OMB No. 2040-0042 Approval Expires 11/30/2014

United States Environmental Protection Agency

# **Underground Injection Control**

I. EPA ID Number							
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U							

Permit Appli (Collected under the authority Water Act. Sections 1421,						• hority of t	the Safe		J							
							Read A	ttached li For Offi		ns Before Sta e Only	arting					
Application approved Date received Permit Number mo day year									nber	Well ID FINDS Number						
II. Owner Name and Address  Owner Name  Owner Name																
Owner Name								Owner Hallie								
Street	Address						Phor	ne Numbe	r Str	Street Address Phone Numb						
City					ZIP (	ZIP CODE City						State	ZIP CODE			
IN	/. Comm	ercial F	acility		V.	Ownership	)		VI. Le	gal Contact			V	II. SIC Codes		
	Yes No															
VIII. Well Status (Mark "x")																
	A Date Started B. Modification/Conversion C. Proposed Operating															
					I.	X. Type of I	Permit F	Requested	d (Mari	k "x" and spe	cify if r	required)				
A. Individual B. Area  Number of Existing Wells  Number of Proposed Wells  Name(s) of field(s) or project(s)																
X. Class and Type of Well (see reverse)																
A. Class(es) (enter code(s))  B. Type(s) (enter code(s))  C. If class is "other" or type is code 'x,' explain  D. Number of wells per type (if area permit)																
			X	II. Locati	on of W	/ell(s) or Ap	proxin	nate Cent	er of Fiel	d or Project				XII. Indian	Lands (Mari	( 'x')
	Latitude	)	ı	Longitud	le	То	wnship	and Ran	ge					Yes		
Deg	Min	Sec	Deg	Min	Sec	Sec	Twp	Range	1/4 Sec	Feet From	Line	Feet Fro	m Line	No		
								XIII.	Attachm	ents						
(Complete the following questions on a separate sheet(s) and number accordingly; see instructions)  For Classes I, II, III, (and other classes) complete and submit on a separate sheet(s) Attachments AU (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application.																
XIV. Certification																
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)																
A. Nan	ne and Ti	tle (T	pe or P	rint)									B. Phor	ne No. <i>(Area</i>	Code and I	lo.)
C. Sig	nature												D. Date	Signed		

# **Well Class and Type Codes**

Class I Wells used to inject waste below the deepest underground source of drinking

water.

Type "I" Nonhazardous industrial disposal well

"M" Nonhazardous municipal disposal well

"W" Hazardous waste disposal well injecting below USDWs"X" Other Class I wells (not included in Type "I," "M," or "W")

Class II Oil and gas production and storage related injection wells.

Type "D" Produced fluid disposal well

"R" Enhanced recovery well

"H" Hydrocarbon storage well (excluding natural gas)

**"X"** Other Class II wells (not included in Type "D," "R," or "H")

Class III Special process injection wells.

Type "G" Solution mining well

**"S"** Sulfur mining well by Frasch process

"U" Uranium mining well (excluding solution mining of conventional mines)

"X" Other Class III wells (not included in Type "G," "S," or "U")

Other Classes Wells not included in classes above.

Class V wells which may be permitted under §144.12. Wells not currently classified as Class I, II, III, or V.

# **Attachments to Permit Application**

# Class Attachments I new well A, B, C, D, F, H – S, U existing A, B, C, D, F, H – U II new well A, B, C, E, G, H, M, Q, R; optional – I, J, K, O, P, U existing A, E, G, H, M, Q, R, – U; optional – J, K, O, P, Q III new well A, B, C, D, F, H, I, J, K, M – S, U existing A, B, C, D, F, H, J, K, M – U

Other Classes To be specified by the permitting authority

## **INSTRUCTIONS - Underground Injection Control (UIC) Permit Application**

Paperwork Reduction Act: The public reporting and record keeping burden for this collection of information is estimatedo average 224 hours for a Class I hazardous well application, 110 hours for a Class I non-hazardous well application,67 hours for a Class II well application, and 132 hours for a Class III well application. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collectingvalidating, and verifying information, processing and maintaining information, and disclosing andproviding information; adjust the existing ways to comply with any previously applicable instructions and requirements,train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection finformation unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, DC 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

This form must be completed by all owners or operators of Class I, II, and III injection wells and others who may be directed to apply for permit by the Director.

