1.68	1.08		5	136.0	
0913		6.79	1.68	1.07		6	134.0	
0920	11.9	6.79	1.68	1.07		8	133.0	
0926	11.9	6.79	1.68	1.07		10	134.0	
0933	11.8	6.79	1.68			11	137	
0940	11.9	6.79	1.67			12	136	
0945	11.9	6.79	1.67			12	133	
0952	12.6	6.8	1.67			19	128	
1001	12.3	6.8	1.67			12	122	
1014	12.2	6.8	1.67			14	156	
1022	12.1	6.8	1.67			26	170	

6/6/09 Cont.

1030 collected samples for well MW-1103S

1040 Broke down equipment and decon equipment

11[37] finished deconning

11[37] started on MW-1104S collecting Groundwater parameters.

11[39] Drew and Scott offsite lunch

11[55] Drew on site

12[05] Scott on site

Time	TEMP	PH	Conduct	TDS	DO	Eh	Turbidity	Visual clarity
1137	13.2	6.82	1.52	0.98	1.54	23	4.2	Clear
1144	13.0	6.80	1.53	0.98	0.17	24	3.6	
1152	13.1	6.79	1.53	0.98	0	26	2.7	
1157	13.1	6.79	1.53	0.98	0	28	2.5	
1209	12.8	6.79	1.54	0.99	0.07	29	2.9	
1224	13.3	6.80	1.54	0.99	0.11	35	2.9	
1236	13.0	6.81	1.54	0.99	0.10	36	3.3	
1250	13.2	6.81	1.54	0.98	0.10	39	3.3	
1255	13.3	6.82	1.54	0.99	0.12	40	3.7	
1303	13.4	6.82	1.54	0.99	0.15	39	4.1	
1311	13.1	6.81	1.54	0.99	0.11	38	4.7	

1313 - Braking down equipment and deconning equipment

1315 - Finished deconning

1355 - Moved to well # MW-1102S + "duplicate 1" collection.

1350 - Setting up equipment

1407 Started pump

1407 Initial water level 45.30 feet

Time	Temp	pH	conduct	TDS	DO	Eh	Turbidity	Visual clarity
1410	13.8	6.87	1.87	1.19	2.97	50	18.7	Slightly cloudy
1414	13.0	6.89	1.82	1.16	0.07	-30	36.2	Lt brown color
1416	12.8	6.88	1.82	1.17	0	-42	38.9	
1422	12.8	6.87	1.82	1.17	0	-46	34.4	
1432	12.8	6.86	1.82	1.17	0	-52	33.0	
1436	12.7	6.87	1.83	1.17	0	-54	31.0	
1438	12.8	6.87	1.83	1.17	0	-56	26.0	

6/6/01 Cont.

Time	temp	PH	Conduct.	TDS	DO	Eh	Turbid.	visual clarity
1438	12.8	6.87	1.83	1.17	0	-56	26.0	slightly cloudy
1441	12.8	6.88	1.83	1.17	0	-57	22.3	
1444	12.8	6.89	1.82	1.17	0	-57	21.6	
1450	12.8	6.90	1.82	1.17	0	-58	21.6	
1459	12.7	6.92	1.82	1.17	0	-63	23.3	
1502	12.6	6.92	1.82	1.16	0	-63	22.5	
1507	12.7	6.93	1.82	1.16	0	-63	22.9	

1520 – split sample for VOC's (only) (3 vials 40ml)
ID # MW-1102S For Parsons - Drew McGowan collected.

1521 Broke down equipment and deconning

1552 stan ~~st~~ AM Leomperda PM EPA onsite
Larry Eastp Section Manager, EPA onsite

1605 EPA PM stan Leomperda offsite
& Larry Eastp offsite

1645 Completed deconning and transfering Purge waste.

1655 offsite Ann M. MASON; Scott Hoppel; Jeff ENDSLEY &
Drew McGowan

6/7/01

6/7/01

objective: To collect groundwater samples from wells on site
weather: overcast, 55°
Personnel: Ann MASON, Joe Campbell; Darren Lamsma

0700 AM Onsite Ann MASON, Darren already onsite
0705 AM Joe Campbell onsite
0710 - setting up equipment and carried equipment to well location MW-1100S + MW-1101S. Measured H_2O depth Initial 34.75 ft.
0712 - setting up to collect samples on well MW-1101S.
0745 - Drew McGowan on site
0755 - starting pump and began readings; Flow Rate 3.53 min/gal

Time	Temp	pH	conduct.	TDS	DO	Eh	Turbid	Visual Clarity
0755	12.1	6.93	1.10	0.71	4.01	140	30	N/A
0801	11.7	6.98	1.08	0.69	0.96	53	22.8	slightly cloudy
0806	11.6	6.86	1.08	0.69	0.31	41	23.5	↓
0811	11.6	6.82	1.09	0.70	Ø	32	32.4	↓
0817	11.6	6.82	1.10	0.70	Ø	29	33.7	↓
0824	11.6	6.84	1.10	0.70	Ø	26	34.5	↓
0821	11.6	6.85	1.10	0.70	Ø	27	32.2	slightly discolored yellowish
0828	11.6	6.86	1.10	0.70	Ø	26	27.4	↓
0829	11.6	6.87	1.10	0.70	Ø	26	4.0	↓
0834	11.6	6.88	1.10	0.71	Ø	25	2.8	↓

0840 - no water - needs to recharge
0855 - made 1st attempt to collect H_2O; checked with H_2O meter to see if any H_2O was in bottom of well.
0915 - made 2nd attempt to collect H_2O
0916 - called Bill and Scott to inform and retrieve advice/recommendation.
0931 - made 3rd attempt to collect H_2O for samples
0932 - called manufacturer of pump and they recommended checking filter inside casing of pump meter. (Actually times are issue in error)
0933 - Darren attempted to disassemble to check timers was unable.
1000 - Unable to correct problem/Darren called office.

Cont.

6/7/01 1005 Darren instructed to clean up and retrieve equipment and head back to office.

1006 - Deconning equipment.

1016 - Called Bill and decided to send out samples today.

1032 finished deconning equipment

1045 - offsite Darren, Joe, Ann. Drew (Parson's)

1330 - onsite Darren, Joe, Ann

1331 - Darren called Parsons to inform them Clayton was continuing with sampling & Bill.

1332 - Another attempt to collect sample from MW-1101s

1333 - setup equipment and began purging from well.

1342 - Took reading from Horiba instrument

1347 - Took 2nd reading from Horiba instrument

Time	Temp	pH	Conduct.	TDS	DO	Eh	Turbid	Gal
1342	13.4	6.92	1.15	0.74	4.48	87	29.3	0
1347	12.5	6.90	1.12	0.72	2.36	61	11.6	1

1350 - pump malfunctioned and was "hicup" noise

1405 - was not able to collect sample from well.

1415 - called Bill - Darren translated that we would wait and try to attempt to collect sample or try another well.

1500 - again attempted to collect sample - pump not able to present sample - not enough head.

1505 - Drew McGowan onsite

1506 - Dissembling equipment and deconning and will attempt to collect or check bladder pump functioning properly on well MW-1103m.

1530 - Deconning equipment finished

1534 - moved to MW-1103M and assembling equipment

1540 - Inserted bladder and again it began hicupping after 2 cycles.

1605 called Bill and informed him of status.

1612 - Deconning equipment from MW-1103M.

1630 - finished deconning

1645 - Offsite Ann, Darren, Joe, Drew (Parsons)

6/11/01 objective: To collect groundwater samples and parameters from wells onsite.
weather: humid, 68°, sunny
PPE: level D
Personnel: Ann. Mason, Norman Bolivar, Joe Campbell
0820: Ann M. MASON on site
Drew was already onsite (Drew McGowan) Parsons
0830: Norman and Joe onsite
0835: setting up equipment on MW-1101S
0902: Purged well 10.9 gallons
0940: Completed purging
0942: Assembling whale pump
0955: Inserting whale pump and started pump
1001: purged volume 4.0 more gallons.
1002 Correction in calculating the amount of volume to be purged.
I was instructed to use the Ground elevation value to substract from the bottom of screen value from Table 18. Now I am to use

example
MW-1101S

688.30 ← wrong value
− 649.55

690.82 ← use Top of casing #
649.55
41.27

Top of ~~screen~~ casing valve to subtract from.
Took readings at that point.
1128 Initial reading and flow rate of 9.11 min/gallon:

Time	Temp	pH	Cond.	TDS	DO	Eh	Turbid	Visual
1128	12.5	7.07	1.14	0.73	0	35	20.0	clear
1139	↓	7.08	↓	↓	↓	34	20.5	↓
1146		7.0				31	22.2	
1155		7.1				31	23.2	

1205 collected samples for well
1229 finished collecting samples and decomed.
1233 - moved to well MW-1100S

Cont.

6/11/01 purged 54 gallons from MW-1100S and went dry.

12:56 - removed whale pump and decomming

12:57 - Assembling QED pump and inserting into well

12:57 - Ron onsite

13:20 - Ron offsite

13:21 started readings flow Rate of 13.45 minutes/gallon

Time	Temp	PH	Conduct.	TDS	DO	Eh	Turbid
13:24	14.0	6.66	1.35	0.86	1.89	81	46.8
13:36	14.6	6.76	↓	0.87	1.77	77	35.3
13:47	13.3	6.72	↓	0.87	1.54	77	31.1
13:52	12.9	6.72	↓	0.87	1.12	79	35.4

13:59 Disassembled equipment and decomming equipment & Collected samples.

14:10 Moved to well MW-1108S

15:19 Started setting up on well MW-1108S

15:45 Need to purge 210 gallons before collecting Ground water parameters - Grundfox was best for collecting large volume on this well. Bill onsite to ~~assit~~ help. Decomming other equipment while waiting.

17:29 Drew McGowan offsite.

17:30 finished purging 210 gallons for well - 1108S

17:35 Clean and decomming equipment

17:45 offsite Ann, Bill, Norman, Joe, Drew (Parsons)

6/11/01 Ann Clem

6/12/01

Objective: To collect Groundwater parameters for wells.
Weather: lightenning + thunder; Rain 67°; overcast
Personnel: Ann. Mason, Jeff Endsley; Norman Bolivar
level PPE: Level D

0700 - Norman, Jeff, Ann onsite
0715 - Set upon MW-1108s, instructed by Bill Elwell to Purge 21.08 gallons and start readings and collect samples after parameter stabilize.
0716 - started purging 21.08 gallons with Grundfos
0755 - Completed purging 30 gallons with Grundfos
0759 - setting up to reading parameters with smaller Bladder pump. (QED, micro-bladder pump).
0835 - connected Horiba monitor, and logged initial readings off Horiba.
0845 - Ann offsite to purchase DI water
0910 - Ann onsite
0910 - Collected Groundwater samples

Time	Temp	pH	Conduct.	TDS	DO	Eh	Turbid	Visual Clarity
0845	15.8	6.57	1.89	1.21	1.26	-13	10.5	Lt brown cloudy
0852	16.2	6.57	1.87	1.19	1.01	-13	39.5	↓
0857	16.1	6.61	1.86	1.19	0.87	-17	40.5	↓
0903	16.5	6.68	1.85	1.18	0.61	-27	87.4	↓

0910 - collected Groundwater samples.
0912 - Norman offsite to retrieve filters for filter sample; which was in van/truck
0915 - Ann called office to pass on message via Mary kay to let Norman know I had found filters in his truck and to return.
0945 - Norman onsite
0950 - Breaking down equipment to move to next well.
0955 - Deconning equipment before next well.
1005 - setting upon MW-513D
well Height 59.10 - depth to H_2O 51.34
One volume is 7.19 and 21.6 gallons is 3 volumes produced.

6/12/01 Cont.

1055 purging well. 10 gallons purged before readings.

Time	Temp	PH	Conduct.	TDS	DO	Eh	Turbid	Visual
1010	13.6	7.09	1.38	0.89	7.23	-76	87.9	Partly Cloudy
10^{12}	13.0	6.83	1.39	0.89	0.18	-89	34.0	
11^{12}	13.1	6.78	1.39	0.89	0	-91	21.5	
11^{19}	13.1	6.70	1.38	0.88	0	-89	18.0	
11^{22}	13.1	6.66	1.38	0.88	0	-89	16.2	

11^{25} - setting up other pump to collect samples. 5x5 = 25 gallons purged total.

12^{19} ~~12^{50}~~ Documented Readings with Micropump QED

Time	Temp	pH	Conduct	TDS	DO	Eh	Turbidity	Visual Clarity
1219	16.0	7.03	1.39	0.89	1.32	-65	259.0	Cloudy lt. brown
12^{33}	15.8	6.95	1.38	0.88	0.38	-66	157.0	clear
12^{25}	15.7	6.91	1.38	0.88	0.23	-66	119.0	
12^{28}	16.0	6.85	1.37	0.88	0.14	-66	94.6	
12^{32}	15.9	6.80	1.37	0.88	0.09	-64	70.7	

12^{34} - waiting for instructions, Norman went over to Bill's location.

12^{40} - Bill onsite and Norman on phone. Bill calling QED Company to order more tubing.

12^{50} - Norman gave approval to sample

12^{52} - Sampled Groundwater parameters for well

13^{01} - Deconning and breaking down equipment and moving to next well MW-508D.

13^{46} - Set up on MW-508D

13^{50} - Depth to water 51.53 feet.

13^{59} - Norman + Jeff checked Depth to water on adjacent well and No water (Dry) at MW-508S

14^{02} - Problems with well 508D - going Dry - turning on-off whale pump. Attempted 5x to purge 3 gallons.

14^{30} Chris Athanassopoulas (Parsons Project Manager Engineer) with Karen from Parsons onsite

1435 - offsite Chris & Karen

1436 - Removing whale pump and pump stuck in well.

6/12/01 Cont.

14^{50} - Removed pump and re-secured clamps on tubing and re-inserted pump in well. purged 3 more gallons, with Total of 6 gallons.

16^{01} - inserted bladder pump to document readings of parameters.

Time	Temp	pH	Conduct.	TDS	DO	Eh	Turbid.	visual clarity
16^{08}	21.4	6.75	1.44	0.92	7.5	138	97.1	clear
16^{11}	20.9	6.71	1.42	0.91	4.29	136	73.9	
16^{18}	21.1	6.62	1.41	0.91	3.09	143	57.3	
16^{20}	21.2	6.64	1.41	0.90	2.81	144	44.7	
16^{29}	21.7	6.67	1.42	0.91	1.96	143	43.8	
16^{40}	22.2	6.86	1.40	0.90	1.40	133	35.5	
16^{47}	20.6	6.94	1.43	0.91	1.27	131	28.7	
17^{11}	17.3	6.98	1.41	0.90	0.69	139	32.2	
17^{35}	16.9	7.02	1.40	0.90	0.50	131	60.9	
17^{47}	16.7	7.04	1.39	0.89	0.46	129	56.9	

6/12/01

NOTE: Micro purge was set at 3 cycles per/minute 10.5 seconds/recharge found to be optium rates.

6/12/01

6/13/01

Objective: To collect Groundwater parameters of wells on site.
Weather: Sunny. 71°
Personnel: Jeff ENDSLEY, Norman Bolivar, Ann MASON
Level PPE: Level D

0700 Ann MASON on site, Norman already onsite
0708 Jeff ENDSLEY onsite.
0710 Norman went to retrieve longer Bladder pump
Top of H_2O Depth bottom of casing of well # 504D
55.77 62.12
0725 Jeff collecting Top of H_2O and Depth of casing data.
0755 Norman back from longer Bladder pump.
0757 - organizing and setting up equipment with Whale (Super) pump.
0820 - started pumping water w/ Battery hookup
0822 - Chris (Parson's onsite)
0832 - Chris (offsite)
0855 - pumped 20 gallons from well MW-504D before sampling/readings.
0915 - Norman called Scott to inquire on the whereabouts of the toolbox for larger bladder pump we were using last week.
0916 - Jeff and I went to look in my Van to see if it was in there
It was
0925 Norman off phone
0937 Inserting pump into well.
0950 Chris Onsite
0951 switching Gas tanks - 1st tank empty (lg. Black tank) to smaller tank.
1002 - Checking to see if pump is submerged in water enough.
Because no water coming out.
1007 - checked connections and water came out of tubing properly.
1008 - pump working successfully.

6/13/01
Ann Mason

6/13/01 Cont. MW - 504D

Time	Temp	pH	Conduct.	TDS	DO	Eh	Turbidity	Visual clarity	vol
10^{08}	16.9	6.40	2.65	1.69	1.02	16	9.0	clear	2 gal
10^{12}	16.7	6.42	2.67	1.71	0.90	20	6.8		1
10^{23}	16.9	6.48	2.68	1.71	1.01	21	7.3		1
10^{46}	17.8	6.58	2.67	1.71	1.67	19	9.2		1
10^{56}	15.6	6.63	2.67	1.71	2.28	19	11.4		2
1108	15.8	6.63	2.67	1.71	2.04	31	11.4		2
1118	16.1	6.64	2.66	1.71	1.95	32	13.4		2
11^{21}	16.9	6.65	2.71	1.71	1.75	32	10.0		1
11^{35}	19.0	6.67	2.67	1.71	1.05	25	15.0		2
11^{50}	18.9	6.66	2.68	1.72	0.77	18	19.3		1
12^{07}	19.1	6.66	2.68	1.72	0.73	18	27.2		1
12^{18}	18.8	6.66	2.68	1.72	0.70	17	32.0		1
									17 gallons

12^{25} - collected samples for MW-504D
12^{30} - Breaking down equipment and deconning equipment
12^{37} - Took picture #2
NW3 12^{45} - Ann went to pickup New tanks for gas (2)
~~1314~~ 1312 SET UP ON MW-502S

DTW = ~~5.08~~ 4.96 TD = ~~27.40~~ 27.28

~~22.32~~ X ~~0.75~~ = ~~16.74~~ 3 well vol = ~~50.22~~ 13.8

~~(62.21 - 55.77) = 6.44 x 0.927 = 5.97 x 3 = 17.9 gallons 3 well vol.~~

27.28
-22.32
4.96
x 0.927
4.6 x 3 = 13.8

1355 started to pump MW-502S using a whale pump.

1410 DECON BLADDER PUMP

1432 Allowed well to purge to dry five times, 18 Gallons Purged
1515 Ann back from not being able to pick up tanks - Gas Company would not put them in Van because of OSHA regulations. located in West Chicago.
15^{16} Norman and Jeff went to West Chicago to pick up (2) tanks.
16^{20} Norman and Jeff back from picking up tanks.

6/13/01 Cont.

16:25 decorned tip of pump and inserted into well.

16:29 started bladder pump

16:45 No water in well, pump not pumping water

16:50 Per Bill (Phone Call) break down and decon equipment.

17:30 offsite Ann, Jeff, Norman, (Parson's (chris))

6/13/01

6/14/01

objectives: To ~~conduct~~ collect (SLE) groundwater parameters of wells on Site

Weather: Sunny 80°F

Personnel: Jeff Endsley, Norman Bolivar, Gina Gallo

Level PPE: Level D

0709 Jeff Endsley on Site, Norman Bolivar already on site.

0710 Set up micro purge and inserted into MW-~~504~~ 502S and started it.

DTW = 24.02

TD = 27.4

There is 22ft of filter pack and 3.26 ft of water

(3.26 ft of water)(0.927 gal/ft) = 3.022 gal of water

Three volumes is 9.07 gallons

(18 gallons was purged on 6/13/01 well went dry five times)

0748 Attached flow through cell to micropurge

Micropurge MP10 controller settings: Refill 24.0 sec
Discharge 6.0 sec
2 cycles / min

~~0807~~ Time	PH	Cond	TURB	DO	Temp	TDS	ORP(Eh)	Vol(gal)
0807	6.99	0.807	16.1	4.09	20.0	0.517	105	0.25
0832	~~0.792~~ 7.13	0.792	10.5	4.34	20.8	0.507	104	0.50
0843	7.18	0.793	8.3	4.40	21.3	0.507	105	0.75
0909	7.21	0.790	6.5	4.39	21.5	0.505	109	1.0
0916	7.21	0.788	5.6	4.44	21.6	0.506	111	1.25

purged well at a rate of 1 gal/hr (0907 ~ 1 gallon was purged)

0918 Samples were taken for MW502S

0938 Decon micropurge

10:29 Set up at MW 514D
10:34 45.46 DTW
53.20 DTB

1104 Started to pump MW 514D using a D. Whale Pump.

There is 13 ft of Filter pack and 7.73 ft of Water;
(7.73 ft of water)(0.927 gal/ft) = 7.16571 gallons of Water
Three volumes is 21.49 gallons.

1110 Bladder pump is decomed
JLE ~~1125~~

12:05 The whale pump is shut off after purging 25 gallons.
12:15 The whale pump is deconned.
12:20 The bladder pump is set in the MW 514D well. and turned on

Time	pH	cond	TURB	DO	Temp	TDS	ORP (Eh)	vol(gal)
1229	6.79	1.48	128.0	0.65	15.1	0.94	-44	2.5
1245	6.54	1.48	45.1	0.00	15.3	0.94	-39	5.0
1248	6.54	1.47	44.8	0.00	15.3	0.94	-41	6.0
1251	6.55	1.47	44.7	0.00	15.3	0.94	-42	7.0

1254 Samples are taken for MW514D.
1300 Decon. whale pump
1313 Removing Bladder pump from MW514D
1316 Decon Bladder pump from MW514D
1330 Moved to MW 401, Well is covered by a car.
1400 Moved to MW 515 D. DTW - 47.39, DTOC - 53.47 ft.
There is 13 ft of Filter pack and 6.08 ft of Water;
(6.08 ft of water)(0.927 gal/ft) = 5.64 gal of water
(5.64 gal of water)(3) = 16.90 gal of water is Three well volumes
1418 Inserted and started ~~well~~ whale pump at MW515D
1443 Purged 18 gal with Whale pump, removed and deconned pump.
1452 Inserted and started bladder pump.

Time	pH	cond	TURB	DO	Temp	TDS	ORP (Eh)	Vol (gal)
1527	6.49	2.16	11.7	0.67	15.5	1.38	-38	2.5
1535	6.46	2.16	5.7	0.00	15.5	1.38	-38	3.5
1539	6.48	2.16	5.2	0.00	15.5	1.38	-39	4.5

1545 Took samples for MW-515D

1600 Took DUP2 Samples.

1625 Removed bladder pump from well

The Horiba Water Quality Monitor ~~and~~ model W-2100, #T010075 was calibrated at the start of the day.

The Well Wizard Controller number 3013 was set at "C" on the discharge and recharge for the bladder pump at MW-515D and MW-514D

1645 Deconned bladder pump.

1730 Off Site, Norman Bolivar, Jeff Endsley.

(A Trip Blank was added to the sampler taken)

Jeff Endsley 6/14/01

~~6/15/01~~ 6/15/01

Objective: To Collect groundwater parameters of wells on Site
Weather: Sunny 80°F
Personnel: Jeff Endsley, Norman Bolivar
Level PPE: Level D

0725 Jeff Endsley on site, Norman Bolivar already on site.
0735 mobilize at MW-401

Depth to water	Depth to bottom
51.07	54.67 Today (56.13 Historical)

There is 22.25 ft of filterpack and 5.06 ft. of Water;
(5.06 ft of Water)(0.927 gal/ft) = 4.69 gal. of Water in well
Three volumes is 14.07 gallons.
0800 Inserted Micropurge (GED) MP10 Pump into MW-401
0808 Started Micropurge MP10
0835 Calibrated the Horiba U-22 #9012068 using Auto Cal Solution (pH 4.000, 0.0 NTU, 4.49 mS/cm)
0838 Micro Purge purged the well dry after 2 gal., ~~Stopped~~ Paused Purging
0842 restarted micro Purge.
0845 Micro Purge purged the well dry after approximately 8 oz., ~~Stopped~~ Paused Purging.
0848 restarted micro Purge.
0856 Micro Purge purged the well dry after approximately 4 oz., Paused Purging.
0859 restarted micro Purge.
0920 Micro Purge purged the well dry after approximately 2 oz., Paused Purging.
0928 restarted micro Purge.
0930 Micro Purge purged the well dry after approximately 1 oz, Paused Purging.
0931 MW 126 was measured;
Depth to Water = 51.73 Depth to Bottom = 80.95 Today (79.80 Historical)
There is 29.22 ft of water and the thickness of filterpack is unknown.
(29.22 ft of water)(0.927 gal/ft) = 27.08 gal of water in MW126
Three volumes is 81.24 gal.
0935 The MW-401 well purged dry after about 2.5 gal, there is not enough of a flow rate to take readings with the

6/15/01
~~6/15/01~~ HH
Continued

Horiba U-22. We will come back to the well later
0950 Mobilized to MW-126
1015 Inserted and started to purge with superwhale pump at MW-126
1045 MW 501D was measured
Depth to water = 50.81 Depth to Bottom = 52.24 Today (52.54 historically)
There is 1.73 ft of water
(1.73 ft of water)(0.927 gal/ft) = ~~1.326~~ 1.604 HH gal of water in MW 501D
Three volumes is ~~3.977~~ HH gal 4.81 gal
1209 MW-522 was measured
Depth to water = 50.71 Depth to Bottom = 63.37 Today (62.99 historically)
There is 12.66 ft of water and the thickness of filter pack is 15 ft
(12.66 ft of water)(0.927 gal/ft) = 11.74 gal of water in MW-522
Three volumes is 35.22 gal.
1300 Turned off whale pump after purging 95 gal at well MW-126
1312 Removed & Decon whale pump from MW-126
1318 Norman backed up into well MW-1109
1325 Assembled & inserted well wizard bladder pump with controller number 3013 (is set at "C" on the discharge and recharge for the bladder pump)
1335 Turned bladder pump on at well MW-126
1340 Attached Horiba U-22 # 9012068 flow through cell

Time	pH	Cond	TURB	DO	Temp	TDS	Orp (Eh)	Vol (gal)
1350	6.97	1.99	293.0	1.24	13.8	1.27	54	2.5
1358	6.74	1.99	67.0	0.00	13.5	1.27	28	4.0
1403	6.73	1.98	41.6	0.00	13.6	1.27	14	5.0
1410	6.73	1.99	29.8	0.00	13.6	1.27	5	6.0
1419	6.78	1.98	22.7	0.00	13.7	1.27	-1	8.0
1422	6.80	1.99	20.4	0.00	13.8	1.27	-3	9.0
1428	6.86	1.98	18.9	0.00	13.9	1.27	-8	10.0

6/15/01 continued

1440 Sampled well mw-126
1455 Removed bladder pump from mw-126
1525 closed well mw-126
1530 mobilized to mw-401

1430 Norman set up whale pump at mw-501D
1442 Started pumping well mw-501D
1445 well mw-501D went dry after purging ~ 1.0 gal.
1455 well mw-501D went dry after purging ~ 8.0 oz
1500 well continues to stay dry.

1535 Insert micropurge pump into mw-401
1540 Turn on micropurge MP10 & take readings

Time	PH	cond	TURB	DO	Temp	TDS	ORP (Eh)	Vol (gal)
1545	6.57	2.74	5.8	1.48	17.3	1.75	-2	.1 gal
1547	6.57	2.71	10.8	1.33	17.1	1.73	6	.2
1549	6.56	2.69	20.2	1.41	17.4	1.72	11	.3

1555 Sample well mw-401
1605 Remove micropurge pump from mw-401
1610 Decon micropurge pump.
1630 closed well mw-401
1635 Re-located to well mw501D
1640 Inserted micropurge bladder pump
1642 Started micropurge bladder pump to take readings

~~Time PH cond TURB DO Temp TDS orp~~
1646 well is still dry, No readings could be taken
1651 Removed micropurge bladder pump from mw501D
1712 Decon equipment, and Paperwork
1745 Norman off site
1822 Jeff Endsley and Gina Gallaway off site

6/15/01

6/18/01

Objective: TO collect groundwater parameters of wells on site.
Weather: Mostly cloudy 70°F
Personnel: Norman Bolivar, Jeff Endsley, Gina Gallo
Level PPE: Level D

0840 Jeff Endsley on site mobilizes to mw501D
0920 Norman Bolivar onsite
0925 Gina Gallo on site
Depth to water: 50.86
Depth to bottom: 52.26 (52.54 historically)
0930 Inserted micropurge (GED) mp10 pump into mw-501D
0935 started micropurge pump
0940 Calibrated the Horiba U-22 # 9012068 using Auto Cal Solution (pH 4.000, 0.00 NTU, 4.49 ms/cm)
Three well volumes = 4.81 gal. will be purged as determined on 6/15/01

Time	pH	cond	Turb	DO	Temp	TDS	ORP(Eh)	vol (gal)
0950	6.70	2.67	10.3	5.14	17.1	1.72	41	.10
0958	6.60	2.65	6.4	4.48	17.3	1.70	67	.35
1006	6.62	2.63	4.7	4.87	19.4	1.68	71	.50

1006 well mw 501D purged dry after purging .50 gallons
We will come back Later for sampling
0958 mw-522 Norman takes water Level & Total Depth
Depth to water = 50.77
Depth to Bottom = 63.37 (62.99 historically)
0959 Decon water Level indicator

1033 Relocate to mw-522
(12.60 ft of water)(0.927 gal/ft) = 11.68 gal of water in mw-522
Three volumes is 35.04 gal.
1035 Inserted and started to purge with super whale pump
1114 10 gallons purged well Dry
1120 Begin purging well mw-522 again.

6/18/01 (continued)

1128 Well Purged Dry at a total of 15 gallons.
1143 Resumed Purging well MW-522 again.
1158 Well Purged Dry at a total 22 gallons
1215 Resumed Purging well MW-522 again.
1228 Well Purged Dry at a total of 28 gallons.
1253 Resumed Purging Well MW-522 again.
1309 Removed whale pump, After removing 30 gal well MW-522 went dry
1310 Decon ~~w~~ super whale pump
1330 Inserted & turned on bladder pump at well MW-522
1335 Set up horiba U-22 and started to take readings

Time	pH	cond	TURB	DO	Temp	TDS	ORP(Eh)	vol(gal)
1337	6.98	1.14	999.0	3.92	18.5	0.73	46	initial
1342	6.70	1.11	632.0	1.68	16.0	0.71	34	1.0
1351	6.62	1.09	148.0	1.57	15.4	0.70	55	2.0
1358	6.62	1.09	101.0	1.21	15.3	0.70	54	3.0
1402	6.63	1.09	104.0	0.99	15.4	0.70	52	4.0
1407	6.64	1.09	247.0	0.79	15.7	0.70	53	5.0
1411	6.66	1.10	517.0	0.83	15.8	0.70	43	6.0

1418 TOOK samples from well MW-522 after purging 36 gallons
1430 Removed Bladder pump
1440 ~~Re~~ Close well MW-522
1505 Relocate to well MW 501D to take samples.
well 501D has gone dry 5 times ~~at this time~~.
between 6/15/01 and 6/18/01
1522 Well went dry before sampling began. Will try again later.

1533 Removed micro-purge from well MW-501D

1/18/01 (Cont) (HH)

1515 ~~well 521~~ Mobilized to well 521
Depth to water = 54.00
Depth to Bottom = 63.70 (63.21 historically)
(9.70 ft of water)(0.927 gal/ft) = 8.99 gal of water in mw-521
Three well volumes = 26.98 gal

1530 Insert super whale pump and start purging.
Purged ~24 gal with whale pump

1640 Insert bladder pump & start purging

1650 take water quality readings at well mw-521

Time	pH	Cond	TURB	DO	Temp	TDS	ORP(Eh)	Vol(gal)
1651	6.48	2.19	286.0	2.22	15.4	1.40	89	1.5
1655	6.45	2.20	160.0	1.92	14.9	1.41	86	2.25
1658	6.46	2.20	115.0	1.70	14.8	1.40	83	3.00
1705	6.52	2.19	76.0	1.59	14.8	1.41	76	4.00
1710	6.64	2.19	52.2	1.40	14.7	1.40	68	5.00
1715	6.70	2.19	37.2	1.33	14.7	1.40	64	6.00
1720	6.71	2.19	32.3	1.14	14.7	1.40	63	7.00
1728	6.73	2.19	27.2	1.06	14.7	1.40	63	8.00

1730 Take samples at well mw-521
Parsons takes three VOC samples
NOTE: At wells mw-521; mw-522, samples ~~of~~ (HH) consisted of
2 40ml vials of VOCs + 15TICs with a HCL Preservative
3 20ml vials of Ethene/Ethane with a HCL Preservative
1 250cc of Iron/manganese with a HNO_3 Preservative
1 250cc of Nitrate/Chemical Oxygen Demand (COD) with a H_2SO_4 Preservative
1 250cc of chlorides/Sulfate with ~~a~~ No preservative
1 250cc Total organic Carbon with a H_2SO_4 Preservative
1 250cc of Sulfide with a Zinc Acetate Preservative.

6/18/01 (cont)

1800 Remove bladder pump from well
1805 decon equipment

1700 NORman mobalizes to well MW-1109 to develope the well
Depth to water = 45.88
Depth to ground = 57.15 (58 historically)
(12.14 ft)(0.927) = 11.25 gal of water
33.76 gal is three well volumes,
Grundfos was used to develope the well (well MW-1109)
A TOTAL of 140 GALLONS WAS DEVELOPED AT MW-1109.

1740 off site

[signature]

6/18/01

TUESDAY, JUNE 19, 2001

OBJECTIVE: CONTINUE GROUNDWATER SAMPLING.

WEATHER: SUNNY 82°F

CLAYTON PERSONNEL: NORMAN BOLIVAR, JEFF ENDSLEY, GINA CALLO.

LEVEL of PROTECTION: LEVEL D.

0615 ARRIVED ON SITE & SET UP AT MW-1109

0622 STARTED TO PURGED USING the GRUNDFOS PUMP.

0710 PURGED A TOTAL of 55 GALLONS & STOP the PUMP.

0750 Labeled & Trip blank & put it in the cooler

0821 DTW = 45.98 (Today) The filter pack is 12ft thick

TD = 57.15 (58.0 historically)

(12.14 ft of water)(0.927 gal/ft) = 11.25 gal of water

Three well volumes is 33.76 gal.

0830 Decon bladder pump & Calibrated the Horiba U-22# 9012068 using auto cal solution.

0835 Insert bladder pump into well MW-1109, would not fit, therefore micropurge (GED) MP10 was deconed & inserted into well MW-1109

NOTE: Auto Cal solution Readings are as follows:

PH 4.00, NTA 0.00, ms/cm 4.49

Total volume purged ~~after~~ Before (GLE) Sampling 58 gal

Time	PH	cond.	TURB	DO	TEMP	TDS	ORP(Eh)	vol(gal)
0905	6.67	1.68	109.0	.84	14.8	1.08	-20	.50
0918	6.69	1.69	80.2	.36	14.7	1.08	-17	1.0
0940	6.85	1.69	51.8	0.05	14.9	1.09	-18	2.0
0953	6.93	1.68	51.2	0.00	15.0	1.08	-23	2.5
1005	6.99	1.70	54.2	0.00	15.0	1.08	-29	3.0

0925 well MW517D, J. Endsley takes measurements (4.96 ft of water)(0.927 gal/ft) = 4.597 gal

54.3 = Depth to water Three volumes is 13.79 gal

59.26 = Depth to bottom (66.36 historically)

0930 NORMAN mobilized to MW-517D & set up super whale pump & started pumping 38 gallons was purged with the super whale pump.

6/19/01 continued

1012 Sampled well MW-1109 & MS/MSD samples

Samples consisted of:

2 40ml vials of VOCs + 15TICs with a HCL preservative

3 20ml vials of Ethene/Ethane with a HCL preservative

1 250cc of Iron/~~mag~~ magnanese with a HNO_3 preservative

1 250cc of Nitrate/COD with H_2SO_4 preservative

1 250cc of Total organic carbon with H_2SO_4 preservative

1 250cc of chlorides/sulfate with no preservative

1 250cc of Sulfide with a zinc acetate preservative.

NOTE: micropurge QED MP10 set at 4 cycles per/min, 10 sec recharge, & 5 sec discharge was used for sampling.

