



SCHOOR DEPALMA
Engineers and Consultants

030229102

SITE INVESTIGATION REPORT

**Vigh Property
Block 29, Lots 9.01 & 9.01Q
Millstone Township,
Monmouth County, New Jersey**

FOR

**Monmouth County Board of Recreation Commissioners
Monmouth County Park System
Land Preservation Office
805 Newman Springs Road
Lincroft, New Jersey 07738-1695**

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1.0 Introduction

Schoor DePalma Inc. (SD), has performed site investigation activities at the Vigh Property Site located at 207 Millstone Road designated as Lot 9.01 and 9.01Q of Block 29 in the Township of Millstone, Monmouth County, New Jersey (herein referred to as the “subject property” or “property”). The site investigation activities were conducted to address Areas of Concern (AOCs) identified during the completion of a Preliminary Assessment (PA) conducted by SD in August 2004 and is supplemental to the findings of the Limited Site Investigation (SI) activities performed by SD in May 2004 and reported in September 2004. The following site investigation report (SIR) is a summary of the site investigation activities conducted at the subject property to date. The site investigation was completed in accordance with the New Jersey Department of Environmental Protections “Technical Requirements for Site Remediation”, N.J.A.C. 7:26E – 3.3 through 3.13.

2.0 Background Information

2.1 Location and Legal Description

The subject property area is bounded to the east Millstone Road, to the south by a church property and residential lots, and to the north and west by wooded land and farms. The property is designated as Lot 9.01 and 9.01Q of Block 29 on the Township of Millstone Tax Map. Figure 1 (Appendix A) displays the approximate location of the property on a portion of the USGS 7.5 minute Roosevelt Quadrangle. Figure 2 (Appendix A) displays the boundaries of the property on the Township of Millstone Tax Map.

2.2 Subject Property and Vicinity Characteristics

The subject property is approximately 138 acres in size and is developed with two (2) structures. The two (2) structures, which are present on the southern portion of the site, consist of a two (2)-story residence and a detached one (1)-story maintenance barn. One (1) cellar hole consisting of an iron-stone foundation and a concrete pad, both of which are the remains of former structures, are present to the west of the residence. Agricultural equipment and debris are present surrounding the on-site structures and foundations and in other areas located adjacent to the farm fields in the northern portion of the site. The remaining portions of the subject site consist of open agricultural fields and wooded areas. Access to the subject site interior is provided an unpaved dirt driveway which extends north from Millstone Road to the on-site residence. Site maps are included in Appendix A, Figures 1 through 4.

2.3 Current Uses of the Subject Property

The subject property is currently owned by the County of Monmouth. The subject property is currently maintained and operated by Mr. Elmer Vigh who has lived on the property since the 1940's. The subject property has been utilized for agricultural purposes since that time. Refer to site maps included in Appendix A, Figures 1 through 4.

2.4 Preliminary Assessment (PA) Summary

In August 2004, SD prepared a PA report for the above referenced site. The report recommended investigation of the following AOCs in connection with the subject site. Section 3.0 of this report provides a summary of the findings of site investigation activities conducted by SD in May 2004 and February and March 2005 to address these AOCs.

2.4.1 Aboveground Storage Tank (AOC-1)

Gasoline is stored in a plastic aboveground storage tank located adjacent to the former dairy barn. No indications of soil impact were noted at this location although the AST does not comply with NFPA storage requirements. SD recommended additional investigation of this AOC.

2.4.2 Underground Storage Tanks and Associated Piping (AOC-2)

Former Gasoline UST

A suspected gasoline UST was removed from the ground at a former barn area located west of the residence and was staged on the concrete pad where the old dairy barn was located. The former property owner, Mr. Elmer Vigh, was unaware of the exact location to where the gasoline UST was located. Therefore, SD was unable to perform a soil investigation around the suspected gasoline UST due to the unknown location. Upon inspection, the former gasoline UST on the concrete pad which is the suspected gasoline UST that was removed from the ground, exhibited surface rust on its outer surface. No holes or punctures were observed in the UST and no apparent staining was observed around the gasoline UST.

Heating Oil UST

A vent pipe and fill port associated with a home heating oil UST were observed on the eastern exterior of the residence. This UST is currently in-use by the residence. SD conducted additional investigation of this AOC, the findings of which were reported in conjunction with the August 2004 PA. The findings of the heating oil investigation are also included in this report.

2.4.3 Storage and Staging Areas

Concrete Storage Pad – Former Dairy Barn (AOC-3)

SD observed a concrete storage pad area to the west of the residence. This storage area consisted of concrete flooring from the former dairy barn. Materials observed on the

concrete pad included: Two (2) empty 550-gallon AST's, one (1) empty gasoline UST (discussed in AOC-1), one (1) empty fiberglass tank approximately 1,000 gallons in size, three (3) 55-gallon drums, several batteries, and various wood and metal debris. According to Mr. Vigh, the two (2) 550-gallon AST's were from an off-site source and were put on his property as scrap. Both tanks appeared to be in fair condition with no apparent leaks or punctures. No staining was observed around the AST's. Old fuel odors were apparent from the fiberglass tank. The fiberglass tank appeared to be in good condition with no apparent staining around the tank. The three (3) 55-gallon drums appeared to be in fair condition and no apparent leaks or staining were observed. The batteries located on the concrete pad appeared to be in fair condition. The concrete pad itself appeared to be in good condition with no major cracks within the concrete. SD recommends further investigation of the surrounding area of this AOC. Proper disposal of the AST's, fiberglass tank, fifty-five gallon drums, and batteries was also recommended.

