

Corey, Molly

From: Boniti, Greg <gboniti@coalsource.com>
Sent: Monday, September 09, 2013 5:53 PM
To: Simmers, Rick
Cc: Butler, Craig W; Moore, Robert
Subject: Belmont County water supply project
Attachments: letter to chief simmers.pdf

Dear Chief Simmers,

Attached is a copy of a letter on its way to you. It pertains to American Natural Gas, Inc., a Murray Energy Corporation subsidiary, constructing a facility to provide water to oil and natural gas producers in the Belmont County area. If you have any questions about it please contact me so we can discuss. The project has a very short lead time in order to benefit the local oil and gas development in the area and I understand if you may have some questions. Thank you for your time and consideration.

Regards,

Gregory Boniti
Vice President Engineering
American Natural Gas, Inc.
46226 National Road
Saint Clairsville, OH 43950
740-338-3100 office
740-213-7303 mobile

August 30, 2013

By Overnight Mail

Rick Simmers, Chief
Division of Oil and Gas
Ohio Department of Natural Resources
2045 Morse Road, Bldg F-2
Columbus, Ohio 43229

**RE: Proposed Water Supply Project:
American Natural Gas, Inc.
Alledonia, Belmont County, Ohio**

Dear Chief Simmers:

American Natural Gas, Inc. ("ANGI"), a subsidiary of Murray Energy Corporation, is proposing to build and operate a water supply line operation in Alledonia, Ohio designed to supply water to the oil and gas industry ("Project"). The Project has a very short lead-time, with commercial sales set to commence on or before September 30, 2013.

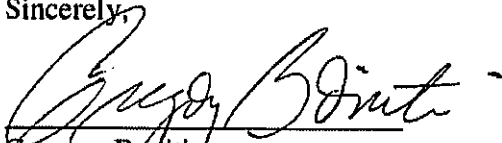
The Project will consist of pumping water from an existing impoundment, which currently supplies water to two existing mining operations, through a waterline to a lined holding reservoir and then through another waterline to a water filling area for trucks. No water pumped from the impoundment will contain any waters or other fluids associated with oil and gas operations. ANGI has already contacted Lanny Erdos, Chief of DMRM, to confirm any regulatory requirements related to the mining operations.

Based on the project design and our review of current Ohio law, as well as modified R.C. 1509.22 as effective on January 1, 2014, ANGI does not need any approval from your Division since the Project will not engage in the storage, recycling, treatment, processing or disposal of brine or other waste substances associated with the exploration, development, well stimulation, production operations or plugging of oil and gas resources. See, R.C. 1509.22(B)(2)(a), as applicable Jan. 1, 2014. Further, the Project will not cause any brine to be stored or disposed of. See, R.C. 1509.22(A).

The purpose of this letter is to provide the Division with the Project details in order to confirm ANGI's interpretation that no R.C. 1509.22 approval is needed. In the event the Division determines that an approval is needed, the information attached to this letter provides the Division with all information required by statute necessary to grant such approval.

Again, given the time constraints associated with this Project, ANGI requests that the Division expeditiously evaluate this letter and enclosed materials and notify us immediately with any questions or comments.

Sincerely,



Gregory Boniti
Vice President Engineering
American Natural Gas, Inc.

cc: Craig Butler

Attachments

PROJECT DETAILS FOR ANGI'S PROPOSED WATER SUPPLY PROJECT

Applicant Name: American Natural Gas, Inc.

Applicant Address: 46226 National Road
St. Clairsville, Ohio 43950

Applicant Contact: Greg Boniti
(740) 338-3100
(740) 338-3416-Fax
gboniti@coalsource.com

Project Location: 56854 Pleasant Ridge Road
Alledonia, Ohio 43902
Belmont County, Ohio

Project Flow Description:

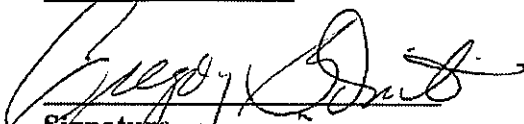
1. Water will be released via a tap (with associated flow meter) from an existing water impoundment, associated with existing mining, to a 10 inch waterline.
2. The water will be transported via a waterline to a holding reservoir, which has the capacity to hold 1,400,000 gallons of water.
3. The water will be transported via a waterline from the holding reservoir to a water filling area as customer needs dictate.

****For detailed project design, see Attachments A and B.**

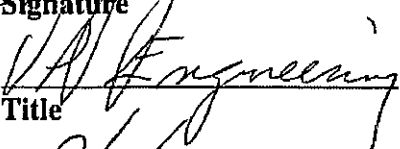
Project Details:

The water from the impoundment will meet all customer specifications required for water use by oil and gas companies. No waters from the impoundment will contain fluids from the oil and gas industry (i.e. fluids associated with the exploration, development, well stimulation, production or plugging of oil and gas resources). No water will be discharged from the waterline or the holding reservoir on or into surface or ground waters. The impoundment operates pursuant to a currently effective NPDES permit, issued by Ohio EPA.

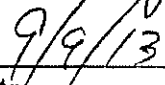
Construction Date: To commence on or before September 16, 2013



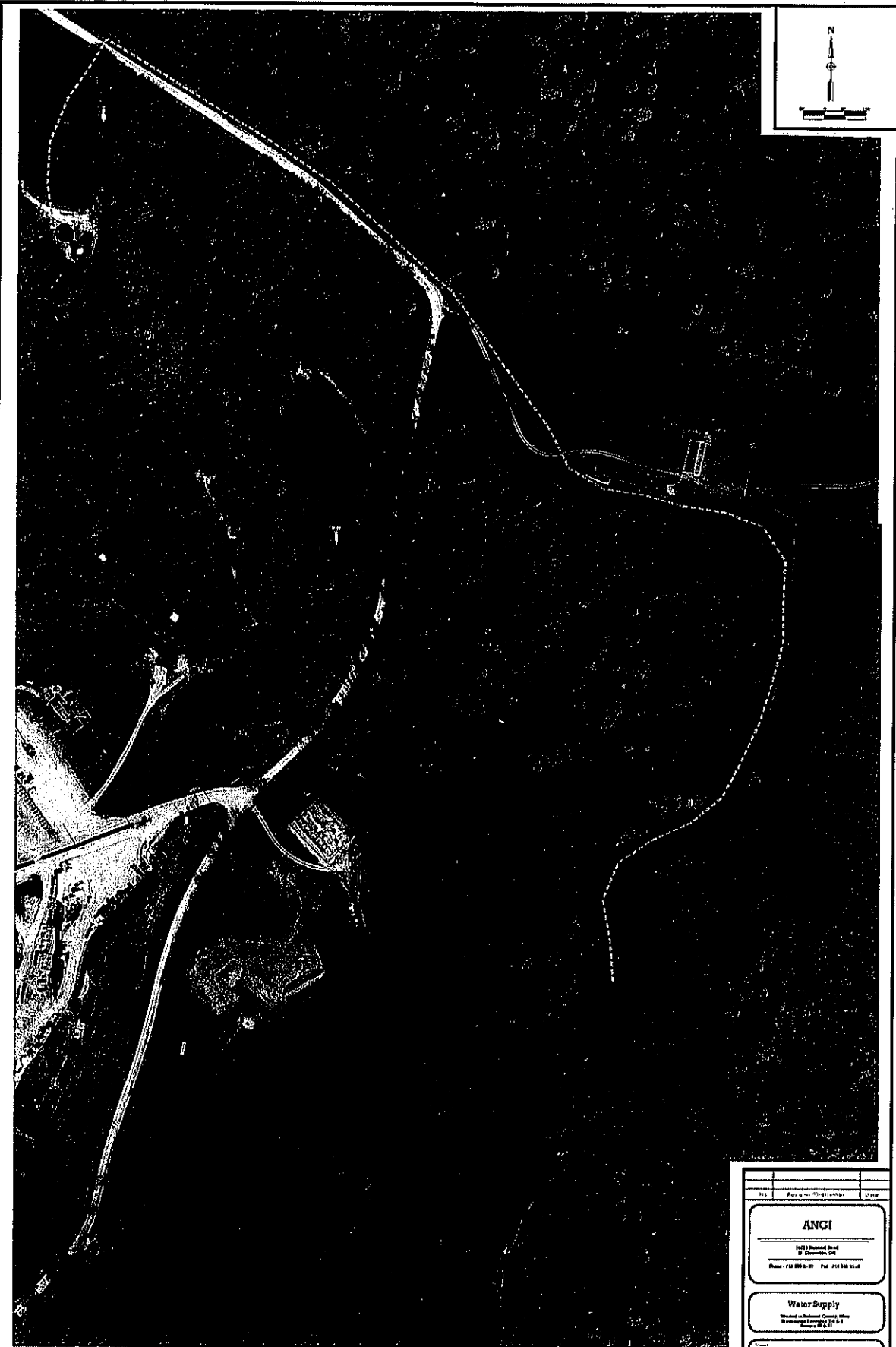
Signature



Title



Date



NOTE: This map is the property of ANGI and is confidential.

| | | |
|-----------------------------------------------------------------|--------------------------------|--------|
| 311 | Map of the "Water Supply" Area | Map |
| ANGI | | |
| 1025 Bakers Road W. Greenville, SC | | |
| Phone: (252) 863-1100 Fax: (252) 863-1101 | | |
| Water Supply | | |
| Based on Aerial Photographs of the Water Supply Area of 2003 | | |
| Water Supply | | |
| Date | Scale | Author |
| September 4, 2003 | 1" = 100' | JAS |

Corey, Molly

From: Boniti, Greg <gboniti@coalsource.com>
Sent: Tuesday, November 19, 2013 2:22 PM
To: Zehringer, James
Subject: ANGI proposed water transfer project
Attachments: ANGI proposed water transfer project.pdf; PHASE II.PDF

Director Zehringer,

Attached are a letter and drawing that were sent in the mail today to you, Chief Simmers, and Craig Butler. ANGI is a subsidiary of Murray Energy. If you have any questions please feel free to contact me. Thank you.

Regards,

Gregory Boniti
Vice President Engineering
American Natural Gas, Inc.
46226 National Road
Saint Clairsville, OH 43950
740-338-3100 office
740-213-7303 mobile

Corey, Molly

From: Boniti, Greg <gboniti@coalsource.com>
Sent: Tuesday, November 19, 2013 2:43 PM
To: Simmers, Rick
Subject: ANGI water transfer project
Attachments: ANGI proposed water transfer project.pdf; PHASE II.PDF

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Gregory Boniti
Vice President Engineering
American Natural Gas, Inc.
46226 National Road
Saint Clairsville, OH 43950
740-338-3100 office
740-213-7303 mobile

Corey, Molly

From: Arthur, Blake
Sent: Wednesday, November 20, 2013 10:26 AM
To: Booth, Wendy
Subject: FW: ANGI water transfer project
Attachments: ANGI proposed water transfer project.pdf; PHASE II.PDF

From: Simmers, Rick
Sent: Wednesday, November 20, 2013 8:47 AM
To: Vendel, Eric; Corey, Molly; Delisi, Megan
Cc: Trivisonno, Ron; Arthur, Blake; Pratt, Beth
Subject: FW: ANGI water transfer project

Please review the attached doc and be prepared to discuss

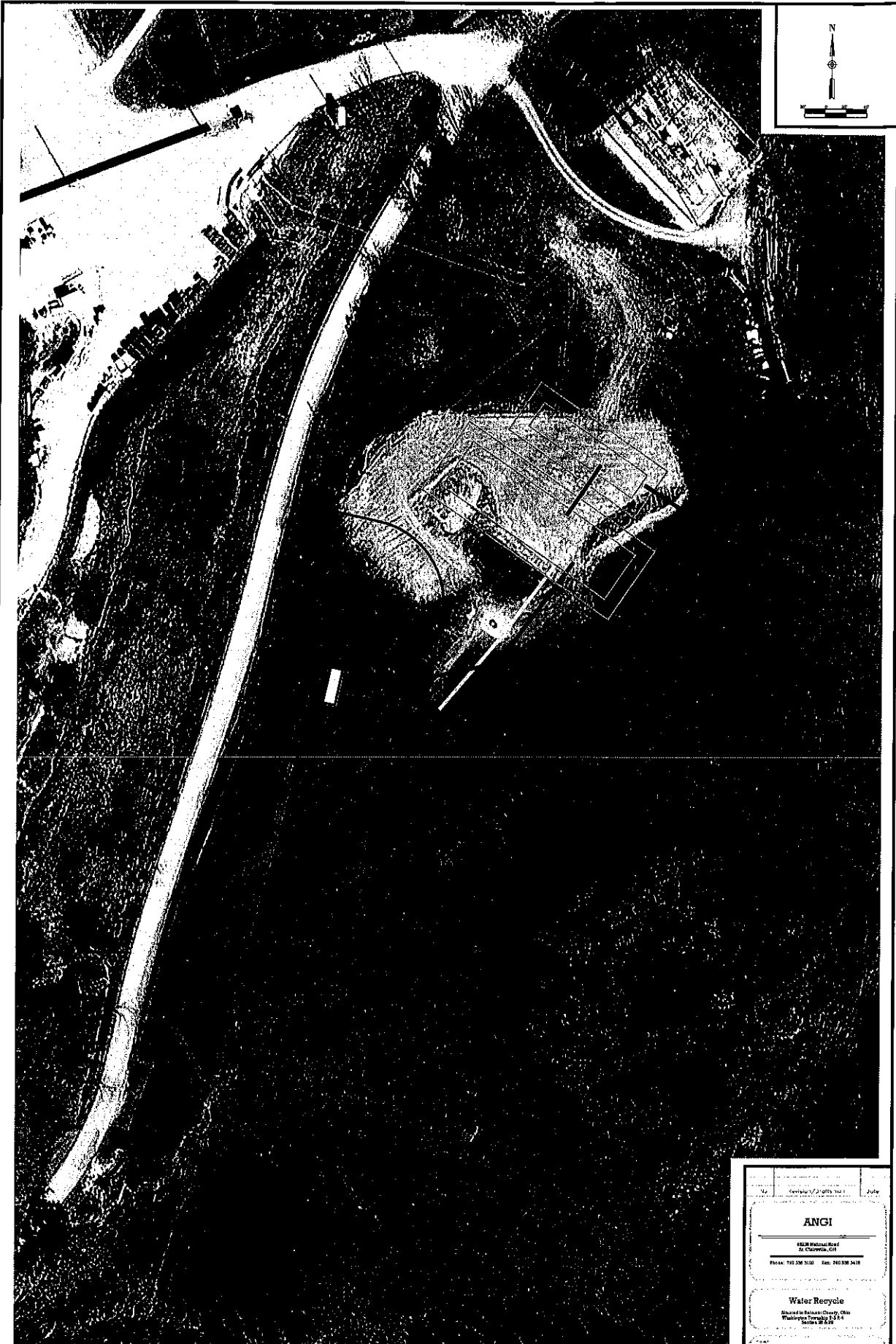
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To: Simmers, Rick
Subject: ANGI water transfer project

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Gregory Boniti
Vice President Engineering
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46226 National Road
Saint Clairsville, OH 43950
740-338-3100 office
740-213-7303 mobile



NOTE: This map is the property of ANGI and is confidential.

| | | |
|----------------------------------------------------------------------------|-----------------|-------|
| No. | Revision/Length | Date |
| | | |
| ANGI | | |
| 16200 Industrial Blvd St. Charles, MO | | |
| Phone: 314 238 3100 Fax: 314 238 3418 | | |
| Water Recycle | | |
| Shaded in Belmont County, Ohio Wastewater Treatment Plant 2010/12/22 | | |
| Water Recycle | | |
| November 11, 2010 | | |
| Scale | Author | Drawn |
| 1" = 40' | JAS | |

Corey, Molly

From: Arthur, Blake
Sent: Wednesday, November 20, 2013 10:29 AM
To: Booth, Wendy
Subject: Fwd: ANGI water transfer project
Attachments: ANGI proposed water transfer project.pdf; ATT00001.htm; PHASE II.PDF; ATT00002.htm

Sent from my iPhone

Begin forwarded message:

From: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
Date: November 20, 2013, 8:47:55 AM EST
To: "Vendel, Eric" <Eric.Vendel@dnr.state.oh.us>, "Corey, Molly" <Molly.Corey@dnr.state.oh.us>, "Delisi, Megan" <Megan.DeLisi@dnr.state.oh.us>
Cc: "Trivisonno, Ron" <Ron.Trivisonno@dnr.state.oh.us>, "Arthur, Blake" <Blake.Arthur@dnr.state.oh.us>, "Pratt, Beth" <Beth.Pratt@dnr.state.oh.us>
Subject: FW: ANGI water transfer project

Please review the attached doc and be prepared to discuss

From: Boniti, Greg [<mailto:gboniti@coalsource.com>]
Sent: Tuesday, November 19, 2013 2:43 PM
To: Simmers, Rick
Subject: ANGI water transfer project

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Regards,

Gregory Boniti
Vice President Engineering
American Natural Gas, Inc.
46226 National Road
Saint Clairsville, OH 43950
740-338-3100 office
740-213-7303 mobile

November 18, 2013

By Overnight Mail

Rick Simmers, Chief
Division of Oil and Gas
Ohio Department of Natural Resources
2045 Morse Road, Bldg F-2
Columbus, Ohio 43229

**RE: Proposed Water Transfer Project:
American Natural Gas, Inc.
Alledonia, Belmont County, Ohio
Application for R.C. 1509.22 Review**

Dear Chief Simmers:

American Natural Gas, Inc. ("ANGI") is proposing to build a water system in Alledonia, Ohio designed to obtain water from and transfer water to the oil and gas industry ("Project"). ANGI has reviewed Ohio law and ODNR regulations and determined that the Project will not trigger the need for any ODNR approval, order or permit. However, since ODNR has no permitting regulations or process developed under R.C. 1509.22, this letter provides ODNR notice of the Project and requests either: (1) confirmation from ODNR that no approval is needed or (2) an approval issued pursuant to R.C. 1509.22 by December 15, 2013.

The Project, generally, will consist of the receipt of waters via truck from oil and gas companies for temporary placement in on-site, synthetic lined reservoir(s). Prior to accepting water, ANGI will confirm that each load does not contain radioactive constituents above actionable levels. All loads deemed radioactive will be rejected. Once the water settles in the reservoir(s), it will be transferred through a waterline to another synthetic lined reservoir where impoundment water from ANGI's existing water reservoir (details of which were provided to ODNR in August 2013) will be added. No impoundment water will contain any waters or other fluids associated with oil and gas operations. From there, the water will be transferred through a waterline to a water filling area for trucks. Project details are set forth in the enclosed Attachment A.

R.C. 1509.22(A) states that:

no person shall place or cause to be placed in ground water or in or on the land or discharge or cause to be discharged in surface water brine, crude oil, natural gas, or other fluids associated with the exploration, development, well stimulation, production

operations, or plugging of oil and gas resources that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment.

ANGI will not discharge, cause to be discharged, place or cause to be placed any O&G fluids that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment. To the contrary, any temporary placement of water will occur only in synthetic lined reservoir(s). Thus, the Project complies with R.C. 1509.22(A).

R.C. 1509.22(B)(2)(a) states that:

On and after January 1, 2014, no person shall store, recycle, treat, process, or dispose of in this state brine or other waste substances associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources without an order or a permit issued under this section or section 1509.06 or 1509.21 of the Revised Code or rules adopted under any of those sections.

R.C. 1509.227 states that:

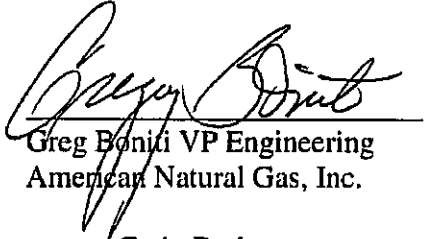
Notwithstanding division (B)(2)(a) of section 1509.22 of the Revised Code, on and after January 1, 2014, a person that is in operation prior to the date may store, recycle, treat, process, or dispose of in this state brine or other waste substances associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources without an order or a permit issued under section 1509.06, 1509.21, or 1509.22 of the Revised Code or rules adopted under any of those sections, provided that the chief of the division of oil and gas resources management has approved the operation and any required permit or other form of authorization has been issued by the environmental protection agency.

ANGI will not store, recycle, treat, process or dispose of in this state brine or other waste substances associated with O&G resources. However, ANGI also recognizes that ODNR lacks any law defining the terms "store, recycle, treat, process or dispose of." Therefore, while ANGI has concluded that the Project complies with R.C. 1509.22(B)(2)(a), in an abundance of caution and in absence of any definitions of the statutory words, ANGI requests that ODNR confirm ANGI's interpretation of the statute.

If ODNR determines that R.C. 1509.22 does apply to the Project, ANGI requests that ODNR move forward with an approval, as set forth in R.C. 1509.227, to be issued on or before December 15, 2013. This letter, coupled with Attachment A, contains all information required by statute necessary to grant such approval. The timeframe requested is consistent with your commitment made to senior management of ANGI's parent company, Murray Energy, during the 2013 budget bill process.

Given the time constraints associated with this Project, ANGI requests that the Division expeditiously evaluate this letter and enclosed materials and notify us immediately with any questions or comments.

Sincerely,



Greg Boniti VP Engineering
American Natural Gas, Inc.

cc: Craig Butler
Director James Zehringer

Enclosures

ATTACHMENT "A"

PROJECT DETAILS FOR ANGI'S PROPOSED WATER TRANSFER PROJECT

Applicant Name: American Natural Gas, Inc.

Applicant Address: 46226 National Road
St. Clairsville, Ohio 43950

Applicant Contact: Greg Boniti
(740) 338-3100
(740) 338-3416-Fax
gboniti@coalsource.com

Project Location: 56854 Pleasant Ridge Road
Alledonia, Ohio 43902
Belmont County, Ohio

Project Flow Description:

1. Water will be received from trucks. Prior to accepting any water, each truck will be scanned for the existence of radiation above actionable levels. All "hot" loads will be rejected.
2. Water will be temporarily placed in on-site, synthetic lined reservoir(s) (total capacity not to exceed 400,000 gallons).
3. After water settlement, it will be transferred via a waterline to another synthetic lined reservoir(s) (total capacity not to exceed 1,800,000 gallons).
4. Impoundment water from ANGI's existing water reservoir will be added in the second reservoir(s). The impoundment water will not contain any waters or other fluids associated with oil and gas operations.
5. The water will be tested and then transferred through a waterline to a water filling area for trucks.


***For detailed project design, see attached diagram.

Project Details:

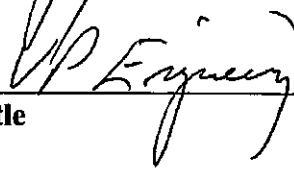
The water from the Project will meet all customer specifications required for water use by oil and gas companies. No waters from the impoundment will contain fluids from the oil and gas industry (i.e. fluids associated with the exploration, development, well stimulation, production or plugging of oil and gas resources). No water will be discharged from the waterline or from any of the reservoirs on or into surface or ground waters.

Construction Date:

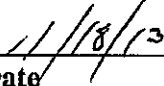
To commence on or before December 15, 2013.



Signature



Title



Date

Corey, Molly

From: Carey, Michael <mcarey@coalsource.com>
Sent: Wednesday, December 18, 2013 11:08 AM
To: Shimp, Frederick
Cc: Banks, Susan
Subject: FW: Call with ODNR

Fred,

As you will see I don't think there would be any issue with April being on a call with Mike in the room.

Mike

From: abott [<mailto:abott@bottlawgroup.com>]
Sent: Wednesday, December 18, 2013 11:02 AM
To: Carey, Michael
Subject: Call with ODNR

Per our discussion, there is no reason I cannot represent the interests of Murray/ANGI during today's call with ODNR. I will participate as your subject matter expert. You have provided notice of my participation to the agency and ODNR intends to have its counsel participate. Additionally as recently as this morning, Mike Williams, who is chief legal counsel to the agency, communicated with me via email regarding your pending application so obviously this isn't a problem. Further Murray absolutely has a right to be represented by counsel.

Regarding pending litigation my law firm has with ODNR on behalf of another client, this fact had no relevance at all. Specifically, the litigation is unrelated to Murray and is regarding a different topic (spoliation of evidence) for a different client. The other case my firm had against ODNR, also on the unrelated topic of public records for a different client, has been resolved by the 10th district by Writ Of Mandamus against ODNR.

I have confirmed all of the above with Ohio's professional responsibility code and ethical canons for lawyers.

Thanks. I assume this information will resolve any preceived issue.

April

Sent from my Verizon Wireless 4G LTE Smartphone

Corey, Molly

From: Shimp, Frederick
Sent: Wednesday, December 18, 2013 11:38 AM
To: Carey, Michael
Subject: RE: Call with ODNR

Sure, Mike. We'll likely have some of our attorneys participate as well.

From: Carey, Michael [<mailto:mcarey@coalsource.com>]
Sent: Wednesday, December 18, 2013 11:08 AM
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Corey, Molly

From: Carey, Michael <mcarey@coalsource.com>
Sent: Wednesday, December 18, 2013 11:39 AM
To: Shimp, Frederick
Subject: Re: Call with ODNR

Thank you what room will we be going to?

From: Shimp, Frederick [<mailto:Frederick.Shimp@dnr.state.oh.us>]
Sent: Wednesday, December 18, 2013 11:38 AM
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Sent from my Verizon Wireless 4G LTE Smartphone

Corey, Molly

From: Banks, Susan
Sent: Wednesday, December 18, 2013 11:57 AM
To: mcarey@coalsource.com
Subject: FW: Call with ODNR

Mike – You will be meeting in the Director’s conference room located to the left as you exit the elevator on the third floor of Building D.

Susan Banks
Executive Assistant
Office of the Director
Ohio Department of Natural Resources
2045 Morse Rd.
Columbus, OH 43229
614.265.6879

From: Shimp, Frederick
Sent: Wednesday, December 18, 2013 11:53 AM
To: Banks, Susan
Subject: FW: Call with ODNR

From: Carey, Michael [<mailto:mcarey@coalsource.com>]
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Thank you what room will we be going to?

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Corey, Molly

From: Carey, Michael <mcarey@coalsource.com>
Sent: Wednesday, December 18, 2013 11:55 AM
To: Banks, Susan
Subject: Re: Call with ODNR

Perfect

From: Banks, Susan [<mailto:susan.banks@dnr.state.oh.us>]
Sent: Wednesday, December 18, 2013 11:56 AM
To: Carey, Michael
Subject: FW: Call with ODNR

Mike – You will be meeting in the Director’s conference room located to the left as you exit the elevator on the third floor of Building D.

Susan Banks

Executive Assistant
Office of the Director
Ohio Department of Natural Resources
2045 Morse Rd.
Columbus, OH 43229
614.265.6879

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Sent: Wednesday, December 18, 2013 11:53 AM
To: Banks, Susan
Subject: FW: Call with ODNR

From: Carey, Michael [<mailto:mcarey@coalsource.com>]
Sent: Wednesday, December 18, 2013 11:39 AM
To: Shimp, Frederick
Subject: Re: Call with ODNR

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April

Sent from my Verizon Wireless 4G LTE Smartphone

Corey, Molly

From: Williams, Michael
Sent: Thursday, December 19, 2013 8:51 AM
To: April Bott (abott@bottlawgroup.com)
Cc: Simmers, Rick; Vendel, Eric; Shimp, Frederick; Williams, Michael
Subject: Patriot - Campbell

Ms. Bott,

I am writing in supplement to my telephone message to your office from yesterday afternoon. I called to discuss the above matter, with was initiated by correspondence from Ben Dickey on 11/8/13. As you may be aware, DNR declined to approve that plan as confirmed via correspondence dated 12/6/13.

The absence of any discussion of this matter leads me to conclude that the issue is moot in terms of any effort at being "approved" before 12/31/13. Though I do not want to make any assumptions contra to the intentions of your client in this regard.

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Mike

Michael L. Williams
Chief Legal Counsel
Ohio Department of Natural Resources
2045 Morse Road
Columbus, OH 43229
614.265.6882

Corey, Molly

From: April Bott <abott@bottlawgroup.com>
Sent: Thursday, December 19, 2013 9:16 AM
To: Williams, Michael
Cc: Simmers, Rick; Vendel, Eric; Shimp, Frederick; Butler, Craig W
Subject: RE: Patriot - Campbell

Mr Williams-

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April



April Bott Moore
Bott Law Group LLC
5126 Blazer Parkway
Dublin, Ohio 43017
Main: 614-761-2688
Direct: 614-761-3855
Fax: 614-462-1914
abott@bottlawgroup.com

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Sent: Thursday, December 19, 2013 8:51 AM
To: April Bott (abott@bottlawgroup.com)
Cc: Simmers, Rick; Vendel, Eric; Shimp, Frederick; Williams, Michael
Subject: Patriot - Campbell

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To: April Bott
Cc: Simmers, Rick; Vendel, Eric; Shimp, Frederick; Butler, Craig W; Williams, Michael
Subject: RE: Patriot - Campbell

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- Tracking of wastes, including volumes
- 2-3 year paperwork retention

In addition, DNR will need to conduct a site visit. Given the short calendar applicable to this issue, DNR has scheduled that visit for the afternoon of December 23rd.

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Mike

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2045 Morse Road
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614.265.6882

Corey, Molly

From: April Bott <abott@bottlawgroup.com>
Sent: Thursday, December 19, 2013 2:07 PM
To: Williams, Michael
Cc: Simmers, Rick; Vendel, Eric; Shimp, Frederick; Butler, Craig W
Subject: RE: Patriot - Campbell

Patriot-Campbell anticipates having the responsive information to you by close of business tomorrow, Dec. 20th. Also, Dec. 23rd works for the site visit. They would prefer a mid-morning visit if possible, but can accommodate afternoon. Can you please have your engineer confirm what works? Ben Dickey will be the site contact. He can be reached for scheduling purposes at: dickey.br@gmail.com

Thank you
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Sent: Thursday, December 19, 2013 11:34 AM
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Cc: Simmers, Rick; Vendel, Eric; Shimp, Frederick; Butler, Craig W; Williams, Michael
Subject: RE: Patriot - Campbell

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614.265.6882

Corey, Molly

From: Williams, Michael
Sent: Thursday, December 19, 2013 2:38 PM
To: April Bott
Cc: Simmers, Rick; Vendel, Eric; Shimp, Frederick; Butler, Craig W
Subject: Re: Patriot - Campbell

Thank you. I understand that DNRs engineers are coordinating the site visit directly.

Sent from my iPhone

On Dec 19, 2013, at 2:07 PM, "April Bott" <abott@bottlawgroup.com> wrote:

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April

<image001.jpg>

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Fax: 614-462-1914
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Corey, Molly

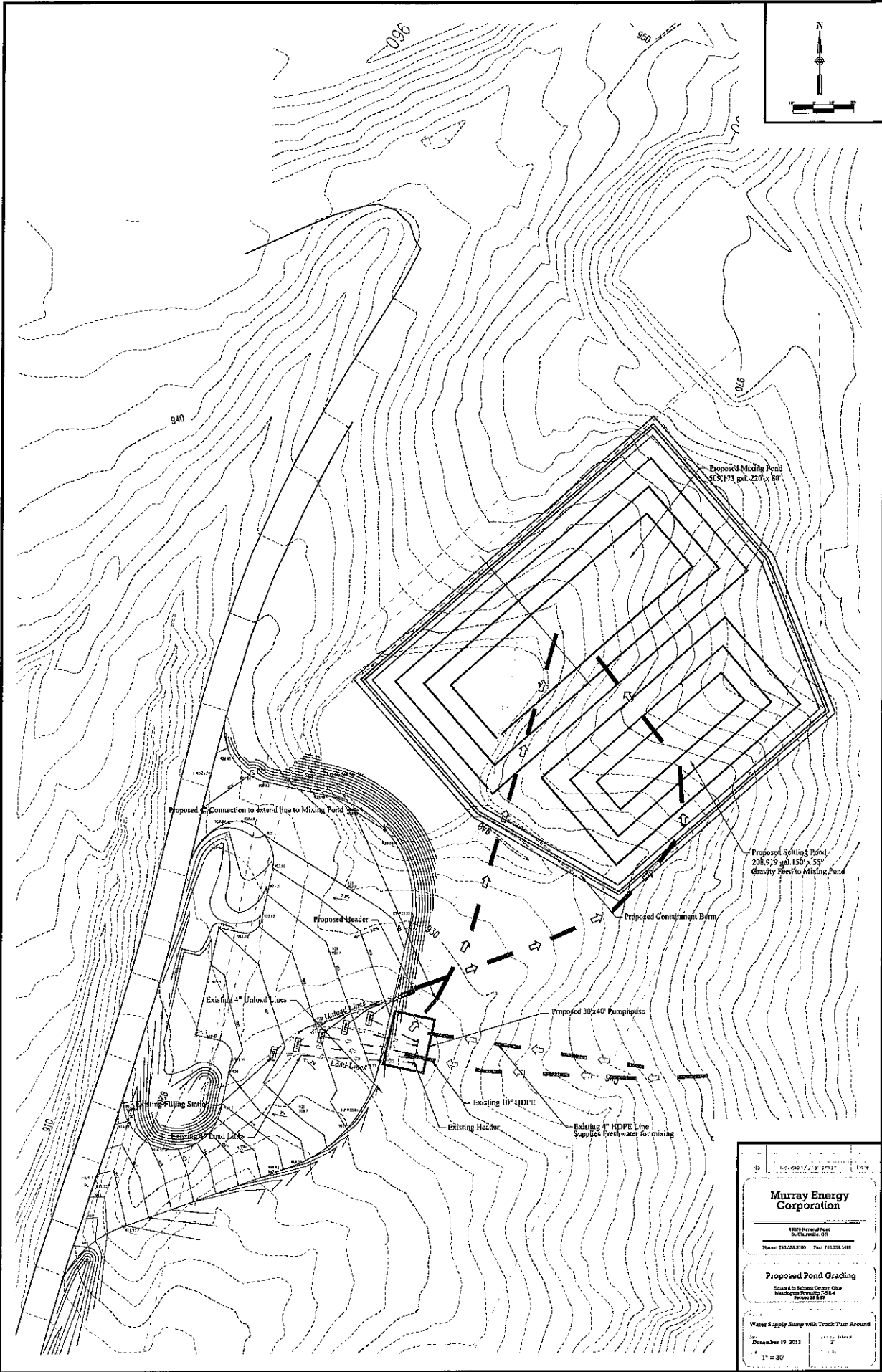
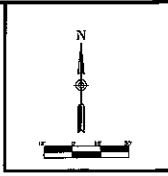
From: Boniti, Greg <gboniti@coalsource.com>
Sent: Thursday, December 19, 2013 4:49 PM
To: Arthur, Blake
Subject: drawing and directions to ANGI water site
Attachments: POND STUDY_12.20.pdf

Blake,

Attached is a drawing that shows the site in question. I will bring a copy tomorrow when we meet.

As discussed, if you are coming from I70 east, take St Rt 9 at I believe the St. Clairsville exit and proceed south until you intersect St. Rt 148. Turn right on 148 (west) and follow for 5 or 6 miles (not exact) until you come to a large coal tipple on the left. Turn right on the road before the tipple (Pleasant Ridge Road I believe) and go about 1 mile. The facility is on the right. Watch out for deer.

Greg



| | |
|-------------------------------------------------------------------------------------------|-------------------|
| Murray Energy Corporation | |
| 10000 Federal Road St. Clairsville, OH | |
| Phone: 740.333.2300 | Fax: 740.333.1889 |
| Proposed Pond Grading | |
| Submitted to: Schuette Geology, Ohio Vandalia, Pennsylvania 225 E 4 Highway 28 N 10 | |
| Water Supply Stamp with Track Then Around | |
| December 19, 2013 | 1" = 20' |

Corey, Molly

From: Arthur, Blake
Sent: Friday, December 20, 2013 9:50 AM
To: dickey.br@gmail.com
Cc: Pratt, Beth; Trivisonno, Ron; Vendel, Eric
Subject: Monday Site Visit

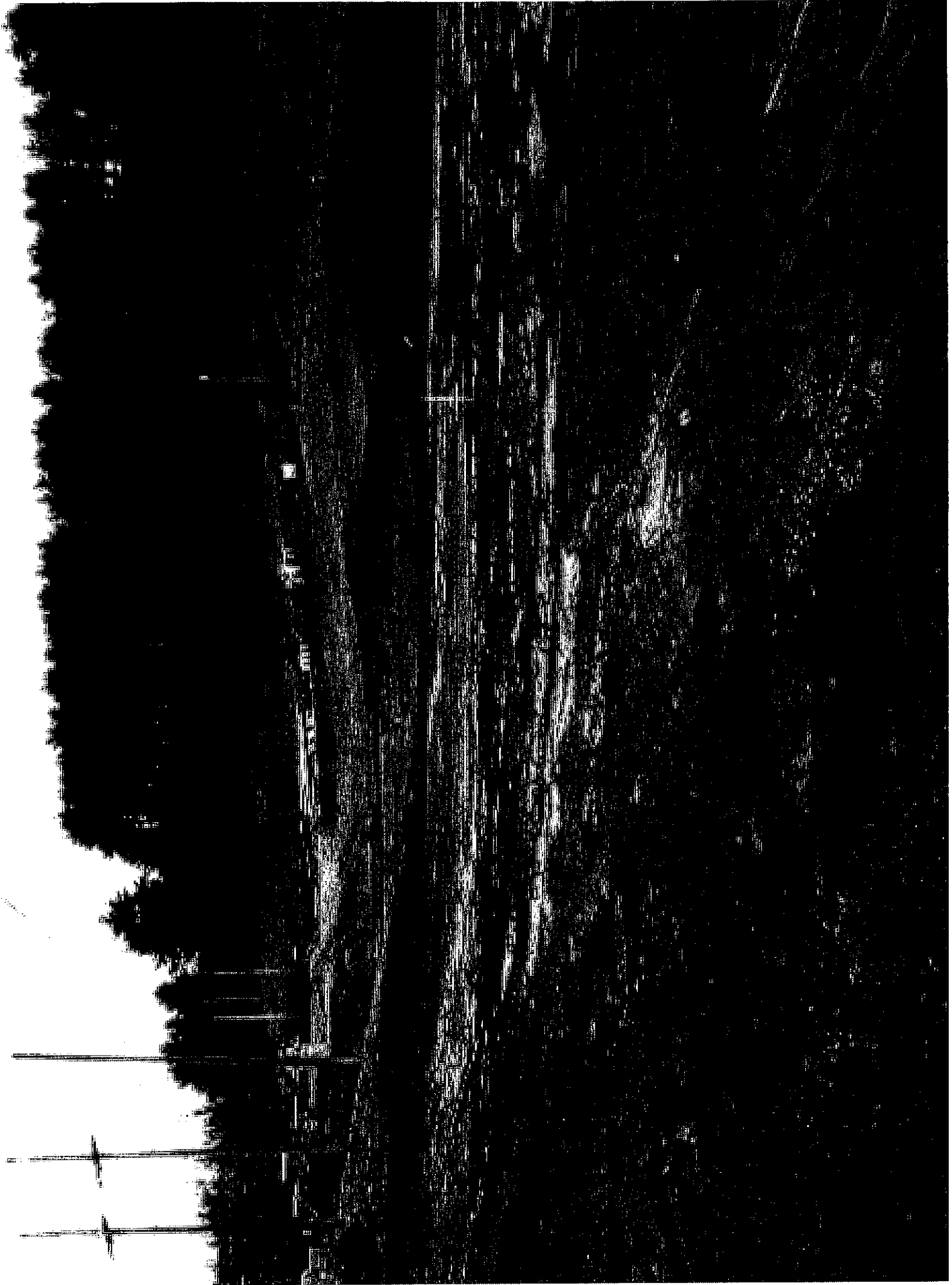
Mr. Dickey,

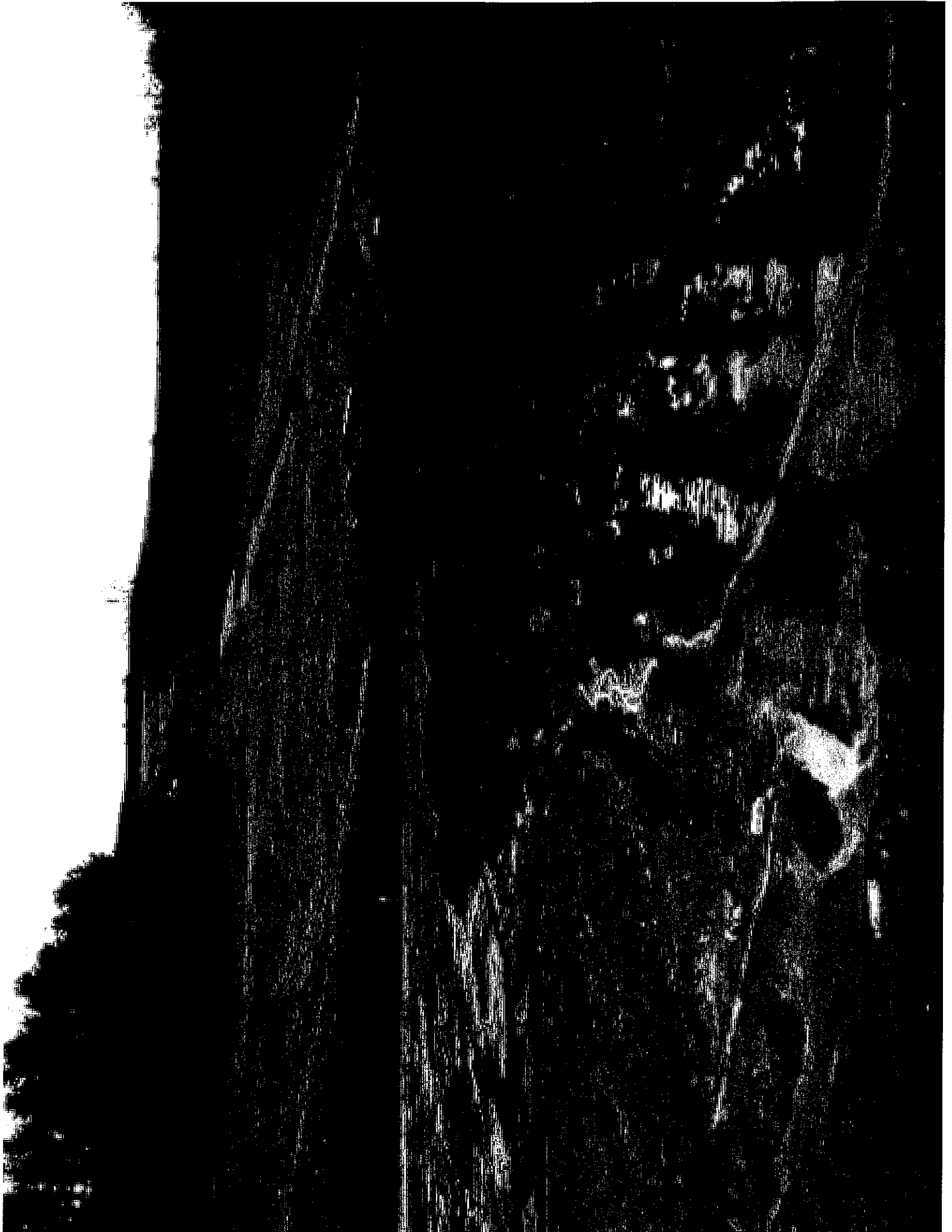
Beth and Ron, engineers with DOGRM will be at the Patriot Campbell facility around 2:00 on Monday. They will contact you on their way up on Monday. I have copied them in this email so you have their contact info. Thanks.

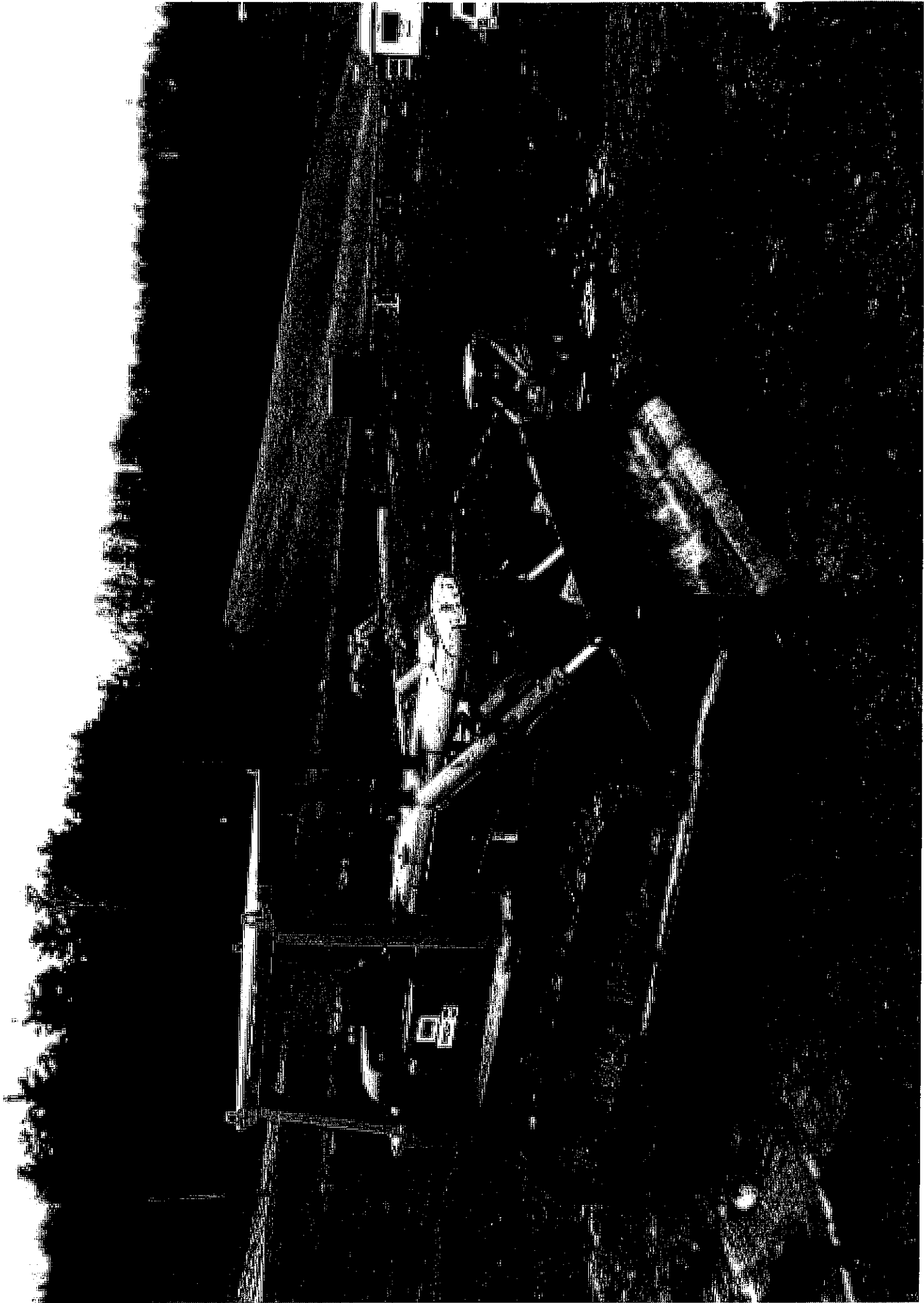
Sent from my iPhone

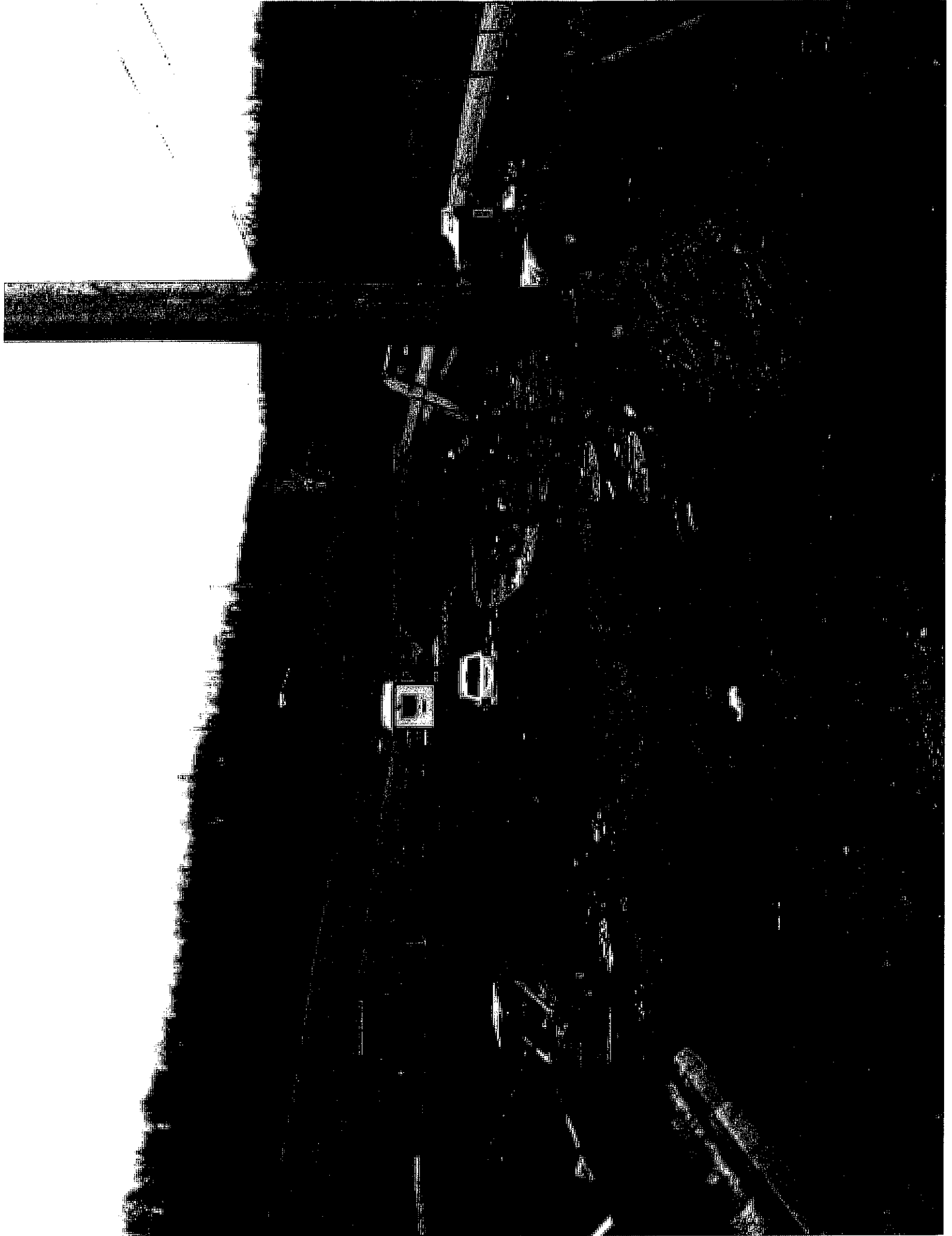
Corey, Molly

From: Arthur, Blake
Sent: Friday, December 20, 2013 1:39 PM
To: Trivisonno, Ron; Pratt, Beth
Cc: Vendel, Eric
Subject: ANGI Facility Pictures (reduced size)
Attachments: photo 1.JPG; ATT00001.txt; photo 2.JPG; ATT00002.txt; photo 3.JPG; ATT00003.txt; photo 4.JPG; ATT00004.txt









Corey, Molly

From: Ben Dickey <dickey.br@gmail.com>
Sent: Friday, December 20, 2013 4:21 PM
To: Simmers, Rick
Subject: Patriot Campbell Washout Facility
Attachments: Final Patriot-ROLL OFF CLEANING BAY.pdf; Final Patriot Campbell SOP 12 13 _4.doc

Dear Mr. Simmers,

Please find attached our facility outline for our roll off wash out facility.

Happy Holidays

Thanks
Ben

--

Ben Dickey

330-222-1274 o
330-222-1500 f
330-831-2556 m

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Corey, Molly

From: April Bott <abott@bottlawgroup.com>
Sent: Friday, December 20, 2013 4:37 PM
To: Williams, Michael
Subject: FW: Patriot Campbell Washout Facility
Attachments: Final Patriot-ROLL OFF CLEANING BAY.pdf; Final Patriot Campbell SOP 12 13 _4.doc

Mr. Williams-
Please find a copy of Patriot-Campbell's submittal.

Thank you



April Bott Moore
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PATRIOT-CAMPBELL
ADDENDUM TO NOVEMBER 2013 RC 1509.22 APPROVAL REQUEST
SUBMITTED: DECEMBER 20, 2013

The purpose of this document is to provide the ODNR/Division of Oil and Gas Management ("DOGGM") with the additional information the DOGM requested via electronic mail on December 19, 2013.

Request: Map/Aerial Identifying Facility Boundaries

- See, enclosed, aerial/map.

Request: Basic Engineering of the Facility (See also Description of Facility below)

- See, enclosed, diagram.

Request: Description of the Facility/Steps in Process (See also Facility Diagram)

- The Facility will receive roll-off boxes from customers, including customers in the oil and gas industry.
- Trucks towing the roll-off boxes will enter the Facility and drop off the roll-off boxes in a covered area that is concrete.
- Roll-off boxes and manifests will be manually inspected by a Facility employee.
- Roll-off boxes containing water or mud of more than trace amounts will be rejected.
- Materials will be tracked (See, *Provide Information Regarding Tracking of Materials Section* below).
- Roll-off boxes will be manually screened with a hand-held device for radioactive materials. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately.
- Roll-off boxes will then be placed in a contained area (concrete floor) for cleaning.
- Cleaning will occur using only high-pressure water, common dish soap and degreaser as needed (i.e. no chemicals will be added).
- Waters will be collected via floor drains and transported for processing to Patriot's Warren Facility and then to the fully-permitted City of Warren publically-owned treatment works ("POTW").
- Any incidental solids will be collected from the containment area and transferred to fully licensed solid waste landfills, expected to be Republic Services facilities.
- All volumes of waters and solids transported off-site will be documented on manifests.
- The cleaned roll-off boxes will be staged prior to return to customers.
- At no time will Patriot own any roll-off box; rather, the roll-off boxes remain the sole property of Patriot's customers.

Request: Description of Secondary Containment

- All Facility operations will occur inside an enclosed, concrete area in a Facility building. As such, no secondary containment is needed since there is no possibility of spills that

could leach into or on the ground. Additionally, the roll-off boxes will not have any ability for contact with storm water.

- All process waters will be collected in a sealed, concrete holding area in the floor.

Request: Description/Identification of Cleaning Agents and Additives

- Water will be supplied from the Campbell POTW.
- Soap will be common dish soap (i.e Dawn) and a common degreaser will be used as needed.
- No chemicals or additives will be used.

Request: Provide Information Regarding Management/Tracking of Materials

- If required by law, roll-off boxes will arrive at the Site with manifests/tracking paperwork.
- Patriot employees will review any required manifests/tracking paperwork and keep a copy.
- Patriot will request, if applicable, that each customer provide a copy of its ODNR registration certificate.
- Patriot will maintain copies of the ODNR registration certificates.
- All industrial waters collected during the washing process will be collected via floor drains and transported to Patriot's Warren facility and then to the City of Warren's fully-permitted POTW. Volumes of the industrial water will be documented and maintained at Patriot.
- Any incidental solids will be collected from the containment area and transferred to fully licensed solid waste landfills, expected to be Republic Services facilities. Volumes of solids will be documented and maintained at Patriot.

Request: Radiation Testing Protocols

- Roll-off boxes will be manually screened with a hand-held device for radioactive materials. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately.
- Patriot may also take samples for analysis by Shale Testing Solutions LLC (ODH License for Radioactive Material issued December 12, 2013).

Request: Paperwork Retention

- All documents will be maintained by Patriot for 24 months.