1100 removed micropurge pump from well MW-1109

1118 relocated to well MW-517D

1130 inserted bladder pump well wizard into well MW-517D & purged water.

discharge & refill settings for micropurge pump is D

TIME	PH	cond	TURB	DO	Temp	TDS	ORP(Eh)	Vol(gal)
1145	6.48	2.56	13.6	.52	16.1	1.64	-13	2.0
1155	Changed Nitrogen tanks							
1158	6.66	2.54	6.7	.46	17.9	1.62	-24	3.0
1210	6.67	2.51	6.5	.14	16.6	1.60	-22	4.0
1225	Nitrogen tank went dry &							

~13 gal was purged before inserting the bladder pump into well MW-517D

1230 Mobilized to 501D where Jeff Endsly & Norman Bolivar had a full tank & were setting up a micropurge pump.

1219 Depth to water on well 501D = 51.04 ft

NOTE. will return to well 517D to take samples.

1245 NORMAN Bolivar Leaves site

1250 Samples were taken on well MW 501D

Well purged dry 4 times during sampling.

Since well 501D has purged dry 5 times prior to

6/19/01 continued

6/19/01 at a very low volume it was decided that samples would be taken without purging any water.
NOTE micropurge settings were the same as well MW 1109 D

1345 Relocated to well MW-517D to Complete water Parameters readings and micropurge was deconed.

TIME	PH	COND	TURB	DO	TEMP	TDS	ORP(Eh)	VOL(gal)
1409	6.46	2.50	4.7	0.13	16.9	1.60	-31	~~4.0~~ 5.0
1418	6.54	2.51	5.0	0.00	16.3	1.60	-27	6.0
1430	6.67	2.50	5.5	0.00	16.5	1.60	-31	7.0
1440	6.70	2.50	7.1	0.00	16.4	1.60	-29	8.0
1448	6.70	2.50	8.7	0.00	15.8	1.61	-29	9.0

1455 Samples were taken at well MW-517D
1520 Bladder pump was removed from MW-517D
1530 Relocated to well MW-402
45.22 ft Depth to water Filter pack is 12 ft thick
49.65 ft Depth to bottom (49.76 historically)
(4.43 ft of water)(.927 gal/ft) = 4.11 gal
Three volumes is 12.33 gal
1600 Inserted Super whale pump into well MW-402 and started purging water and deconed bladder pump
1610 After purging Three ~~gallons~~ ~~Volumes~~ gallons SLE well MW-402 went dry.
14 gallons was purged with the Super whale pump
1720 Inserted bladder pump into well ~~MW-517D~~ MW-402 and began purging.
using well wizard Controller 3013

TIME	PH	COND	TURB	DO	TEMP	TDS	ORP(Eh)	VOL(gal)
1740	6.63	1.59	174.0	2.24	17.8	1.19	22	.25
1750	6.44	1.90	15.8	1.30	17.0	1.22	58	1.0
1755	6.44	1.89	9.8	1.02	16.4	1.21	59	1.5
1800	6.49	1.89	9.2	.74	16.4	1.21	58	1.75

6/19/01 continued

Time	PH	COND	TURB	DO	Temp	TDS	ORP(en)	VOL(gal)
1805	6.59	1.89	9.0	.76	16.6	1.21	51	2.0
1810	6.67.	1.89	5.5	.75	16.7	1.20	48	2.25
1816	6.70	1.88	3.7	.72	16.8	1.20	47	2.75
1824	6.72	1.89	3.2	.88	17.2	1.21	45	3.00

1825 Samples taken, same as MW109.

1850 Jeff and Joe off site.

Jeff Ernst

6/19/01

Collected SAMPLE NO.
MW-402. FOR ~~the~~ ANALYSES
SAME AS MW 1109

11.99
16.75

WEDNESDAY, JUNE 20, 2001
OBJECTIVE: CONTINUE GROUNDWATER SAMPLING
CLAYTON PERSONNEL. JEFF ENDSLEY & NORMAN BOLIVAR
WEATHER: CLOUDY 75°F
LEVEL of PROTECTION: LEVEL D
0742 ARRIVED ON SITE & SET UP ON MW-123
0755 DTW = 11.99
TD = 16.75 (17.22 Historically)
0756 DECON EQUIPMENT.
There is 5.23 ft of Water and 7.50 ft of filter Pack.
(5.23 ft of Water)(0.927 gal./ft) = 4.848 gal/well volume
3 well volumes is 14.54 gallons.
0815 Inserted and started Super whale pump (Whale water Systems)
0820 Super Whale pump purged MW-123 dry after 4 gallons
0825 Resumed purging
0828 Super Whale pump purged MW-123 dry after 5 gallons total.
0838 Resumed Purging
0841 Super Whale pump purged MW-123 dry after 5.5 gallons total.
0845 Resumed Purging
0846 Super Whale pump purged MW-123 dry after 5.6 gallons total
0850 Resumed Purging.
0853 Super Whale pump purged MW-123 dry after 5.7 gallons total
Super Whale pump purged MW-123 dry a total of 5 times.
0855 Removed Super Whale Pump.
0905 Inserted MicroPurge GED MP10 Pump.
0911 Calibrated the Horiba U-22 # 9012068 using Auto Cal solution (pH 4.00, NTU 0.00, mS/cm 4.49)
0917 Started MicroPurge at 4 cycles/min and 10 sec refill and 5 sec. discharge.

0919 CHECK DTW = N/M TD = N/M AT MW-123
Well is Dry
We will move on to the next well while MW-123 recharges.

6/20/01 Continued

0920 Water level readings taken at MW-120:
Depth to Water - ~~58.35~~ (JLE) 39.79 ft.
Depth to Bottom - 58.35 (57.90 Historically)
There is 18.56 ft of Water, and 5.75 ft. of Filter Pack.
(5.75 ft. of Water in Filter Pack)(0.927 gal./ft) = 5.33 gal in Filter Pack
(12.81 ft of Water in casing above filter Pack)(0.16 gal/ft of casing) = 2.05 gal of water in casing above filter Pack.
5.33 + 2.05 = 7.38 gallons of Water in well (one well Volume)
Three well volumes is 22.13 gallons.

0925 Bladder pump is deconned.

0935 Super Whale Pump is deconned.

0945 Super Whale Pump in inserted into MW-120 and started.

1023 Jeff Endsley restarts micropurge on MW-123 and began purging
Horiba Water Quality readings are as follows:

	PH	conductivity	Turbidity	DO	Temp	TDS	ORP	Volume (gallons)
1027	6.97	5.34	32.9	7.07	17.3	3.30	-1	0.1 gal.

1038 MW-123 Purged Dry. Purging is paused at 0.2 gallons.

1040 Purging resumed, Micropurge settings changed to 2 cycles/min, 26sec Refill, 4sec Discharge

	PH	Cond.	Turb	DO	Temp	TDS	ORP	Vol.
1054	7.16	5.16	28.6	5.20	22.4	3.25	14	0.27

1106 MW-123 Purged Dry, Purging is stopped, we will return later to sample.
approximately ~~0.25~~ 0.38 (JLE) gallons were purged.

0954 Norman moved on to MW-120, Deconned and inserted Super Whale Pump.

1000 MW-120 purged dry after 3.5 gallons

1005 MW-120 purging restarted and went dry ~~after~~ (JLE) at 4.0 gallons.

1010 MW-120 purging restarted and went dry at 4.2 gallons.

1020 (JLE) ~~1026~~ MW-120 purging restarted and went dry at 4.4 gallons

1026 MW-120 purging restarted and well was still dry.

6/20/01 Continued

1044 MW-120 Purging restarted and went dry at 4.8 gallons.
1057 MW-120 Purging restarted and well was still dry.
1110 MW-120 Purging restarted and went dry at 5.2 gallons
1115 MW-120 Purging ended, removed and deconned Super Whale pump.

1125 Relocated to MW-516D
DTW. - 45.19 ft.
DTB. - 51.23 ft (51.29 Historically)
There is 6.10ft of Water and 12 ft. of filter Pack.
(6.10ft. of water)(0.927 gal./ft) = 5.65 gal./ft. (One Well Volume)
Three well volumes is 16.96 gallons.
1150 Inserted Super Whale Pump into MW-516D and began purging.
1155 Well MW-516D purged dry at 3 gallons, allowed to recharge.
1201 Restarted purging
1205 Well MW-516D purged dry at 6.5 gallons, allowed to recharge
1218 Restarted purging
1226 Well MW-516D purged dry at 10 gallons, allowed to recharge
1238 Restarted purging
1246 Well MW-516D purged dry at 13 gallons, allowed to recharge.
1254 Restarted purging
1306 Finished purging at 17 gallons.
1309 ~~Bladder~~ SLE Super Whale Pump is removed from well.
1319 Bladder pump is inserted into MW-516D and started.
1330 Horiba Water Quality Monitor is attached, readings follow:

Time	PH	Cond.	Turb.	DO	Temp	TDS	ORP	Volume Gal.
1335	6.65	3.90	68.8	5.48	14.0	2.48	18	1.0
1340	6.50	3.91	17.0	3.05	13.5	2.48	21	2.0
1345	6.49	3.87	8.5	2.21	13.6	2.49	18	3.0
1352	6.51	3.87	4.6	1.23	13.5	2.50	14	4.0
1358	6.53	3.86	3.8	1.23	13.3	2.50	12	5.0

6/20/01 Continued.

Time	PH	Cond	Turb	DO	Temp	TDS	ORP	Vol. (gal)
1402	6.60	3.87	3.0	1.01	13.7	2.47	8	6.0
1411	6.64	3.89	2.6	0.81	13.5	2.48	6	7.0
1418	6.65	3.90	2.6	0.65	13.3	2.49	5	8.0
1425	6.66	3.90	2.3	0.63	13.6	2.50	4	9.0

1435 Took Samples for MW-516D as follows.

2 40mL Vials of VOCs + 15 TICs with a HCL Preservative.
3 20mL Vials of Ethene/Ethane with a HCL preservative.
1 250 cc of Iron/Manganese with a HNO_3 Preservative (Filtered)
1 250cc of Nitrate/COD with H_2SO_4 Preservative.
1 250cc of Total Organic Carbon with H_2SO_4 Preservative
1 250cc of chlorides/sulfate with no Preservative
1 250cc of Sulfide with a zinc Acetate Preservative.

1435 Took Samples for DUP3, same as above.

1448 Parsons took a split samples for VOCs with 3 40 ml vials, HCL Preservative.

1455 Removed Bladder Pump and closed well

~~1530~~ (JLE)

1530 Relocated to MW-123.

1535 40 cc Collected samples for MW-123 using the micropurge Pump.

1607 Removed Micropurge pump from well.

1630 Jeff and Norman off Site.

Jeff Erdt 6/20/01

Thursday, June 21 2001
Objective: Continue Groundwater Sampling
Clayton Personnel: Norman Bolivar, Jeff Endsley
Weather: Rain, 63°F
Level of Protection: Level D

0850 Arrived on Site, Norman and Jeff.
~~0858~~ (JLE) Water Levels for remaining three wells taken.

	MW-~~120~~ (JLE)	Depth to water	Total Depth	Historical Depth Total
0858	MW-120	53.62	58.36	57.98
0915	MW-500D	48.32	53.25	54.36
0921	MW-101	11.96	24.47	24.~~34~~ 6 (JLE)

0930 Deconned equipment and Pumps.
0940 Inserted GED Micropurge mp10 Pump into MW-120
0950 Calibrated the Horiba Water Quality Monitor, With Auto Cal Solution (pH 4.00, NTA 0.00, ms/cm 4.49)

1050 Inserted and started Whale Pump (Whale Water Systems, Super Whale Pump.) at MW-500D.
There is 6.04 ft of Water and 13 ft of Filter Pack.
(6.04 ft of Water)(0.927 Gal/ft) = 5.60 Gal. of Water = 1 well Vol.
(5.60 gal/well volume)(3) = 16.8 gal/3 well Volumes.
1126 17 Gallons are purged, The Super Whale pump is stopped.
1207 Whale pump removed and deconned.
1217 Well Wizzard Bladder Pump is inserted into MW-500D.
Controller box number 3013
1230 Relocated to MW-101 and inserted and started Super Whale Pump.
There is 12.51 ft of Water and the depth of Filter Pack is unknown.
(12.51 ft of Water)(0.927 Gal/ft) = 11.6 gal/well volume.
Three well volumes is 34.79 Gallons.

6/21/01 Continued.

1238 MW-101 Purged Dry after 7.5 gallons.
1249 Resumed Purging MW-101
1251 MW-101 Purged Dry ~~after~~ (JLE) at 7.75 gallons.
1258 Resumed Purging MW-101, Well is Dry.
1259 Resumed Purging MW-101, Well is Dry.
1301 Resumed Purging MW-101, Lowered Pump 3 inches.
1302 MW-101 Purged Dry at 7.85 gallons.
The well MW-101 is Dry, purged Dry 5 times after 7.85 gallons.

1325 Relocated to MW-500D. Began taking readings with the Horiba Water Quality Monitor.

Time	PH	Conductivity	Turbidity	DO	Temp	TDS	ORP	Volume gal.
1328	6.81	3.16	387.0	3.64	13.4	2.02	-32	~~0.25~~ 1.0 JLE
1332	6.81	3.14	126.0	2.38	13.3	2.01	-22	1.25
1333	6.81	3.12	76.4	1.73	13.3	2.00	-21	1.50
1335	6.81	3.13	64.9	1.69	13.4	2.00	-20	1.75
1336	6.81	3.12	57.7	1.15	13.2	2.00	-20	2.00
1338	6.81	3.12	34.6	0.97	13.3	2.00	-23	2.50
1340	6.82	3.12	34.3	0.91	13.4	1.99	-24	2.75

1345 Took Samples for MW-500D as follows:
2 40 mL Vials of VOCs & 15 TIC's with a HCL Preservative.
3 20 mL Vials of Ethene/Ethane with a HCL Preservative.
1 250 cc of Iron/Manganese, Filtered, with HNO_3 Preservative.
1 250 cc of Nitrate/COD with H_2SO_4 Preservative
1 250 cc of Total Organic Carbon with a H_2SO_4 Preservative
1 250 cc of Chlorides/Sulfate with no preservative
1 250 cc of Sulfide with Zinc Acetate Preservative.
1345 Parsons also took 3 VOC 40 mL Vial sampler MW-500D
1405 Removed Bladder Pump.
1446 Deconned Bladder Pump.

6/21/01 Continued

1040 Norman moved on to MW-120

1045 The Micro Purge water Pump (QED) MP10 was started
Reading with the Horiba Water Quality Monitor are as follows.

Time	PH	Cond.	Turb.	DO	Temp	TDS	ORP	Volume.
1053	10.13	1.91	63.0	4.12	13.4	1.22	47	0.0
1100	10.15	1.88	30.0	0.93	13.2	1.20	26	0.2
1107	10.32	1.88	27.4	0.07	13.3	1.20	-5	1.0
1116	10.31	1.84	22.4	0.54	14.4	1.18	-20	1.3
1120	10.31	1.84	21.0	0.68	14.3	1.18	-22	1.6

1122 Well MW-120 went Dry.

1135 Started Sampling MW-120. Sampling taken as stated at MW-500D. Well was dry at 0.2 gal.

1250 Continued Sampling MW-120. Well Dry after 250 mL.

1445 Continued Sampling MW-120. Well Dry after 350 mL total.

1526 Relocated to MW-101 and inserted and started bladder Pump.
Readings with the Horiba Water Quality monitor are as Follows.

Time	PH	Cond.	Turb.	DO	Temp	TDS	ORP	Vol.
1537	7.07	1.87	999.0	9.03	21.9	1.20	80	0.0
1541	7.01	1.86	999.0	8.19	22.0	1.19	74	0.2
1553	7.09	1.86	462.0	8.07	21.9	1.19	81	0.~~35~~ 4

1555 Samples taken for MW-101. Samples collected as stated at MW 500D.

1600 Norman repaired MW-1109 with concrete.

1630 Resumed collecting samples at MW-120.

1730 Well went Dry after a total of 1,000 mL. for the day.

1740 Removed Bladder pump from MW-101 and Micro Purge from MW-120.

1815 Jeff and Norman off Site.

Jeff Eldy
6/21/01

Friday, June 22 2001
Objective: Complete Groundwater Sampling
Clayton Personnel: Norman Bolivar, Jeff Endsley
Weather: Cloudy, 65°F
Level of Protection: Level D

0820 Arrived on site, Jeff and Norman.
0830 Mobilized at MW-120. To finish collecting water sample.
The well purged dry on 6/21/01 and recharged to slow
to complete on that day. Samples taken today are:
1 250cc of Iron/Manganese, filtered with HNO_3 Preservative
1 250cc of Sulfate/chlorides with No Preservative.
1 250cc of ~~Zinc~~ JLE Sulfide with Zinc Acetate Preservative
0845 Removed and Deconned Micro Purge MP10 Pump.
0850 Deconned ~~O~~ JLE Equipment.
0945 MW-5045 is Dry and will not be sampled
0950 MW-5065 could not be located.
0954 MW-5075 is Dry
1003 MW-5055 is Dry
1040 Jeff and Norman off Site.

Jeff Endsley 6/22/01

6/26/01

0700 D. Lemsma on-site
obj: replace covers on MW-401 and MW-402, collect sediment samples from manholes.
weather: warm, humid, high 80-85°F
PPE: Level D

0710 D. Lemsma off-site to get supplies
0800 Begin replacing cover on MW-402
0830 complete replacing cover on MW-402
0835 Begin replacing cover on MW-401
0900 complete replacing cover on MW-401
0910 Begin concreting both wells
1125 Break for lunch
1140 Begin sediment sampling
1156 collect sediment sample from MH-1 for VOCs
1222 no sediment in bottom of MH-6; unable to collect sample
1230 no sediment in bottom of MH-5; unable to collect sample
1235 no sediment in bottom of MH-3; unable to collect sample
1250 collect sediment sample from MH-4 for VOCs
1304 collect sediment sample from CB-1 for VOCs
1313 no sediment in bottom of MH-2; unable to collect sample
1420 D. Lemsma off-site

7-12-01 THURS.

OBJECTIVE: COLLECT DEPTH TO WATER MEASUREMENTS FROM BEDROCK WELLS & STAFF GAUGES.

PERSONNEL: N. ELWELL

WEATHER: P. CLOUDY, 85°F

1400

MW-1100D	37.25
MW-1101D	37.62
MW-1102D	46.91
MW-1103D	43.61
MW-1104D	45.04
MW-1105D	49.03
MW-1106D	64.84
MW-1107D	56.~~[illegible]~~ 15
BW-1	89.91
BW-2	35.91
~~MW~~	
BW-3	45.21
SG-1	DRY @ 11'10" w/ TAPE MEASURE
SG-2	10.23
SG-3	14.66 ALMOST DRY
SG-4	16.26
SG-5	14.20
SG-6	16.95

1630 COMPLETE - OFF SITE

[signature]

7-12-01

8/10/01

0730	D. Lansma on-site	
	obj: water levels	
	weather: sunny, high 75-80°F	
	PPE: Level D	
0740	MW-505S	Dry
0747	MW-508D	52.46 ft
0748	MW-508S	Dry
0752	MW-1107D	56.27
0800	MW-1106D	64.96
0805	MW-522	52.03
0810	MW-521	54.80
0813	MW-1105D	49.15
0818	MW-1104D	45.16
0820	MW-1104S	44.76
0825	MW-1103D	43.71
0827	MW-1103M	43.25
0829	MW-1103S	42.62
0834	MW-1102D	47.01
0836	MW-1102S	46.21
0840	MW-1109	46.73
0845	MW-126	52.77
0850	MW-516D	45.94
0855	MW-517D	55.04
0902	MW-504D	56.63
0903	MW-504S	Dry
0910	MW-502S	6.59
0913	MW-513D	52.35
0916	MW-514D	46.40
0921	MW-1100D	37.37
0923	MW-1100S	35.44
0926	MW-1101D	37.74

8/10/01

0928	MW-1101S	35.87
0935	MW-500D	49.03
0938	MW-515D	48.37
0941	MW-402	45.95
0948	MW-120	41.72
0952	MW-101	12.33
0955	MW-1108S	54.67
1000	MW-123	12.45
1003	MW-507S	Dry
1007	MW-401	51.36
1010	MW-501D	51.38
1030	BW-3	45.36
1038	BW-2	36.06
1055	~~BW-3~~ BW-1	90.01
1103	SG-1	11.29
1111	SG-2	10.09
1118	SG-6	16.48
1126	SG-5	14.04
1135	SG-4	16.07
1141	SG-3	14.33

complete taking water levels

[illegible]
8/10/01

8/21/01

1400 D. Lansma on-site
obj: oversight of material staging
weather: overcast, 75-80°F
PPE: Level D

1405 Prosonic begin setting up decon pad and off-loading drilling materials
1830 Prosonic complete decon of both trucks
1845 D. Lansma + Prosonic off-site

[illegible]
8/21/01

44

8/22/01

0650	D. Lamsma on-site; Prosonic already present
	obj: drilling on Northern Builders Property
	weather: Chance showers, high 80-85°F
	PPE: Level D
0652	K. Carlisle on-site
0700	B. Elwell and J. Campbell on-site
0710	conduct Health and Safety Meeting
0731	calibrate Photovac 2020 PID to span 100ppm
0735	Prosonic setting up to drill at MW-1110D
0809	Begin MW-1110D
0945	stop drilling - lightning
1005	collect MW-1110D 8-10 ft for VOCs
1020	collect MW-1110D 18-20 ft for VOCs
1025	collect MW-1110D 20-22 ft for VOCs
1027	resume drilling
1137	complete MW-1110D to depth of ~~56 ft~~ DWL 57 ft
1142	collect MW-1110D 6-8 ft for VOCs
1200	Break for lunch
1217	First Env. Lab on-site to pick up samples
	- MW-1110D 6-8 (24 hr)
	- MW-1110D 8-10 (24 hr)
1255	Prosonic back on-site: weld and install 6" casing
1330	B. Elwell on-site
1425	B. Elwell off-site
1705	Prosonic on-site with parts for water pump
1720	Begin mixing grout
1745	stop drilling activities - lightning
1820	resume grouting borehole
1900	complete grouting hole
1919	K. Carlisle off-site
1926	Terry (Danes+Moore) and J. Campbell off-site

8/22/01

1940 Prosonic decon equipment and clean up around MW-1110D

2020 Prosonic and D. Lomsma off-site

Dave W
8/22/01

8/23/01

0645	D. Lamsma on-site
	obj: drilling on Northern Builders Property
	weather: mostly cloudy, high 70-85°F
	PPE: Level D
0647	J. Campbell and Gerry (D+M) on-site
0653	Prosonic on-site - begin fixing broken parts on drill rig
0655	K. Carlisle on-site
0850	set up to drill on MW-1111D
0910	Prosonic putting more grout into borehole at MW-1110D
0950	complete grouting MW-1110D
1013	calibrate Photovac 2020 PID to span 100 ppm
1015	Begin MW-1111D
1017	photo #1 (West) - drill rig at MW-1111D
1210	Break for lunch - Brent Langyear on-site to remove well supplies
1315	Prosonic on-site: resume drilling
1338	complete MW-1111D to depth of 56 ft
1335	Mace Cummings (IEPA) on-site: spoke with Ron St John and left ~~sign~~ site
1356	Begin installing permanent 6" casing
1456	Complete installing permanent 6" casing; begin grouting borehole
1505	D. McGowen on-site; K. Carlisle off-site
1530	photo #2 (West) - mixing grout for MW-1111D
1547	H. Chin (IEPA) on-site
1555	H. Chin (IEPA) off-site
1607	complete removal of 8" casing; begin cleanup around MW-1111D
1645	K. Carlisle on-site; D. McGowen off-site

8/23/01

1732 Jerry (D+M) off-site

1700 Prosonic begin decon of ~~gritting~~ our drilling equipment

1815 Prosonic complete decon of equipment

1820 Prosonic, J. Campbell, K. Carlisle, D. Lamsma off-site

[illegible]
8/23/01

8/24/01

0650 D. Lamsma on-site
obj: soil borings on Northern Builders Property
weather: sunny, high 75-80°F
PPE: Level D
Personnel: J. Campbell, D. Lamsma (Clayton)
Jerry (Dames + Moore)
K. Carlisle (Parsons)
Prosonic

0655 Prosonic removing 8" casing from support truck; putting well supplies into support truck
0725 Prosonic setting up on MW-1110S
0754 Begin MW-1110S
0815 collect MW-1110S 0-2 ft for VOCs
0816 collect MW-1110S 2-4 ft for VOCs
0817 collect MW-1110S 4-6 ft for VOCs
0824 collect MW-1110S 6-8 ft for VOCs
0827 collect MW-1110S 8-10 ft for VOCs
0828 collect MW-1110S 10-12 ft for VOCs
0830 collect MW-1110S 12-14 ft for VOCs
0830 collect MW-1110S 14-16 ft for VOCs
0836 collect MW-1110S 16-18 ft for VOCs
0839 collect MW-1110S 18-20 ft for VOCs
0841 collect MW-1110S 20-22 ft for VOCs
0841 collect MW-1110S 22-24 ft for VOCs
0835 collect MW-1110S 24-26 ft for VOCs
0853 collect MW-1110S 26-28 ft for VOCs
0855 collect MW-1110S JM ~~26-28~~ 28-30 ft for VOCs
0859 collect MW-1110S JM ~~28-30~~ 30-32 ft for VOCs
0858 collect MW-1110S JM ~~30-32~~ 32-34 ft for VOCs
0855 collect MW-1110S 34-36 ft for VOCs
0926 collect MW-1110S 36-38 ft for VOCs

8/24/01

0929	collect MW-1110S 38-40 ft for VOCs
0928	collect MW-1110S 40-42 ft for VOCs
0925	complete drilling MW-1110S to depth of 43 ft : set well there with 10 ft screen
0940	calibrate Photovac 2020 PID and HNu 10.2eV PID for headspace readings
1012	photo #3 (West) - installing MW-1110S
1110	complete installing MW-1110S ; begin clean-up of area
1155	break for lunch
1225	continue cleanup at MW-1110S
1230	Prosonic decon equipment
1330	Prosonic setting up to drill MW-1111S
1355	Begin drilling at MW-1111S
1410	collect MW-1111S 0-2 ft for VOCs
1412	collect MW-1111S 2-4 ft for VOCs
1413	collect MW-1111S 4-6 ft for VOCs
1417	collect MW-1111S 6-8 ft for VOCs
1418	collect MW-1111S 8-10 ft for VOCs
1420	collect MW-1111S 10-12 ft for VOCs
1420	collect MW-1111S 12-14 ft for VOCs
1418	collect MW-1111S 14-16 ft for VOCs
1427	collect MW-1111S 16-18 ft for VOCs
1430	collect MW-1111S 18-20 ft for VOCs
1432	collect MW-1111S 20-22 ft for VOCs
1429	collect MW-1111S 22-24 ft for VOCs
1426	collect MW-1111S 24-26 ft for VOCs
1442	collect MW-1111S 26-28 ft for VOCs
1445	collect MW-1111S 28-30 ft for VOCs

8/24/01

1446 collect MW-1111S 30-32 ft for VOCs
1447 collect MW-1111S 32-34 ft for VOCs
1442 collect MW-1111S 34-36 ft for VOCs

1442 complete MW-1111S to depth of 35 ft ; set MW-1111S at 33 ft with 10 ft screen
1501 Begin installing MW-1111S
1615 complete installing MW-1111S ; begin clean-up of area
1626 per drillers : using ~150 gallons of water into borehole during drilling
1655 Prosonic begin decon of drilling equipment
1710 Jerry (D+M), K. Carlisle off-site
1725 Prosonic off-loading drums
1730 J. Campbell off-site
1735 Prosonic and D. Lansma off-site

[illegible]
8/24/01

8/25/01

0700	D. Lamsma on-site
	obj: soil borings on Northern Builders Property
	weather: mostly cloudy, chance showers, high 75-80°F
	PPE: Level D
	Personnel: D. Lamsma, J. Campbell (Clayton)
	K. Carlisle (Parsons)
	Jerry (D+M)
	Prosonic
0705	Prosonic decon drilling equipment
0740	Prosonic loading supplies onto support truck
0800	Prosonic setting up on MW-1112D
0817	calibrate Photovac 2020 PID to span 100ppm
0827	photo #4 (East) - drill rig at MW-1112D
0840	Begin drilling MW-1112D
0857	stop drilling - lightning in area
1030	resume drilling
1151	complete MW-1112D to depth of ~~Z~~ DWL 55.5ft
	-used 120 gallons of water during drilling
1235	Prosonic begin installing permanent 6" casing
1239	photo #5 (East) - installation of casing at MW-1112D
1300	Break for lunch
1330	contine installing 6" casing
1400	complete installing 6" casing; begin grouting borehole
1520	stop working - Tornado warning
1550	resume removing 8" casing from borehole
1600	complete removing 8" casing; begin clean-up of area around MW-1112D
1650	Jerry (D+M) and K. Carlisle off-site

8/25/01

1655	J. Campbell off-site	06
1656	Prosonic decon equipment and off-load drums	
1705	D. Lamsma + Prosonic off-site	
		06
		06.
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	Pure v C	0[illegible]
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		10.
		10[illegible]
		11[illegible]

0650 D. Lamsma on-site
obj: soil borings on Northern Builders Property
weather: mostly sunny, high 75-80 °F
PPE: Level D
Personnel: J. Campbell, D. Lamsma (Clayton)
Jerry (Dames & Moore)
K. Carlisle (Parsons)
Prosonic

0655 K. Carlisle on-site
0656 Prosonic on-site
0700 J. Campbell and Jerry on-site
0710 Prosonic decon equipment and off-load 8" casing from support truck
0800 Prosonic setting up on MW-1112S
0850 Begin drilling MW-1112S
0858 collect MW-1112S 0-2 ft for VOCs
0900 collect MW-1112S 2-4 ft for VOCs
0903 collect MW-1112S 10-12 ft for VOCs
0915 collect MW-1112S 22-24 ft for VOCs
1000 per B. Elwell: set well into silty material, not at 33 ft as originally discussed
1015 complete drilling MW-1112S to depth of 40 ft: set at 37 ft with a 10 ft screen
1017 calibrate Photovac 2020 PID to span 100 ppm
1022 take headspace readings from selected intervals
0-2 ft: 10.5 ppm
2-4 ft: 13.9 ppm
10-12 ft: 12.9 ppm
22-24 ft: 10.5 ppm
1139 complete installation of MW-1112S; begin clean-up of area

8/26/01

1150	photo #6 (West) - MW-1112S and MW-1112D
1200	Break for lunch
1250	return from lunch - Presonic deconing equipment
1340	put flush-mount covers and concrete pads around 3 shallow wells
1355	K. Carlisle off-site
1356	per drillers - used ~100 gallons of water during drilling/installing MW-1112S
1430	photo #7 (North) - installing cover on MW-1110S
1518	Jerry (D+M), J. Campbell off-site
1720	complete putting flush-mount covers on shallow wells
1722	photo #8 (West) - area of MW-1112S/D
~~1751~~ 1735	Presonic + D. Lamson off-site

Parent
8/26/01

0650	D. Lomsma on-site
	obj: core bedrock
	weather: chance showers; high 75-80°F
	PPE: Level D
	Personnel: D. Lomsma, J. Campbell (Clayton)
	K. Carlisle (Parsons)
	Jerry (Domes + Moore)
	Prosonic
0707	Prosonic setting up to core MW-1110D
0911	Begin coring bedrock or MW-1110D
0928	complete R-1: used approx 400 gallons of water
	with 300 drummed
1030	per B. Elwell: remove approx 500 gallons of water
	prior to sampling
1107	photo #9/10/11 - Bedrock core R-1 of MW-1110D
1158	set packer at bottom of casing with pump
	at 60-61 ft below ground surface
1205	Begin pumping
1210	pumped dry after 15 gallons
1212	Break for lunch
1300	continue pumping - rate of 0.5 gal/min
1314	B. Elwell on-site
1350	B. Elwell off-site
1739	remove 100 gallons of water from borehole -
	per B. Elwell
1742	collect 2 vials of groundwater for VOCs:
	1110D-PT1
1745	Prosonic putting drill head over 6" casing and
	clean up around MW-1110D
1757	Jerry (D+M), K. Carlisle off-site
1830	J. Campbell, D. Lomsma, Prosonic off-site

8/28/01

0655 D. Lamsma on-site
obj: bedrock coring on Northern Builders Property
weather: sunny; high 75-80°F
PPE: Level D
Personnel: D. Lamsma, J. Campbell (Clayton)
K. Carlisle (Parsons)
Jerry (Dames + Moore)
Prosonic

0223 Begin coring bedrock
0725 K. Carlisle on-site
0746 complete coring R-2 from 66-76 ft
0805 Begin coring R-3
0820 photos # 12/13/14 - core R-2 of MW-1110D
0836 complete coring R-3 from 76-82
used ~400 gallons to core R-2 and R-3 and
recovered ~275 gallons
0900 photos # 15/16/17 - core R-3 of MW-1110D
0905 Prosonic cleaning up area of MW-1110D
0925 Prosonic decon coring equipment
1005 Prosonic setting up on MW-1112D
1100 measure depth to bottom: 38 ft
- 16 ft of grout inside casing
1112 Begin coring at MW-1112D
1142 complete coring R-1 from ~~54~~ 55.5 - 66 ft
used 200 gallons of water during and
recovered 100 gallons
1204 Per B. Elwell: remove 200 gallons of water and collect
sample
1215 collect 2 vials of groundwater for VOCs from
1112D-PT1; J. Campbell off-site to first
Environmental Lab.