Storage Barn (AOC-4)

SD observed a storage and maintenance barn located to the north of the residence. Various paints and fluids were stored on the shelves on the north wall of the barn. According to Mr. Vigh, the barn is utilized for maintaining farm equipment. Several fifty-five (55) gallon drums were observed on the east side of the barn. All of the drums were empty and appeared to be in good condition. The floor of the barn is concrete, which appeared to be in good condition with no major cracks. A few spots of staining were observed on the concrete floor of the barn. However, no cracks in the floor were apparent in the areas where the stains were observed.

Various drums and debris were observed on the south and west exteriors of the barn. Unknown piping was observed on the east exterior of the barn under the trailer. Several batteries were located on the ground to the southeast of the barn. Possible staining was observed on the south and east exteriors of the barn. Possible stressed vegetation was observed in the area of the batteries

SD recommended further investigation of this AOC.

2.4.4 Drainage Systems and Areas

Drainage Swales and Culverts (AOC-5)

SD observed two (2) drainage swales on the western portion of property. The first drainage swale was located at the western portion of property and was approximately six feet (6') in deep and ten feet (10') in wide. A metal lid, fabric, and tree debris was observed at the east starting point of the swale. The swale drained into the surface water body located at the western perimeter of the property. The swale was dry and no apparent staining was observed within the swale where the debris was located. SD recommended further investigation of this AOC.

The second swale was located at the northwest perimeter of the property. Roof shingles and two (2) 5-gallon paint cans were observed at the southeast starting point of the swale. The swale ran downhill and was dry. No apparent staining was observed in the area where the debris was found. SD recommended further investigation of this AOC.

Septic Systems (AOC-7)

The residence is serviced by an on-site septic system. It is unknown to where the exact location of the septic system is located. SD recommended that Monmouth County obtain written confirmation from the current property owner that only sanitary waste was discharged to the septic system and that the on-site septic system be closed in accordance with the New Jersey Standards for Subsurface Sewage Disposal Systems (N.J.A.C. 7:9A).

2.4.5 Discharge and Disposal Areas

Waste Piles (AOC-8)

Abandoned Vehicle (AOC-8A)

SD observed an abandoned vehicle in the smaller wooded section to the north of the residence. Brush and weeds were growing around the vehicle. No areas of stressed vegetation or surface staining were observed on the ground surface around the perimeter. SD was unable to view the ground condition under the vehicle. SD recommended that this vehicle chassis be removed and properly disposed.

Drum Carcasses/Tractor debris (AOC-8B)

SD observed various metal debris in the smaller wooded section to the north of the residence just south of the abandoned vehicle (AOC-8A). The contents within the pile included: general scrap metal, four (4) rusty drum carcasses approximately thirty (30)

gallons in size, one (1) rusted tank carcass approximately one-hundred (100) gallons in size, ten (10) five-gallon rusty can carcasses, one (1) gas tank carcass, and various car and tractor parts. There were no contents inside the above-mentioned drums. The debris was within a depression similar to a drainage swale that would allow storm water to run through the debris and travel to the east. According to Mr. Vigh, the drums, cans and tanks were placed out in the woods with no contents inside. The area was not heavily vegetated, which could possibly be an area of stressed vegetation. SD recommended further investigation of this AOC.

Metal Debris (AOC-8D)

SD observed two areas of metal debris within the small wooded area to the north of residence and at the small strip of woods to the northeast of residence. Various scrap metal and vehicle frames were observed. No apparent staining or areas of stressed vegetation were observed in either area. SD recommended further investigation of this AOC.

55-Gallon Drum Carcasses (AOC-8E-1 through E-4)

AOC-8E-1

SD observed two (2) 55-gallon drums in the field to the north of the residence. The drums were sealed and one drum appeared to have a puncture. However, no apparent staining was observed. SD was unable to lift drums to examine under the drums. No major vegetative growth was present around the drums. SD recommended that these drums be removed and properly disposed.

AOC-8E-4

SD observed one (1) 55-gallon drum on the east side of the small woods to the northeast of the residence drum was on its side and rusted at the bottom. No apparent staining was observed. SD was unable to determine the contents of the drum. SD recommended that the drum and its contents be removed and properly disposed.

2.4.6 Other Areas of Concern

Discolored or Spill Areas (AOC-10)

Farm vehicles were observed parked to the northwest of the residence. A small tractor parked in this area had an apparent transmission/oil leak. No vegetative growth was observed under the tractor and staining was also observed under the tractor. SD recommended further investigation of this AOC.

