

Appendix B

EXAMPLE TABLES AND FIGURES

This page intentionally left blank

Table 1 – Compounds Detected in Groundwater Samples Compared to Screening Levels.

Compound	Maximum Concentration Reported in Previous Investigations (µg/L)	Maximum Concentration in January 2004 (µg/L)	MCL (µg/L)
Volatile Organic Compounds			
Benzene	120	10 J	5
Chlorobenzene	40	12 J	100
1,2-Dichloroethane	45	ND	5
1,1-Dichloroethene	38	ND	7
1,2-Dichloroethene (total)	6,400	860	100
Ethylbenzene	1,600	ND	700
Tetrachloroethene	300	79	5
Toluene	120	ND	1,000
1,1,1-Trichloroethane	260	ND	200
Trichloroethene	260	50	5
Vinyl chloride	2,500	1,400	2
Xylene (total)	5,700	ND	10,000
Semivolatile Organic Compounds			
<i>bis</i> (2-Ethylhexyl)phthalate	42	3 J	6
1,2-Dichlorobenzene	37	ND	600
2-Methylnaphthalene	27	ND	none
Naphthalene	16	ND	none
Pesticides			
Heptachlor epoxide	0.79	NA	0.2
Toxaphene	12	NA	3
Herbicides			
Atrazine	3.1	NA	3
Dichlorophenoxyacetic acid (2,4-D)	NR	NA	70
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex)	88	NA	50

Notes:

This table is derived from Consulting Geologist (2000a) and EPA (2004). Concentrations in bold exceed the EPA MCL.

EPA = U.S. Environmental Protection Agency

J = estimated

MCL = EPA maximum contaminant level (EPA 2002a)

µg/L = micrograms per liter

NA = not analyzed

ND = not detected

NR = not reported

Table 1 – Well and Piezometer Construction Details

Well Designation	Well Type	Sampling/ Measurement Frequency	Depth To Top Of Screen (ft.)	Depth To Bottom Of Screen (ft.)	Sump Length (ft.)	Depth To Water (ft.)	Depth To Bottom (ft.)	Installation Date
MCA-Da	Monitor	Annually	72.8	75.3	2.0	26.54	77.3	7/88
MCA-S	Monitor	Not sampled	12.4	22.4	2.0		24.4	7/88
MCB-Da	Monitor	Annually	78.8	81.3	1.5	28.33	82.8	6/89
MCB-M	Monitor	Annually	38.8	41.3	1.5	27.11	42.8	6/89
MCB-S	Monitor	Not sampled	20.1	30.1	1.5		31.6	6/89
MCC-D	Monitor	Not sampled	37.9	40.4	1.5		41.9	6/89
MCC-Da	Monitor	Not sampled	76.9	79.4	1.5		80.9	6/89
MCC-S	Monitor	Not sampled	19.7	29.7	1.5		31.2	6/89
MCD-Da	Monitor	Annually	78.3	80.8	1.5	27.33	82.3	6/89
MCD-M	Monitor	Quarterly	38.8	41.3	1.5	27.93	42.8	6/89
MCD-S	Monitor	Quarterly	19.6	29.6	1.5	28.18	31.1	6/89
MCE-M	Monitor	Not sampled	40.0	42.5	1.5 – 2.5		44.0 – 45.0	12/89
MCE-S	Monitor	Not sampled	15.0	25.0	1.5 – 2.5		26.5 – 27.5	11/89
MCF-M	Monitor	Not sampled	27.5	30.0	1.5 - 2.5		31.5 – 32.5	11/89
MCF-S	Monitor	Not sampled	12.5	22.5	2.5		25.0	11/89
MCG-M*	Monitor	Not sampled	32.5	35.0	1.5 – 2.5	28.91	36.5 – 37.5	12/89
MCI-M*	Monitor	Not sampled	35.1	37.6	1.5 – 2.5	25.44	39.1 – 40.1	12/89
MCI-S	Monitor	Not sampled	12.6	22.6	2.5		25.1	12/89
MW-1M	Monitor	Quarterly	39.6	49.6	2.5	24.10	52.1	9/94
MW-2	Monitor	Not sampled	14.9	24.9	2.0		26.9	7/88
MW-3	Monitor	Not sampled	16.4	26.4	2.5		28.9	11/89
MW-4	Monitor	Not sampled	26.0	28.5	1.5		30.0	7/90
MW-5	Monitor	Not sampled	32.5	35.0	1.5		36.5	7/90
MW-5D	Monitor	Quarterly	51.7	54.2	2.5	27.93	59.7	9/94
MW-5Da	Monitor	Not sampled	61.4	63.9	2.5		66.4	12/96
MW-5Db	Monitor	Quarterly	78.8	81.3	2.5	28.32	83.8	1997 - 1998
MW-6	Monitor	Not sampled	27.0	29.5	1.5		31.0	7/90
MW-6D	Monitor	Annually	46.5	51.5	0.0	27.32	51.5	1999
MW-7	Monitor	Not sampled	26.0	28.5	1.5		30.3	7/90
MW-8	Monitor	Quarterly	19.9	34.9	0.0	26.56	34.9	1/95
MW-10	Monitor	Quarterly	14.2	29.2	0.0	28.24	29.2	1/95
MW-11D	Monitor	Quarterly	40.3	45.3	2.0	28.04	47.3	4/95
MW-11M	Monitor	Quarterly	30.0	35.0	2.0	28.22	37.0	4/95
MW-12D	Monitor	Annually	42.8	47.8	2.2	28.28	50.0	1/95
MW-12M	Monitor	Not sampled	30.5	35.5	2.0		37.5	1/95
MW-13Da	Monitor	Annually	47.3	52.3	0.0	27.15	52.3	1999
MW-14Da	Monitor	Annually	49.3	54.3	0.0	28.00	54.3	1999
OB-1	Piezometer	Quarterly	26.5	29.0	1.5	25.55	30.5	7/90
PI-D	Piezometer	Quarterly	52.5	55.0	0.0	27.27	55.0	1/90
PI-M	Piezometer	Quarterly	39.3	41.8	0.0	26.25	41.8	2/90
RW-1	Recovery	Not sampled	38.8	58.8	0.0		58.8	1/90
RW-2	Recovery	Not sampled	40.2	60.2	0.0		60.2	1/90
RW-3	Recovery	Not sampled	28.7	59.7	0.0		59.7	4/96

Notes:

* Although these wells are not sampled regularly, water levels were measured during the March 2002 sampling event. Depth to water measured in March 2002 sampling event. Depth was measured from the top of the well casing.

**Table 1 – Maximum Concentrations of Constituents in Groundwater
Collected from Facility Monitoring Wells**

Chemical of Concern	Relevant Standard or Criteria (µg/L)	Maximum Concentration Detected (µg/L)	Location of Maximum Concentration	Sampling Date	Other Wells above MCL or PRG (2002-2003)
Cadmium	MCL, 5	15	MW-2	Feb-97	
Chloroethane	PRG, 4.6	16.7	MW-17M	Apr-03	
1,2-Dichloroethane	MCL, 5	15.6	MW-20M	Sep-02	MW-18M
1,1-Dichloroethene	MCL, 7	486	MW-20M	Sep-02	MW-8, MW-15M, MW-16, MW-16M, MW-17, MW-17M, MW-18, MW-18M
Lead	Action Level, 15	130	MW-5	Jan-92	
Methylene chloride	MCL, 5	34	MW-16	Sep-02	MW-15M
Nitrate	MCL, 10,000	75,000	MW-2	Feb-95	
Styrene	MCL, 100	5.1	MW-15M	Jan-03	
Tetrachloroethene	MCL, 5	186	MW-8	Jul-03	MW-15M, MW-16M, MW-17M, MW-18M, MW-20M
Toluene	MCL, 1,000	657	MW-16	Apr-03	
1,1,1-Trichloroethane	MCL, 200	328	MW-8	Jul-03	MW-15M
1,1,2-Trichloroethane	MCL, 5	11.9	MW-15M	Jan-03	MW-16
Trichloroethene	MCL, 5	44.6	MW-8	Jul-03	MW-15M, MW-20M
1,2,4-Trimethylbenzene	PRG, 12	96.6	MW-15M	Jan-03	MW-8, MW-16, MW-20M
1,3,5-Trimethylbenzene	PRG, 12	28.6	MW-15M	Jan-03	MW-16
Vinyl chloride	MCL, 2	8.44	MW-15M	Apr-03	MW-17M, MW-18M, MW-20M
Xylene, Total	MCL, 10,000	264	MW-15M	Jan-03	

Notes:

Data provided by NDEQ (1998) and Consulting Geologist (2003b).
Concentrations in bold type exceed the EPA MCL or PRG for drinking water.
EPA U.S. Environmental Protection Agency
MCL EPA maximum contaminant level (EPA 2002a)
µg/L Micrograms per liter
NDEQ Nebraska Department of Environmental Quality
PRG EPA Region 9 preliminary remediation goal (EPA 2002b)

Table 1 – Subsurface Soil VOC Detections – Monitoring Well Installation, August 2002