1235	Begin coring R-2
1304	complete coring R-2 from 66-76
	-used ~150 gallons of water and recovered 0 gallons; all lost to formation
1317	Break for lunch
1400	continue drilling at MW-1112D
1418	photos #18/19/20 - core R-2 of MW-1112D
1426	complete R-3 from 76-81 ft
	-used approx 150 gallons of water and lost all to formation
1510	Prosonic decon coring equipment
1539	photos #21/22/23 - Core R-3 of MW-1112D
1550	Prosonic setting up to core at MW-1111D
1620	Begin coring bedrock at MW-1111D
1648	complete coring R-1 from 56-66 ft
	-used 300 gallons of water, lost 200 gallons to formation
1655	R. St John on-site - purge 300 gallons before collecting sample
DMC ~~16~~ 1710	R. St John off-site
1735	collect 2 vials for VOC analysis: 1111D-PT1
1747	Begin coring R-2
1800	complete R-2 from 66-76 ft
1813	Begin coring R-3
1820	complete Coring R-3 from 76-81 ft
1840	photos #24/25/26/27 - cores R-1/R-2/R-3 of MW-1111D
1900	Prosonic cleaning up around MW-1111D; welding tops onto 3 deep wells
1910	K. Carlisle off-site
1920	per drillers: used 250 gallons of water during R-2 and R-3; recovered approx 150 gallons
1930	J. Campbell, Jerry T., Prosonic, D. Lansma off-site

8/29/01

0655 D. Lomsma on-site
obj: Flush-mount deep wells on Northern Builders Prop.
weather: sunny; high near 80°f
PPE: Level D
Personnel: D. Lomsma, J. Campbell (Clayton)
K. Carlisle (Parsons)
Jerry T. (URS)
Prosonic

0730 Prosonic putting flush-mount cover on MW-1110D
0843 complete putting cover on MW-1110D
0847 Begin putting cover on MW-1111D
1030 K. Carlisle off-site
1050 complete putting covers on MW-1111D/1112D
1135 Prosonic complete removing drums from Northern Builders Property
1150 Prosonic, Jerry T., D. Lomsma, J. Campbell off-site

[illegible]
8/29/01

9/5/01

0650	D. Lansma on-site
	obj: complete MW-1108 D
	weather: sunny, high 75-80°F
	PPE: Level D
	Personnel: J. Campbell, D. Lansma
	K. Carlisle
	Prosonic
0710	Prosonic deconing equipment
0815	Prosonic setting up on MW-1108D
0940	Begin drilling MW-1108D: clean out 12" casing and sample from 51 ft to top of bedrock
1040	photo #1 (NE): putting in 8" temporary casing at MW-1108D
1105	calibrate Photovac 2020 PID to span 100 ppm
1135	complete MW-1108 to depth of 86 ft; use 300 gallons of water
1145	Break for lunch
1330	Prosonic on-site: set 6" casing in MW-1108D
1342	B. Elwell on-site to locate well nest south of MW-1102D (To be named MW-1113D/S)
1400	B. Elwell off-site
1525	complete installing 6" casing; begin grouting borehole
1730	complete grouting hole and removing 8" casing; begin clean-up of area
1735	K. Carlisle off-site
1752	~~K. Car~~ Owl J. Campbell off-site
1755	Prosonic deconing equipment
1830	D. Lansma and Prosonic off-site

[illegible]
9/5/01

9/6/01

0650 D. Lansma on-site
obj: boring near MW-126
weather: mostly sunny; high 80-85°F
PPE: Level D
Personnel: D. Lansma, J. Campbell
K. Carlisle
Prosonic

0710 Prosonic setting up on CSB-126B
0756 Calibrate Photovac 2020 PID to span 100ppm
0847 Begin drilling at CSB-126B
0944 photo #2: soil core from 41-46 ft
1035 complete CSB-126B to depth of 82 ft; Prosonic
begin grouting borehole
[illegible]44 collect CSB-126B 8-10 ft for VOCs
1042 collect CSB-126B 10-12 ft for VOCs
1047 collect CSB-126B 12-14 ft for VOCs
1053 collect CSB-126B 14-16 ft for VOCs
1100 collect CSB-126B 16-18 ft for VOCs
1104 collect CSB-126B 18-20 ft for VOCs
1108 collect CSB-126B 20-22 ft for VOCs
1108 collect CSB-126B 22-24 ft for VOCs
1113 collect CSB-126B 24-26 ft for VOCs
1114 collect CSB-126B 26-28 ft for VOCs
1119 collect CSB-126B 28-30 ft for VOCs
1121 collect CSB-126B 30-32 ft for VOCs
1125 collect CSB-126B 32-34 ft for VOCs
1126 collect CSB-126B 34-36 ft for VOCs
1130 collect CSB-126B 38-40 ft for VOCs
·31 collect CSB-126B 42-44 ft for VOCs
[illegible]135 collect CSB-126B 44-46 ft for VOCs
1203 collect CSB-126B 52-54 ft for VOCs

9/6/01

1210	collect CSB-126B 58-60 ft for VOCs
1214	collect CSB-126B 60-62 ft for VOCs
1208	collect CSB-126B 66-68 ft for VOCs
1213	collect CSB-126B 68-70 ft for VOCs
1430	complete grouting CSB-126B to surface; put extra grout into MW-1108D
1540	Prosonic begin decon drilling equipment
1605	K. Carlisle off-site
1630	D. Lomsma, J. Campbell, Prosonic off-site

[illegible]
9/6/01

9/7/01

0650 D. Lomsma on-site
obj: soil borings on west parcel
weather: showers, high 80-85°F
PPE: Level D
Personnel: D. Lomsma, J. Campbell
K. Carlisle
Prosonic

0700 Prosonic setting up to drill at MW-1114D
0720 unable to set up drill rig at MW-1114D: slope is too steep
0750 per B. Elwell: move to MW-1113D
0800 calibrate photovac 2020 PID to span 100ppm
0801 Prosonic setting up to drill MW-1113D
515 Begin drilling MW-1113D
1021 complete MW-1113D to depth of 66 ft; begin installing 6" casing
1041 collect MW-1113D 14-16 ft for VOCs
1048 collect MW-1113D 16-18 ft for VOCs
1045 collect MW-1113D 18-20 ft for VOCs
1050 collect MW-1113D 28-30 ft for VOCs
1051 collect MW-1113D 32-34 ft for VOCs
1056 collect MW-1113D 34-36 ft for VOCs
1106 collect MW-1113D 58-60 ft for VOCs
1107 collect MW-1113D 60-62 ft for VOCs
1123 photo #3 (East): welding 6" casing at MW-1113D
1207 Begin grouting around 6" casing
1305 complete removing outer 8" casing; begin cleaning up around MW-1113D
1400 Prosonic decon drilling equipment and attempt to level area of proposed MW-1114D/s
1500 K. Carlisle off-site

9/7/01

1527 Prosonic welding top onto MW-1114D
1535 S. Campbell, D. Lomsma, Prosonic off-site

Perine
9/7/01

9/8/01

0642 D. Lomsma on-site
obj: soil boring on west parcel
weather: chance showers; high 75-80°F
PPE: Level D
Personnel: D. Lomsma, J. Campbell
K. Carlisle
Prosonic

0650 Prosonic on-site
0655 J. Campbell on-site; K. Carlisle on-site
0700 calibrate Photovac 2020 PID to span 100 ppm
0705 Begin drilling MW-1114D
0921 complete MW-1114D to depth of 72 ft
0940 collect MW-1114D 8-10 ft for VOCs
0941 collect MW-1114D 10-12 ft for VOCs
0943 collect MW-1114D 18-20 ft for VOCs
0945 collect MW-1114D 20-22 ft for VOCs
0948 collect MW-1114D 22-24 ft for VOCs
0948 collect MW-1114D 28-30 ft for VOCs
0953 collect MW-1114D 30-32 ft for VOCs
0953 collect MW-1114D 32-34 ft for VOCs
0957 collect MW-1114D 34-36 ft for VOCs
0957 collect MW-1114D 36-38 ft for VOCs
1000 collect MW-1114D 38-40 ft for VOCs
1000 collect MW-1114D 40-42 ft for VOCs

0940 Prosonic begin installing 6" casing
1120 Prosonic begin mixing grout
1150 Prosonic complete removing 8" casing; begin clean-up around MW-1114D
1200 Prosonic decon drilling equipment and top off wells 1108D/1113D/1114D with grout

1240	Break for lunch
1326	Prosonic continue deconing equipment
1340	Prosonic setting up to drill CSB-521B near MW-521
1355	Begin CSB-521B
1540	Complete CSB-521B to depth of 80 ft
1551	collect CSB-521B 0-2 ft for VOCs
1555	collect CSB-521B 2-4 ft for VOCs
1559	collect CSB-521B 4-6 ft for VOCs
1603	collect CSB-521B 6-8 ft for VOCs
1555	collect CSB-521B 8-10 ft for VOCs
1559	collect CSB-521B 10-12 ft for VOCs
1602	collect CSB-521B 12-14 ft for VOCs
1551	collect CSB-521B 14-16 ft for VOCs
1615	collect CSB-521B 16-18 ft for VOCs
1618	collect CSB-521B 18-20 ft for VOCs
1621	collect CSB-521B 20-22 ft for VOCs
1625	collect CSB-521B 22-24 ft for VOCs
1613	collect CSB-521B 24-26 ft for VOCs
1616	collect CSB-521B 28-30 ft for VOCs
1620	collect CSB-521B 30-32 ft for VOCs
1624	collect CSB-521B 44-46 ft for VOCs
1636	collect CSB-521B 46-48 ft for VOCs
1639	collect CSB-521B 48-50 ft for VOCs
1644	collect CSB-521B 50-52 ft for VOCs
1648	collect CSB-521B 52-54 ft for VOCs
1636	collect CSB-521B 56-58 ft for VOCs
1641	collect CSB-521B 58-60 ft for VOCs
1645	collect CSB-521B 64-66 ft for VOCs
1650	collect CSB-521B 66-68 ft for VOCs
1658	collect CSB-521B 76-78 ft for VOCs
1655	collect CSB-521B 68-70 ft for VOCs

9/8/01

1545 Prosonic begin grouting borehole
1625 complete grouting borehole; begin decon of drilling equipment
1715 K. Carlisle off-site
1725 J. Campbell off-site
1800 D. Lemsma and Prosonic off-site

9/8/01

0650 D. Lomsma on-site
obj: bedrock coring
weather: showers, high 70-75°F
PPE: Level D
Personnel: D. Lomsma, J. Campbell
K. Carlisle
Prosonic

0717 Prosonic setting up to core bedrock at MW-1108D
0824 Begin coring bedrock
0835 complete core R-1 from 86-96 ft
-use approx 200 gallons of water
-lost approx 100 gallons to formation
0923 Begin pumping for packer test
1048 remove 500 gallons of water prior to sampling
2 vials for VOCs: 1108D-PT1
1100 Begin coring R-2
1115 complete R-2 from 96-106 ft
-use approx 100 gallons of water
-lost approx. 50 gallons to formation
1134 Begin coring R-3
1142 complete R-3 from 106-111 ft
-use approx 75 gallons of water
-lost approx 50 gallons to formation
1243 Prosonic begin decon drilling equipment
1310 Break for lunch
1350 Prosonic setting up to core bedrock at MW-1113D
1433 Begin coring R-1 from 66-76 ft
1443 complete coring R-1
-use approx 150 gallons of water
-lost unknown amount to formation
1509 Begin pumping for packer test

9/9/01

1609 remove 500 gallons of water prior to sampling
2 vials for VOCs : 1113D-PT1

1615 Prosonic putting cover on to MW-1113D

1625 K. Carlisle, J. Campbell, D. Lansma, Prosonic off-site

[illegible]
9/9/01

9/10/01

0650 D. Lamsma on-site
obj: core bedrock and install shallow wells
weather: sunny, high 75-80°F
PPE: Level D
Personnel: D. Lamsma, J. Endsley
K. Carlisle
Prosonic

0700 Prosonic and K. Carlisle on-site
0710 J. Endsley on-site
0745 Begin coring R-2
0755 complete coring R-2 from 76-86 ft
- use approx 100 gallons of water
- lost all to formation
0811 Begin coring R-3
0816 complete R-3 from 86-91 ft
- use 100 gallons of water
- lost all to formation
0840 Prosonic deconing equipment
0902 photos #4/5/6/7/8: cores R-2 and R-3 of MW-1113D
0913 Prosonic setting up to drill MW-1113 ~~S~~ DM M
0919 Begin drilling MW-1113 ~~S~~ M DM
1048 complete MW-1113M to depth of 60 ft
- set well at 57 ft with 10 ft screen
- use approx 100 gallons of water during drilling
1152 Prosonic off-site for lunch and cement
1245 Prosonic begin grouting MW-1113M
1330 complete installing MW-1113M
1350 Prosonic setting up to drill MW-1113S
1414 Begin drilling MW-1113S
1443 photo #9 (East) - drilling at MW-1113S

9/10/01

1457	complete drilling MW-1113S to depth of 40 ft - set well at that depth with a 10 ft screen - use approx 100 gallons of water during drilling - use additional 100 gallons of water while cleaning out casing
1630	complete installing MW-1113S
1650	Presonic begin decon drilling equipment
1655	K. Carlisle off-site
1711	J. Endsley off-site; Presonic filling boreholes with grout
1825	D. Lamsma, Presonic off-site

[signature]
9/10/01

0637 D. Lansma on-site
obj: bedrock core and install shallow wells
weather: sunny, high around 80°F
PPE: Level D
Personnel: D. Lansma, J. Endsley
K. Carlisle
Prosonic

NOTE: N. Bolivar of Northern Builders to develop shallow wells

0643 North Branch Environmental on site to pump out Baker Tank
0652 Prosonic on-site
0702 K. Carlisle on-site
0707 J. Endsley on-site
0710 Prosonic setting up to core at MW-1114D
0720 North Branch off-site with approx 3000 gallons of water
0810 Begin coring R-1
0827 complete R-1 from 72-77 ft
-use approx 250 gallons of water
-lost unknown amount to formation
0837 continue R-1 for additional 5 ft
0855 complete R-1 from 77-82 ft
-use no additional water during coring
0910 Begin pumping water for packer test
1045 remove 550 gallons of water prior to sampling
2 vials for VOCs: 1114D-PT1
1058 Begin coring R-2
1122 complete coring R-2 from 82-92 ft
-use 220 gallons of water; lost all to formation

9/11/01

1148 Begin coring R-3
1204 complete coring R-3 from 92-97 ft
-use approx 75 gallons of water
-lost all to formation
1237 Break for lunch
1330 Begin drilling MW-1114S
1540 complete drilling MW-1114S to depth of 60 ft;
set well there with 10 ft screen
-use approx 200 gallons of water during drilling
1705 complete installing MW-1114S; begin cleanup of area
1755 K. Carlisle and J. Endsley off-site
1805 D. Lamsma and Prosonic off-site

9/10/01

0652 D. Lamsma on-site
obj: put protective covers on wells
weather: sunny, high around 80°F
PPE: Level D
Personnel: D. Lamsma, J. Endsley
K. Carlisle
Prosonic
0720 J. Endsley off-site
0730 Begin installing covers on MW-1113 D/M/S
1035 K. Carlisle off-site
1104 photo #10 (NE): MW-1113 S (Left), M (center), D (right)
1105 complete installing covers on MW-1113 D/M/S
1110 Begin putting covers on MW-1114 D/S
1315 complete putting covers on MW-1114 D/S
1340 Begin putting cover onto MW-1108D
- leave 6" casing above ground, only cut down 10" outer casing
1540 complete locking cover on MW-1108D
1543 Prosonic begin decon of equipment and cleaning up staging area
1700 photo #11 (East) - stick up at MW-~~1114~~ DM 1108D
1910 Prosonic and D. Lamsma off-site

[illegible]
9/12/01

9/14/01

0745 On Site, Jeff Endsley
Objective: Oversight of Haz & Non Haz Drum pick up
Weather: Sunny, 65°F
PPE: Level D

0750 R3 Rep. Steve Brogan on site with fork lift and Printed Lables.

0800 Began placing labels on drums. Drums marked MW-1110, MW-1111, ~~and~~ (JLE) MW-1112, and (JLE) ~~Grout/Purge water and Grout were labeled~~ Grout/Portland cement, ~~a~~were labeled as non-hazardous. All others were hazardous.

27 = Non-Haz.
26 = Haz
53 Total drums hauled off.

1000 Drums loaded onto Ozinga truck. Driver is Jack Gangwer

1130 Manifest signed by Art at Lockformer

1145 Jeff Endsley and Steve Brogan off site.

0740 D. Lansma on-site
obj: take water levels
weather: mostly sunny, high 70-75°F
PPE: Level D

0745	SG-1	10.86 ft
0757	BW-1	90.03 ft
0807	BW-3	45.27 ft
0813	BW-2	36.01 ft
0821	SG-2	9.78 ft
0830	SG-6	13.90 ft
0841	SG-5	12.28 ft
0852	SG-4	14.14 ft
0859	SG-3	13.97 ft
0910	MW-1110D	27.94 ft
0911	MW-1110S	27.87 ft
0920	MW-1111D	26.19 ft
0921	MW-1111S	26.21 ft
0929	MW-1112D	26.85 ft
0932	MW-1112S	27.14 ft
0943	MW-1106D	64.91 ft
0951	MW-1114D	45.12 ft
0952	MW-1114S	44.89 ft
1000	MW-522	52.11 ft
1005	MW-521	55.00 ft
1010	MW-1105	49.09 ft
1016	MW-1104S	44.91 ft
1018	MW-1104D	45.10 ft
1025	MW-1103D	43.64 ft
1027	MW-1103S	42.78 ft
1029	MW-1103M	43.20 ft
1050	MW-1113D	38.65 ft

9/20/01

1053	MW-1113M	38.95 ft
1055	MW-1113S	38.59 ft
1100	MW-1102S	46.41 ft
1102	MW-1102D	47.02 ft
1107	MW-1109	46.95 ft
1112	MW-126	52.80 ft
1117	MW-516D	45.71 ft
1120	MW-517D	55.25 ft
1125	MW-500D	49.27 ft
1133	MW-501D	51.76 ft
1129	MW-515	48.29 ft
1135	Break for lunch	
1300	put JB weld on deep wells at Northern Builders	
1332	MW-402	45.81 ft
1340	MW-504D	56.82 ft
1341	MW-504S	Dry
1349	MW-502S	5.16 ft
1353	MW-513D	52.19 ft
1356	MW-514D	46.01 ft
1402	MW-401	51.68 ft
1405	MW-120	41.79 ft
1407	MW-101	12.17 ft
1413	MW-1108S	54.67 ft
1417	MW-1108D	57.45 ft
1420	MW-123	12.06 ft
1423	MW-507S	Dry
1434	MW-1100S	~~37.37 ft~~ one 34.82 ft
1436	MW-1100D	37.37 ft
1441	MW-1101S	35.20 ft
1440	MW-1101D	37.72
1449	MW-505S	Dry
1452	MW-1107D	56.27 ft

DM ~~MW-504~~		
1458	MW-508S	Dry
1502	MW-508D	52.76 ft
1505	D. Lansma off-site	

[illegible]
9/20/01

9/22/01

0745 J. Campbell onsite obj. video log 6 remaining deep wells
weather: clear, sunny, 66°. Jerry from Layne Western already onsite.
0749 D. McGowan from Parson's onsite.
0753 Jerry from Layne Northwest onsite.
0759 Setting camera up at MW-1108D
Zero point set at 5'04" down hole
0820 Started video logging MW-1108D
0853 Finished video logging MW-1108D. Decanning video camera.
0858 Moving to and setting up at MW-1113D
0912 Started video logging MW-1113D
0949 Finished video logging MW-1113D. Decanning video camera
0957 Moving to and setting up at MW1114D.
1004 Started video logging MW-1114D
1012 Jerry K. from URS onsite
1035 Finished video logging MW1114D. Decanning video camera
1050 Moving to and setting up at MW-1110D
1105 Started video logging MW1110D
1140 Finished video logging MW1110D. Decanning video camera
1153 Moved to & set up at MW-1111D
1156 Started video logging MW1111D
1237 Finished video logging MW1111D. Decanning video camera
1245 Moved to and set up at MW-1112D
1252 Started video logging MW1112D
1338 Finished video logging MW1112D. Decanning video camera
1350 Jerry K. (URS), D. McGowan (Parsons), Jerry (Layne NW) offsite
1352 Welded caps back on
1400 J. Campbell offsite

9/25/01

1020 D. Lansma on-site; Bob and Ross from Layne already present

obj: packer test new bedrock wells

weather: cool, breezy, high 50-55°F

PPE: Level D

Note: N. Bolivar and G. Galle at Northern Builders sampling shallow wells

1025 Layne off-loading equipment

1109 B. Elwell on-site

1212 take total depth of MW-1113D: 93.10 ft

1256 B. Elwell off-site; break for lunch

1315 Layne continue staging and deconing equipment

1547 Layne off-site to get water tank

1550 D. Lansma off-site

9/25/01

9/26/01

0645 D. Lansma on-site

obj: packer test on Northern Builders' Property.

weather: mostly cloudy, high near 60°F

PPE: Level D

Personnel: D. Lansma, B. Elwell (Clayton)

Chris (Parsons)

Ross, Bob (Layne)

Jerry (ORS)

0650 Layne loading packer test system and water tank onto trailer for transport

0735 Talk total depth measurement of MW-1111D: 79.0 ft

0740 Layne setting up packer system at MW-1111D

0755 Hermit 1000 provided not set up properly, wait for call from Layne to figure out what transducer for input 1 and input 2

0814 set bottom of packer system at 78 ft bgs

0827 D. McGoron on-site to replace Chris (Parsons)

0955 Hermit 1000 set up:

Transducer 1/Input 1 is at bottom S/N 6111

Transducer 2/Input 2 is at top S/N 07408

1000 unable to keep packers sealed - remove bladders

1050 packer system is repaired and back in well; set at same depth as before

1106 set transducers to REF:0 and start Hermit 1000C, test 0

1108 Begin pumping from 65-73 ft

1113 pump dry; wait and restart

1129 turn on pump - pumped dry again

1137 check water level above packer: ~26 ft BTOC

1141 pump dry for third time; remove approx 20 gallons of water; let Hermit 1000 run for 10 more minutes

9/26/01

1148 stop Hermit 1000C Test 6

1152 calibrate Horiba U-22 water quality meter with standard solution

1159 turn on bladder pump

1215 hook up Horiba U-22 to bladder pump and begin taking water quality readings

	pH	cond (mS/cm)	Turb (NTU)	DO (g/L)	Temp (°C)	ORP (mV)	Vol (gal)
1218	8.78	1.52	56.3	0.46	13.89	-55	3
1219	8.94	1.52	69.8	0.13	13.94	-62	3.5
1223	9.04	1.50	106.0	0.05	13.88	-61	4.5
1225	9.16	1.49	133	0.30	13.91	-59	5.5
1229	9.17	1.49	176	0.44	13.88	-58	6.5
1232	9.29	1.49	213	0.46	13.91	-59	7.5
1237	9.30	1.49	255	0.59	13.94	-64	8.5
1241	9.30	1.49	294	0.63	14.04	-67	9.5

1246 collect 2 vials from MW-1111D 65-73 ft for packer test; labeled MW-1111D SPT-35

1250 raise packer system 8 ft and conduct second test from 57-65 ft

1317 start Hermit 1000C

1319 turn on pump for packer test; will remove 600 gallons of water prior to stabilizing parameters

1357 generator not working properly - shut down

1400 RESTART PUMP

1419 PUMP SHUT DOWN. 600 GALLONS REMOVED.

1429 stop Hermit 1000C Test 1

1432 B. Elwell off-site

1440 Begin pumping for parameter stabilization, with bladder pump

9/26/01

	pH	cond (mS/cm)	Turb (NTU)	DO (g/L)	Temp (°C)	ORP (mV)	Vol (gal)
1451	8.39	1.67	103	0	14.85	-9	3
1455	8.38	1.67	125	0	14.72	-11	4
1459	8.36	1.66	162	0	14.79	-14	5

1503 collect 2 vials from MW-1111D 57-65 ft for VOCs; labeled: MW-1111D 3PT-36

1505 Layne deflating packers and pulling out of well

1520 D. McGowan off-site

1537 Jerry K. off-site

1542 Layne complete pulling packer system from MW-1111D

1600 Layne begin pumping water from 550 gallon Tank to Baker tank and decon equipment

700 D. Lansman and Layne off-site

[illegible]
9/26/01

9/27/01

0647 D. Lonsma on-site
obj: Packer Test MW-1113D
weather: sunny, high 65°F
PPE: Level D
Personnel: D. Lonsma
D. McGowen
Ress, Bob

0653 Layne setting packer system in MW-1113D; set bottom at 93 ft BTOC; tape to read 76 ft
0711 D. McGowen on-site
0810 Layne inflat packers and set Grundfos pump in well
0821 Begin Hermit 1000C, Test 2
0823 Begin pumping
0858 complete pumping for packer test; remove 400 gallons from 80-88 ft BTOC
0908 stop Hermit 1000C, Test 2
- Bottom transducer was reading 11-12 foot of drawdown during test; all recovered before Test 2 was stopped
0915 calibrate Horiba U-22 water quality meter with standard solution
0925 begin purging with bladder pump to stabilize parameters

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
0951	8.10	1.71	404	0.26	12.09	-10	3
	8.13	1.71	388	0.0	12.15	-12	4
	8.14	1.70	419	0.0	12.21	-13	5

1007 collect 2 vials from packer test zone: MW-1113D SPT-37
1012 deflate packers and move system to pump from 74.5-82.5 ft BTOC.

1018 Layne inflate packers and set pump in well
1024 start Hermit 1000C, test 3
1027 start pumping test from 74.5-82.5 ft BTOC
1059 stop pumping; remove 400 gallons of water
1109 stop Hermit 1000C, test 3
1117 begin pumping with bladder pump to stabilize parameters

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
1142	8.11	1.70	115	0.0	13.11	-21	3
1149	8.11	1.69	136	0.0	13.13	-19	4
1159	8.11	1.65	103	0.0	12.98	-19	5

1202 collect 2 vials for VOCs from packer test: MW-1113D SPT-38
1206 Layne release packers and move system up 10 ft
1222 Layne inflate packers and put Grundfos into well
1223 Begin Hermit 1000C test 4; pump interval of 64.5-72.5 ft
1226 Begin pumping
1253 stop pumping; remove 300 gallons of water
1303 stop Hermit test 4
1306 Layne remove Grundfos pump and insert bladder pump
1309 Begin pumping to stabilize parameters

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
1331	8.18	1.75	120	0.0	13.38	-36	3
1336	8.20	1.75	135	0.0	13.31	-38	4
1342	8.20	1.75	154	0.0	13.62	-38	5

1346 collect 2 vials for VOC analysis: MW-1113D SPT-39
1350 Layne Begin removing packer system from MW-1113D
1450 Layne begin deconing packer system
1455 D. McGowen off-site

86

9/27/01

1528 complete decon of packer system
1550 D. Lamsma and Layne off-site

[illegible]
9/27/01

9/28/01

0645 D. Lansma on-site
obj: packer test at MW-1110D
weather: cloudy, cool, high 65°F
PPE: Level D
Personnel: D. Lansma (Clayton)
Jerry K. (URS)
Melissa (Parsons)
Bob, Ross (Layne)

0650 Layne setting packer system at MW-1110D:
rope at 62 ft
bottom at 79 ft
packer zone from 66-74 ft
0744 Layne inflat packers and insert Grundfos into well
0747 Begin Hermit 1000C test 5
0750 Begin pumping
0753 pumped dry after approx 20 gallons
0804 pumped dry for second time
0815 pumped dry for third time
0821 pumped dry for forth time; remove total of 25 gal
0832 stop Hermit 1000C test 5
0835 Layne removing Grundfos and insert bladder pump
0836 calibrate Horiba U-22 water quality meter with standard solution
0841 Turn on bladder pump and begin parameter stabilization

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
0917	11.04	1.52	54.9	0.0	13.17	-27	3
0927	10.81	1.53	86.9	0.0	13.25	-33	4
0938	10.71	1.53	125	0.0	13.28	-38	5
0949	10.55	1.53	151	0.0	13.31	-40	6
1000	10.44	1.54	158	0.0	13.33	-42	7

9/28/01

parameter stabilization (cont)

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
1010	10.38	1.56	212	0.0	13.51	-40	8
1021	10.25	1.58	214	0.0	13.38	-44	9
1032	10.18	1.60	232	0.0	13.39	-46	10
1042	10.13	1.59	265	0.0	13.40	-48	11
1051	10.05	1.60	274	0.0	13.40	-51	12
1103	9.94	1.62	288	0.0	13.39	-65	13
1112	9.83	1.65	293	0.0	13.42	-87	14
1135	9.68	1.68	316	0.0	13.52	-142	15.5
1139	9.63	1.69	319	0.0	13.53	-143	16
1150	9.58	1.70	330	0.0	13.44	-153	17

1152 collect 2 vials for VOCs from MW-1110D : MW-1110D SPT-40
- remove total of 40 gallons prior to sampling

1200 Layne remove bladder pump and reset packer system
tope at 54 ft
bottom at 71 ft
packer zone from 58-66 ft

1215 Layne inflate packers and insert Grundfos into well

1218 Begin Hermit 1000C test 6

1221 Begin pumping

1310 stop pumping - remove 675 gallons of water

1320 stop Hermit 1000C test 6 ; Layne remove Grundfos pump and install bladder pump

1325 Begin pumping to stabilize parameters

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
1336	8.51	1.75	3.9	0.0	12.92	-36	3
1339	8.52	1.75	7.1	0.0	12.90	-43	4

9/28/01

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
1343	8.53	1.75	14.2	0.0	12.89	-48	5

1346 collect 2 vials of groundwater for VOCs: MW-1110DSPT-41.
1347 Layne remove bladder pump; begin removing packer system
1402 Melissa (Parsons) off-site
1424 Jerry (URS) off-site
1430 Layne begin decon of equipment
1505 Layne and D. Lansma off-site

[illegible]
9/28/01

10/1/01

0853 D. Lamsma on-site; Layne already present
obj: packer test at MW-1108D
weather: sunny, high 70-75°F
PPE: Level D
Personnel: D. Lamsma, H. Mendygral

0903 Layne setting up to packer test MW-1108D
Tape at 92.5 ft
bottom at 109.5 ft
packer zone from 96.5-104.5 ft

1010 get Hermit 1000C set up for transducers
with help of Pat (Layne)

1012 Layne inflate packers and insert pump into
well

1019 Begin Hermit 1000C, test 0

1022 Begin pumping

1024 stop pump - well is dry

1034 pumped dry for second time

1044 pumped dry for third time

1054 stop pumping; remove approx 50 gallons of water

1104 stop Hermit 1000C, test 0

1105 Layne remove Grundfos pump and insert
bladder pump

1110 calibrate Horiba U-22 water quality meter with
standard solution

1125 Begin pumping with bladder pump to stabilize
parameters

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
1215	11.6	0.91	999	0.86	14.04	1	7
1219	11.32	0.92	999	0.85	13.82	-1	8
1225	11.0	0.93	999	0.87	13.98	-5	9
1231	10.74	0.95	999	0.88	13.95	-6	10

10/1/01

continue parameter stabilization

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol (gal)
1236	10.35	0.98	999	0.90	13.85	-2	11
1240	10.29	0.97	999	0.88	13.90	-1	12
1248	10.09	1.00	999	0.87	13.85	3	13
1253	9.95	1.01	999	0.88	13.82	6	14
1258	9.77	1.05	999	0.89	13.76	10	15
1303	9.67	1.07	999	0.88	13.62	12	16
1309	9.50	1.09	999	0.88	13.84	16	17
1313	9.44	1.10	999	0.90	13.83	18	18
1318	9.37	1.11	999	0.89	13.83	20	19
1323	9.25	1.12	999	0.87	13.83	22	20
1328	9.19	1.13	999	0.88	13.83	25	21
1333	9.13	1.14	999	0.89	13.78	27	22
1338	9.04	1.18	999	0.87	13.83	28	23
1343	9.00	1.21	999	0.87	13.90	30	24
1349	8.86	1.23	999	0.86	14.02	34	25
1353	8.82	1.24	999	0.86	13.91	35	26
1358	8.78	1.25	999	0.82	13.85	36	27

1400 Sampled MW-1108D SPT-42 for VOCs w/ 2-40mL vials w/ HCl

1405 Removed bladder pump and begin setting the tape at 85.0 ft, packer zone 90-98 ft

1415 Hermit 100C set up w/ tranducers, test / begin

1422 Began grandfos pumping for spt-43

1425 Stop pumping randy after 10 gallons, Daven (Clayton) left site for day

10/01/0

1436 Stop pump - well went dry for a second time approx - 10 gall removed

~~1449~~

1450 Stop pump well went dry for a third time approx 5 - gall removed

1502 Stop pump - well went dry for a 4 time approx 2 - gallons

1512 Stop pump - well went dry for a 5th time approx 2 - gallons removed

1528 Stop pump well went dry for 6th time approx 1 - gallon removed

1548 Stop pump well dry for 7th time approx 2 - gallons removed

1607 Stop pump well dry for 8th time approx 2 - gallons removed, allowing 10 min for stabilization

1621 Stoped hunt test #1 removing gumbas + replacing w/ bladder pump

1635 Begin bladder pump to purge addition 15 gallons and stabilize parameters

10/01/01

pH	cond (mS/cm)	Turb (NTC)	DO (mg/L)	temp (°C)	ORP (mV)	vol (gal)

1640 generator for bladder pump not working, unable to determine what is wrong with the generator - Layne is going offsite to get a new compressor/generator

1730 Begin bladder pumping again

1827 purged additional 15 gallons from ~~STP~~ SPT-43 to make at total of 50 gallons removed

	ph	cond (mS/cm)	turb (NTC)	DO (mg/L)	temp (°C)	ORP (mV)	vol (gal)
1828	7.46	1.47	432.0	0.81	13.17	-16	15 gal
1832	7.46	1.46	428.0	0.81	13.14	-16	17 gal
1839	7.46	1.46	456.0	0.80	13.10	-15	18.5 gal

1840 Sampled MW-11108 SPT-43 for VOC's w/ 2-40mL vials w/ HCl

1846 Layne is cutting the area around MW-11108 ~~for~~ to make the stick up a flush mount

1852 Drew (Parsons) left site for day

1857 Removing the Casings + Closing up MW-11108

1941 layne left site for day, will finish flushmount in morning

1945 H Mendygral left site for day

[signature] 15/01/01

10/02/01

Objective: Packer Test at MW-1112D
Weather: Sunny, 70's
PPE: level D
personel: Heidi Mendygral (Clayton), Drew (Parsons), Bob (Layne), Gerry (URS)

6:15 H. Mendygral arrive on site

6:20 Layne arrives on site

6:25 Layne begins at MW-1108D making stickup well at flushmount well

6:45 B. Elwell arrives on site

7:00 Gerry (URS) arrives on site.

