

Attachment "O"
Preparedness, Prevention and Contingency Plan
Zelman#1 Injection Well

The following PPC plan is designated site specific for the Windfall Oil & Gas Inc Zelman #1 Injection facility.

I. Description of Operations

The Facility will be permitted a Class II Type D injection well and is located in Brady Township, Clearfield County. See Attachment "B" for specific location. The well will be used to dispose of produced gas well fluids into the Chert/Oriskany formation at a depth of 7306 feet below ground level.

The Permit will be issued to:
Windfall Oil & Gas Inc.
63 Hill Street
Falls Creek, PA 15840

Responsible Officials and Organizational Structure

Michael Hoover – President	(814) 771-9686
Karen Hoover – Vice President	(814) 771-8318
The 24 hour contact number is:	(814) 771-9686

II. Companies History of Pollution Control

None

III. Pollution Prevention Measures

1. Location Construction for drilling purposes will be in accordance with the site specific Erosion and Sediment Control plan designed by Environmental Wells Development. See attached plan.
2. Produced fluids stored for disposal will be in epoxy lined steel tanks. All operations will be conducted on a concrete pad with a retaining walls to serve as secondary containment. The dyke will be designed to contain a minimum of 1.5 times the stored fluid volume.
3. The discharge manifold for unloading of the vacuum trucks will be designed so any discharge from the hoses will be contained in a concrete sump and pumped to the tanks battery.
4. All piping will be pressure tested prior to operation.
5. A high/low pressure kick out switch will be installed on the injection pump.

6. A relief valve on the pump discharge will be piped to the stored fluids containment.
7. A back pressure valve will be installed at the wellhead.
8. A fence will be erected around the facility to protect from third party acts.
9. A visual inspection of the site will be made daily to insure no environmental problems exist.
10. A quarterly inspection will be made of the tanks, filters, pumps, piping and wellhead to verify integrity.

Hazardous Material

The following chemicals will be used in the pretreatment phase of the operation:

Oxygen Scavenger	Fe Ox Clear
Surfactant/Corrosion Inhibitor	Alpha 3207
Corrosion Inhibitor	Alpha 2278W

Material safety data sheets are included in this section.

The following equipment will be available:

Water and Mud Pumps	Filter fabric and hay bales
Dozers& Backhoes	Vacuum trucks
Dump Trucks	Oil absorbent materials
Tractor trailers for equipment transport	Storage tank

The following Contractors will supply the equipment and materials listed above

Windfall Oil & Gas Inc.	(814) 771-9686
Miller Supply	(724) 465-8875
Multi Production Services	(724) 422-7525

Reporting

Any spill will be reported by: Michael Hoover
President, Windfall Oil & Gas Inc.

1. EPA (oral within 24 hrs and written with 5 days)
US EPA Region 3
1650 Arch Street
Philadelphia, Pennsylvania 19106
(215) 814-5445
2. PA DEP
Pittsburgh Region
400 Waterfront Street
Pittsburgh, Pa 15221
(412) 442-4000

3. PA Fish Commission

Bill Sabatose, Commissioner
North Central Region Office
1150 Spring Creek Road
Bellefonte, PA 16823
(412) 359-5250

IV Personnel Training

The responsible officials shall be trained in:

Implementation of Sediment Control Plans

Construction Techniques for high pressure piping

Emergency Procedures in case of Spillage of Pollutants

V Method of Identification

A permanent identification sign will be installed at the entrance to the facility. The sign shall include the facility name, company name, permit number and the 24 hour emergency number.

EROSION AND SEDIMENT CONTROL PLAN

for the

ZELMAN WELL NO. 1

Brady Township, Clearfield County

Prepared For:

WINDFALL OIL & GAS

63 Hill Street

Falls Creek, PA 15840

(814) 590-1985

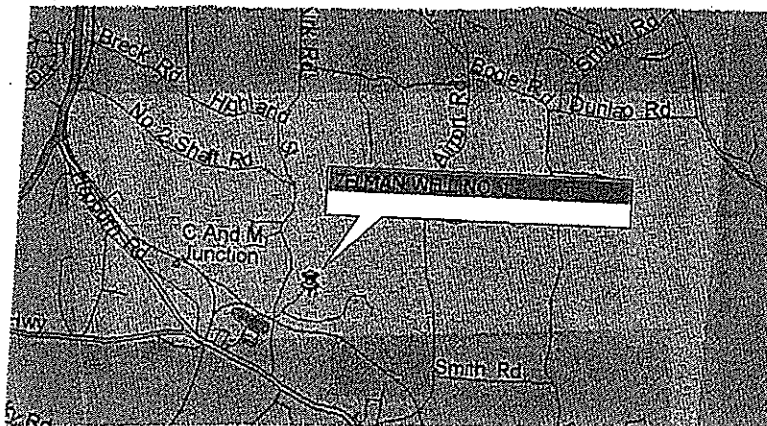
Prepared By:

Environmental Wells Development, Inc.

P.O. Box 772

Indiana, PA 15701

(724) 349-4470



March 18, 2012

GENERAL DESCRIPTION:

This project consists of the construction of 625 feet of access road and the excavation and grading of a site for the purpose of drilling a gas well in **Brady Township, Clearfield County**. The expected starting date will be on or about March 25, 2012. The expected completion date will be approximately nine months after completion of the well.

The staging sequence for the project will be as follows:

1. Prior to any earthmovement activity, all erosion and sediment controls (BMP's) at all streams, springs, and other sensitive areas will be installed.
2. Perform any brushing and/or clearing, if needed.
3. Earthmovement activities will begin with all culverts and drainage facilities (BMP's) installed with proper erosion and sediment controls (BMP's) installed. Rock fill will be installed as needed.
4. Well operations will be performed and completed.
5. The well site will be backfilled and all disturbed areas, including the cut and fill slopes of the access road, will be graded and immediately seeded and mulched.
6. All (BMP's) not needed for stabilization will be removed while all others will remain and be maintained until permanent stabilized.

STAGING AND CONSTRUCTION METHODS:

The well site is located in wooded areas with the access road leaving an existing private road and traveling over wooded and grassed areas to the well site. At the time of the field reconnaissance, the existing roadway will require only light grading with no changes to the drainage patterns and therefore is not part of this part. Under normal condition and Best Management Practices, the existing roadway should be in accordance with Chapter 102. **Note: Access roads leaving a paved road will have a clean rock entrance pad, 50 feet from the point of entry off the main road.**

Clearing and Brushing: The removal of trees and brush will be required to allow for the construction of portions of the project area. Savable trees will be cut and stacked along the site and will be accessible for removal. The brush will be burnt or stacked and compacted along the project area to serve as energy dissipators and filtration. Stumps removed from the project area will be buried, if permitted, or stacked and compacted along the perimeter of the project area. **Note: All brush and stumps must be within the sediment filtering devices boundary.**

Access Road: Where necessary, portions of the topsoil and/or excess material from the access road will be stripped and stored along the uphill side of the access road. The excess material will serve as diversion terraces and will be used during restoration. The access road will be constructed along natural contours, where possible, insloped at approximately 3 percent and constructed using a cut/fill method. The roadway will be crowned in flat areas. The access road drainage will be directed along roadside ditches, as per drawing. The installation of culverts will be required to allow the natural runoff as well as the access road drainage across the road. The discharge from the control facilities (BMP's) will be directed through siltation socks or filter fabric fence. When culverts are used, the installation of ditch line blocks will be required at the culvert's inflow end to direct the drainage through the culverts. Side slopes of six percent or greater will require the installation of larger-sized rocks at the discharge end of the culverts, to serve as energy dissipaters.