- I. EPA I.D. NUMBER Fill in your EPA Identification Number. If you do not have a number, leave blank.
- II. OWNER NAME AND ADDRESS Name of well, well field or company and address.
- III. OPERATOR NAME AND ADDRESS Name and address of operator of well or well field.
- IV. COMMERCIAL FACILITY Mark the appropriate box to indicate the type of facility.
- **V. OWNERSHIP** Mark the appropriate box to indicate the type of ownership.
- VI. LEGAL CONTACT Mark the appropriate box.
- VII. SIC CODES List at least one and no more than four Standard Industrial Classification (SIC) Codes that best describe the nature of the business in order of priority.
- VIII. WELL STATUS Mark Box A if the well(s) were operating as injection wells on the effective date of the UIC Program for the State. Mark Box B if wells(s) existed on the effective date of the UIC Program for the State but were not utilized for injection. Box C should be marked if the application is for an underground injection project not constructed or not completed by the effective date of the UIC Program for the State.
- IX. TYPE OF PERMIT Mark "Individual" or "Area" to indicate the type of permit desired. Note that area permits are at the discretion of the Director and that wells covered by an area permit must be at one site, under the control of one person and do not inject hazardous waste. If an area permit is requested the number of wells to be included in the permit must be specified and the wells described and identified by location. If the area has a commonly used name, such as the "Jay Field," submit the name in the space provided. In the case of a project or field which crosses State lines, it may be possible to consider an area permit if EPA has jurisdiction in both States. Each such case will be considered individually, if the owner/operator elects to seek an area permit.
- X. CLASS AND TYPE OF WELL Enter in these two positions the Class and type of injection well for which a permit is requested. Use the most pertinent code selected from the list on the reverse side of the application. When selecting type X please explain in the space provided.
- XI. LOCATION OF WELL Enter the latitude and longitude of the existing or proposed well expressed in degrees, minutes, and seconds or the location by township, and range, and section, as required by 40 CFR Part 146. If an area permit is being requested, give the latitude and longitude of the approximate center of the area.
- XII. INDIAN LANDS Place an "X" in the box if any part of the facility is located on Indian lands.
- **XIII. ATTACHMENTS** Note that information requirements vary depending on the injection well class and status. Attachments for Class I, II, III are described on pages 4 and 5 of this document and listed by Class on page 2. Place EPA ID number in the upper right hand corner of each page of the Attachments.
- **CERTIFICATION** All permit applications (except Class II) must be signed by a responsible corporate officer for a corporation, by a general partner for a partnership, by the proprietor of a sole proprietorship, and by a principal executive or ranking elected official for a public agency. For Class II, the person described above should sign, or a representative duly authorized in writing.

EPA Form 7520-6 Page 3 of 6

#### **INSTRUCTIONS - Attachments**

Attachments to be submitted with permit application for Class I, II, III and other wells.

- **A. AREA OF REVIEW METHODS** Give the methods and, if appropriate, the calculations used to determine the size of the area of review (fixed radius or equation). The area of review shall be a fixed radius of 1/4 mile from the well bore unless the use of an equation is approved in advance by the Director.
- B. MAPS OF WELL/AREA AND AREA OF REVIEW Submit a topographic map, extending one mile beyond the property boundaries, showing the injection well(s) or project area for which a permit is sought and the applicable area of review. The map must show all intake and discharge structures and all hazardous waste treatment, storage, or disposal facilities. If the application is for an area permit, the map should show the distribution manifold (ifapplicable) applying injection fluid to all wells in the area, including all system monitoring points. Within the area of review, the map must show the following:

#### Class I

The number, or name, and location of all producing wells, injection wells, abandoned wells, dryholes, surface bodies of water, springs, mines (surface and subsurface), quarries, and other pertinent surface features, including residences and roads, and faults, if known or suspected. In addition, the map must identify those wells, springs, other surface water bodies, and drinking water wells located within one quarter mile of the facility property boundary. Only information of public record is required to be included in this map;

#### Class II

In addition to requirements for Class I, include pertinent information known to the applicant. This requirement does not apply to existing Class II wells;

#### Class III

In addition to requirements for Class I, include public water systems and pertinent information known to the applicant.