Boring or Monitoring Well	Maximum Concentration (mg/kg)	Depth (ft bgs)
B-2	2.9	48
B-3	1.3	46
MW-15	1,551	6
MW-15M	355	23
MW-16	3.2	13
MW-16M	153	16
MW-17M	347	23
MW-18	1.4	6
MW-18M	41.4	37
MW-20M	9.0	53

Notes:

VOC Volatile organic compounds
 ft bgs Feet below ground surface

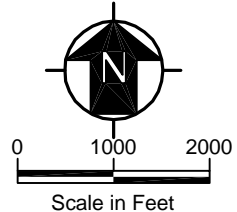
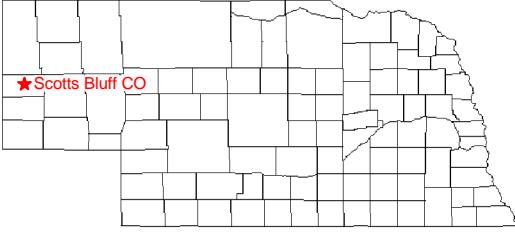
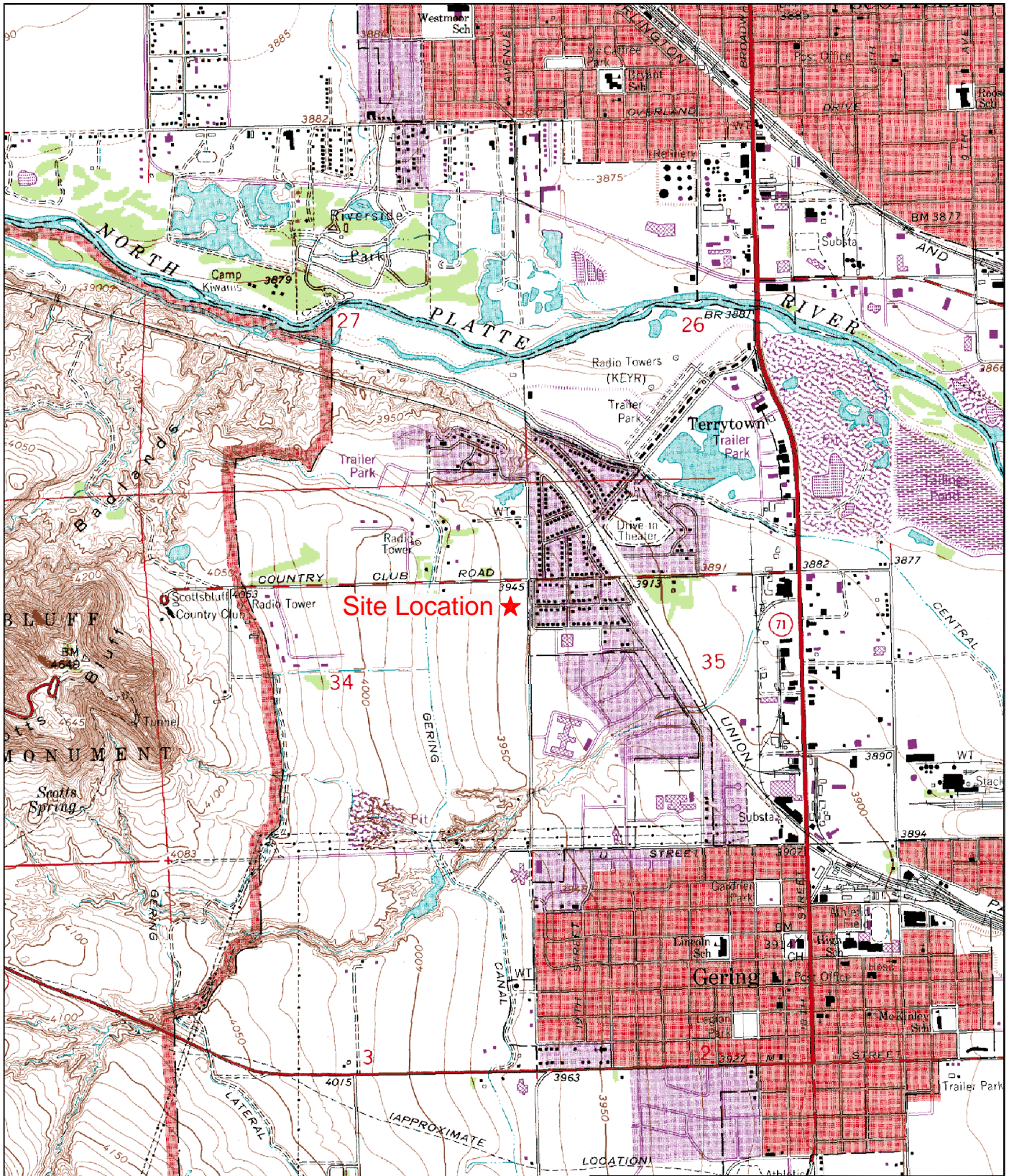
Table 1 – Constituents Detected in Subsurface Soil


Metal	Concentration (mg/kg)	Sample Number	Depth (ft bgs)
Antimony	51.6	B-3	2.5 - 4.33
Arsenic	704.3	B-3	2.5 - 4.33
Arsenic	15.4	B-2	5.5 - 7.5
Arsenic	14	B-2	7.5 - 9.5
Arsenic	<i>11.7</i>	B-3	0.5 - 2.5
Cadmium	10.3	B-3	2.5 - 4.33
Copper	431	B-3	2.5 - 4.33
Lead	9,630	B-3	2.5 - 4.33
Lead	6,919	B-2	2.5 - 4.33
Lead	590	B-2	5.5 - 7.5
Lead	1,633	B-3	5.0 - 7.0
Zinc	240	B-3	2.5 - 4.33

Notes:

Concentrations in bold exceed industrial soil target concentrations. Concentrations in italics exceed residential soil target concentrations.

ft bgs = feet below ground surface
 mg/kg = milligrams per kilogram

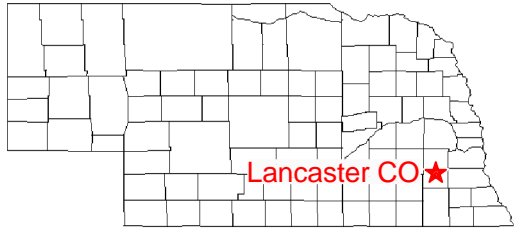


Facility Name Address City, State Zip Code
Figure # Site Topographic Map
 ABC Company, Inc.
Date: XXXX/XX/XX Drawn By: Your Name Project No: #####

File Path
 Source: USGS Scottsbluff N, NE 7.5 Minute Topo Quad, 1963, PR 1976
 USGS Scottsbluff S, NE 7.5 Minute Topo Quad, 1963, PR 1976



Site Location ★



Lancaster CO ★

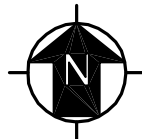
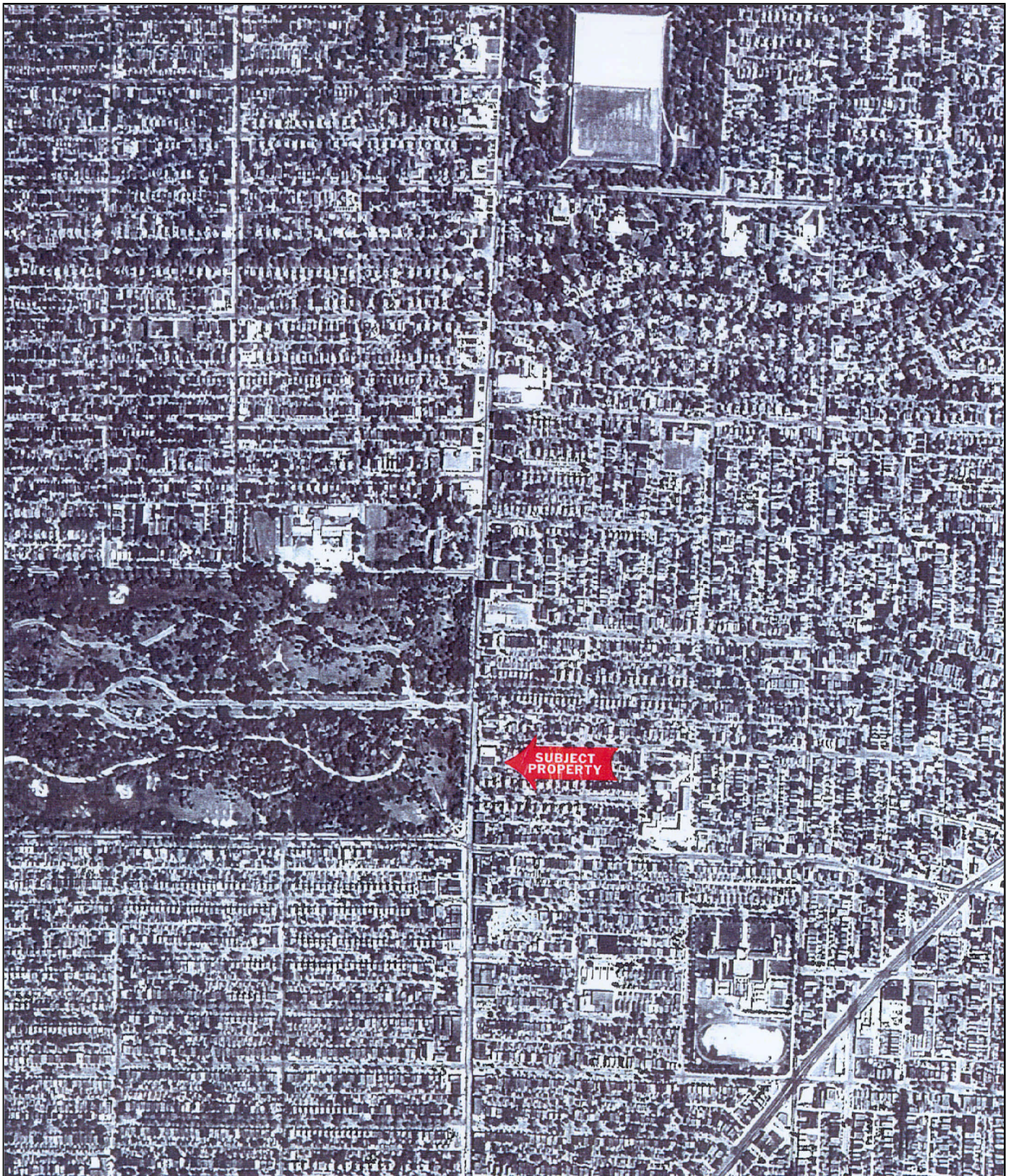