Well Site: Where practical, portions of the topsoil and/or excess material from the well site will be stripped and stored generally along the well site to serve as a diversion terrace and to be used during restoration. The well site will be constructed using a cut/fill method with the balance of the excess material being used as fill. The well site may require rock fill for stabilization. The on-site drainage will be directed toward an interceptor ditch at 1% and from there directed generally northwest and discharged through sediment filtering devices (BMPs) such as filter fabric fence or siltation socks. The drilling sumps will be constructed on-site of the well site, as per drawing. (Note: Site specific investigation will be performed to determine the actual depth to the seasonal high water table. If water is encountered which result in the water table being less than 20" below the bottom of the drilling sumps, alternate waste disposal methods will be performed, in compliance with 25 Pa Code § 78.56.)

SOILS:

The soil series for the well site is classified as Rayne-Gilpin complex, 15 to 25% slopes. This series consists of deep, well drained soils on uplands. They formed in material weathered from shale, siltstone, and sandstone. Bedrock is at a depth of 54 inches. The soil has an erosion factor of .20 and therefore the soil is considered erosion resistant. It is considered poor for road fill. (See Soil Report.)

CONTINGENCY CONDITIONS AND DISPOSAL PLAN:

In the course of earthmovement activities and/or drilling operations, conditions not anticipated may require the revision of the plan. If changes are required, the plan will be revised by the preparer or company field representative to reflect the project changes. The control and disposal of the generated wastes from the drilling, alteration, production, plugging, or other associated activities will be consistent with the regulations as set forth in Sections 78.55 thru 78.63 of Act 22.

BACKFILL AND RESTORATION PLAN:

Upon completion of the drilling activities, all disturbed areas will **immediately** be backfilled, graded, seeded and mulched. The disturbed areas will be graded to conform generally to the surrounding contours. Topsoil will be replaced and dressed. A level area at the well will be maintained to allow future service and access to the well. **An interceptor ditch will be installed along the toe of the cut slope along the maintenance pad to direct upslope runoff around the pad. The drainage will be discharged either through natural ground cover of grass or sediment filtering devices.** The site surface, where applicable, will be scarified with disc or other suitable implement unless soil has been completely worked since the last rainfall. Fertilizer will be applied at the rate/acre of 60 lbs. of Nitrogen, 100 lbs. of phosphorus, and 30 lbs. of potassium. All disturbed areas will be seeded with a mixture consistent with the **Penn State Erosion Control & Conservation Plantings on Noncropland manual.** A general seeding mixture is: Johnstone tall fescue (30 lbs./acre), Birdsfoot Trefoil (6 lbs./ acre), and redbud (3 lbs./acre). (Prior to seeding, lime ground limestone) will be applied at the rate of 4 tons/acre. After seeding, these areas will be mulched with hay or straw at the rate of 2-1/2 to 3 tons per acre.

All temporary controls will remain in place and be maintained until the well site and disturbed areas of the access road are stabilized with a minimum of **uniform 70 % vegetative cover.** All culverts will be clean and clear to allow for drainage flow with all energy dissipators remaining in place, where necessary. If construction is delayed, temporary seeding measures will be applied immediately, as follows: annual ryegrass or annual field brome grass applied at the rate of 40 pounds per acre.

Maintenance of the BMPs is important to insure proper performance of the control facilities. Therefore, all BMPs will be checked weekly, at a minimum, and after each runoff event, until permanent stabilization has occurred. This will be performed by a company representative or designated representative. Failure of the erosion and sediment control devices will be corrected immediately in accordance with the E&S Pollution Control Program manual.

Surface Owner:

Frank & Susan Zelman

Operator:

**Windfall Oil & Gas
63 Hill Street
Falls Creek, PA 15840
(814) 590-1985
Contact: Mike Hoover**

078.766666° W

078.750000° W

078.733333° W

078.716666° W

41.100000° N

41.100000° N

41.083333° N

41.083333° N

41.066666° N

41.066666° N

Zelman Well No. 1

LUTHERSBURG QUADRANGLE

Salem

Limestone

Magnetic Declination



10° W

SCALE 1:24000

0 1 MILES

0 1000 YARDS

0 1 KILOMETER

078.766666° W

078.750000° W

078.733333° W

078.716666° W

Clearfield County, Pennsylvania

RbF—Rayne channery silt loam, 25 to 65 percent slopes

Map Unit Setting

Mean annual precipitation: 37 to 65 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 110 to 180 days

Map Unit Composition

Rayne and similar soils: 90 percent

Description of Rayne

Setting

Landform: Mountains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountaintop, upper third of
mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from shale and siltstone

Properties and qualities

Slope: 25 to 65 percent
Depth to restrictive feature: 40 to 72 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water
(Ksat): Moderately low to high (0.06 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability (nonirrigated): 7e

Typical profile

0 to 9 inches: Channery silt loam
9 to 38 inches: Channery silt loam
38 to 60 inches: Very channery silt loam
60 to 64 inches: Bedrock

Data Source Information

Soil Survey Area: Clearfield County, Pennsylvania
Survey Area Data: Version 6, Jul 31, 2009

Clearfield County, Pennsylvania

RcD—Rayne-Gilpin complex, 15 to 25 percent slopes

Map Unit Setting

Mean annual precipitation: 37 to 65 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 110 to 180 days

Map Unit Composition

Rayne and similar soils: 45 percent
Gilpin and similar soils: 40 percent

Description of Rayne

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from acid fine-grained sandstone, siltstone, and shale

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 40 to 72 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.6 inches)

Interpretive groups

Land capability (nonirrigated): 4e

Typical profile

0 to 8 inches: Channery silt loam
8 to 47 inches: Channery silty clay loam
47 to 55 inches: Channery sandy loam
55 to 59 inches: Bedrock

Description of Gilpin

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from acid fine-grained sandstone, siltstone, and shale

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 3.8 inches)

Interpretive groups

Land capability (nonirrigated): 4e

Typical profile

0 to 6 inches: Channery silt loam

6 to 24 inches: Channery silt loam

24 to 28 inches: Channery sandy loam

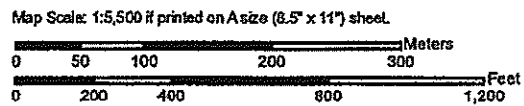
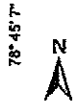
28 to 34 inches: Bedrock

Data Source Information

Soil Survey Area: Clearfield County, Pennsylvania

Survey Area Data: Version 6, Jul 31, 2009

Soil Map—Clearfield County, Pennsylvania
(Zelman Well No. 1)