Areas of Stressed Vegetation (AOC-11)

AOC-11A

SD observed two (2) potential areas of stressed vegetation. The first area is located directly to the north of the residence adjacent to the tree line. Various farming equipment has been staged in this area such as trailers, field sprayers, abandoned vehicles, and various metal debris. The area in which this equipment exists has a minimal amount of vegetative growth. No apparent staining is observed within this area and the lack of vegetation appeared to be consistent with excessive sandy soils noted at this location. However due to the lack of growth of vegetation, SD recommended further investigation of this AOC to ensure that materials had not been buried in the subsurface.

AOC-11B

The second area of stressed vegetation is at the northeast corner of the narrow field directly north of the residence and to the west of the surface water body. No major vegetative growth exists in this area. There is no evidence of staining or of anything in the existing area that could have promoted the lack of vegetative growth. Since it is unknown why vegetative growth is lacking in this area, SD recommended further investigation of this AOC.

Hazardous Material Storage or Handling Areas (AOC-12)

SD observed several storage areas within the vehicle maintenance barn. Based on the identification of hazardous materials and historic equipment repairs that likely occurred at this location, the potential exists for the discharge of hazardous materials associated with equipment maintenance operations. Therefore, SD recommended further investigation of this AOC.

Potable Well (AOC-13)

The subject site is serviced by a potable well. Groundwater quality for this well is unknown. SD recommended further investigation of this AOC.

Historic Agricultural Use (AOC-14)

The subject site was used for agricultural purposes as early as 1940. According to the document Findings and Recommendations for the Remediation of Historic Pesticide Contamination prepared by the New Jersey Historic Pesticide Contamination Task Force, agricultural use is identified as an AOC as several pesticides of concern have been identified

based on their historic use and persistence in the environment. SD recommended further investigation of this AOC.

3.0 Site Investigation

Based on the findings of the September 2004 PA report, soil sampling activities were conducted at accessible AOC's identified at the subject site. In addition, a limited groundwater investigation was conducted in the area of the maintenance barn area. Investigative procedures were completed in accordance with the New Jersey Department of Environmental Protection's (NJDEP's) "Technical Requirements for Site Remediation" 7:26E Sections 3.3 through 3.11 and the NJDEP's "Field Sampling Procedures Manual". Laboratory analysis was performed by Accutest Laboratories of Dayton, New Jersey (Accutest) (NJ Cert. # 12129). Soil boring sampling activities were completed utilizing direct push soil sampling equipment operated by Enviroprobe. A backhoe was utilized to install test pits and associated soil samples were collected using a stainless-steel hand-auger. Groundwater samples were collected from temporary well points installed using direct-push technology.

The following sections document and summarize SD's soil investigation activities performed to date. Soil boring and test pit logs are provided in Appendices C and D. Copies of laboratory analytical soil and groundwater results are provided in Appendices E and G. Tables 1 through 4 (Appendix B) contain summaries of the May 2004 and February 2005 soil and groundwater analytical results along with the corresponding NJDEP criteria.

3.1 Soil Boring Investigation

3.1.1 Aboveground Storage Tank (AOC-1)

On February 24, 2005 SD and Enviroprobe installed one (1) soil boring in the area of the aboveground gasoline storage tank (B-4). This boring was advanced to a depth of approximately twelve (12) feet below surface grade (bsg) and soils were field screened for VOCs utilizing a photo-ionization detector (PID). The boring location is presented on Figure 4.

Subsurface soils encountered in boring B-4 consisted of yellowish-red fine to medium silt and sand with trace clay to an approximate depth of two and one-half (2.5) feet bsg followed by yellow-red fine to medium silty sand to completion depth of 12 feet bsg. Detailed soil boring logs are included as Appendix C. Groundwater was not encountered during installation of boring B-4. No PID readings above background were recorded and no odors were noted in the borings installed at this location.

Soil sample B-4 was collected at the one-half (0.5) to one (1) foot depth interval. In accordance with NJDEP requirements, soil sample B-4 was forwarded to Accutest for Total Petroleum Hydrocarbons (TPHC), volatile organic compounds plus a forward library search of ten (10) additional compounds (VO+10), and Lead.

Results of laboratory analysis indicated TPHC concentrations at 64.8 ppm in sample B-4 which does not exceed the NJDEP threshold for Total Organic Compounds (TOCs) of 10,000 ppm. Lead was detected in sample B-4 at a concentration of 241 ppm which does not exceed the NJDEP Residential Direct Contact Cleanup Criteria of (RDCSCC) of 400 ppm. Furthermore, no targeted or non-targeted VOCs were detected in sample B-4. A tabular summary of the February 2005 soil sampling results is provided in Table 2 (Appendix B). The laboratory analytical soil results are provided in Appendix E.

3.1.2 Under Ground Storage Tanks

Former Gasoline UST

A gasoline UST was removed from the ground at a former barn area located west of the residence and was staged on the concrete pad where the old dairy barn was located. The former property owner, Mr. Elmer Vigh, was unaware of the exact location to where the gasoline UST was located. Upon inspection of the former gasoline UST on the concrete pad which is the suspected gasoline UST that was removed from the ground, exhibited surface rust on the outer surface. No holes or punctures were observed in the UST and no apparent staining was observed around the gasoline UST. On February 24, 2005, SD performed soil boring/sampling activities in areas surrounding the former dairy barn structure. Refer to Section 3.1.3 of this report for more information regarding the results of these activities.