Not to Scale

Facility Name
Address
City, State Zip Code

Figure #
Site Location Map

 **ABC Company, Inc.**



Not to Scale

Facility Name
Address
City, State Zip Code

Figure #
Historical Aerial Photo



ABC Company, Inc.

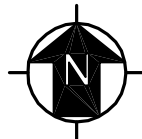
File Path

Source: E Data Resources, Aerial Photo, 1958

Date: XXX/XX/XX

Drawn By: Your Name

Project No: #####



Not to Scale

Facility Name
Address
City, State Zip Code

Figure #
Most Recent Aerial Photo



ABC Company, Inc.

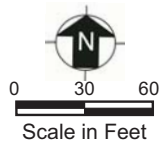
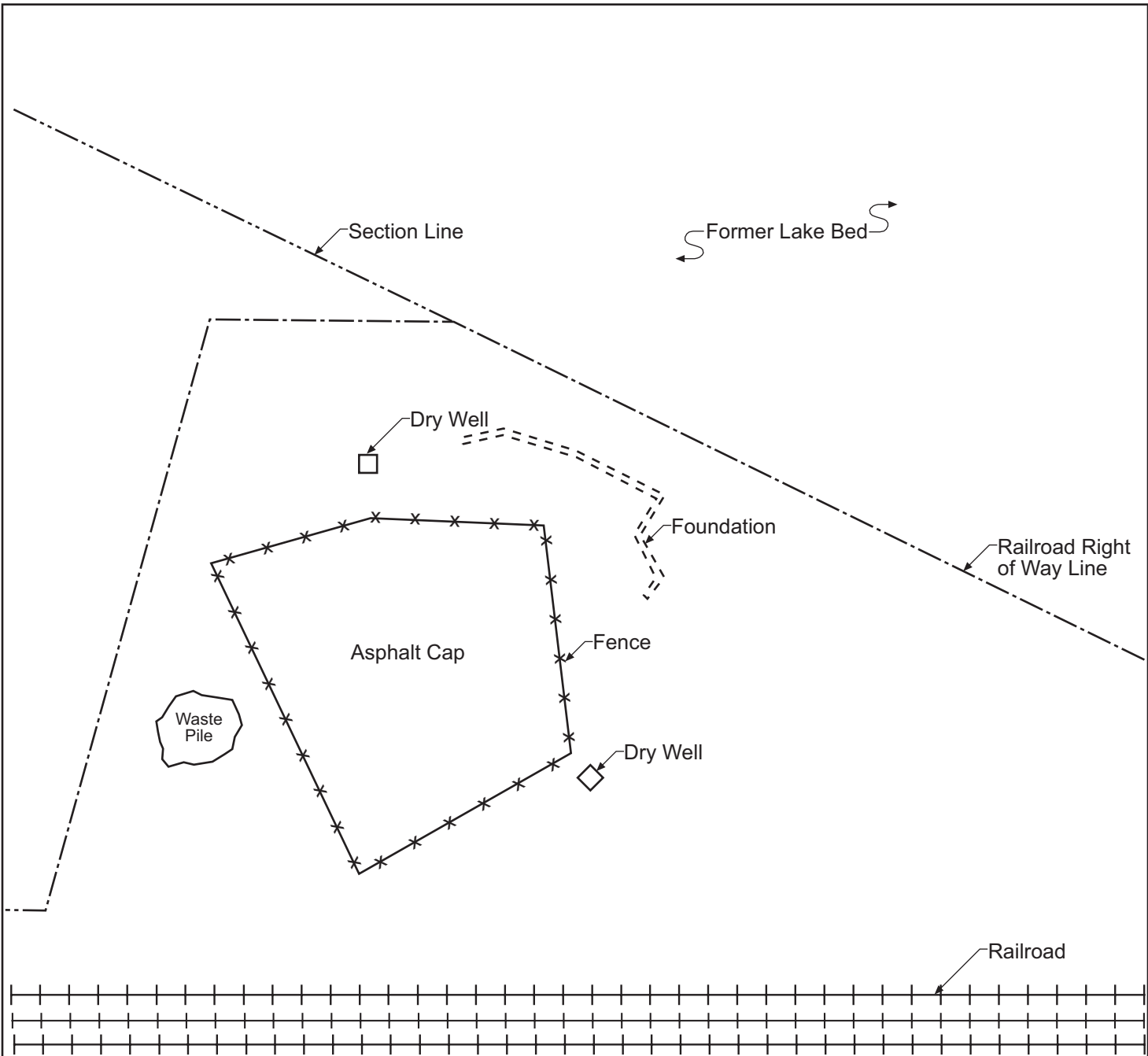
File Path