MAP LEGEND

- | | | | |
|--|------------------------|--|-----------------------|
| | Area of Interest (AOI) | | Very Stony Spot |
| | Soils | | Wet Spot |
| | Soil Map Units | | Other |
| | Special Point Features | | Special Line Features |
| | Blowout | | Gully |
| | Borrow Pit | | Short Steep Slope |
| | Clay Spot | | Other |
| | Closed Depression | | Political Features |
| | Gravel Pit | | Cities |
| | Gravelly Spot | | Water Features |
| | Landfill | | Streams and Canals |
| | Lava Flow | | Transportation |
| | Marsh or swamp | | Ralls |
| | Mine or Quarry | | Interstate Highways |
| | Miscellaneous Water | | US Routes |
| | Perennial Water | | Major Roads |
| | Rock Outcrop | | Local Roads |
| | Saline Spot | | |
| | Sandy Spot | | |
| | Severely Eroded Spot | | |
| | Sinkhole | | |
| | Slide or Slip | | |
| | Sodic Spot | | |
| | Spoil Area | | |
| | Stony Spot | | |

MAP INFORMATION

Map Scale: 1:5,500 if printed on A size (8.5" x 11") sheet.
The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 17N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clearfield County, Pennsylvania
Survey Area Data: Version 6, Jul 31, 2008

Date(s) aerial images were photographed: Data not available.

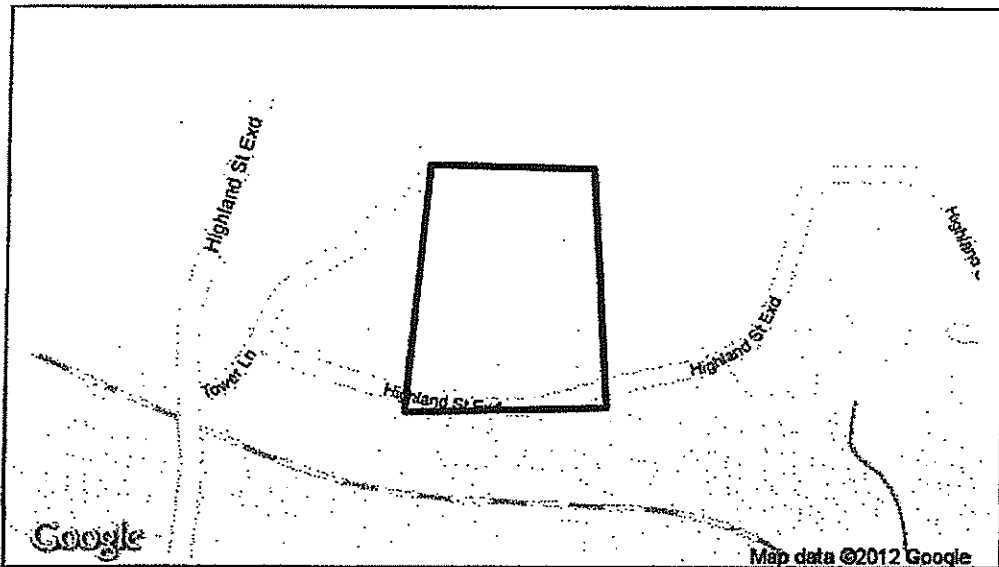
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Clearfield County, Pennsylvania (PA033)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BeB	Berks shaly silt loam, 3 to 8 percent slopes	4.0	3.4%
BeC	Berks shaly silt loam, 8 to 15 percent slopes	0.7	0.6%
CaB	Cavode silt loam, 3 to 8 percent slopes	12.7	10.7%
CaC	Cavode silt loam, 8 to 15 percent slopes	4.7	3.9%
ErC	Ernest silt loam, 8 to 15 percent slopes	4.6	3.8%
GIB	Gilpin channery silt loam, 3 to 8 percent slopes	3.3	2.7%
GIC	Gilpin channery silt loam, 8 to 15 percent slopes	15.9	13.3%
RbF	Rayne channery silt loam, 25 to 65 percent slopes	15.2	12.8%
RcD	Rayne-Gilpin complex, 15 to 25 percent slopes	31.4	26.3%
WhC	Wharton silt loam, 8 to 15 percent slopes	26.9	22.5%
Totals for Area of Interest		119.3	100.0%

1. PROJECT INFORMATION

Project Name: **Zelman Well No. 1**
 Date of review: **2/27/2012 9:42:13 AM**
 Project Category: **Energy Storage, Production, and Transfer, Energy Storage, Other**
 Project Area: **10.0 acres**
 County: **Clearfield Township/Municipality: Brady**
 Quadrangle Name: **LUTHERSBURG ~ ZIP Code: 15848**
 Decimal Degrees: **41.082036 N, -78.748583 W**
 Degrees Minutes Seconds: **41° 4' 55.3" N, -78° 44' 54.9" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

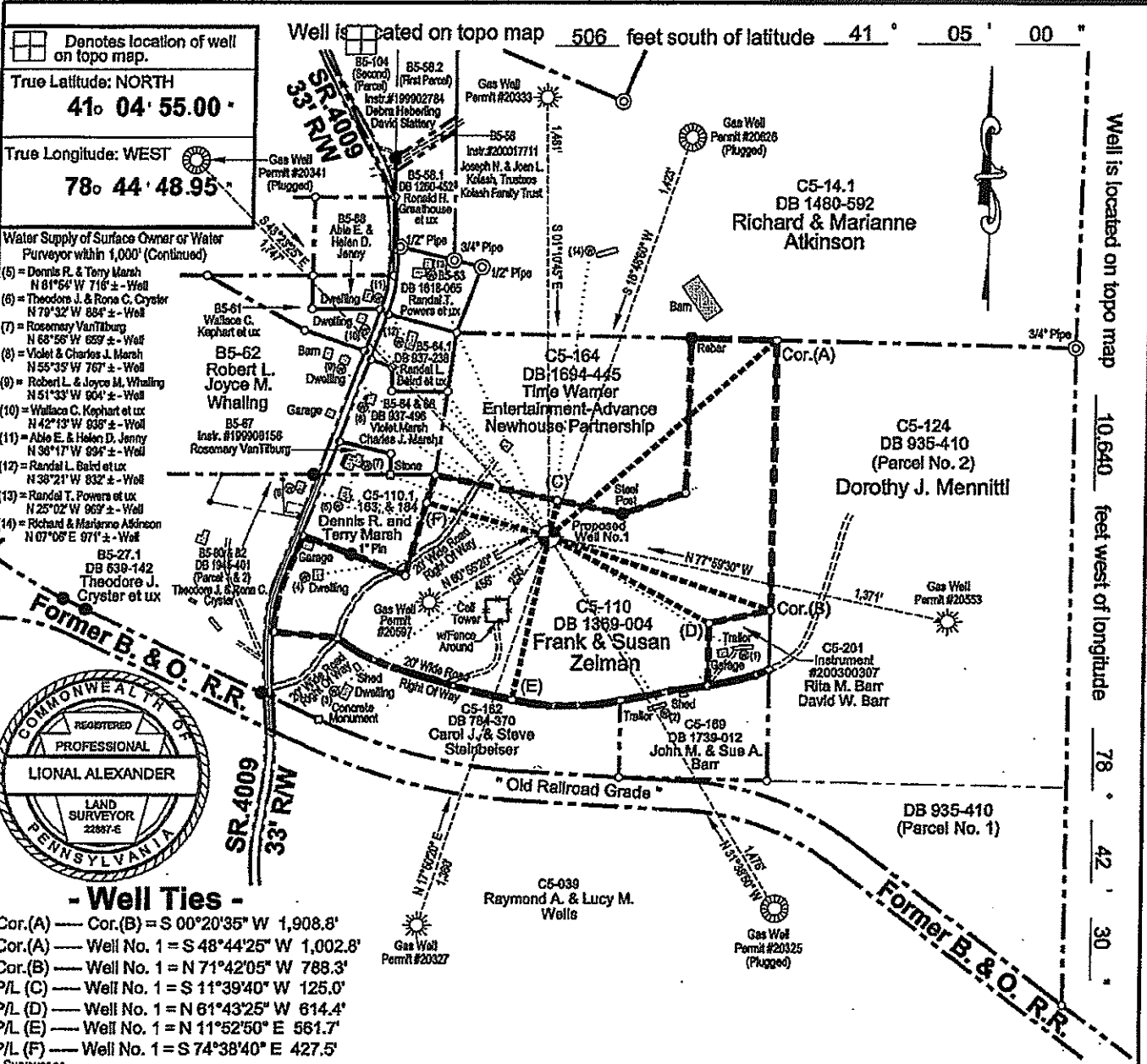
4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt, a completed PNDI form and a USGS 7.5 minute quadrangle map with the project boundaries delineated on the map. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at