Heating Oil UST

The fill port and vent pipe associated with a heating oil UST were observed at the east exterior of the residence. SD utilized a magnetometer to determine the extents of the UST. The magnetometer indicated that the approximate size of the UST to be eight feet (8') by four feet (4'). In May 2004, SD advanced four (4) soil borings (T-1, T-2, T-3 and T-4) within two (2) feet of the perimeter of the UST utilizing a stainless steel hand auger. T-1 was located on the northern side of the suspected UST, T-2 was located on the northeast side of the suspected UST, T-3 was located on the southeast side of the suspected UST and T-4 was located on the southern side of the suspected UST. SD was unable to advance a boring on

the western side of the suspected UST towards the residence due to asphalt pavement covering the ground from the foundation of the residence to approximately one-quarter way over the western side of the suspected UST. The soil borings were field screened with a calibrated PID for the presence of VOC and logged in accordance with NJAC 7:26E-3.6. Soil samples T-1 was collected from the six-inch (6") interval above the water table at 4.0-4.5' bgs. Soil sample T-2 and T-3 were collected from the six-inch (6") interval at the bottom of suspected UST from 5.5-6.0' bgs. Soil sample T-4 was collected from the six-inch (6") interval above the water table at 4.5-5.0' bgs. Soil samples (T-1 through T-4) were forwarded to Accutest for TPHC analysis with contingent analysis for VO+10. Contingent VO+10 and poly-aromatic hydrocarbon (PAH) analyses would be performed for one (1) sample in the event that a TPHC concentration exceeding the NJDEP action level of 1,000 mg/kg was reported. The soil sample location map is presented on Figure 4, Appendix A.

Soil sample T-1 exhibited a TPHC concentration of < 32 mg/kg. Soil sample T-2 exhibited a TPHC concentration of < 28 mg/kg. Soil sample T-3 exhibited a TPHC concentration of < 26 mg/kg. Soil sample T-4 exhibited a TPHC concentration of < 30 mg/kg. Since the reported TPHC concentrations are below the NJDEP action level of 1,000 mg/kg for all samples, contingent VO+10 and PAH analysis was not performed. A tabular summary of the May 2004 soil sampling results is provided in Table 1 (Appendix B). Laboratory analytical data is included in Appendix E.

3.1.3 Storage Pad/Maintenance Barn (AOCs-3, 4, 10, and 12)

Storage Pad (AOC-3)

SD advanced four (4) soil borings (PAD-1 through PAD-4) around the perimeter of the concrete storage pad related to the former dairy barn in order to assess subsurface conditions at AOC-3. The borings were advanced to a depth of approximately twelve (12) feet bsg and soils were field screened for VOCs utilizing a PID. The boring locations are presented on Figure 4. Detailed soil boring logs are included as Appendix C.

Perched water was noted between four and one-half (4.5) and six (6) feet bsg in soil borings PAD-1 and PAD-2, but the actual groundwater table was not encountered during installation of borings. Only slightly elevated PID readings were encountered (0.2 ppm) in boring PAD-1 at four and one-half (4.5) feet bsg. No PID readings above background were

recorded in the remaining soil borings and no odors were noted in the borings installed at this location.

Soil samples PAD-1 and PAD-2 were collected at the four and one-half (4.5) to five (5) feet depth interval (area of perched water) and soil samples PAD-3 and PAD-4 were collected at the one-half (0.5) to one (1) foot depth interval. In accordance with NJDEP requirements, soil samples PAD-1 through PAD-4 were forwarded to Accutest for TPHC analysis with contingency analysis for VO+10, base-neutral compounds with a library search of fifteen (15) additional compounds (BN+15), and poly-aromatic chlorinated biphenyls (PCBs) to be run on 25% of the samples in which TPHC is detected.

Results of laboratory analysis indicated TPHC at non-detectable concentrations in samples PAD-1 through PAD-4. Based on the results of the TPHC analysis, contingency analysis was not performed on any of the four (4) samples collected from this AOC. A tabular summary of the February 2005 soil sampling results is provided in Table 2 (Appendix B). The laboratory analytical soil results are provided in Appendix E.

Maintenance Barn (AOCs-4, 10, and 12)

SD advanced seven (7) soil borings (B-1 through B-3 and B-5 through B-8) around the perimeter and within the maintenance barn in order to assess subsurface conditions in these areas. Soil boring "B-4" was placed in the area of the gasoline storage tank which was discussed in Section 3.1.1 of this report. The seven (7) borings were advanced to a depth of approximately twelve (12) feet bsg and soils were field screened for VOCs utilizing a PID. Soil borings B-5 and B-6 were installed through the concrete floor within the maintenance barn interior. The boring locations are presented on Figure 4. Detailed soil boring logs are included as Appendix C.

No PID readings above background were recorded in the soil borings and no odors or staining were noted in the borings installed at this location.

Soil samples B-1 through B-3 and B-5 through B-8 were collected at the one-half (0.5) to one (1) foot depth interval. In accordance with NJDEP requirements, all seven (7) samples were forwarded to Accutest for TPHC analysis with contingency analysis for VO+10, BN+15, and PCBs to be run on 25% of the samples in which TPHC is detected.