Source: E Data Resources, Aerial Photo, 1994

Date: XXXX/XX

Drawn By: Your Name

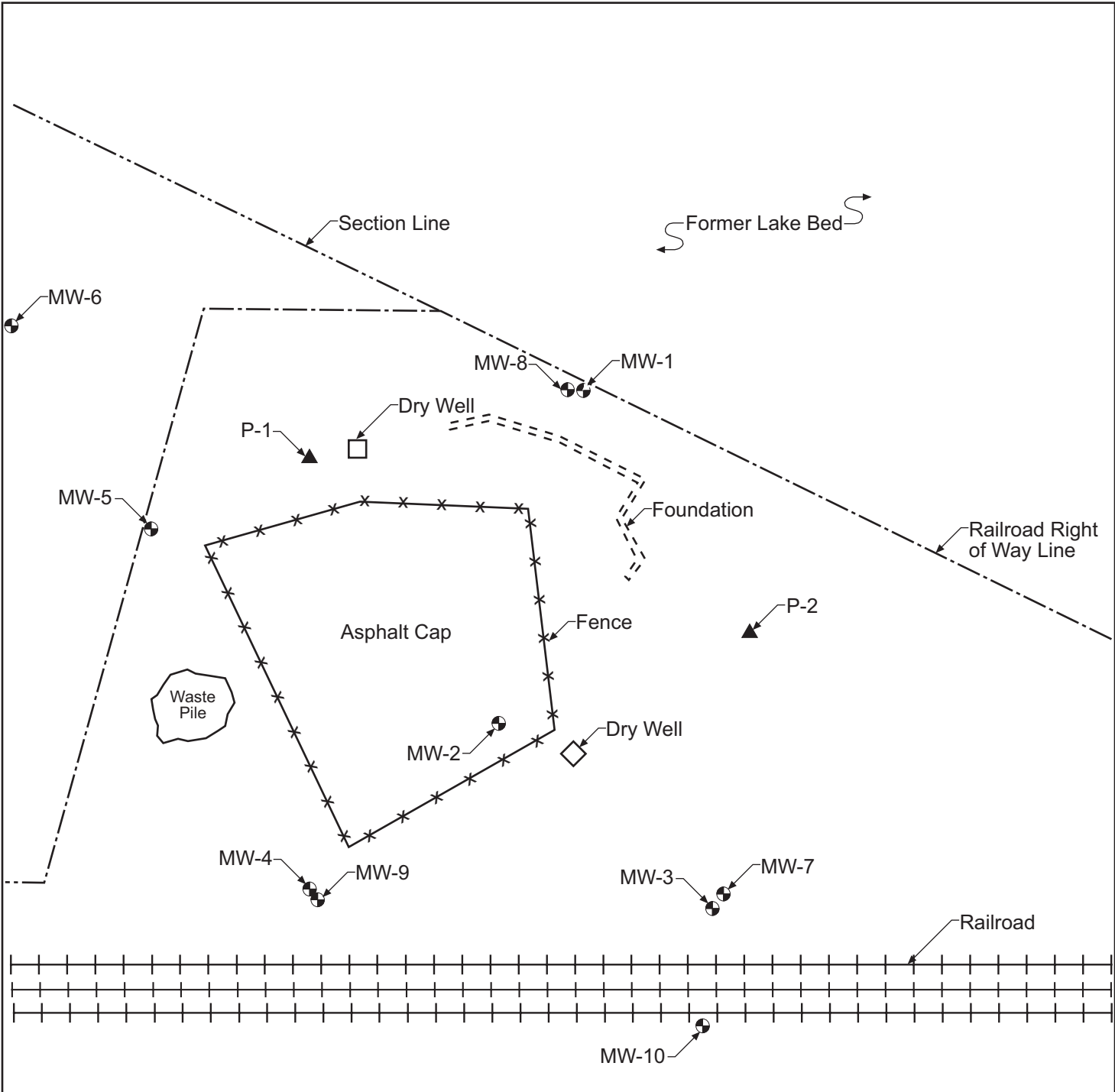
Project No: #####



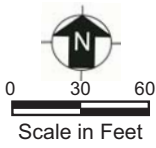
Facility Name Address City, State Zip Code
Figure # Site Layout Map
 ABC Company, Inc.
<small>Date: XXXXXX Drawn By: Your Name Project No: #####</small>

File Path

Base Map Source: Modified from XYZ Company, 2001



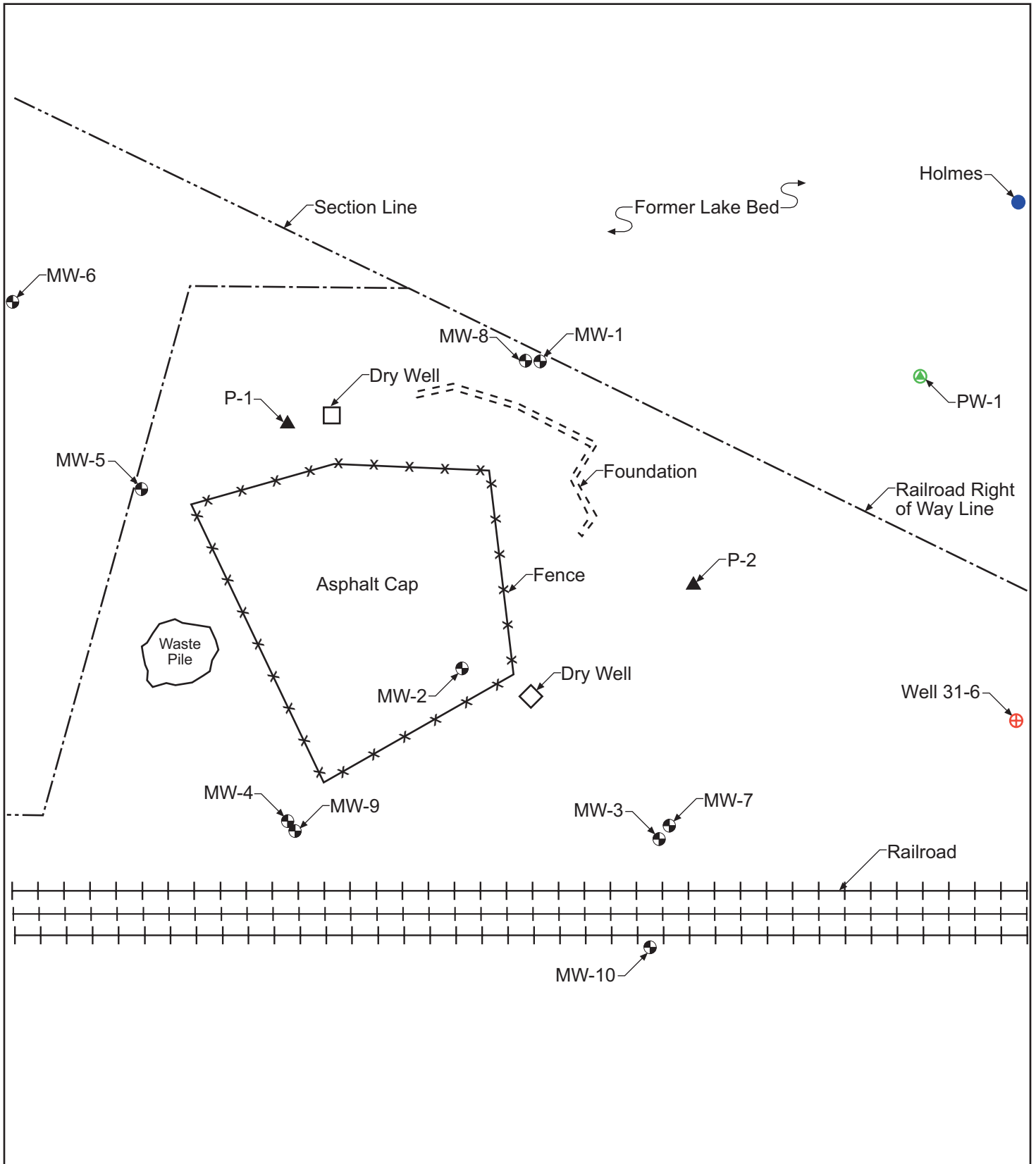
- Legend
- Monitoring well location
 - ▲ Piezometer location



Facility Name Address City, State Zip Code
Figure # Monitoring Well Locations
ABC Company, Inc.
Date: XXXXXX Drawn By: Your Name Project No: #####

File Path

Base Map Source: Modified from XYZ Company, 2001



Holmes

Former Lake Bed

Section Line

MW-6

MW-8

MW-1

PW-1

P-1

Dry Well

Foundation

Railroad Right of Way Line

MW-5

P-2

Asphalt Cap

Fence

Waste Pile

MW-2

Dry Well

Well 31-6

MW-4

MW-9

MW-3

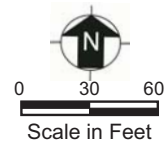
MW-7

Railroad

MW-10

Legend

- Monitoring well location
- ▲ Piezometer location
- ⊕ Municipal well location
- ⊕ Production well location
- Private residential well location



Facility Name
Address
City, State Zip Code

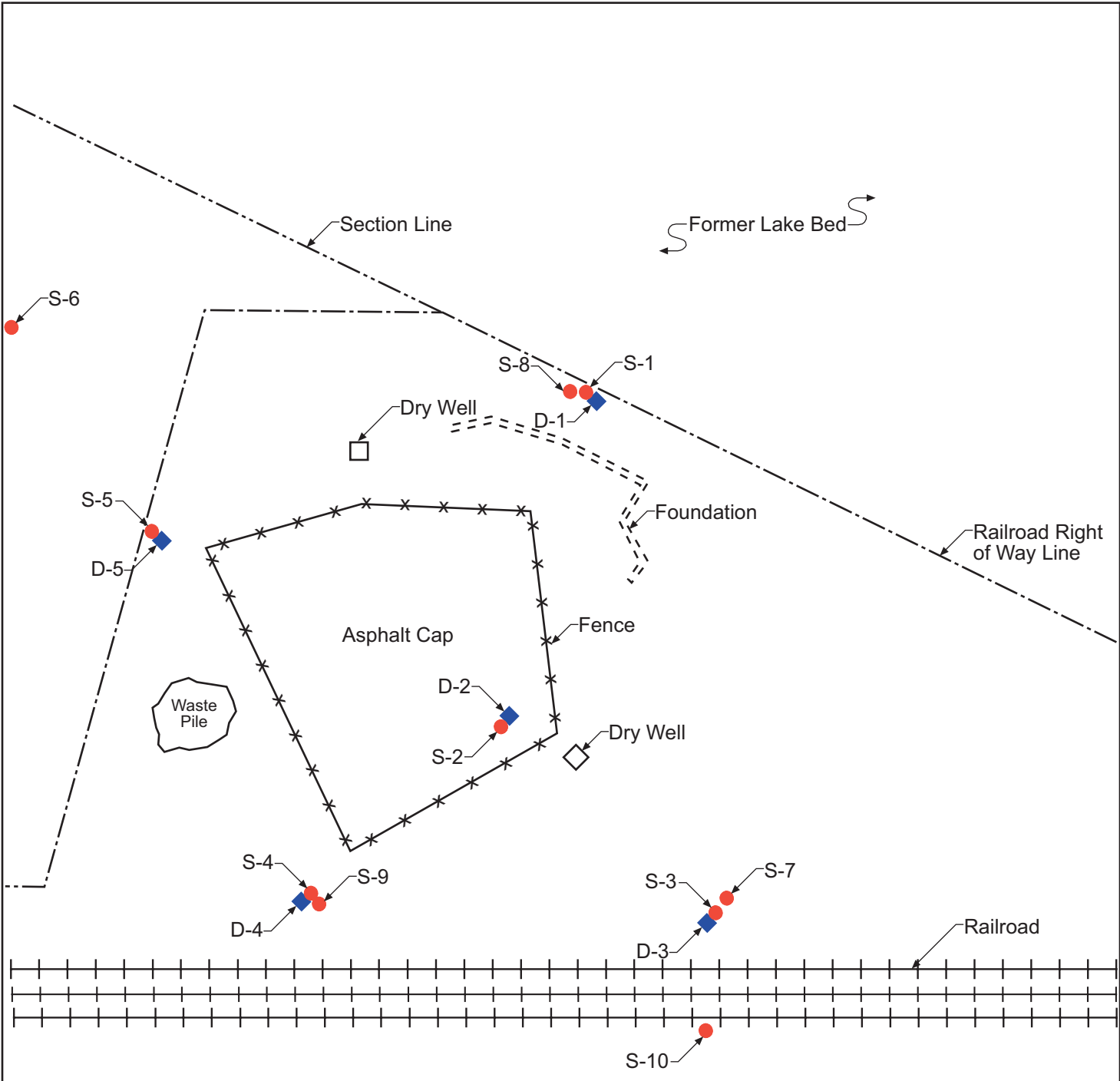
Figure #
Well Location Map

ABC Company, Inc.