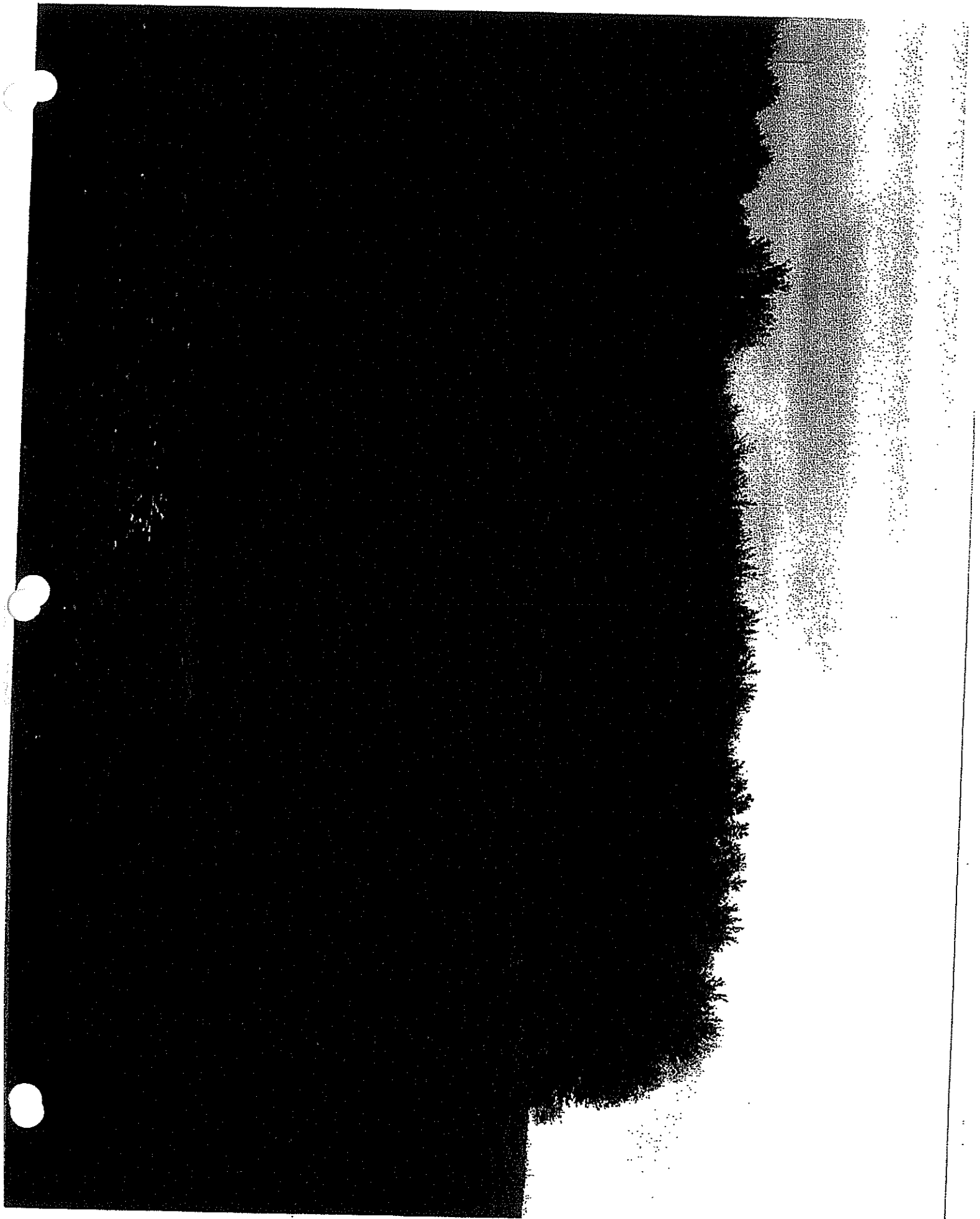
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	G:
	Permit #	C:
	Project #	

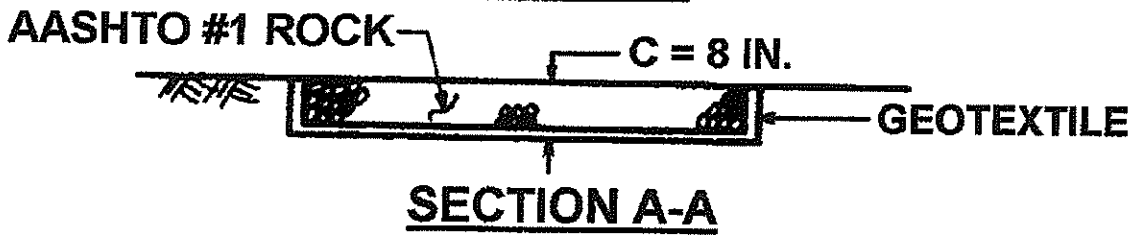
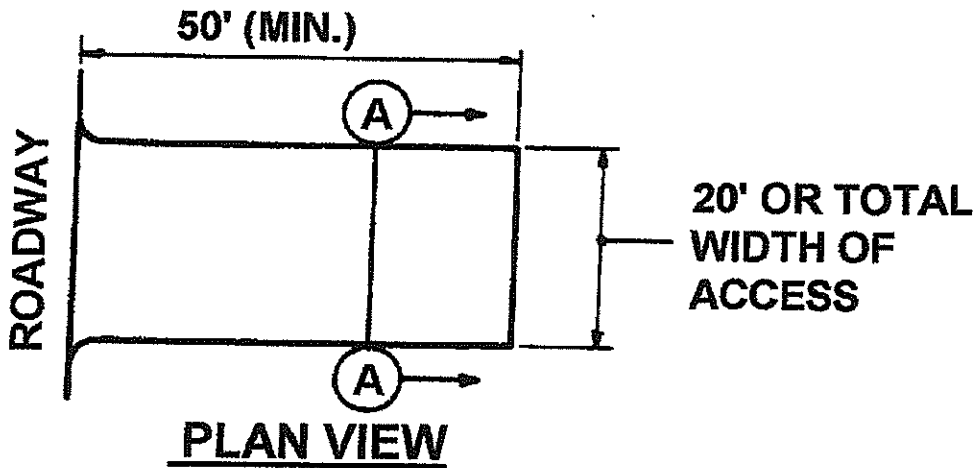