Results of laboratory analysis indicated a TPHC concentration of 43.4 in soil sample B-2, which does not exceed the NJDEP threshold for TOCs of 10,000 ppm. Laboratory

analysis of soil samples B-1, B-3, B-5, B-6, B-7, and B-8, did not detect TPHC in any of these samples. Therefore, sample B-2 was analyzed for the contingent VO+10, BN+15, and PCB parameters. The results of the contingency analysis indicated all targeted and non-targeted compounds at concentrations which do not exceed the most stringent NJDEP criteria. A tabular summary of the February 2005 soil sampling results is provided in Table 2 (Appendix B). The laboratory analytical soil results are provided in Appendix E.

3.1.4 Stressed Vegetation (AOC-11B)

SD collected surface soil samples from the area of noted stressed vegetation located on the northernmost farm field. Soil samples (SV-1 and SV-2) were collected from this area. The boring locations are presented on Figure 3.

Soil samples SV-1 and SV-2 were collected at the zero to one-half (0.0-0.5) foot depth interval. In accordance with NJDEP requirements, the two (2) samples were forwarded to Accutest for Priority Pollutant with a library search of forty (40) additional compounds (PP+40).

Results of laboratory analysis indicated arsenic at concentrations which exceed the NJDEP RDCSCC and NRDCSCC of 20 ppm in surface soil samples SV-1 and SV-2. Specifically, arsenic was detected at 23.3 ppm in sample SV-1 and at 25.8 ppm in sample SV-2. All other targeted and non-targeted compounds were reported at concentrations which do not exceed the most stringent NJDEP SCC. A tabular summary of the February 2005 soil sampling results is provided in Table 2 (Appendix B). The laboratory analytical soil results are provided in Appendix E.

3.2 Limited Groundwater Investigation (Maintenance Barn)

Well Point Installation/Groundwater Sample Collection

SD installed two (2) temporary well points (WP-1 and WP-2) in conjunction with soil borings B-1 and B-2 located adjacent to the maintenance barn structure. The well points were constructed of one-inch (1")-diameter PVC and were installed to a depth of approximately 25 feet bsg. Each well point was constructed using fifteen (15) feet of slotted screen and ten (10) feet of riser. The well points were installed by Enviroprobe under the supervision of SD.

SD returned to the site on February 25, 2005 to collect groundwater samples from each of the two (2) well points. Prior to sampling, each well point was developed until free of residual turbidity. Depth to groundwater was measured using an ORC Oil/Water Interface

Probe, capable of detecting depth to groundwater and/or separate-phase petroleum product (SPP) with an accuracy of 0.01 inches. No measurable SPP was detected in either well point. Groundwater was detected at 23.8 and 24.0 feet bsg in WP-1 and WP-2, respectively. The groundwater samples were collected using a dedicated Teflon bailer in accordance with the *NJDEP Alternative Ground Water Sampling Techniques Guide, July 1994*. Following sample collection, the temporary well points were removed.

Following collection, the groundwater samples were packed on ice and transported to Accutest for VO+10 analysis. Ground water quality data was logged in the ground water sampling data sheets provided as Appendix F. The well point locations are depicted on the site map included in Figure 4.

Potable Well Sampling

On February 24, 2005, SD collected a sample from the on-site potable well which services the residence. The sample was collected from a faucet located within the basement of the residence. No water treatment systems were identified in connection with the potable well. Prior to sampling, the potable well was purged for approximately twenty (20) minutes and stabilization of chemistry parameters was established using a Horiba U-10 water quality checker. The potable well sample was collected directly from the faucet, which did not contain a screen. Following collection, the groundwater samples were packed on ice and transported to Accutest for PP+40 analysis. A Potable Well Information Form is included in Appendix F.

Groundwater Quality

Laboratory analytical results for the samples collected from the two (2) well points (WP-1 and WP-2) and the potable well sample (PW-1) indicated that no targeted or non-targeted compounds were detected above the NJDEP Groundwater Quality Standards (GWQS) in any of the samples. Tables 3 and 4 (Appendix B) contain summaries of the February 2005 groundwater and potable well analytical results along with the NJDEP GWQS.

The groundwater sample laboratory data results are provided as Appendix G.

3.3 Test Pit Investigation

3.3.1 Drainage Swales (AOC-5)

On March 15, 2005, SD coordinated the excavation of seven (7) test pits in the area of the two (2) drainage swales located on the western and northwestern portions of the site. The test pits were excavated to an average depth of six (6) feet bsg. Test pit locations are identified in Appendix A, Figure 3. SD identified debris consisting of metal and wood debris, household-type trash, wire, plastic bags, and masonry rubble to a depth of approximately two and one-half (2.5) feet bsg in test pits installed in the areas of AOC-5. However, no evidence of buried drums or hazardous materials was noted during excavation activities. Furthermore, no evidence of environmental contamination (stained soil, odors, or elevated PID readings) was noted in any of the test pits. Since no evidence of a discharge of hazardous materials was discovered, no soil samples were collected.