C. CORRECTIVE ACTION PLAN AND WELL DATA - Submit a tabulation of data reasonably available from public records or otherwise known to the applicant on all wells within the area of review, including those on the map required in B, which penetrate the proposed injection zone. Such data shall include the following:

#### Class I

Adescription of each well's types, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require. In the case of new injection wells, include the corrective action proposed to be taken by the applicant under 40 CFR 144.55.

#### Class II

In addition to requirement for Class I, in the case of Class II wellsoperating over the fracture pressure of the injection formation, all known wells within the area of review which penetrate formations affected by the increase in pressure. This requirement does not apply to existing Class II wells.

### Class III

In addition to requirements for Class I, the corrective action proposed under 40 CFR 144.55 for all Class III wells.

D. MAPS AND CROSS SECTION OF USDWs - Submit maps and cross sections indicating the vertical limits of all underground sources of drinking water within the area of review (both vertical and lateral limits for Class I), their position relative to the injection formation and the direction of water movement, where known, in every underground source of drinking water which may be affected by the proposed injection. (Does not apply to Class II wells.)

EPA Form 7520-6 Page 4 of 6

- **E. NAME AND DEPTH OF USDWs (CLASS II)** For Class II wells, submit geologic name, and depth to bottom of all underground sources of drinking water which may be affected by the injection.
- F. MAPS AND CROSS SECTIONS OF GEOLOGIC STRUCTURE OF AREA Submit maps and cross sections detailing the geologic structure of the local area (including the lithology of injection and confining intervals) and generalized maps and cross sections illustrating the regional geologic setting. (Does not apply to Class II wells.)
- **G. GEOLOGICAL DATA ON INJECTION AND CONFINING ZONES (Class II)** For Class II wells, submit appropriate geological data on the injection zone and confining zones including lithologic description, geological name, thickness, depth and fracture pressure.
- H. OPERATING DATA Submit the following proposed operating data foreach well (including all those to be covered by area permits): (1) average and maximum daily rate and volume of the fluids to be injected; (2) average and maximum injection pressure; (3) nature of annulus fluid; (4) for Class I wells, source and analysis of the chemical, physical, radiological and biological characteristics, including density and corrosiveness, of injection fluids; (5) for Class II wells, source and analysis of the physical anothemical characteristics of the injection fluid; (6) for Class III wells, a qualitative analysis and ranges in concentrations of all constituents of injected fluids. If the information is proprietary, maximum concentrations only may be submitted, but all records must be retained.
- I. FORMATION TESTING PROGRAM Describe the proposed formation testing programFor Class I wells the program must be designed to obtain data on fluid pressure, temperature, fracture pressure, other physical, chemical, and radiological characteristics of the injection matrix and physical and chemical characteristics of the formation fluids.

For Class II wells the testing program must be designed to obtain data on fluid pressure, estimated fracture pressure, physical and chemical characteristics of the injection zone. (Does not apply to existing Class II wells or projects.)

For Class III wells the testing must be designed to obtain data on fluid pressure, fracture pressure, and physical and chemical characteristics of the formation fluids if the formation is naturally water bearing. Only fracture pressure is required if the program formation is not water bearing. (Does not apply to existing Class III wells or projects.)