Surveyor or Engineer Lionel Alexander	Phone # (814) 371-5578	Dwg. # JN336411 Well 1 Plat	Date August 02, 2011	Scale 1" = 500'	Tract Acreage 23.8 Acres
Lat. & Long Metadata Method GRS Accuracy Submeter ft. Datum NAD 83		Elevation Metadata Method Topo Accuracy 10' ± ft. Datum NVD 88		Survey Date June 16, 2011	
Applicant / Well Operator Name Windfall Oil & Gas		Well (Farm) Name Frank & Susan Zelman		Well # 1	
Address 63 Hill Street, Falls Creek, Pa.		County - Code Clearfield - 17		Municipality Brady Township	
Surface Landowner / Lessor Frank & Susan Zelman		USGS 7 1/2 Quadrangle Map Name Luthersburg		Map Section 4	
Target Formation(s) Chert / Oriskany		Angle & Course of Deviation (Drilling) Vertical		Anticipated Total Depth TVD 7,500' TMD 7,500'	
Well (1) = Rita M. & David W. Barr		S 58°54' E 772' ± - Well			
Well (2) = John M. & Sus A. Barr		S 33°39' E 715' ± - Well			
Well (3) = Carol J. & Steve Steinbeiser		S 53°38' W 881' ± - Well			
Well (4) = Frank & Susan Zelman		S 80°21' W 826' ± - Well			

- List Continued - See Above On Well Plat -

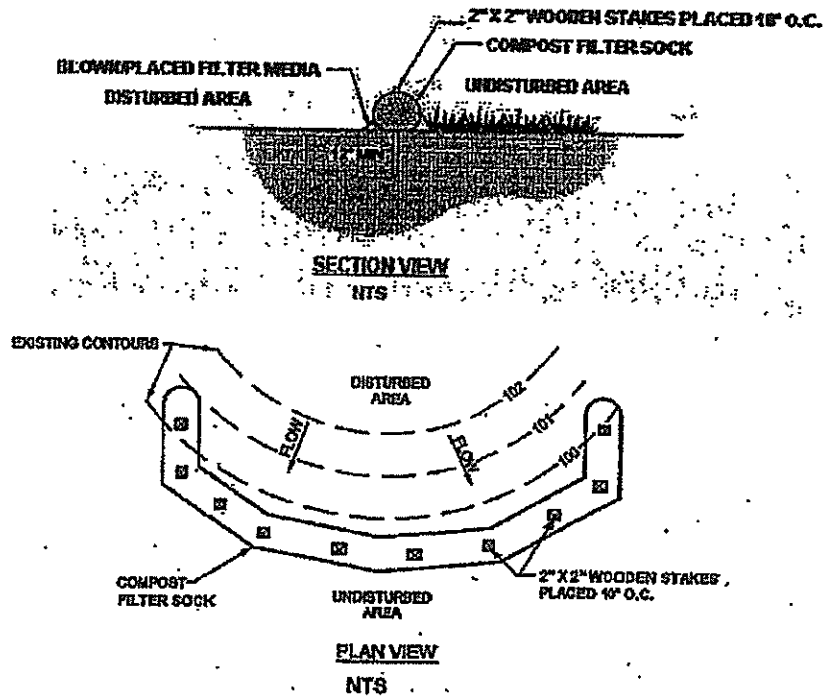


**STANDARD CONSTRUCTION DETAIL #16
Rock Construction Entrance**



MAINTENANCE: Rock Construction Entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. At the end of each construction day, all sediment deposited on paved roadways shall be removed and returned to the construction site.

J. COMPOST FILTER SOCK



Compost shall meet the following standards:

Organic Matter Content	80% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5 - 8.0
Moisture Content	35% - 55%
Particle Size	98% pass through 1" screen
Soluble Salt Concentration	5.0 dS Maximum

Compost Filter Sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment. Maximum slope length above any 18" diameter sock shall not exceed that shown on above table for reinforced silt fence. Maximum slope length for a 24" diameter sock shall not exceed that for super silt fence.

Traffic shall not be permitted to cross filter socks.

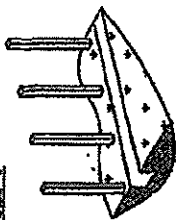
Accumulated Sediment shall be removed when it reaches 1/2 the above ground height of the sock and disposed in the manner described elsewhere in the plan.

Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter sock shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

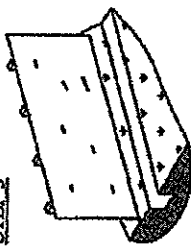
Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

STEP 1



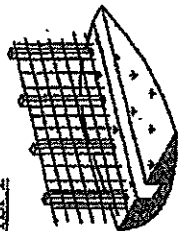
SET SUPPORT POLES AND EXCAVATE A MINIMUM 6 INCH TRENCH TO SERVE AS A TOE-IN FOR THE FABRIC. POLES SHOULD BE EMBEDDED 18" DEEP.

STEP 2



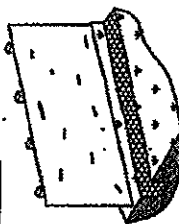
FASTEN A SUFFICIENTLY WIDE STRIP OF FILTER FABRIC TO THE FENCE WITH STAPLES OR NAILS. LEAVE A 12-18 INCH WIDE BOTTOM STRIP TO LINE THE TRENCH.

STEP 3

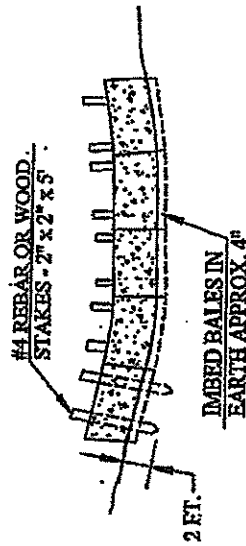


A FENCING INTERVAL -- WIDE MESH WOOD SLATS, ETC., IF REQUIRED, IS THEN AFFIXED TO THE POLES, THIS SUPPORT SYSTEM ACTS AS THE FRAMEWORK FOR THE FILTER FABRIC.