H121064_01

Howland Company, LLC
WORLD CLASS ENGINEERING AND ENVIRONMENTAL PROFESSIONALS

MAVERICK CONTRACTING

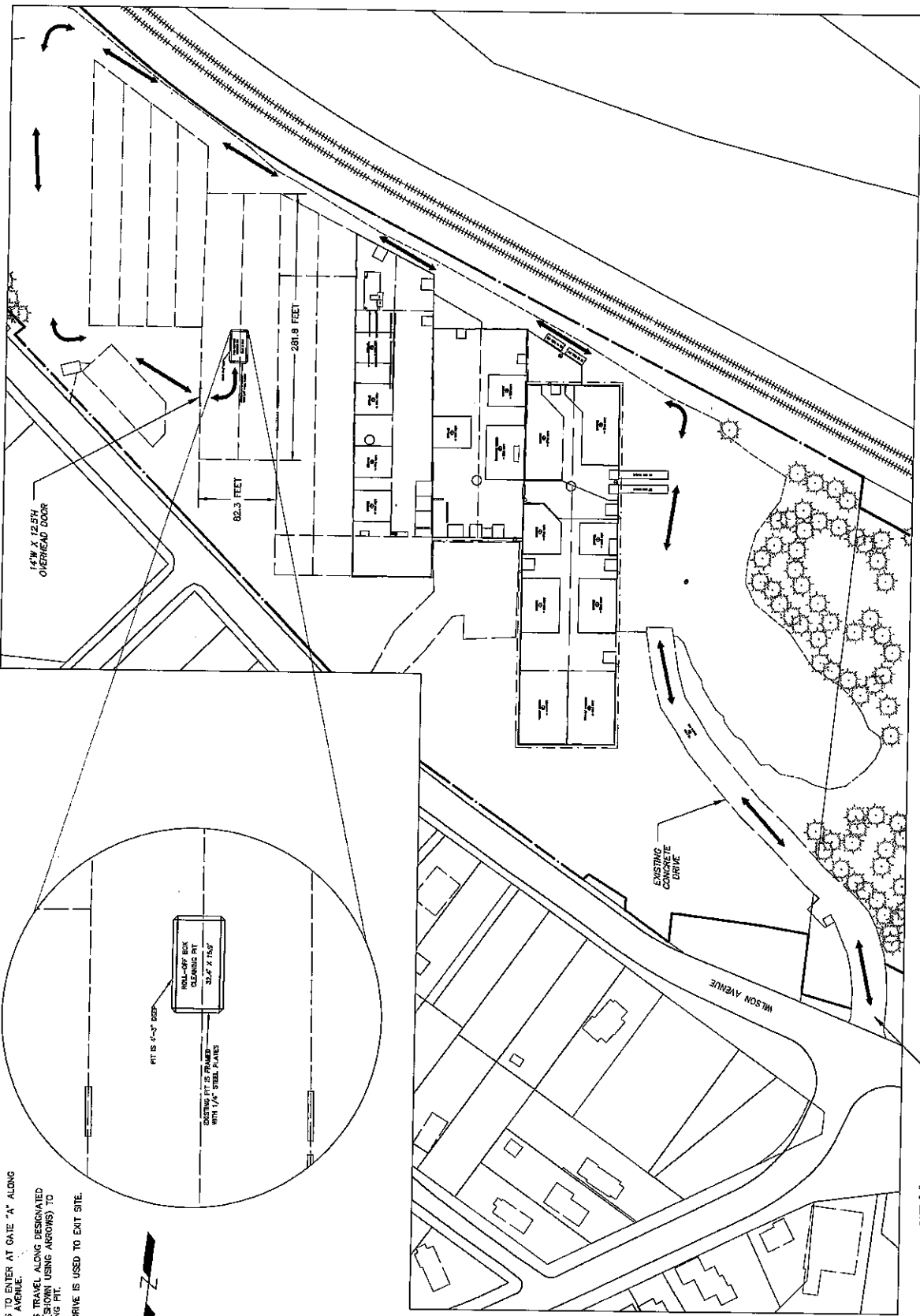
ROLL OFF WASH BAY
SITE PLAN

| REVISIONS | DATE |
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| | |

DATE 12/20/2013

CHECKED

DATE



NOTE

1. TRUCKS TO ENTER AT GATE "A" ALONG WILSON AVENUE.
2. TRUCKS TRAVEL ALONG DESIGNATED DRIVE (SHOWN USING ARROWS) TO CLEANING PIT.
3. SAME DRIVE IS USED TO EXIT SITE.



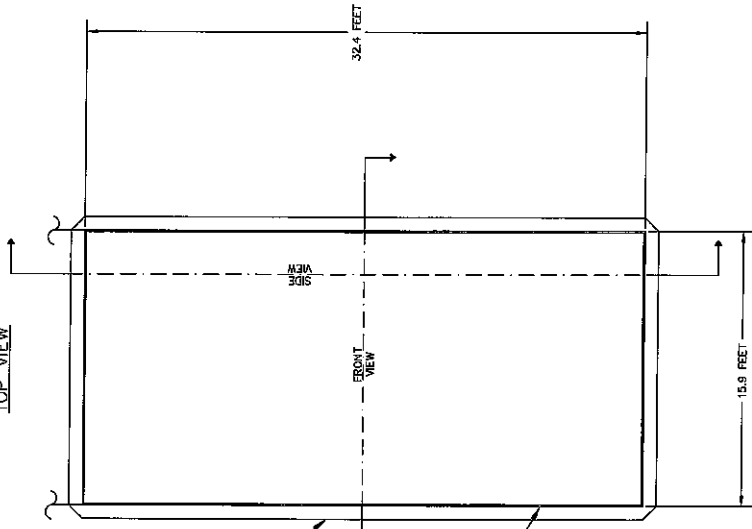
GATE "A" SITE ENTRANCE/EXIT



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| DESIGN CHECKED | DATE |
| | 12/20/2013 |

HT121064-01

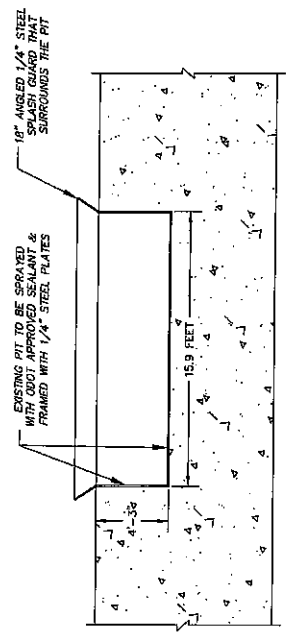
TOP VIEW



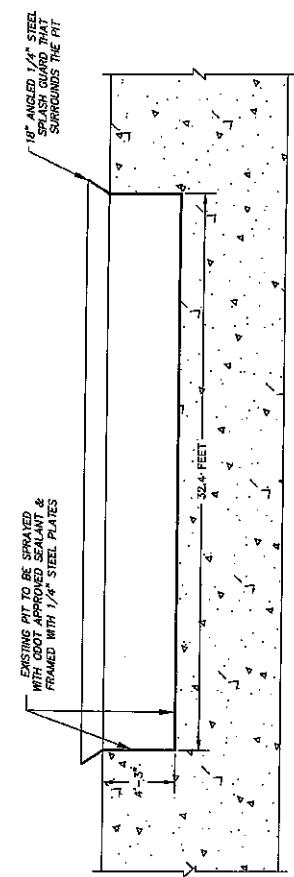
16" ANGLED 1/4" STEEL
SPRASH GUARD THAT
SURROUNDS THE PIT

EXISTING PIT TO BE SPRAYED
WITH COOT APPROVED SEALANT &
FRAMED WITH 1/4" STEEL PLATES

FRONT VIEW



SIDE VIEW



Corey, Molly

From: Williams, Michael
Sent: Friday, December 20, 2013 4:46 PM
To: April Bott
Cc: Simmers, Rick; Vendel, Eric
Subject: Re: Patriot Campbell Washout Facility
Attachments: image003.jpg

I am in receipt. I will provide an update as to the review of this information by 12/24.

You are welcome.

Mike
Sent from my iPhone

On Dec 20, 2013, at 4:38 PM, "April Bott" <abott@bottlawgroup.com> wrote:

> Mr. Williams-
> Please find a copy of Patriot-Campbell's submittal.

>
> Thank you

>
>
> [Bott Law Group Color Logo]

>
> April Bott Moore
> Bott Law Group LLC
> 5126 Blazer Parkway
> Dublin, Ohio 43017
> Main: 614-761-2688
> Direct: 614-761-3855
> Fax: 614-462-1914
> abott@bottlawgroup.com

>
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> If you are not a Bott Law Group client, your communication may not be treated as privileged or confidential. If you are a Bott Law Group client and are sharing attorney-client information, please remember that Internet e-mail is not secure and you may wish to consider other means of sharing the information.

>
>
>
> From: Ben Dickey [<mailto:dickey.br@gmail.com>]
> Sent: Friday, December 20, 2013 4:21 PM
> To: Rick.simmers@dnr.state.oh.us
> Subject: Patriot Campbell Washout Facility

>
> Dear Mr. Simmers,
>
> Please find attached our facility outline for our roll off wash out facility.
>
> Happy Holidays
>
> Thanks
> Ben
>
> --
> Ben Dickey
>
> 330-222-1274 o
> 330-222-1500 f
> 330-831-2556 m
>
> "This communication, including any attachments, may contain confidential and privileged information that is subject to the Business Information Protection Policy. The information is intended solely for the use of the intended recipient(s). If you are not an intended recipient, you are prohibited from any use, distribution, or copying of this communication. If you have received this communication in error, please immediately notify the sender and then delete this communication in its entirety from your system."
> <image003.jpg>
> <Final Patriot-ROLL OFF CLEANING BAY.pdf> <Final Patriot Campbell SOP
> 12 13 _4.doc>

Corey, Molly

From: April Bott <abott@bottlawgroup.com>
Sent: Friday, December 20, 2013 5:28 PM
To: Williams, Michael
Cc: Simmers, Rick; Vendel, Eric
Subject: RE: Patriot Campbell Washout Facility

Thank you. The site visit has been confirmed for 12/23 as well.

-----Original Message-----

From: Williams, Michael [<mailto:Michael.Williams@dnr.state.oh.us>]
Sent: Friday, December 20, 2013 4:46 PM
To: April Bott
Cc: Simmers, Rick; Vendel, Eric
Subject: Re: Patriot Campbell Washout Facility

I am in receipt. I will provide an update as to the review of this information by 12/24.

You are welcome.

Mike
Sent from my iPhone

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> [Bott Law Group Color Logo]

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> Ben

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> --

> Ben Dickey

>

> 330-222-1274 o

> 330-222-1500 f

> 330-831-2556 m

>

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and privileged information that is subject to the Business Information Protection Policy. The information is intended solely for the use of the intended recipient(s). If you are not an intended recipient, you are prohibited from any use, distribution, or copying of this communication. If you have received this communication in error, please immediately notify the sender and then delete this communication in its entirety from your system."

> <image003.jpg>

> <Final Patriot-ROLL OFF CLEANING BAY.pdf> <Final Patriot Campbell SOP

> 12 13 _4.doc>

Corey, Molly

From: Boniti, Greg <gboniti@coalsource.com>
Sent: Friday, December 20, 2013 5:29 PM
To: Simmers, Rick
Cc: April Bott; Carey, Michael; Moore, Robert
Subject: Follow up to our meeting on 12/18/13
Attachments: follow up for odnr.pdf

Chief,

Attached is the information you had requested at our meeting. We appreciate your attention to this matter and if you have any questions please let me know. Thank you.

Regards,

Greg

Gregory Boniti
Vice President Engineering
American Natural Gas, Inc.
46226 National Road
Saint Clairsville, OH 43950
740-338-3100 office
740-213-7303 mobile

PATRIOT-CAMPBELL
ADDENDUM TO NOVEMBER 2013 RC 1509.22 APPROVAL REQUEST
SUBMITTED: DECEMBER 20, 2013

The purpose of this document is to provide the ODNR/Division of Oil and Gas Management (“DOGM”) with the additional information the DOGM requested via electronic mail on December 19, 2013.

Request: Map/Aerial Identifying Facility Boundaries

- See, enclosed, aerial/map.

Request: Basic Engineering of the Facility (See also Description of Facility below)

- See, enclosed, diagram.

Request: Description of the Facility/Steps in Process (See also Facility Diagram)

- The Facility will receive roll-off boxes from customers, including customers in the oil and gas industry.
- Trucks towing the roll-off boxes will enter the Facility and drop off the roll-off boxes in a covered area that is concrete.
- Roll-off boxes and manifests will be manually inspected by a Facility employee.
- Roll-off boxes containing water or mud of more than trace amounts will be rejected.
- Materials will be tracked (See, *Provide Information Regarding Tracking of Materials Section* below).
- Roll-off boxes will be manually screened with a hand-held device for radioactive materials. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately.
- Roll-off boxes will then be placed in a contained area (concrete floor) for cleaning.
- Cleaning will occur using only high-pressure water, common dish soap and degreaser as needed (i.e. no chemicals will be added).
- Waters will be collected via floor drains and transported for processing to Patriot’s Warren Facility and then to the fully-permitted City of Warren publically-owned treatment works (“POTW”).
- Any incidental solids will be collected from the containment area and transferred to fully licensed solid waste landfills, expected to be Republic Services facilities.
- All volumes of waters and solids transported off-site will be documented on manifests.
- The cleaned roll-off boxes will be staged prior to return to customers.
- At no time will Patriot own any roll-off box; rather, the roll-off boxes remain the sole property of Patriot’s customers.

Request: Description of Secondary Containment

- All Facility operations will occur inside an enclosed, concrete area in a Facility building. As such, no secondary containment is needed since there is no possibility of spills that

could leach into or on the ground. Additionally, the roll-off boxes will not have any ability for contact with storm water.

- All process waters will be collected in a sealed, concrete holding area in the floor.

Request: Description/Identification of Cleaning Agents and Additives

- Water will be supplied from the Campbell POTW.
- Soap will be common dish soap (i.e Dawn) and a common degreaser will be used as needed.
- No chemicals or additives will be used.

Request: Provide Information Regarding Management/Tracking of Materials

- If required by law, roll-off boxes will arrive at the Site with manifests/tracking paperwork.
- Patriot employees will review any required manifests/tracking paperwork and keep a copy.
- Patriot will request, if applicable, that each customer provide a copy of its ODNR registration certificate.
- Patriot will maintain copies of the ODNR registration certificates.
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- Any incidental solids will be collected from the containment area and transferred to fully licensed solid waste landfills, expected to be Republic Services facilities. Volumes of solids will be documented and maintained at Patriot.

Request: Radiation Testing Protocols

- Roll-off boxes will be manually screened with a hand-held device for radioactive materials. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately.
- Patriot may also take samples for analysis by Shale Testing Solutions LLC (ODH License for Radioactive Material issued December 12, 2013).

Request: Paperwork Retention

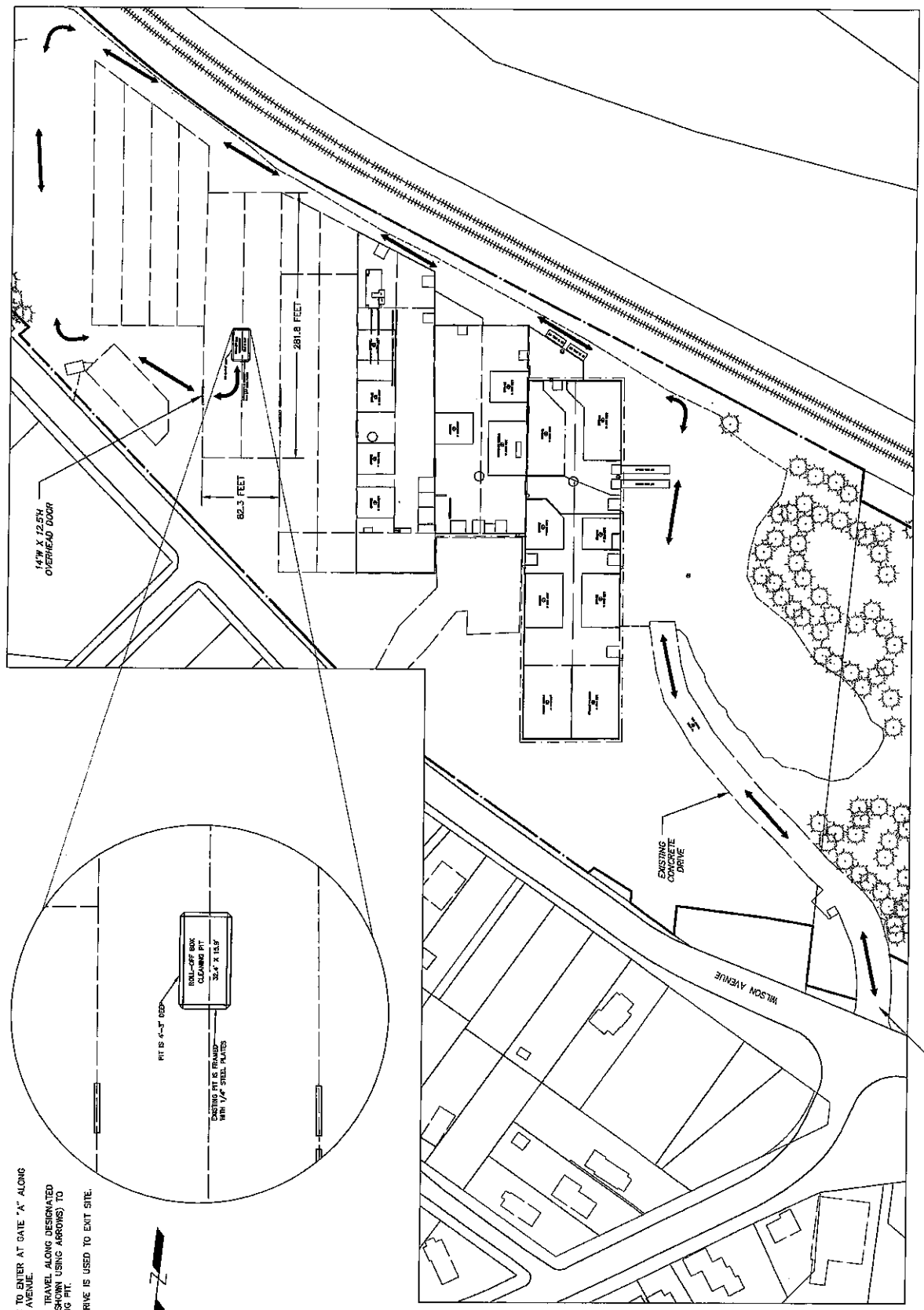
- All documents will be maintained by Patriot for 24 months.



| REVISIONS | DATE |
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| | |

DATE: 12/20/2013

H121064_01



- NOTE:
1. TRUCKS TO ENTER AT GATE "A" ALONG WILSON AVENUE.
 2. TRUCKS TRAVEL ALONG DESIGNATED DRIVE (SHOWN USING ARROWS) TO CLEANING PIT.
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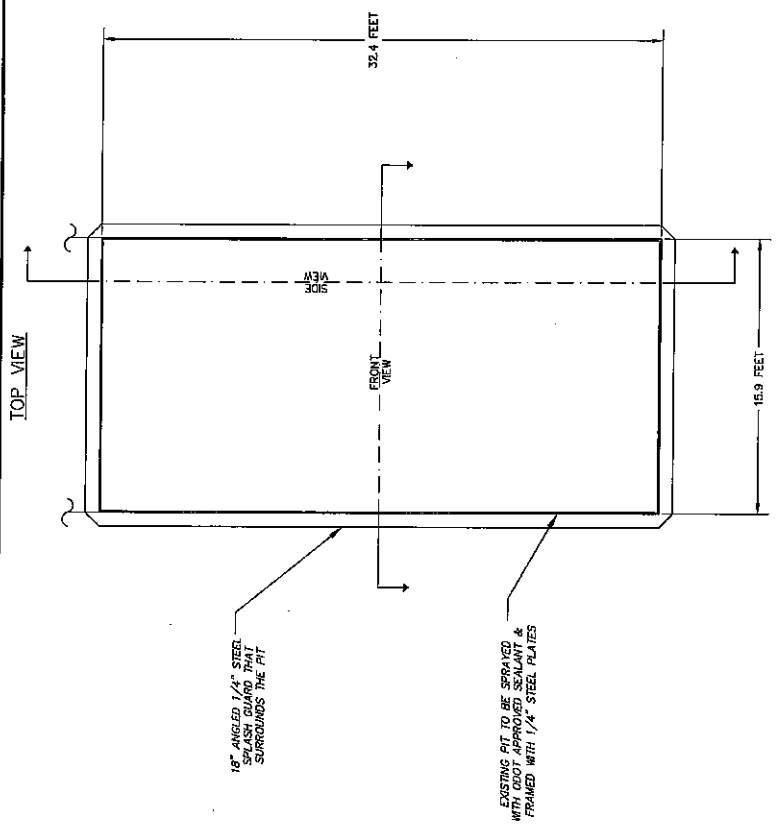
GATE "A" SITE ENTRANCE/EXIT



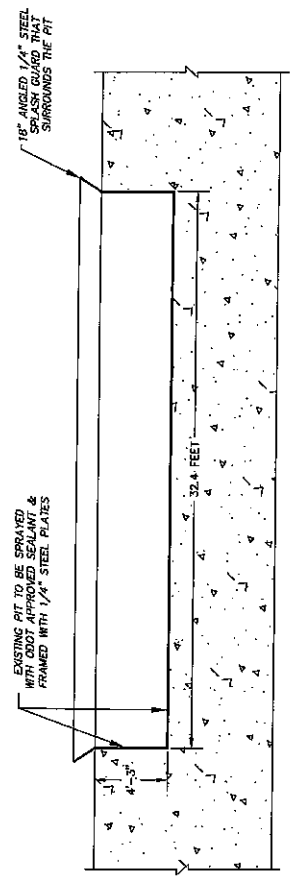
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| CHECKED | |
| DRAWN | |

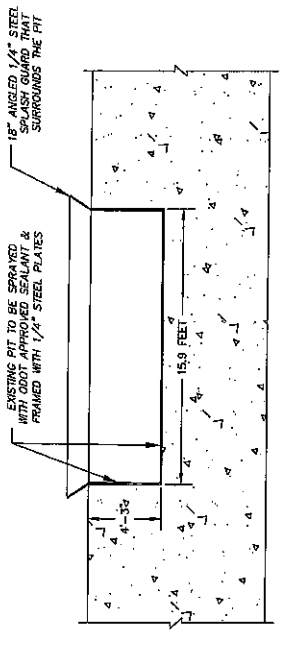
H121064_01



SIDE VIEW



FRONT VIEW



Corey, Molly

From: April Bott <abott@bottlawgroup.com>
Sent: Friday, December 20, 2013 5:36 PM
To: Williams, Michael
Subject: FW: Follow up to our meeting on 12/18/13
Attachments: follow up for odnr.pdf

Mr. Williams-

Attached please find ANGI's addendum to its pending RC 1509.22 approval application. ODNR inspectors were on-site this morning. Please call with questions.

April



April Bott Moore
Bott Law Group LLC
5126 Blazer Parkway
Dublin, Ohio 43017
Main: 614-761-2688
Direct: 614-761-3855
Fax: 614-462-1914
abott@bottlawgroup.com

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From: Boniti, Greg [<mailto:gboniti@coalsource.com>]
Sent: Friday, December 20, 2013 5:29 PM
To: Rick.Simmers@dnr.state.oh.us
Cc: April Bott; Carey, Michael; Moore, Robert
Subject: Follow up to our meeting on 12/18/13

Chief,

Attached is the information you had requested at our meeting. We appreciate your attention to this matter and if you have any questions please let me know. Thank you.

Regards,

Greg

Gregory Boniti

Vice President Engineering
American Natural Gas, Inc.
46226 National Road
Saint Clairsville, OH 43950
740-338-3100 office
740-213-7303 mobile

December 20, 2013

By Electronic and Overnight Mail
Rick.Simmers@dnr.state.oh.us

Rick Simmers, Chief, Ohio & Gas Division
Ohio Department of Natural Resources
2045 Morse Road, Building F-2
Columbus OH 43229-6693

**RE: American Natural Gas, Inc. Water Transfer Facility:
Follow-up Addendum to November 2013 RC 1509.22 Approval Application**

Dear Chief Simmers:

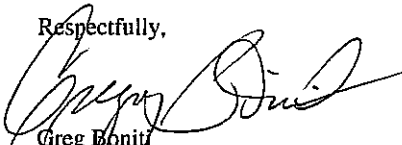
On behalf of American Natural Gas, Inc. ("ANGI"), please find, enclosed, a follow-up addendum to ANGI's pending R.C. 1509.22 Request for Approval Application for a Water Transfer Facility, which was first submitted to ODNR in November 2013. ANGI is submitting the addendum at the request of ODNR following a December 18, 2013 in-person meeting, during which ODNR specifically requested more detailed information regarding the following topics:

- Pond Construction;
- Loading/Unloading Areas;
- Management of Potential Spills;
- Paperwork Management/Tracking of Waters;
- Pond Sediment Management;
- Chemical Additives;
- Pond Safety.

The enclosed addendum, with accompanying diagrams, addresses each of the subjects set forth above. Additionally, ODNR intends to perform a site visit on December 20, 2013 to review the facility.

As you know, ANGI intends to begin operating its Water Transfer Facility before December 31, 2013. Therefore, ANGI requests that ODNR move forward with the approval as quickly as possible. To that end, I am available as needed to answer questions or clarify any remaining issues.

Respectfully,



Greg Boniti
VP Engineering

Enclosures: Addendum, Facility Diagrams (3)

AMERICAN NATURAL GAS INC.
ADDENDUM TO NOVEMBER 2013 RC 1509.22 APPROVAL REQUEST
SUBMITTED: DECEMBER 20, 2013

The purpose of this document is to provide ODNR/Division of Oil and Gas Management ("DOGMA") with the additional information the DOGM requested during a December 18, 2013 meeting between ODNR and American Natural Gas, Inc. ("ANGI").

Request: Describe Pond Construction (See also Facility Diagrams)

- The Facility will include two ponds.
- The first pond will hold water from customers. While no settlement is expected to occur, any incidental settlement will occur in the first pond.
- The customer water will then be transferred to the second pond where it will be combined with fresh water from on-site.
- Each pond is designed to have 2' of freeboard.
- Both ponds will be 7' deep and have a 2:1 slope (pond sizing described on Facility Diagrams). They will each be surrounded by a 15' bench.
- The first pond will be approximately 454 yds³ of cut and 2431 yds³ of fill.
- The second pond will be approximately 2837 yds³ of cut and 1574 yds³ of fill.
- The earth work will be lined with clay where needed in addition to synthetic liners.
- Piping for adding water will be located above the liner for the first pond. The removal of water from the first pond will occur via the bottom of the pond using a 2' high drain pipe that will be fused into the liner.
- Piping for adding water will be located above the liner for the second pond. The removal of water from the second pond will occur via the bottom of the pond using a 1' high drain pipe that will be fused into the liner.

Request: Describe Loading/Unloading Areas (See also Facility Diagrams)

- Trucks will enter the Facility and traverse on an asphalt road.
- The facility will be managed by ANGI employees.
- ANGI employees will direct the trucks to one of five (5) loading/unloading stations.
- All paperwork will be checked (see detailed description in *Provide Information Regarding Tracking of Waters* response below).
- All loading/unloading stations will have two sets of SDR-11 above-ground pipes, one for loading and one for unloading.
- Trucks will couple to the pipe, which will be locked into place before any loading/unloading occurs.
- In the unlikely event of a spill, the spill will traverse onto the asphalt and into an accompanying catch basin (without drainage). The catch basin will be vacuumed out and the waters transported to the first pond. The catch basin will be approximately 42,000 ft³.
- Loading/unloading must be completed before any uncoupling of the pipe from the truck.
- Piping from unloading will travel underground and then resurface for placement of waters into the first pond.

- Loading piping will start below ground at the final storage pond and then traverse underground and resurface at the loading area.

Request: Describe Use of Agents/Chemicals

- No chemicals will be added to the waters.

Request: Describe Process to Contain Spills

Loading/Unloading Area:

- Any spill will traverse onto the asphalt and into an accompanying catch basin (without drainage). The catch basin will be vacuumed out and the waters transported to the first pond.

Ponds:

- The ponds will be constructed to include synthetic liners to prevent underground leaks.
- Earthen berms (2') will be installed around the ponds to prevent ponds from overflowing in significant storm events.

Request: Provide Information Regarding Tracking of Waters

- Water haulers will arrive at the Facility with manifests/tracking paperwork.
- ANGI will review the manifests/tracking paperwork and keep a copy.
- ANGI will also require haulers to complete an "ANGI field ticket" which is ANGI's own internal tracking system.
- ANGI will request that each customer provide a copy of its ODNR registration certificate (certificates required by R.C. 1509.222).
- ANGI will maintain the copies of the ODNR registration certificates.
- ANGI will confirm that customer trucks have identification numbers identified on the trucks.
- No waters will be accepted with TDS content above 80,000 mg/l.
- Cuttings and mud will not be accepted.
- Upon pick-up of water by ANGI customers, ANGI will provide documentation (i.e. "ANGI exit field ticket") to the pick-up hauler of volume of water out of the Facility. ANGI will maintain a duplicate of the documentation.
- ANGI will maintain: (1) the customer water volumes into the Facility, (2) the volumes of water introduced internally; and (3) the volumes of waters sold to customers.
- Water volumes will be measured by flow meters installed at each point of transfer (see Facility Diagrams for flow meter locations).
- ANGI will perform mass balance calculations for water volumes and maintain those calculations.
- All documents will be maintained for 24 months.

Request: How Pond Sediments Will Be Addressed

- ANGI will not accept any cuttings or mud; all such loads will be rejected.
- As such, ANGI does not anticipate much, if any, sedimentation to occur.

- ANGI will maintain two lined ponds as part of the Facility. If settling occurs, it will occur in the first pond.
- ANGI does not foresee the need to develop a regular sediment removal protocol based on the volume of the pond and the lack of sediment expected.
- In the event sediment needs to be removed from the pond, ANGI will retain a third-party to obtain grab samples of sediment (while such sediment is in situ) for lab testing. ANGI will then remove and dispose of any sediment in concert with applicable requirements, based on the test results (i.e. transport to an appropriate type of landfill or similar disposal site).
- Any sediment transferred will be documented consistent with ANGI's exit field ticket process as well as any other legally required documentation process.

Request: How ANGI Will Address Pond Safety

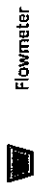
- The Facility will be gated and locked when not operational.
- The Facility will include signs identifying the property as private.
- A barbed-wire fence will be constructed around the ponds.
- The Facility will be managed by ANGI employees during operational hours.
- The Facility will have after-hours security and security lights.
- A rope will be maintained at the Facility, but will not be left unattended.



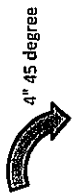
4" valve



4" cap



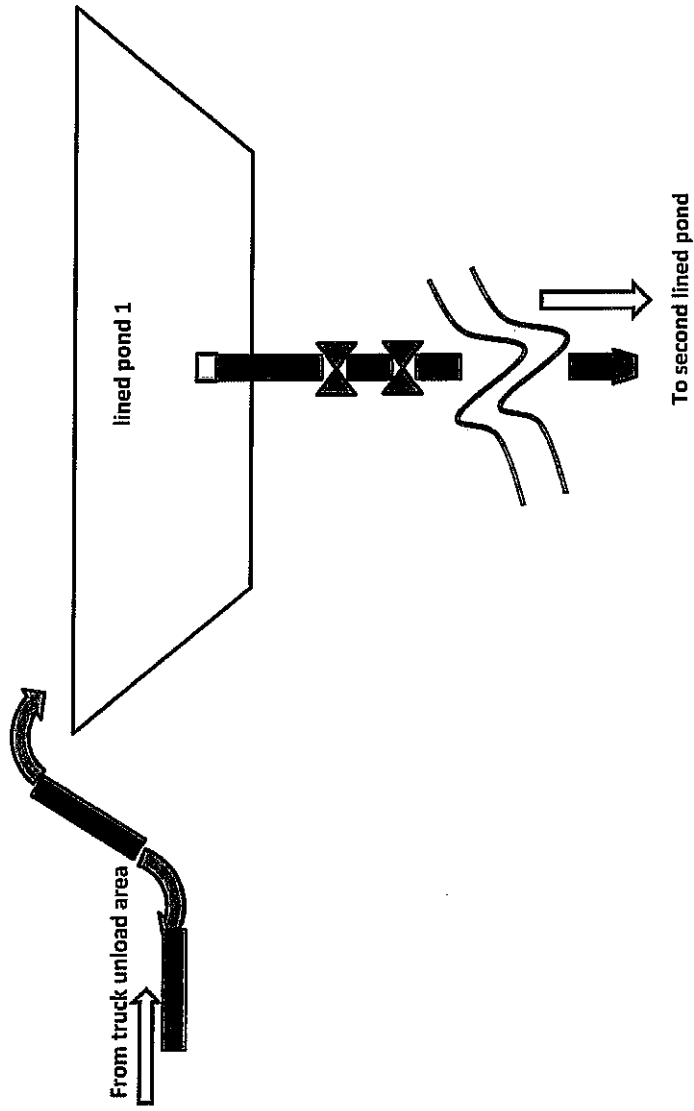
Flowmeter

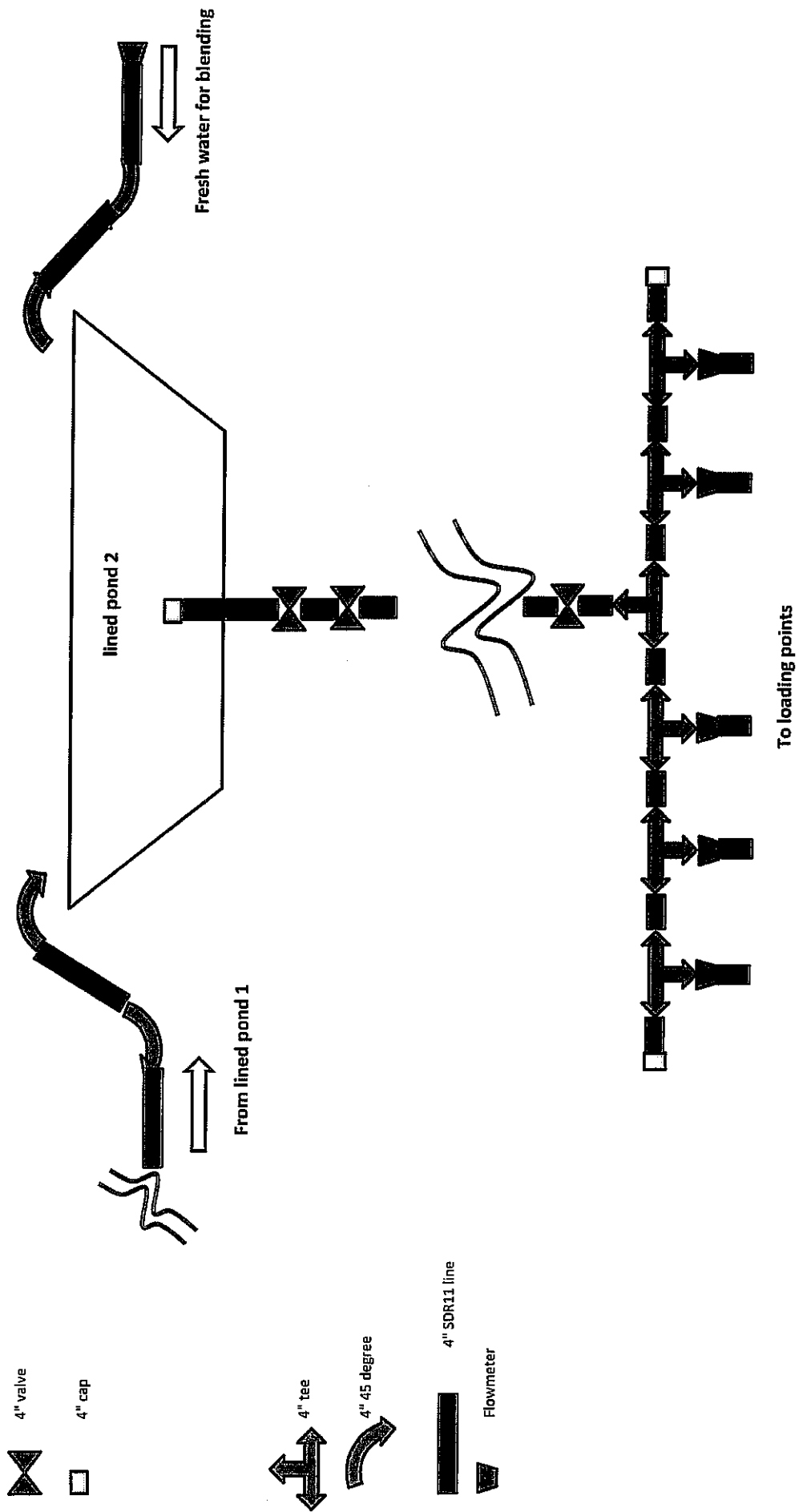


4" 45 degree



4" SDR11 line





4" valve

4" cap

4" tee

4" 45 degree

4" SDR11 line

Flowmeter

To loading points

lined pond 2

From lined pond 1

Fresh water for blending

Corey, Molly

From: Williams, Michael
Sent: Friday, December 20, 2013 5:54 PM
To: April Bott
Cc: Simmers, Rick; Vendel, Eric
Subject: Re: Follow up to our meeting on 12/18/13
Attachments: image003.jpg

Thank you. DNR will follow up next week.

Mike

Sent from my iPhone

On Dec 20, 2013, at 5:37 PM, "April Bott" <abott@bottlawgroup.com> wrote:

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- > [Bott Law Group Color Logo]
- >
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- > Main: 614-761-2688
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- > abott@bottlawgroup.com
- >
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- >
- >
- >
- > From: Boniti, Greg [<mailto:gboniti@coalsource.com>]
- > Sent: Friday, December 20, 2013 5:29 PM
- > To: Rick.Simmers@dnr.state.oh.us
- > Cc: April Bott; Carey, Michael; Moore, Robert
- > Subject: Follow up to our meeting on 12/18/13

>
> Chief,
>
> Attached is the information you had requested at our meeting. We appreciate your attention to
> this matter and if you have any questions please let me know. Thank you.
>
> Regards,
>
> Greg
>
>
> Gregory Boniti
> Vice President Engineering
> American Natural Gas, Inc.
> 46226 National Road
> Saint Clairsville, OH 43950
> 740-338-3100 office
> 740-213-7303 mobile
>
>
> <image003.jpg>
> <follow up for odnr.pdf>

Corey, Molly

From: Williams, Michael
Sent: Tuesday, December 24, 2013 1:30 PM
To: April Bott
Cc: Vendel, Eric; Corey, Molly; Delisi, Megan; Williams, Michael; Simmers, Rick; Shimp, Frederick
Subject: Fwd: ANGI facility *** Attorney-Client Privileged Communication ***

Ms. Bott,

Below is a summary of items that need to be addressed by year's end. Please confirm your client's commitment to compliance as to these issues in order to garner approval of this operation.

Please advise if you have questions as to this information.

Thank you.

Mike

Sent from my iPad

DOGRM engineers have reviewed the submitted plans for the American Natural Gas, Inc. proposed water transfer facility. Furthermore, two DOGRM engineers visited the site for the proposed facility. Based on the engineer's review of the plan and their site visit, there are significant weaknesses in the proposed plans for the facility and revisions need to be made in order to prevent environmental contamination and to receive an approval from the Chief. The engineer's required revisions consist of all of the following:

- Collection and containment of surface runoff and potential spills from the truck loading/unloading asphalt area is not adequate. The proposed spill containment for the truck loading/unloading zones is a slotted drain that traverses the drive and drains into a collection sump. Runoff across the asphalt and any spills on the asphalt could over run the slot drain and drain into the rock berm surrounding the asphalt. To prevent soil contamination, a containment berm or curb should be installed around the asphalt area (at minimum, along the down gradient side of the asphalt) to direct and collect spills and potentially contaminated runoff.
- All surface runoff from the truck loading/unloading zone needs to be captured and tested before being released into the environment. Show that the sump is adequately sized to contain runoff from a 10-year storm across the asphalt drainage area. There is insufficient detail on the surface runoff and spill collection/containment system to fully evaluate functionality.
- There is no secondary containment for either pond or the piping systems containing brine and blended waters. Secondary containment and a means to detect and collect leakage through the primary containment needs to be installed to prevent undetected leakage into the environment.

- Piping penetrations through the primary liner of the ponds need to be tested to ensure there is no leakage at the commencement and throughout the life of the operation.
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- A solids management/handling plan needs to be prepared for material that settles in pond 1. This material would need to be managed as TENORM.
- Boundary limits of the site need to be clearly identified on the site plan.

Corey, Molly

From: Pratt, Beth
Sent: Tuesday, December 24, 2013 12:48 PM
To: Arthur, Blake
Subject: Patriot-Murray

With Eric's help, we got out the main items pertaining to the deficiencies at Patriot Campbell and the ANGI site to Mike Williams. Site trip reports and pictures are not complete, but what was needed was the main deficiencies based on current law. I'll fill you in on details later.

Jimmy has been putting the incoming applications and submittals on Ron's desk, if you want to get a jump on things. I have not gotten through my emails, as this a.m. was crazy with the above details, so I assume I have a few too.

Hope you had a Merry Christmas and I will see you Monday. Beth P.

*Beth A. Pratt, P.E.
Div. of Oil & Gas Resources Mgmt., ODNR
2045 Morse Road Bldg F
Columbus, OH 43229
614/265-6905 office*

Corey, Molly

From: Williams, Michael
Sent: Tuesday, December 24, 2013 1:39 PM
To: April Bott
Cc: Vendel, Eric; Corey, Molly; Delisi, Megan; Williams, Michael; Simmers, Rick; Shimp, Frederick
Subject: Fwd: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

Ms. Bott,

Below is information that needs to be addressed in order to confirm approval of the above operation by year's end. Please confirm your client's commitment as to these compliance items.

While the below information offers a plan whereby DNR would follow up directly with your client's engineering expert, my preference remains for you to remain the primary source of written communication as to this issue.

Please advise if there are questions concerning this matter.

Thank you.

Mike

DOGRM engineers have reviewed the submitted plans for the Patriot Cambell proposed roll-off box wash facility. Furthermore, two DOGRM engineers visited the site for the proposed facility. Based on the engineer's review of the plan and their site visit, there are significant weaknesses in the proposed plans for the facility and revisions need to be made in order to prevent environmental contamination and to receive an approval from the Chief. The engineer's required revisions consist of all of the following:

- Secondary containment for the entire operation needs to be designed and installed. The existing concrete floor and the proposed wash pit contained many faults, cracks, penetrations, cut channels and floor drains. Outlets for the floor drains were assumed to be into the proposed wash pit, but condition of the drains is unknown, and due to age and lack of construction detail, questionable. All penetrations in the floor need to be sealed to prevent discharges.
- Surface water run-off controls need to be designed and implemented around the building and where trucks would access the building or stage while waiting to unload.

- Wash water resulting from roll-off box washing and facility wash water inside the building needs to be contained and maintained to prevent migration off-site.
- The December 20, 2013 addendum was not prepared or reviewed by those present at the site visit and some of the content was inconsistent with the description of the operation provided by the facility representatives. Mr. Evans, the engineer from Howland Co., LLC., will revise and resubmit the addendum.
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- MSDS sheets for cleansers and degreasers need to be provided.

- Provide a solids handling plan to include proposed stabilization agents.

- Provide radiation protocol for solids that may exceed proposed limits detected in preliminary screening. Provide equipment cut sheets for radiation screening detector.

Please note that at the site visit, Ben Dickey, V.P of Patriot Water Treatment LLC, requested that the DOGRM engineers send to him a listing of all of the additional information that the engineers would need and discussed with Patriot representatives. The DOGRM engineers will send the details to Mr. Dickey directly on December 30, 2013 unless you advise otherwise. If you advise otherwise, you may contact me or the DOGRM engineers directly. The engineers are Beth Pratt and Blake Arthur.

Corey, Molly

From: abott <abott@bottlawgroup.com>
Sent: Tuesday, December 24, 2013 2:20 PM
To: Williams, Michael; abott
Cc: Vendel, Eric; Corey, Molly; Delisi, Megan; Simmers, Rick; Shimp, Frederick
Subject: RE: Fwd: ANGI facility *** Attorney-Client Privileged Communication ***

Mr Williams

I have forwarded the Division's position to my client for review and response. In the meantime can you please send me the legal citations to support the ODNRs mandates in the list below. RC 1509 does not grant the division the authority your mandates seek. See specifically 1509.22A.

Additionally the pond referenced below is the same pond the Chief addressed during the call. My notes reflect that this pond was deemed "not within the Division's jurisdiction." Greg Boniti told your inspectors of this conclusion. Nonetheless, Murray's security team found your inspectors at this pond and other areas well off the project site. This issue will be addressed under separate cover but the pond is identified below so it is a relevant point to raise.

Thank you in advance for forwarding the relevant legal citation for the Division's claim of authority over "environmental contaminantion" ANGI will respond shortly.

April Bott Moore

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Williams, Michael" <Michael.Williams@dnr.state.oh.us>
Date: 12/24/2013 1:30 PM (GMT-05:00)
To: April Bott <abott@bottlawgroup.com>
Cc: "Vendel, Eric" <Eric.Vendel@dnr.state.oh.us>,"Corey, Molly" <Molly.Corey@dnr.state.oh.us>,"Delisi, Megan" <Megan.DeLisi@dnr.state.oh.us>,"Williams, Michael" <Michael.Williams@dnr.state.oh.us>,"Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>,"Shimp, Frederick" <Frederick.Shimp@dnr.state.oh.us>
Subject: Fwd: ANGI facility *** Attorney-Client Privileged Communication ***

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Please advise if you have questions as to this information.

Thank you.

Mike

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- A solids management/handling plan needs to be prepared for material that settles in pond 1. This material would need to be managed as TENORM.
- Boundary limits of the site need to be clearly identified on the site plan.

Corey, Molly

From: abott <abott@bottlawgroup.com>
Sent: Thursday, December 26, 2013 7:56 AM
To: Williams, Michael
Cc: Vendel, Eric; Corey, Molly; Delisi, Megan; Simmers, Rick; Shimp, Frederick; Butler, Craig W
Subject: RE: Fwd: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

Mr Williams-

Patriot would like to see a draft of the approval document as soon as possible. As to the list below, please confirm that "addressed" as used in your email means that patriot will do the requested items, but obviously no one expects that patriot can build an entire building of secondary containment in less than one week. Finally please provide the legal citation for ODNRs claimed authority over "environmental contamination" 1509 does not include such broad authority.

Thank you in advance for your expected prompt response along with a draft approval.

April

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Williams, Michael" <Michael.Williams@dnr.state.oh.us>
Date: 12/24/2013 1:38 PM (GMT-05:00)
To: April Bott <abott@bottlawgroup.com>
Cc: "Vendel, Eric" <Eric.Vendel@dnr.state.oh.us>,"Corey, Molly" <Molly.Corey@dnr.state.oh.us>,"Delisi, Megan" <Megan.DeLisi@dnr.state.oh.us>,"Williams, Michael" <Michael.Williams@dnr.state.oh.us>,"Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>,"Shimp, Frederick" <Frederick.Shimp@dnr.state.oh.us>
Subject: Fwd: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

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Please advise if there are questions concerning this matter.

Thank you.

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Please note that at the site visit, Ben Dickey, V.P of Patriot Water Treatment LLC, requested that the DOGRM engineers send to him a listing of all of the additional information that the engineers would need and discussed with Patriot representatives. The DOGRM engineers will send the details to Mr. Dickey directly on December 30, 2013 unless you advise otherwise. If you advise otherwise, you may contact me or the DOGRM engineers directly. The engineers are Beth Pratt and Blake Arthur.

Corey, Molly

From: Williams, Michael
Sent: Thursday, December 26, 2013 9:25 AM
To: abott
Cc: Vendel, Eric; Corey, Molly; Delisi, Megan; Simmers, Rick; Shimp, Frederick; Butler, Craig W
Subject: Re: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

I will circulate the draft approval Monday, as I am away from my office. You are correct that DNR seeks confirmation of the plan, rather than full construction before year's end.

You are welcome. Thank you for your assistance in resolving these matters as well.

Mike

Sent from my iPhone

On Dec 26, 2013, at 7:55 AM, "abott" <abott@bottlawgroup.com> wrote:

Mr Williams-

Patriot would like to see a draft of the approval document as soon as possible. As to the list below, please confirm that "addressed" as used in your email means that patriot will do the requested items, but obviously no one expects that patriot can build an entire building of secondary containment in less than one week. Finally please provide the legal citation for ODNRs claimed authority over "environmental contamination" 1509 does not include such broad authority.

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April

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Williams, Michael" <Michael.Williams@dnr.state.oh.us>
Date: 12/24/2013 1:38 PM (GMT-05:00)
To: April Bott <abott@bottlawgroup.com>
Cc: "Vendel, Eric" <Eric.Vendel@dnr.state.oh.us>, "Corey, Molly" <Molly.Corey@dnr.state.oh.us>, "Delisi, Megan" <Megan.DeLisi@dnr.state.oh.us>, "Williams, Michael" <Michael.Williams@dnr.state.oh.us>, "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>, "Shimp, Frederick" <Frederick.Shimp@dnr.state.oh.us>
Subject: Fwd: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

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Thank you.

Mike

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Corey, Molly

From: Boniti, Greg <gboniti@coalsource.com>
Sent: Friday, December 27, 2013 12:22 PM
To: Shimp, Frederick; Simmers, Rick
Cc: Moore, Robert; Carey, Michael; abott
Subject: 12/27/13 response to ODNR
Attachments: 1227 response.pdf

Please find attached the ANGI response to your December 24th request for more information. Thank you for your time and hope everyone is enjoying their holiday.

Regards,
Greg

December 27, 2013

Fred Shimp
Ohio Department of Natural Resources
By Electronic Mail: Frederick.Shimp@dnr.state.oh.us

Richard Simmers
Ohio Department of Natural Resources
By Electronic Mail: Richard.Simmers@dnr.state.oh.us

Dear Mr. Shimp and Mr. Simmers:

American Natural Gas, Inc. ("ANGI") submits this response to ODNR's December 24, 2013 Electronic Mail, sent under the signature of Chief Counsel Michael Williams, in which ODNR articulated yet more questions/potential requirements related to ANGI's pending R.C. 1509.22 approval for its Water Transfer Facility ("Williams E-Mail"). As you know, on December 18, 2013 the parties had a meeting during which ODNR identified specific topics for which ODNR requested additional information. ANGI submitted this information on December 20, 2013, and ODNR performed a site visit the same day.

Unfortunately, the Williams E-Mail goes well beyond the scope of the agreed-to submittal as well as the scope of ODNR's authority. Additionally, it requests duplicative information to what has been previously submitted as well as information irrelevant to the Water Transfer Facility. That said, ANGI, in yet another demonstration of good faith, submits this letter in an attempt to clear up any remaining questions raised by ODNR.

As an initial point, this letter should not be viewed as a waiver of any of ANGI's legal rights with respect to the scope and limitations of the agency's statutory authority. Specifically, our legal counsel has requested that ODNR provide its basis for concluding that it has broad authority over any claim of "environmental contamination." To date, we have received no response. Importantly, ODNR's authority is limited to only assuring that "discharges to ground water or land" of oil and gas fluids do not cause or could reasonably be anticipated to cause damage or injury to public health, safety or the environment. R.C. 1509.22(A). Given the Water Transfer Facility's remote location, miles from drinking water wells and streams and on a secure site with no public access, ODNR has no reasonable or colorable claim (or evidence) that Facility will violate, or could ever potentially violate, R.C. 1509.22(A). As such, the new issues raised in the Williams E-Mail are beyond ODNR's scope of authority. Further, these requirements are not being placed on any other sector of the oil and gas industry, including those operations involving unlined ponds and high pressure gas lines. It is simply illegal for ODNR to try and force additional requirements on ANGI last minute, especially in the absence of any rules or permit program to support ODNR's position.

In a final effort to work cooperatively with ODNR, ANGI's response to each of the points in the Williams E-mail is set forth as follows:

Point One: Collection/containment of surface runoff/spills from truck unloading/loading

ANGI disagrees that the collection/containment is inadequate. As designed, the containment area can hold 1,700 barrels of spilled waters at any one time without any overflow. See, December 20, 2013 ANGI addendum. These numbers include an estimated 2' of freeboard in the containment area. If the full capacity is calculated it will total approximately 1900 barrels. A typical truck contains 180 barrels of waters. Thus, in order to hypothetically overflow the containment based on the numbers submitted previously, almost 10 full trucks would have to simultaneously have catastrophic and complete discharges. This cannot happen since the loading/unloading area is limited to 5 trucks maximum at any one time. The ANGI design is more than adequate for a truck loading/unloading area and is consistent with similar requirements (set forth by OEPA) for other industries. Additionally, ODNR makes an incorrect assumption that the waters moving through the ANGI Water Transfer Facility are "contaminated." This is simply untrue, and ODNR lacks the technical and scientific data to support its general conclusion.

Point Two: Surface water runoff from truck loading/unloading testing before release

ODNR's second point is factually incorrect. As the December 20, 2013 ANGI addendum clearly states, no water from the runoff area will be "released to the environment." Rather, all spilled water/storm water will be collected via the drains and sump and placed into Pond One (i.e. this water will be sold, not released to the environment). As to the sizing of the sump, ODNR wants proof that the sump can handle a 10-year storm event. ANGI does not understand this statement given the design of the area and applicable law. First, a storm event consists of rain water that will have no contact with any process or transfer water. No regulatory agency, including ODNR, has legal authority over rain that does not come into contact with any industrial process. Second, as explained above, the containment area can handle up to 1,700 barrels of fluids without concern, 1900 barrels if fully utilized. This sizing is much larger than any rain event—ten years or not.

Point Three: Secondary containment of the ponds and piping

ANGI is puzzled by this request. ANGI has already designed "secondary containment" for the ponds, which was set forth in the December 20, 2013 ANGI addendum at "Request: Describe Pond Construction" and in the Facility Diagrams (i.e. 2-3 foot berms). Such berms are more than acceptable from an engineering perspective to prevent any storm overflow possibility. The berms serve to divert water from the ponds and to catch any rain water that accumulates in the "bermed" area. This design would allow for 2 feet of rain. If ODNR has actual engineering calculations or similar data to demonstrate otherwise, please share this information with us immediately. As to the secondary containment of the piping, please see the response to Point Four below. Specifically, secondary containment cannot possibly be required for the piping since any leaking from such pipes, whether catastrophic or not, cannot and will not trigger R.C.

1509.22(A) due to the remote location of the ANGI facility. Further, secondary containment of piping is not reasonable, feasible or cost effective.

Point Four: Testing of pipe connections at the ponds

ODNR has requested testing of the underground pipe connections to the ponds. As explained, the pipes will be fused to a synthetic liner, thus creating a barrier that is stronger than even the liner itself. Integrity assurances of the fused areas are confirmed upon installation. As to testing throughout the life of the operation, such testing is not possible and not required for any other industry sector holding similar materials. Additionally, any pinprick leaks (or catastrophic leaks for that matter) cannot and will not trigger R.C. 1509.22(A) due to the remote location of the ANGI facility. Material balance calculations performed periodically will show any significant leakage.

Point Five: Details of the storage pond at the top of the hill

During the December 18, 2013 telephone conference between ANGI and ODNR, Chief Simmers clearly indicated that this pond, which was first identified for ODNR in August 2013 via a letter from ANGI, was "not within ODNR's jurisdiction." As such, Chief Simmers specifically told ANGI's management and legal counsel not to include the pond in any submittal. ANGI has moved forward with those clear instructions in good faith and expects the agency to do likewise. As such, no information will be provided.

Point Six: Solids management plan for pond one

ODNR states that ANGI should have a solids management/handling plan for any material that could settle in Pond One. Additionally, ODNR claims that such material should be managed as TENORM. ODNR's TENORM statement is clearly an assumption not based on facts (i.e. ODNR has no way of knowing that any settled material would meet the regulatory definition of TENORM). Further, ANGI has already set forth a plan for management of pond sediments. See, December 20, 2013 ANGI addendum at "Request: How Pond Sediments Will Be Addressed." ANGI will follow this plan, which includes management if any sediment is deemed TENORM by testing and law.

Point Seven: Boundary Limits

ANGI has attached an updated site plan with boundary limits to this correspondence. The boundary limits contain roughly 16 acres.

Conclusion and Path Forward


ANGI's management is quite disappointed at ODNR's decision to raise yet more questions during this prolonged approval process. Nonetheless, ANGI quickly developed this letter over a holiday in a final attempt to work cooperatively with ODNR towards conclusion of this approval process.