3.3.2 Discharge and Disposal Areas (AOC-8)

On March 15, 2005, SD coordinated the excavation of four (4) test pits in the area located north of the residence where various agricultural equipment and debris is present. Test pit locations are identified in Appendix A, Figure 3. The excavation of test pits did not identify the presence of buried items or evidence of environmental contamination. Each test pit was excavated to an approximate depth of six (6) feet bsg. Since no evidence of environmental contamination was identified, no soil samples were collected.

4.0 Conclusions/Recommendations

SD has performed Site Investigation activities in conformance with the scope and limitations of NJAC 7:26E, of the Vigh Property Site designated as Lot 9.01 and 9.01Q of Block 29 in the Township of Millstone, Monmouth County, New Jersey. Based on the findings of this Site Investigation, SD provides the following recommendations.

Arsenic Contaminants in Agricultural Fields

Laboratory analysis of surface soil samples (SV-1 and SV-2) collected from the area of noted stressed vegetation located on the northernmost farm field (AOC-11B) indicated arsenic at concentrations which exceed the NJDEP RDCSCC and NRDCSCC of 20 ppm.

Based on the preliminary information acquired from this investigation, it is possible that the elevated arsenic levels are related to historic pesticide use or may be a naturally-occurring condition. SD recommends further investigation of the farm fields regarding the elevated arsenic levels which may be conducted as part of an historic agricultural use investigation. It is SD's understanding that such an investigation may be performed at a later date at the discretion of Monmouth County Park System.

With the exception of the above-noted arsenic exceedances, no soil or groundwater contaminants were detected at concentrations exceeding the most stringent NJDEP criteria at the AOCs included in this site investigation.

Debris Piles/Farm Equipment

Debris piles containing metal and wood debris, discarded automotive and agricultural equipment parts, a discarded storage tank, glass, tires, wire, and trash were noted in the area of the drainage swale identified as AOC-5. One (1) vehicle chassis was identified immediately north of the drainage swale area. In addition, SD identified debris consisting of metal and wood debris, household-type trash, wire, plastic bags, and masonry rubble to a depth of approximately two and one-half (2.5) feet bsg in test pits installed in the drainage swale area. No evidence of buried drums or hazardous materials was noted during excavation activities. Furthermore, no evidence of environmental contamination (stained soil, odors, elevated PID readings) was noted in any of the test pits.

An open area located north of the residence (AOC-8) was observed to contain several debris piles (metal and wood), discarded vehicles, farm equipment, and piles of irrigation