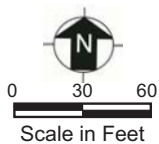
Date: XXXXXX Drawn By: Your Name Project No: #####


File Path

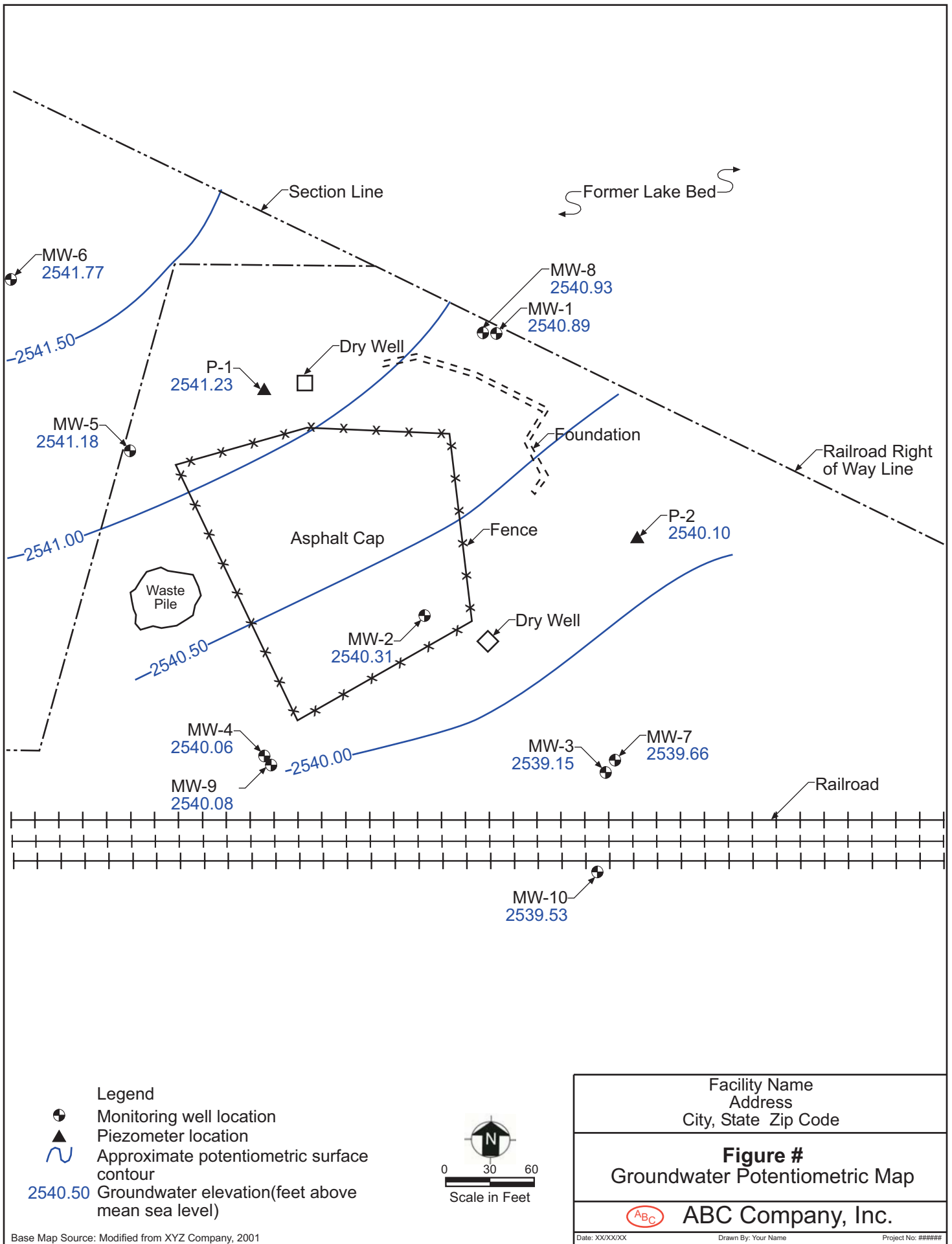
Base Map Source: Modified from XYZ Company, 2001



- Legend**
- Shallow soil sample location
 - ◆ Deep soil sample location



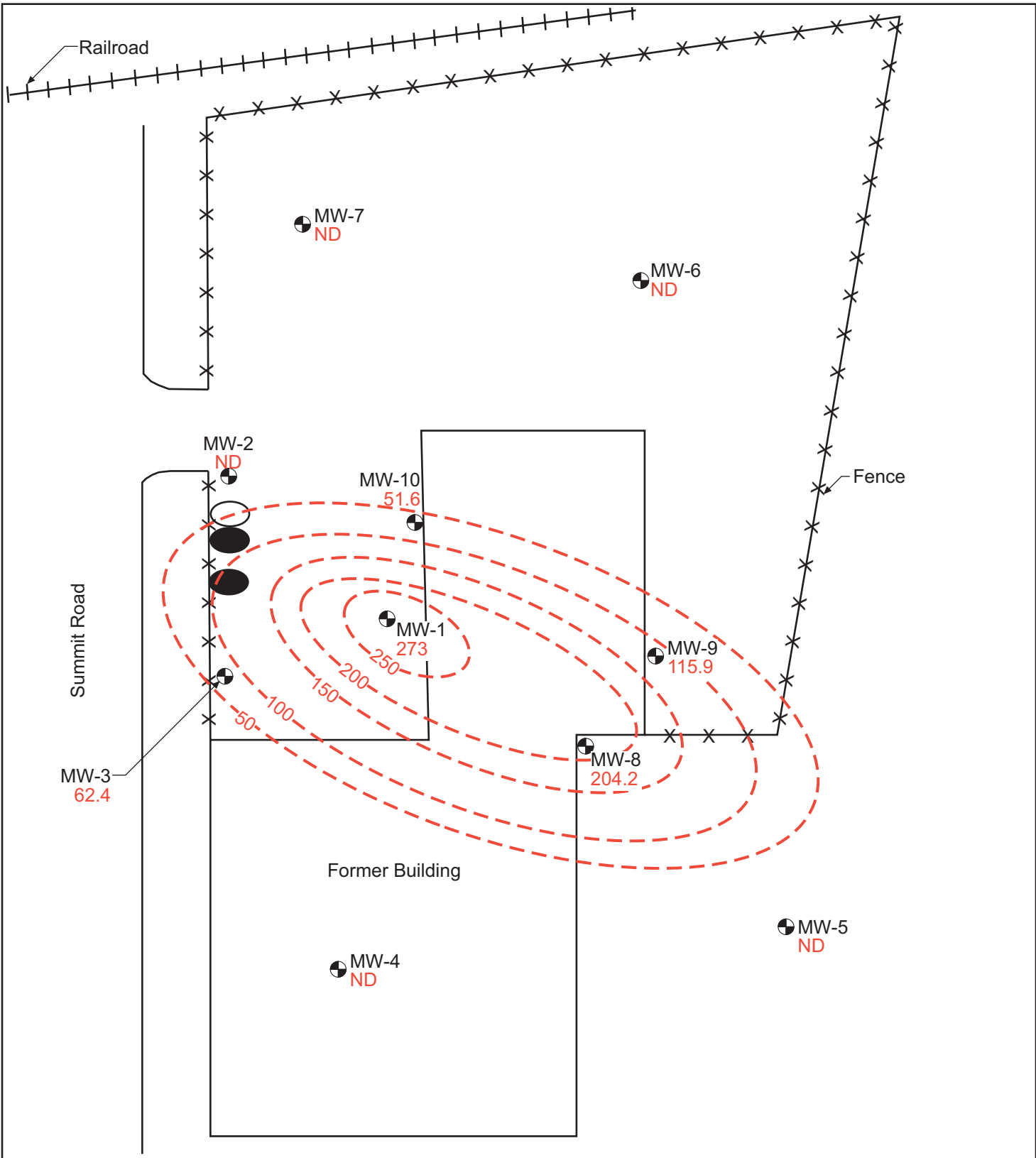
Facility Name Address City, State Zip Code
Figure # Soil Sampling Locations
 ABC Company, Inc.
<small>Date: XXXXXX Drawn By: Your Name Project No: #####</small>