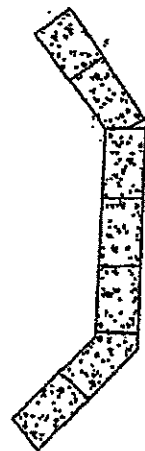
STEP 4



ROCKFILL THE LINED TRENCH TO COMPLETE THE TOE-IN



2 FT.
#4 REBAR OR WOOD STAKES - 2" x 2" x 5"
EMBED BALES IN EARTH APPROX. 4"



BARRIER DESIGN TO SUIT FIELD APPLICATION

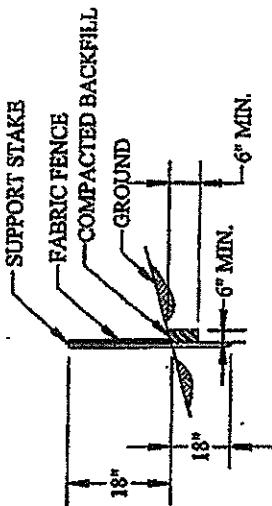
HAY OR STRAW SEDIMENT BARRIER



STAKE

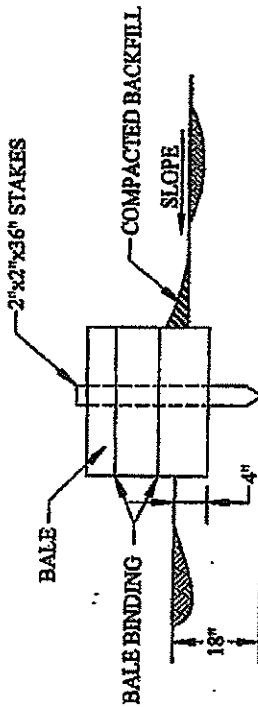
STAKES

JOINING FENCE SECTIONS

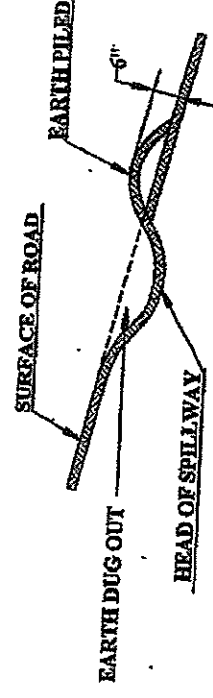
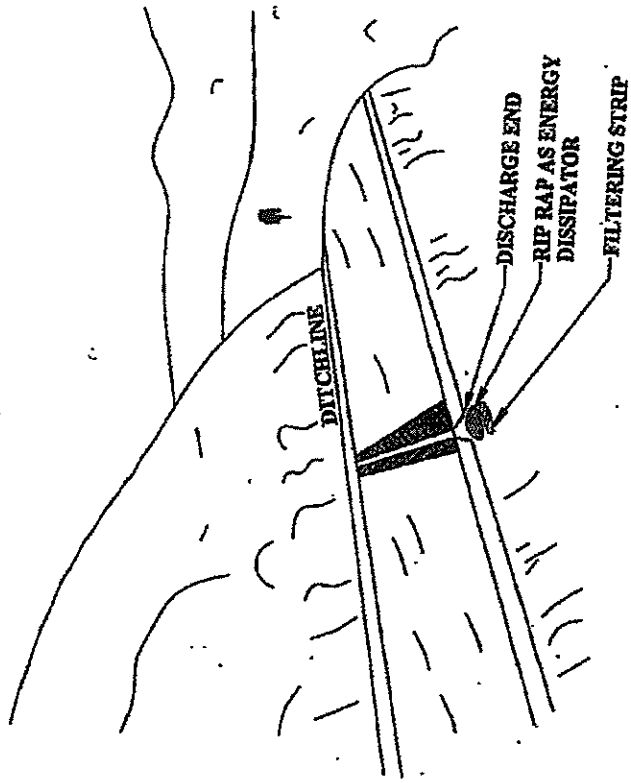


STAKES SPACED @ 8' MAXIMUM. USE 2" x 2" WOOD OR EQUIVALENT STAKES.

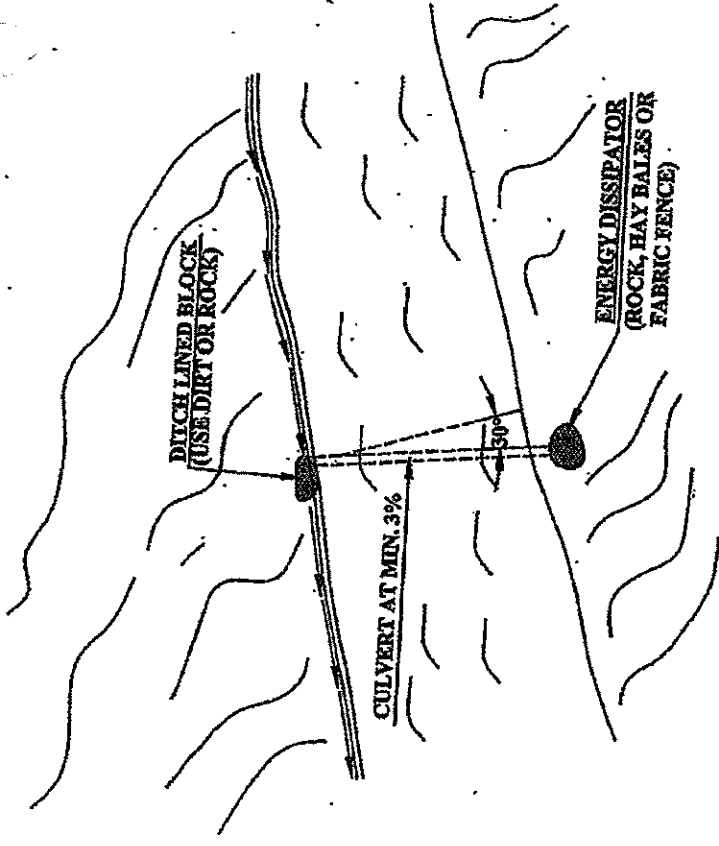
- FILTER FABRIC FENCE MUST BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FT. UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.
- SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.



- STRAW BALE BARRIERS SHOULD NOT BE USED FOR MORE THAN 3 MONTHS
- STRAW BALE BARRIERS SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FT. UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.
- SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE ABOVE GROUND HEIGHT OF THE BARRIER.