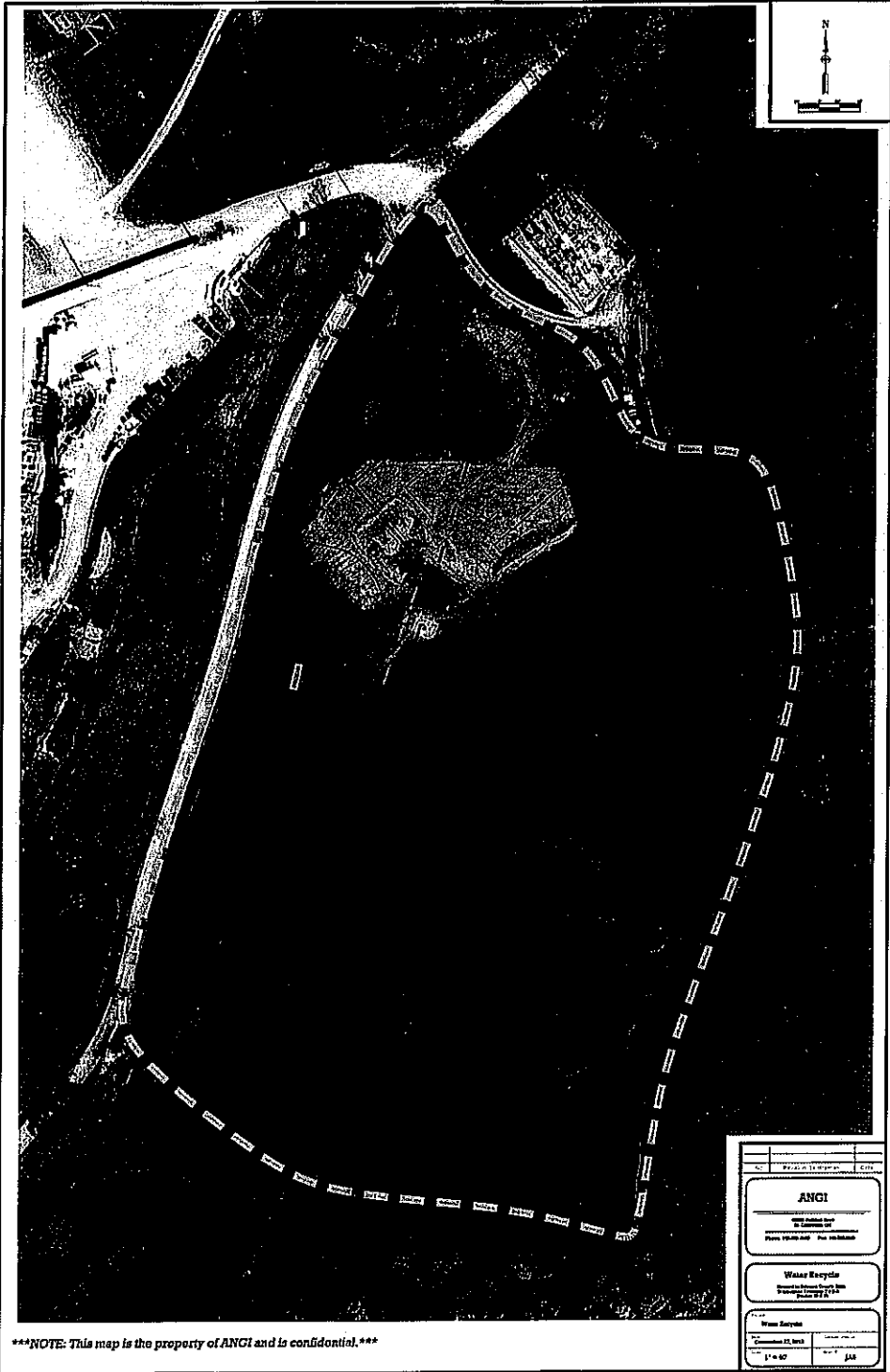
As a final point, ANGI's legal counsel has asked for a copy of the draft approval, but was told that such a draft would not be available until December 30, 2013 at the earliest. Again, ANGI's management is disappointed, especially since ODNR has known about this project since discussions occurring in May/June 2013. ANGI also wants to clarify a statutory point regarding the approval. During the December 18, 2013, ODNR seemed to insinuate that the approval would only be effective until such time that ODNR develops a R.C. 1509.22 permit program. Such a position is clearly in direct conflict with the General Assembly's development of a grandfathering provision, set forth in R.C. 1509.227. Thus, ANGI assumes that ODNR will follow the General Assembly's clear mandate regarding approvals issued prior to January 1, 2014.

If you have any questions or concerns regarding this letter, please contact me at your earliest convenience.

Sincerely,

Greg Boniti
VP Engineering

A handwritten signature in black ink, appearing to read "Greg Boniti", is written over the typed name and title.



NOTE: This map is the property of ANGI and is confidential.

Corey, Molly

From: Arthur, Blake
Sent: Friday, December 27, 2013 8:58 AM
To: Pratt, Beth
Subject: RE: Patriot murray

I saw a copy of the letter via April's response to Mike Williams. Murray wasn't pleased with us looking at the pond. A quick excerpt from April's email:

"Additionally the pond referenced below is the same pond the Chief addressed during the call. My notes reflect that this pond was deemed "not within the Division's jurisdiction." Greg Boniti told your inspectors of this conclusion. Nonetheless, Murray's security team found your inspectors at this pond and other areas well off the project site. This issue will be addressed under separate cover but the pond is identified below so it is a relevant point to raise."

I haven't heard any mention of the "separate cover" yet. We'll see how it shakes out.

Blake Arthur, PE
Natural Resources Engineer
Ohio Department of Natural Resources
Division of Oil & Gas Resources Management
Office: 1-614-265-6646
Cell: 1-614-725-6750
Email: blake.arthur@dnr.state.oh.us

-----Original Message-----

From: Pratt, Beth
Sent: Friday, December 27, 2013 8:50 AM
To: Arthur, Blake
Subject: Patriot murray

any updates on the letters sent? Did u see copies?

Sent from my iPhone

Corey, Molly

From: Pratt, Beth
Sent: Friday, December 27, 2013 8:50 AM
To: Arthur, Blake
Subject: Patriot murray

any updates on the letters sent? Did u see copies?

Sent from my iPhone

Corey, Molly

From: Arthur, Blake
Sent: Friday, December 27, 2013 9:00 AM
To: Pratt, Beth
Subject: RE: Patriot murray

They are also challenging our authority over "environmental contamination" and wanting legal citations to support ODNR's mandates.

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Ohio Department of Natural Resources
Division of Oil & Gas Resources Management
Office: 1-614-265-6646
Cell: 1-614-725-6750
Email: blake.arthur@dnr.state.oh.us

-----Original Message-----

From: Arthur, Blake
Sent: Friday, December 27, 2013 8:58 AM
To: Pratt, Beth
Subject: RE: Patriot murray

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-----Original Message-----

From: Pratt, Beth
Sent: Friday, December 27, 2013 8:50 AM
To: Arthur, Blake
Subject: Patriot murray

any updates on the letters sent? Did u see copies?

Sent from my iPhone

Corey, Molly

From: Pratt, Beth
Sent: Friday, December 27, 2013 9:02 AM
To: Arthur, Blake
Subject: Re: Patriot murray

Sounds like this wont be fun.

Sent from my iPhone

On Dec 27, 2013, at 8:59 AM, "Arthur, Blake" <Blake.Arthur@dnr.state.oh.us> wrote:

> They are also challenging our authority over "environmental contamination" and wanting legal citations to support ODNR's mandates.

>
> Blake Arthur, PE
> Natural Resources Engineer
> Ohio Department of Natural Resources
> Division of Oil & Gas Resources Management
> Office: 1-614-265-6646
> Cell: 1-614-725-6750
> Email: blake.arthur@dnr.state.oh.us

>
>
> -----Original Message-----

> From: Arthur, Blake
> Sent: Friday, December 27, 2013 8:58 AM
> To: Pratt, Beth
> Subject: RE: Patriot murray

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> Natural Resources Engineer
> Ohio Department of Natural Resources
> Division of Oil & Gas Resources Management
> Office: 1-614-265-6646
> Cell: 1-614-725-6750
> Email: blake.arthur@dnr.state.oh.us

>
> -----Original Message-----

> From: Pratt, Beth

> Sent: Friday, December 27, 2013 8:50 AM
> To: Arthur, Blake
> Subject: Patriot murray
>
> any updates on the letters sent? Did u see copies?
>
> Sent from my iPhone

Corey, Molly

From: Carey, Michael <mcarey@coalsource.com>
Sent: Friday, December 27, 2013 2:17 PM
To: Shimp, Frederick; Simmers, Rick
Cc: Butler, Craig W
Subject: ANGI

Fred,

Given the deadline for approval of close of business Tuesday, we are requesting a technical meeting with ODNR for Monday to resolve any outstanding issues. April will contact Mike Williams directly regarding any legal question. Please let me know what time would work for your team. Thank you in advance.

Mike

Corey, Molly

From: Shimp, Frederick
Sent: Friday, December 27, 2013 2:49 PM
To: Simmers, Rick; Williams, Michael
Subject: Fwd: ANGI

Sent from my iPhone

Begin forwarded message:

From: "Butler, Craig W" <Craig.W.Butler@governor.ohio.gov>
Date: December 27, 2013, 2:32:38 PM EST
To: "Shimp, Frederick" <Frederick.Shimp@dnr.state.oh.us>
Subject: Fwd: ANGI

I dont know about all the tech detail but it sounds like a meeting is a good idea.? Possible? Would a call w them tomorrow help too?

Sent from my iPhone

Begin forwarded message:

From: "Carey, Michael" <mcarey@coalsource.com>
Date: December 27, 2013 2:17:20 PM EST
To: <fred.shimp@dnr.state.oh.us>, <rick.simmers@dnr.state.oh.us>
Cc: "Butler, Craig W" <Craig.W.Butler@governor.ohio.gov>
Subject: ANGI

Fred,

Given the deadline for approval of close of business Tuesday, we are requesting a technical meeting with ODNR for Monday to resolve any outstanding issues. April will contact Mike Williams directly regarding any legal question. Please let me know what time would work for your team. Thank you in advance.

Mike

Corey, Molly

From: Shimp, Frederick
Sent: Friday, December 27, 2013 2:50 PM
To: Boniti, Greg
Subject: Re: 12/27/13 response to ODNR

Thanks, Greg. Got it.

Sent from my iPhone

On Dec 27, 2013, at 12:28 PM, "Boniti, Greg" <gboniti@coalsource.com> wrote:

> Fred,
>
> I apologize as I got your email address incorrect in the first attempt. Thanks.
>
> Greg
>
> From: Boniti, Greg
> Sent: Friday, December 27, 2013 12:22 PM
> To: 'Frederick.Shimp@dnr.state.oh.us'; 'Rick.Simmers@dnr.state.oh.us'
> Cc: Moore, Robert; Carey, Michael; 'abott'
> Subject: 12/27/13 response to ODNR
>
> Please find attached the ANGI response to your December 24th request for more information.
> Thank you for your time and hope everyone is enjoying their holiday.
>
> Regards,
> Greg
> <1227 response.pdf>

Corey, Molly

From: Simmers, Rick
Sent: Friday, December 27, 2013 3:44 PM
To: Trivisonno, Ron
Subject: Fwd: 12/27/13 response to ODNR
Attachments: 1227 response.pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

From: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
To: "Trivisonno, Ron" <Ron.Trivisonno@exchange.state.oh.us>, "Pratt, Beth" <Beth.Pratt@dnr.state.oh.us>, "Arthur, Blake" <Blake.Arthur@dnr.state.oh.us>
Cc: "Delisi, Megan" <Megan.DeLisi@dnr.state.oh.us>, "Vendel, Eric" <Eric.Vendel@dnr.state.oh.us>, "Corey, Molly" <Molly.Corey@dnr.state.oh.us>, "Rollins, Kelly" <Kelly.Rollins@dnr.state.oh.us>
Subject: Fwd: 12/27/13 response to ODNR

Please review the attached doc and prepare specific comments for Monday AM. Thanks

Sent from my iPhone

Begin forwarded message:

From: "Boniti, Greg" <gboniti@coalsource.com<<mailto:gboniti@coalsource.com>>>
Date: December 27, 2013, 12:21:38 PM EST
To: <Frederick.Shimp@dnr.state.oh.us<<mailto:Frederick.Shimp@dnr.state.oh.us>>>, <Rick.Simmers@dnr.state.oh.us<<mailto:Rick.Simmers@dnr.state.oh.us>>>
Cc: "Moore, Robert" <rmoore@coalsource.com<<mailto:rmoore@coalsource.com>>>, "Carey, Michael" <mcarey@coalsource.com<<mailto:mcarey@coalsource.com>>>, abott <abott@bottlawgroup.com<<mailto:abott@bottlawgroup.com>>>
Subject: 12/27/13 response to ODNR

Please find attached the ANGI response to your December 24th request for more information. Thank you for your time and hope everyone is enjoying their holiday.

Regards,
Greg

Corey, Molly

From: abott <abott@bottlawgroup.com>
Sent: Monday, December 30, 2013 8:40 AM
To: Williams, Michael; abott
Subject: Re: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

Mr Williams

ANGI has asked me to reach out to you to ascertain if there are any legal issues related to the approval that we need to discuss this morning? I do need to see a copy of the draft approval as soon as possible.

Thank you in advance

April

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Williams, Michael" <Michael.Williams@dnr.state.oh.us>
Date: 12/26/2013 9:24 AM (GMT-05:00)
To: abott <abott@bottlawgroup.com>
Cc: "Vendel, Eric" <Eric.Vendel@dnr.state.oh.us>, "Corey, Molly" <Molly.Corey@dnr.state.oh.us>, "Delisi, Megan" <Megan.DeLisi@dnr.state.oh.us>, "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>, "Shimp, Frederick" <Frederick.Shimp@dnr.state.oh.us>, "Butler, Craig W" <Craig.W.Butler@governor.ohio.gov>
Subject: Re: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

I will circulate the draft approval Monday, as I am away from my office. You are correct that DNR seeks confirmation of the plan, rather than full construction before year's end.

You are welcome. Thank you for your assistance in resolving these matters as well.

Mike

Sent from my iPhone

On Dec 26, 2013, at 7:55 AM, "abott" <abott@bottlawgroup.com> wrote:

Mr Williams-

Patriot would like to see a draft of the approval document as soon as possible. As to the list below, please confirm that "addressed" as used in your email means that patriot will do the requested items, but obviously no one expects that patriot can build an entire building of secondary containment in less than one week. Finally please provide the legal citation for ODNRs claimed authority over "environmental contamination" 1509 does not include such broad authority.

Thank you in advance for your expected prompt response along with a draft approval.

April

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Williams, Michael" <Michael.Williams@dnr.state.oh.us>
Date: 12/24/2013 1:38 PM (GMT-05:00)
To: April Bott <abott@bottlawgroup.com>
Cc: "Vendel, Eric" <Eric.Vendel@dnr.state.oh.us>,"Corey, Molly" <Molly.Corey@dnr.state.oh.us>,"Delisi, Megan" <Megan.DeLisi@dnr.state.oh.us>,"Williams, Michael" <Michael.Williams@dnr.state.oh.us>,"Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>,"Shimp, Frederick" <Frederick.Shimp@dnr.state.oh.us>
Subject: Fwd: Patriot Campbell facility *** Attorney-Client Confidential Communication ***

Ms. Bott,

Below is information that needs to be addressed in order to confirm approval of the above operation by year's end. Please confirm your client's commitment as to these compliance items.

While the below information offers a plan whereby DNR would follow up directly with your client's engineering expert, my preference remains for you to remain the primary source of written communication as to this issue.

Please advise if there are questions concerning this matter.

Thank you.

Mike

DOGRM engineers have reviewed the submitted plans for the Patriot Cambell proposed roll-off box wash facility. Furthermore, two DOGRM engineers visited the site for the proposed facility. Based on the engineer's review of the plan and their site visit, there are significant weaknesses in the proposed plans for the facility and revisions need to be made in order to prevent environmental contamination and to receive an approval from the Chief. The engineer's required revisions consist of all of the following:

- Secondary containment for the entire operation needs to be designed and installed. The existing concrete floor and the proposed wash pit contained many faults, cracks, penetrations, cut channels and floor drains. Outlets for the floor

drains were assumed to be into the proposed wash pit, but condition of the drains is unknown, and due to age and lack of construction detail, questionable. All penetrations in the floor need to be sealed to prevent discharges.

- Surface water run-off controls need to be designed and implemented around the building and where trucks would access the building or stage while waiting to unload.
- Wash water resulting from roll-off box washing and facility wash water inside the building needs to be contained and maintained to prevent migration off-site.
- The December 20, 2013 addendum was not prepared or reviewed by those present at the site visit and some of the content was inconsistent with the description of the operation provided by the facility representatives. Mr. Evans, the engineer from Howland Co., LLC., will revise and resubmit the addendum.
- Provide updated drawings showing proposed building footprint and other details pertaining to wash area, secondary containment for the facility, and staging areas for the boxes.
- Details need to be provided on the proposed pit modifications and splash guard, including sealing techniques for all penetrations into the pit, liner specifications, and containment and leakage controls.
- Boundary of the proposed facility was not clearly identified.
- Provide details pertaining to ingress and egress from the building and traffic flow at the facility.

- Staging areas for cleaned boxes and ready-to-be-cleaned boxes need to be identified. Secondary containment for the ready-to-be-cleaned boxes needs to be provided.

- MSDS sheets for cleansers and degreasers need to be provided.

- Provide a solids handling plan to include proposed stabilization agents.

- Provide radiation protocol for solids that may exceed proposed limits detected in preliminary screening. Provide equipment cut sheets for radiation screening detector.

Please note that at the site visit, Ben Dickey, V.P of Patriot Water Treatment LLC, requested that the DOGRM engineers send to him a listing of all of the additional information that the engineers would need and discussed with Patriot representatives. The DOGRM engineers will send the details to Mr. Dickey directly on December 30, 2013 unless you advise otherwise. If you advise otherwise, you may contact me or the DOGRM engineers directly. The engineers are Beth Pratt and Blake Arthur.

Corey, Molly

From: Boniti, Greg <gboniti@coalsource.com>
Sent: Tuesday, December 31, 2013 10:59 AM
To: Shimp, Frederick; Simmers, Rick; Williams, Michael
Cc: Moore, Robert; Carey, Michael; April Bott
Subject: ANGI response to ODNR request 12/30/13
Attachments: ODNR Response 1230.pdf; POND STUDY_12.20.13_PHASE II.PDF; liner fusing material.pdf; Rufco 2010B, 3010B, & 4010B FRS 8 09.pdf; valve specs.pdf; DL_PP_M&I_PolyPlus.pdf; tn-42-min-training-guide-pe-butt-fusion.pdf

Gentlemen,

Attached are the documents with the details for the outstanding issues from our discussion yesterday. Again, thanks for your time in reviewing the matter.

Regards,
Greg

Corey, Molly

From: Pratt, Beth
Sent: Tuesday, December 31, 2013 1:11 PM
To: Simmers, Rick
Cc: Arthur, Blake; Trivisonno, Ron
Subject: RE: ODNR/Patriot Campbell

Rick,

The information provided in this submittal generally addresses the concerns and deficiencies noted in the December 24th site visit report. Items that were not sufficiently addressed, including exterior surface water controls and limits of the site boundary, should be able to be defined during construction of the modifications to the existing facility. Beth P.

*Beth A. Pratt, P.E.
Div. of Oil & Gas Resources Mgmt., ODNR
2045 Morse Road Bldg F
Columbus, OH 43229
614/265-6905 office*

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 12:24 PM
To: Trivisonno, Ron; Pratt, Beth; Arthur, Blake
Subject: Fwd: ODNR/Patriot Campbell

Please review and comment as soon as possible

Sent from my iPhone

Begin forwarded message:

From: Ben Dickey <dickey.br@gmail.com>
Date: December 31, 2013, 8:59:20 AM EST
To: <Rick.simmers@dnr.state.oh.us>, <Michael.williams@dnr.state.oh.us>
Cc: John Evan <JEVAN@howlandcompany.net>, April Bott <abott@bottlawgroup.com>
Subject: ODNR/Patriot Campbell

Chief Simmers & Mr. Williams

Please find attached Patriot-Campbell's additional addendum along with attachments. These materials provide the additional information and requirements requested by ODNR on December 24, 2013. Consistent with previous discussions, we expect that this information will finalize the approval process and that ODNR will issue the approval today.

Happy New Years.
Ben

--

Ben Dickey

330-222-1274 o

330-222-1500 f

330-831-2556 m

"This communication, including any attachments, may contain confidential and privileged information that is subject to the Business Information Protection Policy. The information is intended solely for the use of the intended recipient(s). If you are not an intended recipient, you are prohibited from any use, distribution, or copying of this communication. If you have received this communication in error, please immediately notify the sender and then delete this communication in its entirety from your system."

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 1:27 PM
To: Rollins, Kelly
Subject: Fwd: ODNR/Patriot Campbell
Attachments: H131005 - 0300 - Patriot - Dickey - Revise SOP - Patriot Campbell - Campbell OH 12 30 2013.doc; ATT00001.htm; H131005 - Patriot Campbell - Roll Off Wash Bay - Updated Drawings (Signed) - 12.30.2013.pdf; ATT00002.htm

Kelly thanks for taking care of payroll. Please ask the engineers to review and comment today. The comments should go to mike Williams and me. I hope you are feeling better. Happy new year

Sent from my iPhone

Begin forwarded message:

From: Ben Dickey <dickey.br@gmail.com>
Date: December 31, 2013, 8:59:20 AM EST
To: <Rick.simmers@dnr.state.oh.us>, <Michael.williams@dnr.state.oh.us>
Cc: John Evan <JEVAN@howlandcompany.net>, April Bott <abott@bottlawgroup.com>
Subject: ODNR/Patriot Campbell

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Sent: Tuesday, December 31, 2013 8:59 AM
To: Simmers, Rick; Williams, Michael
Cc: John Evan; April Bott
Subject: ODNR/Patriot Campbell
Attachments: H131005 - 0300 - Patriot - Dickey - Revise SOP - Patriot Campbell - Campbell OH 12 30 2013.doc; H131005 - Patriot Campbell - Roll Off Wash Bay - Updated Drawings (Signed) - 12.30.2013.pdf

Chief Simmers & Mr. Williams

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Ben Dickey

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330-222-1500 f
330-831-2556 m

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December 30, 2013

Richard Simmers, ODNR, Chief, O&G
Fred Shimp, ODNR, Asst. Director
Mike Williams, ODNR, Chief Legal Counsel
Via Electronic Correspondence

**RE: December 30, 2013 Addendum:
ANGI's Pending November 2013
R.C. 1509.22 Approval for Water Transfer Facility**

Dear Messrs. Simmers, Shimp and Williams:

American Natural Gas, Inc. ("ANGI") is submitting this additional addendum to support its pending R.C. 1509.22 approval application for a Water Transfer Facility ("Facility"). The purpose of this addendum is to address comments set forth by Ohio Department of Natural Resources' ("ODNR") engineers during a December 30, 2013 conference call with ANGI. As you are aware, ANGI previously submitted materials to support its R.C. 1509.22 approval request on November 18, December 19 and December 27, 2013.

As stated in the December 27, 2013 letter addendum, the submittal of this additional addendum in no way waives ANGI's rights with respect to any legal challenges as to ODNR's jurisdiction, authority, scope or the appropriate nature of ODNR's requirements precedent to the issuance of a R.C. 1509.22 approval and limits thereto. ANGI maintains the same objections made in the December 27, 2013 letter addendum.

ANGI responds to ODNR's December 30, 2013 comments as follows:

Comment One: Provide Liner, Pipes and Fitting Specifications

The vendor/manufacture specifications are attached. As can be seen the pipe, valves and liner are designed consistent with standard engineering best practices and, as such, address the most recent comments made by ODNR.

Specifically, the ball valve is rated at 200 psi static. There are also butterfly valves rated at 150 psi static prior to the ball valve. These butterfly valves will be used throughout the less pressurized areas, and are appropriate to manage the expected pressures of less than 15 psi.

The liner is at or above the industry standard for both thickness and UVA protection. Information regarding the fusing material that will be used to fuse the liner to the pipe is also provided. The fusing material is made of the same material as the liner.

The SDR11 pipe used throughout the project is rated to 200 psi static. The installation procedures are also included. ANGI's pipe installers that installed the SDR11 pipe were trained and certified at JABO Supplies' Huntington, West Virginia facility on September 13, 2013.

Comment Two: Leak Detection in Ponds

In addition to the information contained in the earlier submittals, ANGI will utilize static testing to determine whether or not the pond liner has had a failure. This testing will be performed on an annual basis and take into account rainfall and evaporation. The test will be 24 hours in duration to minimize the impact of outside influences such as rainfall and evaporation. If the testing results in a loss of more than 15%, then a second test will be performed for a 7 day duration. If the second test results in a greater than 15% loss, then the pond will be drained and a visual inspection will be conducted. Any necessary repairs will be made to ensure the integrity of the pond. Only fresh, non-production water will be placed in the pond until the integrity of the pond is restored.

Comment Three: Spills/Rain Events at Unloading/Loading Area

If a truck or pipe spill occurs that is equal to or greater than 2,750 gallons or in the event of a rainfall event that is equal to 3.3 inches or more in a 24 hour period, ANGI will maintain the water in the containment area. The water will then be vacuumed or pumped into Pond One. No discharge of any spill or rainwater will occur from the loading/unloading area.

Per ODNR request, ANGI has also attached a diagram of the curbing and the run-off piping. The curb is colored dark green in the diagram and will divert water from around the loading area via a slotted pipe installed in the asphalt that extends into the collection area.

Comment Four: Explain the use of the Upper Pond

The upper pond contains only fresh water that is transferred from a fresh water pond not associated with ANGI operations. ANGI will utilize fresh water from the pond to mix with the waters received from ANGI's customers. This water will be piped to the ANGI pond as needed and controlled via valves. The fresh water sent to the ANGI pond will be documented and ANGI will have the ability to shut off the pipe from the fresh water pond in the event of any possibility of overflow or similar condition.

Once the fresh water is introduced into the ANGI pond, it will be managed consistent with ANGI's water management plan for the ANGI ponds as set forth in previous submittals. As explained previously, the ANGI ponds have a 2 foot freeboard. This is equivalent to approximately 26,000 gallons of additional capacity in Pond One and 40,000 gallons in Pond Two.

Comment Five: Explain in more details the expected Solids Management

As previously explained, ANGI will not take mud or cuttings; instead, ANGI will only take waters with less than 80,000 mg/l of TDS. ODNR has a concern that the waters could contain incidental solids in the form of TSS. While ANGI does not anticipate any measurable TSS, ANGI will implement the following steps at the request of ODNR.

Specifically, any sediment will be captured by the pond liner and will remain in place. Given the size of the pond and the intent of the operation to recycle water continuously, ANGI does not

anticipate ever running out of storage capacity for the sediment. That said, ANGI will agree to sample the sediment once it reaches 12 inches from the bottom in the basin of the pond. The sample will be performed by a qualified, licensed third party. If the results of the sample demonstrate that the sediment contains TENORM, ODH will be notified and ANGI will contract with a qualified, licensed third party for removal and transport of the sediment in compliance with law. By contract with a third party contractor, ANGI will assure that the pond liner will not be damaged by this removal process. Once removed, the sediment will be sent to a landfill fully licensed to accept and solidify such sediment for final disposal. All steps in this process will be documented by manifests and proper notifications will be made to all required regulatory agencies.

Conclusion

This additional information is provided to answer the comments made by ODNR on December 30, 2013. We understand that this is the final step in the approval process. To that end, please notify me immediately if you have any questions regarding this information.

By this letter, ANGI is notifying ODNR that the Water Transfer Facility is commencing operation as discussed

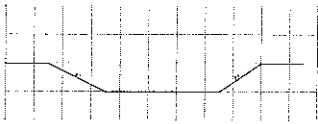
Thank you in advance. ANGI will follow-up by 1:00 p.m., today, regarding issuance of the approval.

Sincerely,

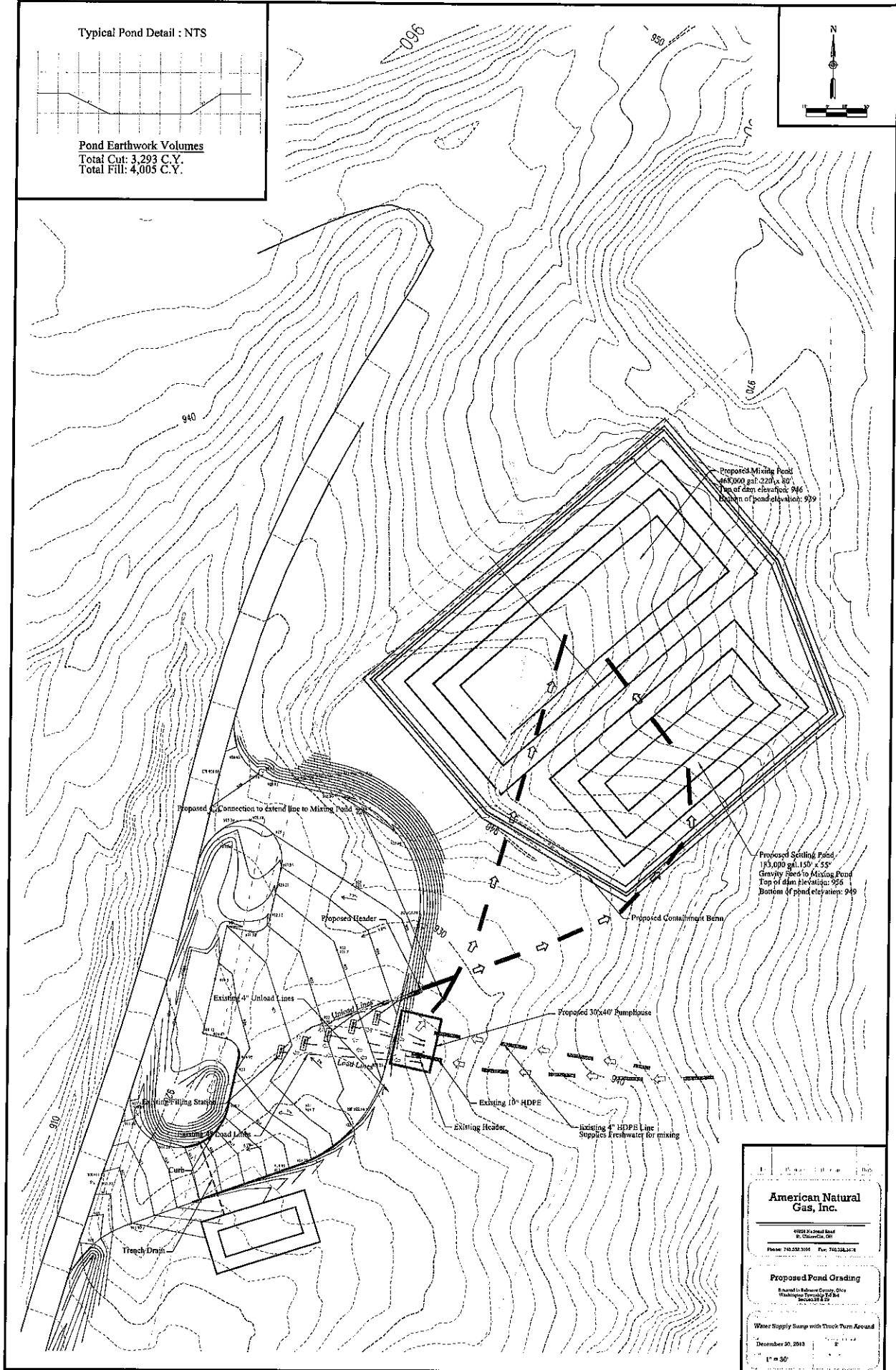
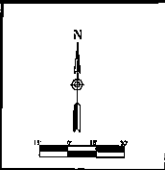

Greg Borzini
VP, ANGI

Attachments

Typical Pond Detail : NTS



Pond Earthwork Volumes
 Total Cut: 3,293 C.Y.
 Total Fill: 4,005 C.Y.



American Natural Gas, Inc.

4700 Piedmont Road
 St. Charles, MO

Phone: 740.333.3000 Fax: 740.333.3418

Proposed Pond Grading

Prepared by: American Natural Gas, Inc.
 Checked by: [Name]
 Date: 12/20/2013

Water Supply Sump with Truck Turn Around

December 20, 2013

1" = 30'

SOLMAX || EXTRUSION ROD

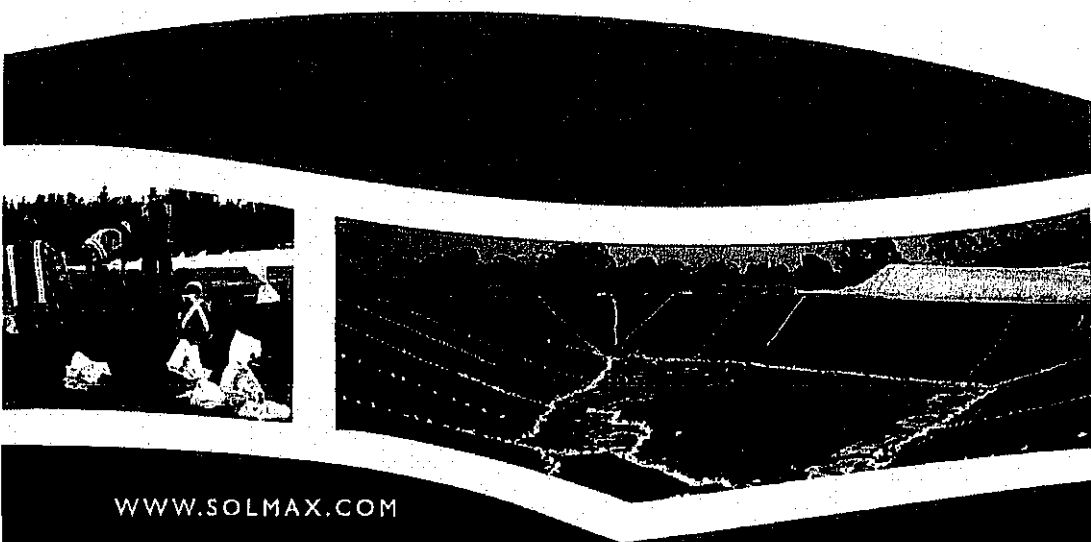
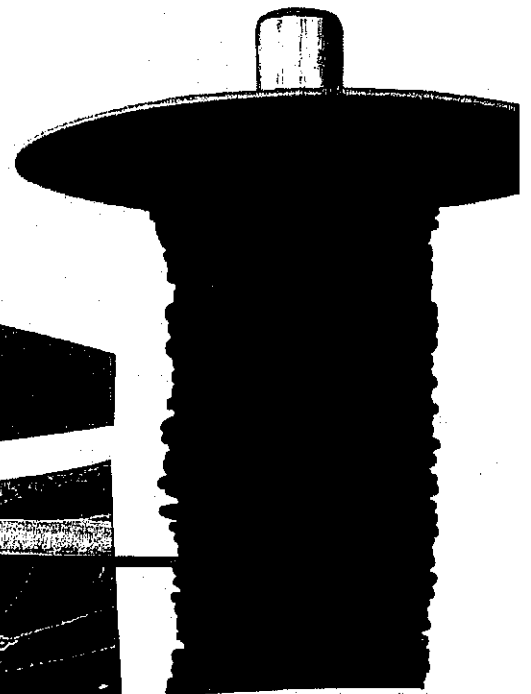
WHAT ARE EXTRUSION RODS?

Geomembranes are impervious sheets of polymeric material primarily used to reduce the hydraulic conductivity of in situ soils. They are extensively used to provide additional imperviousness to natural soils in order to protect water tables against contamination from industrial activities such as landfilling, mining, and more generally, hazardous material storage.

Their field installations are performed by certified field technicians and constitute a crucial step in ensuring optimal system performance. Since geomembranes cover large surface areas, several rolls are usually required on site. Therefore, rolls

need to be assembled together using special equipment such as hot wedge and extrusion welding machines, the latter being fed by what we call extrusion rods. Extrusion rods need to be manufactured from the same raw materials used in the manufacturing of geomembranes. Therefore, as a manufacturer, Solmax offers its clients a variety of extrusion rods to maximize compatibility and ensure a perfect adherence of both materials.

>>



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REV0711

2801, boulevard Marie-Victorin, Varennes, Québec, Canada J3X 1P7

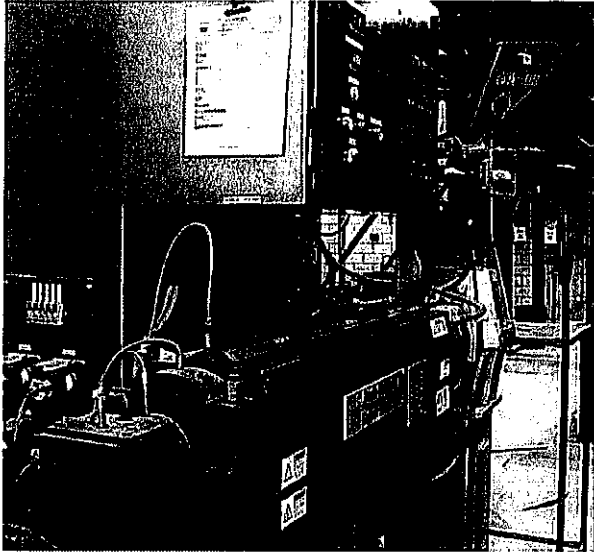
| | |
|-----------|--------------|
| Telephone | 450 929 1234 |
| Sales | 450 929 2544 |
| Fax | 450 929 1227 |

HEAD OFFICE | Varennes | Canada Glères | France Shanghai | China Santiago | Chile Pelabuhan Klang | Malaysia



PRODUCTION

Solmax manufactures Polyethylene geomembrane (HDPE and LLDPE) in its production plants in Canada and Malaysia. Both plants are equipped to produce extrusion rods in order to serve their respective markets.



Production line

Extrusion rods are made of different components, namely polyethylene resin and carbon black. As illustrated in diagram 1, resin and carbon black are mixed together and then heated while being fed into an extruder. At the exit end of the machine, the molten extrusion rod is cooled and hardened by going through a water basin whereby the drawing speed will determine its diameter (4 or 5 mm).

In order to fulfill the requirements of its customers, Solmax International offers the following variety of extrusion rods:

| PRODUCT CODE | DIAMETER | MATERIAL |
|--------------|---------------|----------|
| RODHD4 | 40mm | HDPE |
| RODML4 | 40mm | LLDPE |
| RODHD5 | 50mm | HDPE |
| RODML5 | 50mm | LLDPE |
| | Normal weight | 5.9Kilos |
| | Color* | Black |

*Other colors are also available on demand to match project requirements

PACKAGING

At the end of the process, the extrusion rod is rolled on a cardboard core and then placed into its 5.9 kg packaging box. Extrusion rod spools may either be sold per unit or by 42 spool pallet.

MAXBOX

Solmax is a worldwide leading geomembrane manufacturer with a long history in installation activities. We are investing a significant amount of resources to offer our installers and business partners the right tools. We recently launched the Maxbox, specifically designed to house extrusion rod spools and maximize the unwinding procedure by field technicians while preserving the rods from harsh site conditions and ensuing potential contamination. Please ask your sales representative for further information.



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SOLMAX
INTERNATIONAL

HEAD OFFICE | Varennes | Canada | Gières | France | Shanghai | China | Santiago | Chile | Pelabuhan Klang | Malaysia

PRODUCT DESCRIPTION

RUFACO 2010B, 3010B and 4010B are membranes consisting of a blended linear polyethylene. Carbon black provides protection from UV rays. RUFACO 2010B, 3010B and 4010B do not contain plasticizers that in time can migrate to the surface, causing premature aging. Manufactured from virgin and select reprocessed resins, they are designed to provide an economical solution to many applications.

PRODUCT USE

RUFACO 2010B, 3010B and 4010B are used in applications requiring a lower-cost material with high puncture and tear resistance. The carbon black additive assures long outdoor life. RUFACO 2010B, 3010B and 4010B are flexible and will conform to a variety of surfaces.

SIZE & PACKAGING

RUFACO 2010B, 3010B and 4010B are available in large fabricated panels up to 50,000 sq. ft. in 2010B, 33,000 sq. ft. in 3010B and 25,000 sq. ft. in 4010B. All panels are accordion folded every 5 feet and rolled tightly on a heavy-duty core for ease of handling.



Pond Liner

| PRODUCT | PART NUMBER |
|--------------------|-------------|
| RUFACO 2010B | 2010B |
| RUFACO 3010B | 3010B |
| RUFACO 4010B | 4010B |

COMMON APPLICATIONS

- Interim Landfill Covers
- Canal Linings
- Decorative Ponds
- Outdoor Coverings
- Brine Ponds
- Fire Ponds
- Remediation Liners
- Farm Ponds
- Oil Field Pit Liners



| PROPERTIES | TEST METHOD | RUF [®] CO 2010B | | RUF [®] CO 3010B | | RUF [®] CO 4010B | |
|------------------------------------------|----------------------|---------------------------|-----------------------|---------------------------|-----------------------|---------------------------|-----------------------|
| | | English | Metric | English | Metric | English | Metric |
| APPEARANCE | | Black | | Black | | Black | |
| THICKNESS, NOMINAL | | 20 mil | 0.51 mm | 30 mil | 0.75 mm | 40 mil | 1.00 mm |
| WEIGHT | | 93 lbs/MSF | 453 g/m ² | 142 lbs/MSF | 692 g/m ² | 189 lbs/MSF | 921 g/m ² |
| TENSILE STRENGTH @ BREAK 1" (2.54 cm) | ASTM D6693 | 75 lbs | 334 N | 114 lbs | 507 N | 154 lbs | 685 N |
| ELONGATION AT BREAK | ASTM D6693 | 800% | 800% | 800% | 800% | 800% | 800% |
| TEAR RESISTANCE | ASTM D1004 | 11 lbf | 49 N | 16 lbf | 71 N | 22 lbf | 98 N |
| HYDROSTATIC RESISTANCE | ASTM D751 | 100 psi | 689 kPa | 170 psi | 1170 kPa | 220 psi | 1517 kPa |
| PUNCTURE RESISTANCE | ASTM D4833 | 30 lbf | 133 N | 45 lbf | 200 N | 60 lbf | 267 N |
| VOLATILE LOSS | ASTM D1203 | < 1% | < 1% | < 1% | < 1% | < 1% | < 1% |
| DIMENSIONAL STABILITY | ASTM D1204 | < 2% | < 2% | < 2% | < 2% | < 2% | < 2% |
| MAXIMUM USE TEMPERATURE | | 180°F | 82°C | 180°F | 82°C | 180°F | 82°C |
| MINIMUM USE TEMPERATURE | | -70°F | -57°C | -70°F | -57°C | -70°F | -57°C |
| PERMEABILITY | | | | | | | |
| PERM RATING | ASTM E96 Method A | 0.041 U.S. Perms | 0.027 Metric Perms | 0.031 U.S. Perms | 0.020 Metric Perms | 0.024 U.S. Perms | 0.015 Metric Perms |
| FACTORY SEAM REQUIREMENTS | | | | | | | |
| BONDED SEAM STRENGTH | ASTM D4545* | 33 lbf/in. | 58 N/cm | 55 lbf/in. | 96N/cm | 70 lbf/in. | 122N/cm |
| SEAM PEEL ADHESION | ASTM D1204* | 28 lbf/in. | 49N/cm | 40 lbf/in. | 70N/cm | 55 lbf/in. | 96N/cm |

*Raven Industries performs seam testing at 12" per minute.



RUF[®]CO 2010B, 3010B and 4010B contain a very high-strength polyethylene resin blended with our in-house trim and start-up material. RUF[®]CO 2010B, 3010B and 4010B are offered as an alternative to our virgin resin films for non-critical applications. They may contain minor cosmetic gels, small surface particles and a lower minimum thickness tolerance.

Note: To the best of our knowledge, unless stated otherwise, these are typical property values and are intended as guides only, not as specification limits. NO WARRANTIES ARE MADE AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, with no guarantee of satisfactory results from reliance upon contained information or recommendations. We disclaim all liability for resulting loss or damage.



FRANK ROBERTS & SONS, INC.

1130 Robertsville Rd • Punxsutawney, PA 15767

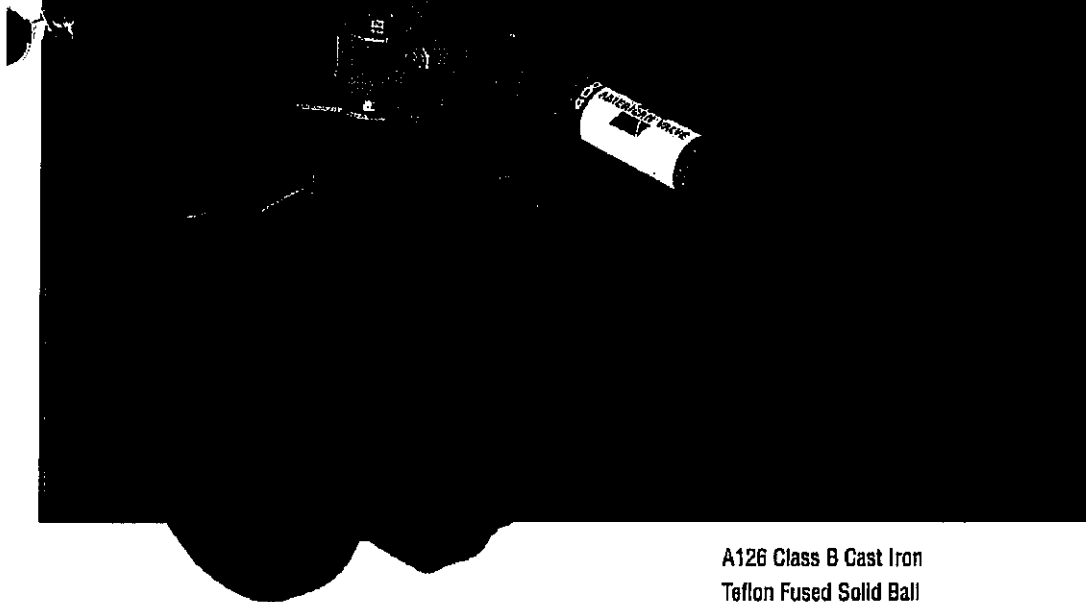
Ph: (814) 938-5000 • Fx: (814) 938-0880

Toll Free: 800-262-8955

www.robertswholesale.com

7/08 EFD 1078FR

MODEL 4000 Cast Iron Flanged End Ball Valve



| Part | Material |
|---------------------|------------------------|
| Body | Cast Iron/A 126 CL B |
| Ball | Cast Iron/Teflon Fused |
| Stem | Stainless Steel |
| Gland Plate | Steel |
| Handle | Steel |
| Handle Bracket | Ductile Iron |
| Packing Follower | Stainless Steel |
| Stem Indicator | Steel |
| Handle Bracket Clip | Steel |
| Stem Stud | Carbon Steel |
| Gland Stud | Carbon Steel |
| Body Stud | Carbon Steel |
| Body Nut | Carbon Steel |
| Handle Bracket Bolt | Carbon Steel |
| Packing | PTFE |
| Body Gasket | PTFE |
| Seat Ring | RPTFE-15% GF |
| Handle Grip | Vinyl Rubber Foam |

Made in the USA, this Patented Cast Iron Ball Valve has been Engineered to Replace any IBBM or All Iron Gate Valve. Teflon is a registered trademark of Dupont.

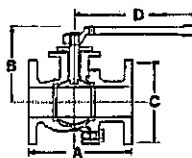
- A126 Class B Cast Iron
- Teflon Fused Solid Ball
- Blow-out Proof Stainless Steel Stem
- Reinforced Teflon Seats
- Face to Face and Flanged Dimensions Conform to ANSI Standard B16.10 which exactly match end to end dimensions of all Cast Iron Gate Valve
- Lockable in Full Open or Closed Positions
- Mounting Pad for Easy Actuation
- Adjustable Length/Removable Handles to Fit into Areas of Limited Space
- Full Port through 6"

SPECIFICATIONS:

MSS SP-72
ANSI B16.10
FED. SPEC. WW-V-35

RATING:

125 psi WSP
200 psi WOG
353° F



DIMENSIONS:

| | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 |
|---------------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| A Face to Face | 4 1/4 | 4 3/4 | 5 | 6 1/4 | 7 | 7 1/4 | 8 | 9 | 10 1/4 | 11 1/4 | 13 |
| B Center of Port to Top | 8 1/4 | 9 1/4 | 10 | 11 1/4 | 12 1/4 | 13 1/4 | 14 1/4 | 15 1/4 | 16 1/4 | 18 1/4 | 19 1/4 |
| C Flange Diameter | 3 1/4 | 3 3/4 | 4 1/4 | 5 | 6 | 7 | 7 1/4 | 9 | 11 | 13 1/4 | 16 |
| D Center of Valve to Handle End | 12 | 13 | 14 | 15 1/2 | 17 1/2 | 19 1/2 | 21 1/2 | 23 1/2 | 26 | 28 1/2 | 33 |
| E Port Diameter | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 6 | 6 | 8 |
| Ball Holes | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 6 | 6 | 8 |
| Weight lbs. | 6 | 8 | 10 | 16 | 22 | 36 | 46 | 75 | 131 | 185 | 276 |
| CV* | 26 | 50 | 100 | 260 | 500 | 750 | 1245 | 2500 | 6470 | 4150 | 6700 |

*CV Coefficient is defined as the flow of water in gallons per minute with a pressure drop of 1 psi across the valve.

0000

SERIES

Resilient Seated Butterfly Valves

Shaft Weather Seal
(Below bushing on some models)

One-Piece Thru Shaft
Ensures dependability and positive disc positioning.

O-Ring
Provides further prevention of stem leakage.

Set-Screw
Stabilizes seat to prevent movement. Positive dead-end service up to 75 PSIG max through 12".

Smooth Finished Disc Flats
These "mate" with seat flats to give a highly efficient seal; prevents leakage into shaft areas.

Support Shaft Seal
Bonding of elastomer to phenolic backing ring protects against distortion, a common cause of shaft leakage.

2"-12" Direct Mount for Actuation

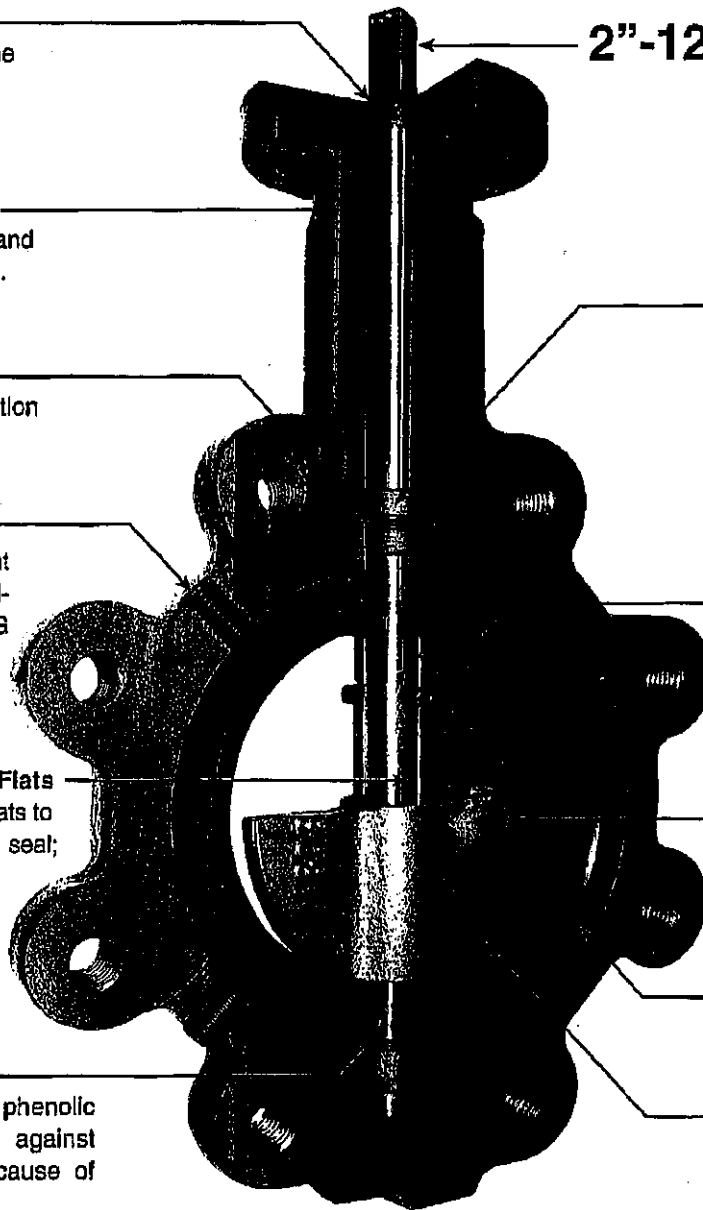
Bushings
Furnishes shaft support for positive shaft alignment and actuator support. (4 Bushings)

Precision Taper Pin
Ensures a positive, vibration proof shaft to disc connection.

Precision Profile Disc
Provides bubble-tight shut-off and assures minimum torque and longer seat life.

Seat Face
Negates need for flange gaskets.

Phenolic Backed Seat
Non-collapsible, stretch resistant, blow-out proof. Field replaceable.



CONSTRUCTION SPECIFICATIONS:

Body: Ductile iron

Disc: Ni-coated ductile iron, 316 stainless steel

Stem: 416 stainless steel

Resilient Seat: EPDM, Buna-N

Stem Bushings: Acetal

Disc Screws: 316 stainless steel

O-Ring: EPDM, Buna-N

Stem Packing: EPDM, Buna-N

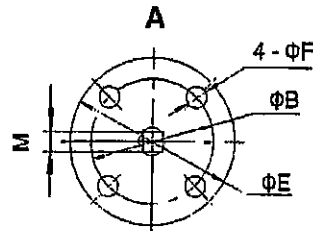
Set Screws: Carbon steel

Phenolic Backed Seat provides the following advantages:

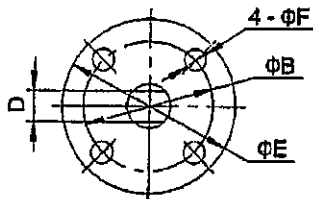
1. The movement of the elastomer against the body assures a completely dry back.
2. Wide flange-face sealing area provides a tight flange-to-valve seal without the use of gaskets.
3. The Controlled-Torque Seat allows tight shut-off with minimum movement of the seat material to reach the closed position in the center of the seat for ease of actuation.
4. The wide sealing area around the shaft provides a positive seal isolating the shaft from the media.

Note: Manufacturer reserves the right to modify dimensions, materials, or design. Contact factory for certification.

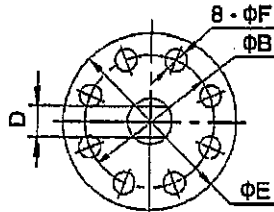
Valve Dimensions



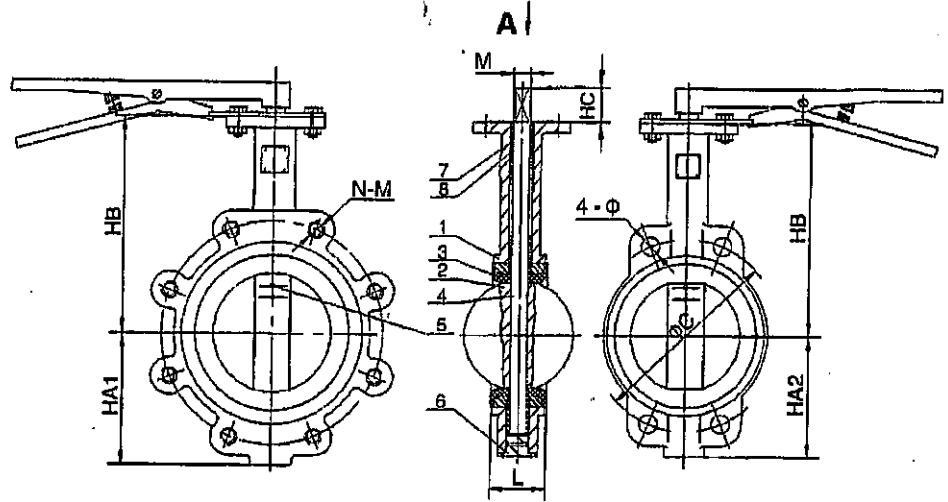
2"-12"



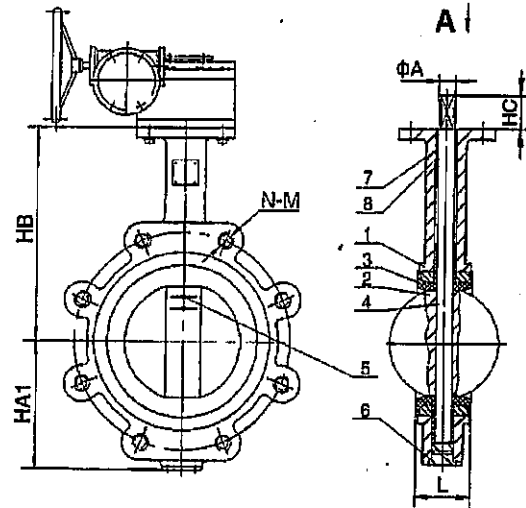
14"-20"



24"



2"-12"



14"-24"

| NO. | DESCRIPTION | MATERIAL |
|-----|-------------|--------------|
| 1 | BODY | DI |
| 2 | DISC | DI, CF8M |
| 3 | SEAT | BUNA-N, EPDM |
| 4 | STEM | SS 416 |
| 5 | TAPER PIN | SS 316 |
| 6 | END COVER | DI |
| 7 | BUSHING | PTFE |
| 8 | O-RING | BUNA-N, EPDM |

| INCH | HA1 | HA2 | HB | HC | L | ΦC | 4-Φ | N-M | ΦA | D | M** | ΦE | ΦB | ΦF | TORQUE* | WT W/PTFE LUG |
|------|-------|-------|-------|------|------|-------|-------|-------------|------|------|-----|-------|-------|------|---------|---------------|
| 2" | 2.99 | 2.99 | 6.36 | 1.26 | 1.77 | 4.75 | 0.75 | 4-5/8"-11 | -- | -- | 9 | 2.56 | 2.00 | 0.27 | 117 | 6 7 |
| 2.5" | 3.15 | 3.50 | 6.89 | 1.26 | 1.89 | 5.50 | 0.75 | 4-5/8"-11 | -- | -- | 9 | 2.56 | 2.00 | 0.27 | 189 | 7 8 |
| 3" | 3.74 | 3.74 | 7.12 | 1.26 | 1.93 | 6.00 | 0.75 | 4-5/8"-11 | -- | -- | 9 | 2.56 | 2.00 | 0.27 | 244 | 10 14 |
| 4" | 4.49 | 4.49 | 7.87 | 1.26 | 2.16 | 7.50 | 0.75 | 8-5/8"-11 | -- | -- | 11 | 3.54 | 2.75 | 0.41 | 390 | 13 26 |
| 5" | 4.92 | 4.92 | 8.38 | 1.26 | 2.28 | 8.50 | 0.88 | 8-3/4"-10 | -- | -- | 14 | 3.54 | 2.75 | 0.41 | 598 | 18 28 |
| 6" | 5.51 | 5.51 | 8.86 | 1.26 | 2.32 | 9.50 | 0.88 | 8-3/4"-10 | -- | -- | 14 | 3.54 | 2.75 | 0.41 | 875 | 20 31 |
| 8" | 6.81 | 6.97 | 10.23 | 1.41 | 2.52 | 11.75 | 0.88 | 8-3/4"-10 | -- | -- | 17 | 4.92 | 4.01 | 0.49 | 1430 | 32 49 |
| 10" | 7.99 | 7.99 | 11.49 | 1.41 | 2.75 | 14.25 | 1.00 | 12-7/8"-9 | -- | -- | 22 | 4.92 | 4.01 | 0.49 | 2275 | 42 72 |
| 12" | 9.33 | 9.52 | 13.26 | 1.41 | 3.15 | 17.00 | 1.00 | 12-7/8"-9 | -- | -- | 22 | 4.92 | 4.01 | 0.49 | 3250 | 70 105 |
| 14" | 10.98 | 10.51 | 14.48 | 1.77 | 3.15 | 18.75 | 1.125 | 12-1"-8 | 1.25 | 0.94 | -- | 4.92 | 4.01 | 0.49 | 3500 | 95 155 |
| 16" | 11.97 | 11.73 | 15.74 | 2.00 | 3.54 | 21.25 | 1.125 | 16-1"-8 | 1.31 | 1.06 | -- | 6.89 | 5.51 | 0.71 | 5500 | 117 195 |
| 18" | 14.25 | 12.52 | 16.61 | 2.00 | 4.29 | 22.75 | 1.25 | 16-1 1/8"-7 | 1.50 | 1.06 | -- | 6.89 | 5.51 | 0.71 | 8200 | 165 230 |
| 20" | 14.49 | 13.74 | 18.85 | 2.52 | 5.31 | 25.00 | 1.25 | 20-1 1/8"-7 | 1.62 | 1.26 | -- | 6.89 | 5.51 | 0.71 | 10000 | 275 396 |
| 24" | 17.48 | 16.14 | 22.12 | 2.80 | 6.14 | 29.50 | 1.375 | 20-1 1/4"-7 | 1.99 | 1.41 | -- | 11.81 | 10.00 | 0.71 | 18200 | 440 610 |

*Torque values in inch-pounds. All torque values shown on chart are for non-lubricating media & on-off service. For dry services, multiply by 1.6. Torques may vary; consult factory. Above torque based on 150 PSI at ambient temperature.