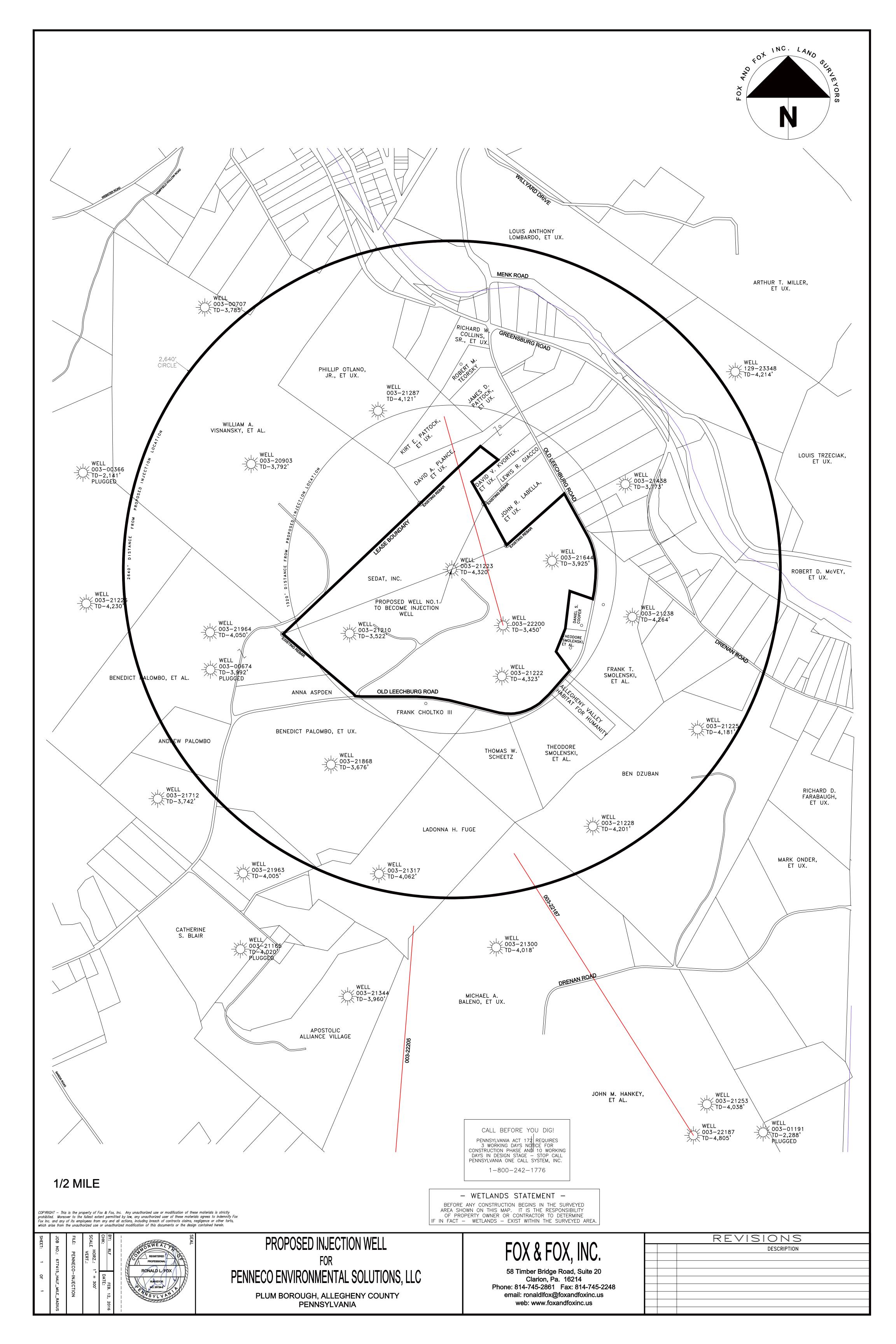
- J. STIMULATION PROGRAM Outline any proposed stimulation program.
- K. INJECTION PROCEDURES Describe the proposed injection procedures including pump, surge, tank, etc.
- L. CONSTRUCTION PROCEDURES Discuss the construction procedures (according to §146.12 for Class I, §146.22 for Class II, and §146.32 for Class III) to be utilized. This should include details of the casing and cementing program, logging procedures, deviation checks, and the drilling, testing and coring program, and proposed annulus fluid. (Request and submission of justifying data must be made to use an alternative to packer for Class I.)
- M. CONSTRUCTION DETAILS Submit schematic or other appropriate drawings of the surface and subsurface construction details of the well.
- N. CHANGES IN INJECTED FLUID Discuss expected changes in pressure, native fluid displacement, and direction of movement of injection fluid. (Class III wells only.)
- **O. PLANS FOR WELL FAILURES** Outline contingency plans (proposed plans, if any, for Class II) to cope with all shut-ins or wells failures, so as to prevent migration of fluids into any USDW.
- P. MONITORING PROGRAM Discuss the planned monitoring program. This should be thorough, including maps showing the number and location of monitoring wells as appropriate and discussion of monitoring devices, sampling frequency, and parameters measured. If a manifold monitoring program is utilized, pursuant to §146.23(b)(5), describe the program and compare it to individual well monitoring.
- Q. PLUGGING AND ABANDONMENT PLAN Submit a plan for plugging and abandonment of the well including: (1) describe the type, number, and placement (including the elevation of the top and bottom) of plugs to be used; (2) describe the type, grade, and quantity of cement to be used; and (3) describe the method to be sed to place plugs, including the method used to place the wellin a state of static equilibrium prior to placement of the plugs. Also for a Class III well that underlies or is in an exempted aquifer, demonstrate adequate protection of USDWs. Submit this information on EPA Form 7520-14, Plugging and Abandonment Plan.