7:10 Finished cutting down the stickup MW-1108D will be concreting later, Deconing equipment to begin packer testing on MW-1112D

8:20 Begin setting up for packer testing at MW-1112D SPT-44. Tape set at 61.6 in packer zone is 65.6 - 73.6

900 Inflated bladders + placed in grunfos pump

905 Began Hermit test #2

908 Begin pumping w/ grundfos pump

10/02/01

909 Stoped pumping, well Ran dry - approx 15 gallons

923 Stoped pumping for a second time Ran dry - approx 15-gallons

935 stoped pumping for a third time Ran dry - approx 15-gallons

946 Stopped pumping for a 4th time Ran dry approx 15-gallons

958 Stopped pumping for a 5th time Ran dry approx 15-gallons - approx 75-60 gallons total

1006 Stoped hermit # 2 test

1012 Calibrated U-22 horiba unit using standard calibration solution

1015 Begin removing grunfos pump + inserting bladder pump + Horiba-22 for stabilization parameters

1020 Begin pumping w/ bladder pump for stabilization parameters

	pH	cond (ms/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Vol gal
1030	6.40	1.65	999.0	0.02	14.06	-26	2.5 gal
1038	6.36	1.64	999.0	0.00	14.11	-34	4.5 gal
1047	6.38	1.63	999.0	0.00	14.07	-40	6.5 gal

1050 Sumped MW-1112D SPT-44 for VOC's w/ ~~24 vials~~ 2-40 ml vials w/ HCl

10/02/01

1055 Removing bladder pump and setting tage at 52.10 for a packer interval of 56.10 - 64.10 for SPT-45

1105 Inflating the bladder and placing the gunfos pump in place

1110 Started hermit ~~test~~ #3, using hermit 100C

1113 Began gunfos pump ~~for p~~ at approx 10-15 gal min

1126 At 14.00 min Tranducer 1 = 1.00, Tranducer 2 = 1.01

1142 at 31.00 min T1 = 0.01, T2 = 1.96

1204 Stoped Gunfos pump after approx 800 gallons allowing 10 min for stabilization

1213 Stopped hermit 1000 C test #3, removed gunfos pump + begin inserting bladder pump for stabilization parameters

1218 Begin bladder pump

	pH	cond (mS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	vol (gal)
1226	6.33	1.66	281.0	0.13	14.78	-24	2.0 gal
1235	6.32	1.65	408.0	0.00	14.40	-27	4.5 gal
1247	6.30	1.65	669.0	0.00	14.61	-27	7 gal

1250 Sampled SPT-45 MW-1112D for VOCs w/ 2-40 ml vials

10/02/01

1251 Removing bladder pump + casings - finished MW-1112D + securing MW-1112D

1255 Jerry + Jeniffer (URS) left site

1300 Drew (Parsons) left site for day

1335 finished removing casing from well + securing well w/ Ez-Bond

1336 Returned to lockfarmer property to finish making MW-1108D at Flushmount well

~~1534~~

1344 Decoming equipment + transfering purge water to the baker tank

1523 Finished Setting flushmount MW-1108D in concrete

1535 H. Mendygral + Layne left site for day

[signature] 10/02/01

10/03/01

objective:	Packer test at MW-1114D
weather:	Cloudy 60's
PPE:	Level D
personnel:	H. Mendigral (Clayton), Drew (Parsons) Bob (Layne)
630	Arrive on site Layne on site
645	Setting up on MW-1114D SPT-46 for first packer interval of 86.3 to 94.3, tape set at 82'3"
800	Begin hermit test #4, inflated packers
803	Began grunfos pump purging
805	Stoped grufos pump - well dry - approx 15 gallons
820	Stopped pump second time - well dry approx 1 gallon
831	Stopped pump third time - went dry approx 1 gallon
841	Stopped hermit test #4, removing grunfos pump and inserting bladder pump
845	Calibrated Horiba-22 for stabilization parameters using standard solution
851	Began bladder pump purging

[illegible]	[illegible]
72	
69	
27	
37	
35	
64	
51	

10/03/01

	ph	cond (mS/m)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mv)	vol (gal)
908	8.43	1.77	52.0	0.20	13.42	-59	2.5 gal
919	8.45	1.76	46.1	0.27	13.34	-57	4 gal
938	8.37	1.75	111.0	0.51	13.37	-54	6.5 gal

940 Sampled MW-1114D SPT 46 + Duplicate using 4-40 mL vials w/HCl

949 Removing bladder pump + Setting tape at 74.3 for interval 78.3 to 86.3 for MW-1114D SPT-47

1011 Started hermit test #5

1015 Started purging w/ grunfos pump

1027 Hermit Reading at 15:00 min T1: 2.85, T2: 0.00

1054 Hermit Reading at 41:00 min T1: 2.84 T2: 0.00

1104 Stoped pumping purged approx 600 gallons

1113 Stopped hermit 1000c test #5, began removing the grunfos pump and inserting the bladder pump for stabilization parameters

1118 Started bladder pump + set up Horib-22 for stabilization parameters

100

10/03/01

	pH	cond (mS/m)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	vol (gal)
1129	8.00	1.80	9.0	0.00	14.30	-32	2.5 gal
1136	8.02	1.79	15.4	0.00	14.30	-34	4.0 gal
1146	8.04	1.79	213	0.00	14.25	-37	6.5 gal

1150 Sampled MW-1114D SPT-47 for VOCs using 2-40mL vials w/ HCl

1155 Began removing bladder pump and setting up at the next interval at 74.3 to 82.3 ft w/ tape set at 70.0 ft for MW-1114D SPT-48

1159 placing grunfos pump at the interval of 74.3 to 82.3 ft

1200 Started helium test #6

1201 ~~Beg~~ Began pumping w/ grunfos pump

1238 Stopped pumping after purging approx 300 gall

1250 Stopped Helium test #6. Began placing the bladder pump down to SPT-48

1252 Started bladder pump ~~+ Hor~~ Horiba-22 for stabilization parameters

	pH	cond (mS/m)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	vol (gal)
1302	8.04	1.78	95.7	0.00	14.33	-30	2.5 gal
1310	8.05	1.77	~~15~~ 123.0	0.00	14.59	-33	4.5 gal
1318	8.06	1.76	173.0	0.00	14.36	-33	6.0 gal

10/03/01

1320 Sampled MW-1114D SPT-48 + MS/MSD for VOCs with 4-40mL vials w/HCl

1323 Shut off bladder pump, Began removing pump, casing and ~~securing~~ Securing the well Finished MW-1114D packer testing

1335 Drew McGowan (Parsons) left site for day

1430 Began cleaning equipment + dismantling the decon pad

1650 Layne Finished decoring equipment loading equipment + placing a 3rd the plastic decon sheeting in a 55-gallon drum

1700 H. Mendyral + Layne left site for day

Heather Mendyral
10/03/01

10/17/01
objective: water levels
weather: scattered clouds; cold
PE: Level D
personnel: J. Campbell + N. Belivan

0730 onsite
0735 Began taking levels at MW1110S (initial)
0737 MW1110D
0746 Initial reading @ MW1111S
0749 MW1111D
0755 Initial reading @ MW1112S
0758 MW1112D
0827 Initial reading @ BW-3 ~~(602 Front St.)~~ JC
(between 612 and 603 Front St.)
0835 Initial reading @ BW-2 (~~712~~ 725 Front St.)
0838 Initial reading @ BW-1 (641 Riedy St.)
0853 Equalized reading @ BW-1. Reading was taken early due to rising water in the outer casing.
0906 MW1106D
0912 MW517D
0916 MW521
0919 MW1102D
0923 MW1102S
0925 MW-1103D
0927 MW1103S
0929 MW1103M
0933 MW1113D
0935 MW1113M
0944 MW1104S
0946 MW1104D
0948 MW1105D
0952 MW521
1006 Equalized reading @ MW1111S

10/17/01

1010 Equalized reading @ MW1112S
1015 Equalized reading @ MW1110S
1027 Equalized reading @ BW-2
1044 Water level from SG-2
1058 MW1114D
1103 Initial reading @ MW1114S
1114 MW 501D
1119 MW 500D
1122 MW 515D
1125 MW1101S
1128 MW1101D
1134 MW1100S
1136 MW1100D
1140 MW514D
1142 MW 513D
1144 MW502S
1148 MW 504D
1150 MW 504S ~~is~~ dry TD = 27.26 ft
1154 MW120
1201 MW402 (initial reading)
1210 MW1108S (initial reading)
1211 MW 1108D (initial reading)
1218 MW 507S is dry TD = 24.31 ft
1223 MW101
1226 MW123
1230 MW508D
1234 MW508S is dry TD = 14.75 ft
1237 MW1107D
1242 MW505S is dry, TD = 24.42 ft, Need to replace bolts on flush mount cover
1335 Water level at SG-5
1347 Water level at SG-3

v. Campbell

10/17/01

1356 Water level @ SG-4
1406 Water level @ SG-6
1415 Equalized readings @ MW-402
1419 Equilized reading @ MW1108S
1429 Equilized reading @ MW1114S
1435 Initial reading @ MW-401
1443 Equilized reading @ MW508D
1456 Water level at SG-1
1515 J. Campbell + N. Bolivar offsite

J. Gbell

v. Campbell

10/22/01

objective: soil borings in drainage way along southeastern property boundary

weather: partly cloudy, 60°

PPE: level D

personnel: J. Campbell & Darren Lansma

0705 ~~0805~~ J. Campbell, B. Elwell, D. Lansma, (Clayton) & Drew McBowen (Parsons) onsite, Jeff (City of Lisle) onsite

0755 ~~Rob~~ Rod Cole from A+ Environmental onsite

0810 Jack from Mid-America onsite

0855 Set up on CSB-1500, 6ft south of storm drain

0915 Finished @ CSB-1500 & set up at CSB-1501, 25ft south of CSB-1500

0934 Finished @ CSB-1501 & set up at CSB-1502, 25ft south of CSB-1501

1001 Finished @ CSB-1502 & set up 25ft south of CSB-1503.

1010 Cutting away trees & brush from location of CSB1503

1026 Phone conversation w/ B. Elwell. Instructed us to go 4ft below bottom of sewer on all borings

1048 Moved back to CSB1500 to probe down to 24ft

1115 Phone conversation w/ B. Elwell. Says he is going to come onsite

1122 Began to take headspace from CSB1500, 1501, & 1502

1125 B. Elwell onsite. Instructed us to probe until refusal

1135 Moved to CSB-1501

1147 Moved to CSB-1502

1150 Sampled CSB-1500 @ 2-4ft, 8-10ft, 14-16ft for VOCs

Sampled CSB-1501 @ 2-4ft, 8-10ft, 14-16ft for VOCs

Sampled CSB-1502 @ 2-4ft, 8-10ft, ~~14~~ 16ft-18ft for VOCs

All samples are being run through a Field GC

0

10/22/01

1210 Set up at CSB 1503 again
1230 Finished at CSB 1503 and moved to CSB 1504
1235 Booke for lunch. J. Campbell + D. Lansma offsite
1338 J. Campbell + D. Lansma onsite. Take headspace readings from CSB-1502 + 1503
1350 Set up at CSB 1504

~~1355 Sampled~~
1400 Sampled CSB-1503 @ 2-4 ft, 8-10ft, 14-16ft for VOCs
Finished at CSB-1504 and moved 25ft south to CSB-1505
1420 Jason from Mid-America onsite to drop off chainsaw
1445 Finished at CSB-1505 and moved to CSB-1506
~~1448~~
1451 Sampled CSB-1504 @ 2-4, 8-10, 14-16 ft for VOCs
1505 Finished at CSB-1506 moved on to and set up at CSB-1507, 25ft south of CSB1506 in a low spot
1543 Finished CSB-1507. Taking last of the headspace readings for today
1500 D. Lansma offsite
1558 Sampled CSB-1505 @ 2-4ft, 8-10ft for VOCs
Sampled CSB-1506 @ 2-4 ft for VOCs
1620 Taking headspace readings for CSB-1507
1630 Sampled CSB 1507 @ 2-4ft, 8-10ft, + 14-16 ft for VOCs
1758 Samples from CSB 1500 to CSB1507 were all Non detect according to field GC.
Cleaning up site, Running a standard through GC
1818 J. Campbell, D. McGowan and R. Cole offsite

J. Campbell

v. Campbell

10/23/01

~~0809~~ objective: soil borings in drainage way along southeastern property boundary.
weather: cloudy, 60°, raining
PPE: Level D
personnel: J. Campbell + N. Bolivar
0809 J. Campbell onsite. Jack + from Mid American already onsite
0815 N. Bolivar onsite. Rob Cole onsite
0825 Setting up on CSB-1508
0915 Finished at CSB-1508. Moving to CSB-1509, 25ft to the south
0920 Started at CSB-1509
0940 Finished at CSB-1509. Moving to CSB-1510, 25ft to the south
0945 Started at CSB-1510. Took head space for CSB-1508 + 1509.
1000 Sampled CSB1508 @ 2-4ft & 8-10ft for VOCs
Sampled CSB1509 @ 2-4ft, 8-10ft + 14-16ft for VOCs
1030 Finished @ CSB-1510. Moved to CSB-1511
1050 Took headspace for CSB1510
1100 Sampled CSB-1510 @ 2-4ft, 8-10ft, + 14-16ft for VOCs
1111 Finished CSB1511 @ 7ft due to refusal.
Moved on to CSB1512
1130 Finished w/ CSB1512
1155 Took headspace for CSB1512
1205 Sampled CSB1512 @ 2-4ft + 8-10ft for VOCs
1313 Set up on CSB1513
1330 Finished at CSB1513. Moved on to CSB 1514
1345 Picture #1: Bobcat geoprobe @ CSB1514
1350 Picture #2: Samples from CSB1514
1352 Finished at CSB1514. Moved on to CSB1515
1415 Finished at CSB1515.

10/23/01

1422 Sampled CSB1514 @ 2-4ft & 8-10ft for VOCs
Sampled CSB 1513 @ 2-4ft & 8-10ft for VOCs
1424 Picture #3 : weighing 10g samples for the field GC
1432 Sampled CSB1515 @ 2-4ft & 8-10ft for VOCs
1500 Cleaning up site. N. Bolivar offsite.
1515 Pouring bentonite chips down boreholes. ~~South~~ JC
Scouting out locations of next set of boreholes 25ft to the west.
1545 Truck from Mid America offsite.
1600 Waiting for last of the samples from CSB1515 to be run through the field GC
1615 Samples from CSB 1508 to CSB 1515 were all non-detect according to field GC.
1630 J. Campbell, D. McGowan, + R. Cole offsite.

J. Campbell

10/24/01

objective : soil borings in the second row on the hill near the southeastern property boundry

weather : Cloudy, 60°

PPE : Level D

personel : J. Campbell + N. Bolivar

0800 J. Campbell, N. Bolivar, D. McGowan, and Jack (Mid American) onsite

0836 Set up on ~~CSB1516~~ JC CSB1530

0900 Finished at CSB1530. Moved on to CSB1529.

0930 Finished at CSB1529. Moved on to CSB1528

0943 Taking headspace for CSB1530.

0945 Sampled CSB1530 at 2-4ft, 8-10ft, and 14-15.5ft for VOCs

0956 Started at CSB1528, 5ft west of original location due to the wet slope

Taking headspace for CSB1529.

Sampled CSB1529 at 2-4ft, 8-10ft, 14-16ft for VOCs

1015 Finished CSB1528. Trying to ~~move~~ move to CSB1527, but we are getting stuck

1040 Set up on CSB1527 5ft to the east due to a wet slope

Taking headspace for CSB1528

1045 Sampled CSB1528 at 2-4ft + 8-10ft for VOCs

Bobcat is stuck at the bottom of slope

1130 Taking head space for CSB1527

Sampled CSB1527 @ 2-4ft, 8-10ft, + 14-16ft

Bobcat is out of the mud

1145 J. Campbell + N. Bolivar offsite for lunch

1230 J. Campbell + N. Bolivar onsite

1300 Staking out locations for soil borings in the ~~first~~ JC third row 25ft west of the second row.

Started at ~~CSB1544~~ CSB1545

10/24/01

1330 Finished at CSB-~~1544~~ 1545 JC. Moved to CSB-1543.

1400 Finished at CSB ~~1543~~ 1544 JC. Stopped to let rain die down.

1415 Take. head-space for CSB-1545
Sampled CSB1545 @ 2-4ft, 6-8ft, 14-16ft for VOCs

1430 Taking Headspace for CSB-1544
Sampled CSB1544 @ 2-4ft, 8-10ft, + 14-16ft for VOCs

1524 Waiting for last of the samples to be run through the field GC.

1620 Samples done ~~CSB~~ JC. Clean up.

1630 J. Campbell, D. McGowan, + R. Cole offsite

J. Campbell

10/25/01

objective: soil borings around ~~the~~ CSB1529 and south of MW1113
weather: cloudy, 40°, windy
PPE: Level D
personel: J. Campbell + N. Bolivar

0730 J. Campbell onsite
0800 N. Bolivar onsite, D. McGowan (Parson's) onsite
0825 Jack from Mid America onsite
0905 Set up on CSB 1543
0940 Finished at CSB1543, ~~warming up~~
0956 Set up on ~~CSB152~~ CSB1542
1010 Hit refusal at 11'. Moved boring 1-2ft west.
1012 Taking headspace for CSB-1543.
Sampled CSB1543 at 2-4ft, 8-10ft, 14-16ft, + 20-22ft for VOCs
1015 Hit refusal again at 11'. Moved boring ~4' to the North West
1100 Finished CSB1542
1130 Taking headspace for CSB1542
Sampled CSB1542 at 2-4ft, 8-10ft, 14-16ft, + 20-22ft for VOCs
Jack from mid America offsite for lunch
1200 J. Campbell + N. Bolivar offsite for lunch

1250 Set up on CSB1546, 25ft south of CSB1530
1315 Finished CSB1530. Set up on CSB1547, 25f south of CSB1546
1345 Finished CSB1547
1350 Taking headspace for CSB1546
Sampled CSB1546 at 2-4', 8-10', + 14-16' for VOCs
1410 Set up at CSB1548
Taking headspace for ~~CSB1546~~ CSB1547
1420 Sampled CSB1547 at 2-4', 8-10', + 14-16' for VOCs

10/25/01

1445 Finished CSB-1548. Set up on CSB 1549
1500 Finished CSB-1549. Set up on CSB1550
1525 Finished CSB1550. Set up on CSB1551
1540 Finished CSB1551. Set up on CSB 1552
1555 Finished CSB1552.
Taking headspace for CSB1549
Sampled CSB1549 at 2-4', 8-10', 14-16' for VOCs
1610 Taking headspace for CSB1550
Sampled CSB1550 at 2-4' + 8-10' for VOCs
1625 Taking headspace for CSB1551
Sampled CSB1551 for VOCs at 2-4' and 8-10'

1635 Taking headspace for CSB1552
Sampled CSB1552 at 2-4' and 8-10' for VOCs
1645 Cleaning up site
1725 N. Bolivar offsite
1815 J. Campbell offsite

10/26/01

objective: take water samples from boreholes CSB-1548 to CSB1552
weather: cloudy, windy, 40°
PPE: Level D
personnel: J. Campbell + N. Bolivar

0745 J. Campbell onsite, ~~Rob~~ Rod Cole onsite
0800 D. Mcbowan, N. Bolivar, + Jack (MidAmerica) onsite.
D. Lamsma onsite to pick up boring logs + results.
0820 D. Lamsma offsite
0855 Set PVC screens in CSB1548 to CSB1552 to get water samples. D. Lamsma onsite
~~0910 used water level indicator to check for water~~
0920 used 1" bailer to sample water from CSB1548
0940 used 1" bailer to sample water from CSB1549
0955 used 1" bailer to sample water from CSB1550
1000 D. Lamsma + N. Bolivar are surveying elevations for soil borings that have already been done
1003 used 1" bailer to sample water from CSB 1551
1010 used 1" bailer to sample water from CSB1552
1015 D. Lamsma offsite. Todd onsite from MidAmerica
1045 Set up on CSB1553
1105 Finished at CSB1553
1110 Set up on CSB1554
1130 Finished at CSB1554
1140 Set up on CSB1555
Taking headspace at CSB1553
Sampled CSB1553 at 2-4ft, 8-10ft, ~~14-16ft~~ for VOCs
1155 Finished CSB1555
~~1~~ Set up on CSB1556
1215 Finished CSB1556
1220 Taking headspace for CSB1554
Sampled CSB1554 at 2-4 Ft, 8-10ft + 14-16Ft for VOCs

10/26/01

1230 J. Campbell, N. Bolivar, P. McGowan, Todd from MidAmerica offsite for lunch.

1320 J. Campbell, N. Bolivar, + P. McGowan onsite.

1330 Taking headspace for CSB1555
Sampled CSB1555 at 2-4ft

1335 Taking headspace for CSB1556
Sampled CSB1556 at 2-4ft, 8-10ft, 14-16ft for VOCs

1300 Phone call with Bill Elwell. Need to go to water table at CSB1553 + CSB1556.

1349 Moved back to CSB1553 to probe deeper and get to the watertable.
D. Lamsma + Carl from City of Lisle onsite to locate utilities.

1431 Finished CSB1553. Moved to CSB1554 to go deeper to the watertable.

~~14445~~

1445 Taking headspace for CSB1553 (second round)
Sampled CSB1553 (second round) @ 14-16ft + 20-22ft for VOCs

1500 ~~Finished~~ CSB1554 (second round) @ 28'
Set pvc screen to try and get water sample. Failed due to stuffing.

1545 Taking headspace for CSB1554 (second round)
Sampled CSB1554 (second round) at 20-22ft + 26-28ft for VOCs.
Trying to use the geoprobe's screen point and peristaltic pump to get water sample

1620 Took water sample from CSB1554
Cleaning up site. N. Bolivar offsite

1700 Waiting for last of the samples to run through the field GC.

1730 J. Campbell, D. McGowan, + Todd (MidAmerica) offsite

J. Campbell

10/29/01

objective: soil borings + water samples from CSB1553 on
weather: partly cloudy, ~~breez~~ windy, 50°
PPE: Level D
personnel: J. Campbell + D. Lamsma

0805 J. Campbell onsite. D. Lamsma + D. McBowen already onsite
0815 Jack from Mid America onsite. Rod Cole onsite
0900 Set up on CSB1553 to get water sample
0915 Geoprobe down trying to fix it.
0925 Geoprobe has been fixed.
0950 Took water sample for CSB1553 @ 26' to 27'.
1000 Moved to CSB1555 and set up again
1054 Finished boring at CSB1555. Taking a water sample at 24'
1115 Taking headspace for CSB1553 (second round)
Sampled CSB1553 (second round) @ 8-10ft, 14-16ft, + 20-22ft for VOCs
1125 Moved back to and set up again at CSB1556
1205 Finished at CSB1556. Taking a water sample at 24ft.
1215 Broke for lunch
1325 Taking headspace for CSB1556 (second round)
Sampled CSB1556 (second round) @ 20-22 ft
1338 Moved to and set up at CSB1557
1415 Finished CSB1557. Took water sample at 28'
1500 Taking headspace for CSB1557
Sampled CSB1557 @ 2-4ft, 8-10ft, 14-16ft, 20-22ft, + 24-26ft for VOCs
1530 Moving over to CSB1558. D. Lamsma offsite
1552 Started boring at CSB1558
1620 Stopped boring at CSB1558 due to refusal. Will start again tomorrow ~1ft to the south.
1645 Taking headspace at CSB1558

1650 Sampled CSB1558 at 2-4ft, 8-10ft, + 14-16ft for VOCs. Jack from MidAmerica offsite
1705 D. McGowan offsite.
1715 J. Campbell offsite

J. Campbell

10/30/01

weather: partly cloudy, breezy, ~~4~~ 50°
objectives: soil boring along the southern property line
PPE: level D
personal: J. Campbell + G. Gallo.

0655 ~~0755~~ J. Campbell onsite. D. McGowan already onsite
0705 ~~0805~~ G. Gallo onsite
0730 Jack from Mid America onsite
0815 Set back up on CSB1558
0915 Sample sleeve is bound up inside of sample tube. Trying to remove it.
0935 Finally removed sample sleeve. But are not able to log the 24ft to 28ft section.
0950 Bill Elwell + D. Lamsma onsite.
1005 Set up to get a water sample from CSB1558
1020 Took water sample at 31ft at CSB1558
1025 Moved to and set up at CSB1559
1130 Finished boring at CSB1559 @ 24 ft
Taking water sample at 28 ft.
1143 Finished taking Headspace & sampled CSB1559 at 2-4 ft, 8-10ft, 14-16ft, & 20-22 ft.
1215 off site for lunch
1245 on site - returning from lunch
1320 Set up at CSB1561
1400 Finish CSB1561
Finish Head space & sample 2-4', 8-10', 14-16', 20-22'
1420 Sample (water) CSB1561 at 28'
1435 Set up at CSB1560
1525 Finish CSB1560
1530 Take water sample from CSB1560
1535 Finish Headspace for CSB1560
1540 Sample CSB1560 2-4', 8-10', 14-16', 20-22'

1555 Picture #4 - Clayton sampling CSB1560
1400 Mid-America ~~crew~~ cuts down trees & removes brush from soil boring areas for tomorrow.
Joe Campbell off site
~~Drew from Parsons off site~~
445 OFF Site - G. Gallo, Mid America, & Parsons

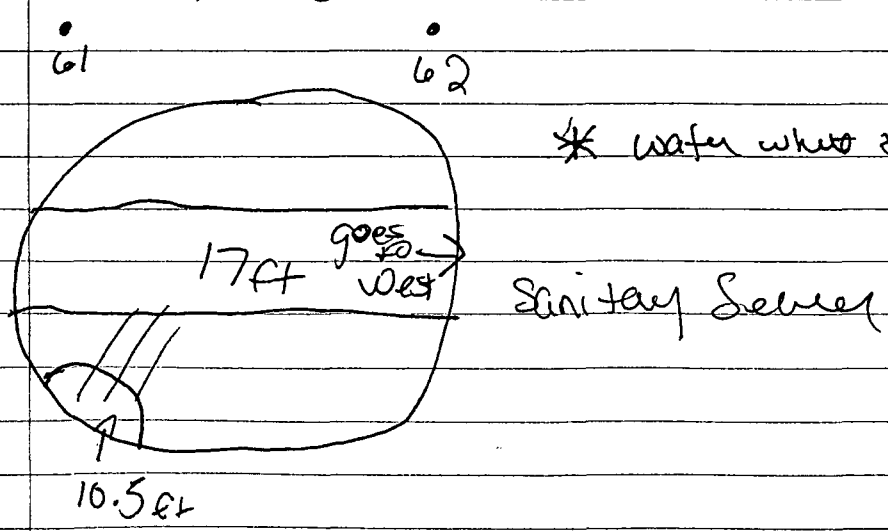
10/31/01

700 G. Gallo & H. Mendygral on site
weather: partly cloudy, cool ~ 50°
PPE: Level D
objective: soil borings along south property line

720 Mid-America on site
745 Calibrate PID meter
750 Set up at CSB1570
855 Sample CSB1570 - water sample @ 28ft.
910 Sample CSB1570 2-4, 8-10, 14-16, 20-22, 22-24
920 Set up at CSB1569
955 Finish CSB1569
1005 Sample CSB1569 - water
1025 Sample CSB1569 6-8', 10-12', 16-18', 20-22', 22-24'
1040 Set up at CSB1568
1145 Finish CSB1568
1230 Sample CSB1568 - water
1245 Sample CSB1568 2-4', 8-10', 14-16', 20-22'
1250 Set up at CSB1567
1300 Stop drilling - saturated sand seam at ~8'
1315 fill boring with bentonite chips & move to next location
1320 Set up at CSB1566
1400 Finish CSB1566
1420 Sample CSB1566 at 28' - water
~~Sample CSB1566~~
1430 Set up at CSB1565
1500 Finish CSB1565
1515 - Borney dry, will sample tomorrow for water
1520 Sample CSB1566 2-4', 8-10', 14-16', 18-20', 20-22', 22-24
1545 Sample CSB1565 2-4, 8-10, 14-16, 18-20, 22-24
1630 Off site

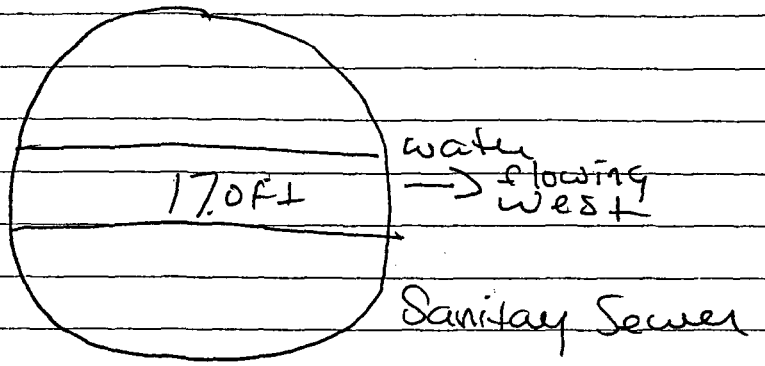
Thursday November 1, 2001

720 G. Gallo & H. Mendygral onsite
weather: windy, cloudy, cool ~ 55°
objective: soil borings on southern end of property line.
740 Mid-America onsite
805 Set up at CSB1567
920 End boring @ 24' (finish CSB1567)
930 finish headspace on CSB1567
945 Sample CSB1567 14-16, 16-18, 18-20, 20-22, 22-24
1025 Sampled CSB1567 for Groundwater at 30 ft
1100 Set up at CSB1565 for a water sample
1125 Sampled CSB1565 for ground water at 30 ft
1135 Set up at CSB1564
1330 finish CSB1564
1400 Sample CSB1564 @ 32' - water
1430 Sample CSB1564 2-4', 8-10', 14-16', 18-20', 20-22', 22-24', 24-26', 26-28', 28-30'
1435 Set up at CSB1563
1500 End CSB1563 @ 12ft.
1515 Sample CSB1563 2-4', 6-8'

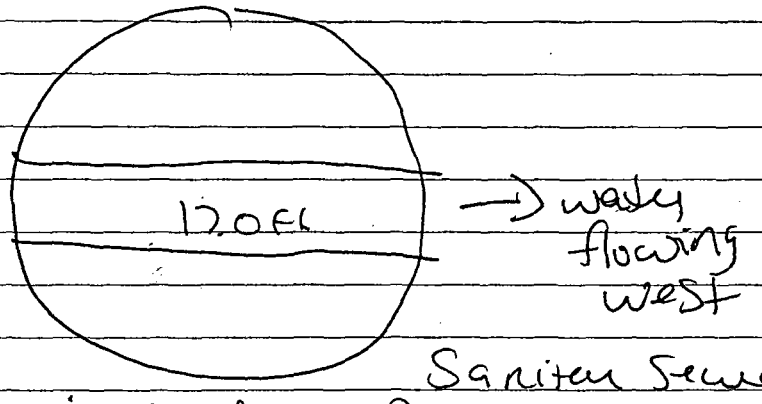


tracks

58



70



1625 Clayton left site for day, Parsons + Mid-America left site for day

11/01/01

Nov. 2

730 G. Galli, H. Mendygral onsite
weather: clear, warm ~ 70°
PPE: Level D
objective: to set 2 monitoring wells on south prop. line
750 Bill Elwell onsite
800 Mid America on site
830 Set up at MW 1115 TD = 37'
DTW = 29.5'
set screen @ 35'
add 5 gallons of water due to sand bridging
1145 Finish MW1115
1150 set up at MW-1116
1500 Finish MW-1116
1530 Remove 10 gallons from MW-1115 & MW-1116 with disposable bailer
1630 Survey MW-1115 & MW-1116 with Bill Elwell
1700 off site

November 5, 2001

730	G. Gallo & H. Mendygral on site
750	Mid-America on site
800	Calibrate PID meter
810	Geoprobe track rig slips track.
835	track fixed on Geoprobe track rig
840	Set up at CSB1562
950	finish CSB1562
1130	Take water sample from CSB1562 @ 34'
1015 to	Sample CSB1562 2-4, 10-12, 14-16, 16-18, 22-24, and dups on 14-16, 16-18, 22-24
	Sampled CSB1562 26-28, 30-32
1100	and dups on 26-28 + 30-32
1140	Set up at CSB1564
1200	Track on Track Rig Geoprobe broke
1230	Fix Track Rig & set up at CSB1571
1330	finish CSB1571
1340	Set up at CSB1572
1400	finish CSB1572
1410	Set up at CSB1562 to take a Dup water sample
1500	Sample CSB1572 2-4, 8-10, 14-16, 20-22, 26-28
1530	Sample CSB1571 2-4, 8-10, 14-16, 20-22, 26-28, 22-24
~~1440~~	
1425	track rig broke a hydraulic line
1440	Mid-America off site to find a replacement hose
1450	Mid-America on site - Hydraulic line fixed
1605	Sample Dup at CSB1562

Objective: Soil borings CSB1562, CSB1571, CSB1572

weather: Cool, clear, sunny ~45°

PPE: Level D

11/17/01

~~0~~ pm 1445	D. Lansma on-site
	obj: develop MW-1601S
	weather: mostly sunny, high 65-70°F
	PPE: Level D
1450	at Lockformer to empty 225 gal poly tank
1515	at emissions test facility
1520	for MW-1601S
	Total: 65.14 ft
	DTW: 50.85 ft
	remove 190 gallons of water to develop well
1527	Begin developing MW-1601S
1630	complete pumping MW-1601S: remove 200 gal. of water
1705	empty 225 gallon poly tank
1710	D. Lansma off-site

Dan VC

11/27/01

0615 J. Endsley, N. Bolivar on-site at Air Team Emissions Facility
Ob: Sample Well 1601.5.
Weather: Cloudy, 45°F
PPE: Level D

0617 Decon Equipment

0620 Sue Sroka, Carlson on Site

0621 DTW = 50.88
~~DT~~ TD = 65.13

0625 Inserted Grundfos pump and started Purging.

0635 Calibrated Horiba U-22 using Auto Cal Solution pH 4.000, 0.0 NTU, 4.49 mS/cm.

0645 Drew McGowan, Parsons on site.
There is 14.25 ft of water and 12 ft of filter pack
(12 ft of water in filter Pack)(0.927 gal/ft) = 11.124 gal in filter Pack
(2.25 ft of water in Casing above)(0.16 gal/ft) = 0.36 gal in casing
11.124 + 0.36 = 11.48 gal x 3 = 34.45 gal.

0710 Purged 900 gallons.

0720 Removed Grundfos pump.

0725 Inserted Micropurge MP10 and attached Horiba for water parameter readings.

Time	pH	Cond	Turb	DO	Temp	TDS	ORP	Vol. (gal)
0750	6.67	2.41	980.0	2.89	10.14	1.55	232	0.25
0805	7.03	2.42	648.0	3.20	10.38	1.55	206	0.50
0810	7.13	2.40	482.0	3.07	10.26	1.53	201	0.75
0818	7.25	2.35	287.0	3.39	10.06	1.50	193	1.00
0825	7.29	2.33	210.0	3.31	10.15	1.49	189	1.25
0830	7.31	2.31	168.0	3.38	9.96	1.48	185	1.50

0840 Collected Water Sample INW-1601.5.

0915 D. McGowan + S. Sroka took split sample

11/27/01

Samples Collected for, 2-40mL Vials of VOC's + TIC's with HCL Preservative, 2-20ml Vials of Ethane/Ethene with HCL Preservative, 1-250mL Bottle of Iron/Manganese with HNO_3 Preservative, 1-250 mL bottle of nitrate/ COD, H_2SO_4 Preservative, 1 250mL of chlorides/sulfate No Preservative.

~~0920 Ending DTW = 50.98~~ (JLE)

1-250 mL Bottle of TOC with H_2SO_4 Preservative,

1-250 mL Bottle of Sulfide with Zinc Acetate Preservative

0920 Ending DTW = 50.98

0940 Norman Bolivar & Jeff Eudsley, Sue and Drew off site.

0950 J. Eudsley & N. Bolivar at lockformer to pump Poly tank into Baker tank.

1020 Decon Equipment

1030 Set up on MW-1115

DTW = 27.91

TD = 37.24

1045 Inserted Grundfos + started Purging.

(JLE) (9.33 ft of Water in filter Pack)(~~0.927~~ 1.1 (JLE) gal/ft in Filterpack) = ~~8.64~~ 10.26

3 Well Volumes = ~~25.9~~ gallons (JLE)

30.78 gallons.

1120 Purged 35 gallons, Removed Grundfos. Pump

1135 Inserted MicroPurge Pump.

Time.	PH	Cond	Turb	DO	Temp	Tds	ORP	Vol (Gal)
1155	7.13	1.09	328.0	5.30	11.38	0.70	215	1
1159	7.16	1.10	216.0	4.92	11.46	0.71	209	1.25
1209	7.19	1.12	137.0	3.82	11.45	0.71	204	1.50

1215 collected Sample from 1115

1140 Removed MicroPurge from Well

1145 79.94 = DTW

Jeff Eudsley 11/27/01

1254 Set up on MW-1116, Decolned Equipment
1256 DTW = 28.18
TD = 35.46
(7.28 ft. of Water) x (1.1 gal/ft in filter Pack) = 8 gal x 3 = 24 gal to Purge.

1259 Inserted Grundfos Pump & began Purging. 24 gallons.
1322 Ended Purging after removing 35 gallons.
1323 Removed Grundfos Pump.
1334 Inserted and Started ~~Grun~~ MicroPurge.
1345 Collected Water Parameters.

Time	pH	Cond	Turb	DO	Temp	TDS	ORP	Volume (ml)
1353	7.36	1.32	506	5.79	11.34	0.85	132	0.50
1357	7.33	1.33	323	5.66	11.46	0.85	125	0.75
1402	7.32	1.34	222.0	4.86	11.47	0.86	123	1.00

1403 Sample MW-1116 Collected.
1415 Removed MicroPurge from well.
1422 DTW = 28.20
1430 Empty Purge water into baker tank, Drew off site.
1500 J. Endsley & N. Bolivar off Site.

11/27/01.

11/30/01

Objective: Gauge all Wells onsite and offsite.
Weather: wet from rain the night before, 48°F.
PPE: Level D

0700 Jeff Endsley on site at MW 1601 S+D Emissions facility, Drew McGowan, Parsons and Lisa Meagher, Carlson on site.
0723 MW 1601 S DTW = 50.81, SS Cap
0725 MW 1601 D DTW = 51.13, No Cap, Mark on Riser
0735 Lisa off Site, Drew + Jeff to Downers Grove Sanitary Dist.
0700 Norman Bolivar on site at Ogden Corp. Center., Jerry onsite.
Opened all wells:
0734 MW-1110 D DTW = 26.99
0737 MW-1110 S DTW = 26.93
0745 MW-1112 D DTW = 25.24
0748 MW-1111 S DTW = 25.33
0752 MW-1112 S DTW = 26.04
0755 MW-1112 D DTW = 25.89
0805 Jerry and Norman off site to Downers Grove Sanitary Dist.

0810 Jerry and Norman on site at Downers Grove Sanitary Dist. with Drew and Jeff, for MW-1602 S+D.
0814 MW-1602 D DTW = 33.37, No Cap, Mark on Riser
0818 MW-1602 S DTW = 32.61, Cap has hole, mark on Ring.
0825 Jerry, Norman, ~~Jeff~~ off Site to put Caps on MW-1110 ~~S+D~~ D, 1111 ~~S+D~~, MW-1112 D, Jeff + Drew to open MW-1600 S+D at thacher + thacher.

0835 Thacher + Thacher, opened MW-1600 S+D, Jerry + Norman Discovered that our caps won't fit wells at Ogden Corp Center.
0840 Jerry off Site, Drew + Jeff + Norman on site at Lockformer to open all wells.
Water Levels on Log book Insert.