ROAD GRADE PERCENT	SPACING FEET
2	250
5	135
10	80
15	60
20	45
25 (AND GREATER)	40



CULVERT SPACING
2% - 500'
3% - 400'
4% - 350'
5-6% - 300'
7-8% - 250'
9-11% - 200'
12-13% - 150'
14% - 100'

DETAILS - A
CULVERT INSTALLATION

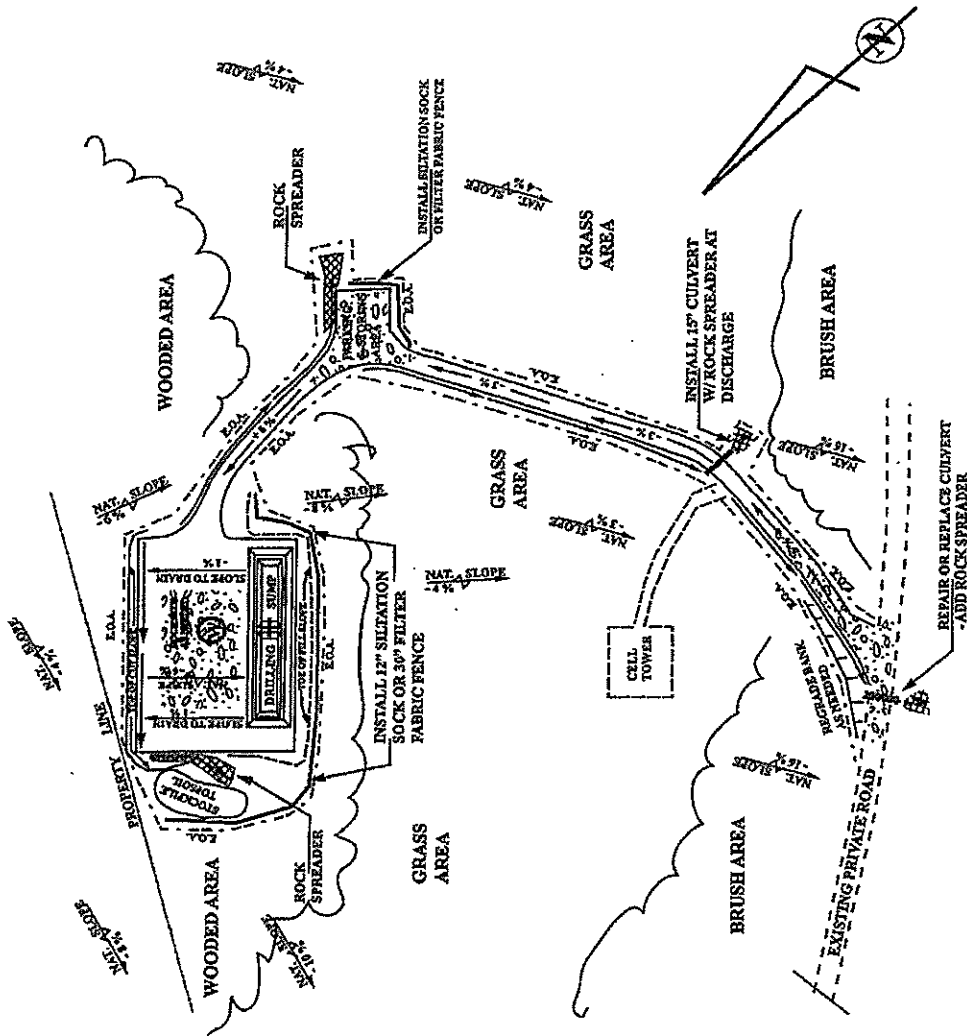
STAGING SEQUENCE:

1. Prior to any earthmovement activity, all erosion and sediment control devices (BMPs), will be installed.
2. Perform any brushing, grubbing, and/or clearing required.
3. Earthmovement activities will begin with all culverts and drainage facilities installed, as per drawing.
4. All disturbed areas will be stabilized.
5. Well drilling activities will be performed and completed.
6. The well site will be backfilled and all disturbed areas, including the cut and fill slopes, will be immediately seeded and mulched.
7. All BMPs not needed for stabilization, will be removed while all other will remain in place until the site is stabilized.
8. Upon stabilization, all temporary controls will be removed and all permanent control will be maintained.

NOTES:

1. The well site is located 1325 feet from Pentz Run (CWRP) through wooded areas with average slopes of 12%.
2. The watershed area above the site is equal to .3 acres.
3. The 24 hr rainfall frequency for 10 yrs is equal to 4.0 in.
4. The total project area is equal to 2.7 acres.
5. E.O.A. = Extent of Alteration.
6. If water is encountered at the drilling stumps, the drilling stumps will be constructed above ground.
7. All brush and stumps must be within the designated BMTs.
8. Install all BMPs in accordance with proper procedures, including the ends of any culverts and/or drainage ditches.

Prepared for:	WINDELL OIL & GAS
Project Name:	ZELMAN WELL NO. 1
Location:	Brady Township, Clearfield County
Prepared by:	Environmental Wells Development, Inc.
Scale: 1" = 100'	Date: March 15, 2012