Facility Name Address City, State Zip Code
Figure # Groundwater Potentiometric Map
ABC Company, Inc.
<small>Date: XXXXXX Drawn By: Your Name Project No: #####</small>

File Path

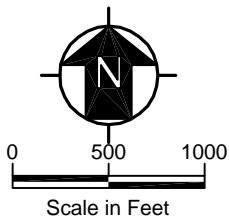
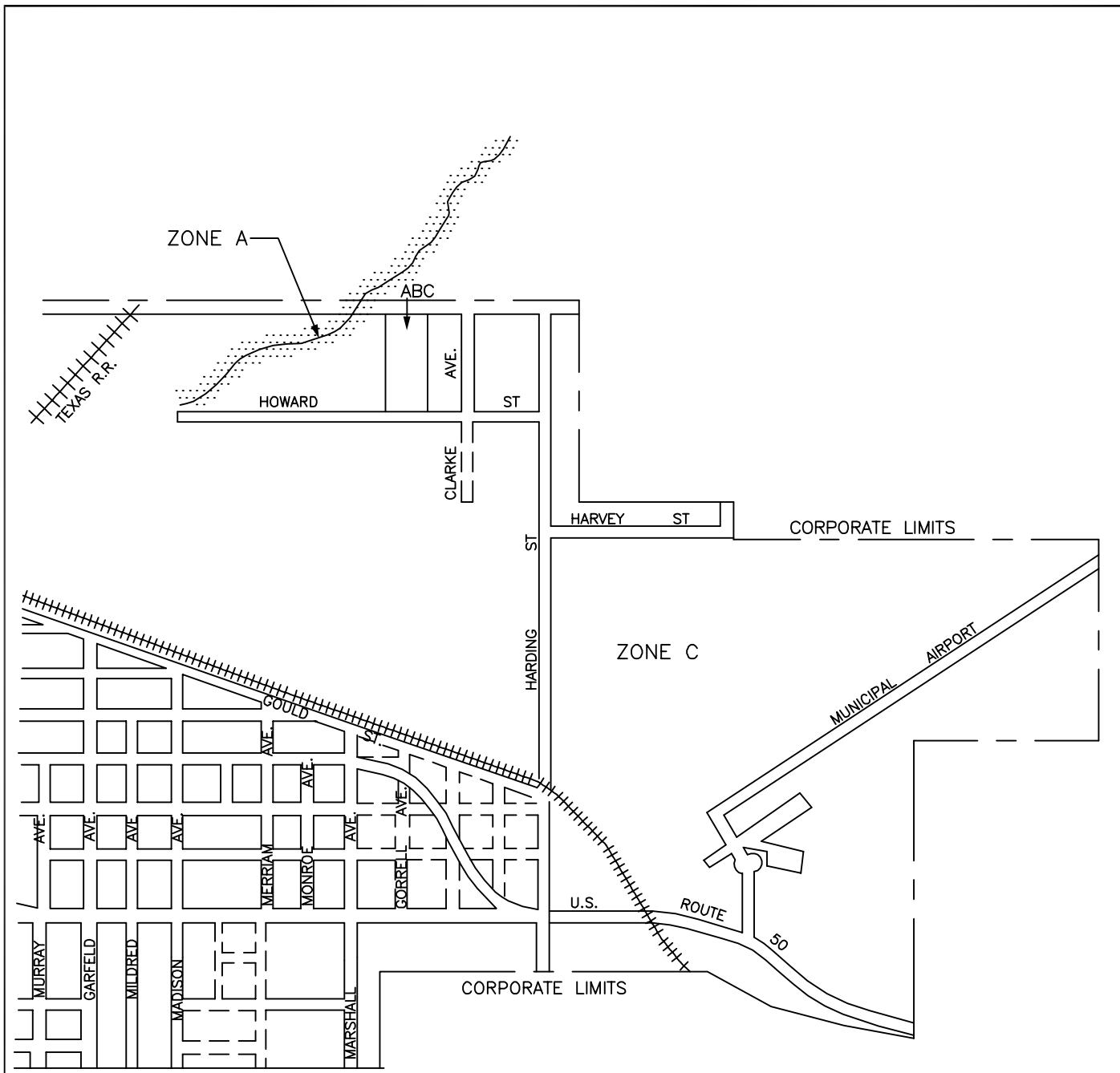
Base Map Source: Modified from XYZ Company, 2001




- Legend**
- Former UST
 - Former AST
 - ⊕ Monitoring well
 - MW-4 Monitoring well ID
 - ND Not detected
 - - - Approximate benzene isocontour
 - 999 Benzene concentration



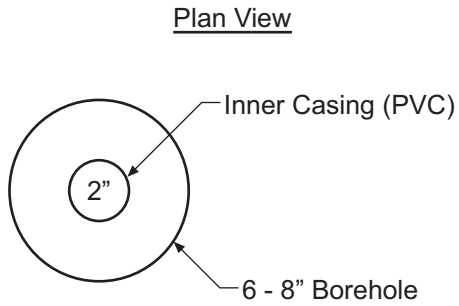
Facility Name Address City, State Zip Code
Figure # Contaminant Plume Isoconcentration Map
ABC Company, Inc.
Date: XXXXXX Drawn By: Your Name Project No: #####



Facility Name Address City, State Zip Code
Figure # Flood Plain Map
 ABC Company, Inc.
<small>Date: XX/XX/XX Drawn By: Your Name Project No: #####</small>

File Path:
 Source: Modified from FEMA 1985

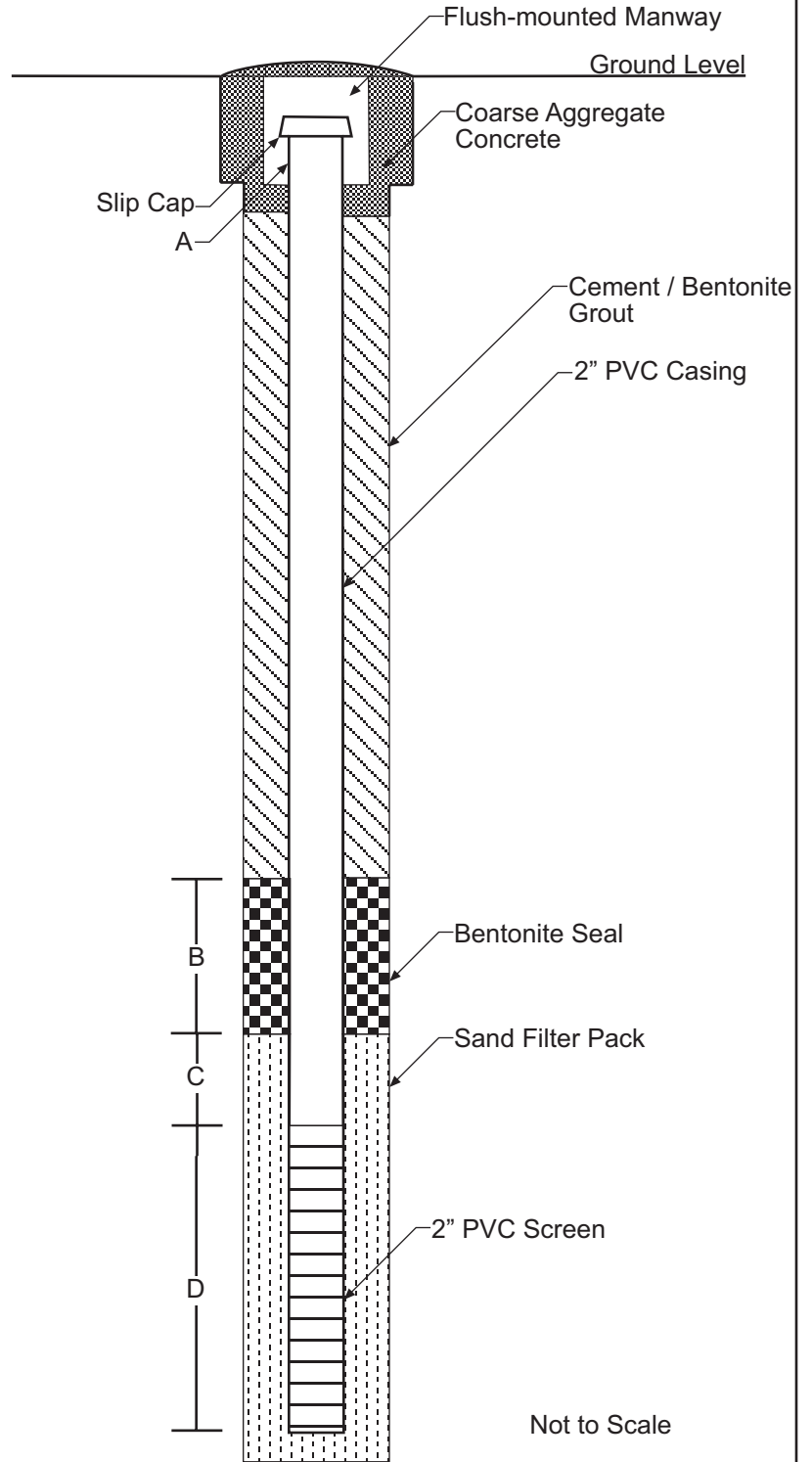
Well Construction Detail



Construction Data

Casing Length: Site Specific
 Casing Diameter: 2 in.
 Casing Material: Schedule 40 PVC
 Screen Size: 0.010 in.
 Sand Size: 10-20
 Screen Material: Schedule 40 PVC
 Continuous Wrap

- A. Casing Elevation: 0 - 6 in. Below Grade
- B. Bentonite Thickness: 3 ft.
- C. Sand Depth Above Screen: 2 ft.
- D. Screen Length: 10 ft.