11/30/01

Depth to Water Gauging Points

THE LOCKFORMER COMPANY / Lisle, IL

Updated 11.30.01 by J. Endsley

Gauging Points	Order	Equalized Depth to Water (btoc)	Cap Type			Comments (Vented Cap?)
			Expandable	Slip-on	None	
Carlson Monitoring Well Locations						
MW-101	16	12.08				11:46
MW-120	4	40.95	X			11:07
MW-123	6	12.15				11:25
MW-401*		51.22				11:20
MW-402*	7	44.91				11:15
MW-500D	15	48.09	X			09:22
MW-501D		51.11	X			09:52
MW-502S		3.02	X			09:44
MW-504D		55.79	X			09:47
MW-504S		Dry	X			TD = 27.28
MW-505S*		Dry				TD = 24.41 / 13:25
MW-507S*		Dry				TD = 24.31
MW-508S*		Dry				13:33
MW-508D*		51.87	X			13:30
MW-513D		51.37	X			09:41
MW-514D		X				Well Destroyed
MW-515D	5	47.38	X			11:12
MW-516D	12	44.87	X			11:57
MW-517D	11	54.02	X			11:54
MW-521	8	53.81	X			TD = 53.81 / 12:13
MW-522	13	50.59	X			10:07
BW-1*		88.89				Install new caps / 14:26
BW-2*		34.98				Install new caps / 14:12
BW-3*		44.27				Install new caps / 13:51
Clayton Monitoring Well Locations						
MW-1100S		34.50		X		09:36
MW-1100D		36.34			X	09:34
MW-1101S		34.91		X		09:32
MW-1101D		36.71			X	09:30
MW-1102S	10	45.25				12:04
MW-1102D		46.01			X	10:50
MW-1103S		42.23		X		10:21
MW-1103D		42.69			X	10:24
MW-1103M		41.73		X		10:26
MW-1104S		43.86		X		10:16
MW-1104D		44.14			X	10:18
MW-1105D		48.15				10:13
MW-1106D		53.99			X	09:57
MW-1107D		55.22			X	13:41
MW1108S		53.59				11:36 Replaced Expandable Cap
MW-1108D		52.44				11:41
MW-1109	9	45.81	X			10:54
MW-1110S*		26.93				07:37
MW-1110D		26.99				07:34 Replaced Expandable Cap
MW-1111S*		25.33				07:47
MW-1111D		25.24				07:45 Replaced Expandable Cap
MW-1112S*		26.04				07:52
MW-1112D		25.84				07:55 Replaced Expandable Cap
MW-1113S	14	37.53				12:07
MW-1113M		37.89	X			10:34
MW-1113D		37.60			X	10:32
MW-1114S	3	43.98	X			10:04
MW-1114D		44.19			X	10:02
MW-1115	1	29.89	X			10:43
MW-1116	2	28.16	X			10:39
MW-126B		51.70	X			12:00
MW-1600S*		77.04				14:56
MW-1600D*		77.18			X	14:59
MW-1601S		50.81				07:23
MW-1601D		51.13			X	07:25
MW-1602S		32.61				08:18
MW-1602D		33.37			X	08:14 mark on riser
MW-1603*		44.50				13:52
MW-1604*		36.14				14:03
MW-1605*		35.25				14:09
Clayton Staff Gauges						
SG-1	10.95					14:47
SG-2	9.67					14:40
SG-3	14.06					15:49
SG-4	15.40					15:30
SG-5	13.58					15:38
SG-6	15.72					15:13
Downers Grove Public Water Supply Wells						
Downers D						
63rd Street						
67th Street						
71st Street						

12/18/01

0800 J. Campbell onsite
obj: develop MW1603, MW1604, + MW1605
weather: clear, high 40°
PPE: Level D
personnel: J. Campbell (Clayton) D. McBowen (Parsons)
0815 D. McBowen onsite
- Opening all wells to let water levels stabilize. Decorning equipment
0849 Water levels

MW1603	MW1604	MW1605
DTW = 44.76	DTW = 36.51 ft	DTW = 35.62 ft
TD = 50 ft	TD = 57 ft	TD = 49 ft

0902 Purge Volumes

MW1603
5.24 ft of water
Filter Pack (1vol) = 3.4 gal
2" riser (1vol) = 1 gal
(1vol) = 4.4 gal
10vol = 44 gal

MW1605
13.38 ft of water
Filter Pack (1vol) = 4.5 gal
2" riser (1vol) = 2.25 gal
1vol = 6.75 gal
10vol = 67.5 gal

MW1604
20.49 ft of water
Filter Pack (1vol) = 7.7 gal
2" riser (1vol) = 3.5 gal
1vol = 11.2 gal
10vol = 112 gal

0913 Setting up on MW1605 to develop well
0923 Lowering grundfos pump down the well
0925 Started pumping
0959 Approximately 70 gal removed and still very

12/18/01

turbid. Going to purge well until it clears up.

1041 325 gal tank has been filled. J. Campbell off site to trash pump water into Baker tank at Lockfaumer facility

1108 J. Campbell Back onsite at Front st. to purge MW1605 until clear

1115 Started pumping again

1130 Stopped pumping after 275 gal total was removed. Well did not clear up.

- Per B. Elwell: MW1605 is okay if it is not totally clear
- Generator has died; need to get a rental

1146 D. McGowan offsite

1157 J. Campbell offsite to get a new generator

1310 J. Campbell onsite w/ new generator

- D. McGowan already onsite

1320 Started Grundfos pump at MW1604.

1452 Stopped pumping after 112 gal was removed

- Removing grundfos pump

1501 Moving to MW1603

1512 Lowering grundfos pump down the well

1516 Started developing MW1603

1520 Well goes dry before there is discharge from the hose

1545 Switching to the double whale pump

1555 Double whale pump is not working.

1600 Switching back to Grundfos.

- cut the hose a little shorter

1625 Per B. Elwell: leave well until tomorrow and use the double whale pump.

1630 Cleaning up site

12/18/01

1650 J. Campbell + D. McGowan offsite

J. Sell

12/18/01

12/19/01

0830 J. Campbell onsite
obj: develop MW1603
weather: high 40°, snowy
PPE: Level D
personnel: J. Campbell (Clayton) P. Groux (Parsons)
0835 D. Groux onsite
0845 Decontaminating double whale pump
0855 Lowering whale pump down the well
0903 Started pump
0936 Whale pump is not working. Going to go to the warehouse to get a 5ft PVC bailer and a 3' disposable bailer
- Joe Campbell offsite
1035 J. Campbell back onsite
1045 Using 5' PVC bailer at MW1603
1050 5ft bailer is too much. Switching to 3ft disposable bailer.
1115 Well has gone dry. 1.5gal removed
DTW: 49.70ft
1125 Per B. Elwell: Follow work plan. Purge well dry 5 times
1145 Started bailing MW1603 using a 3ft disposable bailer
1150 Well has gone dry again. DTW: 49.22ft
Going to wait 30min. for recharge
1215 Started bailing again
1240 Well has gone dry for the ~~fourth~~ third time. DTW: 48.85ft
1304 Started bailing MW1603
1324 Well has gone dry again DTW: 49.0ft
1352 Started bailing MW1603 for the fifth time
1404 Well is dry. DTW: 48.9ft. Removed a

12/19/01

total of 5 gal from MW1603
- Cleaning up site
1415 J. Campbell & D. Groux offsite
1418 J. Campbell onsite at the Lockformer facility to clean up and do a drum count
1435 62 drums total
Soil cuttings from: MW1600D + S, MW1601D + S, MW1602D + S, MW1603, MW1604, MW1605, MW1115, + MW1116, and All the CSB1500 series borings

- Baker tank is ≥ half full

1440 J. Campbell offsite

12/19/01

15-65263 Volume #3

Lockformer

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6/19/01 Cont from volume 1

time	purge vol.	pH	cond (ms/cm)	DO (mg/L)	temp (°C)	ORP (mV)
1332	1.0 gal	7.11	1.73	1.62	13.96	-33
1334	2.0 gal	7.07	1.75	0.82	13.58	-37
1336	3.0 gal	7.03	1.77	0.70	13.38	-43
1339	4.0 gal	6.98	1.75	1.13	13.28	-46
1341	5.0 gal	6.94	1.77	1.13	13.22	-51
1343	6.0 gal	6.90	1.75	1.57	13.16	-52
1346	7.0 gal	6.89	1.77	2.13	13.10	-48
1348	8.0 gal	6.88	1.75	2.76	13.09	-45
1350	9.0 gal	6.87	1.74	2.89	13.07	-46
1356	11.0 gal	6.91	1.80	2.69	13.13	-48
~~1400~~ 1403	~~13~~ gal 14.0 gal	6.96	1.80	2.86	13.02	-49
1406	15.0 gal	6.98	1.80	2.93	13.01	-49
1408	16.0 gal	6.99	1.80	2.94	13.03	-48

1420 Sampled MW-1103D SPT-16 w/ 3-40ml-vials w/ HCl

1425 Removed bladder pump and reset at 78.5 to 86.5 ft BTOC (tape set to 75.0 ft) SPT-17

1437 Started hermit test #18 (04 inhermit)

6/19/01 cont.

1438 T1 = 0.029
T2 = 0.015
T3 = 0.00
T4 = 0.015

1441 Started pumping SPT-17 using grundfos at a rate of 12gpm

1448 T1 = 0.101
T2 = 0.218
T3 = -0.014
T4 = 0.190

1503 T1 = 0.130
T2 = 0.290
T3 = 0.029
T4 = 0.205

1506 Stopped grundfos pump approx 320 gallons purged allowing 15 min to stabilize

1520 T1 = 0.101
T2 = 0.319
T3 = -0.014
T4 = 0.073

6/19/01 cont.

1522 Stoped hermit test # 18 (04 in hermit)

1523 removed grundfos and inserted bladder pump in SPT-17 for water quality + Stablization using Horibia-22

1527 Began bladder pump for water quality + Stabilization parameters on SPT-17

	Purge vol.	pH	Cond	DO	Temp	ORP
1529	0.5 gal	7.0	1.77	4.81	17.25	-94
1535	3.0 gal	6.94	1.81	0.69	13.44	-96
1537	4.0 gal	6.94	1.81	1.29	13.34	-88
1540	5.0 gal	6.94	1.81	1.45	13.22	-81
1543	6.0 gal	6.95	1.81	1.62	13.09	-76
1546	7.0 gal	6.94	1.78	1.81	13.05	-72
1550	8.0 gal	6.91	1.81	0.68	12.94	-71
1552	9.0 gal	6.92	1.81	1.79	12.95	-67
1555	10.0 gal	6.93	1.81	2.23	12.90	-64
1559	11.5 gal	6.91	1.81	1.90	12.87	-63
1602	13.0 gal	6.91	1.81	2.44	12.89	-60
1607	15.0 gal	6.91 ~~6.94~~	1.81	1.80	12.79	-59
1610	16.0 gal	6.90	1.82	2.49	13.01	-58
1615	17.0 gal	6.89	1.81	2.36	12.83	-56
1620	18.25 gal	6.88	1.81	2.27	12.82	-56
1623	19.0 gal	6.88	1.81	1.95	12.76	-56

6/19/01 cont

1625 Sampled MW-1103D SPT-~~#~~ 17 for VOC's with 3-40mL vials w/ HCl

1628 Removing bladder pump and resetting at SPT-18 73.5 to 81.5 with grundfos pump (tape at 70.0 ft) at MW-1103D

1636 Started heavet test # 19 (05 in heavet)

T1 = 0.043
T2 = 0.00
T3 = 0.00
T4 = -0.015

1639 Started grundfos pump at 12.0 gpm

1642 T1 = ~~0.044~~ 0.159
T2 = 0.145
T3 = 0.029
T4 = 0.044

1652 T1 = 0.144
T2 = 0.140
T3 = 0.029
T4 = 0.614

6/19/01 cont.

1700 T1 = 0.159
T2 = 0.203
T3 = 0.029
T4 = 0.936

1708 Stoped grundfos pump approx. 320 gallons purged allowing 15 min for recharge & Stabilization

1723 T1 = 0.130
T2 = 0.218
T3 = 0.000
T4 = 0.468

1723 Stop hermit test #19 (05 in hermit

1724 Removing grundfos pump and inserting bladder pump for Stabilization parameters & water quality w/ Horiba-22

1729 Started Bladder pump for water quality and Stabilization parameters

6/19/01 Cont

	purge vol	pH	Cond	DO	temp	ORP
1732	0.75gal	6.93	1.80	5.77	14.19	-92
1737	2.0gal	6.90	1.80	1.05	13.24	-93
1743	3.5gal	6.92	1.81	0.43	13.15	-93
1747	5.0gal	6.92	1.81	0.41	12.95	-91
1752	7.0gal	6.93	1.81	0.46	12.92	-90
1755	8.5gal	6.93	1.81	0.43	12.94	-91
~~1755~~						

1755 Sampled MW-1103D SPT-18 for VOCs w/ 3-~~vial~~ 40ml vials w/ HCl - finished well MW-1103D

1800 Removing casing, packers, bladder pump transducers and securing the wells

1925 Layne leaves site

1835 left site for day

Heidi Mendivil 6/19/01

6/20/01

objective: Conduct packered testing

weather: partialy cloudy, 80's

personel: Heidi Mendygral, Joe Campbell (Clayton)
Vince, Mike (Layne) Drew (Parsons

level of protection: D

6:50 Arrive on site, Layne already on site

6:55 Disscus w/ Vince (Layne) that next well will be MW-100D

7:10 layne Setting up at MW-1100D with casing and grundsfos pump.

7:15 Set tranducers up

T1: MW-1101D - 42.0 ft
T2: Bottom of packer
T3: not in use
T4: Top of packer

7:50 Setting up MW-1100D SPT-19 65.0 to 73.0 ft (tape set at 61.5 ft)

8:15 Moving the SPT-19 MW-1100D (61.5 to 70.5)

620101cmt

(tape is set at 58.0) we will not inflate the bladders in the packer due to the borehole only being a 7ft section. The transducers will be watched to see if a drop in the water level occurs.

835 Started hermit # 20 (06 in hermit)

T1 = 0.115
T2 = 0.537
T3 = — due to no well adjacent east
T4 = 0.00

845 Started grundfos pump in MW1101D 61.5 to 70.5 ft at 14.0 gpm

T1 = 0.101
T2 = 0.653
T3 = —
T4 = 0.029

850 T1 = 0.101
T2 = 0.482
T3 = —
T4 = 0.044

6/20/01 cmd

850 0.2 tenths of an inch drop in the water level taken from the water level indicator

855 T1 = 0.115
T2 = 0.740
T3 = —
T4 = 0.029

901 T1 = 0.115
T2 = 0.783
T3 = —
T4 = 0.044

905 T1 = 0.130
T2 = 0.812
T3 = —
T4 = 0.044

907 Shut down Grundfos pump approx. 320 gallons removed allowing 15min for stabilization

923 T1 = 0.101
T2 = 0.856
T3 = —
T4 = 0.015

6/20/01 cont

924 Stop hermit test #20 (06 in hermit)

930 Set up bladder pump and Horiba-22 for water quality and Stabilization parameters

	purge vol.	pH	Cond (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mv)
940	1.0 gal	6.84	1.80	3.55	13.37	-50
945	2.25	6.88	1.82	1.58	13.02	-87
952	4.0 gal	6.88	~~1.02~~ 1.82	1.02	12.89	-90
956	5.0 gal	6.86	1.82	0.91	12.87	-91
1000	6.0 gal	6.85	1.82	0.81	12.79	-87
1004	7.0 gal	6.84	1.82	0.76	12.81	-88
1008	8.0 gal	6.84	1.82	0.75	12.80	-90
1012	9.0 gal	6.83	1.82	0.73	12.78	-90

1020 Sampled MW-1100D SPT-19 for VOCs w/ 3-40ml vials w/ HCl

1030 Removing Casing + bladder pump from MW-1100D & finished well MW-1100D. And reseting at MW-1101D SPT-20 grundfos pump at 91.0 to 83.0 ft BTOC (29.5 tape)

1050 T1 - 51.29 MW-1102D
T2 = bottom of paper
T3 = 41.6 ft MW-1100D

6/20/01 cont

T4 = top of packer

1210 Started hermit test # 21 (07 in hermit) for ~~for~~ SPT-20 (91.0 to 83.0 ft)

T1 = 0.058
T2 = 0.015
T3 = 0.00
T4 = 0.015

1212 Started grundfos pump for MW-1101D SPT-20 91.0 to 83.0 ft (79.5 ft tape) at 14.0 gpm

1214 T1 = 0.144
T2 = 0.392
T3 = 0.00
T4 = 0.015

1217 ~~MW 1101D SPT 20 went dry, was then~~

1217 turned down pumping volume to keep water flowing

6/20/01 cont.

1222 T1 = 0.144
T2 = 5.996
T3 = 0.000
T4 = 0.029

1223 asked vince (Layne) to turn up the pressure on the bottom bladder because the transducers #2 was running high ~~at~~ showing some draw down, may be also due + fractures that are running vertical

1225 T1 = 0.130
T2 = 6.547
T3 = 0.000
T4 = 0.015
pressure still going up in T2 (bottom packer) but vince (Layne) cannot turn the packers pressure up any more.

1234 T1 = 0.130
T2 = 6.402
T3 = 0.000
T4 = 0.015

1235 Water from this section is ~~for~~ foamy + vapor is being released

6/20/01 Cont

1245 Shut off grundfos pump after purging approx 320 gallons, allowing 15 min for stabilization and recharge

1300 T1 = 0.130
T2 = 0.595
T3 = 0.000
T4 = 0.015

1301 Stoped hermit ~~test~~ # 21 (07 in hermit)

1302 Removed grundfos pump and inserted bladder pump and set up Horiba-22 for water quality + stabilization parameters

1305 Started bladder pump on MW-11010 SDT-20

	purge vol	ph	Cond	DO	Temp	ORP
1309	1.0 gal	6.88	1.68	4.81	13.70	-66
1312	2.0 gal	6.87	1.71	1.09	13.14	-69
1320	4.0 gal	6.87	1.72	0.76	13.11	-64
1323	5.0 gal	6.89	1.72	1.68	12.97	-54
1330	6.75 gal	6.88	1.72	1.18	12.80	-60
1338	8.0 gal	6.87	1.72	1.46	12.87	-63
1343	9.0 gal	6.87	1.72	1.54	12.78	-65
1352	10.0 gal	6.87	1.72	1.71	~~12.80~~ 12.73	-66
1355	12.0 gal	6.86	1.71	2.02	12.74	-67

6/20/01 cont.

cont.	Purgevol.	pH	Cond	DO	Temp	ORP
1400	13.0gal	6.87	1.71	1.87	12.75	-68

1405 Sampled MW-1101D SPT-20 for VOC's w/3 40ml vial w/HCl

1410 Removing bladder pump and setting at next interval (83.0-75.0) tape set at 71.5 ft SPT-~~22~~ 21

1420 Grundfos pump is set, started SPT-21 ~~SPT-22~~, Hermit test #22 at MW-1101D (08 in hermit)

1421 T1 - 0.130
T2 - 0.290
T3 - 0.000
T4 - 0.000

1423 Started grundfos pump for interval 83.0ft to 75.0ft for SPT-21 at a rate 12.0gpm

1430 T1 = 0.043
T2 = 0.464
T3 = 0.000
T4 = 0.000

6/20/01 cont.

1435 T1 = 0.130
T2 = 0.508
T3 = 0.014
T4 = 0.015

1438 Note Date on hermit test # 3, 4, 5, 6, 7, 8 (22, 21, 20, 19, 18, + 17) is ~~incorrect~~ incorrect
test 17, 18, 19 are 6/19/01 not 6/16/01
test 20, 21, 22 are 6/20/01 not 6/17/01
this was ~~actually~~ due to a power failure on the hermit on test ~~#~~ 16 (#2) in which the new date was entered incorrectly

1441 T1 = 0.130
T2 = 0.523
T3 = 0.000
T4 = 0.015

1451 Stoped grundfos pump after puging approx. 320 gallons, allowing 15 min for recharge + Stabilization

1508 T1 = 0.115
T2 = ~~0.0~~ 0.450
T3 = 0.000
T4 = 0.000

6/20/01 cont.

1509 Removing grundfos pump and placing bladder pump and Horiba-22 for water quality and Stabilization parameters

1510 Started horiba test # 22

1514 Started bladder pump on MW-1101D SPT-21

	purge vol.	pH	Cond	DO	Temp	ORP
1517	0.75gal	7.04	1.74	6.21	13.46	-61
1525	2.75gal	6.92	1.79	3.20	13.01	-58
1531	4.0gal	6.91	1.79	2.72	12.95	-50
1539	~~4.75gal~~ 5.75gal	6.90	1.79	2.68	12.80	-44
1545	8.0gal	6.91	1.79	2.99	12.84	-43
1550	9.0gal	6.89	~~1.72~~ 1.79	2.55	12.86	-43
1557 ~~1555~~	10.5gal	6.89	1.79	2.85	12.72	-45
1600	11.0gal	6.89	1.79	2.97	12.82	-48
1605	12.0gal	6.89	1.79	2.91	12.72	-46

1610 Sampled MW-1101D SPT-21 for VOC's w/ 3-40ml vials w/ HCl

6/20/01 cont.

1611 Removing Bladder pump and resetting at MW-1101D SPT-22 73.5 to 65.5 ft BTOC (tape at 62.0 ft) Due to fractures located at 71.9 ft + 76.91 ft

1617 Grunfos pump has been set and bladders inflated. Test - SPT # 22, Hermit # 23 started (09 in Hermit).

1618 T1: 0.115
T2: 0.261
T3: -0.029
T4: 0.000

1619 Started grunfos pump for interval ~~71.9 ft to~~ 73.5 ft to 65.5 ft, SPT # 22, flow rate of 14 gpm

1629 T1 - 0.144
T2 - 0.348
T3 - 0.000
T4 - 0.014

1640 T1 - 0.115
T2 = 0.363
T3 = -0.014
T4 = 0.029

6/20/01 cont.

1647 Stoped grundfos pump purged appox ~~300~~ 320 gallons, allowing 15 min for stabilization + recharge

1702 T1 - 0.115
T2 - 0.392
T3 - -0.014
T4 - 0.000

1702 Stopped test Hermit #23, SPT #22

1705 Began Bladder pump and water quality/ Stabilization parameters on MW-1101D SPT-22

	purged	pH	Cond	DO	Temp	ORP
1710	1.0 gal	6.91	1.85	1.88	13.56	-95
1715	2.0 gal	6.91	1.84	0.65	13.02	-101
1720	3.0 gal	6.92	1.84	0.36	12.94	-102
1725	4.0 gal	6.92	1.84	0.31	12.94	-101
1730	5.0 gal	6.93	1.84	0.62	12.92	-97
1735	6.0 gal	6.93	1.84	0.69	12.85	-95
1739	7.0 gal	6.94	1.84	0.98	12.81	-94
1745	8.0 gal	6.95	1.83	1.09	12.75	-93
1750	9.0 gal	6.95	1.83	1.18	12.80	-94
1755	10.0 gal	6.95	1.83	1.17	12.83	-94

6/20/01 cont.

1800 Sampled MW-1101D SPT-22 for voc's using 3-40ml vials w/ HCl

1805 Removing bladder pump, casing and packer from MW-1101D. finished with well MW-1101D and removing transformers/ Securing the wells

1810 J. Campbell left site for day

1837 Layne left site for day

1840 Heidi Mendygral left site for day

Heidi Mendygral
6/20/01

6/21/01

Objective: Conduct packer testing
weather: 70's, rain
personel: Heidi Mendugral, J. Campbell (Clayton)
Vince, Mike (Layne) Karen, Drew (Parsons)
PPE: D

700 Arrive on site. J. Campbell + Layne on site

745 Layne Decoring and setting up on MW-1104D

8:00 Set transducers for MW-1104D

T1 - MW-1103D 47.95
T2 = Bottom of packer
T3 MW-1105D 52.95
T4 = Top of packer

820 Setting casing and packer at SPT-23 MW-1104D from 86.5 to 94.5 ft BTOC (tape at 83.0 ft)

900 Started hermit test #24 (01 in hermit)

6/21/01

901 T1 = 0.130
T2 = 0.610
T3 = 0.014
T4 = 0.00

902 Started grundfos pump in MW-1104D
SPT-23 at 120 gpm

910 T1 = 0.130
T2 = 0.958
T3 = 0.000
T4 = 0.029

920 T1 = 0.144
T2 = 1.045
T3 = 0.014
T4 = 0.029

9:26 Stopped the grundfos pump after purging ~~300~~ 320 gallons. Letting the well stabilize for 15 min.

938 Calibrated Horiba-22 for water quality and stabilization parameters

6/21/06 cont.

941 T1 = 0.144
T2 = 0.915
T3 = 0.014
T4 = 0.29

942 Stopped hermit test #24 (01 in hermit)

942 Removed grundfos pump and inserted bladder pump at SPT-23 interval and set up Horiba-22 for water quality + stabilization parameters.

9:50 Started bladder pump

	purge vol.	pH	cond (mS/cm)	DO (mg/L)	temp (°C)	ORP (mV)
9:54	1 gal	7.29	1.27	~~12~~* 0.49	12.34	-178
9:59	2.25 gal	7.10	1.66	0.04	12.23	-164
10:04	3.75 gal	6.96	1.82	0.00	12.31	-120
10:09	5.00 gal	6.95	1.84	0.00	12.20	-111
10:12	6.00 gal	6.93	1.84	0.00	12.14	-101

1015 Sampled MW-1104D SPT-23 for VOC's w/ 3-40mL vials w/HCl

6/21/01 Cnh

1040 ~~Resesting~~ Removing bladder pump + resetting at MW-1104D ~~STP~~ SPT-24 87.5-79.5 ft BTOC (tape at 76.0 ft)

1050 Grunfos pump is set ~~at~~ with the casing ~~at~~ a tape interval of 76.0 ft. Hermit test #25 SPT #24 started (03 in hermit)

1052 T1 - 0.130
T2 - 0.639
T3 - 0.014
T4 - 0.015

1053 Grunfos pump is start at MW1104D SPT #24 at a rate of 14 gpm

1105 T1 = 0.130
T2 = 0.784
T3 = 0.029
T4 = 0.029

1110 Photo #1, MW-1104D SPT-24 Facing East purging with grundfos pump

6/21/01 CMA

1115 T1 = 0.144
T2 = 0.827
T3 = 0.043
T4 = 0.058

1116 Stoped grundfos pump pumping approx 320 gallons, allowing 15 min for stabilization + recharge

1130 T1 = 0.144
T2 = 0.798
T3 = 0.014
T4 = 0.029

1131 Stoped hermit test #25 (03 in hermit)

1133 removed ~~bladder~~ grundfos pump + inserted bladder pump + set up Horiba-22 for water quality + stabilization parameters

1143 Started Bladder pump for SPT-24

6/21/2004

	purge vol.	pH	Cond	DO	temp	ORP
1146	1.0 gal	7.02	1.62	5.98	12.73	-28
1150	2.5 gal	6.92	1.81	0.84	12.50	-64
1155	3.75 gal	6.92	1.84	0.19	12.43	-74
1200	4.75 gal	6.91	1.85	0.06	12.36	-74
1205	6.5 gal ~~7.5~~	6.92	1.86	0.00	12.26	-74
1210	8.0 gal	6.93	1.86	0.00	12.17	-75

1215 Sampled MW-1104D SPT-24 for VOC's w/ 3-40 ml vials w/HCl

1220 removing bladder pump and resetting at 81.5-73.5 ft BTOC MW-1104D SPT-25 (tape at 70.0 ft) grundfos + casing set

1232 Hermit test #26 (04) SPT #25 started, bladders are filled and grunfos pump is set.

1233 T1 - 0.144
T2 - 0.537
T3 - 0.000
T4 - 0.015

1318 Grunfos pump is started at MW-1104D SPT #25 with a flow rate of 14 gpm

6/21/01 cont

1322 T1 - 0.130
T2 - 0.696
T3 - 0.014
T4 - 0.307

1332 T1 - 0.144
T2 - ~~0.90~~ x 0.696
T3 - 0.014
T4 - 0.702

1342 T1 - 0.159
T2 - 0.725
T3 - 0.029
T4 - 1.038

1343 Grundfos pump stopped at ~~300~~ x 320 gal purged waiting 15 minutes for well to recharge and stabilize.

1400 T1 - 0.130
T2 - 0.711
T3 - 0.029
T4 - 0.497

1401 Permit test #26 (04) SPT #25 stopped. Grundfos pump removed and bladder pump inserted.

6/21/01 cont

1403 Bladder pump began pumping also began stabilization with Horiba U-22.

	purge vol.	pH	cond (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)
1409	1.25 gal	6.88	1.77	0.28	12.69	-76
1412	2 gal	6.93	1.78	0.04	12.50	-84
1416	3 gal	6.99	1.78	0.00	12.44	-88
1420	4 gal	7.00	1.78	0.00	12.41	-89

1425 Sampled MW-1104D SPT-25 for VOCs w/3-40ml vials w/HCl

1430 Began pulling casing + bladder pump + transducers and securing the well for the day

1450 J. Campbell left site for day

1540 Layne left site for day

1545 H. Mondragon left site for day

Mondragon 6/21/01

6/22/01

Objective: Conduct packered tests

personell: Heidi Mendygral, Joe Campbell (Clayton)
Karen Carlisle (Parsons) Vince, Mike (Layne)

Weather: Partialy cloudy, 70s

PPE: level B

6:20 Arrive onsite, J. ~~Campbell~~ Campbell, Layne onsite

6:21: Set up transducers

T1 = 49.4 on MW-1104D
T2 = bottom of packer
T3 = not in use due to no adjacent wells
T4 = top of packer

6:22: Setting casing, and grundfos pump at MW-1105D SPT-26 98.0-90.0 ft BTOC (tape set at 86.5 ft)

700 Started hermit test #27 (05 in hermit)
T1 = 0.072
T2 = -0.040
T3 = —
T4 - 0.015

6/22/01 cont

705 Stopped hermit test # 27 (05 in hermit) due to T2 having unusual reading fluctuating for 0.0 to -6.0 and back before turning on the grundfos. Erasing and starting hermit test # 27 (05 in hermit) again. May be due to mud at bottom of hole

707 T2 = at 26 ft, deflating packers to see if they are the cause.

709 No change in T2 = transducer readings going up and down. Moving the bottom transducer up 1.0 ft to see if that makes a change so SPT-27 97.0-89.0 ft interval stopped # 27

713 Started hermit # 28 (04 in hermit) before packers inflated to see the change. T2 = reading at -4 + -2 inflating packers to see ~~what~~ what happens. Transducer # 2 reading still allowed the place -3, to -17 to -9.

720 Deflating packers and moving up ~~to~~ ~~ten ft~~ ten feet to verify if packers are working correctly

724 When packers deflated readings stabilized at ~~12 ft~~ 12.5

6/22/01

725 When tranducer was moved up 10 feet hermit showed the 10 ft movement up with a reading of 22 - tranducer working properly

736 Set tape at 86.5. - SPT-~~2~~ 26, Vince (Laynel) feels that it was not the muck on the bottom but a flow current or pressure from the bladder that are causing the fluctions in reading. Started hermit test (#27) (05 in hermit)

740 T=2 readings are more stable but slowly climbing, inflating packer more to see if stabalizes, ~~5~~ readings still climbing

744 Starting grundfos pump for SPT-26 98.0 - 90.0 ft BTOC (tape 86.5) at 14 gpm

T1 = 0.087
T2 = 4.907
T3 = —
T4 = -0.015

6/22/01

750 T1= 0.144
T2 = 6.068
T3= NC
T4= 0.015

801 T1 = 0.144
T2= 6.141
T3 = NC
T4= 0.015

806 T1 = 0.130
2T = 6.170
T3 = NC
T4= 0.015

808 Stoped Grundfos pump allowing 15 min for stabilization + recharge purge app. 320 gal

~~808~~ 823 T1 - 0.087
T2 - 5.241
T3 - NC
T4 - 0.015

824 Grunfos pump is pulled and bladder pump is lowered. Horiba U-22 is calibrated and hooked up. Stoped hermit test # 27 (0.5 inherent

6/22/01

	Purge vol.	pH	Cond (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	
832	0.25 gal	6.76	1.58	5.65	12.88	-127	9
837	2.25 gal	7.14	1.64	0.11	12.19	-182	
842	4.25 gal	7.00	1.85	0.00	12.33	-127	
846	5.50 gal	6.98	1.85	0.00	12.26	-118	
851	7.00 gal	6.96	1.86	0.00	12.22	-106	9

855 Sampled MW-1105D SPT-26 for VOC's w/ 3-40ml vials w/HCl

900 Removing bladder pump and resetting and putting grundfos pump at Sh MW-1105 SPT-27 96-88.0 ft BTOC (tape at 84.5) 9

910 Started permeat test #28 (O2 in permeat) 9

T1 = 0.058
T2 = 0.044
T3 = NC
T4 = 0.000

9

912 Started grundfos pump for SPT-27 96.0 to 88.0 ft bt

9

6/22/01

9:15 T1 - ~~= 0.015~~ 0.115
9:12 T2 - -3.063
T3 = NC
T4 = -0.015

9:16 T1 - 0.173
T2 - 0.914
T3 = NC
T4 - 0.015

9:19 T2 - -2.866, transducer #2 ~~if~~ is fluctuating between negative and positive ranges, the fluctions seem to be between -3 and +3. This may be due to pressure from the bladder or a vertical fracture or flow camera

9:20 T1 - 0.144
T2 - 1.393
T3 = NC
T4 = 0.015

9:30 T1 = 0.159
T2 - 1.292
T3 = NC
T4 = 0.015

6/22/01 cat

937 grundfos pump is off after purging approx 820 gall. Allowing 15 min for stabilization + recharge 10

952 T1 = 0.130
T2 = 1.040
T3 = NC
T4 = 0.00 10

953 Removing grundfos pump and inserting bladder pump + Horiba-22 for water quality + stabilization parameters 10

956 Started bladder pump for water quality for stabilization parameters

	purge vol	pH	cond (ms/cm)	DO (mg/L)	Temp (°C)	ORP (mV)
958	0.75 gal	6.85	1.86	2.57	13.66	-87
1002	2.0 gal	6.98	1.87	0.30	12.60	-115
1006	3.0 gal	7.00	1.88	0.06	12.70	-109
1010	4.0 gal	6.99	1.87	0.03	12.50	-100
1014	5.0 gal	7.00	1.88	0.04	12.71	-97

1020 Sampled MW-1105D SPT-27 for voc's w/ 3-40 ml vials w/ HCl 10

6/22/cont

1025 Began resetting and removing bladder pump at MW-110SD SPT-28 80ft - 88.0ft (tape at 76.5ft)

1043 Started hermit test # ~~28~~ 29 (08 in hermit)

T1 = 0.029
T2 = 14.363
T3 = NC
T4 = 0.00

1049 Stoped hermit test # 29 (08 in hermit) erased it and Started a new hermit test # 29 (08 in hermit) due to T2 high readings which may be due to the packer bladder was still inflating will the hermit test was started

1050

T1 = 0.058
T2 = -1.698
T3 = NC
T4 = 0.015

1052 Started grundfos pump at 14.0 gpm

6/22/01 cont

1059 T1 = 0.115
T2 = -1.321
T3 = NC
T4 = 0.322

1110 T1 = 0.015
T2 = 0.334
T3 = NC
T4 = 0.804

1115 Stopped grundfos pump after purging approx 320 gall. allowing 15 min for recharge

1130 T1 = 0.115
T2 = -10.044
T3 = NC
T4 = 0.556

1132 Stopped hermit ~~#28~~ 29 (08 in hermit) removing grundfos and placing in bladder pump + Horiba-22 for water quality + stabilization parameters

1136 Started bladder pump

6/22/01 CWL

	purge vol.	pH	Cond.	DO.	Temp	ORP
1140	0.25 gal	7.13	6.893	~~7~~ 7.36	23.43	58
1145	1.0 gal	7.03	1.63	2.89	14.62	-72
1150	1.75 gal	7.00	1.73	0.92	13.73	-80
1155	2.50 gal	7.01	1.75	0.46	13.52	-85
1159	3.25 gal	7.01	1.76	0.18	13.41	-86
1205	4.0 gal	7.01	1.77	0.09	13.32	-85
1210	5.0 gal	7.01	1.77	0.07	13.37	-90
1215	5.5 gal	7.02	1.77	0.01	13.37	-89

1215 Sampled MW-1105D ~~SPT-29~~ SPT-28 for VOC's w/ 3-40ml vials w/ HCl

1220 Removing casing + bladder pump + transducers and securing the wells. Finished MW-1105D

1240 J. Campbell left site for day, Karen Carlisle left site for day

1307 Layne left site for day

1310 Heidi Mendagal left site for day

Heidi Mendagal 6/22/01

6/25/01

objective: Conduct packered tests

weather: Sunny, 90's

personel: Heidi Mendygral, Joe Campbell (Clayton)
Vince, Mike (Layne) Karen Carlile (Parsons)

PPE: Level D

7:00 Heidi Mendygral Arrive on site

7:15 J. Cambell on site, Layne on site

7:20 Began Decoring and Setting up on MW-1106D

8:25 Set up Photo #2 on MW-1106D FW

8:27 Setting MW-1106D SPT-29 at 104-112 ft BTOC (tape at 100.5 ft)

T2 = Bottom of Packer
T4 = Top of packer

9:14 Started hermit test # 30 (01 in hermit) for MW-1106D SPT-29 104-112 ft
T1 + T3 not connected no adjacent wells available

6/25/01 cont.