**Dimension "M" in mm.


PolyPipe[®] for MUNICIPAL & INDUSTRIAL



PolyPlus[™] PE3408/PE4710 High Performance Pipe for Municipal & Industrial Applications

FEATURES:

- Suitable applications include Reclaim Water, Intake Water, Raw Water, Wastewater, Mining, Dredging, Landfill, Pulp & Paper and Power Generation
- Heat-fused, fully restrained, leak proof joints
- Maintains optimum flow rates due to resistance to corrosion & biological growth
- Fatigue resistant
- Meets ASTM D3350 cell classification PE445574C
- Material grades PE3408/PE4710/PE100 per PPI TR-4
- ASTM D3035 & ASTM F714

| | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAMPLE PRINTLINE: | 24" IPS-SDR 11-DURALINE-POLYPIPE@POLYPLUS-PE3408/PE4710-CEE-ASTM F714-(Resin Code)(Color Code)-6GB -(ddmmyy) |
| APPLICATION: | Reclaim Water, Intake Water, Raw Water, Wastewater, Mining, Dredging, Landfill, Pulp & Paper, Power Generation and others |
| SIZE RANGE: | ½" – 65" (IPS, DIPS) |
| COLOR/STRIPE: | Solid black, or with Stripes: white, red, yellow, gray, orange, blue, purple, green, pink, brown  |

PolyPipe is manufactured with high performance resins engineered with outstanding resistance to Slow Crack Growth (SCG) and Rapid Crack Propagation (RCP). The fatigue resistance of these resins improves design life in water systems where cyclic pressure surges exist.

Dura-Line is ISO 9001 certified and PolyPipe is qualified using exacting laboratory procedures and test methods, and a consistent uncompromised quest for design and manufacturing excellence.



PolyPlus PE3408/PE4710

TYPICAL PHYSICAL PROPERTIES

| PROPERTY | ASTM TEST METHOD | *NOMINAL VALUES | |
|------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------|-----------------------------------------|
| | | SI Units | English Units |
| Density, Natural | D1505 | 0.949 gm/cc | — |
| Density, Black | D1505 | 0.960 gm/cc | — |
| Melt Index (190°C/2.16 kg) | D1238 | 0.08 gm/10 min. | — |
| Flow Rate (190°C/21.6 kg) | D1238 | 7.5 gm/10 min. | — |
| Tensile Strength @ Yield | D638 | 24.8 MPa | 3,500 psi |
| Ultimate Elongation | D638 | >800% | >800% |
| Flexural Modulus 2% Secant | D790 | 1,034 MPa | 150,000 psi |
| Environmental Stress Crack Resistance (ESCR) | | | |
| F ₀ , Condition C | D1693 | -- | -- |
| PENT | F1473 | >500 hrs. | >500 hrs. |
| Brittleness Temperature | D746 | <-117°C | <-180°F |
| Hardness, Shore D | D2240 | 64 | 64 |
| Vicat Softening Temperature | D1525 | 124°C | 255°F |
| Izod Impact Strength (Notched) | D256 | 0.42 KJ/m | 8 ft – lb/in |
| Volume Resistivity | D991 | >10 ¹⁵ ohm-cm | -- |
| Thermal Expansion Coefficient | | 2x10 ⁻⁴ cm/cm/°C | 1.0x10 ⁻⁴ in/in/°F |
| CELL CLASSIFICATION: | D3350 | 445574C 445576C | PE47 PE100 |
| PPI HYDROSTATIC DESIGN BASIS (HDB) (As listed in PPI TR-4) | D2837 | 11.0 MPa @ 23°C 6.9 MPa @ 140°C | 1,600 psi @ 73.4°F 1,000 psi @ 140°F |
| PPI HYDROSTATIC DESIGN STRESS (HDS) (As established by the Hydrostatic Stress Board (HSB) of the Plastics Pipe Institute (PPI)) | | 6.9 MPa @ 23°C | 1,000 psi @ 73.4°F |

*Nominal values are intended to be guides only, and not as specification limit.

*Some of the data listed above was determined from compression molded test specimens; therefore, may deviate from pipe specimens.



| Pressure Rating | | DR7 335 psi | | DR9 255 psi | | DR11 200 psi | | DR13.5 160 psi | | DR17 125 psi | | DR21 100 psi | | DR26 80 psi | | DR32.5 65 psi | |
|----------------------------------|----------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|
| Nominal Pipe Size (inches) | OD (inches) | Min. Wall (inches) | Weight (lbs/ft) | Min. Wall (inches) | Weight (lbs/ft) | Min. Wall (inches) | Weight (lbs/ft) | Min. Wall (inches) | Weight (lbs/ft) | Min. Wall (inches) | Weight (lbs/ft) | Min. Wall (inches) | Weight (lbs/ft) | Min. Wall (inches) | Weight (lbs/ft) | Min. Wall (inches) | Weight (lbs/ft) |
| 1/2" | 0.840 | 0.120 | 0.119 | 0.093 | 0.096 | 0.076 | 0.080 | - | - | - | - | - | - | - | - | - | - |
| 3/4" | 1.050 | 0.150 | 0.185 | 0.117 | 0.150 | 0.095 | 0.126 | - | - | - | - | - | - | - | - | - | - |
| 1" | 1.315 | 0.188 | 0.291 | 0.146 | 0.235 | 0.120 | 0.197 | - | - | - | - | - | - | - | - | - | - |
| 1 1/4" | 1.660 | 0.237 | 0.463 | 0.184 | 0.374 | 0.151 | 0.314 | 0.123 | 0.261 | 0.140 | 0.431 | - | - | - | - | - | - |
| 1 1/2" | 1.900 | 0.271 | 0.607 | 0.211 | 0.490 | 0.173 | 0.411 | 0.141 | 0.342 | 0.206 | 0.936 | 0.167 | 0.768 | 0.135 | 0.626 | - | - |
| 2" | 2.375 | 0.339 | 0.948 | 0.264 | 0.766 | 0.216 | 0.642 | 0.176 | 0.534 | 0.265 | 1.548 | 0.214 | 1.269 | 0.173 | 1.035 | 0.138 | 0.835 |
| 3" | 3.500 | 0.500 | 2.058 | 0.389 | 1.664 | 0.318 | 1.395 | 0.259 | 1.159 | 0.327 | 2.366 | 0.265 | 1.810 | 0.207 | 1.477 | 0.165 | 1.192 |
| 4" | 4.500 | 0.643 | 3.402 | 0.500 | 2.751 | 0.409 | 2.306 | 0.333 | 1.916 | 0.390 | 3.355 | 0.315 | 2.750 | 0.214 | 1.582 | 0.171 | 1.277 |
| 5" | 5.375 | 0.768 | 4.854 | 0.597 | 3.925 | 0.489 | 3.289 | 0.398 | 2.733 | 0.419 | 3.881 | 0.339 | 3.181 | 0.274 | 2.244 | 0.204 | 1.811 |
| 5" | 5.563 | 0.795 | 5.199 | 0.618 | 4.204 | 0.506 | 3.523 | 0.412 | 2.928 | 0.507 | 5.687 | 0.411 | 4.662 | 0.332 | 3.804 | 0.219 | 2.094 |
| 6" | 6.625 | 0.946 | 7.374 | 0.736 | 5.963 | 0.602 | 4.997 | 0.491 | 4.152 | 0.632 | 8.834 | 0.512 | 7.242 | 0.413 | 5.909 | 0.265 | 3.069 |
| 7" | 7.125 | 1.018 | 8.529 | 0.792 | 6.897 | 0.648 | 5.780 | 0.528 | 4.802 | 0.750 | 12.427 | 0.607 | 10.187 | 0.490 | 8.312 | 0.331 | 4.767 |
| 8" | 8.625 | 1.232 | 12.498 | 0.958 | 10.106 | 0.784 | 8.470 | 0.639 | 7.037 | 0.824 | 14.983 | 0.667 | 12.282 | 0.538 | 10.022 | 0.392 | 6.703 |
| 10" | 10.75 | 1.536 | 19.416 | 1.194 | 15.700 | 0.977 | 13.157 | 0.796 | 10.932 | 0.941 | 19.569 | 0.762 | 16.042 | 0.615 | 13.090 | 0.492 | 10.561 |
| 12" | 12.75 | 1.821 | 27.312 | 1.417 | 22.085 | 1.159 | 18.508 | 0.944 | 15.379 | 1.059 | 24.767 | 0.857 | 20.304 | 0.692 | 16.567 | 0.554 | 13.366 |
| 14" | 14.00 | 2.000 | 32.930 | 1.556 | 26.628 | 1.273 | 22.315 | 1.037 | 18.542 | 1.176 | 30.577 | 0.952 | 25.066 | 0.769 | 20.453 | 0.615 | 16.501 |
| 16" | 16.00 | 2.286 | 43.010 | 1.778 | 34.779 | 1.455 | 29.146 | 1.185 | 24.218 | 1.294 | 36.998 | 1.048 | 30.330 | 0.846 | 24.748 | 0.677 | 19.967 |
| 18" | 18.00 | 2.571 | 54.435 | 2.000 | 44.017 | 1.636 | 36.888 | 1.333 | 30.651 | 1.412 | 44.031 | 1.143 | 36.095 | 0.923 | 29.452 | 0.738 | 23.762 |
| 20" | 20.00 | 2.857 | 67.203 | 2.222 | 54.342 | 1.818 | 45.541 | 1.481 | 37.840 | 1.647 | 59.931 | 1.333 | 49.130 | 1.077 | 40.087 | 0.862 | 32.342 |
| 22" | 22.00 | - | - | 2.444 | 65.754 | 2.000 | 55.105 | 1.630 | 45.787 | 1.765 | 68.798 | 1.429 | 56.399 | 1.154 | 46.019 | 0.923 | 37.128 |
| 24" | 24.00 | - | - | 2.667 | 78.253 | 2.182 | 65.579 | 1.778 | 54.490 | 1.882 | 78.277 | 1.524 | 64.169 | 1.231 | 52.359 | 0.985 | 42.243 |
| 28" | 28.00 | - | - | 3.111 | 106.51 | 2.545 | 89.260 | 2.074 | 74.167 | 2.118 | 99.069 | 1.714 | 81.214 | 1.385 | 66.267 | 1.108 | 53.464 |
| 30" | 30.00 | - | - | 3.333 | 121.63 | 2.727 | 102.467 | 2.222 | 85.141 | 2.286 | 116.59 | 1.824 | 91.542 | 1.477 | 72.771 | 1.292 | 59.047 |
| 32" | 32.00 | - | - | 3.556 | 139.12 | 2.909 | 116.59 | 2.370 | 96.871 | 2.471 | 134.844 | 2.000 | 110.542 | 1.615 | 89.73 | 1.477 | 72.771 |
| 36" | 36.00 | - | - | 4.000 | 176.07 | 3.273 | 146.78 | 2.667 | 121.96 | 2.824 | 176.122 | 2.286 | 144.381 | 1.846 | 117.808 | 1.662 | 95.047 |
| 42" | 42.00 | - | - | - | - | - | - | 3.111 | 166.88 | 3.176 | 222.91 | 2.571 | 182.732 | 2.077 | 149.100 | 1.662 | 120.294 |
| 48" | 48.00 | - | - | - | - | - | - | - | - | 3.706 | 303.398 | 3.000 | 248.72 | 2.423 | 202.94 | 1.938 | 163.73 |
| 54" | 54.00 | - | - | - | - | - | - | - | - | 3.824 | 322.967 | 3.095 | 264.76 | 2.500 | 216.03 | 2.000 | 174.29 |
| 63" | 63.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 65" | 65.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*See notes on Page 4 for product and pressure rating information



| Pressure Rating | DR7 335 psi | DR9 255 psi | DR11 200 psi | DR13.5 160 psi | DR17 125 psi | DR21 100 psi | DR26 80 psi | DR32.5 65 psi |
|----------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Nominal Pipe Size (inches) | Min. Wall (inches) | Min. Wall (inches) | Min. Wall (inches) | Min. Wall (inches) | Min. Wall (inches) | Min. Wall (inches) | Min. Wall (inches) | Min. Wall (inches) |
| 3" | 0.566 | 0.440 | 0.360 | 0.293 | 0.233 | 0.189 | 0.152 | 0.122 |
| 4" | 0.686 | 0.533 | 0.436 | 0.356 | 0.282 | 0.229 | 0.185 | 0.148 |
| 6" | 0.986 | 0.767 | 0.627 | 0.511 | 0.406 | 0.329 | 0.265 | 0.212 |
| 8" | 1.293 | 1.006 | 0.823 | 0.670 | 0.532 | 0.431 | 0.348 | 0.278 |
| 10" | 1.586 | 1.233 | 1.009 | 0.822 | 0.653 | 0.529 | 0.427 | 0.342 |
| 12" | 1.886 | 1.467 | 1.200 | 0.978 | 0.776 | 0.629 | 0.508 | 0.406 |
| 14" | 2.186 | 1.700 | 1.391 | 1.133 | 0.900 | 0.729 | 0.588 | 0.471 |
| 16" | 2.486 | 1.933 | 1.582 | 1.289 | 1.024 | 0.829 | 0.669 | 0.535 |
| 18" | 2.786 | 2.167 | 1.773 | 1.444 | 1.147 | 0.929 | 0.750 | 0.600 |
| 20" | 3.086 | 2.400 | 1.964 | 1.600 | 1.271 | 1.029 | 0.831 | 0.665 |
| 24" | - | 2.867 | 2.345 | 1.911 | 1.518 | 1.229 | 0.992 | 0.794 |
| 30" | - | - | - | 2.370 | 1.882 | 1.524 | 1.231 | 0.985 |
| 36"* | - | - | - | - | 2.253 | 1.824 | 1.473 | 1.178 |
| 42"* | - | - | - | - | 2.618 | 2.119 | 1.712 | 1.369 |
| 48"* | - | - | - | - | 151.374 | 161.717 | 1954 | 1563 |
| 54"* | - | - | - | - | - | 207.620 | 2214 | 1771 |
| 60"* | - | - | - | - | - | - | 2.370 | 1.896 |
| | Weight (lbs/ft) | Weight (lbs/ft) | Weight (lbs/ft) | Weight (lbs/ft) | Weight (lbs/ft) | Weight (lbs/ft) | Weight (lbs/ft) | Weight (lbs/ft) |
| 3" | 2.635 | 2.130 | 1.785 | 1.483 | 1.199 | 0.983 | 0.802 | 0.647 |
| 4" | 3.871 | 3.130 | 2.623 | 2.180 | 1.761 | 1.444 | 1.178 | 0.950 |
| 6" | 7.999 | 6.468 | 5.421 | 4.504 | 3.639 | 2.984 | 2.434 | 1.964 |
| 8" | 13.760 | 11.127 | 9.325 | 7.748 | 6.261 | 5.132 | 4.188 | 3.379 |
| 10" | 20.700 | 16.739 | 14.028 | 11.656 | 9.418 | 7.721 | 6.300 | 5.083 |
| 12" | 29.274 | 23.671 | 19.838 | 16.483 | 13.319 | 10.919 | 8.909 | 7.188 |
| 14" | 39.329 | 31.802 | 26.652 | 22.145 | 17.894 | 14.669 | 11.969 | 9.657 |
| 16" | 50.866 | 41.132 | 34.470 | 28.641 | 23.144 | 18.973 | 15.481 | 12.490 |
| 18" | 63.885 | 51.659 | 43.292 | 35.972 | 29.067 | 23.829 | 19.443 | 15.687 |
| 20" | 78.386 | 63.385 | 53.119 | 44.137 | 35.665 | 29.237 | 23.856 | 19.247 |
| 24" | - | 90.431 | 75.785 | 62.970 | 50.883 | 41.713 | 34.035 | 27.460 |
| 30" | - | - | - | 96.871 | 78.277 | 64.169 | 52.359 | 42.243 |
| 36"* | - | - | - | - | 112.132 | 91.923 | 75.005 | 60.514 |
| 42"* | - | - | - | - | 151.374 | 124.093 | 101.254 | 81.692 |
| 48"* | - | - | - | - | - | 207.620 | 169.408 | 136.678 |
| 54"* | - | - | - | - | - | - | 194.086 | 156.588 |
| 60"* | - | - | - | - | - | - | - | - |

PolyPipe® PolyPlus™ PE4710 Pipe is manufactured in accordance with the following standards:

- For sizes 1/2" IPS through 3" IPS products are manufactured in accordance with ASTM D3035 & AWWA C901.
- For sizes 4" IPS through 60" DIPS products are manufactured in accordance with ASTM F714 & AWWA C906.
- Metric sizes also available.
- Coiled pipe available through 6" OD and straight lengths available in 40' and 50' lengths. For custom lengths, contact a Customer Service Representative.

• Pressures are based on water at 23°C (73.4°F) and are determined by use of the Hydrostatic Design Stress (HDS) as established by the Hydrostatic Stress Board (HSB) of the Plastics Pipe Institute (PPI).

• The above weights for IPS and DIPS sizes are calculated in accordance with Plastics Pipe Institute (PPI) TR-7, using a value of 0.960 for density.

• Available with color-coded striping.

• Some sizes listed are special order. Call for availability on sizes.

• * May require additional lead time.

**Recommended Minimum Training Guidelines
for PE Pipe Butt Fusion Joining Operators
for Municipal and Industrial Projects
TN-42/September 2009**

Foreword

This technical note was developed and published with the technical help and financial support of the members of the PPI (Plastics Pipe Institute, Inc). The members have shown their interest in quality products by assisting independent standards-making and user organizations in the development of standards, and also by developing reports on an industry-wide basis to help engineers, code officials, specifying groups, and users.

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PPI intends to revise this note from time to time, in response to comments and suggestions from users of this note. Please send suggestions of improvements to the address below. Information on other publications can be obtained by contacting PPI directly or visiting the web site.

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PURPOSE

The purpose of this document is to provide a general outline of PPI's recommended minimum guidelines for training an operator in properly and safely making good quality butt- fusion joints in PE pipe systems. This training guide is intended to recommend a consistent minimum level of fusion operator proficiency; certain installations may require additional operator training and proficiency.

SCOPE

Butt fusion joining of PE pipe is a relatively simple, forgiving, and dependable process. However, as with any kind of pipe installation, proper procedures and diligence must always be used to consistently make satisfactory joints. Fusion machine operators should demonstrate an aptitude for using mechanical equipment and be generally familiar with laying pipe. They should have a demonstrated ability to follow procedures and be conscientious in their work. The amount of time it takes to provide the specified training can vary greatly and depends on the number of individuals being trained as well as their aptitude and willingness to follow directions. However, participants shall not be considered "trained" until they have demonstrated proficiency on at least two test joints made under circumstances and field conditions representative or similar to those of the project.

PE Pipe Sizes and SDR/DR

PE pipe for use in industrial and municipal applications is produced in accordance with applicable industry standards (ASTM, AWWA, API). In AWWA, the pipe outside diameters (ODs) conform to the OD dimensions of iron pipe IPS, or to equivalent OD for DI pipe (DIOD). In general, pipes are manufactured and measured based on OD (outside diameter) and wall thickness. The ratio of outside diameter to minimum wall thickness defines the pipe's SDR (Standard Dimension Ratio) or DR (Dimension Ratio) number. These numbers also define the pipes pressure rating at 80°F (27°C) in AWWA standards. And, because of the importance of the information these numbers convey, they are required to be included in the pipe markings specified by the applicable industry standard. These standards require that all pipes be clearly marked at specified intervals with the following information:

- Name or trademark of the manufacturer
- Production code number to identify location and date of manufacture.
- Nominal pipe size
- IPS or DIPS
- SDR or DR number, or pressure rating, or both

- The applicable industry standard(s) with which the pipe complies e.g. ASTM, AWWA, API or a combination of those specifications to which the pipe may have been manufactured, (e.g. ASTM F714 / AWWA C-906).
- Use the Pipe Size and SDR/DR to determine the proper fusion pressures applicable for the fusion machine and product being joined. In the event this information is not immediately available the user is advised to consult with either the fusion equipment or pipe supplier.

Links to PPI and the major equipment suppliers are listed as follows:

- Plastics Pipe Institute www.plasticpipe.org
- Connectra Fusion Equipment <http://www.connectrafusion.com/fusion-calculator.php>
- McElroy Manufacturing Fusion Equipment <http://www.mcelroy.com/fusion/calculate.htm>
- RITMO America <http://www.ritmoamerica.com>

MACHINE QUALIFICATION

The selected fusion equipment shall be capable of meeting all parameters of the job. The equipment shall have jaws or reducing inserts designed to properly hold the size of the pipes being fused, and it shall have enough hydraulic force to reach the required fusion pressure during all fusion conditions. The fusion operator shall be thoroughly familiar with and trained on the equipment being used. Such training shall include at least the following:

- 1) Safety
- 2) Operator's manual & checklist
- 3) Basic maintenance and troubleshooting
- 4) External power requirements
- 5) Features
- 6) Components and how they operate
- 7) Hydraulic operation (if applicable)
- 8) Determining required fusion pressure and how to set on machine
- 9) Heater operation and temperature requirements and adjustment
- 10) Data logging device (if applicable)

Job Set-up Guidelines

Weather Guidelines: Successful butt fusions can be accomplished in a broad range of weather temperatures. Pipe ends and the fusion equipment must be dry and sheltered from rain and wind. The limitations are driven by products and the equipment being used.

While PE pipe has very good impact resistance even in sub-freezing conditions; nonetheless its impact strength is reduced as temperatures drop into these ranges. Therefore, avoid dropping pipe in sub-freezing conditions. Also, keep in mind that butt fusion, when temperatures are below -4°F (-20°C), generally requires special provisions such as portable shelters or trailers or other suitable protective measures with auxiliary heating. Here are some general guidelines to address different weather conditions:

Cold Temperatures, Down to 32°F (0°C): When butt fusing PE pipe under these conditions, it is recommended that a temporary wind barrier be set up around the operator and fusion equipment. It is also recommended that the pipe ends be closed off by use of end caps or other means to prevent the flow of cold air. These measures will help greatly to reduce the heat loss in the heater plate and provide for a more uniform heating cycle and improved operator efficiency.

Cold Ambient Temperatures Below 32°F (0°C): In addition to the above, the following preparations should be undertaken before fusing pipes. Pipe ends should be pre-heated using a heating blanket or warm air devices to elevate the pipe temperature to improve the heat cycle starting condition. With pipe mounted in the fusion machine, an alternate method of pre-heating is to position the pipe ends within ¼ to ½ inch of the heater plate face to allow the pipe ends to warm for 30 seconds to 2 minutes, depending on the pipe size and wall thickness. Before starting pipe fusion, the operator needs to ensure that the ID of the pipe is clear of moisture possibly due to frost that is being melted during the warming operations.

Notice: The use of direct application open flame devices, such as torches, for heating PE pipe is prohibited due to the lack of adequate heating control and the possibility of oxidative damage to the pipe ends and even ignition of the pipe. The warming temperature should not be continuous nor exceed 120°F (49°C).

Warm (Hot) Environment, 32° F (0°C) to 120° F(49°C): . Elevated temperature conditions can be mitigated by shading of the operator and the equipment where applicable.

Wind: Exposure of the fusion heater plate and pipe to wind can result in unacceptable temperature variations during butt fusion and possible joint contamination. When unfavorable wind conditions exist, the provision of a suitable shelter is required to protect the pipe and the fusion heater plate to ensure more consistent work performance. Unfavorable wind conditions can also flow through the pipe bore and cause unacceptable temperature variations during the fusion process, therefore open pipe ends may require plugs or covers to prevent this condition.

Additional Considerations:

- PE pipe and fittings will expand and contract with changes in temperature so in such an event be prepared to make necessary adjustments.
- Where pipes are to be clamped in the fusion machine, make sure pipe, fitting and clamp surfaces are dry, clean and free of ice, frost, snow, dirt and other contamination.
- When butt fusion is done in cold weather, DO NOT INCREASE THE HEATING TOOL SURFACE TEMPERATURE to attempt to compensate. THE REQUIRED SURFACE TEMPERATURE MUST BE WITHIN THE SPECIFIED RANGE BETWEEN 400-450°F (204-232°C) with 425°F (218°C) being the target temperature. Some butt fusion equipment is operated hydraulically through the use of motor and hydraulic oils. When operating such hydraulically assisted equipment at ambient temperature extremes, read operators manuals to make necessary viscosity adjustments to aide in the equipment's performance. The same holds true for generators supporting the butt fusion equipment.
- In cold conditions, it will take longer to develop an indication of melt around the pipe circumference at fusion pressure and longer to develop the final bead size in the heat soak cycle.
- DO NOT apply "fusion pressure" during the heat soak cycle. When proper melt has been obtained, the pipe and heater should be separated in a rapid, snap-like motion on manually operated equipment. The melted surfaces should be inspected (looking for a smooth melted surface) then be joined immediately in one smooth motion so as to minimize cooling of the melted pipe ends.

Pipe Handling Guidance: The jobsite pipe storage area should be relatively level and smooth. It should be large enough to allow for safe movement of the pipe and pipe handling equipment. The optimum situation is to have the pipe stored in close proximity to where the fusion equipment will be used for joining. The pipe should be placed on wooden beams or other type supports to keep it out of the dirt, mud etc.. Where ground is level, the pipe or bundles of pipe can be stacked as high as about 6 ft. but not more. Where the ground is not very level, pipe should not be stacked in bundles but should be placed individually next to one another. Likewise, coils of pipe should not be stacked on each other but should be placed individually on protective supports on the ground.

Coils should be stored in such a manner as to prevent any possibility of rolling or falling over.

DANGER: Coils, bundles, and even individual lengths of pipe are very heavy and by falling or rolling over can result in property damage, serious injury or even death.

For lifting pipe whether it be single pieces, coils or bundles it is extremely important to use only properly weight rated fabric slings capable of handling the load. DO NOT use wire rope or chains to lift or move pipe, they will damage it.

Special care should be taken when cutting tie bands on coils or on bundled pipe. As mentioned earlier, falling, rolling, or springing pipe can be extremely dangerous. First, cut only the bands on the outside and work carefully to extract the pipe pieces as needed.

Pipe Stands and Supports:

When butt fusing lengths of pipe it is necessary that pipe support stands be used. These pipe support stands work best when they are positioned on either side of the fusion machine approximately 20' from the pipe ends. Adjust the height of the stands so that the pipes are level; this will help to reduce pipe drag. The more stands that are used the more freely the pipe(s) move into and through fusion machine.

Other devices such as carts, racks etc. can be used to aide in supporting and feeding pipe into and through fusion units.

Do's and Don'ts in Pipe Handling:

DO's

- Make sure the pipe is secure and balanced prior to moving
- Store pipe on a level surface prior to use if possible
- Read and adhere to all published safety procedures on the subject of PE pipe handling
- When installing PE pipe do take into consideration that in locations that may experience large temperature swings between day and night, exposed pipe that is not restrained will change in length due to expansion and or contraction. For the condition of a drop in temperature, the pipe contraction could affect any lateral connections installed in the line; if the line contains bell and spigot or mechanical joints with insufficient pull-out resistance, then there exists the potential for joint separation. Exposed pipe that is anchored has a different response to the condition of a drop in temperature; namely, the generation of longitudinal loads that result in increased tensile stress. Temperature increases have the opposite and other effects. Therefore, it is

very important that the effects of thermal change be taken into account when installing pipe. For additional information on this subject the reader is referred to the PPI PE Handbook, Chapter 6 - Section 4. Once the pipe is buried and compacted in the ditch, (not free floating or unrestrained) temperature change has very little effect on the pipe.

- Before pulling pipe, do check for its maximum allowable pulling load. The safe pulling load depends on the pipe's OD its wall thickness and material grade. For the recommended safe values the user is referred to the Tables on this subject in Chapter 12 in the PPI PE Handbook.

DON'TS

- While PE pipe is an extremely tough material it can be scratched or gouged, therefore, it should not be pulled or dragged over sharp objects. Pipe is generally not acceptable for installation if it contains damage that exceeds about 10% of the minimum wall thickness of the pipe designed for the application. For more details on this subject, the reader is referred to the PPI's PE Handbook, Chapter 2, section entitled 'Damage Inspections' or consult with the pipe manufacturer.
- Ignore recommended handling and installation procedures
- Bury the pipe with large sharp rocks, tree roots or other rigid objects against the surface of the pipe
- Kink the pipe during handling or installation.
- Perform rough handling of a fusion joint for at least 30 minutes after it has come out of the fusion machine. Additional time may be required for pipes with wall thicknesses greater than 2 inches, especially if the prevailing ambient temperature is above 90°F.
- Stick the forklift forks into the side of the pipe.
- Stand under or anywhere close to the pipe while it is being unloaded from a truck
- Fuse pipe in a dust storm without a shelter (Dust can contaminate the fusion joint)⁽¹⁾
- Fuse pipe in a rain storm without a shelter (Water can contaminate the fusion joint)⁽¹⁾

⁽¹⁾ For additional information on this topic please refer to the discussion under the Job Set-up Guidelines Section

Safety

- PE Pipe is an inert substance that poses no known health risk. Polyethylene (PE) is used to wrap the food you eat and PE pipe is used extensively for transporting potable water, so touching the pipe is completely safe.
- Always wear personal safety gear including hard hat, steel toed shoes and safety glasses.
- Do not stand in the path of the pipe being loaded or moved. Miss-handled, rolling or falling pipe can result in serious injury or death.
- Before starting or performing any work with the fusion equipment, it is very important that the operator carefully read and accept the equipment manufacturer's instructions on safety and operation that are published in the Manufacturer's Owners Manual. This is emphasized particularly because of the fact that while most heat fusion equipment is electrically powered, it is not explosion proof. Therefore, special attention is needed when performing fusions in an atmosphere that may be volatile, such as when gas or coal / grain dust may be present. Also, handling of the heating irons deserves special care insofar as they are very hot, greater than 400°F (204°C).
- Before unloading, reloading or moving pipe or equipment, carefully read and adhere to all published procedures and safety related documents. (PPI's PE Pipe Handbook, PPI's Materials Handling Guide publication and the pipe manufacturers literature,)
- Keep hands out of harm's way when loading pipe into, or removing it from the fusion machine. Likewise, for working with any other related pipe assembly or installation equipment, carefully follow all established safety procedures

Butt Fusion – A Six Step Process

This section outlines the Butt Fusion Procedure, per ASTM F2620, Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings and PPI TR-33, Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe.

Please read carefully and fully understand equipment set-up and all six steps before beginning the fusion process. Also, before operating the fusion equipment, carefully read and understand the equipment manufacturer's published instructions on safety and operation and refer also to the highlights listed under the preceding Safety Section of this document.

Butt Fusion Machine Set-up

The operator should be familiar with these concepts before starting the 6-step Butt Fusion Procedure.

Heating Pressure: Carriage pressure during the heating process is a two step process. Initial contact is made at the pre-set fusion gauge pressure. After a melt bead is observed all around the pipe, this pressure should be lowered to the drag pressure (called "soak pressure") for the remainder of the heat cycle. During this time the hydraulic valve system should "lock" the carriage into position where it can neither move forward nor backward.

Facing Pressure: With pipe ends clamped into the fusion unit, apply just enough pressure to bring the two pipes into contact with the rotating facer, being careful not to slam into and possibly bog down or jam the facer unit.

Fusing Pressure: Take the drag pressure and add it to the calculated fusion pressure to obtain the fusion gauge pressure; see ASTM F 2620 and/or pipe distributor.

Drag Pressure: Drag Pressure is something that needs to be considered when butt fusing PE pipes and or fittings together. Drag is the amount of gauge pressure needed to overcome the frictional resistance of the hydraulic unit itself (called "static drag," and usually amounts to around 30-50 psi) combined with the amount of pressure needed to overcome the resistance of the pipe that is being pulled into the facer and heater (called "dynamic drag"). This amount can vary from very little to an amount that could potentially exceed the hydraulic capacity of the fusion unit (e.g., if fusing a long spool of pipe that is not well supported). The amount of drag pressure in PSI needs to be added to the theoretical fusion pressure to get the final calculated fusion gauge pressure. After facing the pipes, move the carriage so that the pipe ends are approximately 2" apart. To determine the drag pressure, adjust the pressure on the carriage so that it is not moving at all. Gradually increase the pressure until the carriage barely moves, observing the pressure gauge. Repeat if necessary. The pressure being indicated to just move the carriage is the drag pressure. (If fusion conditions change, this procedure must be repeated.)

Butt Fusion Procedure

NOTE: When using hydraulic fusion equipment, correct operation of hydraulic controls for carriage movement and pressure regulator selection is essential to produce quality butt fusions. Improper hydraulic control operation can seriously compromise butt fusion joint quality.

STEP 1 - Securing the Pipe SECURE THE PIPE IN THE JAW CLAMPS OF THE FUSION MACHINE TO ENSURE CORRECT ALIGNMENT. THERE SHOULD BE NO SLIPPAGE OR UNINTENDED MOVEMENT OTHERWISE CORRECT FACING WILL NOT BE ACHIEVED.

a) Adjust, Align and Secure.

- i) Adjust and align the pipe ends to minimize any parallel misalignment (high / low) or angular misalignment when the pipe ends are brought together.
- ii) Adequately tighten the clamps so as to prevent any unintended movement or slippage of the pipe when the pipe ends are brought together.
- iii) On a four-jaw fusion machine, first clamp the outer-jaws to secure the pipes, then the inner-jaws to allow for high / low adjustment during "Step 2 Facing the Pipe Ends".

b) Clean, Clean and Clean

- i) Clean the exposed pipe ends approximately three inches back along the pipe's inner and outer walls.
- ii) Clean to remove any surface contaminants.
- iii) Always use a clean, dry cotton cloth when cleaning pipe ends to be fused.
- iv) Never use a synthetic cleaning cloth; a lint-free cotton cloth is required.
- v) All fusion surfaces must be completely clean and dry to achieve a proper fusion.

c) Allow for the pipe ends to extend through the jaw clamps to permit complete facing.

- i) Assure that pipes are cut as square as possible so as not to damage facer pivot arms.

STEP 2 - Facing the Pipe Ends TO PREPARE FOR HEATING IN STEP 4, THE PIPE ENDS MUST BE PREPARED BY FACING OFF MATERIALS TO PROVIDE SMOOTH, PARALLEL AND CLEAN MATING SURFACES.

- a) Position the facing tool into the fusion machine between the secure and aligned pipe ends.
- b) Activate the facing tool.

- c) Bring the pipe ends into contact with the rotating facing tool.
 - i. With manual machines use only minimal pressure to initiate and maintain the cutting process between the pipe ends and the rotating surface of the facing tool. Hydraulic machines should be set to “facing pressure”.

Note - Excessive pressure may create too much of a load on the facer motor causing the facing tool to “bog down”, and potentially damaging both the facing tool and the fusion equipment.
 - ii. The correct facing process will have complete ribbons of polyethylene that are shaved from the pipe ends.
- d) Facing is complete when:
 - i. Complete ribbons of polyethylene have been shaved from the pipe ends, **AND**
 - ii. The pipe ends have smooth, clean and parallel surfaces, **AND**
 - iii. The “stops” on the facing tool and the jaw clamps are in contact, **AND**
 - iv. The rotating surface on the facing tool is able to “freewheel”; there is no resistance from the facer blades being in contact with the pipe ends.
- e) Stop the facer motor and move the pipe ends away from the facer.
- f) Remove the facing tool and clear away all shavings, cuttings and debris. Lightly brush away loose debris from the pipe ends with a clean lint-free cotton cloth.
- g) Avoid any contact with the pipe ends other than above step “f” during and after the facing process.
 - i. Any contact with the faced, fusion surface other than the facing tool or the cleaning device requires the operator to repeat the cleaning process as described in Step 1 “Securing the Pipe”.
 - ALWAYS FACE TO THE STOPS!
 - AVOID ANY CONTAMINATION of the faced pipe’s ends.

STEP 3 - Aligning the Pipe Ends ALIGNING THE PIPE ENDS VERIFIES THAT THEY ARE READY FOR THE FUSION PROCESS.

- a) Bring the newly faced pipe ends together at facing pressure to check for parallel alignment (high / low), angular alignment, slippage and unintended movement.

- i) Inspect the contact of the two pipe ends to ensure that there are no gaps or voids.
 - ii) Visually check for any misalignment (high/low) around the complete outer surface at the point of contact between the two pipe ends.
 - iii) Use a clean straight edge tool to check for any outer surface misalignment (high/low) between the outer surfaces of the two pipe ends.
- b) Adjust any misalignment (High / Low) by tightening the "High"-side jaw clamp. Never loosen the low-side.
- c) NOTE: If **ANY** adjustments are made, redo Step 2 "Facing the Pipe Ends".
- d) Bring the pipe ends together at the calculated fusion pressure to check for possible slippage or unintended movement. NOTE: If **ANY** slippage or unintended movement occurs, redo Step 2 "Facing the Pipe Ends".
- e) NEVER ATTEMPT TO HEAT OR FUSE PIPE THAT IS NOT CORRECTLY ALIGNED. Misalignment that exceeds 10% of the pipe wall thickness is incorrect and is not acceptable.

STEP 4 - Melting the Pipe Ends MELTING THE PIPE ENDS AT THE RECOMMENDED TEMPERATURE FOR THE REQUIRED DURATION IS REQUIRED TO CREATE A STRONG, ACCEPTABLE FUSED JOINT.

- a) Check the heater tool surface temperature with a calibrated infrared or surface pyrometer to insure the temperature is within the recommended range: 400°F – 450° F (204°C – 232°C). Follow the manufacturer's instructions.
- b) Clean the heater surfaces with a clean lint free cotton cloth.
- c) Follow the correct Butt Fusion Joining Procedures for the fusion equipment and pipe material on the jobsite. (ASTM F2620-06 and PPI TR-33 2006 are suggested guidelines):
 - i) Briefly bring the pipe ends into contact with the heating tool surfaces at the fusion pressure.
 - ii) Maintain fusion pressure" only until first indication of melt is visible around the complete outer edge of both pipe ends indicating that the pipe ends are in full contact with the heater plate around the full circumference.

iii) Immediately reduce pressure from “fusion pressure” to drag pressure without releasing contact between the melted pipe ends and the heating tool surfaces. Once the pressure is at drag pressure, lock the movable carriage so it can’t move in either direction for the “heat soak cycle”. On manual machines, this will be only enough pressure to maintain contact between the pipe ends and the heating surfaces.

Caution: Care should be taken that pressure never exceeds the drag pressure during the heat soak cycle. THIS IS CRITICAL FOR A GOOD FUSION. During the heat soak cycle the melt bead will form due to the thermal expansion of the melted ends, NOT by any external pressure being applied to the heater plates.

iv) Maintain contact between the pipe ends and the heating tool surfaces until an acceptable melt bead is achieved per Table 1.

Table 1: Approximate Melt Bead Size (Pipe Ends)

| Pipe Size | Approximate Melt Bead Size |
|--------------------|----------------------------|
| Above 1-1/4" to 3" | About 1/16" |
| Above 3" to 8" | 1/8" - 3/16" |
| Above 8" to 12" | 3/16" - 1/4" |
| Above 12" to 24" | 1/4" - 7/16" |
| Above 24" to 36" | About 7/16" |
| Above 36" to 63" | About 9/16" |

STEP 5 - Joining the Pipe Ends THE PROCESS OF BRINGING THE PIPE ENDS TOGETHER USING the PRE-SET PRESSURE.

a) When the correct melt bead is formed, per the ASTM standard summarized in Table 1, **QUICKLY** separate the pipe ends from the heating tool and remove the heating tool without coming into contact with the melted pipe ends. Next, **QUICKLY** inspect the pipe ends, which should be flat, smooth, free of contamination and completely melted.

Concave pipe ends (caused by heating under pressure) are **UNACCEPTABLE** – see Figure A for a photograph representative of this condition. If acceptable, **QUICKLY**

bring pipe ends together and apply fusion pressure. This process should take no longer than 9 seconds for pipes 3" – 24" and 9-15 seconds for 24" and larger pipe. For manual machines, apply enough force to have the melted ends roll back to the pipe surface. Hold that force until the pipe ends cool to the touch per ASTM F2620.

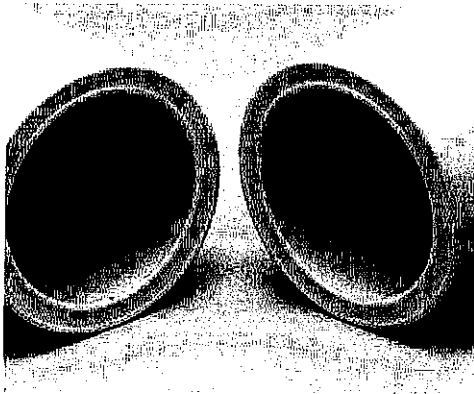


Figure A. UNACCEPTABLE APPEARANCE – Improper Concave Melt Surfaces after Heating; probably caused by heating under pressure.

- b) If there is any indication of an incorrect melt or contamination, **DO NOT CONTINUE**.
 - i) Allow the pipe ends to cool and start over with Step 1 “Securing the Pipe”.
- c) A good fusion will form a double roll-back bead onto the pipe surface. Refer to Figure B for bead appearance evaluation.

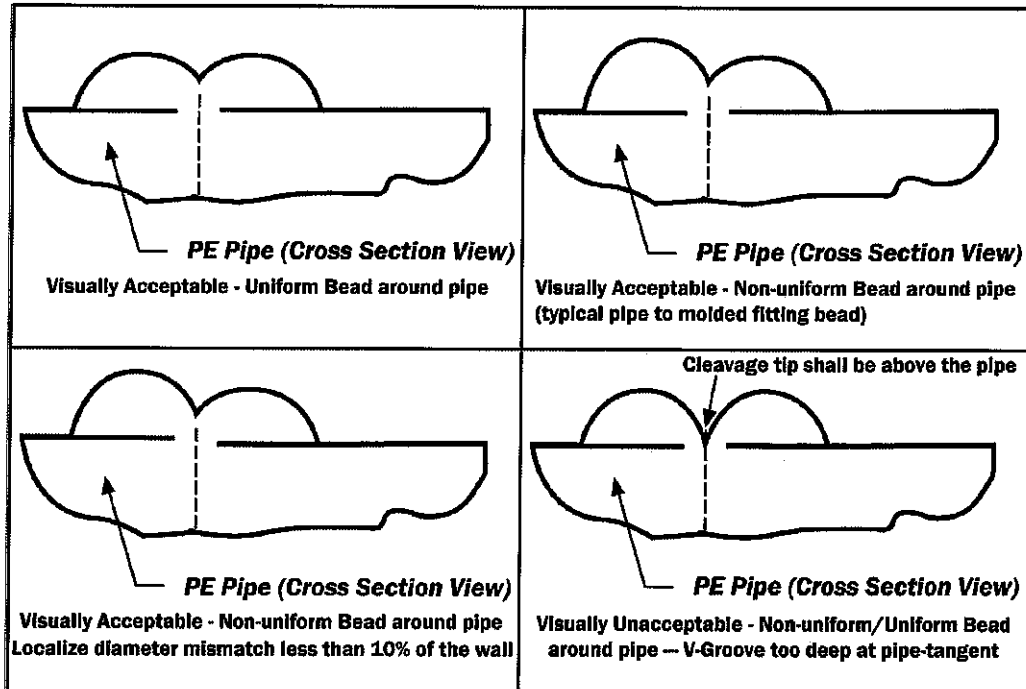


Figure B: Butt Fusion Bead Acceptance Guideline

Notes to Figure B:

- When fusing PE 4710, a slight gap may be present between the pipe OD and the bottom of the bead after cooling. When fusing PE 4710 to PE 3608/3408, the bead on the PE 3608/3408 pipe may roll all the way over the pipe wall, but the bead on the PE 4710 may not roll out completely.
- The top right quadrant in Figure B might also be seen if fusing pipes with different DRs

f) If the visual inspection of the fusion joint is not as described, it should be cut out and the process should begin again with Step 1 "Securing the Pipe".

STEP 6 - Holding the Pipe HOLDING THE PIPE, AND ALLOWING IT TO COOL COMPLETELY, IS NECESSARY FOR JOINT STRENGTH.

- Maintain the correct fusion pressure until the joint has cooled.
 - Allow the joint to cool for 30 to 90 seconds per diameter inch or until the surface of melt bead is cool to the touch- Note that in accordance with ASTM F 2620

recommendations, "Pouring water or applying wet cloths to the joint to reduce cooling time is not acceptable. Applying chilled air is acceptable only as part of a controlled cooling cycle procedure where testing demonstrates that acceptable joints are produced using the controlled cooling cycle procedure."

- ii) Heavier wall thicknesses require longer cooling times
- b) Avoid pulling, installation, pressure testing, or rough handling of the fused pipe for an additional 30 minutes or longer past completion of the last joint in the pipeline.
- c) Re-inspect the butt fusion joint.
 - i) Both sides of the double roll-back bead should be rolled to the pipe surface.
See Figure B above for proper bead appearance
- d) The depth of the "v groove" (see Figure B, bottom right) should be no more than 50% of the bead height.

Making and Testing Sample Butt Fusion Joints.

In order to verify the quality of the fusion process, including fusion operator skills and machine function, it is required that sample fusion joints be made for testing using the fusion procedures described in ASTM F2620-06 and in PPI TR 33 in conjunction with those outlined in this document. These test samples are for pipe with a wall thickness of 1" or less. For thicker wall applications, contact the pipe manufacturer for the appropriate test. The following describes the preparation of the test samples and the details of the testing procedure

- 1) Complete a minimum of two butt fusion joints for test using the procedures described in in this document,
- 2) Complete a visual inspection of the joints to confirm their suitability for testing
- 3) Allow the fusion joint samples to cool to a temperature ranging between 65°F (18°C) and 80°F (27°C).
- 4) Cut a strip from each of the sample fusion joints for testing.
 - a) The fusion joint should be in the middle of the cut length specimen.
 - b) The overall length of the strip should be 15x the wall thickness (a minimum of 6") on each side of the fusion

c) The overall width of the strip should be no less than 1-1/2x the wall thickness (a minimum of 1").

5) Bend the strips in a "back and forth" motion, with the ends touching each other at the completion of each motion.

A correct fusion joint should not crack or fail, or produce gaps or voids during this testing procedure. However, It should be noted that if testing is performed when the temperature of the samples is outside the 65°F to 80°F range specified in 3) above, a false result may be obtained.

Training Record per PPI TN 42-2009 Recommended Minimum Training Guidelines for PE Pipe Butt Fusion Joining Operators for Municipal and Industrial Projects

Date of Training: _____

Name of Trainer: _____

Name of Trainer's Company or Employer: _____

Name of Trainee Fusion Operator: _____

Name of Trainee Fusion Operator's Employer: _____

Name and Location of Project: _____

Fusion Machine(s) Used:

1. **Manufacturer:** _____ **Machine:** _____ **Serial No.:** _____

2. **Manufacturer:** _____ **Machine:** _____ **Serial No.:** _____

Pipe Samples Fused:

1. **OD** _____ **SDR/DR** _____ **Product ID/Manufacturer** _____

2. **OD** _____ **SDR/DR** _____ **Product ID/ Manufacturer** _____

Training Completed

Number of Joints Tested: ____ **Number Passed Test:** ____ **Number Failed Test** _____

Training on Butt Fusion above ground _____ **Training on Butt Fusion in ditch** _____

Operator _____ **Date:** _____

Trainer _____ **Date:** _____

NOTES: 1. A Copy of this fully completed Training Record must be retained by the Fusion Operator and be available for inspection at all times while performing fusion joining operations on the project.

2. The Trainer must also retain a fully completed file copy of this Training Record for future reference.

APPENDIX

Butt Fusion Joints – Visual Appearance Guidelines



Figure 1. ACCEPTABLE APPEARANCE - Proper Double Roll-back Bead and Proper Alignment

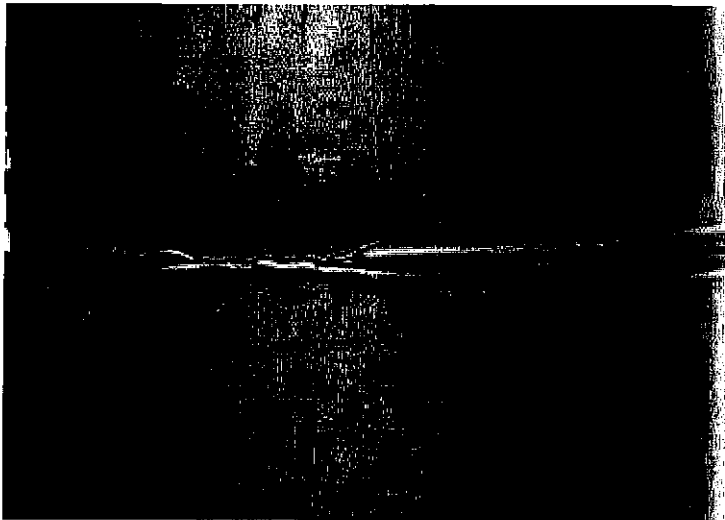


Figure 2. UNACCEPTABLE APPEARANCE – Incomplete Face-off

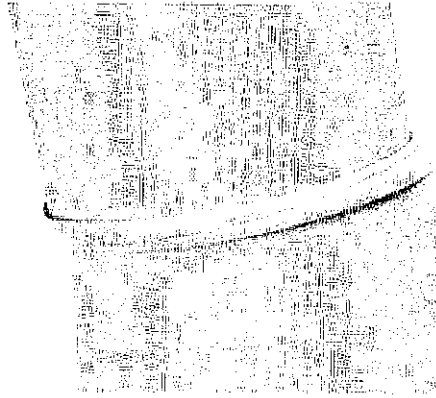


Figure 3. UNACCEPTABLE APPEARANCE – Mitered Joint – Improper ‘High-Low’ Pipe Alignment

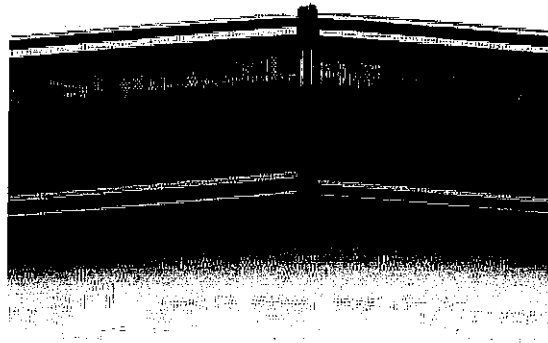


Figure 4. UNACCEPTABLE APPEARANCE – Unintentional Mitered Joint – Improper Alignment in Fusion Machine



Figure 5. UNACCEPTABLE APPEARANCE – Contamination in Joint

PATRIOT-CAMPBELL
ADDENDUM TO NOVEMBER 2013 RC 1509.22
APPROVAL REQUEST
SUBMITTED: DECEMBER 31, 2013

The purpose of this document is to provide the ODNR/Division of Oil and Gas Management (“DOGM”) with the additional information the DOGM requested via electronic mail on December 24, 2013. DOGM also requested information via electronic mail on December 19, 2013, which was responded to by Patriot-Campbell on December 20, 2013. The additional information has been integrated into the text of the December 20, 2013 submittal as set forth below. As requested, this addendum has been revised by Patriot-Campbell’s engineer, John Evans from Howland Co. LLC.

Patriot-Campbell, by submittal of this additional addendum, is not waiving any of its rights to challenge ODNR’s statutory authority or limits thereto related as applied to the Patriot-Campbell approval process.

Request: Map/Aerial Identifying Facility Boundaries

- See, enclosed, aerial/map.

Request: Basic Engineering of the Facility (See also Description of Facility below)

- See, enclosed, diagrams.

Request: Description of the Facility/Steps in Process (See also Facility Diagram)

- The Facility will receive roll-off boxes from customers, including customers in the oil and gas industry.
- Trucks towing the roll-off boxes will enter the Facility and drop off the roll-off boxes in a covered area that is concrete.
- Roll-off boxes and manifests will be manually inspected by a Facility employee.
- Roll-off boxes containing water or mud of more than trace amounts will be rejected.
- Materials will be tracked (See, *Provide Information Regarding Tracking of Materials Section* below).
- Roll-off boxes will be manually screened with a hand-held device for radioactive materials prior to entering the facility at the main gate. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials, as identified by the on-site screening, will be rejected immediately, and not allowed to enter the facility.
- Roll-off boxes will then be moved into the contained Bay 1 (concrete floor and perimeter berm) and then rinsed out in a second contained (“roll-off box rinse area”) area immediately to the south of Basin 1.
- Cleaning will occur using a controlled high-pressure hot water rinse. The use of a low gallon per minute (LGPM) hot water pressure washer will replace the need to use a surfactant and/or degreaser with the wash water (i.e. no chemicals will be added).

- The roll-off boxes and rear tires of the transport vehicle will be rinsed off in the “Roll-off box rinse area” to the immediate south of Basin 1.
- Rinse waters will then be retained within Basin 1, by direct collection, via trench drains and a dead sump within Basin 1.
- A trench drain will be located in the central portion of Bay 1 and the “roll-off box rinse area” directing all rinse waters into Basin 1.
- Rinse waters will then be transferred to the Basin 2 by a sump pump, through overhead polyvinyl chloride (PVC) piping, feeding into the first of two (2) sealed, open top 80-cubic yard (yd) steel storage boxes.
- The sump pump will transfer rinse waters and solids from the sump within Basin 1 into the influent weir of Basin 2. Basin 2 will function as a solids settling basin. Rinse waters will flow from west to east in Basin 2, utilizing internal baffles to assist in the settling of solids. A skimmer baffle will be used to trap any floating materials on the surface of the rinse waters within Basin 2.
- In the event floating residual oils and grease become an issue, an oil skimmer will be installed to recover the residual oils and grease from within Basin 2 and collected in a 55-gallon drum for proper off-site disposal.
- An effluent trough on the east end of Basin 2 will collect effluent waters from Basin 2, and by gravity, flow into the influent weir on the west end of Basin 3. Basin 3 will function as a secondary solids settling basin, similar to Basin 2.