Facility Name
 Address
 City, State Zip Code

Figure #
 Monitoring Well Construction Detail

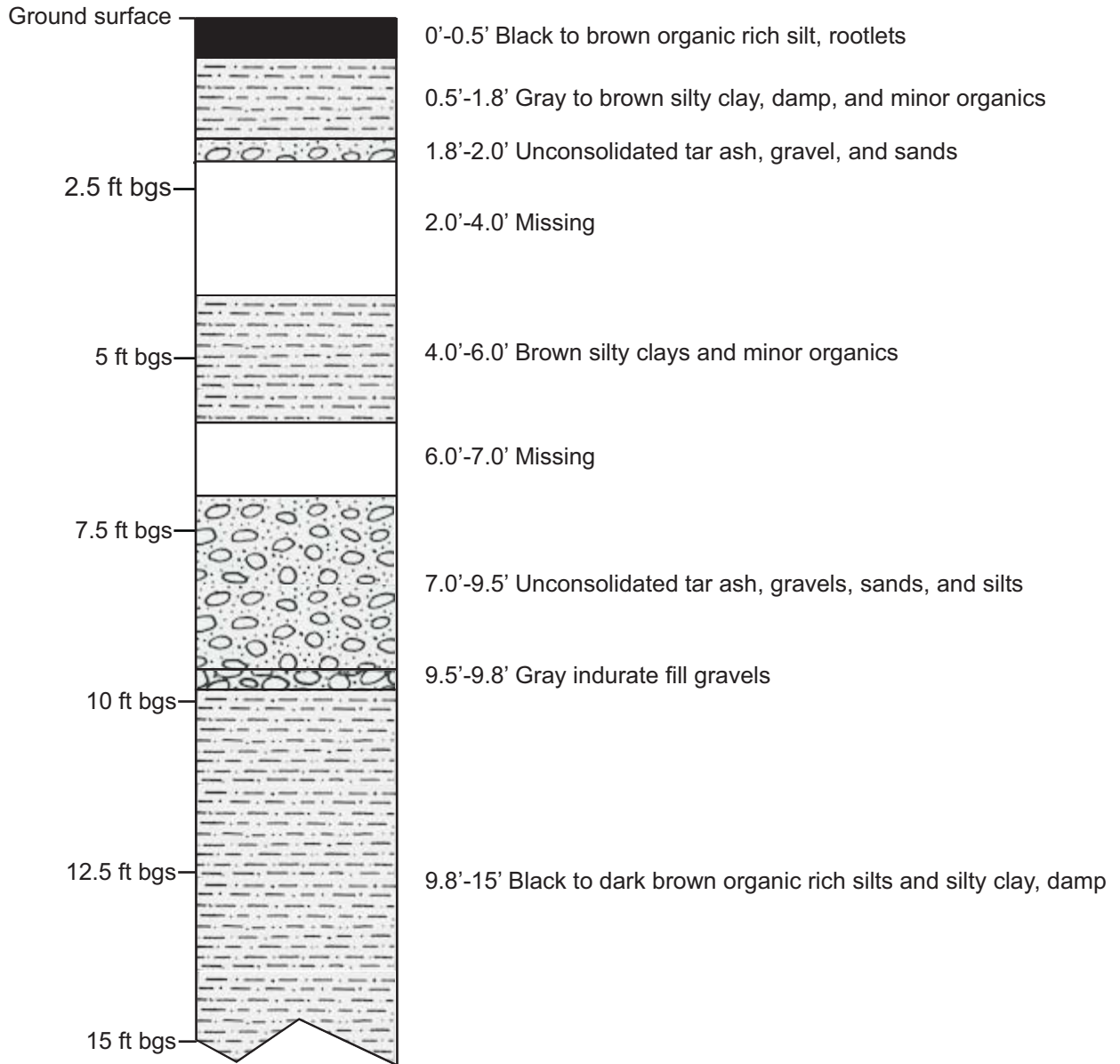



ABC Company, Inc.

Date: #####

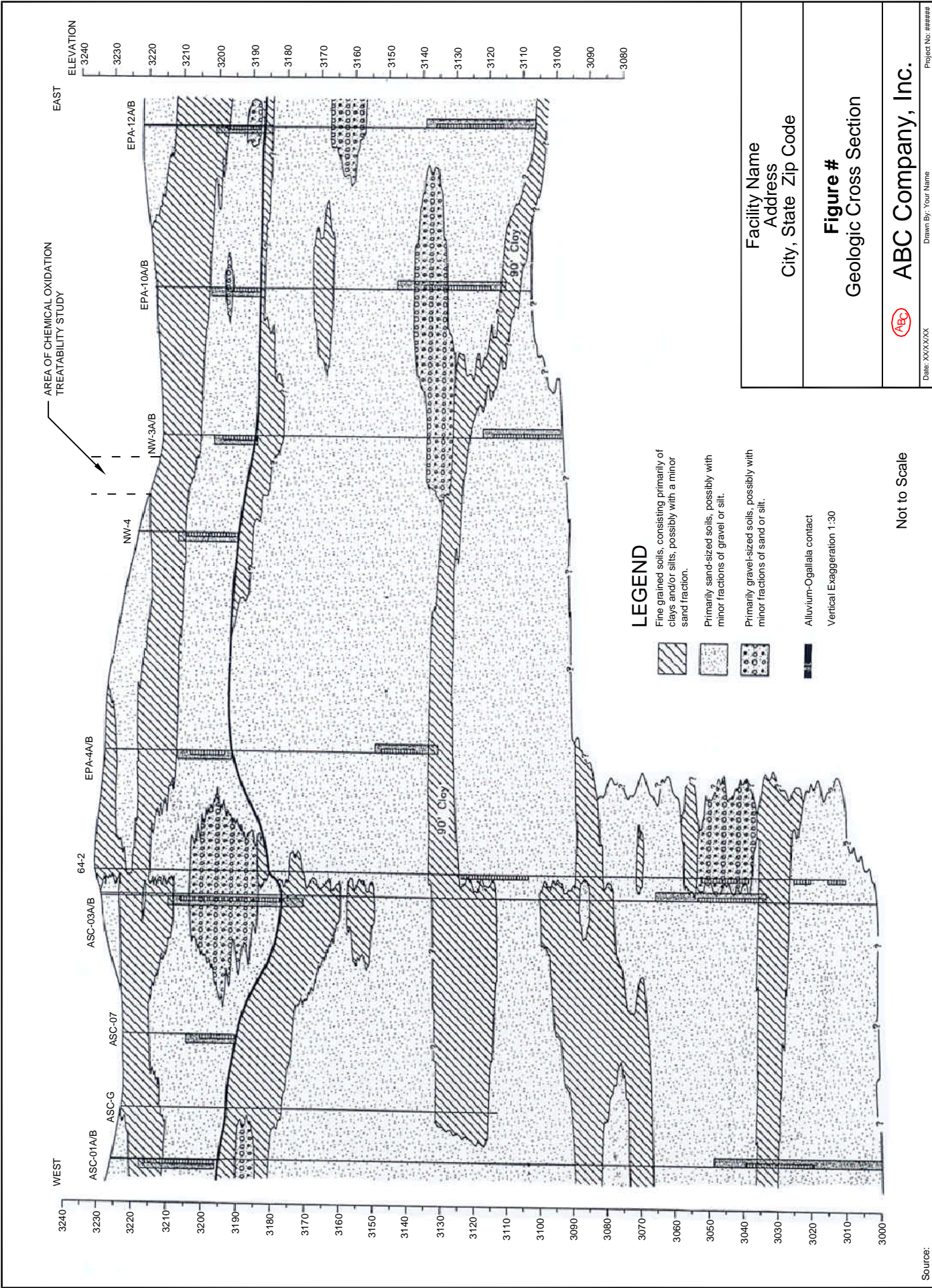
Drawn By: Your Name

Project No: #####



Facility Name Address City, State Zip Code
Figure # Generalized Stratigraphic Column
 ABC Company, Inc.
Date: XXXX/XX/XX Drawn By: Your Name Project No: #####