T2 = 0.160
T4 = 0.015

9:16 Started grunafos pump on SPT-29 at 120 gpm

9:21 SPT-29 ran dry allowing for recharge after approx 20 gallons

922 T2 = 4.761
T4 = 0.015

935 Started grundfos pump again purged 3 gallons went dry allowing for recharge

940 T2 = 4.877
T4 = 0.029

946 Started grundfos pump again purged 1 gallon total of 24 gallons. Stoped grunafos, (randy) allowing 15 min for stabilization & recharge before putting in bladder pump

10:00 T2 = 4.253
T4 = 0.059

6/25/01 cont.

10:01 Stoped hermit test #30 (OK in hermit)

10:02 Removing grundfos pump and placing in bladder pump for water quality and stabilization parameters using Horiba-22.

10:03 Calibrated Horiba-22 for water quality + stabilization parameters

1006 Started bladder pump for water quality + stabilization parameters

	purge vol	pH	Cond (mS)	DO (mg/L)	Temp (°C)	ORP (mV)
1024	0.75 gal	6.81	1.86	1.94	14.99	-54
1030	2.0 gal	6.91	1.85	1.90	14.52	-65
1037	4.0 gal	6.95	1.85	2.24	14.37	-61
1042	5.0 gal	6.95	1.85	2.57	14.31	-60
1047	6.0 gal	6.95	1.85	2.56	14.31	-58
1052	6.5 gal	6.96	1.85	2.46	14.31	-58

11:00 Sampled MW-1106D SPT-29 for VOCs w/ 340 mL vials w/ HCl

11:02 Removing bladder pump + resetting at 960 to 104 ft to BTOC (92.5 tape set)

6/25/01 cm

MW-1106D SPT-30 - placing in grundfos pump

~~1021~~ 1124 Started hermit test #31 (03 in hermit)

T2 = 0.044
T4 = -0.015

1126 Started grundfos pump in MW-1106D SPT-30 (94.0 to 104 ft BTOC) at 14 gpm

1133 T2 = 0.145
T4 = 0.205

1142 T2 = 0.668
T4 = 0.234

1150 Grundfos pump is shut off allowing 15 min for recharge + stabilization purged approx 300 gallons

1205 T2 = 0.465
T4 = 0.015

1206 Stopped hermit test #31 (03 in hermit)

6/25/01 cont.

12:07 Removing grundfos and setting Bladder pump for water ~~quality~~ quality + stabilization parameters using Horiba-22

12:14 Started bladder pump for water quality + stabilization parameters using Horiba-22

	purged vol	pH	Cond	DO	Temp.	ORP
1220	2.5gal	6.87	1.72	3.43	14.86	-38
1226	3.75gal	6.93	1.72	1.68	14.56	-42
1234	5.25gal	6.96	1.73	1.58	14.20	-39
1240	7.0gal	6.97	1.70	1.68	14.28	-39
1246	8.0gal	6.98	~~1.80~~ 1.22	1.80	14.20	-37
1250	9.0gal	6.98	1.72	1.82	14.13	-37
1255	10.0gal	6.95	1.73	1.77	14.15	-38

1300 Sampled MW-1106D SPT-30 w/ 3-40ml vials w/ HCl

13:02 Removing bladder pump and resetting at MW-1106D SPT-31 (88-96 ft BTOC tape at 84.5) and setting grundfos pump

6/25/01 cont

1316 Started hermit test # 32 (04in hermit)
T2 = 0.145
T4 = -0.146
T3+T1 are not being used because no adjacent wells are located w/in proximity

1320 Started grundfos pump at 120 gpm. Went dry after 3 gallons waiting for recharge

1335 Started grundfos pump went dry after 2 gal. waiting for recharge

1350 Started grundfos pump again went dry after 4 gal waiting for recharge

1405 Started grundfos pump again went dry after 1.5 gal waiting for recharge
T2 = 0.247
T4 = 6.636

1411 collect RES-1 from Lockformer water reservoir; for VOCs and 15 TICs

1413 Started grundfos pump again went dry after 2.0 gal waiting for recharge

6/25/02 cont.

1435 Started grundfos pump removed approx 1 gallon went Dry allowing 15min for Stabilization purged 13.0 gallons.

1452 TQ = 0.203
TH = 10.509

1453 Stoped hermit test # 32 (04 in hermit)

1500 Removed Grunafos pump + inserted bladder pump for water quality + Stabilization parameters using Horiba-22

1510 Started bladder pump

	purged vol.	pH	cond	DO	Temp	ORP
1522	0.75 gal	7.07	1.36	2.33	18.92	-113
1527	1.25	7.15	1.38	1.32	18.30	-131
1532	2.0 gal	7.21	1.38	1.58	18.10	-130
1537	2.5 gal	7.22	1.39	1.87	18.06	-122
1542	3.0 gal	7.21	1.39	2.03	18.77	-117
1547	3.0 gal	7.22	1.39	1.97	19.05	-117
1554	4.0 gal	7.22	1.39	1.96	19.24	-115

6/25/01 Cons

1600 Sampled MW-1106D SPT-31 for voc's w/ 3-40ml vials w/ HCl

1605 Removing the bladder pump, casing, & tranducers, and securing the well. MW-1106D is finished + Decoming

1650 Karen Carlile (Parsons left site

~~18th~~

17:10 layne left site, T. Campbell, Heidi Mendaul left site for day

Heidi Mendaul
6/25/01

6/26/01

objective: Conduct packered testing 8

personel: Heidi Mendygral, Joe Campbell, Darren Lamsma (Clayton), Karen Carlisle (Parsons) Vince & Mike (Layne) 8

weather: Sunny 80's

PPE: level D 82

7:00 Arrive on site, J. Campbell, D. Lasmasa, Layne, arrive on site 82

7:10 Setting up at MW-1107D SPT-32
95.0 to 103 ft (tape set at 91.5 ft)
84

T2 = Bottom of packers
T4 = Top of packers
no transducers 1 or 3 adjacent wells not available 84

84

7 55 Started Hermit test # 33 (05 in hermit)
T2 = 0.0189
T4 = 0.015

800 Started grundfos pump at 14.0 gpm 84

805 T2 = 0.508
T4 = 0.029

815 T2 = 0.508
T4 = 0.029

825 T2 = 0.479
T4 = 0.044

826 Stoped grundfos pump after pumping 320gal. allowing 15 min for stabilization + recharge

840 T2 = 0.160
T4 = 0.041

841 Stoped hermit test #33 (05 in hermit)

842 Removing grundfos pump and placing in bladder pump for water quality and stabilization parameters using Horiba-22

845 Started bladder pump

	Purge vol.	pH	Cond (mS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	
							10
850	0.25 gal	7.06	1.24	8.13	16.02	59	
855	1.0 gal	7.02	1.82	3.49	14.36	-10	
905	2.5 gal	7.05	1.86	3.03	14.10	-18	10
910	3.25 gal	6.94	1.87	2.95	14.02	-21	
915	4.25	7.01	1.87	2.91	13.90	-24	
920	5.0 gal	7.02	1.87	2.90	13.87	-27	10
925	6.0 gal	6.93	1.87	2.85	13.71	-27	
9:31	7.0 gal	6.94	1.88	2.81	13.82	-27	
9:36	8.25 gal	6.94	1.87	2.80	13.74	-22	10:

9:40 Sampled MW-1107D SPT-32 for VOCs w/3-40ml vial w/HCl

10

945 Removing bladder pump + resetting at MW 1107D SPT-33 88.0 ft to 96.0 ft (84.5 tape) 10

954 Started hermit #34 (06 in hermit) 10

T2: ~~0.101~~ 0.102

T4: -0.029

10

956 Started Grundfos pump at 14.0 gpm

10:00	T2 = -0.058 T4 = -0.015
10:09	T2 = -0.015 T4 = 0.00
10:19	-0.116 = T2 T4 = -0.029
10:21	Stoped grundfos pump after 320 gallons allowing 15 min for stabilization + recharge
10:35	T2 = -0.247 T4 = -0.015
1037	Stoped hermit test # 34 (06 in hermit)
1039	Removed grundfos pump and inserted bladder pump
1045	Started bladder pump for water quality + stabilization parameter using Horiba-22

	purge vol.	pH	Cond	DO	Temp	ORP
1050	1.0 gal	6.78	1.85	4.28	14.16	-25
1055	2.75 gal	6.86	1.87	3.08	13.89	-36
11:00	4.0 gal	6.87	1.87	2.94	13.75	-27
1105	5.0 gal	6.88	1.87	2.88	13.73	-27
1110	6.0 gal	6.89	1.87	2.89	13.44	-28

1115 Sample MW-1107D SPT-33 for 00c's w/ 3-40mL vials w/HCl

1120 Removing bladder pump + resetting ~~at~~ 81.0 to 89.0 ft (tape at 77.5) for MW-1107D SPT-34

1129 Inserting grunfos pump for SPT-34

1132 Started Permit test #35 (7) SPT-34

1134 T1 - NC
T2 - 0.029
T3 - NC
T4 - -0.058

1134 Started grunfos pump at a rate of 14 gpm

1144 T1 - NC
T2 - 0.116
T3 - NC
T4 - 0.206

1156 T1 - NC
T2 - 0.160
T3 - NC
T4 - 0.205

1201 Stoped grundfos pump purged approx 320 gallons allowing 15 min for stabilization & recharge

1214 T1 - NC
T2 - 0.363
T3 - NC
T4 - 0.044

1215 Stopped Hermit test #35 (?), pulled grundfos pump and inserted bladder pump.

1223 Removed ~~bladder~~ grundfos pump & inserted bladder pump for water quality & stabilization parameters with bladder 2a

	purge vol.	pH	cond.	DO	temp	ORP
1232	1.75	6.87	1.84	5.42	14.22	-46
1235	2.50	6.87	1.84	3.70	14.07	-48
1240	~~3.50~~ 3.75 sc	6.89	1.84	3.13	13.91	-49
1245	5.00	6.90	1.84	2.86	13.71	-49
1250	6.25	6.90	1.83	2.80	13.74	-51
1255	7.25 gal	6.90	1.83	2.81	13.63	-50

1300 Sampled MW-1107D SPT-34 for VOCs w/ 3-40ml vials w/ HCl

1305 Removing bladder pump, ~~and~~ casing, transducer, and securing the well. Finished well MW-1107D. Finished Packered testing of designated wells

1342 Heidi Mendygrall offsite

1419 ~~1350~~ sc Layne, Joe Campbell, & Ryan Cambsma offsite.

6/27/01

0750 D. Lemsma on-site

obj: static water levels

weather: sunny, warm, high 85°F

PPE: Level D

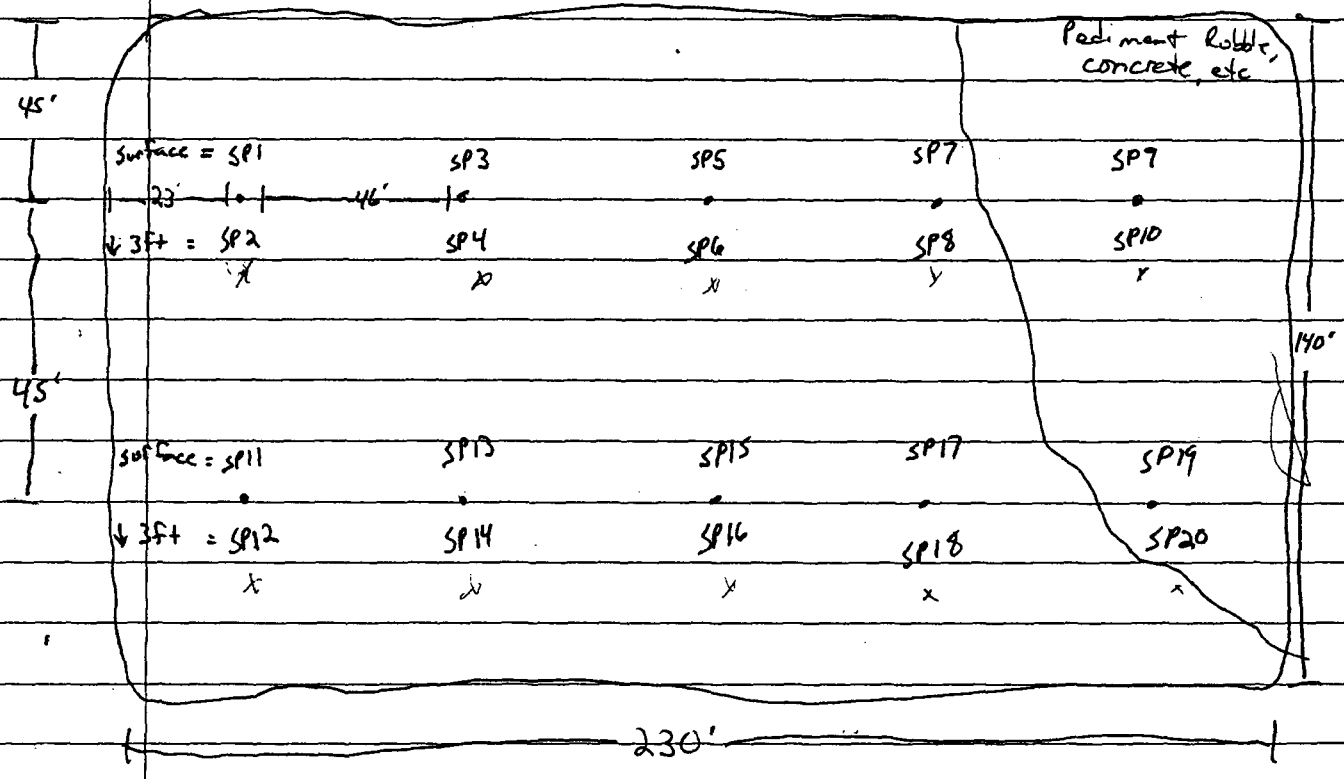
	Well	DTW
0757	MW-505S	Dry
0806	MW-508S	Dry
0808	MW-508D	51.88 ft
0814	MW-1107D	55.73 ft
0826	BW-3	44.84 ft
0833	BW-2	35.52 ft
0919	BW-1	89.40 ft
0930	SG-1	11.39 ft
0940	SG-2	10.18 ft
0947	SG-3	14.50 ft
0953	MW-1106D	64.41 ft
0958	MW-522	50.94 ft
1001	MW-521	54.20 ft
1004	MW-1105D	48.62 ft
1008	MW-1104S	44.18 ft
1009	MW-1104D	44.63 ft
1015	MW-1103M	42.71 ft
1016	MW-1103S	42.06 ft
1019	MW-1103D	43.21 ft
1024	MW-1109	46.14 ft

6/27/01
cont

	well	DTW
1027	MW-1102S	45.62 ft
1029	MW-1102D	46.51 ft
1037	MW-126	52.22 ft
1041	MW-516D	45.35 ft
1048	MW-517D	54.48 ft
1053	MW-514D	45.92 ft
1055	MW-513D	51.79 ft
1058	MW-502S	8.29 ft
1101	MW-504D	56.06 ft
1103	MW-504S	Dry
1108	MW-1100D	36.83 ft
1110	MW-1100S	35.03 ft
1112	MW-1101D	37.20 ft
1114	MW-1101S	35.43 ft
1121	MW-402	45.43 ft
1125	MW-515	47.83 ft
1127	MW-500D	48.43 ft
1130	MW-120	47.76 ft
1135	MW-101	12.27 ft
~~1340~~ 1540	MW-1108S	54.09 ft
1138	MW-123	12.43 ft
1530	MW-507S	Dry
1144	MW-401	51.11 ft
1142	MW-501D	50.93 ft

7/12/01

0928 J. Campbell onsite
obj: sample soil from ~~b~~ JC dirt pile behind building
Weather: sunny, warm, high 80°
PPE: Level D



0945 Labeled sampling bottles

1020 Marked off sampling sites

1055 Sampled SP-1 @ 3in, Dry silty clay w/ gravel, lt. brown
1117 Sampled SP-2 @ 3ft ~~[illegible]~~ JC, Moist silty clay w/ gravel, dk. brown
1125 Sampled SP-11 @ 3in, Dry, silty clay w/ gravel, lt. brown
1145 Sampled SP-~~20~~ JC 12 @ 3ft, Moist, silty clay w/ gravel, dk. brown

1155 Sampled SP-3@3in, Dry, same as above 16
1210 Sampled SP-4@3ft, Moist, same as above
1215 Sampled SP-13@3in, Dry, same as above
1225 Sampled SP-14@3ft, Moist, same as above
1232 Sampled SP-5@3in, Dry, same as above
1250 Sampled SP-6@3ft Moist, same as above
1256 Sampled SP-15@3in, Dry, same as above 17:
1310 Sampled SP-16@3ft, Moist, same as above
1326 Sampled SP-7@3in, Dry, same as above
1350 Sampled SP-8@3ft, Moist, same
1400 Sampled SP-17@3in, Dry, same
1416 Sampled SP-18@3ft, Moist, same
1420 Sampled SP-9@3in, Dry, same
1436 Sampled SP-10@3ft Moist, same
1443 Sampled SP-19@3in, Dry, same
1456 Sampled SP-20@3ft, Moist, same

* Note: ~~Decomm~~ JC Decontaminated auger between each sample site

~~151~~ JC

1445 Karen (Parson's) on-site

1515 Joe Campbell off site, Karen (Parson's) off site

JC

7-12-01

16:50 J. Campbell on site
obj: place markers at sampling sites on dirt mound behind building
weather: sunny, warm, high 80°
PPE: Level D

17:05 J. Campbell off site

J. Campbell

8/24/01

0852 Jeff Endsley and Steve Swenson at Lisle Library
Objective: Meet with Joanna Fry att. Representing Collins Law Firm. GPS and log potable water wells.
Weather: Sunny, warm High 79°F
PPE: Level D

0857 Joanna on site. & Joined Jeff and Steve.

0859 Stopped at 717 Front St. - #139.
Lat 41° 47.~~785~~ 792'N (JLF)
Log. 88° 3.924' W

0910 Stopped at the next well, See table below

	Add.	#	N ~~Lat~~ (JLF)	W	Sat
0859	717 Front St.	139	41° 47.792'	88° 3.924'	5
0910	649 Front St.	140	41° 47.~~788~~ 800' (JLF)	88° 3.864'	7
0923	633 Front St.	141	41° 47.~~767~~ 70 (JLF)	88° 3.824'	6
0926	612 Front St.	129	41° 47.807	88 3.786	5
0933	599 Front St.	134	unable to locate well		
0943	~~596 Front St.~~		~~41° 47.783~~	~~88° 3.636~~	~~7~~ NO

Not Right house, was 588 ~~on House.~~ (JLF) The resident said

0949	Possible 596 Front		41° 47.803	88° 3.665	6

This is the house located in the lot in front of where 596 is shown on the map it is 592 Front St.

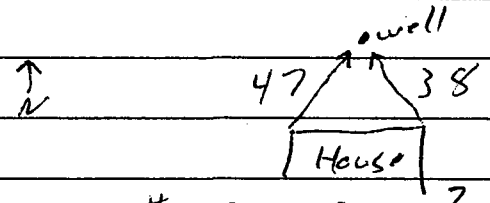
0957	586 Front St.	133	41° 47.792'	88° 3.603'	5
1001	580 Front St	131	41° 47.794	88° 3.587	7

The house is marked as 588 Front St

8/24/01
Jeff Endsley

		#			
1009	5003 Westview	135	41° 47.741 N	88° 3.520 W	8
1013	5011 Westview	136	41° 47.891 N	88° 3.540 W	6
1018	1017 Reidy	137 NO well Visible		1017 on House 581 on map	
1022	592 Reidy	#2	41° 47.723	88° 3.886	~~8~~ 5 JLE

Poor GPS Reception, Well is measured with a wheel

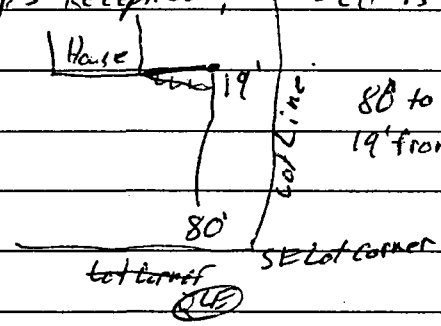


1030	599 Reidy	#142	41° 47.654 JLE	88° 3.740	7
1053	5006 Kingston	~~#153~~	~~41° 4~~	~~88° 3.~~	~~7~~ JLE

Not Visible.

1057	741 Hitchcock	#146	41° 47.596	88° 3.975	5

Poor gps Reception, Well is measured wit a wheel



1111	733 Hitchcock	# 147	~~Well is not Visible~~ JLE		
			41° 47.592	88° 3.953	7
1117	717 Hitchcock	# 148	41° 47.577	88° 3.922	9
1120	612 Hitchcock	# 163	Well is not Visible.		
1130	600 Hitchcock	# 143	41° 47.630	88° 3.745	8

~~JLE 1135~~

8/24/01

			N	W	Sat
1135	640 Gamble	#144	41° 47.540	88° 3.846	7
1136	701 Gamble	#160	41° 47.519	88° 3.869	7
1137	716 Gamble	#145	41° 47 ~~545~~ ~~738~~ JLE 539	88° 3.912 JLE	~~8~~ 9 JLE

1145 Steve and Jeff Dropped Joonneoff at her car and left the site.

8/24/01

Jeff [illegible]

9-5-01 WEDNESDAY

OBJECTIVE : REMOVE PLUG FROM DOWNERS GROVE PUBLIC WATER SUPPLY WELL ON 63RD ST. TO ALLOW WATER LEVEL MEASUREMENT.
PLUG DIAMETER ≈ 1 INCH

0930 ONSITE

1000 WAYNE FROM DOWNERS GROVE WATER DEPARTMENT ON SITE TO OPEN WELL HOUSE. WAYNE'S CELL # 630.878.7574. I EXPLAINED TO HIM WHAT I WAS INTENDING TO DO AND HOW I GOING TO DO IT.

1015 WAYNE OFFSITE.
CENTER PUNCHED THE CENTER OF THE CAST IRON PLUG AND DRILLED OUT A ½-INCH DIAMETER HOLE THROUGH THE CENTER OF THE PLUG. USED VEGETABLE OIL TO LUBRICATE/COOL BIT
TRIED TO USE AN "EASY OUT" TO REMOVE THE PLUG, BUT THE "EASY OUT" CHEWED THROUGH THE CAST IRON BEFORE IT WAS ABLE TO BREAK THE THREADS LOOSE. THE CAST IRON PLUG SEEMED VERY SOFT.

DRILLED THE PLUG OUT WITH A 29/32" BIT AND RETHREADED THE CAST IRON WELL CAP WITH A 3/4" NPT TAP.

9-5-01 CONTINUED

INSTALLED A TEMPORARY 3/4" BRASS NIPPLE AND CAP INTO THE WELL CAP.

I PLAN TO INSTALL A BRASS PLUG INTO THE WELL CAP (IN PLACE OF THE NIPPLE & CAP) DURING THE NEXT WATER LEVEL MEASUREMENT. COLLECTED EQUIP., CLEANED FLOOR, LOCKED WELL HOUSE.

1400 OFFSITE

1410 CONTACTED WAYNE TO NOTIFY I WAS FINISHED, TEMPORARY CAP WAS IN PLACE, AND THE WELL HOUSE WAS RELOCKED.

9-5-01

9-10-01 MON.

OBJECTIVE: COLLECT DEPTH TO WATER MEASUREMENTS AT DOWNER GROVE PUBLIC WELLS, USE STAFF GAUGES, & BEDROCK WELLS.

WEATHER: SUNNY, 70°F

PERSONNEL: NORMAN BOLIVAR, WILLIAM ELWELL

0855 ARRIVE AT FINLEY ROAD WELL TO MEET LARRY OF DGWD

		DTW (FT)
0900	FINLEY RD. WELL EAST ACCESS PIPE	83.75
0920	DOWNERS DRIVE SOUTH PIPE ON WEST SIDE	104.14
0930	KATRINE WELL SOUTH ACCESS PIPE (OIL VARIES READINGS, SO TOOK MULTIPLE READINGS TO VERIFY	63.08
0945	67TH ST EAST ACCESS VENT	110.87
1002	71ST NORTH ACCESS VENT	143.80

9/10/01 (cont)

		DTW (FT)
1015	63RD ST.	95.45
	ACCESS THROUGH PLUG IN ~~WEST~~ WSW TOP (EAST SIDE) OF CASING	
	MEASURE PT. 1.67' FROM FLOOR	
1034	MW-1110D	27.97
	NOTCH ON NORTH SIDE OF 6" OD CASING	
1043	MW-1111D	26.23
	NOTCH ON NORTH SIDE OF 6" OD CASING, (BLACK MARK ON WALL OF FLUSH MOUNT)	
1050	MW-1112D	26.89
	NOTCH ON NORTH SIDE OF 6" OD CASING (BLACK MARK ON WALL OF FLUSH MOUNT)	
1203	Staff Guage 3	14.22
1211	Staff Guage 4	15.86
1217	Staff Guage 5	13.86
1225	Staff Guage 6	16.17
1234	Staff Guage 1	11.14
1244	MW-1106D	64.91
1255	MW-1102D	46.98
1306	MW-1103D	43.70
1310	MW-1104D	45.11

9/10/01 (cont)

time	MW-ID	DTW
1313	MW-1105D	49.11
1319	MW-1101D	37.72
1324	MW-1100D	37.35
1342	MW-1108S	54.65
1348	MW-1107D	56.24
1409	BW-2	36.02
1423	BW-1	89.94
1430	BW-3	45.29
1436	STAFF GAUGE 2	9.99
	MW-1108D	N/A
1500	off SITE	

9/10/01

TUESDAY, SEPTEMBER 11, 2001

OBJECTIVE: DEVELOP MONITORING WELLS. 1110S, MW-1111S & MW-1112S.

CLAYTON GROUP: BILL ELWELL, DARREN LAMSON & NORMAN & JEFF ENDSLEY.

WEATHER: SUNNY, 83°F

LEVEL of PROTECTION: LEVEL D.

0700 ARRIVED ON SITE BILL ELWELL & ON SITE.

0720 BILL ELWELL offsite.

0728 DTW=27.91 TD=42.91 MW-1110S

0730 DECON EQUIPMENT & SET UP ON MW-1110S.

MW-1110S

TIME	Vol (GAL)	TEMP °C	pH	CND mS/cm	TURBIDITY
0816	30.0	14.9	7.10	.557	TURBID
0818	36.0	14.1	7.30	.507	"
0826	45.0	13.7	7.42	.428	cloudy
0835	55.0	14.1	7.35	.516	"
0840	66.0	14.0	7.30	.585	"
0844	75.0	14.1	7.23	.578	s. cloudy
0850	80.5	14.1	7.28	.584	"

ONE WELL VOL = 8.04 X10 = 80.4 GALLONS

6.44 X0.63 = 4.05 X10 = 40.57

0910 DECON EQUIPMENT & SET UP ON MW-1111S

0956 DTW= 26.24 TD= 32.68 MW=1111S

6.44 X 0.63 = 4.05 X 10 = 40.57 GALLONS

9/11/01 (cont)

MW-1111S

	TIME	vol (gal)	TEMPR	pH	COND mS/cm	TURBIDITY
	1022	40.0	15.1	7.02	1.11	V. cloudy
	1026	44.0	14.8	7.02	.828	"
	1030	56.0	14.6	6.99	1.11	"
	1033	70.0	14.7	6.97	1.11	"
	1035	75.0	14.5	7.01	1.12	"

1039 FINISH PURGING MW-1111S

1051 PUMP PURGED WATER INTO THE BAKER TANK. LOCATED ON SITE.

1100 DECON EQUIPMENT & SET UP ON MW-1112S.

MW-1112S

1114 DTW= 27.08
TD= 36.86

9.78 X 0.63= 6.16 X 10 well vol= 61.61 gallon

1150 HAGENSIEK SURVEYORS arrived ON SITE. & Bill Elwell ON SITE.

7/11/01 (cont)

MW-1112S

TIME	vol (gall)	Temp °C	pH	cnd mS/cm	Turbidity
1131	30.0	14.9	7.04	1.16	Turbid
1135	39.0	14.3	6.95	1.32	"
1139	55.0	14.6	6.98	1.35	cloudy
1141	60.0	14.0	6.95	1.40	"
1144	65.0	14.3	6.95	1.40	"

073

073

1200 Bill Elwell off site.

1415 HAGENSEE Surveyors off site.

085

1435 NOB off site.

0925

[signature]

7/11/9

1120

THURSDAY, SEPTEMBER 13, 2001
OBJECTIVE: DEVELOP MW-1113M & MW-1113S.
CLAYTON GROUP: DARREN LAMSMA & NORMAN BOLIVAR
WEATHER: SUNNY, 76°
LEVEL of PRODUCT: LEVEL b.
PARSONS: KAREN C.

0733 Measure MW-1113M
Total: 59.68 ft
DTW: 38.79 ft

0735 Measure MW-1113S
Total: 42.31 ft
DTW: 38.51 ft

0850 Begin pumping MW-1113M: need to remove 100 gallons used while drilling plus 90 gallons in corehole

0925 CALIBRATED WATER CHECKER U-10 w/ AUTO CAL solution ph = 4.0 NTU = 0.0 mS/cm = 4.49
CATALOG NO. ZACDO-2 EXP- 4/11/03 FROM TOTAL SAFETY INC. NET CONTENTS: 500 ml

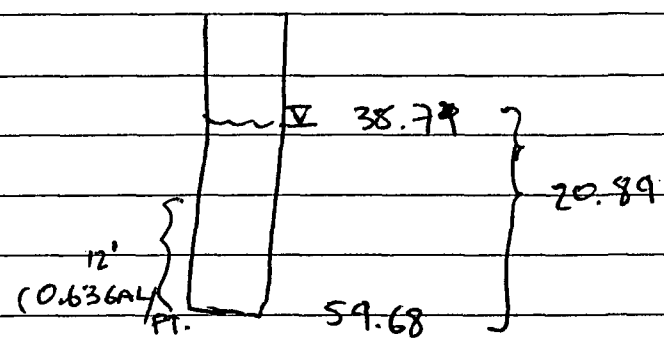
1120 Begin using whale pump to develop MW-1113S; need to remove 200 gallons of water used during drilling plus 10 gallons in corehole

9/13/01 (Cont)

MW-1113M

143

DTW = 38.79 TD = 59.68



12 X 0.63 = 7.56

8.89 ~~26.79~~ 11.89 X 0.16 = ~~4.28~~ 1.42

89.82 GALLONS

~~11.89~~ 8.98 X 10 = ~~118.70~~ 100.00 GALLONS

~~218.9~~ GALLONS

189.82 GALLONS

1137 unable to get whole pump to draw water from MW-1113S; begin development with bailer

163

171

9/13/01 (cont)

1430 readings from MW-1113M

Time	cond (mS/cm)	pH	Temp (°C)	vol (gal)
1432	1.48	7.03	16.5	125
1454	1.67	7.12	14.8	127
1505	1.52	7.20	15.2	130
1515	1.48	7.22	14.9	135

surged & pump w/A

Readings from MW-1113S

Time	cond (mS/cm)	pH	Temp (°C)	vol (gal)
1438	.573	7.17	14.0	40
1451	.681	7.18	13.5	45
1502	1.04	7.25	13.3	50
1512	1.14	7.18	13.3	55

surged & bail w/A 3' disposable bailer.

1630 started to pump purged water

1710 off site

Nancy O. Belen
9/13/01

FRIDAY, SEPTEMBER 14, 2001

OBJECTIVE: DEVELOP MW-1110S, MW-1111S, MW-1112S & MW-1114S.

CLAYTON GROUP: NORMAN BOLIVAR.

PARSONS. MELISA.

WEATHER: SUNNY. 77°F

LEVEL OF PROTECTION: LEVEL D.

EQUIPMENT: GRUNDFOS PUMP & HONDA GENERATOR.

0700 ARRIVED ON SITE.

0706 DTW = 28.04 MW-1110S.

0711 STARTED PUMPING USING A GRUNDFOS PUMP MODEL BM1/MP1

0722 CALIBRATED WATER CHECKER U-10.

AUTO CAL SOLUTION pH=4.0 NTU=0.0 mS/cm 4.49 FROM TOTAL SAFETY INC. CATALOG NO. 2-ACCO-2.

MW-1110S

TIME	VOL (GALL)	TEMP °C	pH	COND mS/cm	TURBIDITY
0728	50	14.0	6.96	.600	CLOUDY
0734	60	13.9	7.15	.602	"
0738	75	13.6	7.24	.628	"
0753	100	13.4	7.21	.685	"

9/14/01 (cont)

MW-1111S

0803 DTW = 26.34

time	vol (gall)	temp °C	pH	cnd ms/cm	turbidity
0819	25.0	13.7	7.04	1.17	s. cloudy
0830	40.0	13.8	7.03	1.16	"

continue surging & pumping MW-1111S

0836	60.0	13.7	7.00	1.17	s. cloudy
0852	90.0	13.5	7.10	1.17	clear
0855	100.00	13.6	7.01	1.18	"

0900 pump purged water at the tank located on the lockformer site.

0920 set up on MW-1112S

0922 DTW = 27.15

	vol (gall)	temp °C	pH	cnd ms/cm	turbidity
0942	50	13.7	7.02	1.48	clear
0949	65	13.7	6.99	1.56	"
0955	76	13.8	6.93	1.59	"
1001	90	13.9	7.00	1.60	"
1004	100.0	13.8	6.94	1.60	"

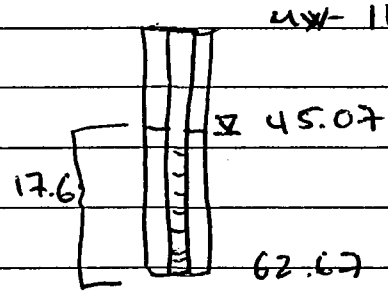
9/14/01

MW-1114S

1036 DTW = 45.07 TD = 62.67

1057 STARTED PUMPING AT MW-1114S

MW-1114S



12' x 0.63 = 7.56
5.6 x 0.16 = 0.896
8.456 x 10 84.56
200.00
284.56 GALLONS

1250 STOP PUMP TOTAL of 1756 GALLONS PURGED

1302 STARTED TO PUMP POLY TANK INTO THE BAKER TANK.

1310 BACK ON MW-1114S & STARTED TO PUMP.

	lb/gall	TEMP °C	pH	COND mS/cm	TURBIDITY
1401	275	14.9	7.17	1.25	CLEAR
1405	278	14.6	7.18	1.27	"
1411	282	16.3	7.19	1.28	"
1422	285	17.1	7.28	1.27	"

9/14/9 (cont)

1445 Melissa off site.

1455 PUMPED PURGED WATER INTO the BAKER TANK ON SITE.

1510 off site to the WAREHOUSE.

[signature]
9/14/9

MONDAY, SEPTEMBER 17, 2001
OBJECTIVE: DEVELOP MONITORING WELLS, MW-1113M & MW-1113S.
LEVEL of PROTECTION: LEVEL D.
WEATHER: CLOUDY, RAINING, 75°F
CLAYTON GROUP: NORMAN BOLIVAR.
PARSONS : DANIEL P. LIEBAU.