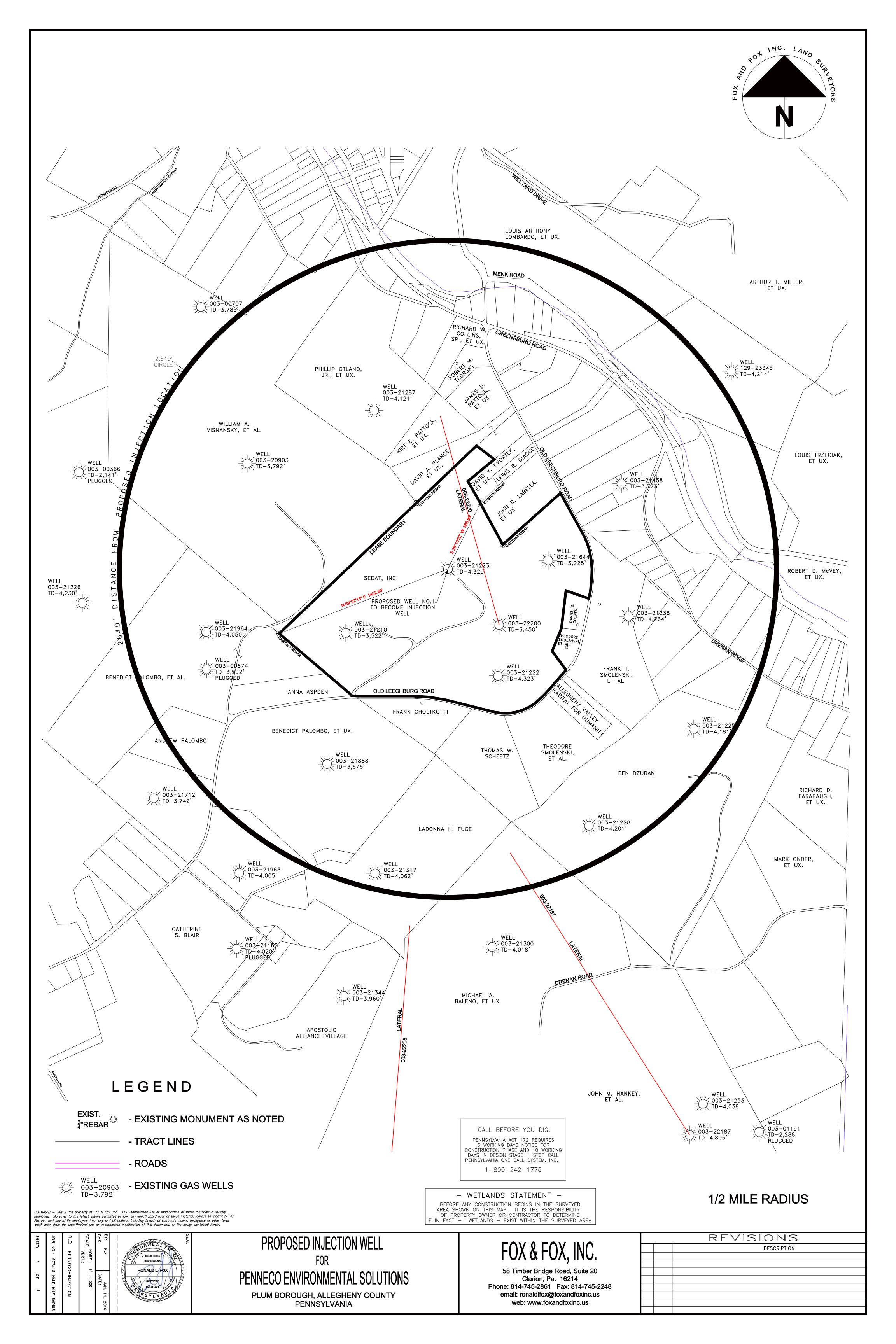
EPA Form 7520-6 Page 5 of 6

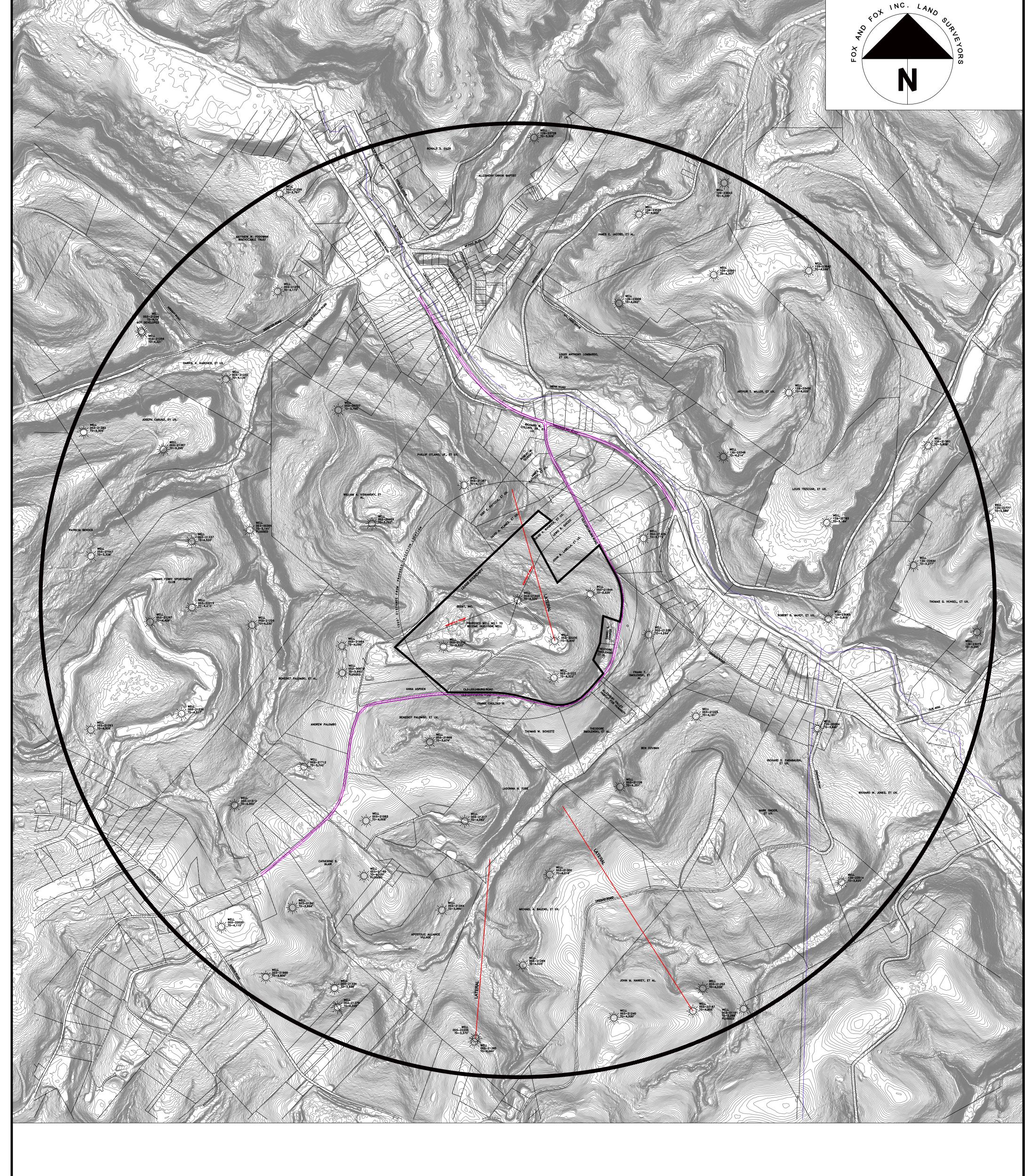
- **R. NECESSARY RESOURCES** Submit evidence such as a surety bond or financial statement to verify that the resources necessary to close, plug or abandon the well are available.
- S. AQUIFER EXEMPTIONS If an aquifer exemption is requested, submit data necessary to demonstrate that theaquifer meets the following criteria: (1) does not serve as a source of drinking water; (2) cannot now and will not in the future serve as a source of drinking water; and (3) the TDS content of the ground water is more and 3,000 and less than 10,000 mg/l and is not reasonably expected to supply a public water system. Data to demonstrate that the aquifer is expected to be mineral or hydrocarbon production, such as general description of themining zone, analysis of the amenability of the mining zone to the proposed method, and time table for proposed development must also be included. For additional information on aquifer exemptions, see 40 CFR Sections 144.7 and 146.04.
- **T. EXISTING EPA PERMITS** List program and permit number of any existing EPA permits, for example, NPDES, PSD, RCRA, etc.
- **U. DESCRIPTION OF BUSINESS** Give a brief description of the nature of the business.