Note: bgs abbreviation for below ground surface



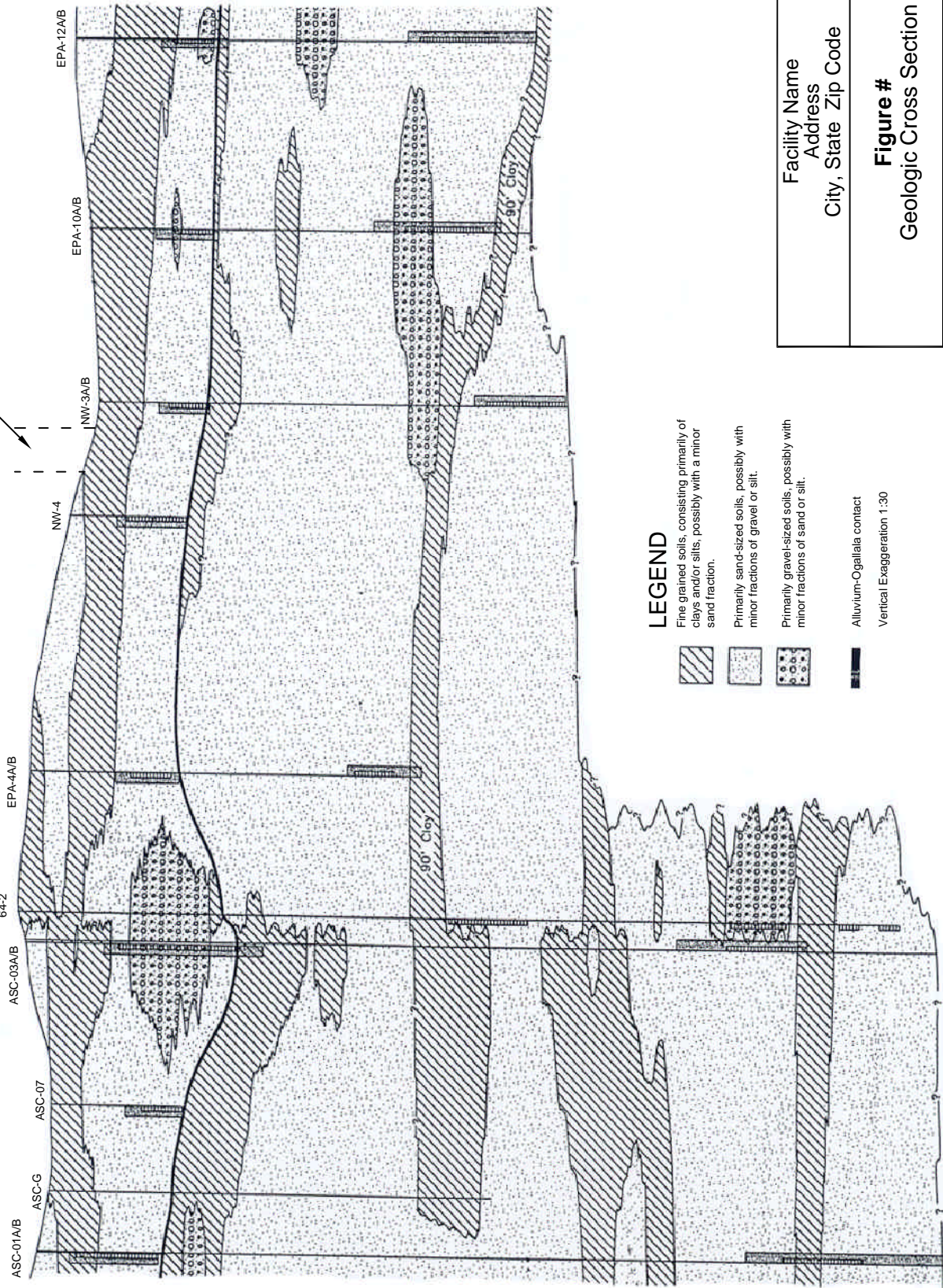
AREA OF CHEMICAL OXIDATION TREATABILITY STUDY

ELEVATION
3240
3230
3220
3210
3200
3190
3180
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080





WEST

3240
3230
3220
3210
3200
3190
3180
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000

EAST



LEGEND

-  Fine grained soils, consisting primarily of clays and/or silts, possibly with a minor sand fraction.
-  Primarily sand-sized soils, possibly with minor fractions of gravel or silt.
-  Primarily gravel-sized soils, possibly with minor fractions of sand or silt.
-  Alluvium-Ogallala contact

Vertical Exaggeration 1:30

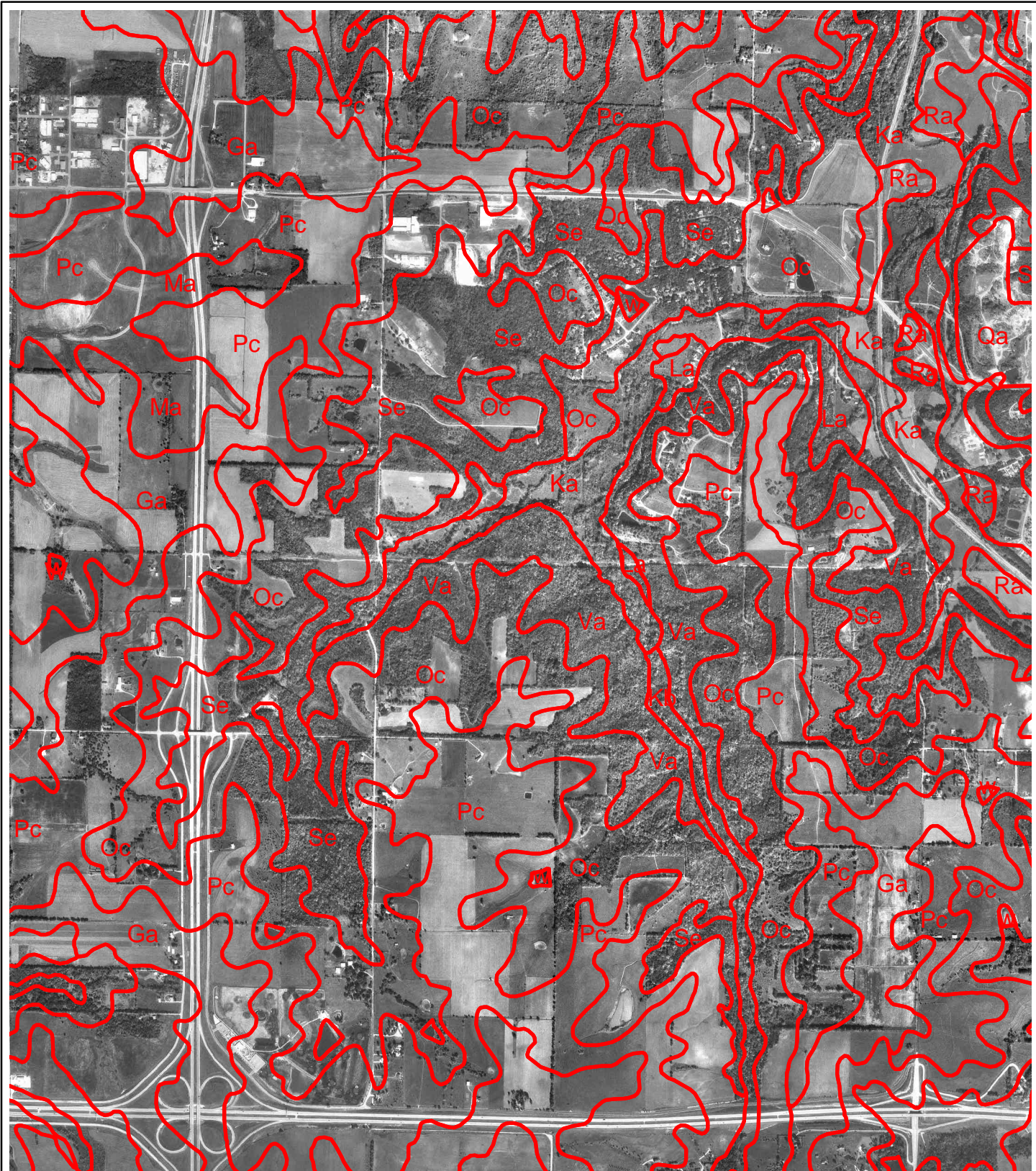
Facility Name
Address
City, State Zip Code

Figure #
Geologic Cross Section



ABC Company, Inc.

Not to Scale



Legend

- Oc Oska-Martin Silty Clay Loam
- Va Vinland-Rock Outcrop Complex
- Pc Polo Silt Loam
- Ma Martin Silty Clay Loam
- Ka Kennebec Silt Loam
- La Ladoqg Silt Loam



2000 0 2000 Feet



Facility Name
Address
City, State Zip Code

Figure #
Soil Survey



ABC Company, Inc.

This page intentionally left blank.