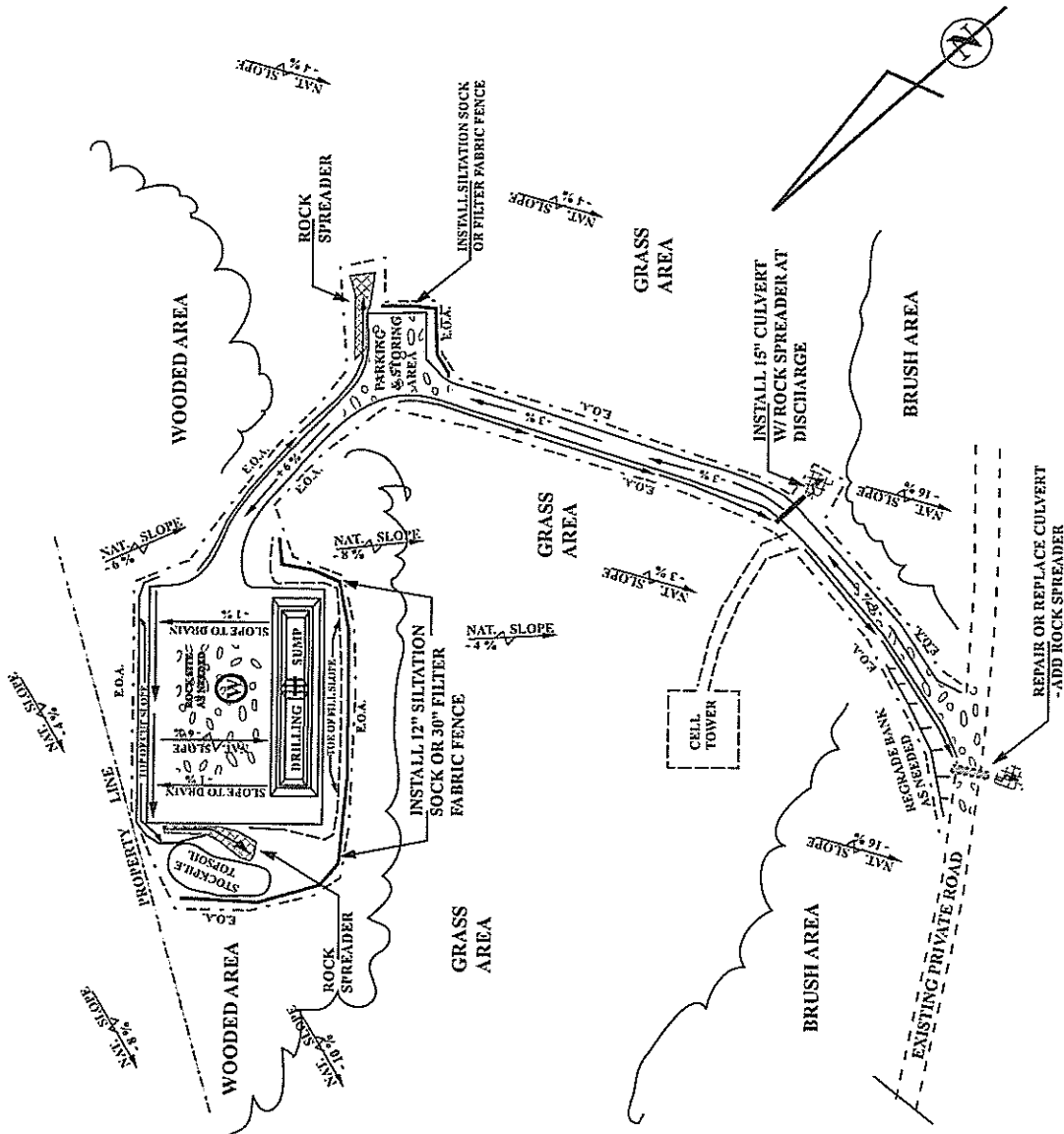


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Location: Brady Township, Clearfield County	
Prepared by: Environmental Wells Development, Inc.	
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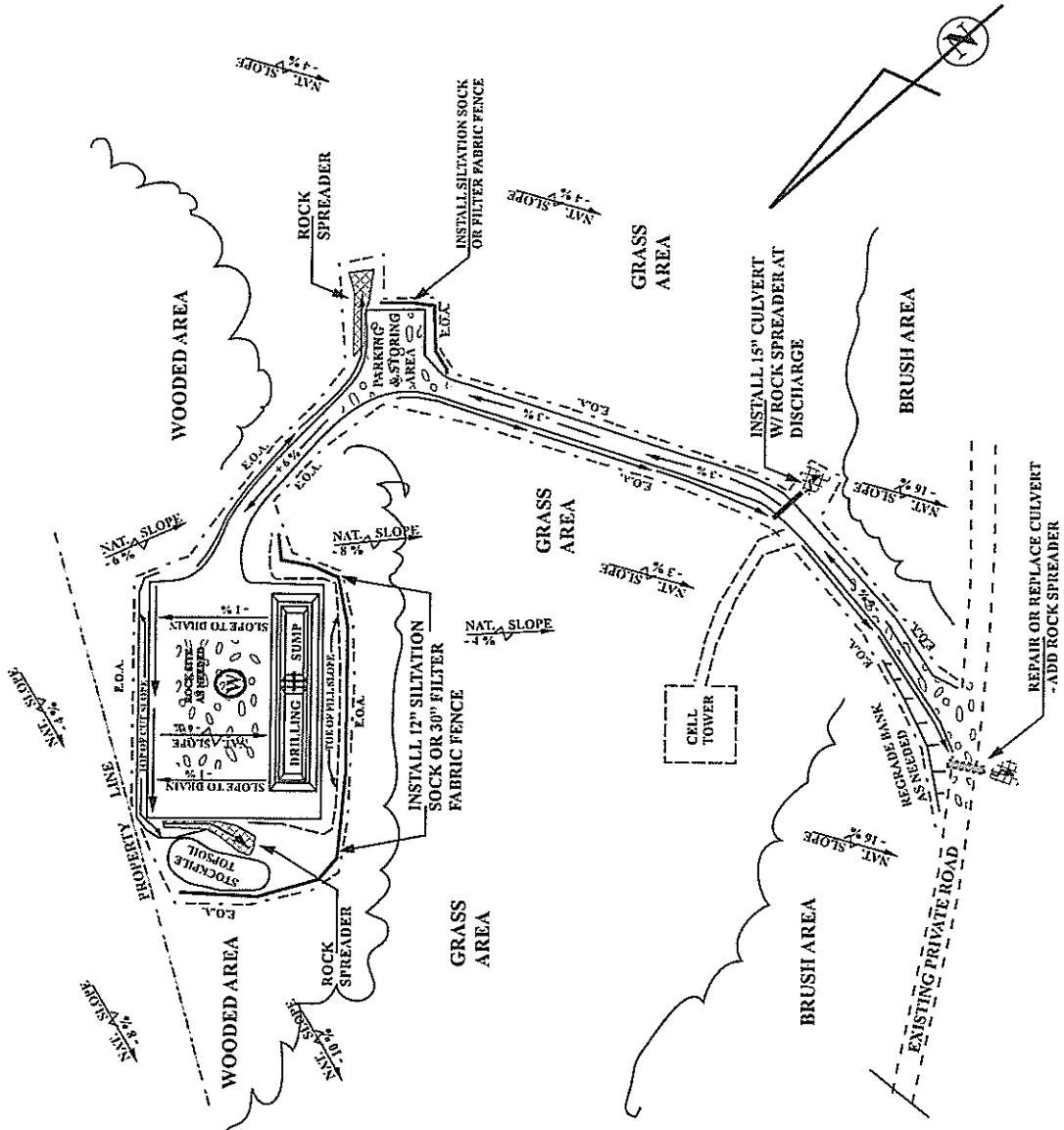
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ALPHA 2278W

CORROSION INHIBITOR

DESCRIPTION

Alpha 2278W Corrosion Inhibitor is an alkyl phosphate ester/alkyl pyridine quaternary ammonium chloride. It is an excellent corrosion preventive for use in foam or air mist drilling and does not normally offset drilling fluid properties.

Alpha 2278W Corrosion Inhibitor is for drilling water-based systems. It is designed for oxygen, carbon dioxide, and hydrogen sulfide corrosion prevention. It is also effective against inorganic and organic salts.

Alpha 2278W Corrosion Inhibitor is an anodic inhibitor and controls general pitting and corrosion. It is a cathodic inhibitor for acid attack and embrittlement.

ADVANTAGES

- Minimizes corrosion rates.
- Effective against CO₂, H₂S, and oxygen corrosion.
- Effective against inorganic and organic salts.
- A cathodic inhibitor for acid attack.
- An anodic inhibitor for general pitting and corrosion.

MIXING PROCEDURE

Alpha 2278W Corrosion Inhibitor is 24% active solution in water. It is ready for field use.

USAGE

For Mist Drilling, add Alpha 2278W Corrosion Inhibitor at a rate of 4 gallons/hour to fresh water mist tank.

For Assist Drilling, add Alpha 2278W Corrosion Inhibitor at a rate of 4 gallons/hour to mud tank.

In extremely corrosive environments, pour 1.5 to 2 gallons per joint of Alpha 2278W Corrosion Inhibitor down to about 5000 feet. Below 5000 feet, add 3 to 3.5 gallons per joint of Alpha 2278W Corrosion Inhibitor.

Run corrosion rings and inspect external collar and upset areas.

PHYSICAL PROPERTIES

Appearance.....Dark, Red Liquid
pH, Neat.....7 to 8.5
Specific Gravity.....1.098 ± 0.015
Density.....9.02 to 9.27 lbs/gal
Flash Point.....No Data
Solubility in Water.....Dispersible