EPA Form 7520-6 Page 6 of 6

ATTACHMENT "A" Area of Review Methods







1 MILE RADIUS

CALL BEFORE YOU DIG!

PENNSYLVANIA ACT 172 REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE — STOP CALL
PENNSYLVANIA ONE CALL SYSTEM, INC.

1-800-242-1776

- WETLANDS STATEMENT 
BEFORE ANY CONSTRUCTION BEGINS IN THE SURVEYED

AREA SHOWN ON THIS MAP. IT IS THE RESPONSIBILITY

OF PROPERTY OWNER OR CONTRACTOR TO DETERMINE

IF IN FACT - WETLANDS - EXIST WITHIN THE SURVEYED AREA.

LEGEND

EXIST.

3"REBAR O - EXISTING MONUMENT AS NOTED

- TRACT LINES

- ROADS

WELL 003-20903 - EXISTING GAS WELLS TD-3,792'

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BY: RLF
CHK:

BY: RLF
CHK:

SCALE

FILE:

PENNECO—INJECTION

SHEET:

1 OF

1

SHEET:

1 OF

1

PROPOSED INJECTION WELL FOR PENNECO ENVIRONMENTAL SOLUTIONS, LLC

PLUM BOROUGH, ALLEGHENY COUNTY
PENNSYLVANIA

FOX & FOX, INC.

58 Timber Bridge Road, Suite 20 Clarion, Pa. 16214 Phone: 814-745-2861 Fax: 814-745-2248 email: ronaldlfox@foxandfoxinc.us web: www.foxandfoxinc.us

REVISIONS
DESCRIPTION