- Effluent rinse water from Basin 3 will flow into an effluent trough, then to a holding chamber on the east end of Basin 3. An on-demand transfer pump will then feed rinse water through a 5-micron canister filter (2 in parallel for switching out filters), then through a 55-gallon drum containing activated carbon, and then onto the LGPM hot water pressure washer used for rinsing the roll-off boxes.
- In the event water levels within Basin 3 falls below the effluent weir level, make up potable water will be added to the system.
- In the event excess waters exceeding 60-percent of Basin 1's storage volume, water will be collected from the holding chamber on Basin 3 into a tanker truck for transport and processing at Patriot's Warren Facility and then to the fully-permitted City of Warren publically-owned treatment works ("POTW").
- Any incidental solids will be collected from Basin 1 and Basin 2 will be transferred to a staged 40-yd dewatering roll-off box. Once excess fluids have been drained from the dewatering box and sent to Patriot's Warren Facility, saw dust will be added to achieve proper consistency of the solids prior to transfer to a fully licensed solid waste landfill, expected to be Republic Services facilities.
- All volumes of waters and solids transported off-site will be documented on manifests.
- The cleaned roll-off boxes will be staged prior to return to customers.
- At no time will Patriot own any roll-off boxes; rather, the roll-off boxes remain the sole property of Patriot's customers.

Request: Description of Secondary Containment

- All Facility operations will occur under roof, and on a contained concrete floor slab with perimeter curbing and containment ramps at the ingress and egress to the facility;
- With the exception of the trench drain the traverses north and south through the center of the facility, all interior floor penetrations (i.e. - catch basins, floor drains, trench drains, etc.) will be plugged with a non-shrink grout, providing secondary containment for all related operations occurring within the facility. A valve will be installed on the outlet to the trench drain where it flows into Basin 1. In the event a spill occurs within the confines of the facility, the spill can be properly managed and contained by the confines of the concrete flooring, trench drain and valve.
- Additionally, staged roll-off boxes yet to be cleaned will remain within the confines of the covered portion of the facility.
- All process waters will be collected in Basin 1, a steel lined, existing concrete basin, prior to transfer to the sediment settling basins. A portion of the existing basin will be filled with concrete. Any cracks and/or openings in the concrete basin will be sealed and the entire basin sealed with an appropriate sealant prior to installation of the steel liner.

Request: Description/Identification of Cleaning Agents and Additives

- Potable water will be supplied from the city of Campbell Water Department.

- A hot water LGM pressure washer will be used to clean the roll-off boxes, eliminating the need to utilize a degreaser;
- In the event a surfactant is required, a common dish detergent/surfactant will be utilized (i.e. Dawn – MSDS attached).
- Currently, no additional cleaning agents, additives and/or degreasers are to be added in the rinsing process.

Request: Provide Information Regarding Management/Tracking of Materials

- If required by law, roll-off boxes will arrive at the Site with manifests/tracking paperwork. But at this time, Patriot will request a copy of the bill of lading associated with the individual roll-off boxes in order to identify the origin and nature of the materials previously transported in the roll-off box.
- Patriot employees will review any required manifests/tracking paperwork and keep a copy.
- Patriot will request, if applicable, that each customer provide a copy of its ODNR registration certificate.
- Patriot will maintain copies of the ODNR registration certificates.
- All industrial waters collected during the rinsing process will be collected on-site and recycled for reuse at the site. Any excess rinse waters will be transported to Patriot's fully approved and permitted Warren facility and then to the City of Warren's fully-permitted POTW. Volumes of the industrial water will be documented and maintained at Patriot.

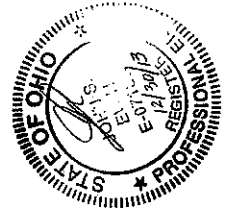
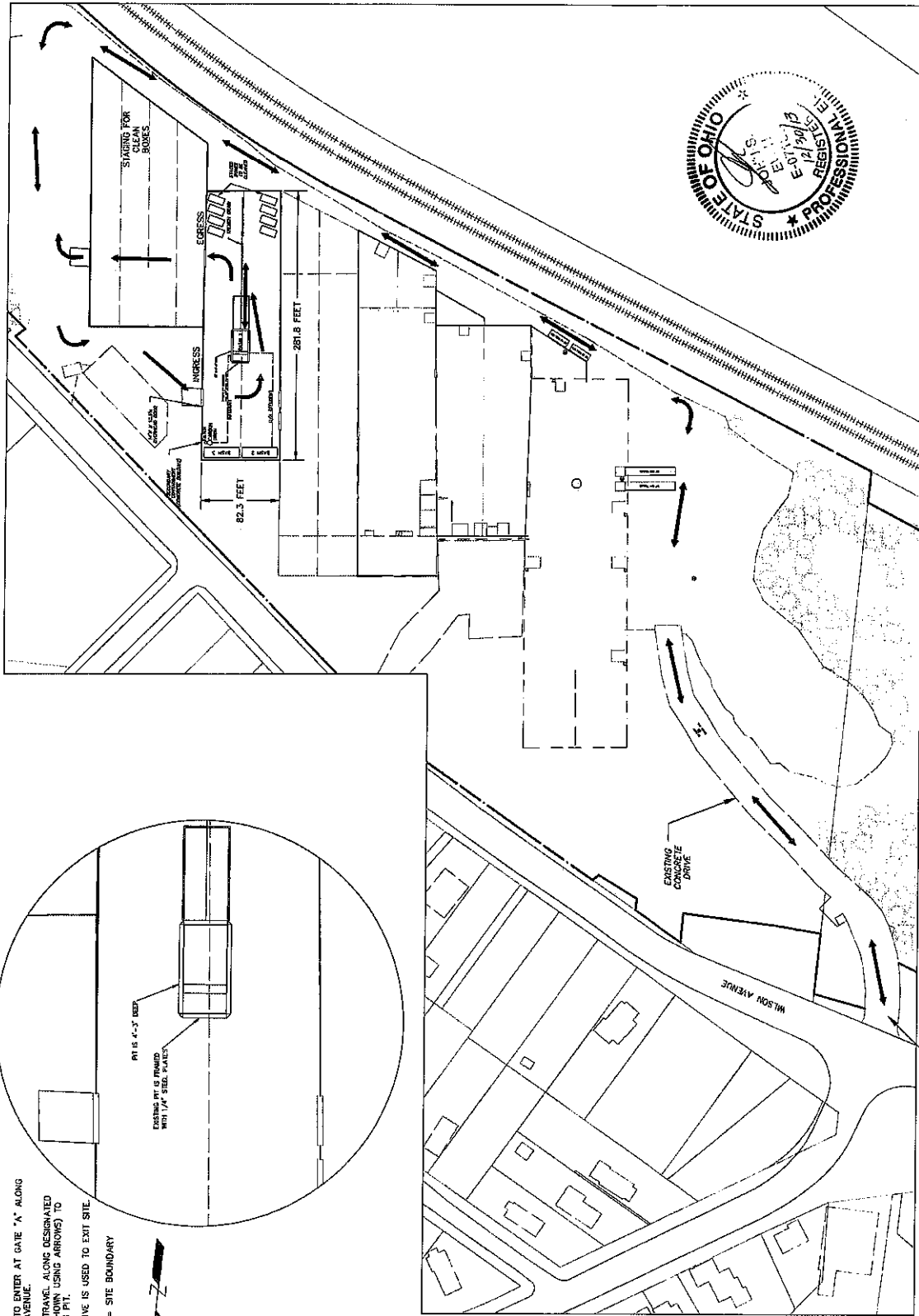
- Any incidental solids will be collected from the containment area and transferred to fully license solid waste landfills, expected to be Republic Services facilities. Volumes of solids will be documented and maintained at Patriot.

Request: Radiation Testing Protocols

- Roll-off boxes will be manually screened with a hand-held device for radioactive materials at the main gate. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately (i.e. no solids exceeding limits detected in preliminary screening will be accepted).
- Patriot may also take samples for analysis by Shale Testing Solutions LLC (ODH License for Radioactive Material issued December 12, 2013).

Request: Paperwork Retention

- All documents will be maintained by Patriot for 24 months.



- NOTE:
- TRUCKS TO ENTER AT GATE "A" ALONG WILSON AVENUE.
 - TRUCKS TRAVEL ALONG DESIGNATED DRIVE (SHOWN USING ARROWS) TO CLEANING PIT.
 - SAME DRIVE IS USED TO EXIT SITE

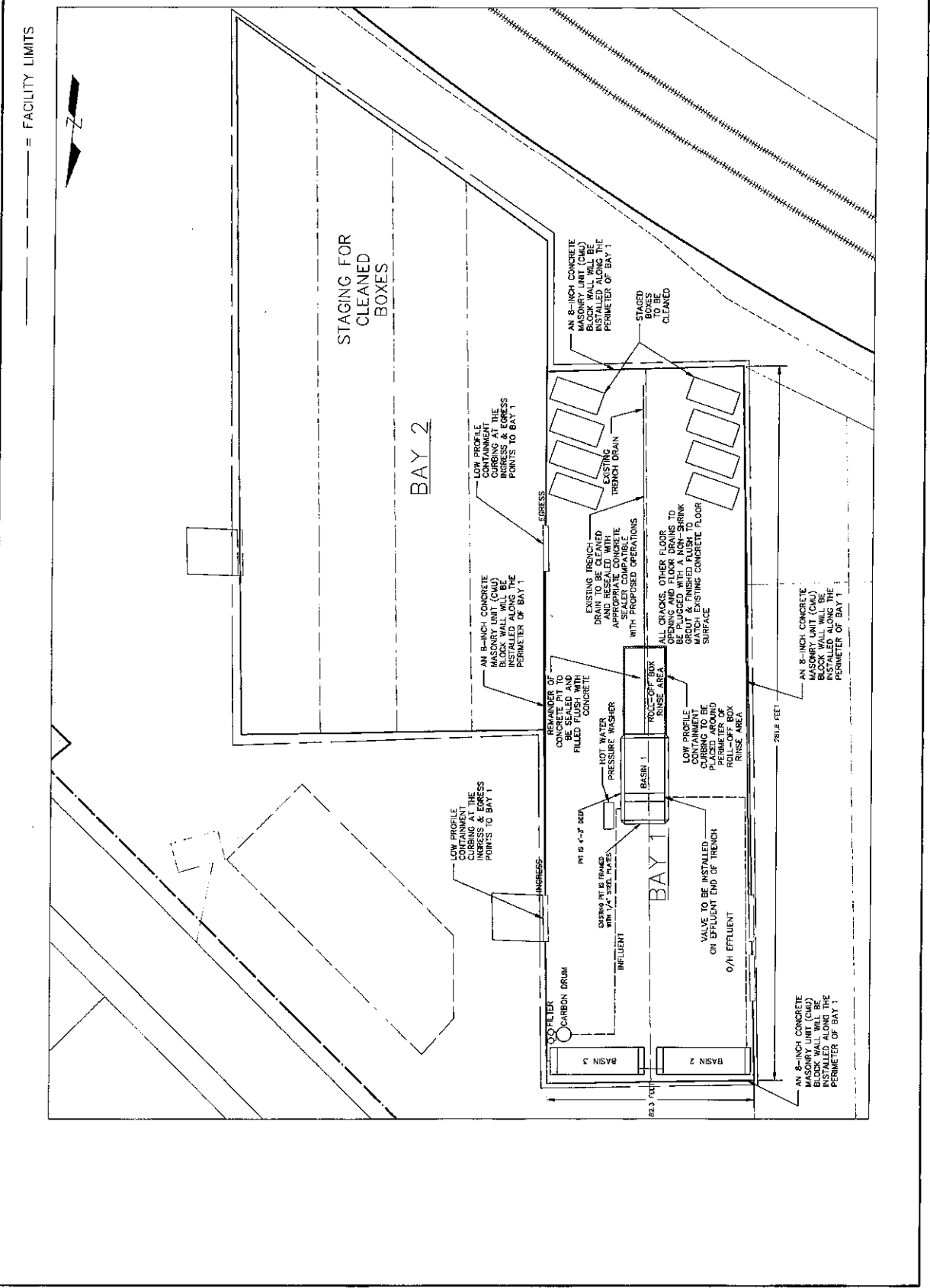


— = SITE BOUNDARY

PIT IS 4'-3" DEEP
 EXISTING PIT IS FENCED WITH 1/2" STEEL FENCING

GATE "A" SITE ENTRANCE/EXIT

| DATE | REVISIONS | DRAWN | CHECKED | DATE |
|------|-----------|-------|---------|------|
| | | | | |
| | | | | |
| | | | | |



H121064_01

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 12:24 PM
To: Trivisonno, Ron; Pratt, Beth; Arthur, Blake
Subject: Fwd: ODNR/Patriot Campbell
Attachments: H131005 - 0300 - Patriot - Dickey - Revise SOP - Patriot Campbell - Campbell OH 12 30 2013.doc; ATT00001.htm; H131005 - Patriot Campbell - Roll Off Wash Bay - Updated Drawings (Signed) - 12.30.2013.pdf; ATT00002.htm

Please review and comment as soon as possible

Sent from my iPhone

Begin forwarded message:

From: Ben Dickey <dickey.br@gmail.com>
Date: December 31, 2013, 8:59:20 AM EST
To: <Rick.simmers@dnr.state.oh.us>, <Michael.williams@dnr.state.oh.us>
Cc: John Evan <JEVAN@howlandcompany.net>, April Bott <abott@bottlawgroup.com>
Subject: ODNR/Patriot Campbell

Chief Simmers & Mr. Williams

Please find attached Patriot-Campbell's additional addendum along with attachments. These materials provide the additional information and requirements requested by ODNR on December 24, 2013. Consistent with previous discussions, we expect that this information will finalize the approval process and that ODNR will issue the approval today.

Happy New Years.
Ben

--

Ben Dickey

330-222-1274 o
330-222-1500 f
330-831-2556 m

"This communication, including any attachments, may contain confidential and privileged information that is subject to the Business Information Protection Policy. The information is intended solely for the use of the intended recipient(s). If you are not an intended recipient, you are prohibited from any use, distribution, or copying of this communication. If you have received this communication in error, please immediately notify the sender and then delete this communication in its entirety from your system."

Corey, Molly

From: Rollins, Kelly
Sent: Tuesday, December 31, 2013 1:33 PM
To: Simmers, Rick
Subject: Response: RE: ODNR/Patriot Campbell

You're most welcome.

Beth emailed you a brief response (*below*). Do you want more detailed response, or just share her comment with Mike Williams?

Keeping a folder with all these emails on ANGI & Campbell on your desk.

Rick,

The information provided in this submittal generally addresses the concerns and deficiencies noted in the December 24th site visit report. Items that were not sufficiently addressed, including exterior surface water controls and limits of the site boundary, should be able to be defined during construction of the modifications to the existing facility. Beth P.

*Beth A. Pratt, P.E.
Div. of Oil & Gas Resources Mgmt., ODNR
2045 Morse Road Bldg F
Columbus, OH 43229
614/265-6905 office*

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 13:27
To: Rollins, Kelly
Subject: Fwd: ODNR/Patriot Campbell

Kelly thanks for taking care of payroll. Please ask the engineers to review and comment today. The comments should go to Mike Williams and me. I hope you are feeling better. Happy new year

Sent from my iPhone

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To: <Rick.simmers@dnr.state.oh.us>, <Michael.williams@dnr.state.oh.us>
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Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 1:36 PM
To: Pratt, Beth; Trivisonno, Ron; Arthur, Blake
Cc: Rollins, Kelly
Subject: Fwd: ANGI response to ODNR request 12/30/13
Attachments: ODNR Response 1230.pdf; ATT00001.htm; POND STUDY_12.20.13_PHASE II.PDF; ATT00002.htm; liner fusing material.pdf; ATT00003.htm; Rufco 2010B, 3010B, & 4010B FRS 8 09.pdf; ATT00004.htm; valve specs.pdf; ATT00005.htm; DL_PP_M&I_PolyPlus.pdf; ATT00006.htm; tn-42-min-training-guide-pe-butt-fusion.pdf; ATT00007.htm

Please review and respond to mike Williams and me. Thanks

Sent from my iPhone

Begin forwarded message:

From: "Boniti, Greg" <gboniti@coalsource.com>
Date: December 31, 2013, 10:59:10 AM EST
To: <fred.shimp@dnr.state.oh.us>, <Rick.Simmers@dnr.state.oh.us>, <Michael.Williams@dnr.state.oh.us>
Cc: "Moore, Robert" <rmoore@coalsource.com>, "Carey, Michael" <mcarey@coalsource.com>, April Bott <abott@bottlawgroup.com>
Subject: ANGI response to ODNR request 12/30/13

Gentlemen,

Attached are the documents with the details for the outstanding issues from our discussion yesterday. Again, thanks for your time in reviewing the matter.

Regards,
Greg

Corey, Molly

From: Arthur, Blake
Sent: Tuesday, December 31, 2013 1:37 PM
To: Simmers, Rick
Cc: Rollins, Kelly; Pratt, Beth; Trivisonno, Ron
Subject: RE: ANGI response to ODNR request 12/30/13

Will do. Thanks.

Blake Arthur, PE
Natural Resources Engineer
Ohio Department of Natural Resources
Division of Oil & Gas Resources Management
Office: 1-614-265-6646
Cell: 1-614-725-6750
Email: blake.arthur@dnr.state.oh.us

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 1:36 PM
To: Pratt, Beth; Trivisonno, Ron; Arthur, Blake
Cc: Rollins, Kelly
Subject: Fwd: ANGI response to ODNR request 12/30/13

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Cc: "Moore, Robert" <rmoore@coalsource.com>, "Carey, Michael" <mcarey@coalsource.com>, April Bott <abott@bottlawgroup.com>
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Greg

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 1:36 PM
To: Michael Carey
Subject: Re: ANGI response to ODNR request 12/30/13

I forwarded to the engineers for review
Sent from my iPhone

On Dec 31, 2013, at 10:59 AM, "Boniti, Greg" <gboniti@coalsource.com> wrote:

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Greg

<ODNR Response 1230.pdf>

<POND STUDY_12.20.13__PHASE II.PDF>

<liner fusing material.pdf>

<Rufco 2010B, 3010B, & 4010B FRS 8 09.pdf>

<valve specs.pdf>

<DL_PP_M&I_PolyPlus.pdf>

<tn-42-min-training-guide-pe-butt-fusion.pdf>

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 1:52 PM
To: Rollins, Kelly
Subject: Re: Response: RE: ODNR/Patriot Campbell

Please forward to mike

Sent from my iPhone

On Dec 31, 2013, at 1:32 PM, "Rollins, Kelly" <Kelly.Rollins@dnr.state.oh.us> wrote:

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*Beth A. Pratt, P.E.
Div. of Oil & Gas Resources Mgmt., ODNR
2045 Morse Road Bldg F
Columbus, OH 43229
614/265-6905 office*

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<abott@bottlawgroup.com>

Subject: ODNR/Patriot Campbell

Chief Simmers & Mr. Williams

Please find attached Patriot-Campbell's additional addendum along with attachments. These materials provide the additional information and requirements requested by ODNR on December 24, 2013. Consistent with previous discussions, we expect that this information will finalize the approval process and that ODNR will issue the approval today.

Happy New Years.

Ben

--
Ben Dickey

330-222-1274 o
330-222-1500 f
330-831-2556 m

"This communication, including any attachments, may contain confidential and privileged information that is subject to the Business Information Protection Policy. The information is intended solely for the use of the intended recipient(s). If you are not an intended recipient, you are prohibited from any use, distribution, or copying of this communication. If you have received this communication in error, please immediately notify the sender and then delete this communication in its entirety from your system."

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 3:27 PM
To: Rollins, Kelly
Subject: Fwd: ANGI response to ODNR request 12/30/13

Please forward to mike. Thanks

Sent from my iPhone

Begin forwarded message:

From: "Arthur, Blake" <Blake.Arthur@dnr.state.oh.us>
Date: December 31, 2013, 2:55:49 PM EST
To: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
Cc: "Rollins, Kelly" <Kelly.Rollins@dnr.state.oh.us>, "Pratt, Beth" <Beth.Pratt@dnr.state.oh.us>, "Trivisonno, Ron" <Ron.Trivisonno@dnr.state.oh.us>, "Williams, Michael" <Michael.Williams@dnr.state.oh.us>
Subject: RE: ANGI response to ODNR request 12/30/13

Rick,

Based on the review of the letter titled "December 30, 2013 Addendum: ANGI's Pending November 2013 R.C. 1509.22 Approval for Water Transfer Facility", Mr. Boniti has generally addressed the technical comments we made during the December 30, 2013 conference call.

My only remaining comment is that the Action Leak Rate of 15% of containment volume does not seem appropriate for determining integrity of the pond liner. This could potentially result in ~97,000 gallons per day leaking before the pond is drained and inspected. An estimate of the type of liner damage that would cause leakage rates this high, would be approximately (40) 0.25 in holes. This is an amount which could certainly be located and repaired using modern detection methods. A more standard action leak rate for the liner industry is something in the range of 300-1000 gallons/acre/day. This would result in an ALR for the proposed ponds of approximately 180-600 gal/day, or .02-.09% per day. To determine this level of leakage, the static testing time would likely need extended past 24 hours, so that a percent loss would be higher than measurement tolerances.

This is an item that could likely be resolved in follow-up design documentation, or during construction and integrity tests themselves. Otherwise as mentioned above, they have generally addressed the bulk of the technical concerns raised previously. Without full in-depth engineering plans is difficult to make a full determination regarding their proposed facility, however given the scope of the documents provided they have indicated they plan to comply with existing law. If you have any questions regarding the comments, please let me know. Thanks.

Blake Arthur, PE
Natural Resources Engineer
Ohio Department of Natural Resources
Division of Oil & Gas Resources Management
Office: 1-614-265-6646
Cell: 1-614-725-6750
Email: blake.arthur@dnr.state.oh.us

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 1:36 PM
To: Pratt, Beth; Trivisonno, Ron; Arthur, Blake

Cc: Rollins, Kelly

Subject: Fwd: ANGI response to ODNR request 12/30/13

Please review and respond to mike Williams and me. Thanks

Sent from my iPhone

Begin forwarded message:

From: "Boniti, Greg" <gboniti@coalsource.com>
Date: December 31, 2013, 10:59:10 AM EST
To: <fred.shimp@dnr.state.oh.us>, <Rick.Simmers@dnr.state.oh.us>, <Michael.Williams@dnr.state.oh.us>
Cc: "Moore, Robert" <rmoore@coalsource.com>, "Carey, Michael" <mcarey@coalsource.com>, April Bott <abott@bottlawgroup.com>
Subject: ANGI response to ODNR request 12/30/13

Gentlemen,

Attached are the documents with the details for the outstanding issues from our discussion yesterday. Again, thanks for your time in reviewing the matter.

Regards,
Greg

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 4:41 PM
To: 'abott@bottlawgroup.com'
Subject: FW: Patriot

Importance: High

Dear Ms. Bott:

ODNR approves the Patriot Water Treatment (Patriot) facility outlined originally in correspondence dated November 12, 2013. This approval is conditioned on compliance with all written representations from Patriot.

Based on this approval, Patriot is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, Patriot will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with Patriot's commitments that lead to this approval. Further, Patriot remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 4:46 PM
To: 'gboniti@coalsource.com'; 'rmoore@coalsource.com'; 'mcarey@coalsource.com'
Cc: 'abott@bottlawgroup.com'
Subject: RE: ANGI

Importance: High

Gentlemen:

ODNR approves the American Natural Gas Incorporated (ANGI) facility outlined originally in correspondence dated November 18, 2013. This approval is conditioned on compliance with all written representations from ANGI.

Based on this approval, ANGI is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, ANGI will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with ANGI's commitments that lead to this approval. Further, ANGI remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Rollins, Kelly
Sent: Tuesday, December 31, 2013 4:49 PM
To: Simmers, Rick
Subject: ANGI & Patriot

Chief,
Both were BCC'd to you, mike & fred.
I will forward them to eric and our engineers from my computer.

-----Original Message-----

From: Williams, Michael
Sent: Tuesday, December 31, 2013 16:36
To: Rollins, Kelly
Cc: Simmers, Rick; Shimp, Frederick
Subject: Re: URGENT - RE: ANGI

ANGI goes to Greg, Rob, Mike and April as listed below.

Patriot can go solely to April.

Please copy me.

Thank you.

Mike

Sent from my iPhone

On Dec 31, 2013, at 4:32 PM, "Rollins, Kelly" <Kelly.Rollins@dnr.state.oh.us> wrote:

- > Hi Mike,
- >
- > Chief Simmers said both of these (ANGI & Patriot Campbell) are good to go.
- > Our engineers & legal team are out for the new year.
- >
- > Please give me direction on who the emailed language should be sent to and I'll get that done and cc you & Chief Simmers.
- >
- > Thank you
- > Kelly Rollins
- >
- > -----Original Message-----
- > **From:** Williams, Michael
- > **Sent:** Tuesday, December 31, 2013 15:51
- > **To:** Simmers, Rick; Shimp, Frederick
- > **Cc:** Williams, Michael
- > **Subject:** ANGI
- >
- >

>
>> Rick,
>>
>> I propose the following email approval language. If you concur, please paste into an emails for delivery to the ANGI facility.
>>
>> Please call me to confirm.
>>
>> Thanks, Rick.
>>
>> Mike
>>
>> -----
>>
>> ODNR approves the American Natural Gas Incorporated (ANGI) facility outlined originally in correspondence dated November 18, 2013. This approval is conditioned on compliance with all written representations from ANGI.
>>
>> Based on this approval, ANGI is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, ANGI will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with ANGI's commitments that lead to this approval. Further, ANGI remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.
>>
>> -----
>>
>>
>>
>> Sent from my iPad
>>
>> On Dec 31, 2013, at 11:14 AM, "Williams, Michael" <Michael.Williams@dnr.state.oh.us> wrote:
>>
>>> Rick,
>>>
>>> Please share your review. Thank you.
>>>
>>> Sent from my iPhone
>>>
>>> Begin forwarded message:
>>>
>>> From: "Boniti, Greg"
>>> <gboniti@coalsource.com<<mailto:gboniti@coalsource.com>>>
>>> Date: December 31, 2013, 10:59:10 AM EST
>>> To: <fred.shimp@dnr.state.oh.us<<mailto:fred.shimp@dnr.state.oh.us>>>, >>>
>>> <Rick.Simmers@dnr.state.oh.us<<mailto:Rick.Simmers@dnr.state.oh.us>>>>, >>>
>>> <Michael.Williams@dnr.state.oh.us<<mailto:Michael.Williams@dnr.state.oh.us>>>>
>>> o
>>> h.us>>
>>> Cc: "Moore, Robert"
>>> <rmoore@coalsource.com<<mailto:rmoore@coalsource.com>>>, "Carey, Michael" <mcarey@coalsource.com<<mailto:mcarey@coalsource.com>>>>, >>>
>>> April Bott <abott@bottlawgroup.com<<mailto:abott@bottlawgroup.com>>>>, >>>
>>> Subject: ANGI response to ODNR request 12/30/13
>>>

>>> Gentlemen,

>>>

>>> Attached are the documents with the details for the outstanding issues from our discussion yesterday. Again, thanks for your time in reviewing the matter.

>>>

>>> Regards,

>>> Greg

>>> <ODNR Response 1230.pdf>

>>> <POND STUDY_12.20.13__PHASE II.PDF>

>>> <liner fusing material.pdf>

>>> <Rufco 2010B, 3010B, & 4010B FRS 8 09.pdf> <valve specs.pdf>

>>> <DL_PP_M&I_PolyPlus.pdf>

>>> <tn-42-min-training-guide-pe-butt-fusion.pdf>

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 4:51 PM
To: Shimp, Frederick
Subject: Fwd: ANGI

FYI

Sent from my iPhone

Begin forwarded message:

From: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
Date: December 31, 2013, 4:46:12 PM EST
To: "gboniti@coalsource.com" <gboniti@coalsource.com>, "rmoore@coalsource.com" <rmoore@coalsource.com>, "mcarey@coalsource.com" <mcarey@coalsource.com>
Cc: "abott@bottlawgroup.com" <abott@bottlawgroup.com>
Subject: RE: ANGI

Gentlemen:

ODNR approves the American Natural Gas Incorporated (ANGI) facility outlined originally in correspondence dated November 18, 2013. This approval is conditioned on compliance with all written representations from ANGI.

Based on this approval, ANGI is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, ANGI will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with ANGI's commitments that lead to this approval. Further, ANGI remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 4:51 PM
To: Shimp, Frederick
Subject: Fwd: Patriot

FYI

Sent from my iPhone

Begin forwarded message:

From: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
Date: December 31, 2013, 4:41:24 PM EST
To: "'abott@bottlawgroup.com'" <abott@bottlawgroup.com>
Subject: **FW: Patriot**

Dear Ms. Bott:

ODNR approves the Patriot Water Treatment (Patriot) facility outlined originally in correspondence dated November 12, 2013. This approval is conditioned on compliance with all written representations from Patriot.

Based on this approval, Patriot is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, Patriot will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with Patriot's commitments that lead to this approval. Further, Patriot remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Williams, Michael
Sent: Tuesday, December 31, 2013 4:54 PM
To: Simmers, Rick
Cc: Rollins, Kelly
Subject: Re: ANGI

Best wishes to each of you also. Thanks for your patience and guidance as to these issues. Looking forward to turning the calendar.

Mike

Sent from my iPhone

On Dec 31, 2013, at 4:50 PM, "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us> wrote:

Thank you I hope you have asafetida and happy new year

Sent from my iPhone

Begin forwarded message:

From: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
Date: December 31, 2013, 4:46:12 PM EST
To: "'gboniti@coalsource.com'" <gboniti@coalsource.com>, "'rmoore@coalsource.com'" <rmoore@coalsource.com>, "'mcarey@coalsource.com'" <mcarey@coalsource.com>
Cc: "'abott@bottlawgroup.com'" <abott@bottlawgroup.com>
Subject: RE: ANGI

Gentlemen:

ODNR approves the American Natural Gas Incorporated (ANGI) facility outlined originally in correspondence dated November 18, 2013. This approval is conditioned on compliance with all written representations from ANGI.

Based on this approval, ANGI is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, ANGI will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with ANGI's commitments that lead to this approval. Further, ANGI remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Rollins, Kelly
Sent: Tuesday, December 31, 2013 4:55 PM
To: Rollins, Kelly
Subject: FW: ANGI

Importance: High

-----Original Message-----

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 16:46
To: 'gboniti@coalsource.com'; 'rmoore@coalsource.com'; 'mcarey@coalsource.com'
Cc: 'abott@bottlawgroup.com'
Subject: RE: ANGI
Importance: High

Gentlemen:

ODNR approves the American Natural Gas Incorporated (ANGI) facility outlined originally in correspondence dated November 18, 2013. This approval is conditioned on compliance with all written representations from ANGI.

Based on this approval, ANGI is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, ANGI will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNr maintains the authority to enforce compliance with ANGI's commitments that lead to this approval. Further, ANGI remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Rollins, Kelly
Sent: Tuesday, December 31, 2013 4:55 PM
To: Rollins, Kelly
Subject: FW: Patriot

Importance: High

-----Original Message-----

From: Simmers, Rick
Sent: Tuesday, December 31, 2013 16:41
To: 'abott@bottlawgroup.com'
Subject: FW: Patriot
Importance: High

Dear Ms. Bott:

ODNR approves the Patriot Water Treatment (Patriot) facility outlined originally in correspondence dated November 12, 2013. This approval is conditioned on compliance with all written representations from Patriot.

Based on this approval, Patriot is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, Patriot will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with Patriot's commitments that lead to this approval. Further, Patriot remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Carey, Michael <mcarey@coalsource.com>
Sent: Tuesday, December 31, 2013 5:00 PM
To: Simmers, Rick
Subject: Re: ANGI

Thank you.

----- Original Message -----

From: Simmers, Rick [<mailto:Rick.Simmers@dnr.state.oh.us>]
Sent: Tuesday, December 31, 2013 04:46 PM
To: Boniti, Greg; Moore, Robert; Carey, Michael
Cc: 'abott@bottlawgroup.com' <abott@bottlawgroup.com>
Subject: RE: ANGI

Gentlemen:

ODNR approves the American Natural Gas Incorporated (ANGI) facility outlined originally in correspondence dated November 18, 2013. This approval is conditioned on compliance with all written representations from ANGI.

Based on this approval, ANGI is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, ANGI will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with ANGI's commitments that lead to this approval. Further, ANGI remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Moore, Robert <rmoore@coalsource.com>
Sent: Tuesday, December 31, 2013 5:01 PM
To: Simmers, Rick; gboniti@coalsource.com; mcarey@coalsource.com
Cc: abott@bottlawgroup.com
Subject: RE: ANGI

Rick -

Received.

Thank You,
Rob Moore

P.S. Happy New Year.

Sent from my Verizon Wireless 4G LTE smartphone

----- Original message -----

From: "Simmers, Rick"
Date: 12/31/2013 4:46 PM (GMT-05:00)
To: "gboniti@coalsource.com" ,"rmoore@coalsource.com" ,"mcarey@coalsource.com"
Cc: "abott@bottlawgroup.com"
Subject: RE: ANGI

Gentlemen:

ODNR approves the American Natural Gas Incorporated (ANGI) facility outlined originally in correspondence dated November 18, 2013. This approval is conditioned on compliance with all written representations from ANGI.

Based on this approval, ANGI is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, ANGI will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with ANGI's commitments that lead to this approval. Further, ANGI remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: abott <abott@bottlawgroup.com>
Sent: Tuesday, December 31, 2013 5:06 PM
To: Simmers, Rick; Williams, Michael
Subject: RE: FW: Patriot

Thank you Chief. Appreciate your team's diligence. I have forwarded the document to patriot-campbell.

April

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
Date: 12/31/2013 4:41 PM (GMT-05:00)
To: "abott@bottlawgroup.com" <abott@bottlawgroup.com>
Subject: FW: Patriot

Dear Ms. Bott:

ODNR approves the Patriot Water Treatment (Patriot) facility outlined originally in correspondence dated November 12, 2013. This approval is conditioned on compliance with all written representations from Patriot.

Based on this approval, Patriot is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, Patriot will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with Patriot's commitments that lead to this approval. Further, Patriot remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management

Corey, Molly

From: Williams, Michael
Sent: Tuesday, December 31, 2013 5:09 PM
To: abott
Subject: Re: Patriot

Thanks for the acknowledgement. Have a safe NYE.

Mike

Sent from my iPhone

On Dec 31, 2013, at 5:06 PM, "abott" <abott@bottlawgroup.com> wrote:

Thank you Chief. Appreciate your team's diligence. I have forwarded the document to patriot-campbell.

April

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Simmers, Rick" <Rick.Simmers@dnr.state.oh.us>
Date: 12/31/2013 4:41 PM (GMT-05:00)
To: "'abott@bottlawgroup.com'" <abott@bottlawgroup.com>
Subject: FW: Patriot

Dear Ms. Bott:

ODNR approves the Patriot Water Treatment (Patriot) facility outlined originally in correspondence dated November 12, 2013. This approval is conditioned on compliance with all written representations from Patriot.

Based on this approval, Patriot is deemed to be operational for purposes of satisfying the criteria set forth in R.C. Section 1509.227. As such, Patriot will not need to obtain a further order or permit under 1509.06, 1509.21 and 1509.22. ODNR maintains the authority to enforce compliance with Patriot's commitments that lead to this approval. Further, Patriot remains subject to future operations inspections, as well as the enforcement authority of all other state regulatory agencies.

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

December 6, 2013

Ben Dickey
Patriot Water Treatment LLC
7716 Depot Road, Unit #1
Lisbon, Ohio 44432

**RE: Patriot Water Treatment-Campbell, Ohio Facility: Letter for
R.C. 1509 Review**

Dear Mr. Dickey,

On November 12, 2013, the Ohio Department of Natural Resources, Division of Oil and Gas Resources Management ("Division") received a letter from Patriot Water Treatment LLC ("Patriot"), informing the Division of Patriot's proposed roll-off box cleaning service at a property in Campbell, Ohio ("Project"). The letter also requests that the Division either (1) confirm that no approval is required; or (2) approve the Project. Enclosed with Patriot's letter was a check in the amount of two thousand five hundred dollars.

As you are aware, the Ohio General Assembly recently enacted Am. Sub. H.B. 59, which included changes to R.C. 1509.22. One such change is the requirement that, *effective January 1, 2014*, a person who proposes to store, recycle, treat, process, or dispose of brine or other waste substances associated with oil and gas exploration and production must obtain an order or permit from the Chief of the Division in order to operate. Currently, the Division is developing rules and application requirements for a permit to store, recycle, treat, process, or dispose of brine or other waste substances associated with oil and gas exploration and drilling. Until those rules and application requirements are effective, an operator will be required to submit an application to obtain a temporary order from the Chief. The guidelines and temporary order application will be available from the Division by December 16, 2013 in order to operate on January 1, 2014.

In addition to the above discussion concerning the development of rules, guidelines, and application processes, the letter from Patriot does not contain sufficient information in order for the Division to properly evaluate the proposed Project. For example, the letter does not contain proposed drawings of the facility, including details of the plumbing, waste water collection systems, incidental solid collection systems, and other similar aspects. As another example, the letter does not contain details of the radioactive testing protocols proposed to be used.

Patriot Water Treatment – Campbell, Ohio Facility
November 27, 2013
Page 2 of 2

For all of the reasons discussed above, the Division is not making a determination on your proposed Project at this time, and we are returning your check (see enclosed).

Sincerely,

Richard J. Simmers
Richard J. Simmers, Chief
Division of Oil and Gas Resources Management
Ohio Department of Natural Resources

Enclosures: Check in the amount of two thousand and five hundred dollars from Patriot.

Certified mail: 91 7108 2133 3936 3071 9606

13104



KeyBank National Association
Salon, Ohio 44460
1-800-KEY2YOU

6-103-410

Patriot Water Treatment
1716 Depot Rd, Unit 1
Canton, OH 44705
(330) 222-1274

11/7/2013

PAY TO THE
ORDER OF State of Ohio

\$ **2,500.00

Two Thousand Five Hundred and 00/100

DOLLARS

State of Ohio
2045 Morse Rd, Building D
Columbus OH 43229-6693

Water Management Solutions - Environmental Responsibility

AUTHORIZED SIGNATURE

MEMO

Patriot: 1509.22 approval/permit fee



13104

Patriot Water Treatment Water Treatment

State of Ohio
Permit

1509.22 approval/permit fee

11/7/2013

13104

2,500.00

RECEIVED

NOV 12 2013

Security features. Details on back.

RECEIVED

November 08, 2013

NOV 12 2013

By Express Mail, Return Receipt Required

OH Dept. of Natural Resources

Jim Zehringer, Director
Ohio Department of Natural Resources
2045 Morse Road, Building D
Columbus OH 43229-6693

Rick Simmers, Chief, Ohio & Gas Division
Ohio Department of Natural Resources
2045 Morse Road, Building F-2
Columbus OH 43229-6693

**RE: Patriot Water Treatment-Campbell, Ohio Facility:
Application for R.C. 1509 Review**

Dear Director Zehringer and Chief Simmers:

Patriot Water Treatment LLC ("Patriot") is proposing to operate a roll-off box cleaning service at a property in Campbell, Ohio ("Project"). In anticipation of such operation, Patriot has reviewed Ohio law and ODNR regulations and determined that the Project will not trigger the need for any approval, Chief's Order or permit from ODNR. However, since ODNR has no permitting regulations or process developed under R.C. 1509.22, this letter provides ODNR notice of the Project and requests either: (1) confirmation from ODNR that no approval, Chief's Order or permit is needed or (2) an approval, Chief's Order or permit issued pursuant to R.C. 1509.22.

The Project will consist of receiving roll-off boxes from customers, including customers in the oil and gas ("O&G") industry. The roll-off boxes will not contain any O&G product, but may contain trace/small amounts of dried mud. Patriot will wash the roll-off boxes with soap and water (i.e. no chemicals will be added). Patriot will then return the roll-off boxes to the customer; at no time will Patriot be the owner or operator of any roll-off box. Waters generated from the cleaning process will be collected and sent to a fully permitted facility. Any incidental solids resulting from the cleaning process will be collected and sent to a fully licensed landfill. Both solids and waters will be scanned for radioactive constituents.

R.C. 1509.22(A) states that:

no person shall place or cause to be placed in ground water or in or on the land or discharge or cause to be discharged in surface water brine, crude oil, natural gas, or other fluids associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment.

Patriot will not discharge, cause to be discharged, place or cause to be placed any O&G fluids that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment. Thus, the Project complies with R.C. 1509.22(A).

R.C. 1509.22(B)(2)(a) states that:

On and after January 1, 2014, no person shall store, recycle, treat, process, or dispose of in this state brine or other waste substances associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources without an order or a permit issued under this section or section 1509.06 or 1509.21 of the Revised Code or rules adopted under any of those sections.

Patriot will not store, recycle, treat, process or dispose of in this state brine or other waste substances associated with O&G resources. Rather, the Project is limited only to washing roll-off boxes and transferring any incidental solids and cleaning waters to fully permitted/licensed facilities. Thus, the Project complies with R.C. 1509.22(B).

Based on the Project scope and our review of current Ohio law, as well as modified R.C. 1509.22 as effective on January 1, 2014, Patriot does not need any approval from the Division of Oil and Gas Resources since the Project will not engage in the storage, recycling, treatment, processing or disposal of brine or other waste substances associated with the exploration, development, well stimulation, production operations or plugging of oil and gas resources. See, R.C. 1509.22(B)(2)(a), as applicable Jan. 1, 2014. Further, the Project will not cause any brine to be stored or disposed of. See, R.C. 1509.22(A).

To the extent that ODNR disagrees with any of these conclusions, then please process this letter and attachment as Patriot's request for approval, Chief's Order and/or permit pursuant to R.C. 1509.22.

Specifically, R.C. 1509.22(C) states that:

The chief shall adopt rules regarding storage, recycling, treatment, processing, and disposal of brine and other waste substances . The rules shall establish procedures and requirements in accordance with which a person shall apply for a permit or order for the storage, recycling, treatment, processing, or disposal of brine and other waste substances that are not subject to a permit issued under section 1509.06 or 1509.21 of the Revised Code and in accordance with which the chief may issue such a permit or order. An application for such a permit shall be accompanied by a nonrefundable fee of two thousand five hundred dollars.

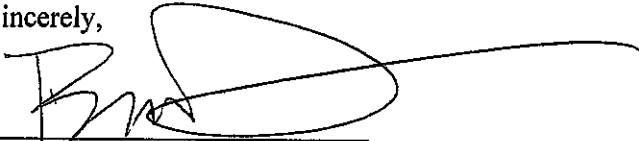
The Chief of ODNR's Division of Oil and Gas Resources has not adopted any rules regarding the storage, recycling, treatment, processing, and disposal of brine and other waste substances. As such, Patriot submits this letter and attachment as its permit/approval application in the event that ODNR disagrees with Patriot's regulatory conclusions. To that end, a check in the amount of two thousand five hundred dollars is enclosed in Chief Simmer's copy of the letter and attachment.

The purpose of this letter is to provide the Division with the Project details in order to confirm Patriot's interpretation that no R.C. 1509.22 approval, order or permit is needed. In the event the Division determines that an approval, order or permit is needed, the information attached to this letter provides the Division with all information required by statute necessary to grant such

approval, order or permit.

Given that ODNR has no regulations addressing an approval, permitting or order process, Patriot requests that ODNR notify Patriot immediately with any follow-up questions or requests for additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ben Dickey', with a long horizontal flourish extending to the right.

Ben Dickey, Vice President
Patriot Water Treatment LLC

cc: Craig Butler
Representative David Hall

Enclosures: Attachment A
Application Fee: \$2,500

PROJECT DETAILS

Applicant Name: Patriot Water Treatment LLC

Applicant Address: 7716 Depot Road, Unit #1
Lisbon, Ohio 44432


Applicant Contact: Ben Dickey
330-831-2556
dickey.br@gmail.com

Project Location: 2415 Wilson Avenue
Campbell, Ohio 44405
Trumbull County

Project Description:

1. Roll-off boxes ("Boxes") from customers will be received at the Project location. Boxes and manifests will be manually inspected. Boxes will be screened for radioactive materials.
2. Boxes will be placed in an enclosed/contained area for cleaning.
3. Cleaning of Boxes will commence.
4. Waters will be collected and transferred to fully permitted facilities.
5. Any incidental solids will be collected and transferred to fully licensed landfills.
6. Boxes will be returned to customers.

Operational Date: To commence on or before December 15, 2013



Signature

VP Patriot Water Treatment, LLC

Title

11/7/2013

Date

PATRIOT-CAMPBELL
ADDENDUM TO NOVEMBER 2013 RC 1509.22 APPROVAL REQUEST
SUBMITTED: DECEMBER 20, 2013

The purpose of this document is to provide the ODNR/Division of Oil and Gas Management (“DOGM”) with the additional information the DOGM requested via electronic mail on December 19, 2013.

Request: Map/Aerial Identifying Facility Boundaries

- See, enclosed, aerial/map.

Request: Basic Engineering of the Facility (See also Description of Facility below)

- See, enclosed, diagram.

Request: Description of the Facility/Steps in Process (See also Facility Diagram)

- The Facility will receive roll-off boxes from customers, including customers in the oil and gas industry.
- Trucks towing the roll-off boxes will enter the Facility and drop off the roll-off boxes in a covered area that is concrete.
- Roll-off boxes and manifests will be manually inspected by a Facility employee.
- Roll-off boxes containing water or mud of more than trace amounts will be rejected.
- Materials will be tracked (See, *Provide Information Regarding Tracking of Materials Section* below).
- Roll-off boxes will be manually screened with a hand-held device for radioactive materials. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately.
- Roll-off boxes will then be placed in a contained area (concrete floor) for cleaning.
- Cleaning will occur using only high-pressure water, common dish soap and degreaser as needed (i.e. no chemicals will be added).
- Waters will be collected via floor drains and transported for processing to Patriot’s Warren Facility and then to the fully-permitted City of Warren publically-owned treatment works (“POTW”).
- Any incidental solids will be collected from the containment area and transferred to fully licensed solid waste landfills, expected to be Republic Services facilities.
- All volumes of waters and solids transported off-site will be documented on manifests.
- The cleaned roll-off boxes will be staged prior to return to customers.
- At no time will Patriot own any roll-off box; rather, the roll-off boxes remain the sole property of Patriot’s customers.

Request: Description of Secondary Containment

- All Facility operations will occur inside an enclosed, concrete area in a Facility building. As such, no secondary containment is needed since there is no possibility of spills that

could leach into or on the ground. Additionally, the roll-off boxes will not have any ability for contact with storm water.

- All process waters will be collected in a sealed, concrete holding area in the floor.

Request: Description/Identification of Cleaning Agents and Additives

- Water will be supplied from the Campbell POTW.
- Soap will be common dish soap (i.e Dawn) and a common degreaser will be used as needed.
- No chemicals or additives will be used.

Request: Provide Information Regarding Management/Tracking of Materials

- If required by law, roll-off boxes will arrive at the Site with manifests/tracking paperwork.
- Patriot employees will review any required manifests/tracking paperwork and keep a copy.
- Patriot will request, if applicable, that each customer provide a copy of its ODNR registration certificate.
- Patriot will maintain copies of the ODNR registration certificates.
- All industrial waters collected during the washing process will be collected via floor drains and transported to Patriot's Warren facility and then to the City of Warren's fully-permitted POTW. Volumes of the industrial water will be documented and maintained at Patriot.
- Any incidental solids will be collected from the containment area and transferred to fully licensed solid waste landfills, expected to be Republic Services facilities. Volumes of solids will be documented and maintained at Patriot.

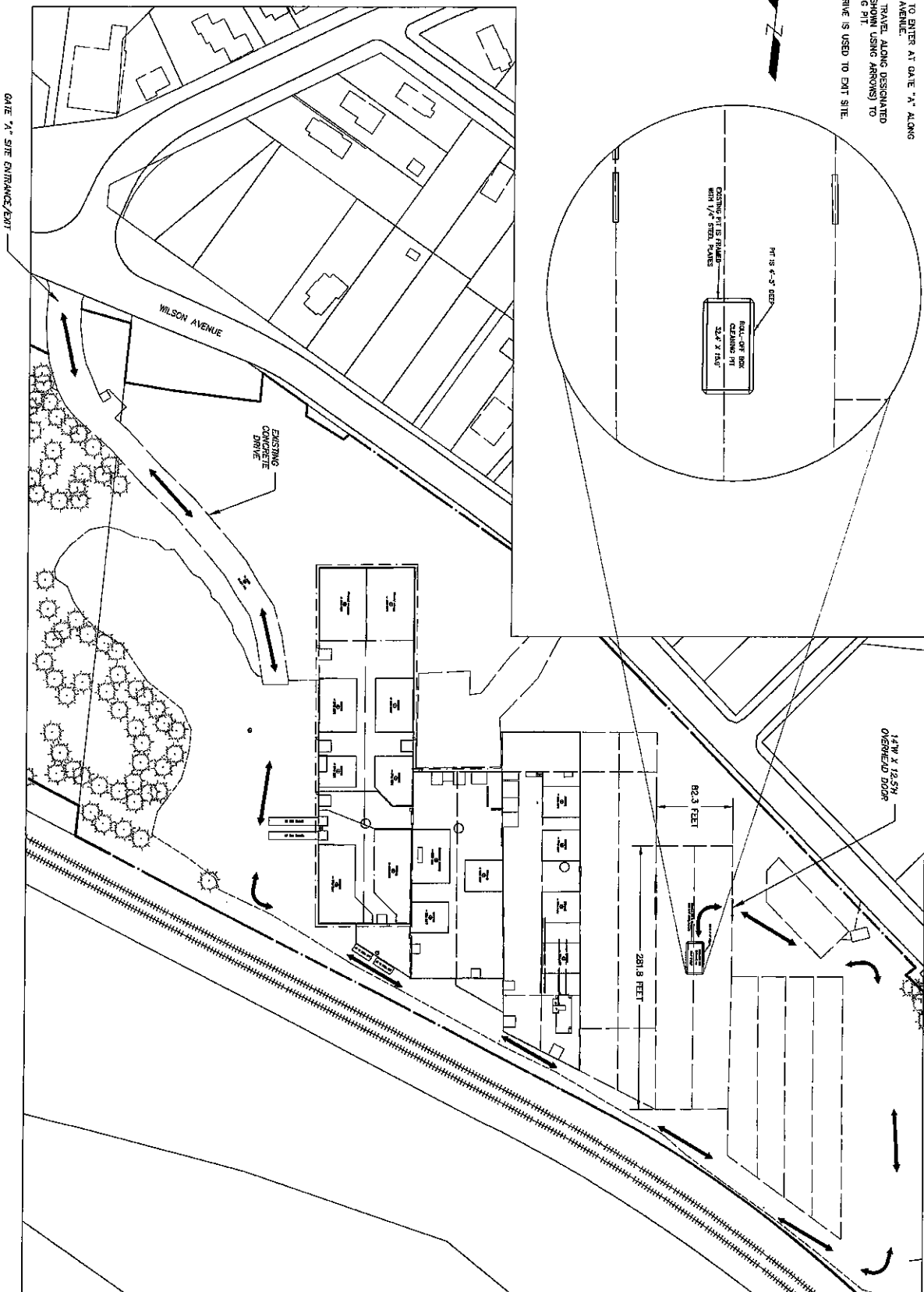
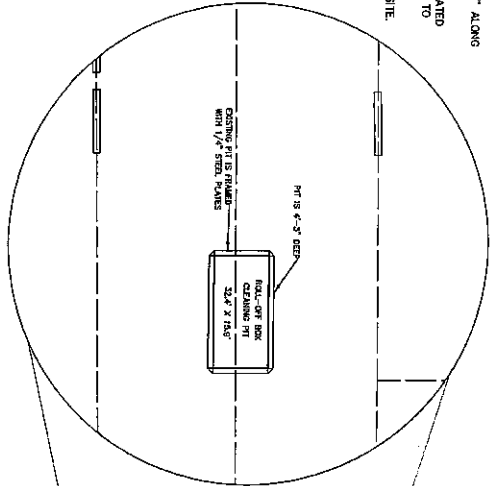
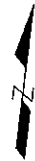
Request: Radiation Testing Protocols

- Roll-off boxes will be manually screened with a hand-held device for radioactive materials. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately.
- Patriot may also take samples for analysis by Shale Testing Solutions LLC (ODH License for Radioactive Material issued December 12, 2013).

Request: Paperwork Retention

- All documents will be maintained by Patriot for 24 months.

- NOTE:
1. TRUCKS TO ENTER AT GATE "A" ALONG WILSON AVENUE.
 2. TRUCKS TRAVEL ALONG DESIGNATED DRIVE (SHOWN USING ARROWS) TO CLEANING PT.
 3. SAME DRIVE IS USED TO EXIT SITE.



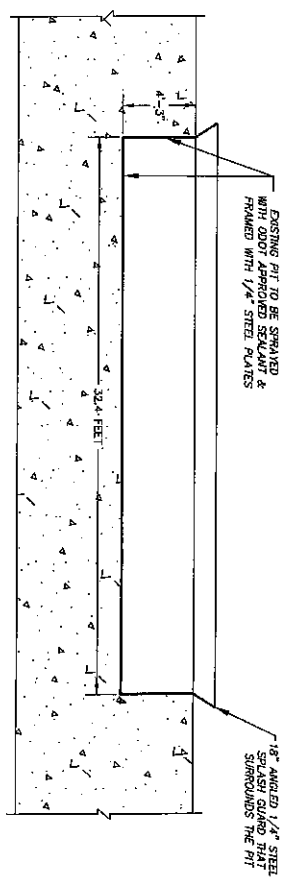
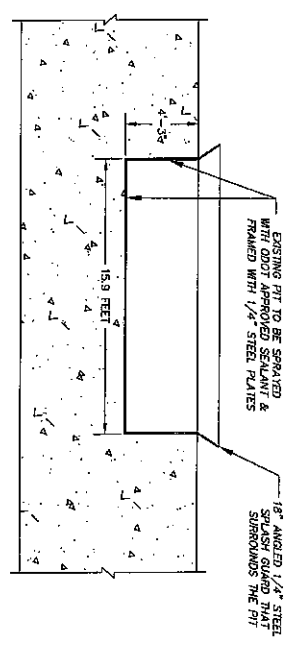
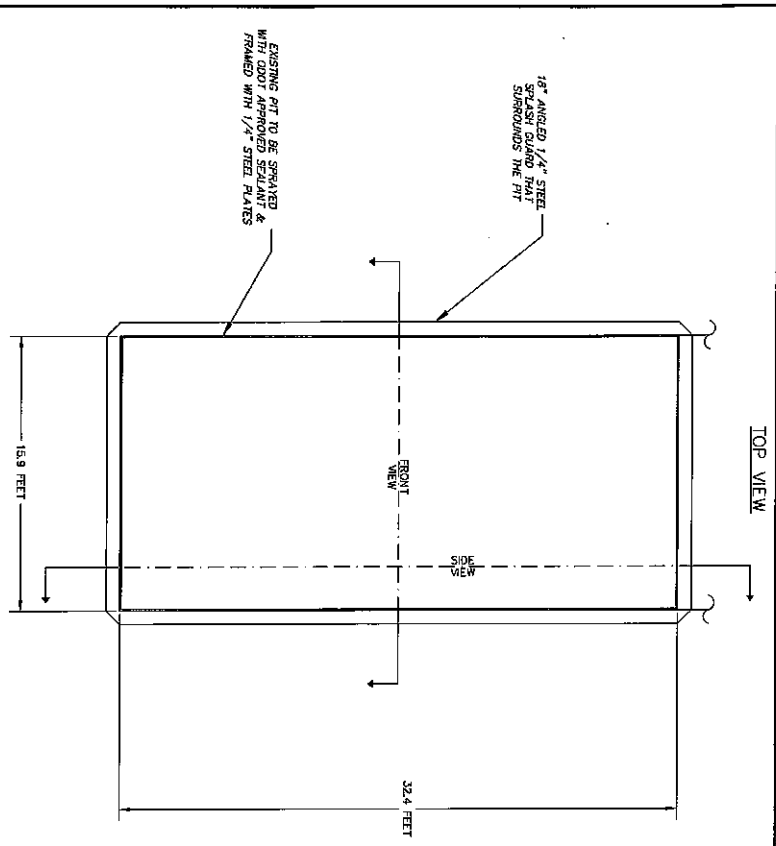
H121064_01

Howland Company, LLC
 WORLD CLASS ENGINEERS AND ENVIRONMENTAL PROFESSIONALS

MAVERICK CONTRACTING

ROLL OFF WASH BAY SITE PLAN

| REVISIONS | DATE | DRAWN | CHECKED | DATE |
|-----------|------|-------|---------|------------|
| | | | | 12/22/2013 |



H121064_01

Howland Company, LLC
WORLD CLASS ENGINEERS AND ENVIRONMENTAL PROFESSIONALS

MAVERICK CONTRACTING

**ROLL OFF WASH BAY
 PROFILE VIEW**

| | | | | |
|-----------|------|-------|---------|----------|
| REVISIONS | DATE | DRAWN | CHECKED | DATE |
| | | | | 12/20/13 |

PATRIOT-CAMPBELL
ADDENDUM TO NOVEMBER 2013 RC 1509.22
APPROVAL REQUEST
SUBMITTED: DECEMBER 31, 2013

The purpose of this document is to provide the ODNR/Division of Oil and Gas Management (“DOG M”) with the additional information the DOGM requested via electronic mail on December 24, 2013. DOGM also requested information via electronic mail on December 19, 2013, which was responded to by Patriot-Campbell on December 20, 2013. The additional information has been integrated into the text of the December 20, 2013 submittal as set forth below. As requested, this addendum has been revised by Patriot-Campbell’s engineer, John Evans from Howland Co. LLC.