Appendix A

Figures

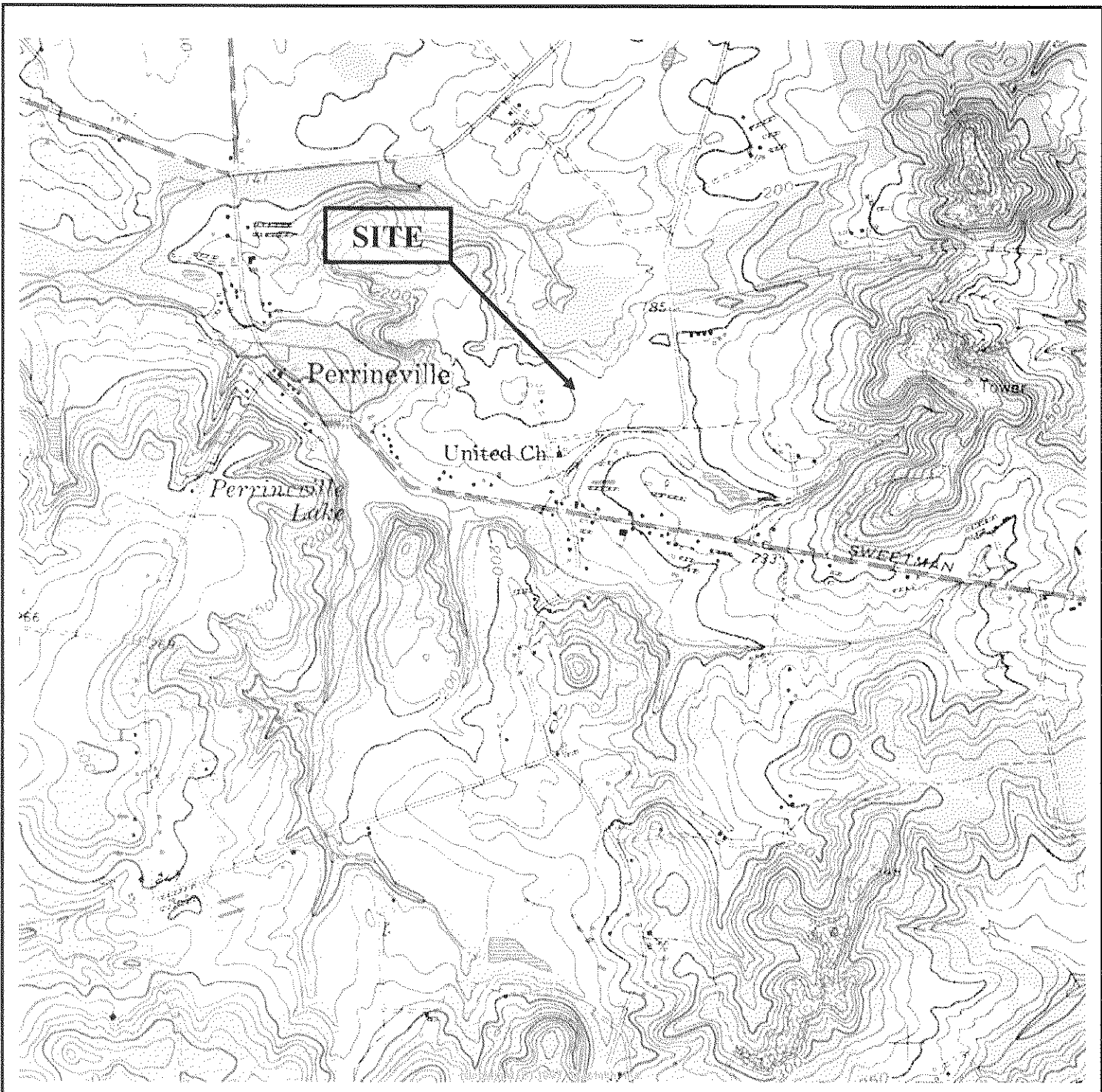


FIGURE 1: APPROXIMATE SITE LOCATION OUTLINED ON A COPY OF THE USGS 7.5 MINUTE TOPOGRAPHIC MAP, ROOSEVELT QUAD.

TOPOGRAPHIC MAP

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 TEL. (732) 577-9000 FAX (732) 577-8168



VIGH PROPERTY
 207 MILLSTONE RD
 BLOCK 29 LOT 9.01

PERRINEVILLE
 MONMOUTH COUNTY, NJ

N:\project\2003\0302291\01\figures\rea figure.doc



SCALE
 1" = 2000'

DATE
 3/23/05

DRAWN BY
 KH

PROJECT NO.
 030229101

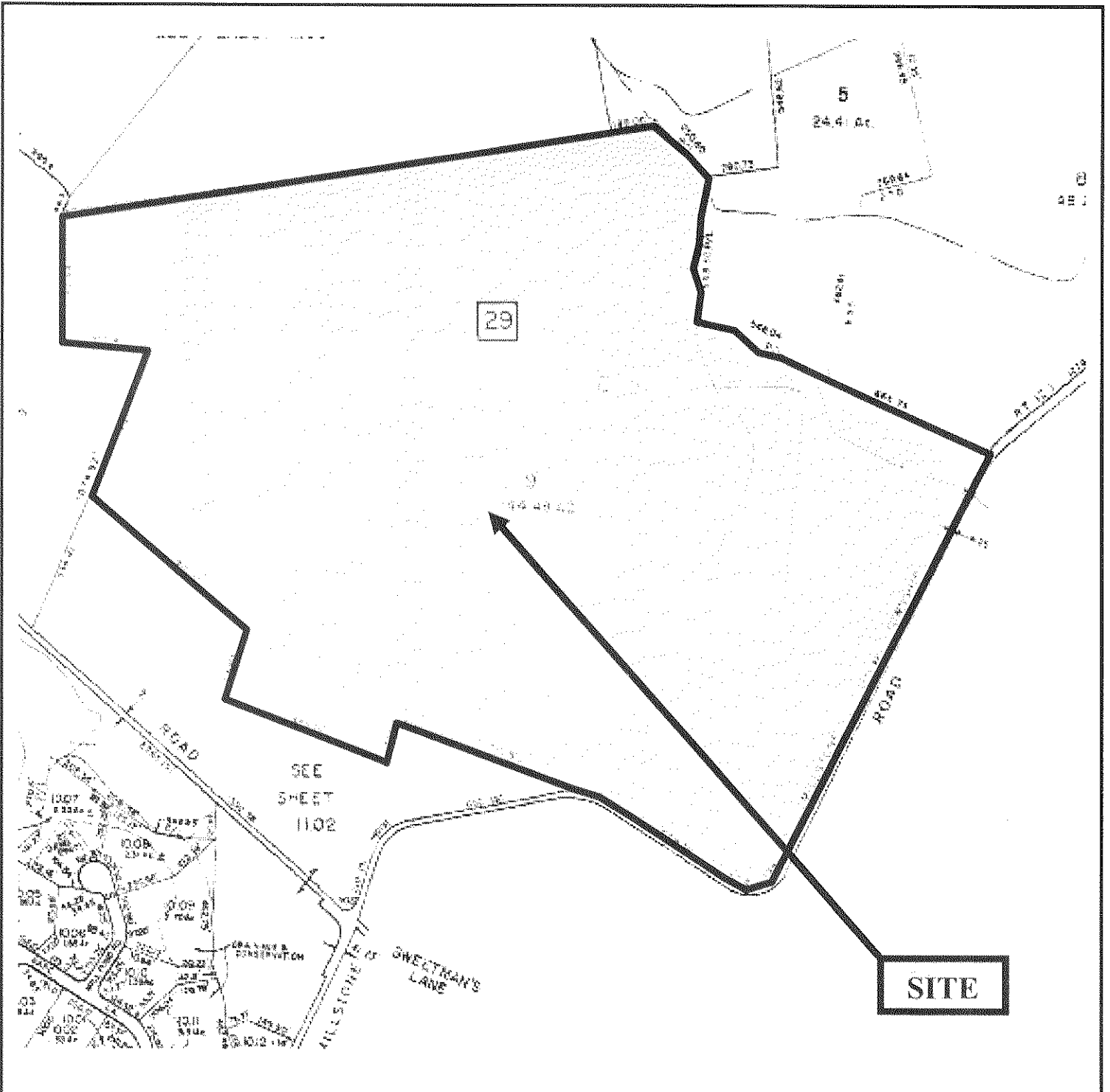
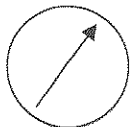


FIGURE 2: SITE BOUNDARY OUTLINED ON A COPY OF THE MILLSTONE TOWNSHIP TAX MAP.