1200 Arrived on site.
1222 MW-1113M - DTW = 38.97
1227 MW-1113S DTW = 38.58 TD = 42.33
STDW = 3.75
1232 started pumping MW-1113S using GRUNDFOS pump model BM1/MP1
1242 PUMP ~ 5 GALLONS. WELL IS DRY.
1250 NOB 47 RE-STARTED PUMP.
1250 WELL DRY after 2.0 GALLONS WATER IS very cloudy.
1259 RE-STARTED the PUMP.
1312 STOP PUMP to let it RE-CHARGE. ~ A total of 4.0 more GALLONS FOR A total of ~ 11 GALLONS

1318 RE-STARTED PUMPING. AT MW-1113S.
1323 WELL DRY
1329 RE-STARTED PUMPING
1334 WELL DRY.
1337 RE-STARTED PUMPING
1407 WELL DRY

9/17/01 (cont)

1414 re-started pumping.
1426 stop pumping
1429 DTW= 38.97 At MW-1113M
1431 re-started pumping At MW-1113S.
1437 DTW= 38.97 At MW-1113M
1456 stop pump.
1500 started to pump
1521 A total of ~35 gallons
1530 well dry.
1535 re-started the pump.
1557 stop pump. at MW-1113S
1559 calibrated water checker U-10. using auto cal solution pH= 4.00 0.0NTU. & ms/cm=4.49

MW-1113S catalog no. 2-A C00-2 from Total Safety inc.

TIME.	TEMP/°C	pH	COND ms/cm	TURBIDITY	VOL GALL
1605	17.4	6.20	1.79	CLEAR	45.0
1610	16.4	6.74	1.61	"	47.0
1632	16.2	6.82	1.65	"	54.0
1640	17.1	6.81	1.77	"	57.0

1622 stop pump.
1631 re-started the pump.
1650 off site
1730 Pump pumped water in to the baker tank
1738 off site

[signature]

TUESDAY, SEPTEMBER 18, 2001

OBJECTIVE: CONTINUE DEVELOPING MW-11BS.

CLAYTON GROUP: NORMAN BOLLMAN

WEATHER: SUNNY. 63°F HIGH of 72°F

LEVEL of PROTECTION: LEVEL D.

EQUIPMENT: GRUNDFOS PUMP MODEL BM11/MPI & HONDA GENERATOR.

PARSONS: DANIEL P. LIEBACH.

0700 ARRIVED ON SITE.

0717 SET UP ON MW-11BS DTW = 38.60 TD = 42.36

0725 STARTED TO PUMP.

0736 CALIBRATED WATER CHECKER U-10 w/ AUTO CAL SOLUTION FROM TOTAL SAFETY INC. CATALOG NO. 2-AC00-2 pH = 4.00 NTU = 0.0 & MS/cm = 4.49

0750 GAS UP - GENERATOR.

0754 WELL DRY.

MW-11BS STA H_2O = 3.76 X 0.63 = 2.36 X 10 = 23.68

0802 RE-STARTED PUMPING.

0819 STARTED TO DEVELOP MW-11BS ON THURSDAY, SEPTEMBER 13 2001 DEVELOPED 55 GALLONS w/ A DISPOSABLE BAILER & ON MONDAY SEPTEMBER 17, 2001 DEVELOP 57 GALLONS FROM MW-11BS USING GRUNDFOS PUMP MODEL BM11/MPI FOR A TOTAL of 112 GALLONS

9/18/01 (cont)

0833 WELL DRY

0846 RE-STARTED PUMPING.

0926 WELL DRY. PUMP A TOTAL of 26 GALLONS.

0940 RE-STARTED PUMPING

1024 GENERATOR STOPS. & WELL DRY.

1041 RESTARTED PUMP

1100 CONTINUE PUMPING.

1206 DTW = 38.98 AT MW-1113M TD = 59.91

1210 DARREN ON SITE TO DROP off the whale pump

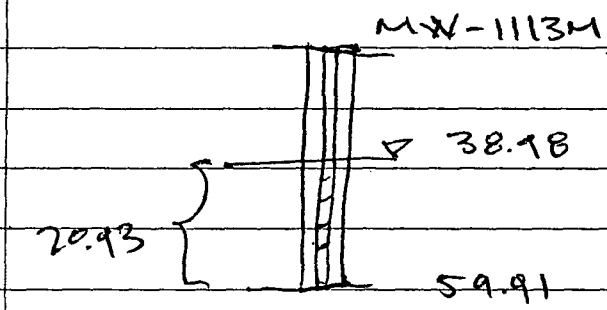
1220 off site TO PICK UP LUNCH

1240 BACK ON SITE & RESTARTED PUMP.

1280 SET UP WHALE PUMP AT MW-1113M.

1330 STARTED TO PUMP MW-1113M. USING A WHALE PUMP.

sto H_2O = 20.93



12' X 0.63 = 7.56 GALLONS.

8.93 X 0.16 = 1.42 GALLONS

8.98 GALLONS. X 10 WELL = 89.8. GALLON.

9/18/01 (cont)

MW-1113S

TIME	TEMP °C	pH	COND mS/cm	TURBIDITY	Vol (GALL)
1446	20.1	6.60	1.89	CLEAR	85
1456	18.1	6.85	1.84	"	90
1510	17.8	6.84	1.83	"	95
1520	17.8	6.82	1.85	"	100
1530	17.7	6.82	1.85	"	105
1545	17.6	6.83	1.85	"	114

A total of 226 GALLONS WAS PURGED FROM MW-1113S.

MW-1113M

TIME	TEMP °C	pH	COND mS/cm	TURBIDITY	Vol (GALL)
1449	15.7	7.13	1.72	CLEAR	25
1513	15.1	7.19	1.74	"	30
1524	15.0	7.17	1.77	"	40
1535	14.9	7.18	1.74	"	45
1548	14.8	7.17	1.74	"	50
1554	14.7	7.16	1.74	"	55

A TOTAL of 135 GALLONS WERE DEVELOPED ON THURSDAY, SEPTEMBER 13, 2001 FOR A TOTAL of 190 GALLONS PURGED AT MW-1113M.

9/18/01 (DON)

1610 PUMP PURGED WATER INTO the BAKER TANK.

1640 DANIEL LIEBAU FROM PARSONS off SITE

1720 off site

[signature]
9/18/01

Tuesday, September 25, 2001
Objective: TO sample MW-1112S, MW-1111S, MW-1110S
Clayton Group: NORMAN BOLIVAR, GINA GALLO
WEATHER: Cool, clear ~55°
LEVEL of PROTECTION: Level D
Equipment: super whale pump, bladder pump.

0700 Arrived on site
0720 set up on MW-1110S DTW = 27.68 TD = 42.97
15.29 FT of water
12' x .63 gal/ft = 7.56 gal
3.29' x .16 gal/ft = .5264 gal
1 well volume = 8.09 gal
3 volumes = 24.26 gal
0730 Decon super whale pump
0740 Insert Super whale pump into well & begin pumping
0745 Calibrate horiba U-22
0820 Remove super whale pump from MW-1110S
0830 Insert micropurge pump into well MW-1110S
0845 Begin pumping with micropurge pump.
* 25 gallons removed with whale pump

Time	pH	cond	TURB	DO	Temp	TDS	ORP	gal
0900	6.90	.660	35A	.75	12.99	0.49	-77	.25
0905	7.10	.683	96.6	1.26	13.06	0.46	-90	.50
0910	7.17	.730	126.0	7.37	12.96	0.46	-92	.75
0915	7.22	.742	11.8	1.11	12.93	0.42	-98	1.0
0918	7.26	.743	80.8	2.73	12.95	0.47	-102	2.0

	TIME	PH	COND	TURB	DO	TEMP	TDS	ORP	gal
	0922	7.30	.740	15.0	.54	12.87	.44	-103	2.25
	0925	7.30	.727	6.8	.27	12.82	.47	-104	2.50
	0928	7.31	.726	41.4	.36	12.84	.43	-106	3.50
	0931	7.33	.699	90.1	.36	12.87	.45	-108	4.00
	0936	7.33	.763	4.2	.33	12.88	.49	-105	4.50
	0939	7.34	.756	8.9	.36	12.86	.48	-104	5.00

- 30 gallons removed total from MW1110S

1000 Sample MW-1110S & MS/MSD

0950 Noeman relocates to MW-1111S

DTW = 25.99 TD = 32.75

6.76 × 0.63 = 4.25 = 1 well volume

3 well volumes is 12.77 gals.

0956 Begin pumping using a whale pump

25 gallons removed from MW-1111S with whale pump

1100 Remove whale pump & begin pumping with micropurge pump

	TIME	PH	COND	TURB	DO	TEMP	TDS	ORP	GAL
	1124	7.12	.935	19.5	3.10	14.82	.60	80	2.00
	1128	7.11	.946	13.2	1.51	14.32	.60	80	2.25
	1132	7.11	.940	7.7	1.38	14.35	.60	85	2.50
	1136	7.11	.940	7.5	1.36	14.29	.60	86	3.00
	1139	7.11	.940	6.9	1.32	14.20	.60	87	4.00
	1143	7.11	.939	5.8	1.33	14.32	.60	87	4.25
	1147	7.11	.940	6.1	1.30	14.25	.60	87	4.50
	1150	7.11	.941	5.8	1.31	14.16	.60	87	5.00

1200 Sample MW-1111S, ~~60~~ 30 gallons removed total from MW-1111S

9/25/01 CONT.

1215 Remove Micropurge from MW-1111S

1230 Break for Lunch

1300 Return to site & Locate to MW-1112S

DTW = 27.01 ft TD = 36.92 ft

9.91 ft × .63 gal/ft = 6.24 gal = 1 well volume

3 volumes = 18.73 gal

1320 insert Superwhale pump into MW-1112S and begin pumping

1350 Remove Superwhale pump

20 gal removed with superwhale.

1400 Insert micropurge pump & begin pumping.

Time	pH	COND	TURB	DO	TEMP	TDS	ORP	gal
1413	7.13	1.30	41.5	0.07	14.21	0.8	43	.25
1417	7.13	1.29	38.2	0.01	14.25	0.8	41	.50
1420	7.12	1.30	34.1	0.00	14.15	0.8	42	1.00

1430 Sample MW-1112S

1445 Remove micropurge pump

1500 Karen from Parsons off site

1515 Empty water into on site tank

1530 OFF Site

Wednesday September 26, 2001

0700 Arrive on site

Objective: to sample MW-1113S, MW-1113M & MW 1114S

Clayton Group: Norman Bolivar, Gina Gallo

weather: Cool, rain ~ 50°

Level of protection: Level D

0700 Mobilize to MW-1113S & MW-1113M

DTW = 38.37 ft TD = 42.36 ft → MW-1113S

DTW = 38.62 ft TD = 59.92 ft → MW-1113M

1 well volume for MW-1113S is 2.51 gal

3 well volumes is 7.54 gal.

1 well volume for MW-1113M is 9.05 gal

3 well volumes is 27.15

21.3 ft of water
12 x .63 = 7.56
9.3 x .16 = 1.49

0715 Chris from Parsons on site

0720 Decon super whale pump.

0725 Insert super whale pump into MW-1113S & begin pumping

0730 Decon micropurge pump

0735 Calibrate horiba U-22

0750 Insert bailer into MW-1113S to remove 3 well volumes

0820 Insert micropurge pump into MW-1113S and begin pumping

- 8 gallons purged with bailer from MW-1113S

9/26/01 CONT.

Time	PH	COND	TURB	DO	TEMP	TDS	ORP	gal
0830	6.72	1.95	0.8	2.60	12.16	1.2	62	.10
0833	6.77	1.93	-1.1	3.21	12.19	1.2	68	.20
0836	6.82	~~1.94~~ 1.91	-2.1	3.72	12.22	1.2	72	.30
0839	6.84	1.90	-2.7	3.74	12.21	1.2	75	.40
0841	6.85	1.90	-2.8	3.72	12.20	1.2	75	.50

0900 Sample MW-1113S, Drew from Parsons also takes 2 VOC samples
0910 Remove micropurge pump from MW-1113S
0915 Decon micropurge pump
0920 Remove Super whale pump from MW-1113M
0930 Insert micropurge pump into MW-1113M and begin pumping.
- 31 gallons purged by superwhale pump at MW-1113M

Time	PH	COND	TURB	DO	TEMP	TDS	ORP	gal
0940	7.34	1.79	99.1	0.04	13.18	1.1	-24	.20
0944	7.28	1.80	26.3	0.00	13.18	1.2	-31	.50
0947	7.25	1.80	16.0	0.00	13.16	1.2	-33	.60
0950	7.30	1.80	9.6	0.00	13.17	1.2	-34	.75
0953	7.25	1.80	7.1	0.00	13.20	1.2	-36	1.0
0956	7.27	1.80	6.2	0.00	13.15	1.2	-37	1.25

1015 Sample MW-1113M & take Dup 4 Samples.
1035 Remove micropurge pump from MW-1113M
1040 Decon micropurge pump & superwhale pump
1045 Relocate to MW-1114S

9/26/01 CONT.

MW-1114S

DTW = 44.61 ft TD = 62.67

18.06 ft of water

12 ft x .63 gal/ft = 7.56 gal

6.06 ft x .16 gal/ft = .9696 gal

1 well volume is 8.53 gal

3 well volumes is 25.59 gal

1055 insert super whale pump into MW-1114S

1115 Remove super whale pump to reconnect tubing

1120 Re-insert Superwhale pump into MW-1114 and begin pumping

1220 Remove Super whale pump from MW-1114S

1230 Insert micropurge pump into MW-1114S

1245 Begin pumping with micropurge at MW-1114S

-25 gallons removed with super whale pump

Time	pH	COND	TURB	DO	TEMP	TDS	ORP	Gal
1300	7.32	1.28	486.0	0.27	14.28	0.8	-70	.25
1303	7.29	1.32	436.0	0.06	14.12	0.8	-78	.30
1306	7.29	1.33	379.0	0.00	14.16	0.8	-83	.50
1309	7.28	1.34	343.0	0.00	14.17	0.8	-87	.75

1310 Sample MW-1114S

1330 Remove micropurge pump from MW-1114S

1340 Decon equipment & clean up/pack vans

1400 relocate to MW1111 to pump water out of ~~holding~~ holding tank at MW-1111 ~~tank~~ into ~~Darren's holding tank~~. The Holding tank in back of van (KH)

1430 relocate to Large holding tank in parking lot to Empty our holding tank.

1440 off site

Steven Allen

Wed, September 26, 2001

0900 Jeff Endsley on site at Lisle Library
Objective: Log residential Well location by measuring from a known location
Weather: Sunny, 63°F.
Level of Protection: Level D.

0905 JoAnna Fry of Collins Law. joined me to visit residential Wells. The following wells were visited and recorded by measuring its location with a 200' Tape measure from a visible point on an arial photo. ~~eg Corner of a house~~ JLE

Time	Address	Note
0923	649 Front St.	
0930	633 Front St.	
0938	612 Front St.,	Well is gone apparently. JoAnna said she believes they are on city water now. We found no well.
0945	599A Front St.	We Could not locate the Well.
1000	~~1000~~ JLE 596 Front St.	
1009	586 Front St.	
1015	580 Front St.	
1020	599 Reidy	
1025	733 Hitchcock	

Jeff Endsley
9/26/01

9/26/01 Cont.

Time	Address	Note
1032 ~~1025~~ (VLE)	717 Hitchcock,	No well visible, on city water now, per JoAnna Fry
1040	612 Hitchcock,	No Well visible.
1050	600 Hitchcock	
1100	640 Gamble	
1105	701 Gamble	
1111	716 Gamble.	

1120 Jeff Eudley and JoAnna Fry off site.

Jeff E
9/26/01

10/31/01

0700 D. Lamsma on-site
obj: survey for new wells; oversight of Layne installing pump system; oversight of staging of Prosonic drilling materials

0710 Layne setting up pump test system at MW-1102D

0720 J. Campbell and D. Lamsma survey for 2" shallow well along southern property line

MW-1113S	1.11	2" s.s. riser
CSB-1558	12.68	ground
CSB-1570	11.27	ground
MW-1113S	1.11	2" s.s. riser

0745 Take water level in MW-1113S
DTW: 36.71 ft

0810 move cars so 20,000 gal tanks can unload on grass field near MW-1102D

0830 Prosonic on-site; begin building ~~b~~ DNL decon pad and staging of drilling materials

0845 Baker tanks on-site with 2 20,000 gallon tanks

0925 D. Lamsma offsite to get hoses + trash pump

0955 Baker tanks offsite

10/31/01

1000 D. Lemsmer onsite w/ trash pump + hoses.

1030 Take static water level in MW-110ZD
DTW: 45.18 ft

1037

Time	DTW	Gallons (TOT)	Flow Rate (gpm)
00:01	46.25	100	100
00:02	46.25	200	100
00:03	46.26	300	100
00:04	46.28	400	100
00:05	46.28	500	100
00:06	46.26	600	100
00:07	46.26	700	100
00:08	46.26	800	100
00:09	46.26	900	100
00:10	46.26	996	96
00:15	46.26	1495	99.8
00:20	46.24	1979	96.8
00:25	46.25	2466	97.4
00:30	46.24	2951	97
00:35	46.23	3437	97.2
00:40	46.24	3922	97
00:45	46.22	4409	97.4
00:50	46.22	4885	95.2
00:55	46.22	5368	96.6
01:00	46.22	5850	96.4

10/31/01

pump test (cont)

Time	DTW	Gallons (tot)	Flow Rate (gpm)
01:15	46.21	7301	96.7
01:30	46.21	8750	96.6
01:45	46.22	10200	96.7
02:00	46.20	11650	96.7

(gpm)

1137 collect vial of water for field GC analysis: MW-1102D 1hr

1237 collect vial of water for field GC analysis: MW-1102D 2 hr.

Time	DTW	Gallons (TOT)	Flow Rate (gpm)
02:15	46.20	13095	96.3
02:30	46.20	14543	96.5
02:45	46.20	15990	96.5
03:00	46.21	17435	96.3

1337 collect vial of water for field GC analysis: MW-1102D 3hr

Time	DTW	Gallons (TOT)	Flow Rate (gpm)
03:15	46.19	18880	96.3
03:30	46.19	20322	96.1

1414 collect vial of water for field GC analysis - MW-1102D 3 hr broken

10/31/01

pump test (cont.)

Time	DTW	Gallons (TOT)	Flow Rate (gpm)
03:45	46.19	21767	96.3
04:00	46.19	23211	96.3

1437 collect vial of water for field GC analysis - MW-1102D 4hr

Time	DTW	Gallons (TOT)	Flow Rate (gpm)
04:15	46.19	24652	96.1
04:30	46.19	26092	96
04:45	46.20	27530	95.9
05:00	46.19	28967	95.8

1537 collect vial of water for field GC analysis - MW-1102D 5hr

1540 collect 2 vials of water for analysis at First Env. Labs 1102D-004

Time	DTW	Gallons (TOT)	Flow Rate (gpm)
05:15	46.18	30415	96.5
05:30	46.18	31840	95
05:45	46.18	33271	95.4
06:00	46.18	34590	87.9

1637 collect vial of water for field GC analysis MW1102D, 6hr

1640 collect vial of water for analysis at first Env. labs 1102D-1005

10/31/01

1648	Layne pulling pump from MW-110ZD
1650	J. Campbell off-site
1725	Layne off-site
1730	D. Lensme off-site

Dwark
10/31/01

11/1/01

0630	D. Lensma on-site
	obj: soil boring on Thatcher Rd
	weather: high 60°F, windy, chance showers
	PPE: Level D
0635	Prosonic on-site
0705	Arrive at Thatcher Rd drill site
0725	calibrate Photovac 2020 PID to span 100 ppm
0805	repair hydraulic hose
0810	Begin drilling MW-1600D
1120	Prosonic to Lockformer for more drums; then break for lunch
1215	continue drilling
1410	complete drilling MW-1600D to depth of 102 ft; bedrock at 97 ft
1422	Begin installing permanent 6" casing - welding at all joints between pieces of casing
1520	generate 7 drums of soil cutting and use ~200 gallons of water while drilling MW-1600D
1543	D. Groux off-site
1557	Begin mixing grout
1745	complete grouting and removing 8" casing from MW-1600D
1800	Begin constructing flushmount cover for MW-1600D

11/1/01

1818	J. Campbell off-site
1950	complete putting flush mount cover on MW-1600D; begin clean up of area
2035	Presonic off-loading drums near Baker Tank
2100	D. Lamsma and Presonic off-site

[illegible]

11/2/01

0715	D. Lansma on-site
	obj: drill shallow well on Thatcher Rd
	weather: mostly sunny, high 60-65°F
	PPE: Level D
0720	Prosonic on-site; begin decon of drilling equipment
0803	Arrive at Thatcher Rd; J. Campbell present
0810	Take static water level: DTW ≈ 74 ft
	Total Depth ≈ 102 ft
0815	Prosonic setting up to drill MW-1600S;
	D. Groux on-site
0835	Begin drilling MW-1600S
0840	Broken piece on drill rig - lower mast to repair
0847	resume drilling MW-1600S
1123	Break for lunch
1220	resume drilling
1324	complete MW-1600S to depth of ~~90~~ 92 ft
	- set well at 90 ft with screen from
	80-90 ft bgs
1352	D. Groux off-site
1430	Begin installing MW-1600S
1538	complete installing MW-1600S; begin clean-up
	of area and constructing flush-mount pad
1600	generate 6 drums of soil cuttings and use
	approx 250 gallons of water from MW-1600S
1736	complete putting flush-mount cover on MW-1600S

11/2/01

1740 D. Lamsna off-site
1805 Prosonic offloading drums near Baker tank
1830 J. Campbell + Prosonic offsite

11/3/01

0700 D. Lomsmo on-site

obj: survey wells 1115S and 1116S

weather: mostly sunny; high near 60°F

PPE: Level D

0705 survey wells

0735 Take water level measurments

well	DTW	Total
MW-1115S	29.29	37.24
MW-1116S	27.54	33.07
MW-1113S	36.79	—

0800 waiting to hear from R. St John on whether to drill on-site or wait until 3pm and drill at emission test facility

0855 lock wells 1113S/1115S/1116S; notice that CSB-1560/1561/1566/1527/1528/1546/1547/1548 need to be filled with bentonite chips

1000 per W. Elwell, return to drill at 2:30pm

1001 Prosonic, D. McGowen, J. Campbell, D. Lomsmo off-site

11/3/01

11/3/01

1420 D. Lomsma on-site
obj: drill at emissions test Facility
weather: sunny, high 60-65°F
PPE: Level D
Personnel: B. Elwell, J. Campbell, D. Lomsma (Clayton)
D. McGoran (Parsons)
Josh, Del, Wade (Prosonic)

1520 arrive at emissions test facility on walnut St to drill MW-1601

1554 drill rig set up to drill MW-1601D; begin in morning

1600 at Lockformer to watch Prosonic load casing

1620 D. Lomsma, Prosonic off-site

[signature]
11/3/01

11/14/01

0625	D. Lansma on-site	
	obj: drill MW-1601D	
	weather: sunny, high 60°F	
	PPE: Level D	
0630	Prosonic on-site	
0635	calibrate Photovac 2020 PID to span 100 ppm	
0639	Begin drilling MW-1601D	
0705	Carlson Env. on-site: Sora	
0910	complete drilling MW-1601D to depth of 84 ft: set casing at that depth	0 07
1035	complete setting 6" permanent casing; begin mixing grout	0
1130	Sora (Carlson) off-site	11
1140	complete installing 6" casing at MW-1601D	
1142	D. McGowen Off-site	11
1200	use 500 gallons of water during drilling - recover ~165 gallons	
1201	generate 6 drums of soil cutting during drilling of MW-1601D	07
1308	Begin off-loading drums at Lockformer	09
1400	Prosonic complete decoring equipment	
1410	Prosonic, J. Campbell, D. Lansma off-site	
		12
		132
		133

11/5/01

0630 D. Lansma on-site
obj: drill at MW-1602D
weather: sunny, high 55-60°F
PPE: Level D
Personnel: B. Elwell, D. Lansma, J. Campbell (Clayton)
Josh, Wade, Dell (Prosonic)
D. Grax (Parsons)
Jerry K. (URS)

0707 arrive at Darners Grove Sanitary District
0752 Begin drilling at MW-1602D
0906 drive slotted screen into borehole and attempt to take water sample
1100 unable to collect water sample - drive 5 ft deeper and try again
1140 collect groundwater sample W-1602 for Field GC analysis; URS split sample and sending to Test America Labs

0745 calibrate Photovac 2020 PID to span 100 ppm
0900 complete drilling MW-1602D to depth of 67 ft

1212 Begin installing 6" permanent casing
1328 Prosonic begin mixing grout
1335 use approx 300 gallons of water during drilling

11/5/01

1351 Complete grouting hole and removing 8" casing

1420 Began drilling at MW1602S

1500 per B. Emell - set MW-1602S at 63 ft bgs

1527 complete MW-1602S to depth of 63 ft
- set 10 ft screen from 53-63 ft
- used 150 gal during drilling process

1616 Completed installation of well at MW-1602S. Began constructing stickup + locking cap. Cleaning up site

1645 J. Campbell, D. Lansma, Jerry K., + Prosonic offsite

Gbell
11/5/01

11/6/01

0700 J. Campbell onsite
obj: construct stickups + pads around MW1602D + MW1602S
weather: Sunny, high: 60°-65°
PPE: Level D
Personel: J. Campbell (clayton)
Jerry K. (URS)
Josh, Wade, Dell (Prosonic)
- arrived at Downers Grove sanitary district

0715 Began on MW1602S and MW1602D
- grout settled to 19ft bgs at MW1602S
0825 Began to grout remaining 19ft at MW1602S
0845 Finished constructing stick ups for MW1602S + MW1602D
Cleaning up site
0930 Prosonic onsite at Lockformer to off-load drums and decon.
1050 Prosonic offsite
1100 per B. Elwell. Plan on geoprobe one more soil boring (CSB1573) North of CSB1564
1120 J. Campbell + D. McGowan onsite at Lockformer
1135 ~~Jack~~ Jerry from Mid America onsite
1155 Began soil boring at CSB1573
1240 Finish boring at CSB1573. Taking water sample at 24'. To be sent to an off site lab for VOCs

1300 Taking headspace for CSB1573
Sampling CSB1573 at 14 to 16ft, 18 to 20ft, 20-22ft, and 22-24ft. for VOCs

1310 Cleaning up site. Decontaminating equipment. and chipping up bore hole.

1345 D. McGeorum offsite

1420 J. Campbell + Larry (Mid America) offsite

J. Shell

11/6/01

DWL ~~6/11/01~~ 11/11/01

0620	D. Lansma on-site
	obj: install shallow well and bedrock core at emissions Test Facility
	weather: mostly sunny; high 50°F
	PPE: Level D
0625	Prosonic on-site
0700	Arrive at emissions test facility; J. Campbell, P. Micari (Carlson) already present
0710	D. Grax on-site
0720	Prosonic setting up to core bedrock at MW-1601D
0757	Begin coring bedrock
0815	complete R-1 from 84-92 ft
	-use 300 gallons of water; recover 50 gallons
0855	Begin pumping for packer test
0857	pump not working - remove to repair
1038	Begin pumping for packer Test
1118	remove ≈ 400 gallons of water and collect 2 vials for VOCs: 1601D-PT1
1130	Break for lunch
1150	Begin coring R-2
1217	complete coring R-2 from 92-102 ft
	-use 200 gallons of water; lost all to formation
1230	Begin coring R-3
1249	complete coring R-3 from 102-109
	-use 100 gallons of water; lost all to formation

11/11/01

1314 Begin drilling MW-1601S

1430 complete MW-1601S to depth of 62 ft
-set well at that depth with a 10 ft screen

1505 lost approx 75 gallons of water to formation while setting temp. 8" casing at MW-1601S

1524 D. Groux off-site

1530 P. Micari off-site

1605 complete installing MW-1601S

1610 begin putting concrete pads around MW-1601S/D

1630 complete concrete pads around MW-1601S/D; begin clean-up of area

1800 J. Campbell + Prosonic off site

J. Campbell
11/11/01

11/12/01

0630 J. Campbell onsite
obj: bedrock ~~rock~~ core at Sanitary district + Thatcher Rd.
weather: clear, high 50°
PPE: Level D

0635 Prosonic onsite to decon equipment
0800 Arrived at Sanitary District. Jerry K. + J. Endsley already onsite
- Per B. Elwell. Not going to start until we get a water level from MW1602S
0845 Took water level at ~~@~~ MW1602S DTW: 32.50ft
0905 Prosonic setting up at MW1602D. D. Groux onsite (Parson's)
0915 Started coring bedrock
0925 Completed R-1 from 67ft to 77ft
- used 150gal of water. Lost all to formation
0935 Started Packer test
0940 Pump not working. removed to repair
1015 Began pumping again
1040 Removed ~300gal of water and collected 2 vials for VOCs: MW1602D Pt-1
Jerry K. (URS) collected 2 vials for VOCs
1055 Began coring R-2
1107 Finished coring R-2
- used 125 gal of water. Lost all to formation

11/12/01

1113 Began coring R-3
1130 Finished coring R-3
- used approximately 100gal of water. Lost all to formation
1200 Broke for lunch
- Prosonic needs to fix hydralic hose on rig & decon equipment
1450 Finished decon & repairs. Moving on to MW1600D at Thatcher Rd.
1525 Began coring R-1 at MW1600D
1545 Completed coring R-1.
- used ~~~50gal~~ ~25gal JC of water. Lost all to formation
1555 Began coring R-1 again because first run was junk. Only ~5ft was retrieved. (All grout)
1620 Finished coring R-1. Half of sample was lost out of the bottom of the core barrel
- used ~ 150 gal of water. ~~All lost to the formation.~~ JC ~50gal returned
1630 Began packer test
1645 Has gone dry after removing ~85gal. Waiting for recharge
1700 Began pumping again
1715 Has gone dry after ~100gal. Cleaning up site. We are going to remove remaining 100gal at take the water sample tomorrow morning.
1752 J. Campbell + J. Lindsley offsite, Prosonic offsite

Joe Campbell 11/12/01

11/13/01

0645 J. Campbell + Prosonic onsite
obj: Take water sample + core R-2 + R-3 at MW1600D
weather: partly cloudy, high 58°
PPE: level D
0700 J. Endsley onsite. Prosonic setting up at MW1600D
0715 D. McGowan (Parson's) onsite
0725 Began pumping the last 100 gal for PT-1
0745 Pump stopped. Trying to fix
0825 Pump is broken. Switching to a regular Grunfos pump w/ no packer
0830 Began pumping. Going to pump out the last bagel plus the water in the casing
0845 Josh (Prosonic) + J. Campbell offsite. Went to Ogden Corporate center to measure the I.D. of the casing for the deep wells. Pump stopped, letting the well recharge
0955 Started pump again
1010 Stopped pump letting well recharge
1030 Started pump back up. Remove a total of 100 gal today. Total of 200 gal.
1040 Took water sample
1050 Setting up to core R-2 at MW1600D
1102 Began coring R-2
1120 Finished coring R-2
- ~~needs~~ ~ 250 gal of water. Retrieved ~ ~~200~~ 100 gal of water JC

11/13/01

1135 Begin to core R-3

1154 Finished coring R-3. Final depth

used ~ 125 gal of water. ~ 75 gal of water retrieved

1230 Broke for lunch

1315 J. Campbell + Prosonic onsite at Lockformer to Decon

1415 Prosonic, J. Campbell, + J. Endsley offsite

11/13/01

11/14/01

0800 J. Campbell + J. Endsley onsite
obj: Prosonic loading up equipment at lowing
Develop MW1115 + MW1116
weather: cloudy, raining, high 58°
PPE: level D
- D. McGowan + Prosonic already onsite

0915 Setting up at MW1116. DTW = 27.87 ft
TD = 35.70 ft 7.83ft of water

0945 Began pumping using a whale pump.

1030 Per B. Elwell. Need to purge 86 gal of water from MW1116 7.83ft x 1.1gal/ft = 8.6 (1 volume)
8.6gal x 10 vol. = 86 gal
86gal - 10gal purged on 11/2/01 = 76gal

1115 Water level measurement at MW1115
DTW = 29.61 ft
TD = 37.24 ft 7.63 ft of water
7.63ft x 1.1 gal/ft = 8.39 (1 vol.)
8.39 gal x 10 vol = 84 gal
84 gal - 10 gal purged on 11/2/01
= 74 gal
- Jeff Endsley offsite to get double whale pump

1200 J. Endsley onsite. Setting up at MW1115 to purge 74 gal of water

1210 Began pumping at MW1115

1300 IEPA onsite to look around

11/14/01

1320 IEPA offsite

1328 Stopped developing MW1116 to wait for grundfos pump and to transfer purge water into drums

1430 Finished developing MW1115. Removed ~95gal of water

1440 Moved back to MW1116. Removed single whole pump and replaced with decommed double whole pump and began to pump water

1600 ~~Stop~~ Finished developing MW1116. Removed ~95gal of water. Water level DTW = 27.87ft

1625 Trash pump purge water into Baker tank

1640 Water level at MW1115. DTW: 29.60ft
-Cleaning up site

1650 J. Campbell + J. Endsley offsite

J. Schell
11/14/01

11/15/01

0630 J. Campbell + J. Endsley onsite
obj: develop well MW16025 + MW16025
weather: partly cloudy, high 65°
PPE: Level D

0730 J. Campbell onsite at Sanitary district
J. Endsley, Jerry K. (URS), + D. McGowan (Parsons)
already onsite
- Water level at MW16025D DTW = 33.20ft
- water level at MW16025 DTW = 32.51ft
TD = 66.0ft

0740 J. Endsley offsite to get cable for grunfos pump

0755 J. Endsley onsite. Setting up at MW16005 to develop well

0845 Begin pumping at MW16025. 33.49ft of water
Per B. Elwell. Pump out 140gal ~~12ft × .9344ft = 11gal of water~~ of water to develop. Plus 150gal ~~11gal × .3 = 3.5gal of water~~ that was used during drilling. Total = 290gal of water

0925 J. Endsley offsite to get two 55gal drums

1005 J. Endsley onsite

1050 ~~1150~~ Finished developing MW16025. Total purge volume was ~295gal of water
- water level at MW16025 was 32.51ft (DTW)

1105 J. Campbell, J. Endsley, D. McGowan, + Jerry K. (URS) offsite at Sanitary District.

1115 J. Campbell + J. Endsley onsite at Lockformed

11/15/01

to empty purge water into Baker tank.

1150 J. Campbell + J. Endsley offsite at Lockformer

1215 J. Campbell, J. Endsley, + D. McGowan (Parsons') on site at Thatcher Rd.

1235 Setting up on MW1600S to develop well

1305 Water level at MW1600S DTW = 76.70 ft
TD = 89.30 ft
- 12.6 ft of water

- 12.6ft × .93 gal/ft = 12 gal (1 vol)
12 gal × 10 volumes = 120 gal + 250 gal used during drilling
Total purge volume = 370 gal + 20 gal (10 volumes of water in well)
= 390 gal

1320-1400 Grundfos pump is broken. Trying to repair

1415 Pump has been repaired

1530 Pump cannot pull water to 100'.
Per B. Elwell. Stopping for the day and waiting for new Grundfos pump tomorrow

1550 D. McGowan offsite. Cleaning up site

1605 J. Campbell + J. Endsley onsite at Lockformer to unload drums.

1630 J. Campbell + J. Endsley offsite

J. Campbell

11/15/01

11/16/01

11:05	J. Endsley on site at Lockformer
	Objective: Develop MW 16005 at Thacher & Thacher.
	Weather: 65° & Sunny
	PPE: Level D
11:10	Placed Haz samples in drum and labeled.
11:15	J. Endsley off lockformer site in Van 1 to MW16005.
11:25	J. Endsley on site at MW 16005.
11:30	Open well, cap under pressure.
11:31	Decon equipment, Total Safety Grundfos. pump. MPI model 1A106003 and controller BMI/MPI
11:35	Install Grundfos. Pump.
11:40	Doug Braux, Parsons on site.
12:15	Started Developing MW16005 with Grundfos Pump.
13:05	Developed 180 gallons, Brad Martin, Clayton on site to ~~observe~~ oversee (JLE) well ~~Development~~ (JLE) while J. Endsley takes tank to lockformer to unload with trash pump into Baker tank.
13:10	Development stopped at ~~190~~ 185 (JLE) gallons. Jeff Endsley to lockformer.
13:20	J. Endsley on site at Lockformer, Doug Braux on site.
13:22	Pumped Development water into Baker tank.
13:33	Off site to Thacher & Thacher MW16005
13:41	Arrived at MW16005. Brad Martin off site, Doug Braux on site.
13:43	Started Grundfos Pump.