Patriot-Campbell, by submittal of this additional addendum, is not waiving any of its rights to challenge ODNR’s statutory authority or limits thereto related as applied to the Patriot-Campbell approval process.

Request: Map/Aerial Identifying Facility Boundaries

- See, enclosed, aerial/map.

Request: Basic Engineering of the Facility (See also Description of Facility below)

- See, enclosed, diagrams.

Request: Description of the Facility/Steps in Process (See also Facility Diagram)

- The Facility will receive roll-off boxes from customers, including customers in the oil and gas industry.
- Trucks towing the roll-off boxes will enter the Facility and drop off the roll-off boxes in a covered area that is concrete.
- Roll-off boxes and manifests will be manually inspected by a Facility employee.
- Roll-off boxes containing water or mud of more than trace amounts will be rejected.
- Materials will be tracked (See, *Provide Information Regarding Tracking of Materials Section* below).
- Roll-off boxes will be manually screened with a hand-held device for radioactive materials prior to entering the facility at the main gate. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials, as identified by the on-site screening, will be rejected immediately, and not allowed to enter the facility.
- Roll-off boxes will then be moved into the contained Bay 1 (concrete floor and perimeter berm) and then rinsed out in a second contained (“roll-off box rinse area”) area immediately to the south of Basin 1.
- Cleaning will occur using a controlled high-pressure hot water rinse. The use of a low gallon per minute (LGPM) hot water pressure washer will replace the need to use a surfactant and/or degreaser with the wash water (i.e. no chemicals will be added).

- The roll-off boxes and rear tires of the transport vehicle will be rinsed off in the “Roll-off box rinse area” to the immediate south of Basin 1.
- Rinse waters will then be retained within Basin 1, by direct collection, via trench drains and a dead sump within Basin 1.
- A trench drain will be located in the central portion of Bay 1 and the “roll-off box rinse area” directing all rinse waters into Basin 1.
- Rinse waters will then be transferred to the Basin 2 by a sump pump, through overhead polyvinyl chloride (PVC) piping, feeding into the first of two (2) sealed, open top 80-cubic yard (yd) steel storage boxes.
- The sump pump will transfer rinse waters and solids from the sump within Basin 1 into the influent weir of Basin 2. Basin 2 will function as a solids settling basin. Rinse waters will flow from west to east in Basin 2, utilizing internal baffles to assist in the settling of solids. A skimmer baffle will be used to trap any floating materials on the surface of the rinse waters within Basin 2.
- In the event floating residual oils and grease become an issue, an oil skimmer will be installed to recover the residual oils and grease from within Basin 2 and collected in a 55-gallon drum for proper off-site disposal.
- An effluent trough on the east end of Basin 2 will collect effluent waters from Basin 2, and by gravity, flow into the influent weir on the west end of Basin 3. Basin 3 will function as a secondary solids settling basin, similar to Basin 2.

- Effluent rinse water from Basin 3 will flow into an effluent trough, then to a holding chamber on the east end of Basin 3. An on-demand transfer pump will then feed rinse water through a 5-micron canister filter (2 in parallel for switching out filters), then through a 55-gallon drum containing activated carbon, and then onto the LGPM hot water pressure washer used for rinsing the roll-off boxes.
- In the event water levels within Basin 3 falls below the effluent weir level, make up potable water will be added to the system.
- In the event excess waters exceeding 60-percent of Basin 1's storage volume, water will be collected from the holding chamber on Basin 3 into a tanker truck for transport and processing at Patriot's Warren Facility and then to the fully-permitted City of Warren publically-owned treatment works ("POTW").
- Any incidental solids will be collected from Basin 1 and Basin 2 will be transferred to a staged 40-yd dewatering roll-off box. Once excess fluids have been drained from the dewatering box and sent to Patriot's Warren Facility, saw dust will be added to achieve proper consistency of the solids prior to transfer to a fully licensed solid waste landfill, expected to be Republic Services facilities.
- All volumes of waters and solids transported off-site will be documented on manifests.
- The cleaned roll-off boxes will be staged prior to return to customers.
- At no time will Patriot own any roll-off boxes; rather, the roll-off boxes remain the sole property of Patriot's customers.

Request: Description of Secondary Containment

- All Facility operations will occur under roof, and on a contained concrete floor slab with perimeter curbing and containment ramps at the ingress and egress to the facility;
- With the exception of the trench drain the traverses north and south through the center of the facility, all interior floor penetrations (i.e. - catch basins, floor drains, trench drains, etc.) will be plugged with a non-shrink grout, providing secondary containment for all related operations occurring within the facility. A valve will be installed on the outlet to the trench drain where it flows into Basin 1. In the event a spill occurs within the confines of the facility, the spill can be properly managed and contained by the confines of the concrete flooring, trench drain and valve.
- Additionally, staged roll-off boxes yet to be cleaned will remain within the confines of the covered portion of the facility.
- All process waters will be collected in Basin 1, a steel lined, existing concrete basin, prior to transfer to the sediment settling basins. A portion of the existing basin will be filled with concrete. Any cracks and/or openings in the concrete basin will be sealed and the entire basin sealed with an appropriate sealant prior to installation of the steel liner.

Request: Description/Identification of Cleaning Agents and Additives

- Potable water will be supplied from the city of Campbell Water Department.

- A hot water LGM pressure washer will be used to clean the roll-off boxes, eliminating the need to utilize a degreaser;
- In the event a surfactant is required, a common dish detergent/surfactant will be utilized (i.e. Dawn – MSDS attached).
- Currently, no additional cleaning agents, additives and/or degreasers are to be added in the rinsing process.

Request: Provide Information Regarding Management/Tracking of Materials

- If required by law, roll-off boxes will arrive at the Site with manifests/tracking paperwork. But at this time, Patriot will request a copy of the bill of lading associated with the individual roll-off boxes in order to identify the origin and nature of the materials previously transported in the roll-off box.
- Patriot employees will review any required manifests/tracking paperwork and keep a copy.
- Patriot will request, if applicable, that each customer provide a copy of its ODNR registration certificate.
- Patriot will maintain copies of the ODNR registration certificates.
- All industrial waters collected during the rinsing process will be collected on-site and recycled for reuse at the site. Any excess rinse waters will be transported to Patriot's fully approved and permitted Warren facility and then to the City of Warren's fully-permitted POTW. Volumes of the industrial water will be documented and maintained at Patriot.

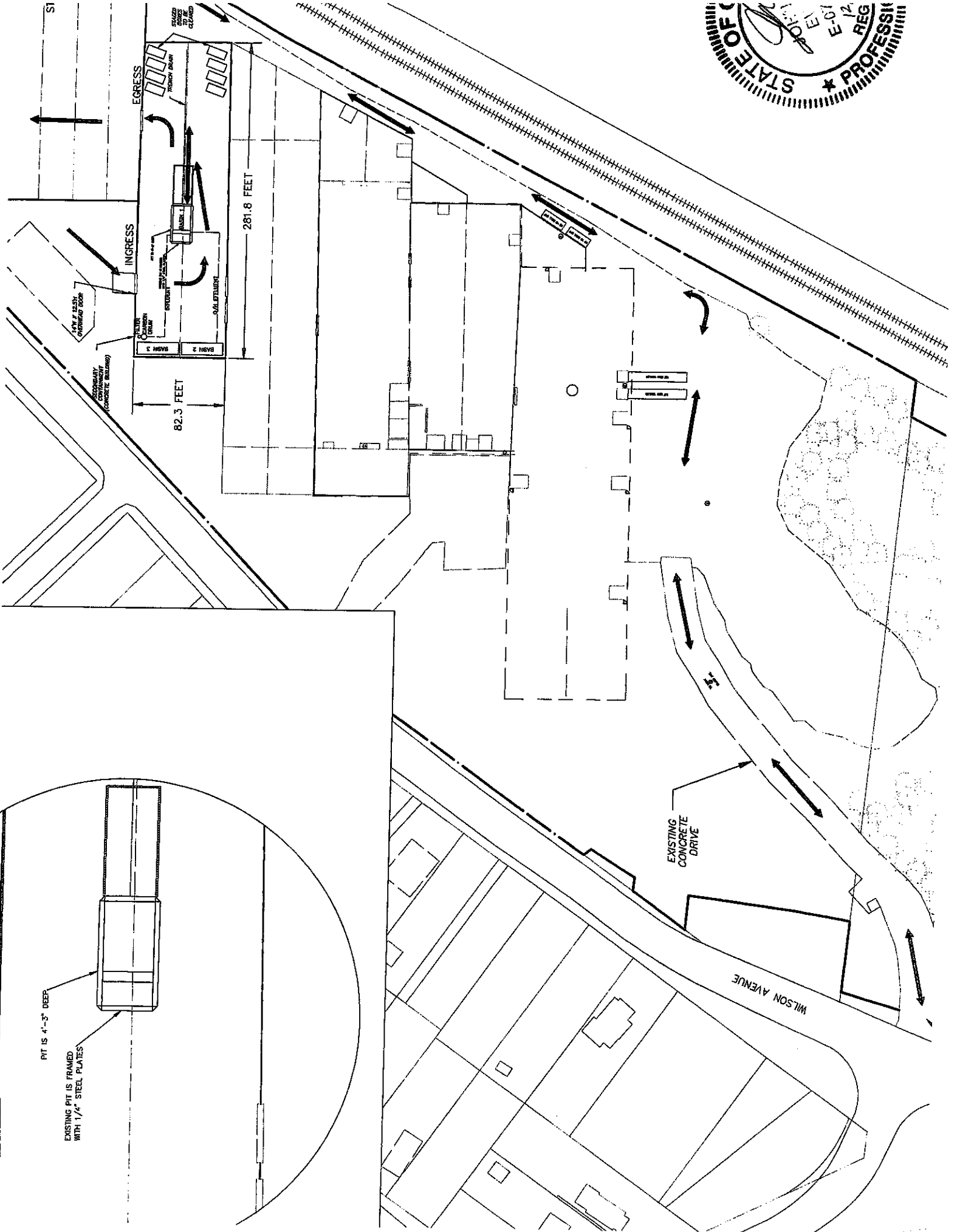
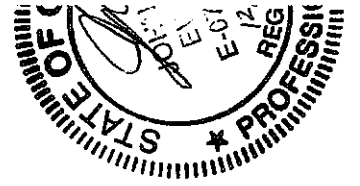
- Any incidental solids will be collected from the containment area and transferred to fully license solid waste landfills, expected to be Republic Services facilities. Volumes of solids will be documented and maintained at Patriot.

Request: Radiation Testing Protocols

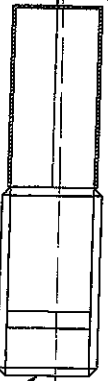
- Roll-off boxes will be manually screened with a hand-held device for radioactive materials at the main gate. NOTE: no radioactive material is expected and customers will be placed on notice that no radioactive materials shall be sent. Any roll-off boxes containing radioactive materials will be rejected immediately (i.e. no solids exceeding limits detected in preliminary screening will be accepted).
- Patriot may also take samples for analysis by Shale Testing Solutions LLC (ODH License for Radioactive Material issued December 12, 2013).

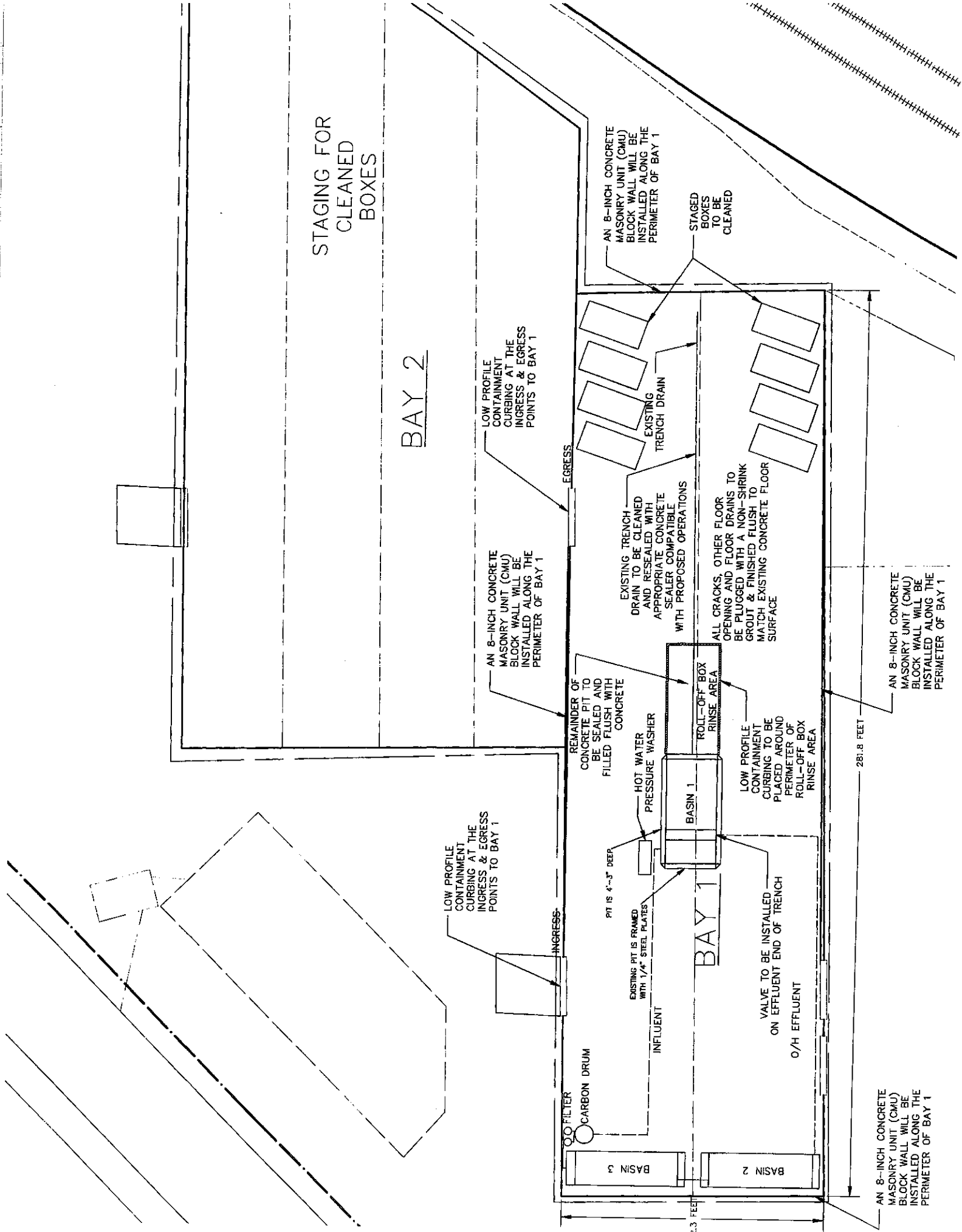
Request: Paperwork Retention

- All documents will be maintained by Patriot for 24 months.



PIT IS 4'-3" DEEP
EXISTING PIT IS FRAMED
WITH 1/4" STEEL PLATES





STAGING FOR
CLEANED
BOXES

BAY 2

LOW PROFILE
CONTAINMENT
CURBING AT THE
INGRESS & EGRESS
POINTS TO BAY 1

AN 8-INCH CONCRETE
MASONRY UNIT (CMU)
BLOCK WALL WILL BE
INSTALLED ALONG THE
PERIMETER OF BAY 1

EGRESS

REMAINDER OF
CONCRETE PIT TO
BE SEALED AND
FILLED FLUSH WITH
CONCRETE

HOT WATER
PRESSURE WASHER

BASIN 1

ROLL-OFF BOX
RINSE AREA

LOW PROFILE
CONTAINMENT
CURBING TO BE
PLACED AROUND
PERIMETER OF
ROLL-OFF BOX
RINSE AREA

EXISTING TRENCH
DRAIN TO BE CLEANED
AND RESEALED WITH
APPROPRIATE CONCRETE
SEALER COMPATIBLE
WITH PROPOSED OPERATIONS

ALL CRACKS, OTHER FLOOR
OPENING AND FLOOR DRAINS TO
BE PLUGGED WITH A NON-SHRINK
GROUT & FINISHED FLUSH TO
MATCH EXISTING CONCRETE FLOOR
SURFACE

AN 8-INCH CONCRETE
MASONRY UNIT (CMU)
BLOCK WALL WILL BE
INSTALLED ALONG THE
PERIMETER OF BAY 1

STAGED
BOXES
TO BE
CLEANED

EXISTING
TRENCH DRAIN

LOW PROFILE
CONTAINMENT
CURBING AT THE
INGRESS & EGRESS
POINTS TO BAY 1

INGRESS

CARBON DRUM

EXISTING PIT IS FRAMED
WITH 1/4" STEEL PLATES

INFLUENT

PIT IS 4'-3" DEEP

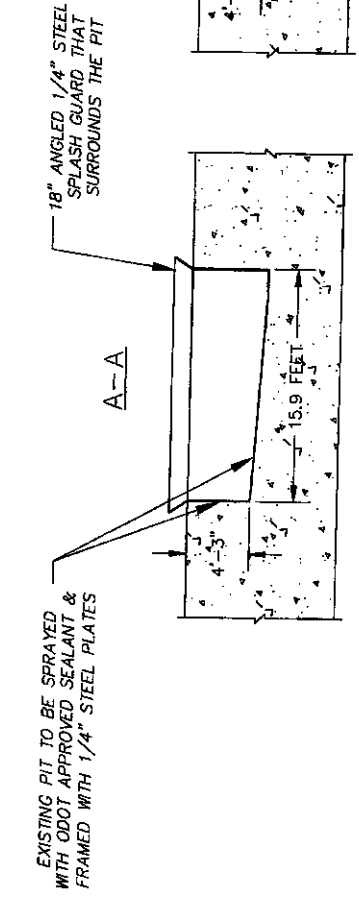
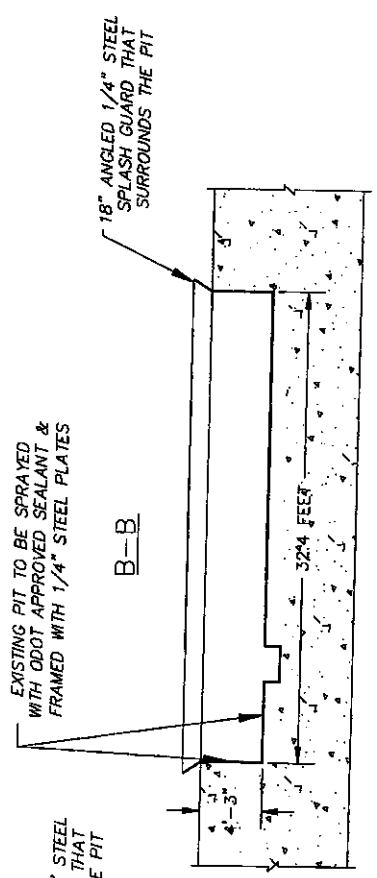
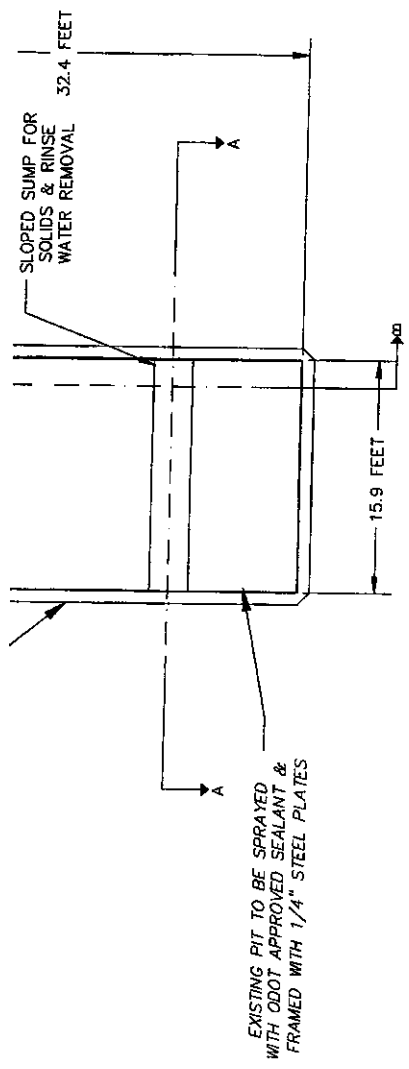
VALVE TO BE INSTALLED
ON EFFLUENT END OF TRENCH
O/H EFFLUENT

1.3 FEET

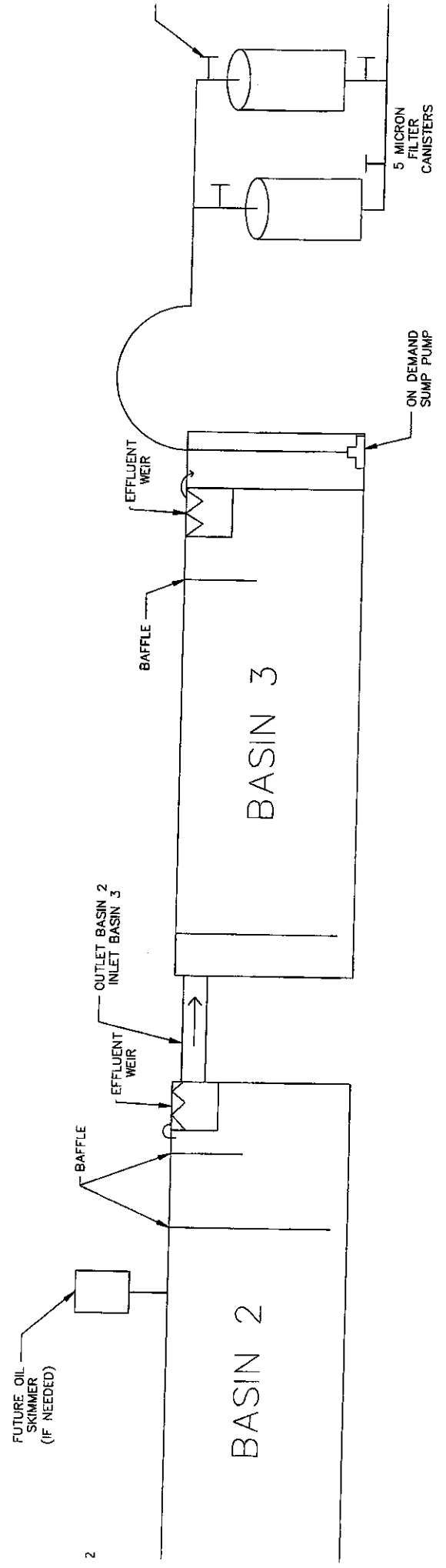
281.8 FEET

AN 8-INCH CONCRETE
MASONRY UNIT (CMU)
BLOCK WALL WILL BE
INSTALLED ALONG THE
PERIMETER OF BAY 1

AN 8-INCH CONCRETE
MASONRY UNIT (CMU)
BLOCK WALL WILL BE
INSTALLED ALONG THE
PERIMETER OF BAY 1



SCHEMATIC DIAGRAM - SETTLING BASINS & FILTRATION UNITS



December 30, 2013

Richard Simmers, ODNR, Chief, O&G
Fred Shimp, ODNR, Asst. Director
Mike Williams, ODNR, Chief Legal Counsel
Via Electronic Correspondence

**RE: December 30, 2013 Addendum:
ANGI's Pending November 2013
R.C. 1509.22 Approval for Water Transfer Facility**

Dear Messrs. Simmers, Shimp and Williams:

American Natural Gas, Inc. ("ANGI") is submitting this additional addendum to support its pending R.C. 1509.22 approval application for a Water Transfer Facility ("Facility"). The purpose of this addendum is to address comments set forth by Ohio Department of Natural Resources' ("ODNR") engineers during a December 30, 2013 conference call with ANGI. As you are aware, ANGI previously submitted materials to support its R.C. 1509.22 approval request on November 18, December 19 and December 27, 2013.

As stated in the December 27, 2013 letter addendum, the submittal of this additional addendum in no way waives ANGI's rights with respect to any legal challenges as to ODNR's jurisdiction, authority, scope or the appropriate nature of ODNR's requirements precedent to the issuance of a R.C. 1509.22 approval and limits thereto. ANGI maintains the same objections made in the December 27, 2013 letter addendum.

ANGI responds to ODNR's December 30, 2013 comments as follows:

Comment One: Provide Liner, Pipes and Fitting Specifications

The vendor/manufacture specifications are attached. As can be seen the pipe, valves and liner are designed consistent with standard engineering best practices and, as such, address the most recent comments made by ODNR.

Specifically, the ball valve is rated at 200 psi static. There are also butterfly valves rated at 150 psi static prior to the ball valve. These butterfly valves will be used throughout the less pressurized areas, and are appropriate to manage the expected pressures of less than 15 psi.

The liner is at or above the industry standard for both thickness and UVA protection. Information regarding the fusing material that will be used to fuse the liner to the pipe is also provided. The fusing material is made of the same material as the liner.

The SDR11 pipe used throughout the project is rated to 200 psi static. The installation procedures are also included. ANGI's pipe installers that installed the SDR11 pipe were trained and certified at JABO Supplies' Huntington, West Virginia facility on September 13, 2013.

Comment Two: Leak Detection in Ponds

In addition to the information contained in the earlier submittals, ANGI will utilize static testing to determine whether or not the pond liner has had a failure. This testing will be performed on an annual basis and take into account rainfall and evaporation. The test will be 24 hours in duration to minimize the impact of outside influences such as rainfall and evaporation. If the testing results in a loss of more than 15%, then a second test will be performed for a 7 day duration. If the second test results in a greater than 15% loss, then the pond will be drained and a visual inspection will be conducted. Any necessary repairs will be made to ensure the integrity of the pond. Only fresh, non-production water will be placed in the pond until the integrity of the pond is restored.

Comment Three: Spills/Rain Events at Unloading/Loading Area

If a truck or pipe spill occurs that is equal to or greater than 2,750 gallons or in the event of a rainfall event that is equal to 3.3 inches or more in a 24 hour period,, ANGI will maintain the water in the containment area. The water will then be vacuumed or pumped into Pond One. No discharge of any spill or rainwater will occur from the loading/unloading area.

Per ODNR request, ANGI has also attached a diagram of the curbing and the run-off piping. The curb is colored dark green in the diagram and will divert water from around the loading area via a slotted pipe installed in the asphalt that extends into the collection area.

Comment Four: Explain the use of the Upper Pond

The upper pond contains only fresh water that is transferred from a fresh water pond not associated with ANGI operations. ANGI will utilize fresh water from the pond to mix with the waters received from ANGI's customers. This water will be piped to the ANGI pond as needed and controlled via valves. The fresh water sent to the ANGI pond will be documented and ANGI will have the ability to shut off the pipe from the fresh water pond in the event of any possibility of overflow or similar condition.

Once the fresh water is introduced into the ANGI pond, it will be managed consistent with ANGI's water management plan for the ANGI ponds as set forth in previous submittals. As explained previously, the ANGI ponds have a 2 foot freeboard. This is equivalent to approximately 26,000 gallons of additional capacity in Pond One and 40,000 gallons in Pond Two.

Comment Five: Explain in more details the expected Solids Management

As previously explained, ANGI will not take mud or cuttings; instead, ANGI will only take waters with less than 80,000 mg/l of TDS. ODNR has a concern that the waters could contain incidental solids in the form of TSS. While ANGI does not anticipate any measurable TSS, ANGI will implement the following steps at the request of ODNR.

Specifically, any sediment will be captured by the pond liner and will remain in place. Given the size of the pond and the intent of the operation to recycle water continuously, ANGI does not

anticipate ever running out of storage capacity for the sediment. That said, ANGI will agree to sample the sediment once it reaches 12 inches from the bottom in the basin of the pond. The sample will be performed by a qualified, licensed third party. If the results of the sample demonstrate that the sediment contains TENORM, ODH will be notified and ANGI will contract with a qualified, licensed third party for removal and transport of the sediment in compliance with law. By contract with a third party contractor, ANGI will assure that the pond liner will not be damaged by this removal process. Once removed, the sediment will be sent to a landfill fully licensed to accept and solidify such sediment for final disposal. All steps in this process will be documented by manifests and proper notifications will be made to all required regulatory agencies.

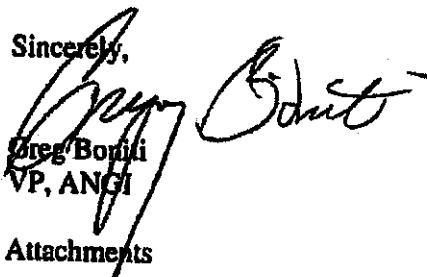
Conclusion

This additional information is provided to answer the comments made by ODNR on December 30, 2013. We understand that this is the final step in the approval process. To that end, please notify me immediately if you have any questions regarding this information.

By this letter, ANGI is notifying ODNR that the Water Transfer Facility is commencing operation as discussed

Thank you in advance. ANGI will follow-up by 1:00 p.m., today, regarding issuance of the approval.

Sincerely,



Greg Borini
VP, ANGI

Attachments



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Division of Oil and Gas Resources Management
2045 Morse Road, Building F-2
Columbus, OH 43229-6693
Phone: (614) 265-6922; Fax: (614) 265-6910

December 10, 2013

Greg Boniti
American Natural Gas, Inc.
46226 National Road
St. Clairsville, Ohio 43950

RE: American Natural Gas Water Transfer Facility: Letter for R.C. 1509 Review

Dear Mr. Boniti,

On November 22, 2013, the Ohio Department of Natural Resources, Division of Oil and Gas Resources Management ("Division") received a letter from American Natural Gas, Inc. ("ANGI"), informing the Division of ANGI's proposed water transfer system in Alledonia, Ohio ("Project"). The letter also requests that the Division either (1) confirm that no approval is required; or (2) approve the Project.


As you are aware, the Ohio General Assembly recently enacted Am. Sub. H.B. 59, which included changes to R.C. 1509.22. One such change is the requirement that, *effective January 1, 2014*, a person who proposes to store, recycle, treat, process, or dispose of brine or other waste substances associated with oil and gas exploration and production must obtain an order or permit from the Chief of the Division in order to operate. Currently, the Division is developing rules and application requirements for a permit to store, recycle, treat, process, or dispose of brine or other waste substances associated with oil and gas exploration and drilling. Until those rules and application requirements are effective, an operator will be required to submit an application to obtain a temporary order from the Chief. The guidelines and temporary order application will be available from the Division by December 16, 2013 in order to operate on January 1, 2014.

In addition to the above discussion concerning the development of rules, guidelines, and application processes, the letter from ANGI does not contain sufficient information in order for the Division to properly evaluate the proposed Project. For example, the letter does not contain proposed detailed drawings of the project. The letter only includes an aerial photograph with red, blue, and purple lines marked. The aerial photograph does not identify what the markings mean or anything else. Furthermore, the letter does not contain details of the piping proposed, means of identification and testing of the substances in the water that will "settle", and other similar aspects. As another example, the letter does not contain details of the radioactive testing protocols proposed to be used.

American Natural Gas –Proposed Water Transfer Project
December 6, 2013
Page 2 of 2

For all of the reasons discussed above, the Division is not making a determination on your proposed Project at this time.

Sincerely,


Richard J. Simmers, Chief
Division of Oil and Gas Resources Management
Ohio Department of Natural Resources

91 7108 2133 3936 3071 9590

December 20, 2013

By Electronic and Overnight Mail
Rick.Simmers@dnr.state.oh.us

Rick Simmers, Chief, Ohio & Gas Division
Ohio Department of Natural Resources
2045 Morse Road, Building F-2
Columbus OH 43229-6693

**RE: American Natural Gas, Inc. Water Transfer Facility:
Follow-up Addendum to November 2013 RC 1509.22 Approval Application**

Dear Chief Simmers:

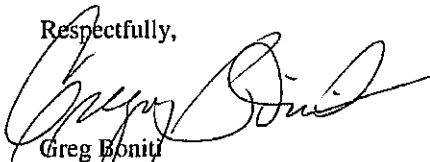
On behalf of American Natural Gas, Inc. ("ANGI"), please find, enclosed, a follow-up addendum to ANGI's pending R.C. 1509.22 Request for Approval Application for a Water Transfer Facility, which was first submitted to ODNR in November 2013. ANGI is submitting the addendum at the request of ODNR following a December 18, 2013 in-person meeting, during which ODNR specifically requested more detailed information regarding the following topics:

- Pond Construction;
- Loading/Unloading Areas;
- Management of Potential Spills;
- Paperwork Management/Tracking of Waters;
- Pond Sediment Management;
- Chemical Additives;
- Pond Safety.

The enclosed addendum, with accompanying diagrams, addresses each of the subjects set forth above. Additionally, ODNR intends to perform a site visit on December 20, 2013 to review the facility.

As you know, ANGI intends to begin operating its Water Transfer Facility before December 31, 2013. Therefore, ANGI requests that ODNR move forward with the approval as quickly as possible. To that end, I am available as needed to answer questions or clarify any remaining issues.

Respectfully,



Greg Boniti
VP Engineering

Enclosures: Addendum, Facility Diagrams (3)

- Loading piping will start below ground at the final storage pond and then traverse underground and resurface at the loading area.

Request: Describe Use of Agents/Chemicals

- No chemicals will be added to the waters.

Request: Describe Process to Contain Spills

Loading/Unloading Area:

- Any spill will traverse onto the asphalt and into an accompanying catch basin (without drainage). The catch basin will be vacuumed out and the waters transported to the first pond.

Ponds:

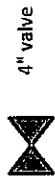
- The ponds will be constructed to include synthetic liners to prevent underground leaks.
- Earthen berms (2') will be installed around the ponds to prevent ponds from overflowing in significant storm events.

Request: Provide Information Regarding Tracking of Waters

- Water haulers will arrive at the Facility with manifests/tracking paperwork.
- ANGI will review the manifests/tracking paperwork and keep a copy.
- ANGI will also require haulers to complete an "ANGI field ticket" which is ANGI's own internal tracking system.
- ANGI will request that each customer provide a copy of its ODNR registration certificate (certificates required by R.C. 1509.222).
- ANGI will maintain the copies of the ODNR registration certificates.
- ANGI will confirm that customer trucks have identification numbers identified on the trucks.
- No waters will be accepted with TDS content above 80,000 mg/l.
- Cuttings and mud will not be accepted.
- Upon pick-up of water by ANGI customers, ANGI will provide documentation (i.e. "ANGI exit field ticket") to the pick-up hauler of volume of water out of the Facility. ANGI will maintain a duplicate of the documentation.
- ANGI will maintain: (1) the customer water volumes into the Facility, (2) the volumes of water introduced internally; and (3) the volumes of waters sold to customers.
- Water volumes will be measured by flow meters installed at each point of transfer (see Facility Diagrams for flow meter locations).
- ANGI will perform mass balance calculations for water volumes and maintain those calculations.
- All documents will be maintained for 24 months.

Request: How Pond Sediments Will Be Addressed

- ANGI will not accept any cuttings or mud; all such loads will be rejected.
- As such, ANGI does not anticipate much, if any, sedimentation to occur.



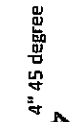
4" valve



4" cap



4" tee



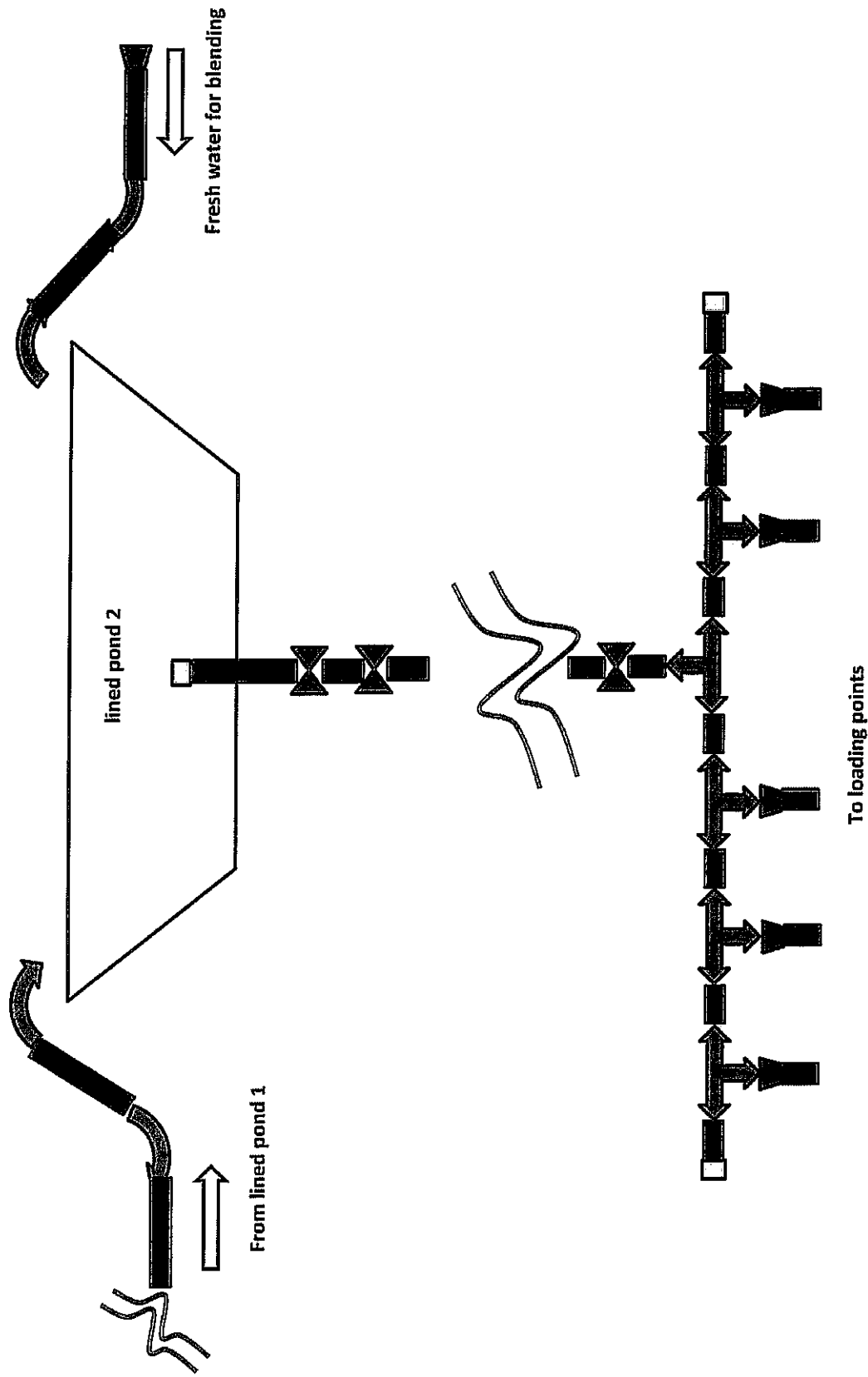
4" 45 degree

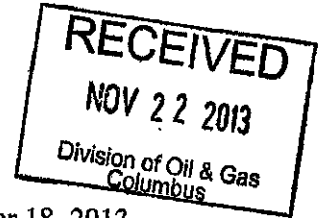


4" SDR11 line



Flowmeter





November 18, 2013

By Overnight Mail

Rick Simmers, Chief
Division of Oil and Gas
Ohio Department of Natural Resources
2045 Morse Road, Bldg F-2
Columbus, Ohio 43229

**RE: Proposed Water Transfer Project:
American Natural Gas, Inc.
Alledonia, Belmont County, Ohio
Application for R.C. 1509.22 Review**

Dear Chief Simmers:

American Natural Gas, Inc. ("ANGI") is proposing to build a water system in Alledonia, Ohio designed to obtain water from and transfer water to the oil and gas industry ("Project"). ANGI has reviewed Ohio law and ODNR regulations and determined that the Project will not trigger the need for any ODNR approval, order or permit. However, since ODNR has no permitting regulations or process developed under R.C. 1509.22, this letter provides ODNR notice of the Project and requests either: (1) confirmation from ODNR that no approval is needed or (2) an approval issued pursuant to R.C. 1509.22 by December 15, 2013.

The Project, generally, will consist of the receipt of waters via truck from oil and gas companies for temporary placement in on-site, synthetic lined reservoir(s). Prior to accepting water, ANGI will confirm that each load does not contain radioactive constituents above actionable levels. All loads deemed radioactive will be rejected. Once the water settles in the reservoir(s), it will be transferred through a waterline to another synthetic lined reservoir where impoundment water from ANGI's existing water reservoir (details of which were provided to ODNR in August 2013) will be added. No impoundment water will contain any waters or other fluids associated with oil and gas operations. From there, the water will be transferred through a waterline to a water filling area for trucks. Project details are set forth in the enclosed Attachment A.

R.C. 1509.22(A) states that:

no person shall place or cause to be placed in ground water or in or on the land or discharge or cause to be discharged in surface water brine, crude oil, natural gas, or other fluids associated with the exploration, development, well stimulation, production

operations, or plugging of oil and gas resources that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment.

ANGI will not discharge, cause to be discharged, place or cause to be placed any O&G fluids that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment. To the contrary, any temporary placement of water will occur only in synthetic lined reservoir(s). Thus, the Project complies with R.C. 1509.22(A).

R.C. 1509.22(B)(2)(a) states that:

On and after January 1, 2014, no person shall store, recycle, treat, process, or dispose of in this state brine or other waste substances associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources without an order or a permit issued under this section or section 1509.06 or 1509.21 of the Revised Code or rules adopted under any of those sections.

R.C. 1509.227 states that:


Notwithstanding division (B)(2)(a) of section 1509.22 of the Revised Code, on and after January 1, 2014, a person that is in operation prior to the date may store, recycle, treat, process, or dispose of in this state brine or other waste substances associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources without an order or a permit issued under section 1509.06, 1509.21, or 1509.22 of the Revised Code or rules adopted under any of those sections, provided that the chief of the division of oil and gas resources management has approved the operation and any required permit or other form of authorization has been issued by the environmental protection agency.

ANGI will not store, recycle, treat, process or dispose of in this state brine or other waste substances associated with O&G resources. However, ANGI also recognizes that ODNR lacks any law defining the terms "store, recycle, treat, process or dispose of." Therefore, while ANGI has concluded that the Project complies with R.C. 1509.22(B)(2)(a), in an abundance of caution and in absence of any definitions of the statutory words, ANGI requests that ODNR confirm ANGI's interpretation of the statute.

If ODNR determines that R.C. 1509.22 does apply to the Project, ANGI requests that ODNR move forward with an approval, as set forth in R.C. 1509.227, to be issued on or before December 15, 2013. This letter, coupled with Attachment A, contains all information required by statute necessary to grant such approval. The timeframe requested is consistent with your commitment made to senior management of ANGI's parent company, Murray Energy, during the 2013 budget bill process.

Given the time constraints associated with this Project, ANGI requests that the Division expeditiously evaluate this letter and enclosed materials and notify us immediately with any questions or comments.

Sincerely,



Greg Boniti VP Engineering
American Natural Gas, Inc.

cc: Craig Butler
Director James Zehringer

Enclosures

ATTACHMENT "A"

PROJECT DETAILS FOR ANGI'S PROPOSED WATER TRANSFER PROJECT

Applicant Name: American Natural Gas, Inc.

Applicant Address: 46226 National Road
St. Clairsville, Ohio 43950

Applicant Contact: Greg Boniti
(740) 338-3100
(740) 338-3416-Fax
gboniti@coalsource.com

Project Location: 56854 Pleasant Ridge Road
Alledonia, Ohio 43902
Belmont County, Ohio

Project Flow Description:


1. Water will be received from trucks. Prior to accepting any water, each truck will be scanned for the existence of radiation above actionable levels. All "hot" loads will be rejected.
2. Water will be temporarily placed in on-site, synthetic lined reservoir(s) (total capacity not to exceed 400,000 gallons).
3. After water settlement, it will be transferred via a waterline to another synthetic lined reservoir(s) (total capacity not to exceed 1,800,000 gallons).
4. Impoundment water from ANGI's existing water reservoir will be added in the second reservoir(s). The impoundment water will not contain any waters or other fluids associated with oil and gas operations.
5. The water will be tested and then transferred through a waterline to a water filling area for trucks.

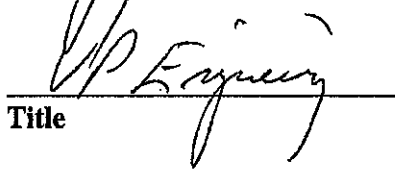
****For detailed project design, see attached diagram.**

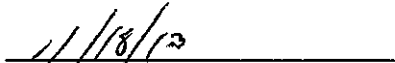
Project Details:

The water from the Project will meet all customer specifications required for water use by oil and gas companies. No waters from the impoundment will contain fluids from the oil and gas industry (i.e. fluids associated with the exploration, development, well stimulation, production or plugging of oil and gas resources). No water will be discharged from the waterline or from any of the reservoirs on or into surface or ground waters.

Construction Date: To commence on or before December 15, 2013.


Signature


Title


Date



NOTE: This map is the property of ANGI and is confidential.

| No. | City/No./Classification | Date |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------|
| ANGI | | |
| <small>ANGI Incorporated 11000 West 11th Street Denver, Colorado 80233 Phone: 303.733.1100 Fax: 303.733.1101</small> | | |
| <small>Waste Recycle Environmental Services, Inc. 11000 West 11th Street Denver, Colorado 80233</small> | | |
| <small>Waste Recycle Environmental Services, Inc. 11000 West 11th Street Denver, Colorado 80233</small> | | |
| <small>Scale: 1" = 60'</small> | | |



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Division of Oil and Gas Resources Management
2045 Morse Road, Building F-2
Columbus, OH 43229-6693
Phone: (614) 265-6922; Fax: (614) 265-6910

December 10, 2013

Greg Boniti
American Natural Gas, Inc.
46226 National Road
St. Clairsville, Ohio 43950

RE: American Natural Gas Water Transfer Facility: Letter for R.C. 1509 Review

Dear Mr. Boniti,

On November 22, 2013, the Ohio Department of Natural Resources, Division of Oil and Gas Resources Management ("Division") received a letter from American Natural Gas, Inc. ("ANGI"), informing the Division of ANGI's proposed water transfer system in Alledonia, Ohio ("Project"). The letter also requests that the Division either (1) confirm that no approval is required; or (2) approve the Project.

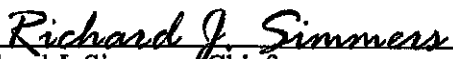
As you are aware, the Ohio General Assembly recently enacted Am. Sub. H.B. 59, which included changes to R.C. 1509.22. One such change is the requirement that, *effective January 1, 2014*, a person who proposes to store, recycle, treat, process, or dispose of brine or other waste substances associated with oil and gas exploration and production must obtain an order or permit from the Chief of the Division in order to operate. Currently, the Division is developing rules and application requirements for a permit to store, recycle, treat, process, or dispose of brine or other waste substances associated with oil and gas exploration and drilling. Until those rules and application requirements are effective, an operator will be required to submit an application to obtain a temporary order from the Chief. The guidelines and temporary order application will be available from the Division by December 16, 2013 in order to operate on January 1, 2014.

In addition to the above discussion concerning the development of rules, guidelines, and application processes, the letter from ANGI does not contain sufficient information in order for the Division to properly evaluate the proposed Project. For example, the letter does not contain proposed detailed drawings of the project. The letter only includes an aerial photograph with red, blue, and purple lines marked. The aerial photograph does not identify what the markings mean or anything else. Furthermore, the letter does not contain details of the piping proposed, means of identification and testing of the substances in the water that will "settle", and other similar aspects. As another example, the letter does not contain details of the radioactive testing protocols proposed to be used.

American Natural Gas –Proposed Water Transfer Project
December 6, 2013
Page 2 of 2

For all of the reasons discussed above, the Division is not making a determination on your proposed Project at this time.

Sincerely,


Richard J. Simmers, Chief
Division of Oil and Gas Resources Management
Ohio Department of Natural Resources

91 7108 2133 3936 3071 9590

December 27, 2013

Fred Shimp
Ohio Department of Natural Resources
By Electronic Mail: Frederick.Shimp@dnr.state.oh.us

Richard Simmers
Ohio Department of Natural Resources
By Electronic Mail: Richard.Simmers@dnr.state.oh.us

Dear Mr. Shimp and Mr. Simmers:

American Natural Gas, Inc. ("ANGI") submits this response to ODNR's December 24, 2013 Electronic Mail, sent under the signature of Chief Counsel Michael Williams, in which ODNR articulated yet more questions/potential requirements related to ANGI's pending R.C. 1509.22 approval for its Water Transfer Facility ("Williams E-Mail"). As you know, on December 18, 2013 the parties had a meeting during which ODNR identified specific topics for which ODNR requested additional information. ANGI submitted this information on December 20, 2013, and ODNR performed a site visit the same day.

Unfortunately, the Williams E-Mail goes well beyond the scope of the agreed-to submittal as well as the scope of ODNR's authority. Additionally, it requests duplicative information to what has been previously submitted as well as information irrelevant to the Water Transfer Facility. That said, ANGI, in yet another demonstration of good faith, submits this letter in an attempt to clear up any remaining questions raised by ODNR.

As an initial point, this letter should not be viewed as a waiver of any of ANGI's legal rights with respect to the scope and limitations of the agency's statutory authority. Specifically, our legal counsel has requested that ODNR provide its basis for concluding that it has broad authority over any claim of "environmental contamination." To date, we have received no response. Importantly, ODNR's authority is limited to only assuring that "discharges to ground water or land" of oil and gas fluids do not cause or could reasonably be anticipated to cause damage or injury to public health, safety or the environment. R.C. 1509.22(A). Given the Water Transfer Facility's remote location, miles from drinking water wells and streams and on a secure site with no public access, ODNR has no reasonable or colorable claim (or evidence) that Facility will violate, or could ever potentially violate, R.C. 1509.22(A). As such, the new issues raised in the Williams E-Mail are beyond ODNR's scope of authority. Further, these requirements are not being placed on any other sector of the oil and gas industry, including those operations involving unlined ponds and high pressure gas lines. It is simply illegal for ODNR to try and force additional requirements on ANGI last minute, especially in the absence of any rules or permit program to support ODNR's position.

In a final effort to work cooperatively with ODNR, ANGI's response to each of the points in the Williams E-mail is set forth as follows:

Point One: Collection/containment of surface runoff/spills from truck unloading/loading

ANGI disagrees that the collection/containment is inadequate. As designed, the containment area can hold 1,700 barrels of spilled waters at any one time without any overflow. See, December 20, 2013 ANGI addendum. These numbers include an estimated 2' of freeboard in the containment area. If the full capacity is calculated it will total approximately 1900 barrels. A typical truck contains 180 barrels of waters. Thus, in order to hypothetically overflow the containment based on the numbers submitted previously, almost 10 full trucks would have to simultaneously have catastrophic and complete discharges. This cannot happen since the loading/unloading area is limited to 5 trucks maximum at any one time. The ANGI design is more than adequate for a truck loading/unloading area and is consistent with similar requirements (set forth by OEPA) for other industries. Additionally, ODNR makes an incorrect assumption that the waters moving through the ANGI Water Transfer Facility are "contaminated." This is simply untrue, and ODNR lacks the technical and scientific data to support its general conclusion.

Point Two: Surface water runoff from truck loading/unloading testing before release

ODNR's second point is factually incorrect. As the December 20, 2013 ANGI addendum clearly states, no water from the runoff area will be "released to the environment." Rather, all spilled water/storm water will be collected via the drains and sump and placed into Pond One (i.e. this water will be sold, not released to the environment). As to the sizing of the sump, ODNR wants proof that the sump can handle a 10-year storm event. ANGI does not understand this statement given the design of the area and applicable law. First, a storm event consists of rain water that will have no contact with any process or transfer water. No regulatory agency, including ODNR, has legal authority over rain that does not come into contact with any industrial process. Second, as explained above, the containment area can handle up to 1,700 barrels of fluids without concern, 1900 barrels if fully utilized. This sizing is much larger than any rain event—ten years or not.

Point Three: Secondary containment of the ponds and piping

ANGI is puzzled by this request. ANGI has already designed "secondary containment" for the ponds, which was set forth in the December 20, 2013 ANGI addendum at "Request: Describe Pond Construction" and in the Facility Diagrams (i.e. 2-3 foot berms). Such berms are more than acceptable from an engineering perspective to prevent any storm overflow possibility. The berms serve to divert water from the ponds and to catch any rain water that accumulates in the "bermed" area. This design would allow for 2 feet of rain. If ODNR has actual engineering calculations or similar data to demonstrate otherwise, please share this information with us immediately. As to the secondary containment of the piping, please see the response to Point Four below. Specifically, secondary containment cannot possibly be required for the piping since any leaking from such pipes, whether catastrophic or not, cannot and will not trigger R.C.

1509.22(A) due to the remote location of the ANGI facility. Further, secondary containment of piping is not reasonable, feasible or cost effective.

Point Four: Testing of pipe connections at the ponds

ODNR has requested testing of the underground pipe connections to the ponds. As explained, the pipes will be fused to a synthetic liner, thus creating a barrier that is stronger than even the liner itself. Integrity assurances of the fused areas are confirmed upon installation. As to testing throughout the life of the operation, such testing is not possible and not required for any other industry sector holding similar materials. Additionally, any pinprick leaks (or catastrophic leaks for that matter) cannot and will not trigger R.C. 1509.22(A) due to the remote location of the ANGI facility. Material balance calculations performed periodically will show any significant leakage.

Point Five: Details of the storage pond at the top of the hill

During the December 18, 2013 telephone conference between ANGI and ODNR, Chief Simmers clearly indicated that this pond, which was first identified for ODNR in August 2013 via a letter from ANGI, was "not within ODNR's jurisdiction." As such, Chief Simmers specifically told ANGI's management and legal counsel not to include the pond in any submittal. ANGI has moved forward with those clear instructions in good faith and expects the agency to do likewise. As such, no information will be provided.

Point Six: Solids management plan for pond one

ODNR states that ANGI should have a solids management/handling plan for any material that could settle in Pond One. Additionally, ODNR claims that such material should be managed as TENORM. ODNR's TENORM statement is clearly an assumption not based on facts (i.e. ODNR has no way of knowing that any settled material would meet the regulatory definition of TENORM). Further, ANGI has already set forth a plan for management of pond sediments. See, December 20, 2013 ANGI addendum at "Request: How Pond Sediments Will Be Addressed." ANGI will follow this plan, which includes management if any sediment is deemed TENORM by testing and law.

Point Seven: Boundary Limits

ANGI has attached an updated site plan with boundary limits to this correspondence. The boundary limits contain roughly 16 acres.

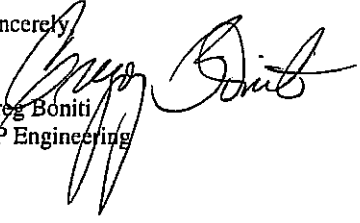
Conclusion and Path Forward

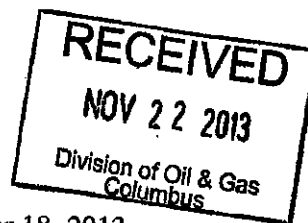
ANGI's management is quite disappointed at ODNR's decision to raise yet more questions during this prolonged approval process. Nonetheless, ANGI quickly developed this letter over a holiday in a final attempt to work cooperatively with ODNR towards conclusion of this approval process.

As a final point, ANGI's legal counsel has asked for a copy of the draft approval, but was told that such a draft would not be available until December 30, 2013 at the earliest. Again, ANGI's management is disappointed, especially since ODNR has known about this project since discussions occurring in May/June 2013. ANGI also wants to clarify a statutory point regarding the approval. During the December 18, 2013, ODNR seemed to insinuate that the approval would only be effective until such time that ODNR develops a R.C. 1509.22 permit program. Such a position is clearly in direct conflict with the General Assembly's development of a grandfathering provision, set forth in R.C. 1509.227. Thus, ANGI assumes that ODNR will follow the General Assembly's clear mandate regarding approvals issued prior to January 1, 2014.

If you have any questions or concerns regarding this letter, please contact me at your earliest convenience.

Sincerely,


Greg Boniti
VP Engineering



November 18, 2013

By Overnight Mail

Rick Simmers, Chief
Division of Oil and Gas
Ohio Department of Natural Resources
2045 Morse Road, Bldg F-2
Columbus, Ohio 43229

**RE: Proposed Water Transfer Project:
American Natural Gas, Inc.
Alledonia, Belmont County, Ohio
Application for R.C. 1509.22 Review**

Dear Chief Simmers:

American Natural Gas, Inc. ("ANGI") is proposing to build a water system in Alledonia, Ohio designed to obtain water from and transfer water to the oil and gas industry ("Project"). ANGI has reviewed Ohio law and ODNR regulations and determined that the Project will not trigger the need for any ODNR approval, order or permit. However, since ODNR has no permitting regulations or process developed under R.C. 1509.22, this letter provides ODNR notice of the Project and requests either: (1) confirmation from ODNR that no approval is needed or (2) an approval issued pursuant to R.C. 1509.22 by December 15, 2013.

The Project, generally, will consist of the receipt of waters via truck from oil and gas companies for temporary placement in on-site, synthetic lined reservoir(s). Prior to accepting water, ANGI will confirm that each load does not contain radioactive constituents above actionable levels. All loads deemed radioactive will be rejected. Once the water settles in the reservoir(s), it will be transferred through a waterline to another synthetic lined reservoir where impoundment water from ANGI's existing water reservoir (details of which were provided to ODNR in August 2013) will be added. No impoundment water will contain any waters or other fluids associated with oil and gas operations. From there, the water will be transferred through a waterline to a water filling area for trucks. Project details are set forth in the enclosed Attachment A.

R.C. 1509.22(A) states that:

no person shall place or cause to be placed in ground water or in or on the land or discharge or cause to be discharged in surface water brine, crude oil, natural gas, or other fluids associated with the exploration, development, well stimulation, production

operations, or plugging of oil and gas resources that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment.

ANGI will not discharge, cause to be discharged, place or cause to be placed any O&G fluids that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment. To the contrary, any temporary placement of water will occur only in synthetic lined reservoir(s). Thus, the Project complies with R.C. 1509.22(A).

R.C. 1509.22(B)(2)(a) states that:

On and after January 1, 2014, no person shall store, recycle, treat, process, or dispose of in this state brine or other waste substances associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources without an order or a permit issued under this section or section 1509.06 or 1509.21 of the Revised Code or rules adopted under any of those sections.

R.C. 1509.227 states that:

Notwithstanding division (B)(2)(a) of section 1509.22 of the Revised Code, on and after January 1, 2014, a person that is in operation prior to the date may store, recycle, treat, process, or dispose of in this state brine or other waste substances associated with the exploration, development, well stimulation, production operations, or plugging of oil and gas resources without an order or a permit issued under section 1509.06, 1509.21, or 1509.22 of the Revised Code or rules adopted under any of those sections, provided that the chief of the division of oil and gas resources management has approved the operation and any required permit or other form of authorization has been issued by the environmental protection agency.

ANGI will not store, recycle, treat, process or dispose of in this state brine or other waste substances associated with O&G resources. However, ANGI also recognizes that ODNR lacks any law defining the terms "store, recycle, treat, process or dispose of." Therefore, while ANGI has concluded that the Project complies with R.C. 1509.22(B)(2)(a), in an abundance of caution and in absence of any definitions of the statutory words, ANGI requests that ODNR confirm ANGI's interpretation of the statute.

If ODNR determines that R.C. 1509.22 does apply to the Project, ANGI requests that ODNR move forward with an approval, as set forth in R.C. 1509.227, to be issued on or before December 15, 2013. This letter, coupled with Attachment A, contains all information required by statute necessary to grant such approval. The timeframe requested is consistent with your commitment made to senior management of ANGI's parent company, Murray Energy, during the 2013 budget bill process.

Given the time constraints associated with this Project, ANGI requests that the Division expeditiously evaluate this letter and enclosed materials and notify us immediately with any questions or comments.

ATTACHMENT "A"

PROJECT DETAILS FOR ANGI'S PROPOSED WATER TRANSFER PROJECT

Applicant Name: American Natural Gas, Inc.

Applicant Address: 46226 National Road
St. Clairsville, Ohio 43950

Applicant Contact: Greg Boniti
(740) 338-3100
(740) 338-3416-Fax
gboniti@coalsource.com

Project Location: 56854 Pleasant Ridge Road
Alledonia, Ohio 43902
Belmont County, Ohio

Project Flow Description:

1. Water will be received from trucks. Prior to accepting any water, each truck will be scanned for the existence of radiation above actionable levels. All "hot" loads will be rejected.
2. Water will be temporarily placed in on-site, synthetic lined reservoir(s) (total capacity not to exceed 400,000 gallons).
3. After water settlement, it will be transferred via a waterline to another synthetic lined reservoir(s) (total capacity not to exceed 1,800,000 gallons).
4. Impoundment water from ANGI's existing water reservoir will be added in the second reservoir(s). The impoundment water will not contain any waters or other fluids associated with oil and gas operations.
5. The water will be tested and then transferred through a waterline to a water filling area for trucks.


****For detailed project design, see attached diagram.**

Project Details:

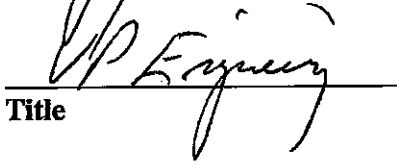
The water from the Project will meet all customer specifications required for water use by oil and gas companies. No waters from the impoundment will contain fluids from the oil and gas industry (i.e. fluids associated with the exploration, development, well stimulation, production or plugging of oil and gas resources). No water will be discharged from the waterline or from any of the reservoirs on or into surface or ground waters.

Construction Date:

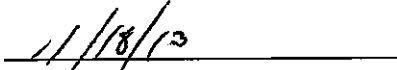
To commence on or before December 15, 2013.



Signature



Title



Date

American Natural Gas, Inc., Belmont County

Site visit was made on December 20, 2013 by Blake Arthur and Beth Pratt, DOGRM.

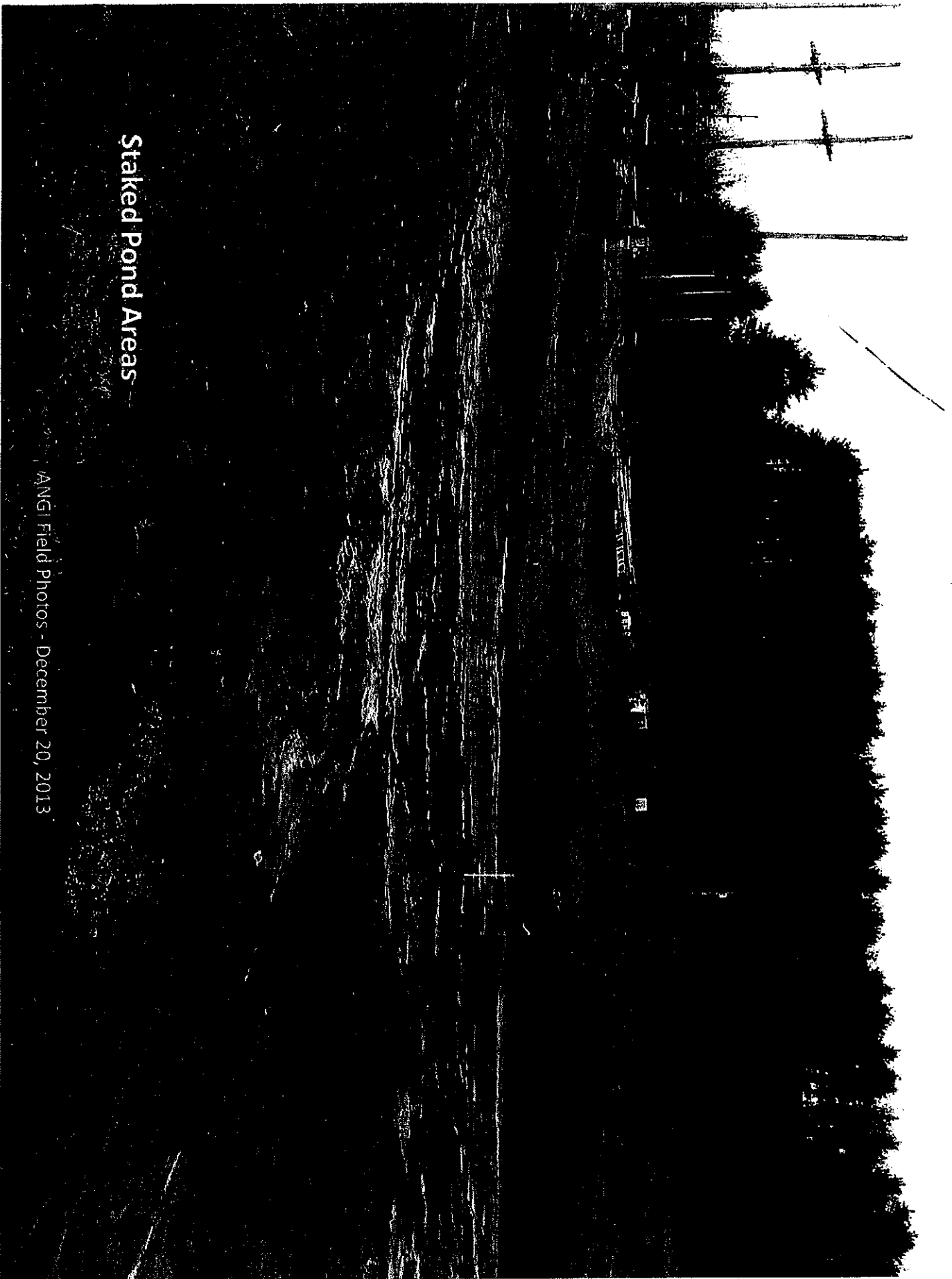
Greg Boniti attended as the ANGI representative. Neither pond was constructed and the site was not operational at the time of the visit. Pictures were taken and are on file. The following concerns with the proposed water transfer and blending operation and construction are as follows:

- Collection and containment of surface runoff and potential spills from the truck loading/unloading asphalt area is not adequate. The proposed spill containment for the truck loading/unloading zones is a slot drain that traverses the drive and drains into a collection sump. Runoff across the asphalt and any spills on the asphalt could over run the slot drain and drain into the rock berm surrounding the asphalt. To prevent soil contamination, a containment berm or curb should be installed around the asphalt area (at minimum, along the down gradient side of the asphalt) to direct and collect spills and potentially contaminated runoff.
- All surface runoff from the truck loading/unloading zone needs to be captured and tested before being released into the environment. Show that the sump is of adequate size to contain runoff from asphalt drainage area. There is insufficient detail on the surface runoff and spill collection/containment system to fully evaluate functionality.
- There is no secondary containment for either pond or the piping systems containing brine and blended waters. Secondary containment and a means to detect and collect leakage through the primary containment needs to be installed to prevent undetected leakage into the environment.
- Piping penetrations through the primary liner of the ponds need to be tested to ensure there is no leakage at the commencement and periodically throughout the life of the operation.
- Provide details on the storage pond at the top of the hill. Apparently, this pond stores blending water and is piped from tanks containing treated water from the coal ponds. The in-ground pond was approximately 250' x 150' x 6' (approximately 1,650,000 gals). The blending water is gravity fed to the blending pond listed as pond 2.
- A solids management/handling plan needs to be prepared for material that settles into pond 1. This material would need to be managed as TENORM.
- Boundary limits of the site need to be clearly identified on the site plan.

ANGI – Field Photos

December 20, 2013

Blake Arthur, Beth Pratt

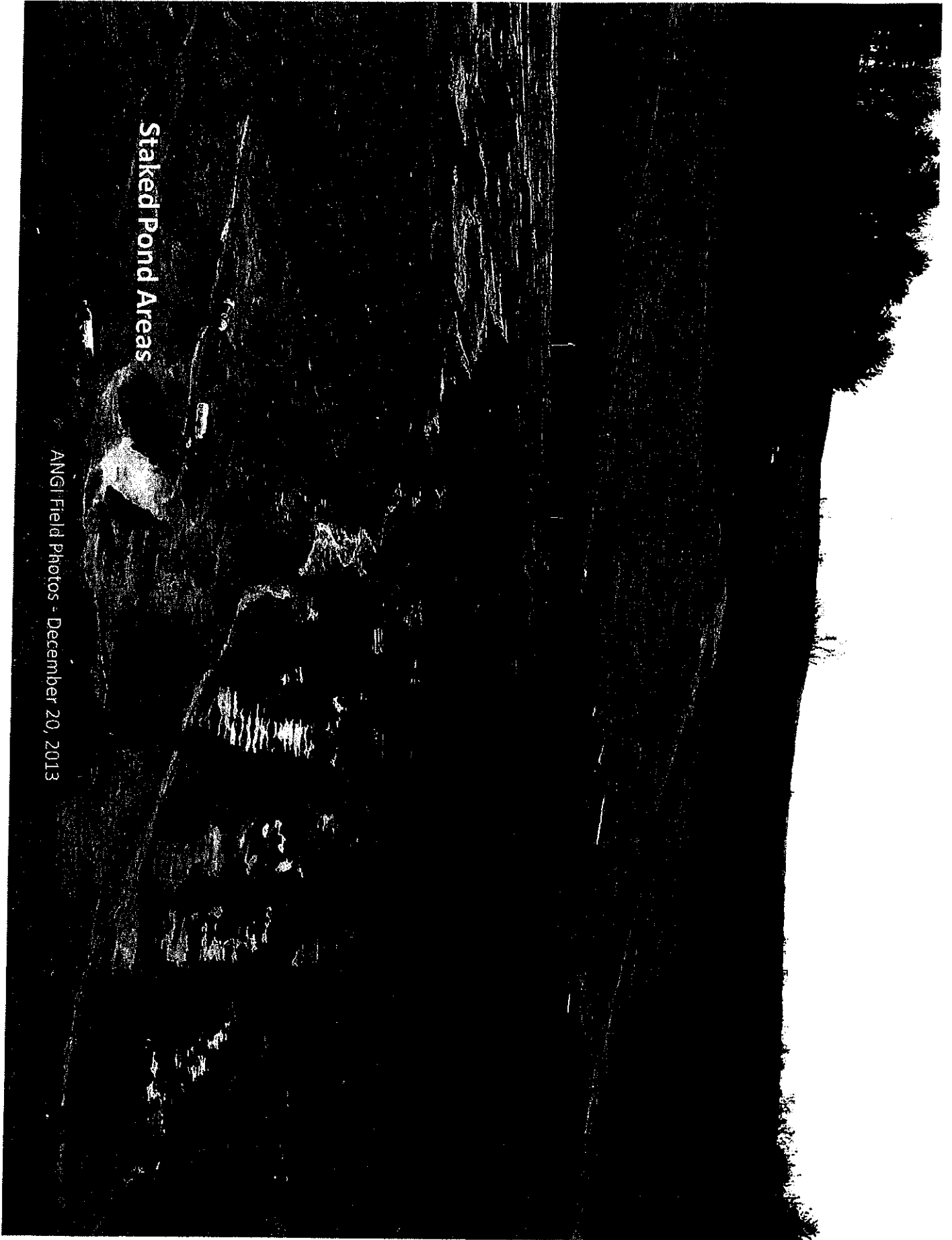


Staked Pond Areas

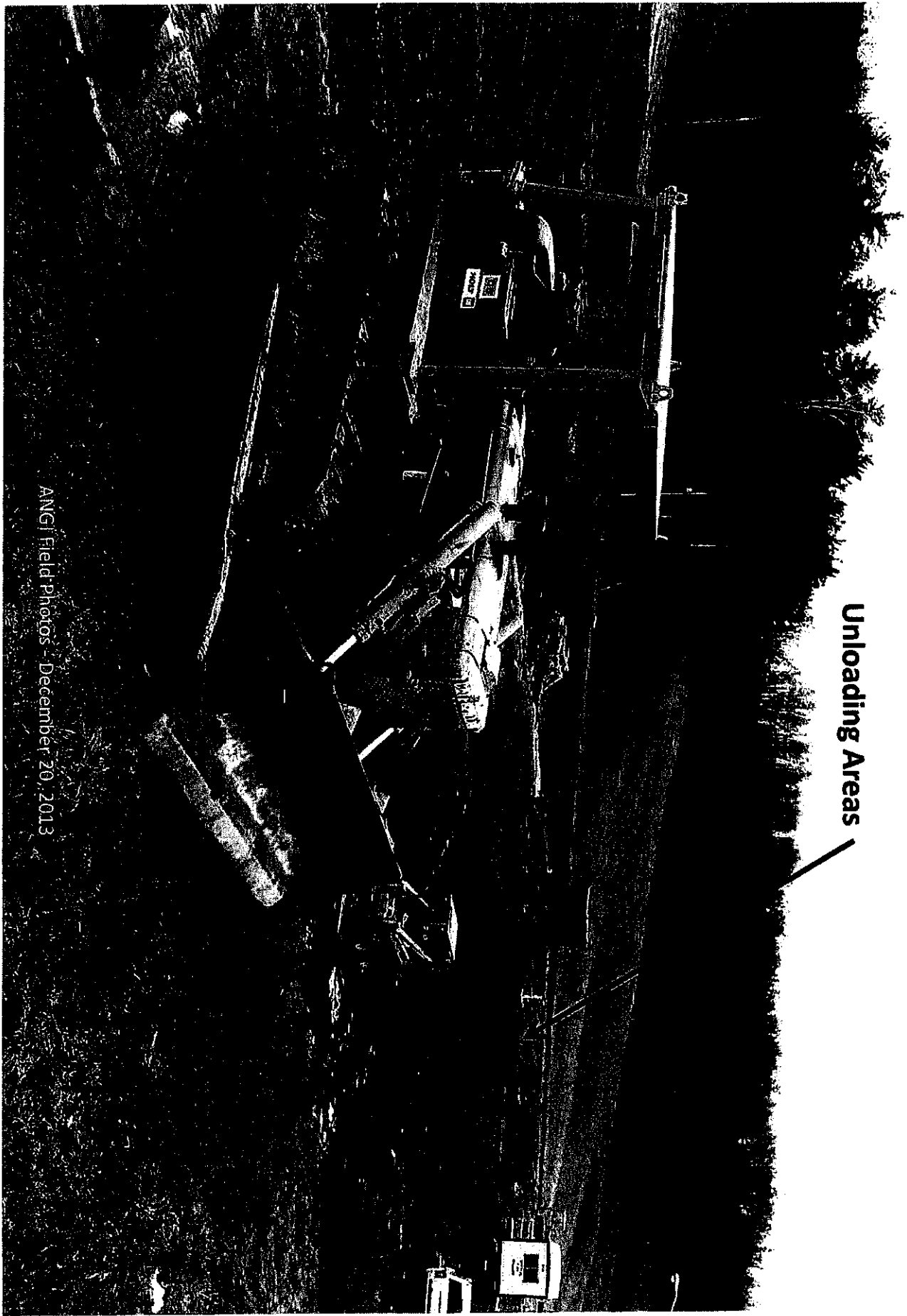
ANGI Field Photos - December 20, 2013

Staked Pond Areas

ANGI Field Photos - December 20, 2013

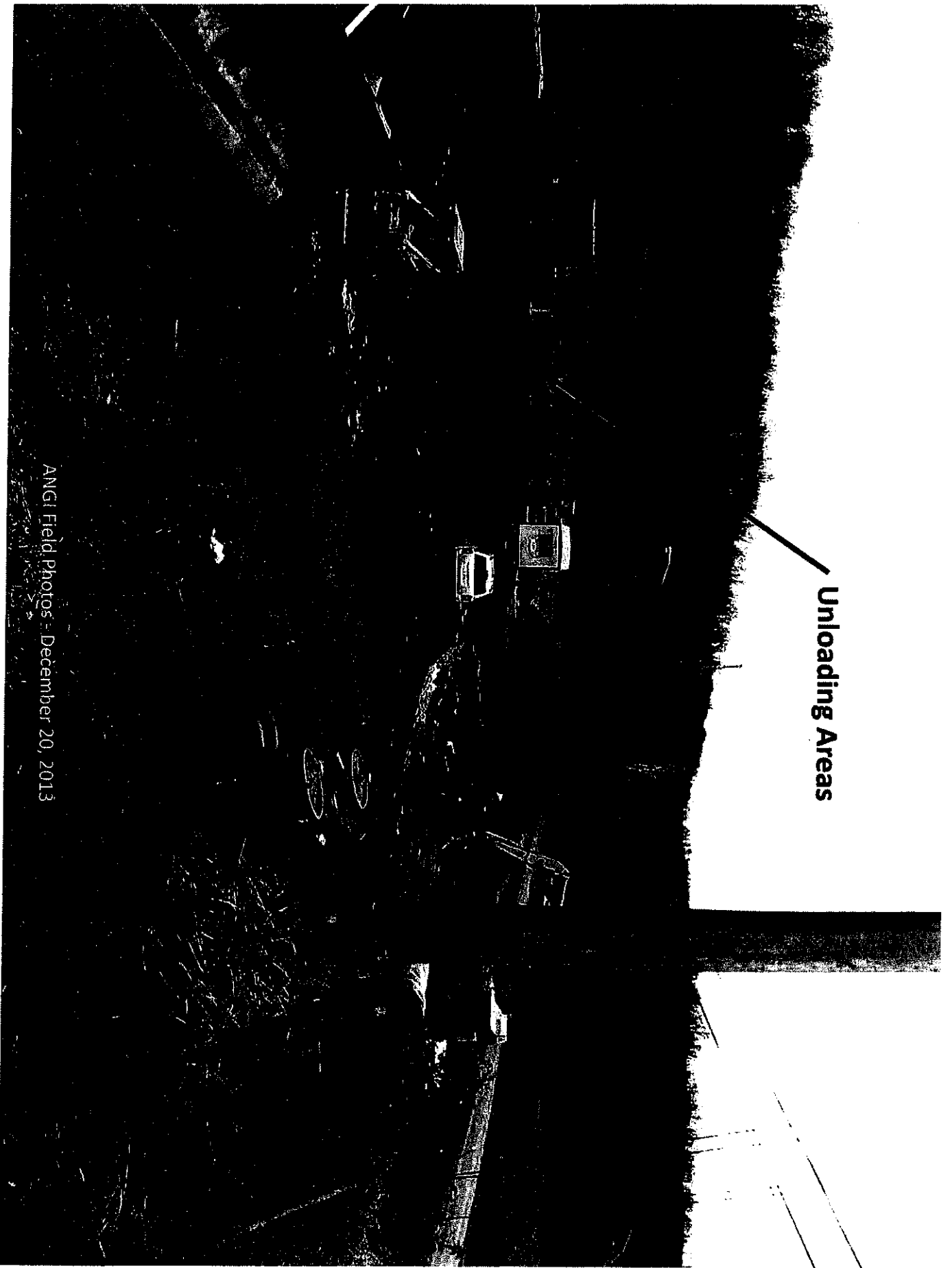


Unloading Areas

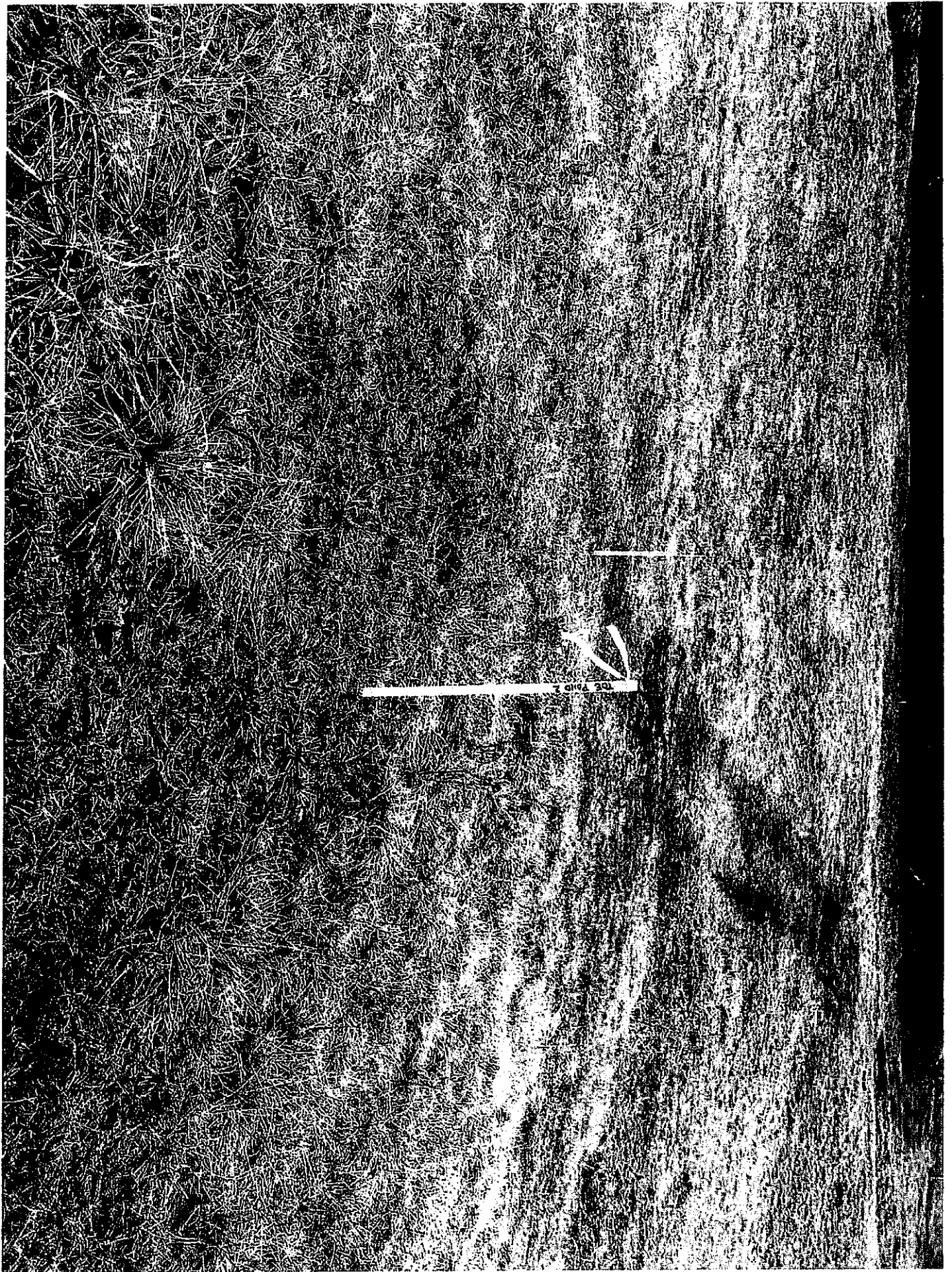


ANGI Field Photos - December 20, 2013

Unloading Areas



ANGI Field Photos - December 20, 2013

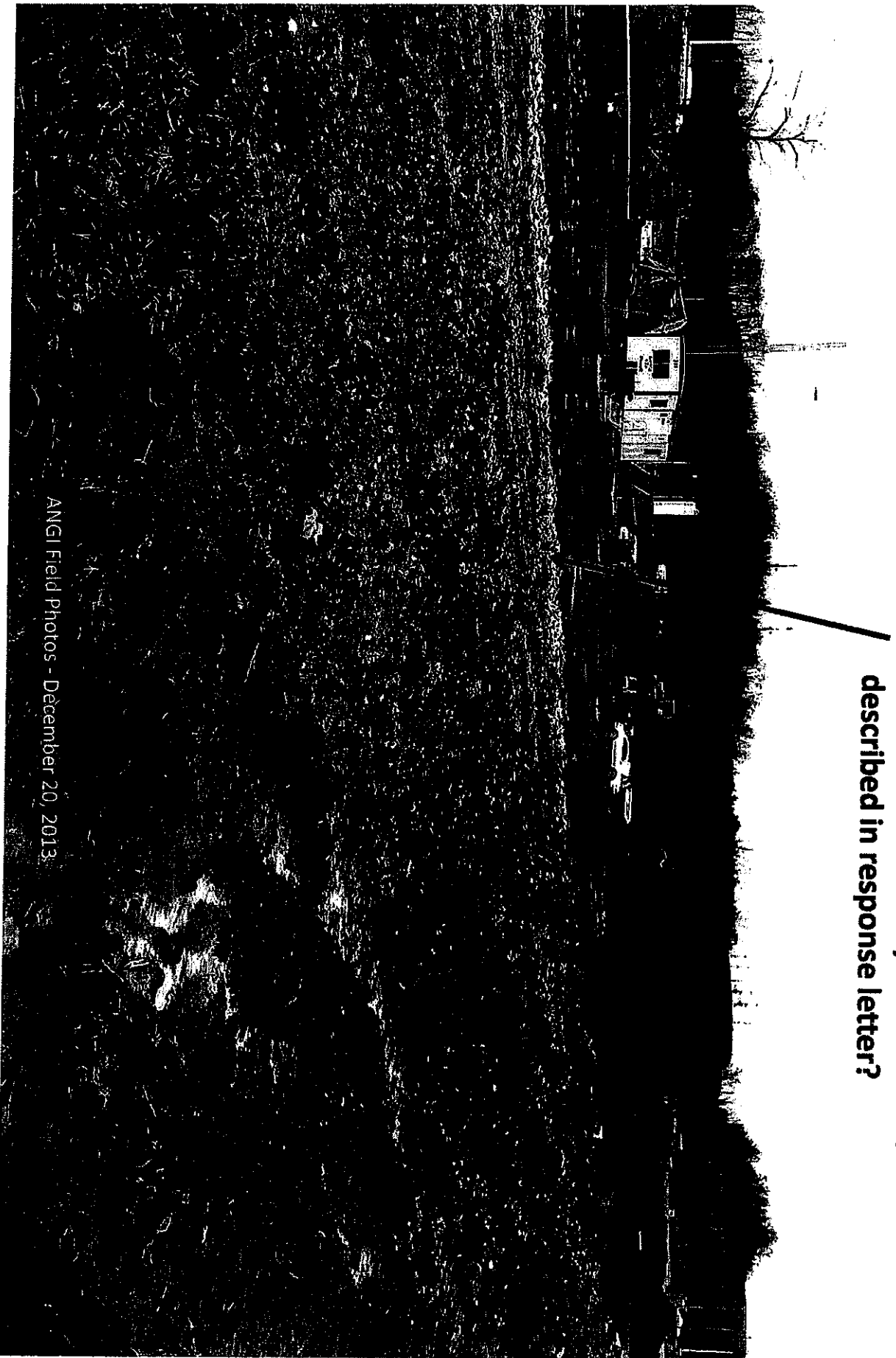




Effluent Pipe to Proposed Sump

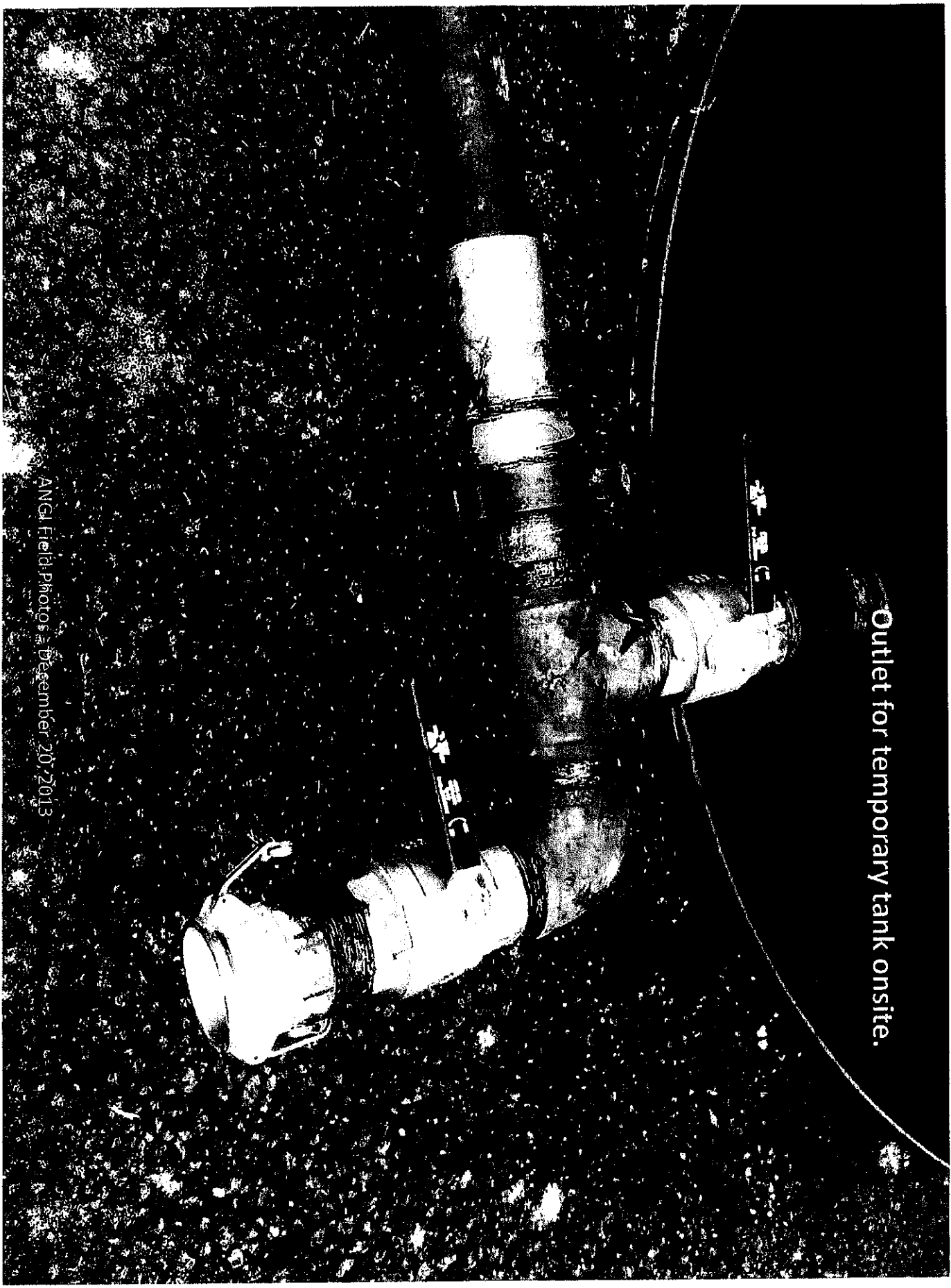


**Rock Trench (no curb/berm)
Is this the secondary containment
described in response letter?**



ANGI Field Photos - December 20, 2013

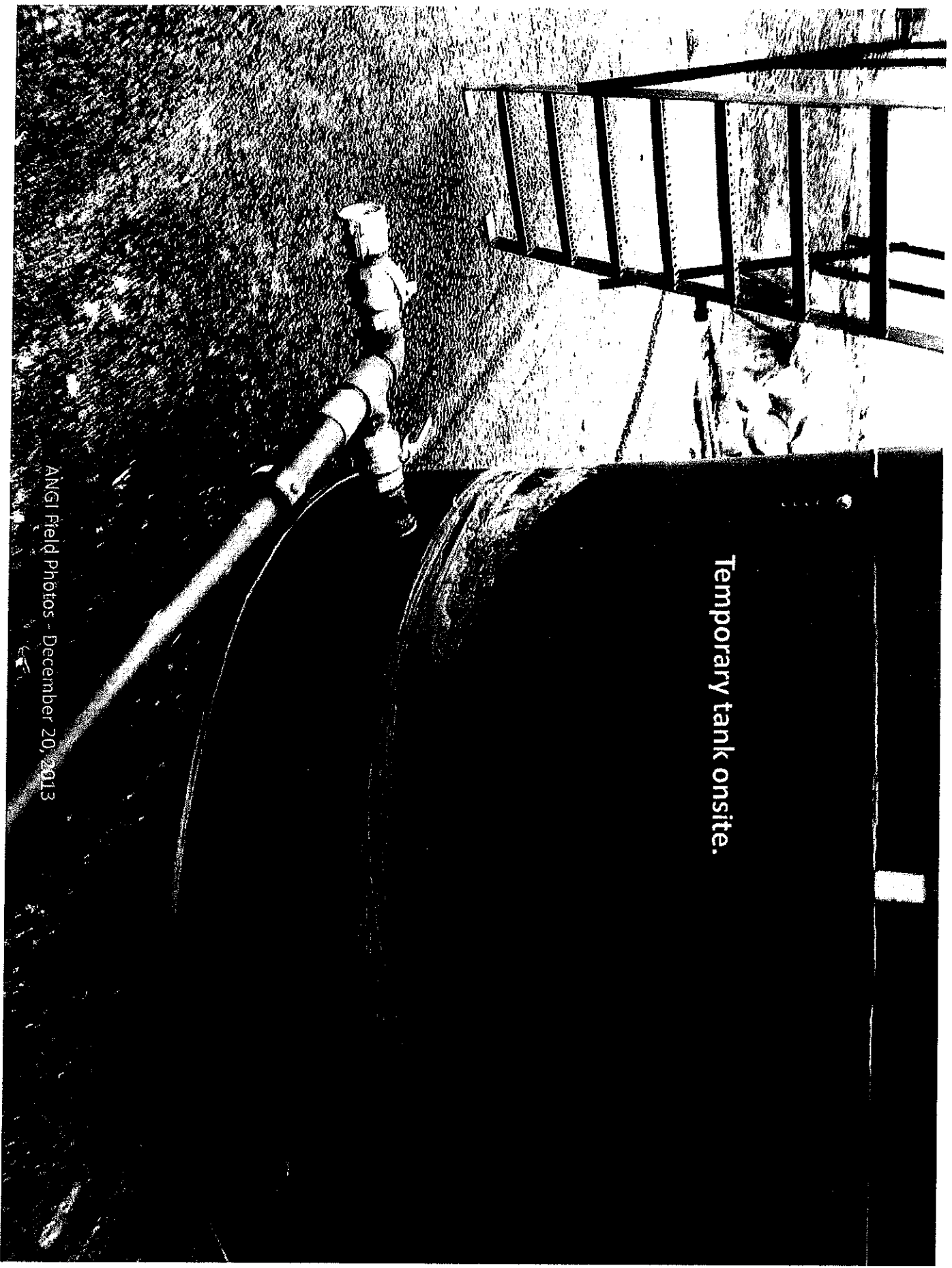
Outlet for temporary tank onsite.

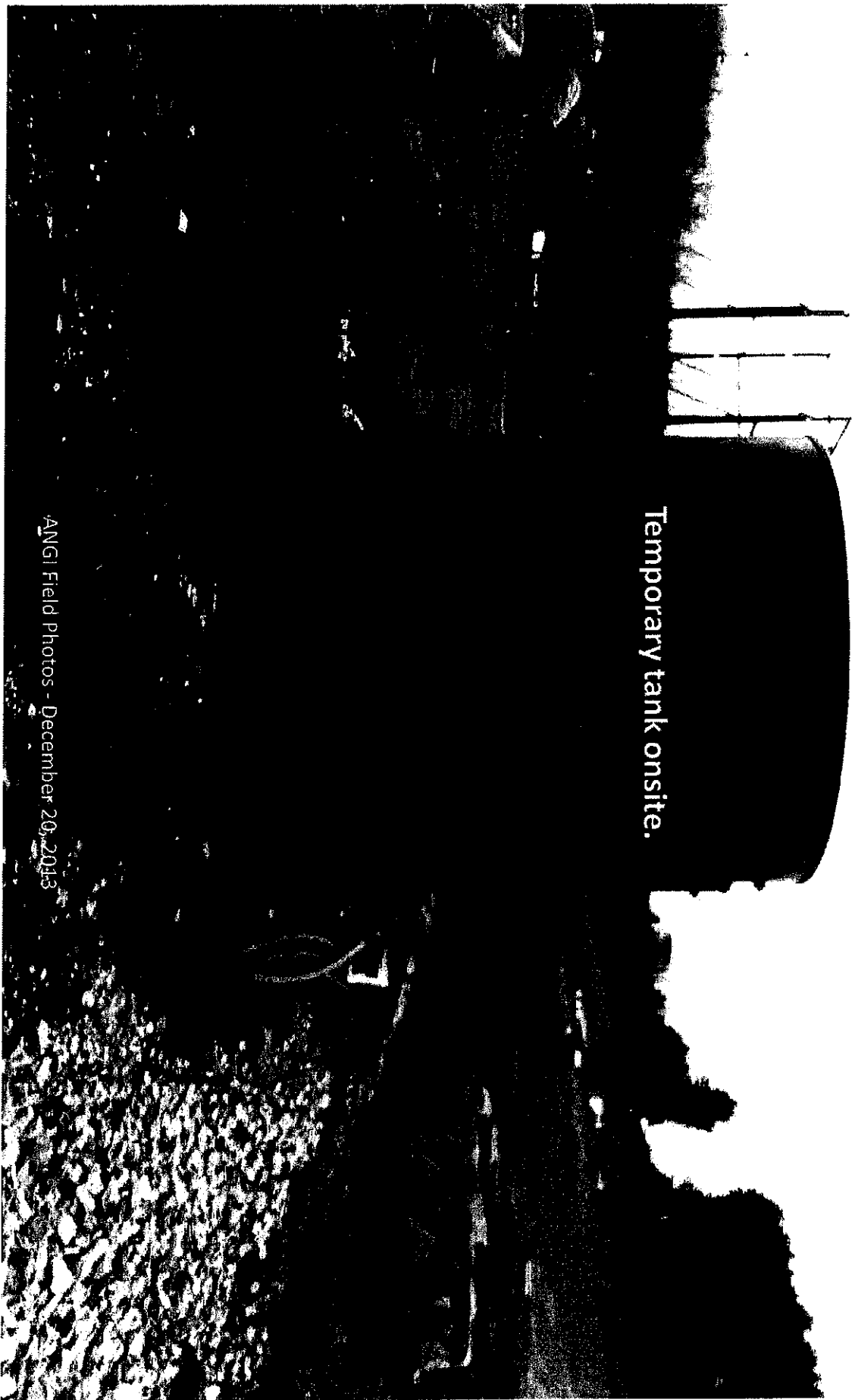


ANGI Field Photos - December 20, 2013

Temporary tank onsite.

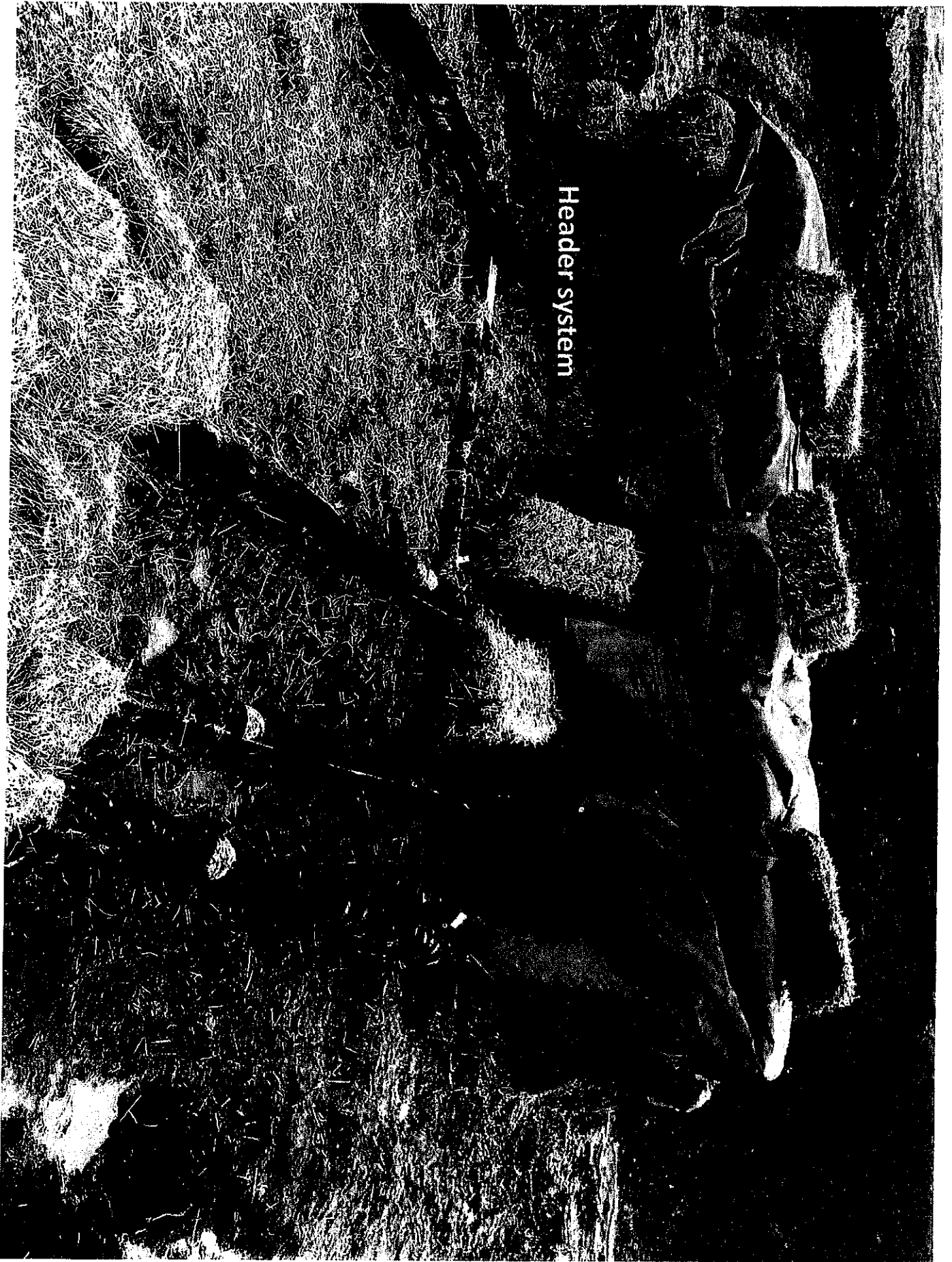
ANGI Field Photos - December 20, 2013





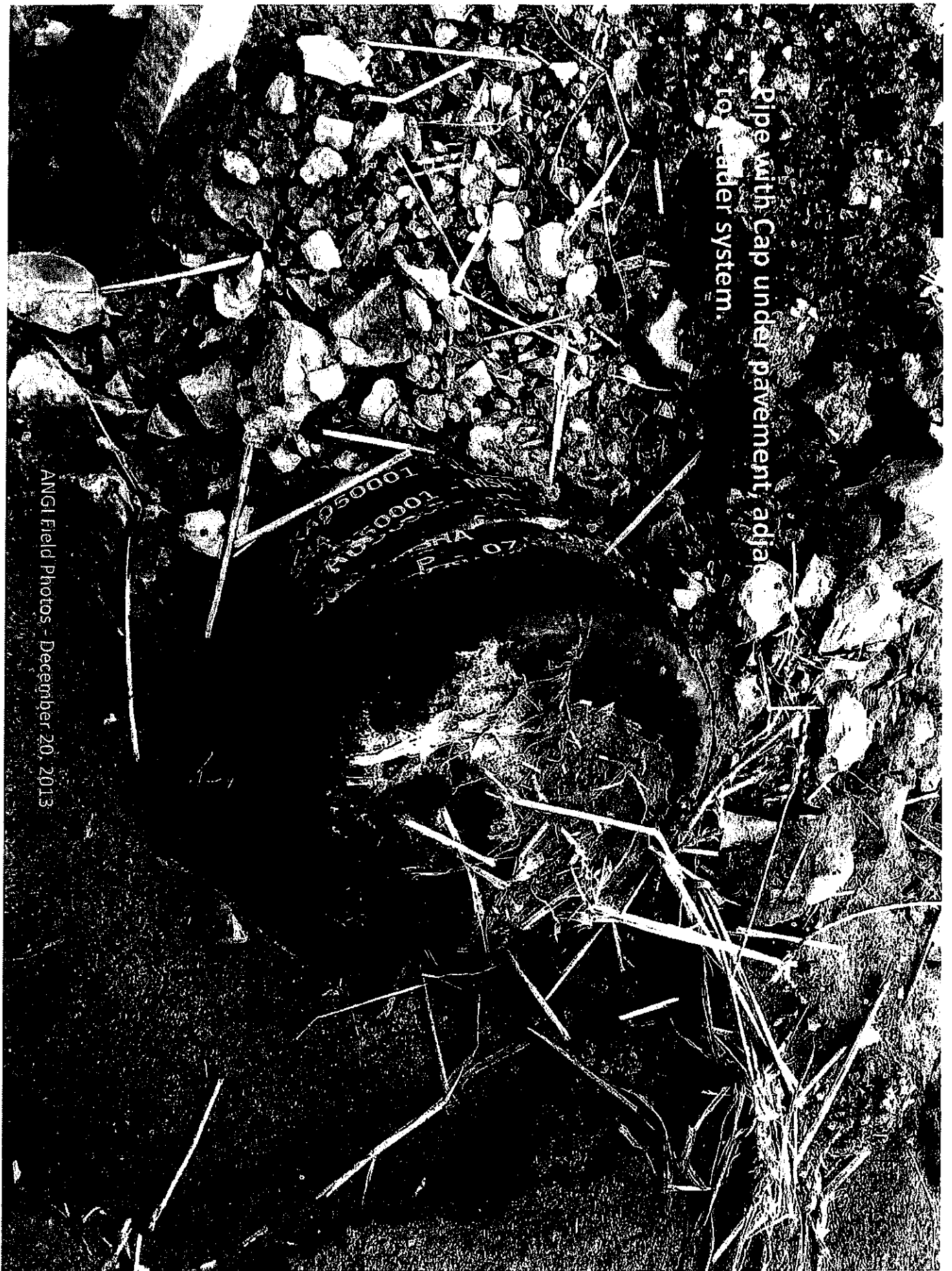
Temporary tank onsite.

ANGI Field Photos - December 20, 2013



Header system

Pipe with Cap under pavement, adjacent to header system.