Jeff Endsley 11/16/01

11/16/01

1410 Bill Elwell on Site

1412 Generator ran out of Gas. J. Endsley off site for more gas.

1430 J. Endsley on site. Grundfos re-started.

1445 B. Elwell off site.

1505 A total of 390 gallons have been Purged. (determined to be total on 11/15/01.) Pump is shut off and removed.

1510 Doug Groux off site

1522 Jeff Endsley off site to Lockformer

1520 Jeff Endsley at Lockformer, Load Trash pump

1538 J. Endsley off Site.

Jeff Endsley
11/16/01

11/17/01

0900 J. Campbell onsite. Jerry (Layne) already onsite at Lockformer
obj: Video log MW1600D, 1601D, + 1602D
weather: clear, sunny, high 60°
PPE: Level D

0915 J. Campbell + Jerry (Layne) onsite at Sanitary district. D. Groux already onsite.

1000 Ralph (S.D.) onsite to unlock gate.

1030 Waiting for a call from Jerry K. (URS). Moving to Thatcher Rd. Side (MW1600D)

1040 Ralph (S.D.) offsite at Sanitary District

1115 Setting up to Video log MW1600D

1135 Started video logging MW1600D

1235 Finished video logging MW1600D

1245 Deconning camera + Moving to MW1602D

1300 Arrived at Sanitary district. Jerry K. (URS) onsite

1310 Setting up at MW1602D

~~1350~~ 1345 Started Video logging MW1602D

1356 Camera is getting stuck at 40ft downhole

1410 Pulling camera out of MW1602D

1450 Onsite at MW1601D. Gopa (Carlson) onsite
Setting up on MW1601D to video log.
Darren Lamsma onsite to develop MW1601S

1505 Started video logging MW1601D

1600 Finished video logging MW1601D

11/17/01

1625 Jerry H. (Layne) offsite
1640 D. Croux offsite
1650 Gopa (Carlson) offsite
1700 J. Campbell offsite of Emmisions facility

J. Shell
11/17/01

11/12/01

0630 J. Campbell onsite. H. Mendygral, Doug, + Ross (Layne) onsite
obj: packer test MW1601D
weather: cloudy, high 58°
PPE: level D
- Loading equipment at Lockformer

0800 J. Campbell + H. Mendygral onsite at Emissions facility. Sue (Carlson) + D. Dixon (Parsons) already onsite

0815 Doug + Ross onsite at Emissions facility

825 Begin setting up for packer testing at MW-1601D
Set tape at 91.5 packer interval 95.6 to 103.6
SPT-100

937 Conducted hermit test, hermit is working properly - Input 1 is Top, Input 2 is bottom

945 ~~Input packers~~ Installing Grundfos pump

1013 Begin hermit test # 0 for 95.6 to 103.6
SPT-100 interval

1023 T1 = 0.00
T2 = 0.07

11/18/01

1054 purged 400 gallons from SPT-100 allowing 5 min for stabilization

1100 Stopped hermit test #0. Removing grundfos pump + inserting bladder pump

1110 Started bladder pump for stabilization parameters

Time	pH	Cond (µS/cm)	Turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Gal
1123	7.92	1.32	35.2	.91	14.82	-27	1 gal
1133	7.43	1.31	28.0	.36	14.15	-35	2 gal
1137	7.25	1.31	26.3	.20	14.02	-32	3 gal
1141	7.17	1.31	24.9	.10	13.90	-29	4 gal
1146	7.10	1.30	22.3	.10	14.05	-28	5 gal
1149	7.10	1.31	22.1	.05	14.33	-28	6 gal
1153	7.09	1.30	19.4	.03	14.37	-29	7 gal

1154 Sampled MW1601D SPT 100
Sue (Carlson) taking a split sample

1200 Removing bladder pump and setting up for SPT 101. Setting tape at 83.6 ft packer interval 87.6 ft to 95.6 ft.

1225 Started Hermit test #1 for 87.6 ft to 95.6 ft SPT #101

11/18/01

1228 Started grundfos pump and began purging 500 gallons

1300 T_1 = .03
T_2 = -.07

1311 Purged 4th 500gal from SPT-101. Allowing 5min for stabilization
T_1 = 0
T_2 = 0

1316 Stopped Hermit test #1. Removing grundfos pump + inserting bladder pump.

1320 Started bladder pump + stabilization parameters

Time	pH	cond (ms/cm)	Turb. (NTU)	DO (%)	Temp (°C)	ORP (mV)	Gal
1332	7.71	1.17	-0.6	5.97	17.12	71	1gal
1338	7.20	1.26	3.7	5.33	15.56	-7	2gal
1344	7.19	1.25	10.2	.60	14.74	-38	3gal
1349	7.17	1.25	22.1	2.85	14.56	-17	4gal
1356	7.19	1.22	19.5	3.32	14.76	-22	5gal
1402	7.19	1.21	27.7	1.09	14.73	-31	6gal

~~Sampl~~

1405 Sampled MW16010 SPT101
- Sue (Carlson) taking a split sample

1407 Removing Bladder pump and setting up for SPT102. Setting tape at 75.6. Packer interval ~~at~~ 79.6 to 87.6 ft.

11/18/01

1437 Started Hermit test #2 for SPT102 79.6ft to 87.6 ft

Started Grundfos pump to purge 300gal

1450 T_1 : 0.03

T_2 : 0.0

1500 T_1 = 0.01

T_2 : 0.07

1508 Stopped grundfos pump purged 300gal. Stopped Hermit test #2

1510 Removed grundfos pump Inserted Bladder pump

1515 Began to pump w/ bladder pump and stabilize parameters.

Time	pH	cond. (ms/cm)	turb. (NTU)	DO (mg/L)	Temp (°C)	ORP (mg/L)	gal
1520	7.37	1.18	11.1	3.12	15.29	15	1gal
1524	7.25	1.25	8.5	1.78	14.33	-7	2gal
1530	7.21	1.26	10.6	1.0	14.11	-21	3gal
1535	7.22	1.27	9.7	.87	13.98	-26	4gal

1539 Sampled MW16010 SPT102 79.6ft to ~~86~~ 87.6ft

1542 Pulling out Bladder pump + packer system.

1545 Doug (Parsons) + Sue (Carlsons) left site for day

1630 Ross + Doug (Layne) + J. Campbell + Heidi Mendygral offsite of Emissions facility

11/18/01

1640 J. Campbell + H. Mendyngral onsite at Lockforman
1645 J. Campbell offsite. Ross + Doug onsite to decon equipment
1730 H. Mendyngral + Layne offsite

J. Campbell

11/18/01

11/19/01

0630 J. Campbell onsite. Ross + Doug (Layne) already onsite.
obj: packer test on MW1600D
weather: cloudy, rain high 40s
PPE: Level D

0700 D. Lamsma onsite at Lockfarner

0738 D. Lamsma, J. Campbell, Ross + Doug onsite at Thatcher Rd.
- Setting up to Packer test MW1600D SPT #49

0742 D. Groux (Parsons) onsite

0835 Packer has been set. Tape is at 107'
SPT #49 111' to 119'

0840 Conducted Hermit test. Hermit is working
Input 1 is top: Input 2 is bottom

0900 Inserting grundfos pump

0914 Started Hermit test #3 for 111ft to 119ft
SPT-#49 interval

0916 Started grundfos pump began purging
350 gal

0917 Well has gone dry. Wait 10min for recharge

0928 Started pump again.

0929 Well has gone dry. Waiting another 10 min for recharge

0940 Started pump again

0941 Well has gone dry. Waiting 10min for recharge

0950 Started pump again. Well went dry

~~0~~0952 Pulling out grundfos pump and inserting

11/19/01

bladder pump
Stopped Hermit test #3
1010 Started bladder pump + stabilization parameters

Time	pH	cond (mS/cm)	turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	gal
1025	6.44	1.22	13.5	2.49	11.40	-23	1 gal
1031	6.66	1.23	12.7	0.44	11.57	-56	2 gal
1038	6.79	1.24	12.4	0.63	11.62	-68	3 gal
1045	6.85	1.25	12.7	0.20	12.11	-72	4 gal
1051	6.89	1.26	9.5	0.00	12.26	-75	5 gal
1057	6.92	1.27	11.2	0.00	12.09	-76	6 gal

1100 Sampled MW16COP SPT #49 111' to 119'
Purged a total of 30 gal for SPT-49
1105 Pulling out bladder pump and moving packer system to next interval. Setting the tape at 99'
SPT #50 103' to 111'
1138 Inserting grundfos pump
1140 Started Hermit test #4 for SPT #50 interval 103' to 111'
1146 Started grundfos pump
1147 Well went dry. Waiting 10 min for recharge
T_1 = 0.115
T_2 = -0.075
1157 Started grundfos pump again
1158 Stopped pump well went dry. Waiting 10 min

11/19/01

1211 Started pump again
1212 Well went dry. Waiting 10min for recharge
$T_1 = 0.67$
$T_2 = 0.07$
1222 Started pump
1223 Well went dry. Waiting 10min for recharge
1243 Started pump
1244 Well went dry. Waiting 10min for recharge
$T_1 = 0.57$
$T_2 = 0.00$
1254 Started pump
$T_1 = 0.79$
$T_2 = 0.00$
1255 Well went dry. 10min for recharge
1304 Started pump again
1305 Well went dry. 10min for recharge
1315 Start pump again
1316 well dry - 10 min for recharge
1331 Start pump
1333 Well dry. 10min for recharge
$T_1 = 0.35$
$T_2 = 0.15$
1343 Started pump
1344 Well dry. Pulling out Grundfos. Installing bladder pump. Stopping Hermit test #4.
1355 Begin pumping with the bladder pump

11/19/01

and stabilizing parameters.

Time	pH	cond. (ms/cm)	turb. (NTU)	DO (%)	Temp (°C)	ORP (mv)	gal
1404	6.93	1.37	23.1	6.61	12.74	-4	1 gal
1409	6.86	1.40	24.2	0.02	12.71	-37	2 gal
1416	6.82	1.40	24.2	0.00	12.67	-43	3 gal
1424	6.82	1.40	26	0.00	12.96	-46	4 gal

1425 Sampled MW1600D SPT #50 103' to 111'
1431 Removed Hadden pump + moved packer system set tape at 91'. Interval 95' to 103'
Purged a total of 50 gal from SPT 50
1454 Started Hermit test #5 for SPT51 interval 95' to 103'
1455 Started Grundfos pump
1456 Well dry. Waiting 10 min for recharge
1504 Started pump
1505 Well dry. Waiting 10 min for recharge
1513 Started pump
1516 well dry - wait 10 min
1523 Started pump
1524 well dry wait 10 min
1530 Started pump
T_1 = 1.96
T_2 = 0.15
1531 well dry wait 5 min

11/19/01

1535 Started pump.
1536 well dry.
1537 Stopped Hermit test #5. Pulled grundfos pump + inserted bladder pump.
1543 Started pumping with bladder pump + stabilizing parameters for SPT #51

Time	pH	cond (ms/cm)	turb. (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	gal
1554	6.92	1.36	16.6	3.17	9.07	-9	1 gal
1559	6.85	1.40	13.9	0.00	10.47	-31	2 gal
1607	6.76	1.43	22.5	0.00	10.88	-37	3 gal
1612	6.77	1.43	17.9	0.00	10.82	-47	4 gal

1615 Sampled MW1600D SPT #51
1620 Removing bladder pump + packer system. Cleaning up site. D. McGowan offsite
Purged a total of 25 gal at SPT 51.
And a total of 105 gal for the day.
1630 D. Lansing offsite
~~1645~~
~~16~~ 1715 J. Campbell + Layne offsite of Thatcher Rd.
1725 J. Campbell + Layne onsite at Lockformer to Decon equipment.
1800 J. Campbell + Layne offsite

J. Campbell 11/19/01

11/20/01

0640 J. Campbell onsite. Layne already onsite
day: packer test MW1602D
weather: sunny, high 440
PE: Lowell D

0710 J. Campbell - Layne onsite at Sanitary District
D. Lansma - Jerry K (URS) already onsite

0720 Trying to get back to MW1602D, but are getting stuck in the mud
0730 D. McGowen onsite
0800 Stopped trying, too muddy.
Per B. Elwell. Going to talk with Layne on how to get back to MW1602D
0830-~~0900~~* D. McGowen offsite
0900 Per B. Elwell. Having Layne leave and stage equipment at Lockfoumer. While road is built to MW1602D
0915 J. Campbell - Day - Ross (Layne) offsite at sanitary district
0930 ~~0~~* J. Campbell - Layne onsite @ Lockfoumer
Layne packing up equipment
0945 J. Campbell onsite at Sanitary district
Layne offsite at Lockfoumer
0955 J. Campbell - D. Lansma sending 3 3/4" pipe down MW1602D to see if packer system will fit

1005 We are successfull. Sent ~~24~~ 3 3/4" pipe down 54 ft.

1015 Jerry K. (URS), J. Campbell, + D. Lonsma offsite Sanitary District.

[illegible]
11/20/01

11/21/01

0654 D. Lonsma on-site, Jerry K already present
obj: build road to MW-1602 D/S
weather: sunny, high 45°f
PPE: Level D

0705 RW Collins truck rig on-site
0720 Begin removing soft/sloppy material from roadway
0740 1st Collins dump truck on-site
0745 2nd Collins dump truck on-site
0924 Collins dump truck on-site (load 3)
0930 Collins dump truck on-site (load 4)
1038 Collins dump truck on-site (load 5)
1040 Collins dump truck on-site (load 6)
1150 Collins dump truck on-site (load 7)
1151 Collins dump truck on-site (load 8)
1255 complete road building activities
1320 D. Lonsma, Jerry K (URS), Joe (RW Collins) off-site

11/26/01

0730 J. Campbell onsite at Sanitary District.
Jerry (URS) & D. McBowman (Parsons) already onsite.
obj: Sample MW16025 & MW16005
weather: partly cloudy, 48° high
PPE: Level D

0750 J. Endsley onsite at Sanitary District

0810 Setting up at MW16025. Decanning grundfos & other equipment

0820 Took water level at MW16025. DTW = 32.17 ft
TD = 65.99 ft

Total water = 33.82 ft
12' × ~~0.63~~ 0.93 gal/ft = ~~7.56~~ 11.16 gal
21.82' × 0.16 gal/ft = 3.49 gal
1 volume = 14.65
3 volumes = ~~33~~ 44 gal

0832 Began purging 3 well volumes using the grundfos pump. Total = ~~44~~ gal

0843 Stopped purging w/ grundfos. Total of 50 gal purged

0920 Installed micro purge and started purging

Time	pH	cond (mS/cm)	turb (NTU)	DO (%)	Temp (C)	ORP (mV)	Vol
0945	6.10	0.88	-10.0	10.77	11.77	222	0 gal
0958	6.81	0.92	-10.0	6.50	12.07	213	.75 gal
1001	6.86	0.92	-10.0	6.36	11.89	212	1 gal
1006	6.94	0.92	-10.0	6.12	11.95	209	1.25 gal

11/26/01

Time	pH	cond (mS/cm)	turb (NTU)	DO (%)	Temp (°C)	ORP (mV)	gal
1011	6.97	.92	-10.0	6.44	11.98	206	1.5 gal
1020	7.03	.92	-10.0	7.09	12.01	201	2.25 gal

~~1031~~ JC

1038 Sampled MW1602S for VOCs, ethene/ethane, Iron/Manganese, Nitrate/Chemical Oxygen Demand, Chlorides/Sulfate, TOC, + Sulfide

1116 Pulling microsponge and cleaning up site

1131 Water level MW1602S DTW: 32.70 ft

1145 J. Campbell, J. Endsley, D. McGowan offsite of Sniter District

1200 J. Campbell + D. Lamsma onsite at California to clean up. ~~1215~~ JC

1215 J. Campbell + D. Lamsma offsite at California

1310 J. Campbell onsite at Thatcher Rd, MW1600S
J. Endsley already onsite. 77.12

1312 Deconning equipment

1330 Water level at MW1600S DTW: 77.12 ft
TD: 89.29 ft

Total water = 12.17
12.17' x .93 gal/ft = 11.31
1 volume = 11.31 ft
3 volumes = 34 gal

1338 Begin purging 3 well volumes w/ the grundfos pump

1348 Stopped Grundfos pump. Purged at total of 40 gal.
Pulled out Grundfos pump

11/26/01

1410 Began to lower micropurge into MW1600S

1415 Started pumping & stabilizing parameters with the micropurge

Time	pH	cond (mS/cm)	turb. (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	gal
1459	7.07	1.33	79.1	1.60	12.66	33	.25 gal
1503	7.06	1.39	50.1	1.59	12.66	17	.50 gal
1511	7.07	1.43	30.9	1.56	12.57	8	.75 gal
1514	7.07	1.44	23.7	0.00	12.55	5	1 gal
1519	7.08	1.44	22.1	0.00	12.55	1	1.5 gal

1521 Sampled MW1600S for VOCs, ethane/ethene, Iron/Manganese, Nitrate/Chemical Oxygen Demand, Chlorides/Sulfate, TOC, & Sulfide

Surveyors (Hagensee Surveying) onsite at Thatcher

1540 Surveyors offsite

1547 Finished sampling MW1600S. Pulling out micro purge. Cleaning up site

1600 Water level at MW1600S DTW = 76.87 ft

1610 J. Campbell & J. Endsley offsite of Thatcher Rd

J Stell

11/26/01

7/01

0712 J. Campbell onsite at Sanitary District
Layne already onsite. Jerry K. (URS) onsite.
obj: packer ~~test~~ at MW1602D SPT #52
weather: cloudy, high 48°
Level D: P&E
personnel: J. Campbell, Jerry K. (URS), Doug & Jerry (Layne)
0748 D. Gooux onsite
0800 Loading up support truck
0815 Attempting to get back to MW1602D
0830 Attempt failed
0835 Per B. Elwell Layne is going to call and check about their availability. Waiting to hear more
1000 Per B. Elwell. Talked with Layne about towing the pump rig. Going to use front end loader at Sanitary District and are renting a four wheel drive fork lift.
1040 Front end loader towed pump rig back to MW1602D
Setting up at well
1100 Layne offsite to get equipment
Jerry K. (URS) offsite to get lunch
Waiting for fork lift
1145 Layne and Jerry K. (URS) back onsite
1242 Fork lift has arrived
Begun setting up equipment for tomorrow
1350 J. Campbell + Layne offsite of sanitary district

11/27/01

1400 J. Campbell + Layne onsite at Lockformer to drop off drums. ~~at~~ JC

1419 J. Campbell - Layne offsite of Lockformer. Taking Layne to Front St. well to show them location of drum pick up

1424 J. Campbell + Layne onsite at ~~Lockformer~~ Front St. JC

1435 C.S. Drilling installing stainless steel screen and 2" casing

1614 ~~1500~~ JC Chipped the hole to 9ft. Going to fill it with sand to ~~3ft~~ JC 5ft. Loaded up drums w/ Layne

1631 J. Campbell + Layne onsite at Lockformer to unload drums.

1644 C.S. Drilling onsite to unload drums

1805 J. Campbell + C.S. Drilling offsite at Lockformer

1810 J. Campbell + C.S. Drilling onsite at Front Street.

1715 J. Campbell offsite

J. Campbell

11/27/01

11/28/01

0630 J. Campbell onsite at D.G. Sanitary District
Doug & Jerry (Layne) already onsite
obj: packer test MW1602D
weather: partly cloudy, High 45°
PPE: Level D

0632 Jerry K. (URS) onsite

0650 Setting up at MW1602D to packer test

0715 D. Gauer onsite. Lowering packer unit down well

0819 Packer set at 75ft (toc) SPT #52 ~~79ft to 87ft~~ 78ft to 86ft

0844 Conducted hermit test. hermit is working properly. Input 1 is top, Input 2 is bottom

0848 Inflating packers and Installing grundfos pump

0900 Started Hermit test #6 for SPT #52

0905 $T_1 = 0.03$
$T_2 = 0.55$

0936 $T_1 = 0.03$
$T_2 =$ ~~0.0~~ 0.39

0949 Stopped grundfos pump. Purged ~400gal
Stopped Hermit test #6 and pulled grundfos pump.

0950 Installing bladder pump

0954 Started bladder pump and stabilization parameters.

11/28/01

Time	pH	cond (ms/cm)	turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	gal
1003	7.79	1.36	26.3	0.89	10.54	96	2 gal
1006	7.49	1.37	20.7	0.47	10.65	72	3 gal
1011	7.32	1.36	14.5	0.20	10.64	54	4 gal
1015	7.28	1.36	9.7	0.20	10.15	48	5 gal
1022	7.25	1.36	9.8	0.50	10.29	33	6.25 gal

1024 Sampled MW1603D SPT #52 78ft to 86ft for VOCs. ~~Empty~~ Day is emptying 400 gal poly tank at Lockheed

1115 Pulling up packer system and setting tape
~~112~~ at 69' SPT #53 70ft to 78ft

1123 Inflating packers + installing grundfos pump

1125 Started Hermit test #7 for SPT #53 70' to 78'

1126 Started grundfos pump

1130 T_1 = -0.01
T_2 = -0.07

1142 T_1 = -0.01
T_2 = 0.00

1205 Stopped Grundfos pump + Hermit test #7
Pulling out grundfos pump. Purged ~ 425 gal

1206 Installing bladder pump

1208 Started bladder pump and stabilization parameters

11/28/01

Time	pH	cond (mS/cm)	turb. (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	gal
1213	8.11	1.29	18.2	7.37	8.85	65	1 gal
1217	7.39	1.36	32.4	0.32	10.11	50	2 gal
1221	7.31	1.36	3.4	0.00	10.51	26	3 gal
1228	7.30	1.36	4.7	0.00	10.52	15	4 gal

1230 Sampled MW160-2D SPT #53 70' to 78' for VOCs

1242 Pulling out bladder pump

1242 Pulling up packer system. Setting tape at 61ft SPT #54 62ft to 70ft

1306 Inflating packers and Inserting grundfos pump

1309 Started Hermit test #8 for SPT #54 62ft to 70ft

1316 T_1 : 1.32

T_2 : 0.00

1336 T_1 : 2.56

T_2 : -0.07

1342 Stopped grudfos pump + Hermit test #8

Pulling out grundfos pump

1345 Installing bladder pump.

#7 1346 Begin to pump with bladder pump + stabilize parameters

Time	pH	cond (mS/cm)	turb (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	gal
1353	8.02	1.19	23.4	2.66	8.05	42	1 gal
1357	7.39	1.31	43.4	1.27	10.15	57	2 gal
1404	7.34	1.35	18.9	0.34	10.43	37	3 gal
1410	7.32	1.37	6.6	0.00	10.47	22	4 gal

11/28/01

1413 Sampled MW1602D SPT #54 62' to 70' for VOCs 0

1427 Removing bladder pump and pulling out packer system.

1445 Water level at MW1602D DTW = 33.70 ft

-Clean up site. D. Groux (Parsons) offsite

1514 First Environmental onsite to pick up samples from today 0

1518 First Environmental offsite

1530 Jerry K. (URS) offsite

1620 Joe Campbell + Doug + Jerry (Layne) offsite of Sanitary District

1630 Joe Campbell + Layne onsite at Lockformer

1645 Joe Campbell + Layne offsite at Lockformer

J. Campbell

11/28/01

11/29/01

0800 J. Campbell onsite at Lockformer
obj: Layne cleaning up site
weather: cloudy, rainy, high 45°
PPE: Level D.
Doug & Jerry (Layne) already onsite
0915 J Campbell offsite

J. Campbell

~~10/~~ 11/29/01

11/30/01

1250 J. Campbell & B. Elwell onsite at Finely Rd well
Lang (Downers Grove) already onsite
obj: take water level measurements from public supply wells
weather: cloudy, rainy, high 48°
PPE: Level D.

1255 Finely Road (access point: East vent pipe)
DTW: 80.60 ft * using new 150' Solinist tape + had problems removing it from access point

1310 Downers Drive (access point: West larger vent pipe)
DTW: 102.67ft

1322 Katrine Ave. (access point: South vent pipe)
DTW: 60.60ft

1351 67th Street (access point: East vent pipe)
DTW: 109.56ft

1407 71st Street (access point: North vent pipe)
DTW: 142.25ft

1419 63rd Street (access point: East vent pipe)
DTW: 94.10ft

1427 J. Campbell + B. Elwell + Lang (D.G.) offsite

J. Campbell 11/30/01

12/4/01

0756 J. Campbell & B. Elwell onsite at Lockformer
Dupage County already onsite
obj: sample MW1102D.
weather: cloudy, high 48°
PPE: level D
personel: J. Campbell & B. Elwell (Layton)
Jimmy - Dave (Dupage county)
0815 B. Elwell offsite to get plug adapter for grundfos pump
0845 Could not get plug adapter
- Dave (Dupage county) offsite to get compatable generator.
0850 B. Elwell offsite
0855 Water level at MW1106D DTW: 64.15 ft
1000 Dave back onsite. No generator available
- Per B. Elwell. Rescheduled for Friday 12/7 @ 8:00am
1005 Jimmy - Dave (Dupage county) offsite
J. Campbell offsite

J. Bell

12/4/01

12/7/01

0755 J. Campbell onsite.
DuPage County Public Works onsite
obj: DuPage County to sample MW1102D
weather: partly cloudy, high 45°
PPE: Level D
Personnel: J. Campbell (Clayton), Jimmy + Dave (DP County)
0808 Setting up at MW1102D
- lowering grundfos pump down well
0805 Started Grundfos pump
0817 DuPage County Public works sampled MW1102D
- Removed ~50 gal of water
0824 Removing grundfos pump
0828 Jimmy + Dave (DuPage County) offsite
0832 Trash pumping purge water into Baker tank
0855 J. Campbell offsite

12/7/01 J. Campbell

If found, please
return to:

Clayton
GROUP SERVICES

Chicago Regional Office
3140 Finley Road
Downers Grove, IL 60515

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15-65263 Vol. IV

11-27-01 MW.

OBJECTIVE: INSTALL A SHALLOW WELL ADJACENT TO BW-3 ALONG FRONT STREET.

PERSONNEL: BILL ELWELL - CLAYTON
KAREN CARLISLE - PARSONS
MARK ~~MIKE~~ - CS DRILLING
HELPER

WEATHER: CLOUDY, 50°F

0700 ON SITE AT LOCKFORMER TO MEET C.S. & KAREN. PRESENT PROJECT OVERVIEW & CONDUCT HEALTH & SAFETY MEETING

0730 MOBILIZE TO FRONT ST. IN LISLE & ATTEMPT TO SET FOR DRILLING ADJACENT TO BW-3, SOUTH OF FRONT ST. IN FRONT OF 717-725 FRONT.

SOFT SHOULDER CONDITIONS, CREATING RUTS & GRASS DAMAGE. ALSO DENTED DRAINAGE PIPE ACROSS 717 DRIVEWAY. WILL HAVE TO BEND BACK INTO PLACE.

0811 BEGAN DRILLING AT LOCATION NAMED MW-1603. CONTINUOUSLY SAMPLED W/ 2" SPLIT SPOON THROUGH 4¼" ID HSA. CS. USED A DIETRICH D120 DRILL RIG.

11-27-01 CONT.

1220 CONTACTED BEDROCK @ ≈ 55' BGS.
SATURATED CONDITIONS IN A DIRTY SAND & GRAVEL @ 44'

BREAK FOR LUNCH.

1250 C.S. RETURNS. I TRAVEL TO OFFICE TO OBTAIN A STAINLESS STEEL PLUG FOR THE WELL SCREEN BASE. - COULD NOT LOCATE, USED PVC AS AN ALTERNATE.

1325 RETURN TO SITE & BEGIN TO SET WELL.
ATTEMPT SCREEN 52' - 42'

1500 JOE CAMPBELL AT SITE TO REPLACE B. ELWELL.
CONTINUED WELL INSTALLATION

1700 B. ELWELL ON SITE TO REPLACE J. CAMPBELL
WELL WAS INSTALL 2' HIGH DUE TO HEAVING SND.
SCREEN 50 TO 40' ∇ 44
SAND PACK. TO 38'
CHIP TO 9' (OUT OF CHIPS).
SND TO 5'
CONC. PLUG TO 3'
SND TO PRO COVER.

1745 SET PROCOVER & LOCK CAP. CLEANED AREA & SECURED W/CONES. FOUR DRUMS OF SOIL CUTTINGS TO LOUFORMER VIA LANE.

11-27-01 CONT.

1800 OFFSITE w/ KAREN & C.S

[signature]
11-27-01

11/28/01

0700	D. Lomsma on-site
	obj: drill well on Front St.
	weather: cloudy, chance showers, high 40-45°F
	PPE: Level D
	Personnel: D. Lomsma, B. Elwell (Clayton)
	K. Carlisle (Parsons)
	Mark, Alex (CS)
0705	CS decon drilling equipment
0735	CS setting up to drill at MW-1604
0805	Begin drilling MW-1604
0824	B. Elwell off-site
1130	complete MW-1604 to depth of 60 ft
1145	Break for lunch
1200	per B. Elwell - set 10 ft screen from 47-57 ft
1230	Begin installing MW-1604
1445	complete installing MW-1604
1450	bring drill rig to Lockformer and Alex begin decon; Mark and Darren return to Front street to put concrete pad around MW-1604
1451	K. Carlisle off-site
1545	complete putting concrete pad on MW-1604; return to Lockformer
1600	CS Drilling and D. Lomsma on-site

[signature]
11/28/01

0730 D. Lansma on-site
obj: drill well on Front St., adjacent to BW-
weather: chance rain, high 40-45°F
PPE: Level D
Personnel: D. Lansma (Clayton)
K. Carlisle (Parsons)
Mark, Alex (CS Drilling)

0731 CS loading well supplies
0755 CS setting up to drill MW-1605
- observe concrete pad at MW-1604 has been tampered with; took photo
0820 calibrate Photovac 2020 PID to span 100ppm
0830 Begin drilling MW-1605
1142 complete MW-1605 to depth of 58 ft
1215 Per Ron St John (Clayton)
1) pull augers to 51 ft and fill with Bentonite
2) put 5 ft screen from 44-49 ft
1250 Begin installing MW-1605
1450 complete installing MW-1605
1455 K. Carlisle off-site
1500 move drill rig to Lockformer and Alex begin decon; Mark and Darren return to Front St. and begin putting concrete pads around all 3 wells
1710 complete putting concrete pads around MW-1603/1604/1605
1725 CS Drilling and D. Lansma off-site

12/21/01

0740 D. Lemsma on-site
obj: empty both 20,000 gal. Baker Tanks
weather: sunny, high 35-40°F
PPE: Level D

0745 notice flexible hose is wrong size; go to Grainger and Rental Max to see if they have fittings
0800 neither place has fittings - back to Butler Rental to get correct size of hose; Jeff Endsley on-site to oversee North Branch Environmental empty 4000 gal Baker Tank
0930 D. Lemsma on-site and begin emptying 20,000 gal. Baker Tank
0955 North Branch Env. off-site
1010 J. Endsley off-site
1200 1ST tank empty; change hose and begin draining second tank
1210 off-site for lunch
1230 return to site
1600 tank 2 empty; begin rolling hoses
1630 D. Lemsma off-site

2/14/02

0730 D. Lansma on-site
obj: Water Levels
weather: sunny; high near 50°F
PPE: Level D
Personnel: N. Boliver, D. Lansma (Clayton)
K. Carlisle (Parsons)
Jerry K, Jennifer (VRS)

0740 Begin at Vehicle emissions testing facility
0800 Begin at Downers Grove Sanitation District
0824 Begin at Ogden Corporate Center
1114 complete gauging off-site wells and staff gauges
1220 Break for lunch
1250 return to site
1345 N. Boliver off-site to take water levels at Downers Grove Public Water Supply Wells
1515 N. Boliver back on-site
1520 complete taking water levels
1530 N. Boliver, D. Lansma, K. Carlisle off-site

2/14/02

2/21/02

0545 D. Lamsma on-site
obj: collect GW samples from MW-1601S/D
weather: snow flurries, windy, high near 35°F
PPE: Level D
Personnel: D. Lamsma, J. Endsley (Clayton)
K. Carlisle (Parsons)
Sue (Carlson)

0550 take water levels in both wells

wells	DTW (ft)	Total (ft)	3 vol (gal)
MW-1601S	52.21	65.14	6.5
MW-1601D	52.34	109.0	255

0600 J. Endsley and K. Carlisle ~~aff~~ on-site
0603 Sue on-site
0624 Begin pumping from MW-1601S
0628 complete purging MW-1601S
- remove approx 15 gallons of water
0640 Begin pumping with Micropurge for stable water quality parameters
0700 Begin purging MW-1601D with Grundfos
0815 Unable to get Micropurge pump to work
- stop for day and try to repair
0835 All personnel off-site

Purge Vol

shallow:

filter pack : 0.93 gal/ft

casing : 0.163 gal/ft

deep:

all : 1.5 gal/ft

	Total (ft)
	89.30 ft
1600 S	127.0 ft
1600 D	
1601 S	65.14 ft
1601 D	109.0 ft
1602 S	56.0 ft
1602 D	92.0 ft

1100 D. Lansma and J. Endsley on-site
obj: collect GW samples from MW-1600 S/D
weather: snow flurries, windy, high 35°F
PPE: Level D
Personnel: D. Lansma + J. Endsley (Clayton), K. Carlisle (Parsons)

1120 wells open and Micropurge pump is working properly
1130 take water levels on both wells

Well	DTW (ft)	Total (ft)	3 vol. (gal)
MW-1600 S	78.29	89.30	34
MW-1600D	78.22	127.0	221

1137 Begin purging MW-1600S
1200 complete purging MW-1600S; remove and decon Grundfos
1213 Begin purging MW-1600S with Micropurge to achieve stable readings
1220 Begin purging MW-1600D with Grundfos
1350 complete purging MW-1600D; remove and decon Grundfos
1440 collect sample from MW-1600S
1510 complete decon of Micropurge; put into MW-1600D and purge for stable readings
1630 observe Micropurge not working properly - end work for day
1700 D. Lansma + J. Endsley off-site

2/21/02

2/25/02

0750 D. Lamsma on-site
obj: collect GW samples from MW-1602 D/S
weather: cloudy; high 45°F
PPE: Level D
Personnel: D. Lamsma, J. Endsley (Clayton)
K. Carlisle (Parsons)
Jerry K. (URS)

0805 obtain access to Bowers Grove Sanitary District
0810 Take water levels in 1602 D/S

well	DTW (ft)	Total (ft)	3 vol (gal)
MW-1602D	34.32	92.0	260
MW-1602S	33.49	66.0	63

0825 Begin purging MW-1602S with Grundfos
0835 complete purging MW-1602S; remove and decon Grundfos; insert Micropurge MP-10
0850 calibrate Horiba U-22 water quality meter with standard solution
0852 begin pumping MW-1602S with MP10 for stable water quality readings
0925 collect sample from MW-1602S
0945 insert Grundfos into MW-1602D and begin pumping
1033 Complete purging MW-1602D; remove and decon Grundfos
1050 Begin purging MW-1602D with MP-10 for stable water parameters
1115 collect GW sample from MW-1602D
1130 complete clean-up; off-site to Lockformer to empty drums of water
1230 arrive at MW-1600D; open well and let equilibrate

2/23/02

1250 Begin pumping from MW-1600D with Grundfos
1337 complete purging with Grundfos; remove approx 225 gallons of water
1345 begin with Micropurge MP-10 to achieve stable reading on U-22
1430 complete purging; collect GW sample from MW-1600D
1440 K. Carlisle off-site
1455 complete clean-up; D. Lamsma, J. Endsley off-site

3/20/02

0545 D. Lemsma on-site
obj: water levels
weather: cloudy, high 45-50 °F
PPE: Level D

0547 Begin opening wells
0640 Begin taking water levels; meet G. Gallo and K. Carlisle
0750 Meet J. Katmerski (URS) at DGSD
1044 complete taking water levels; begin measuring staff gauges
1140 D. Lemsma, G. Gallo, ~~Ø~~ DNL K. Carlisle off-site

3/20/02