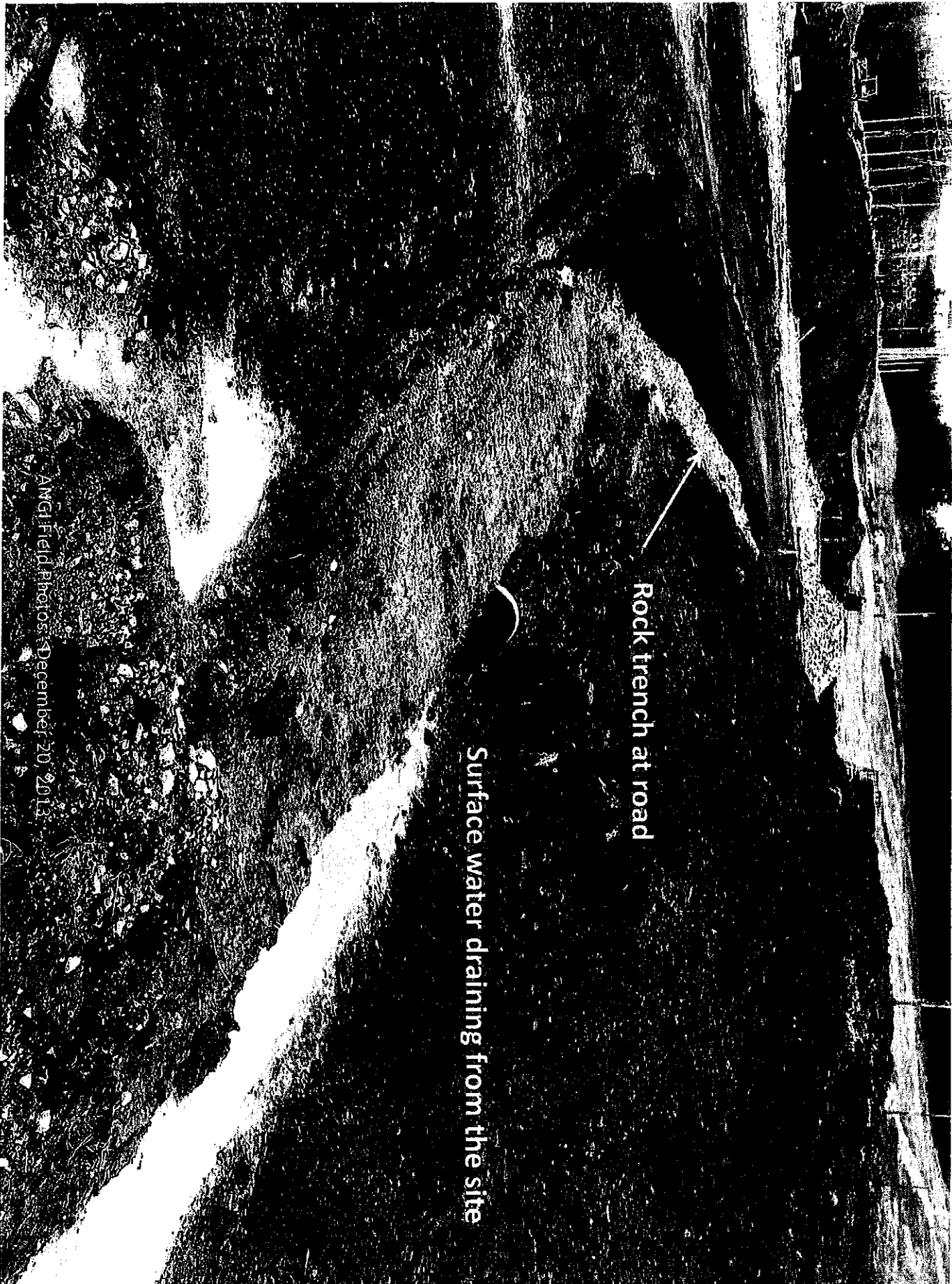


ANGI Field Photos - December 20, 2013



Surface water draining from the site

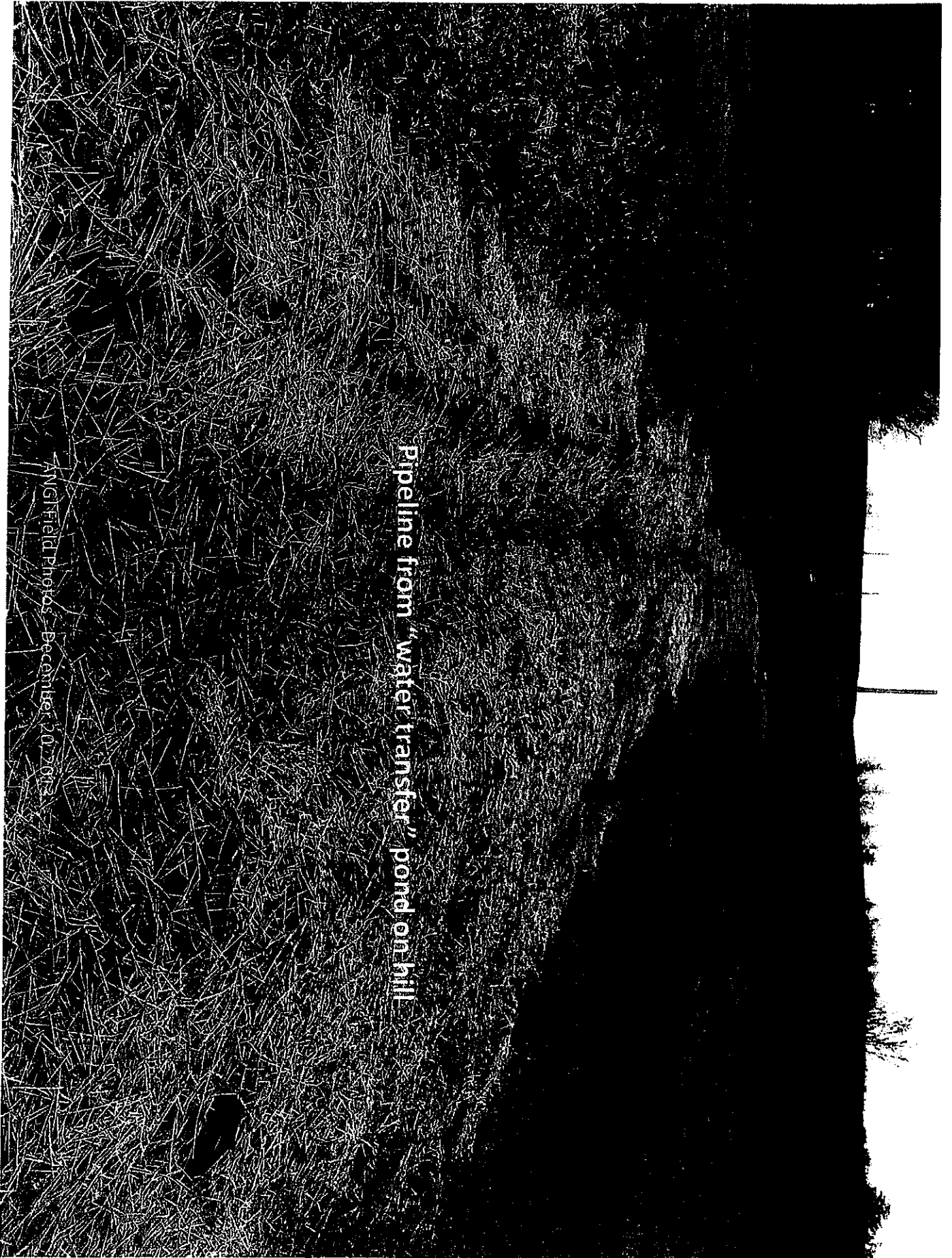
ANGI Field Photos - December 20, 2013



Rock trench at road

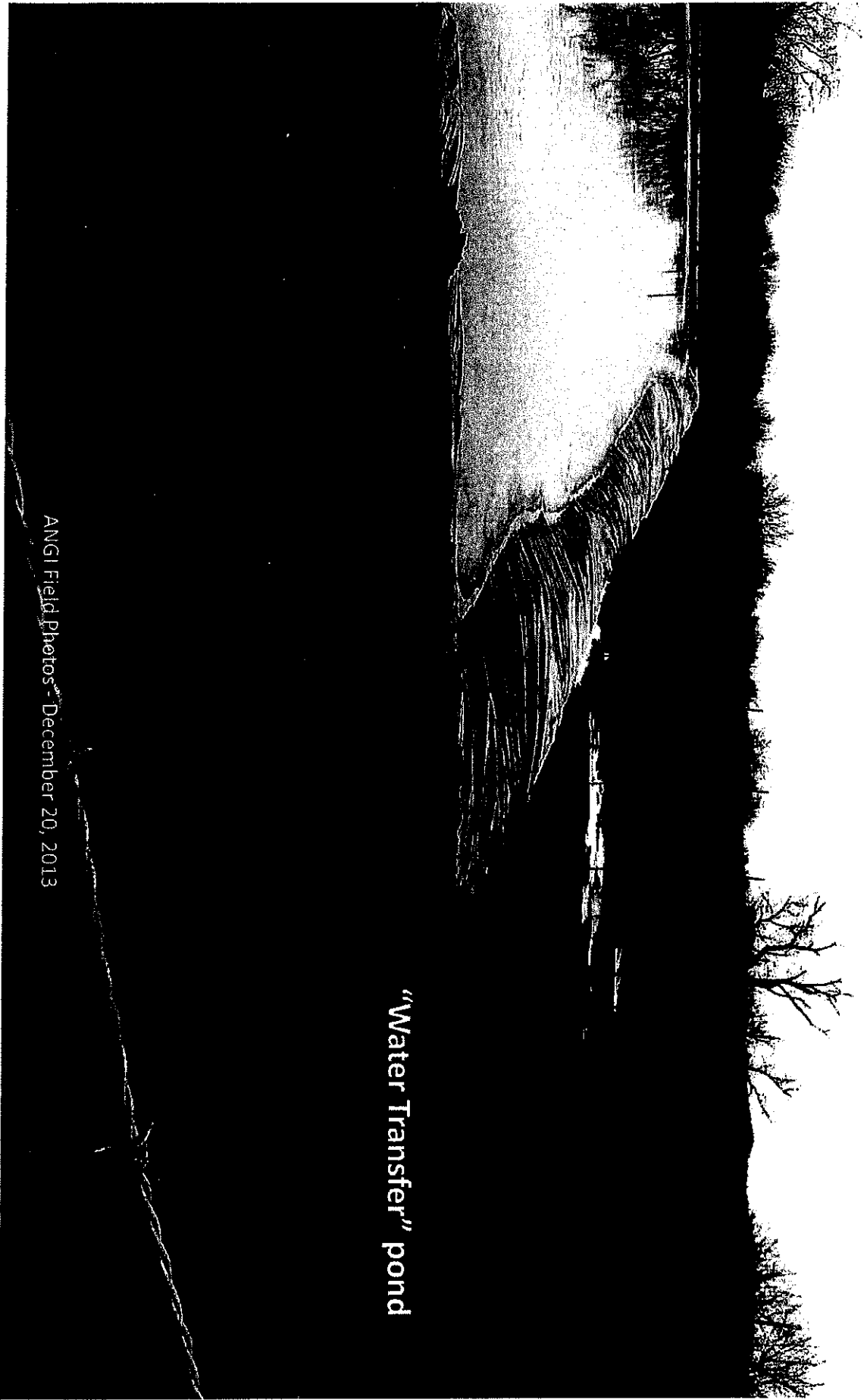
Surface water draining from the site

ANGI Field Photos December 20, 2013



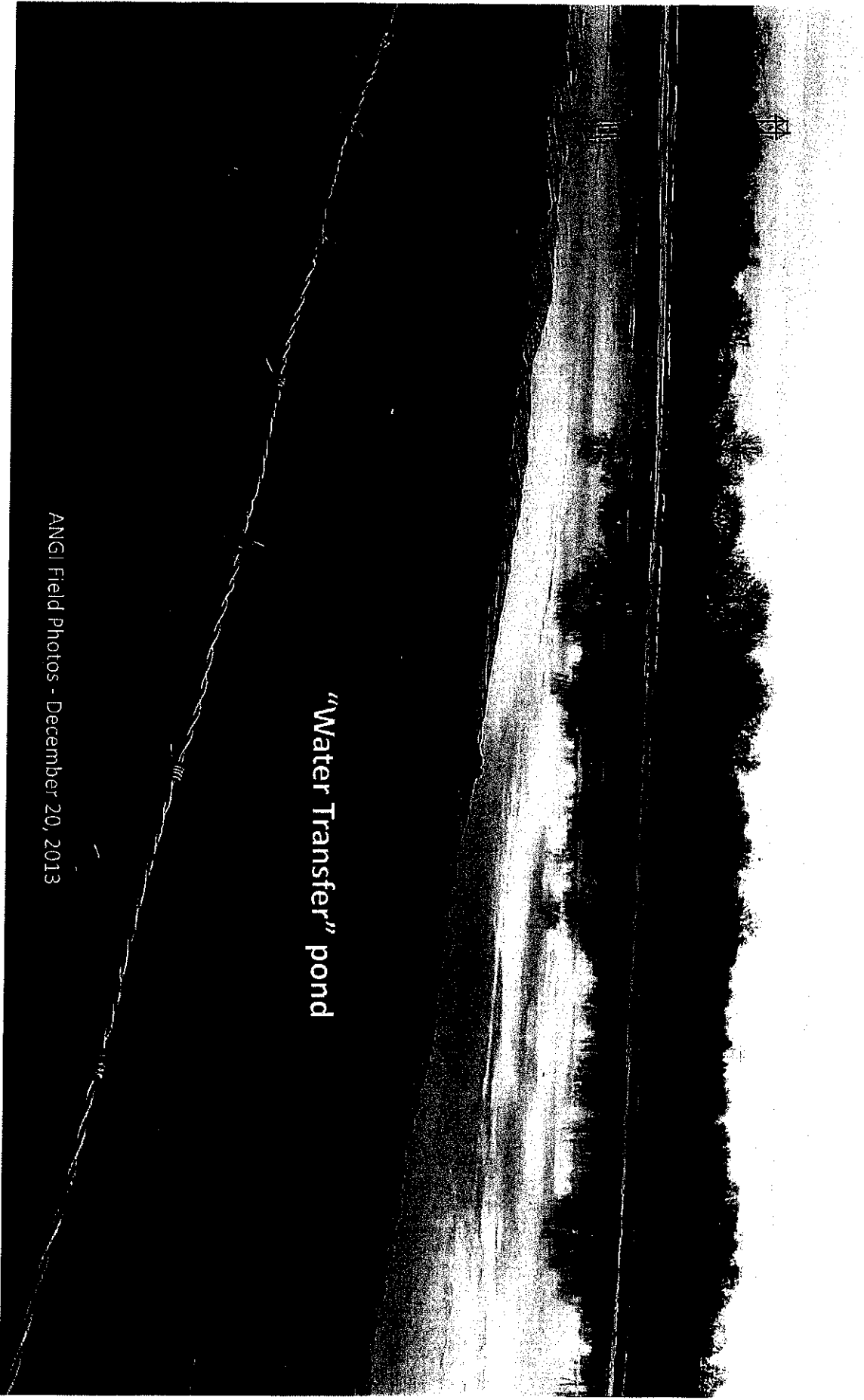
Pipeline from "water transfer" pond on hill

ANGFIELD Photos - December 20, 2013



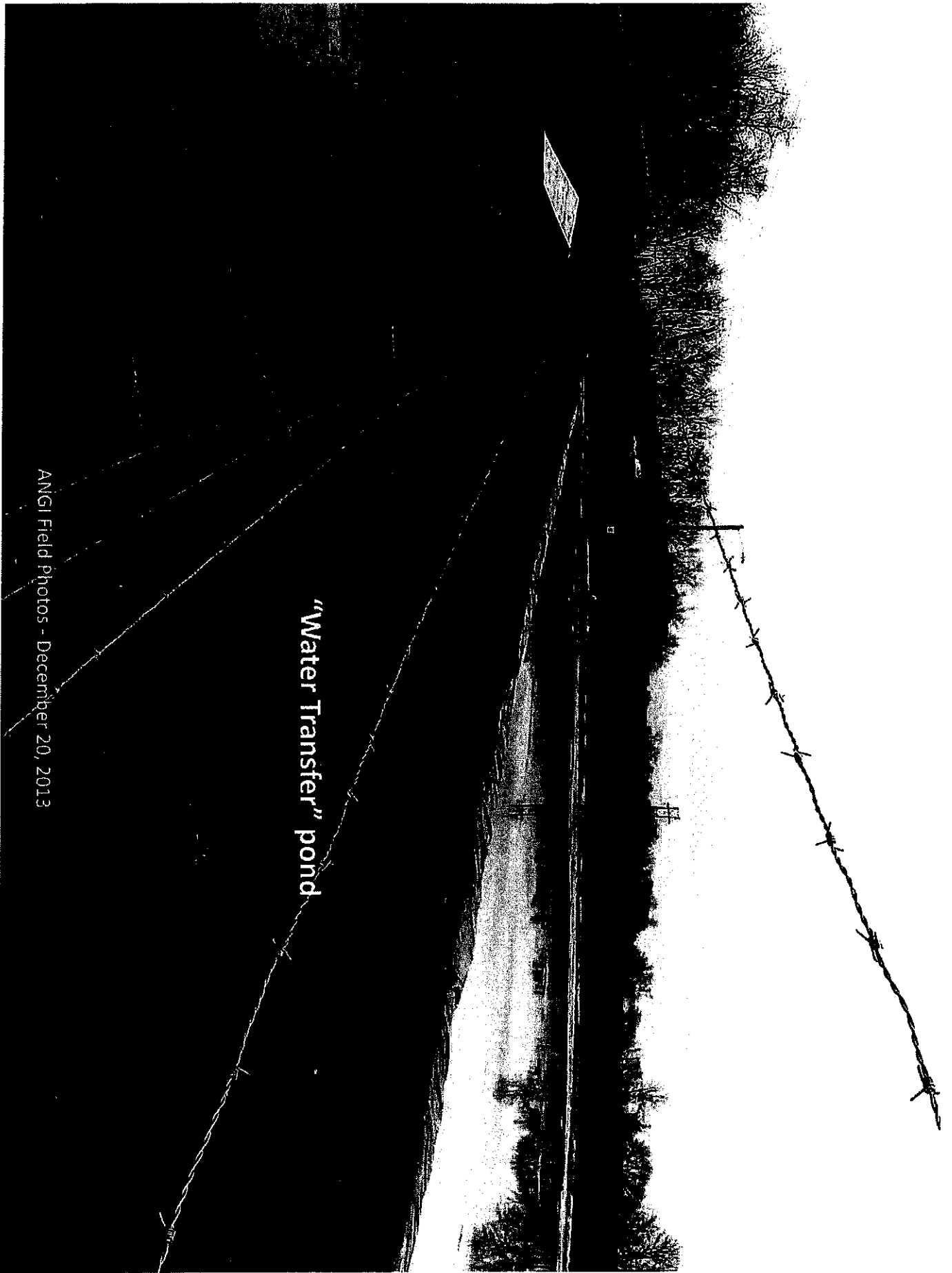
“Water Transfer” pond

ANGI Field Photos - December 20, 2013



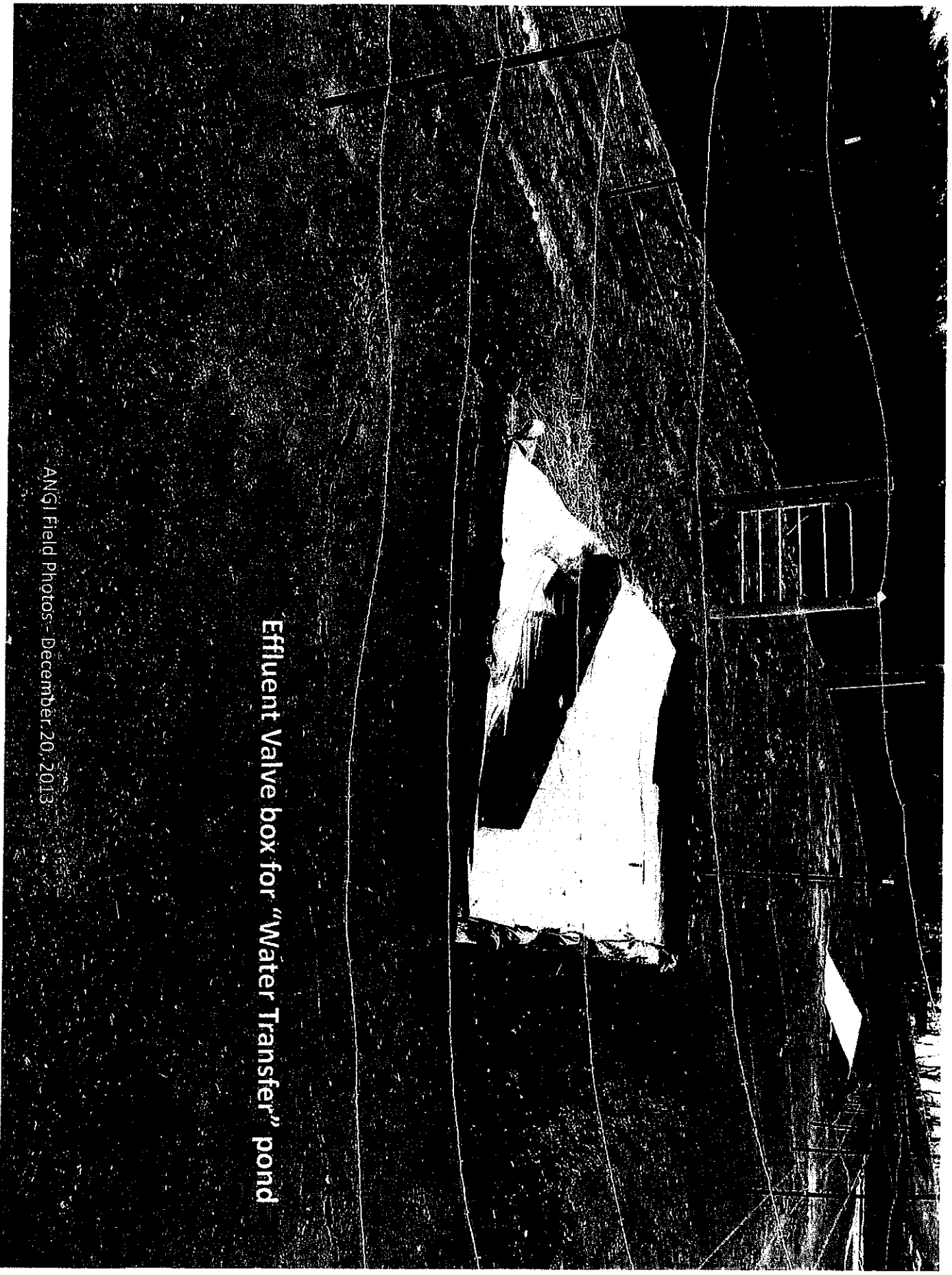
“Water Transfer” pond

ANGI Field Photos - December 20, 2013



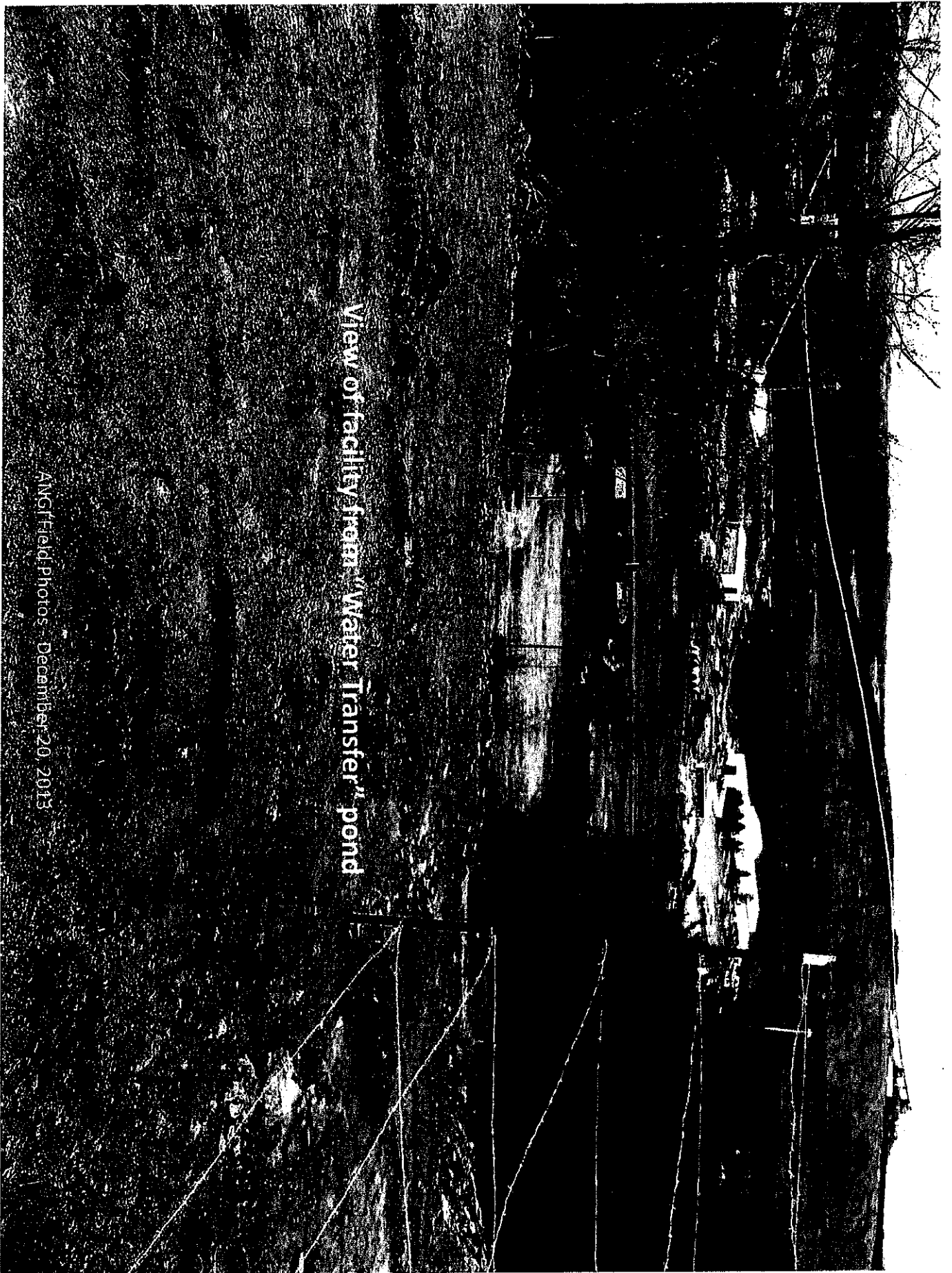
“Water Transfer” pond

ANGI Field Photos - December 20, 2013



Effluent Valve box for "Water Transfer" pond

ANGI Field Photos - December 20, 2013

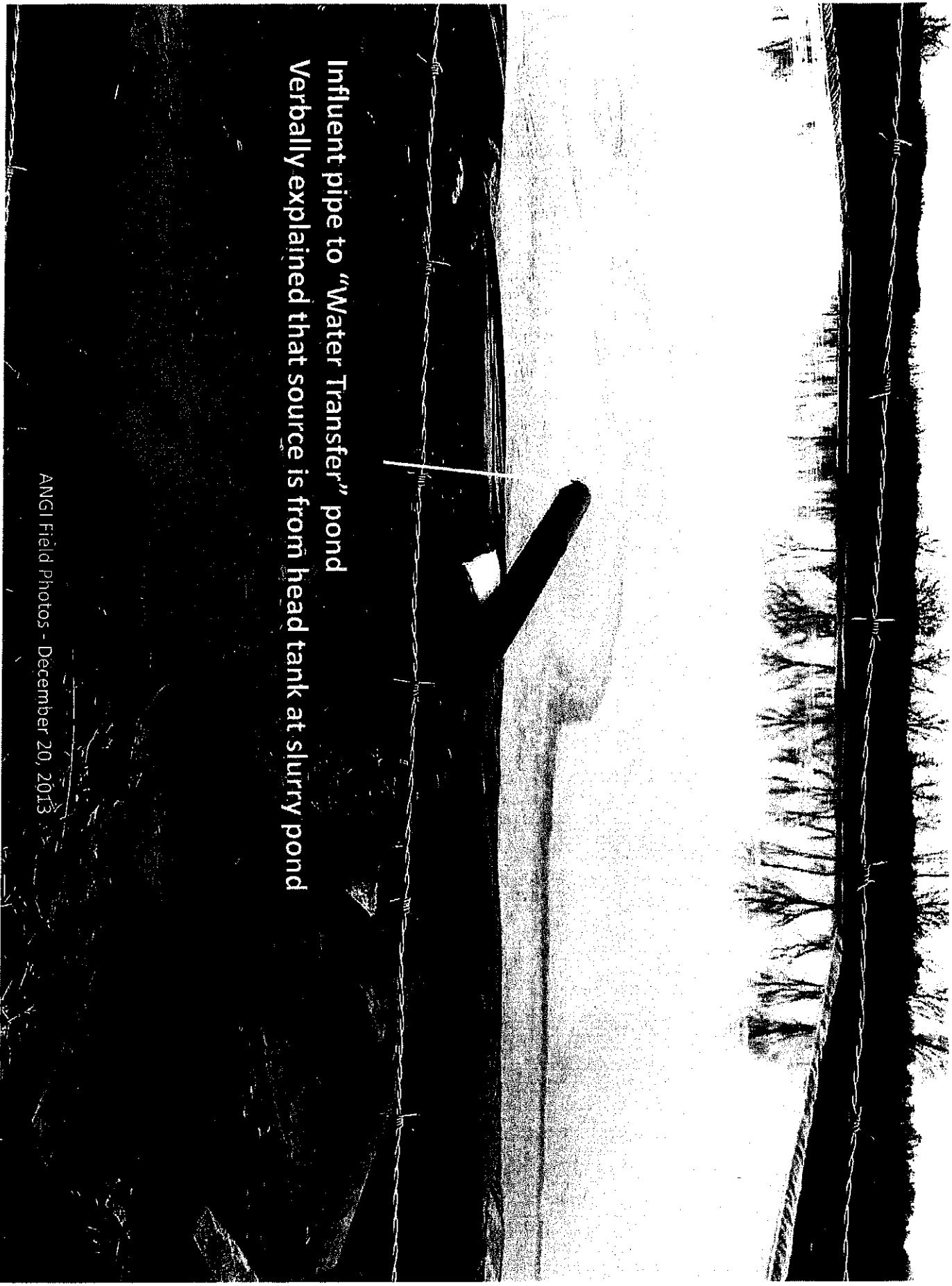


View of facility from "Water Transfer" pond

ANGF Field Photos December 20, 2013

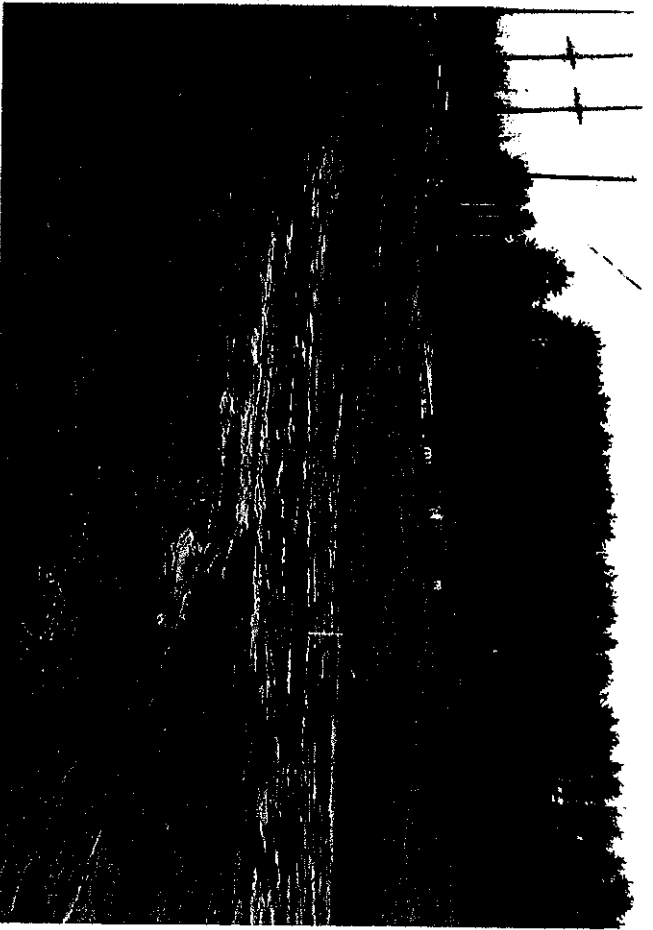


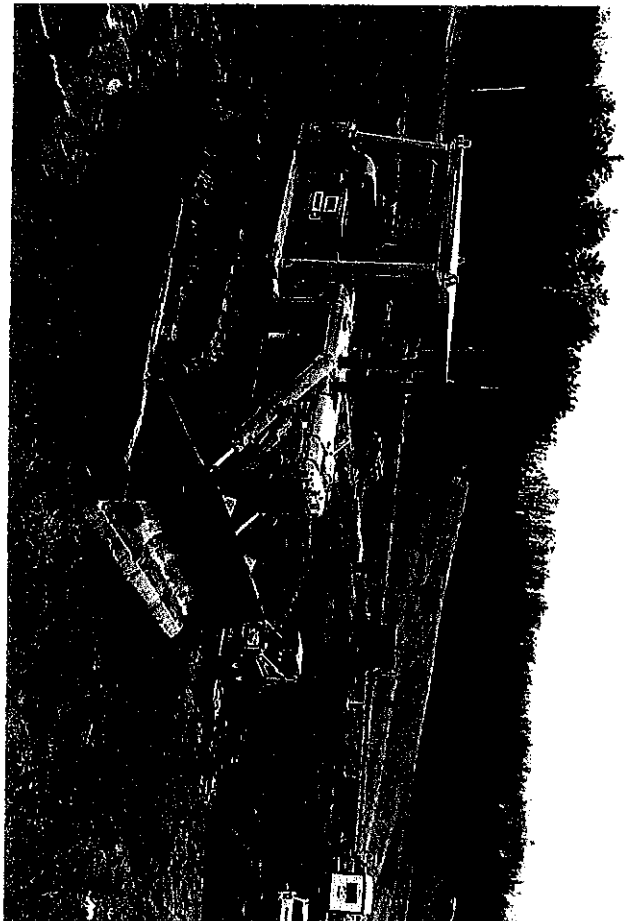
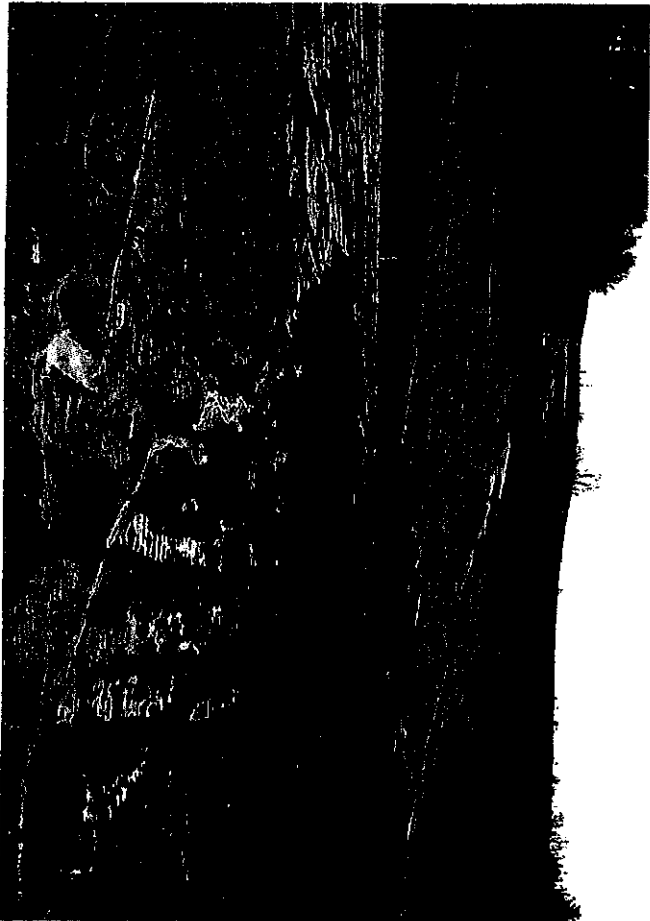
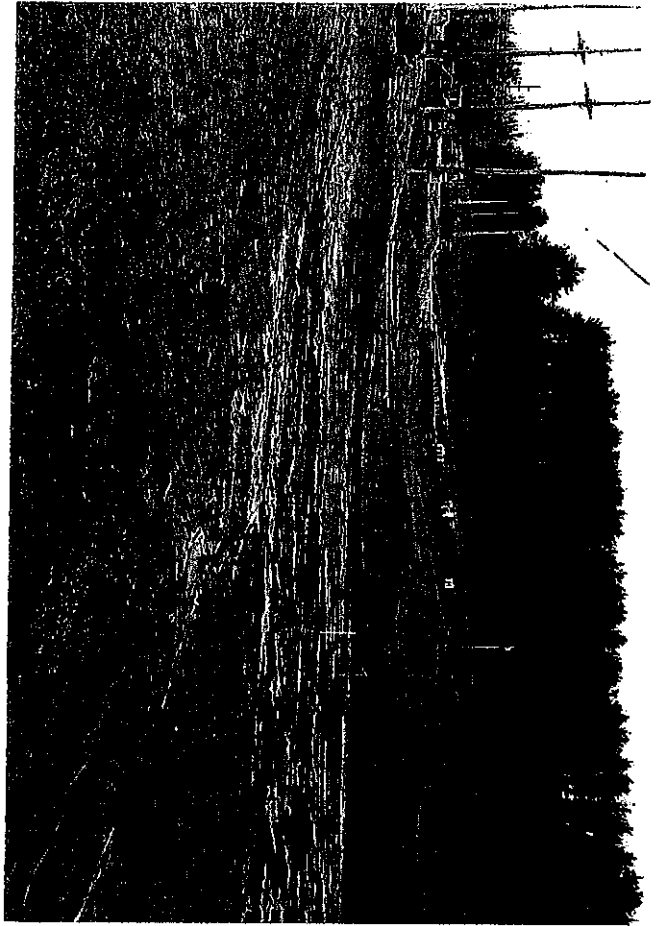
ANGI Field Photos - December 20, 2013

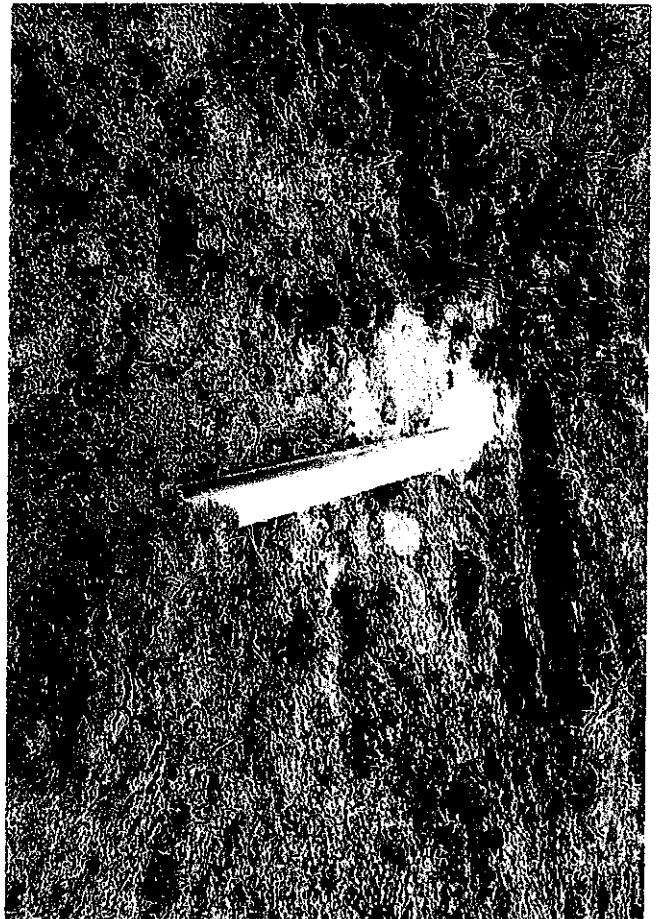
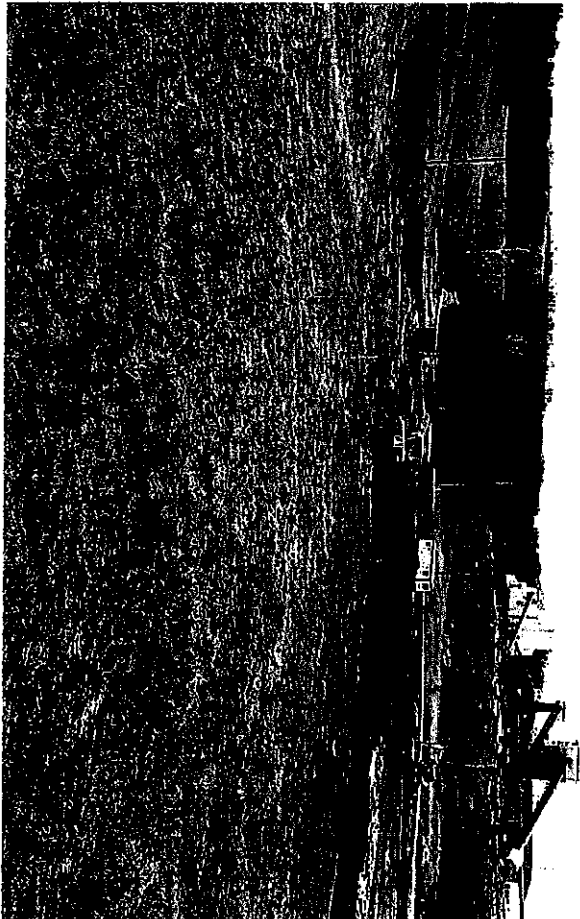
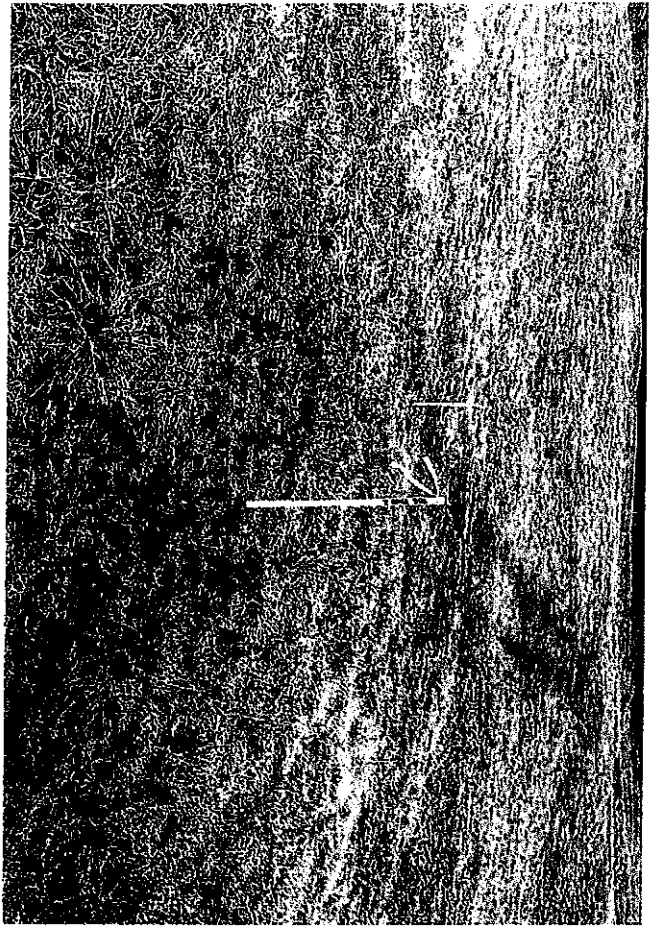
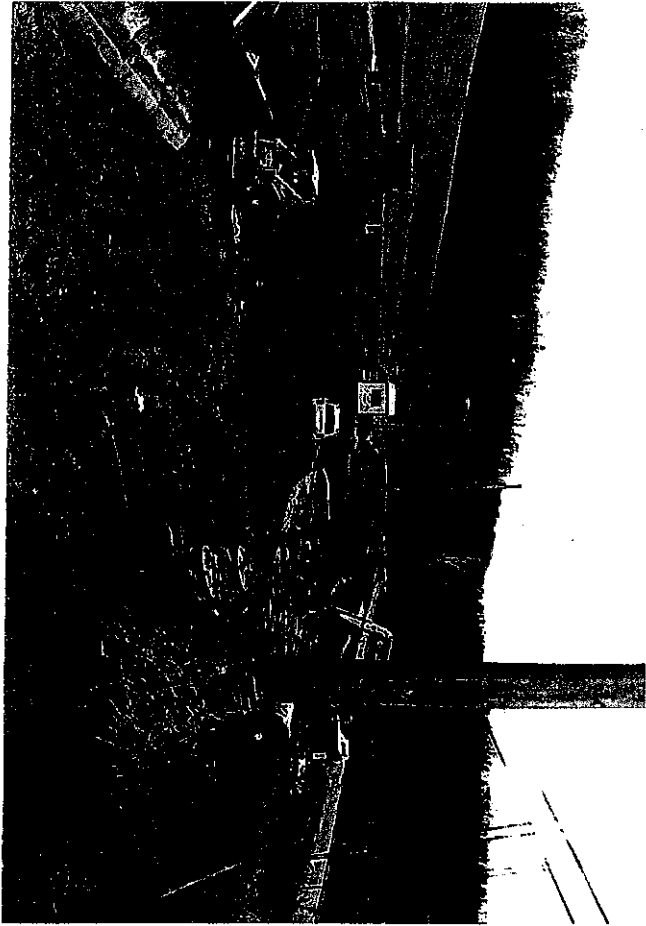


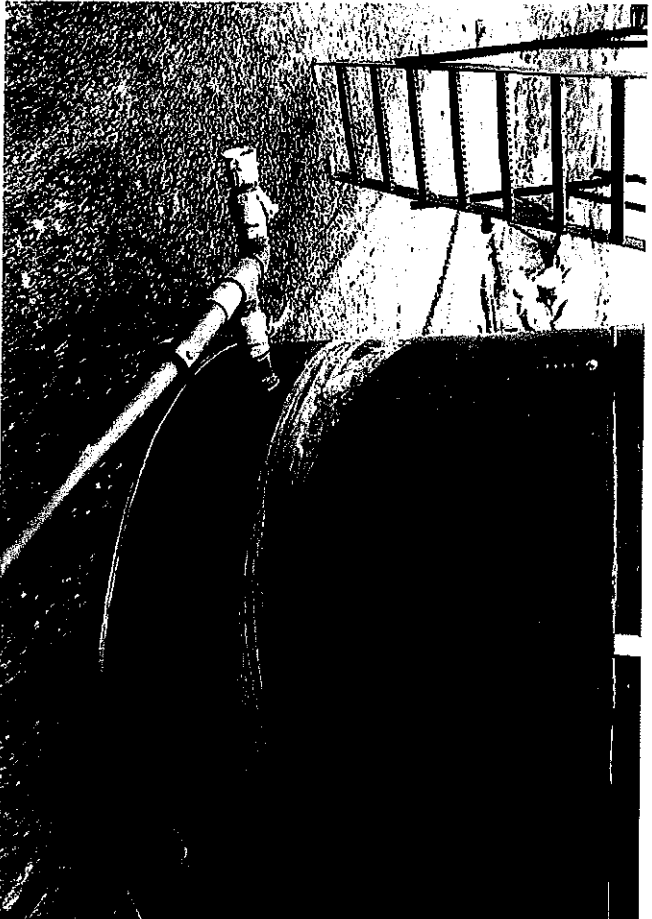
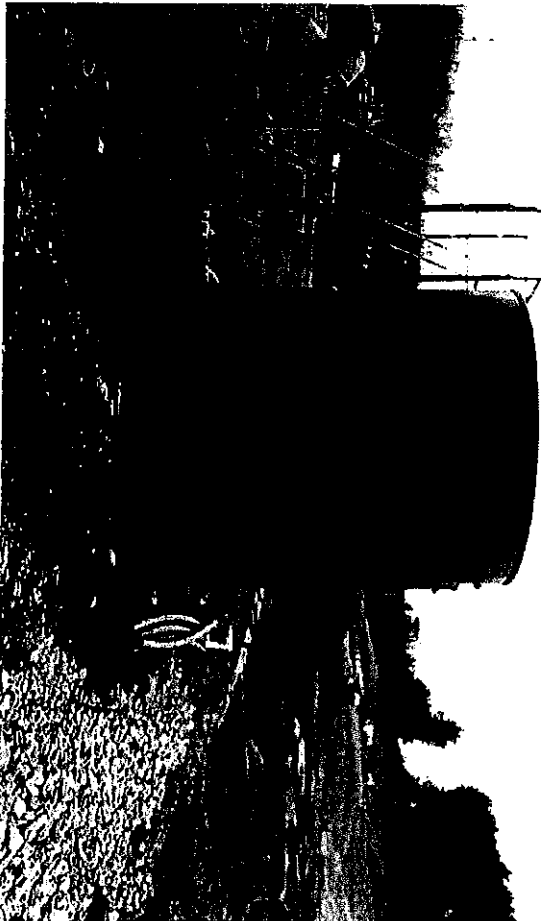
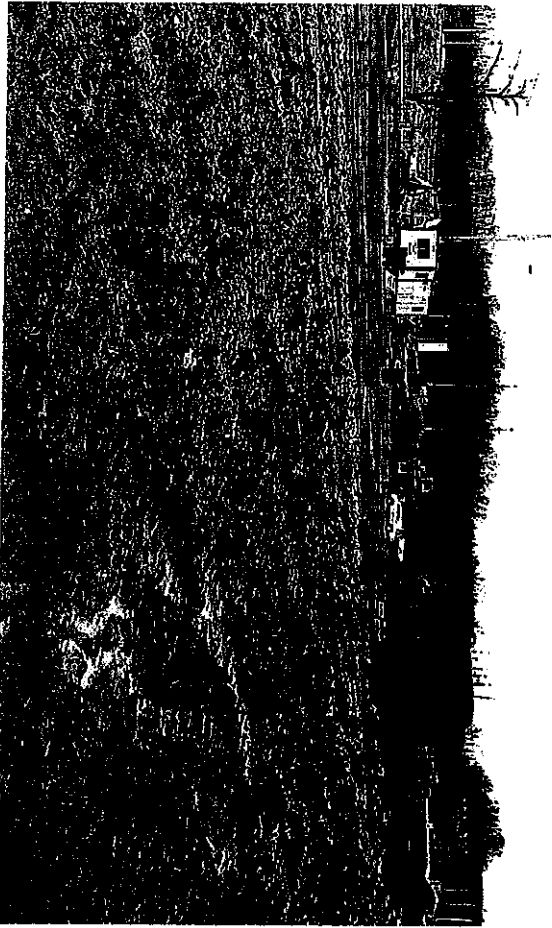
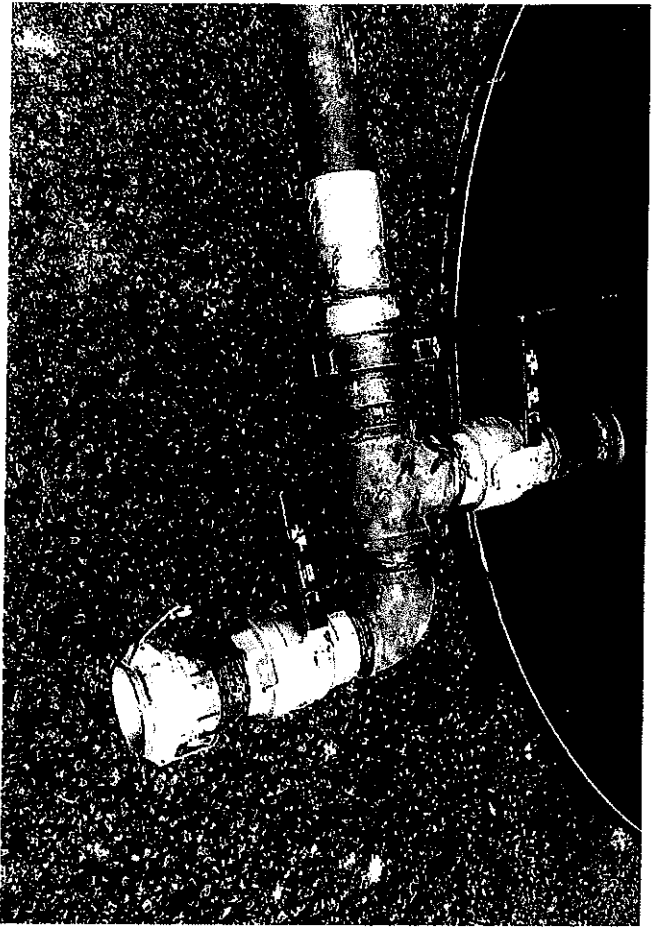
Influent pipe to "Water Transfer" pond
Verbally explained that source is from head tank at slurry pond

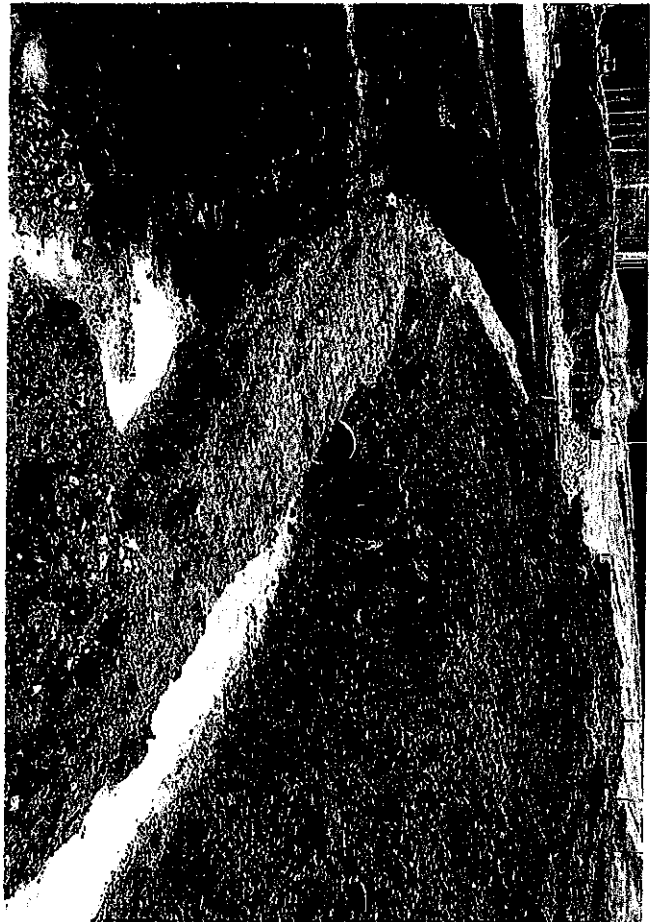
ANGI Field Photos - December 20, 2013

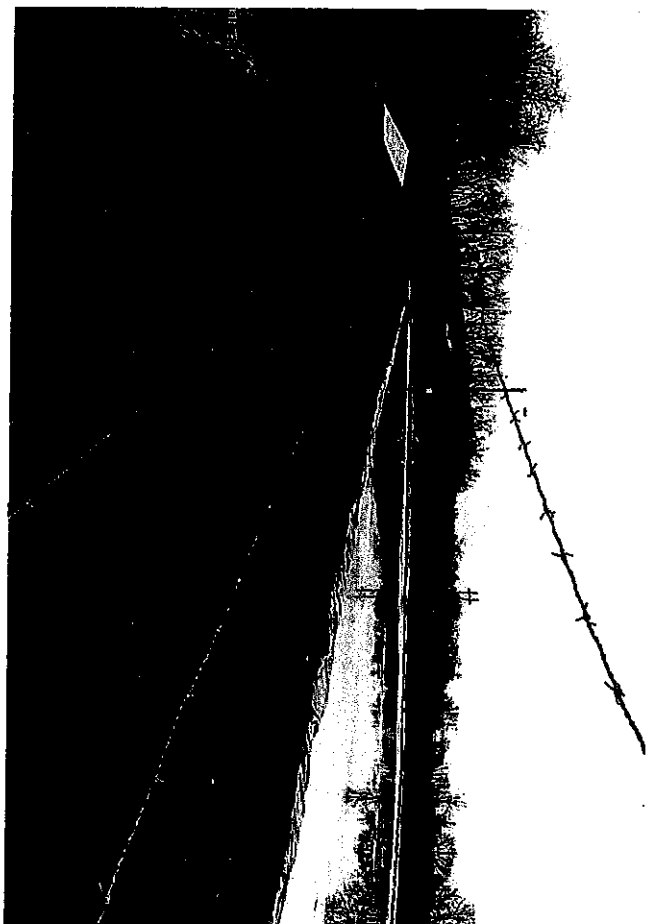
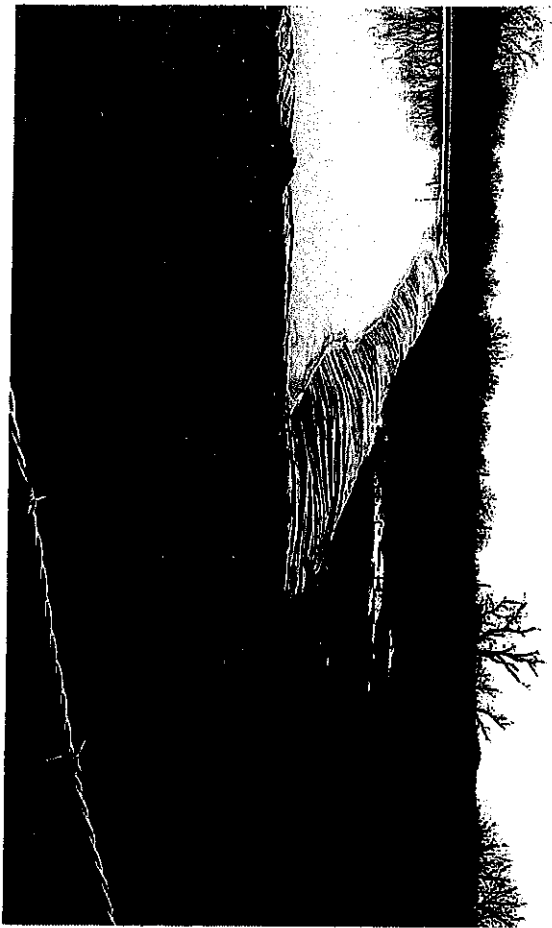
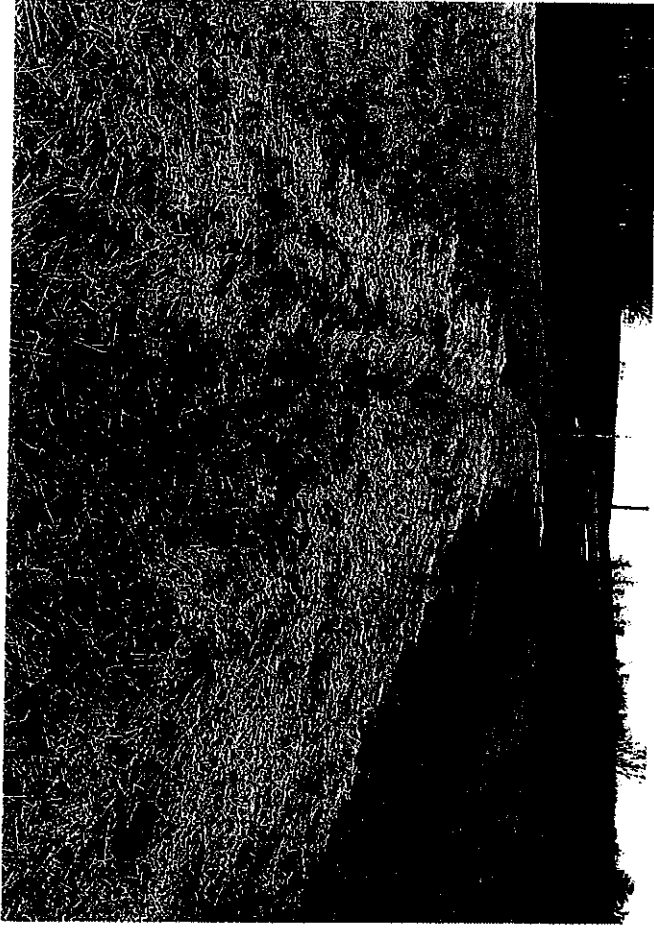


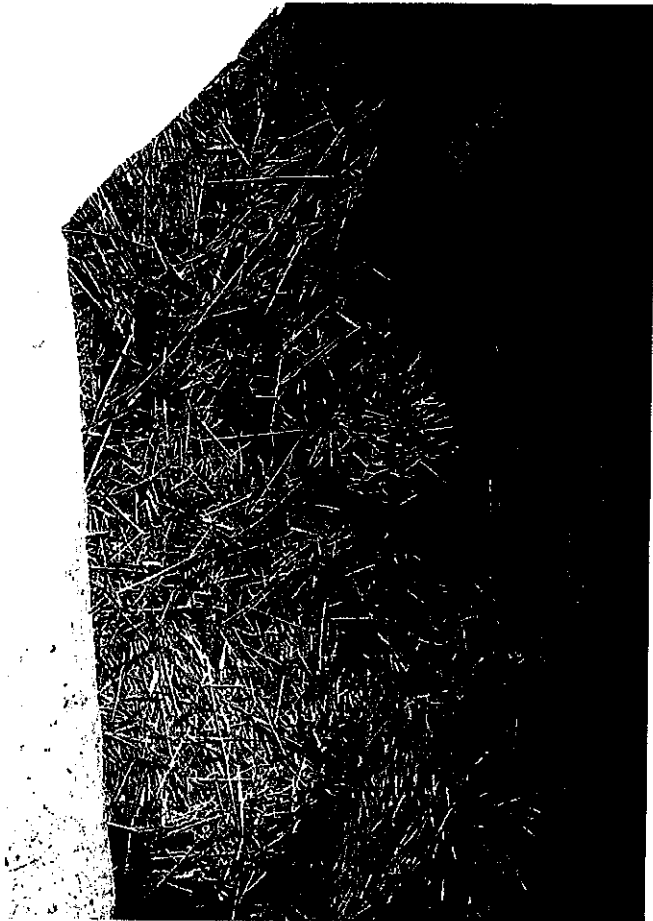












Patriot-Campbell Truck/Roll-off Washing Facility, Trumbull County

Site visit was made on December 23, 2013, by Ron Trivisonno and Beth Pratt, DOGRM. Also in attendance was Ben Dickey, Jeff Faloba, both representing Patriot and John Evan, Howland Co. LLC, their engineer. Construction had not commenced and the site was not operational. The following concerns with the proposed operation and construction were noted and discussed with the attendees. Revised plans and documentation will be submitted by the attendees upon receipt of a written request identifying the deficiencies.

- Secondary containment for the entire operation needs to be designed and installed. The existing concrete floor and the proposed wash pit contained many faults, cracks, penetrations, cut channels and floor drains. Outlets for the floor drains were assumed to be into the proposed wash pit, but condition of the drains is unknown, and due to age and lack of construction detail, questionable. All penetrations in the floor need to be sealed
- Surface water controls need to be designed and implemented around the building and where trucks would access the building or stack up while waiting to unload.
- Wash water and other surface water inside the building needs to be contained and maintained to prevent migration off-site.
- The December 20, 2013 addendum was not prepared or reviewed by those present at the meeting and some of the content was inconsistent with the description of the operation provided by the attendees. Mr. Evans will revise and resubmit the addendum.
- Provide updated drawings showing proposed building footprint and other details pertaining to wash area, secondary containment, staging and managing boxes.
- It was clarified by Patriot personnel that the facility will only clean containers from oil and gas operations.
- Details need to be provided on the proposed pit modification and splash guard, including sealing techniques for all penetrations into the pit, liner specifications, containment and leakage controls.
- Boundary of the proposed facility was not clearly identified.
- Ingress and egress from the building has not been defined. Surface water drains were noted outside the building adjacent to the current overhead door and in the access drive. Patriot personnel stated they are considering installing building access in a different location. Update plan to show ingress and egress.
- Traffic flow and management needs to be defined.
- Staging areas for clean and ready-to-be-cleaned boxes need to be identified. Secondary containment for the ready-to-be-cleaned boxes needs to be provided. It was stated that they would be under roof.
- MSDS sheets for cleansers and degreasers need to be provided.
- Provide characterization requirements to meet the NPDES and POTW agreement.
- Provide a solids handling plan to include proposed stabilization agents.
- Provide radiation protocol for solids that may exceed proposed limits detected in preliminary screening. Shale Solutions was listed as the laboratory to run analyses. Provide equipment cut sheets for radiation screening detector.