TAX MAP

SCHOOR DEPALMA
Engineers and Consultants

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MANALAPAN, NJ 07726-0900
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NORTH

VIGH PROPERTY
207 MILLSTONE RD
BLOCK 29 LOT 9.01

PERRINEVILLE
MONMOUTH COUNTY, NJ

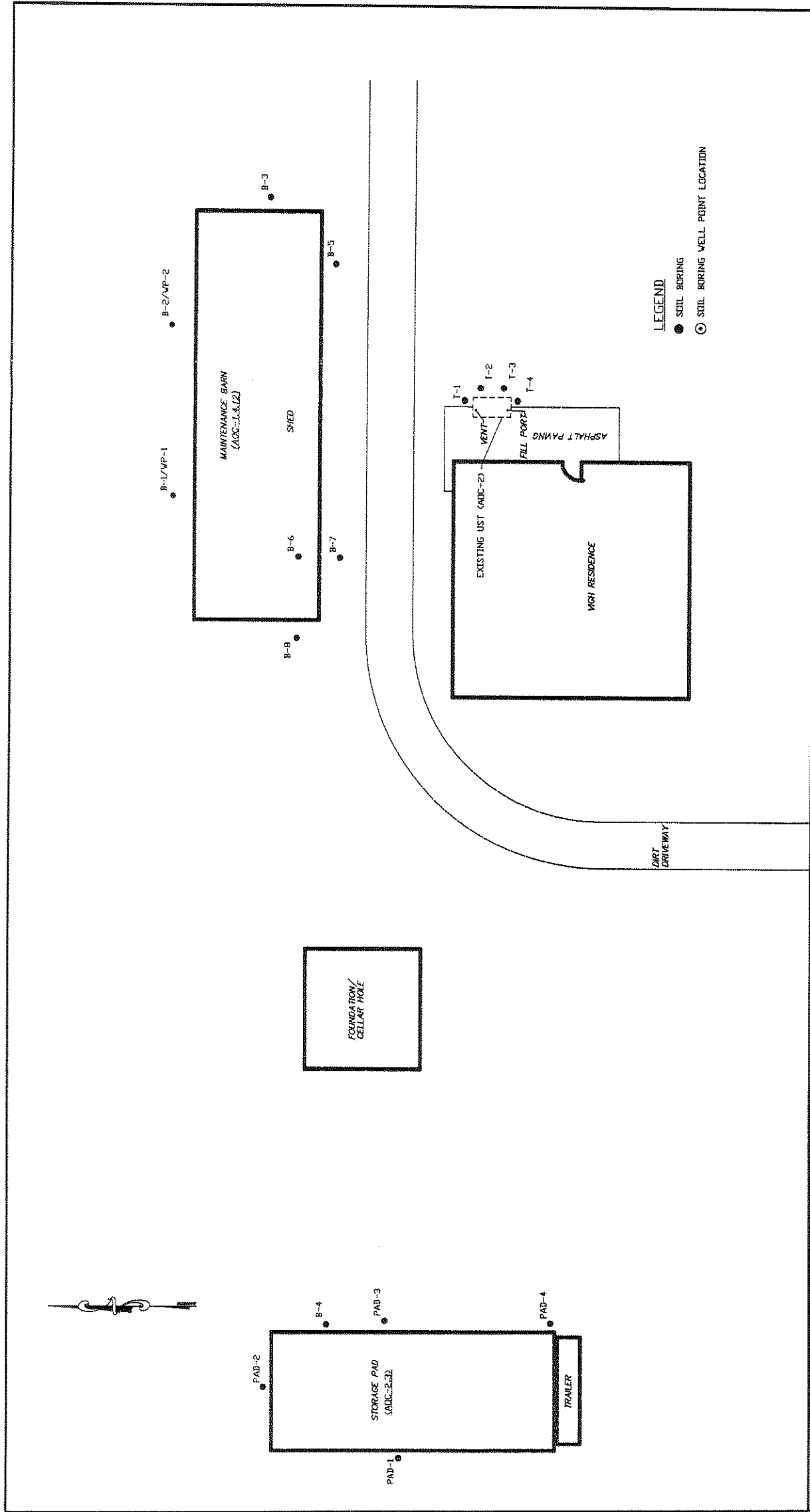
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SCALE
NTS

DATE
3/23/05

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KH

PROJECT NO.
030229101



LEGEND
 ● SOIL BORING
 ⊙ SOIL BORING WELL POINT LOCATION

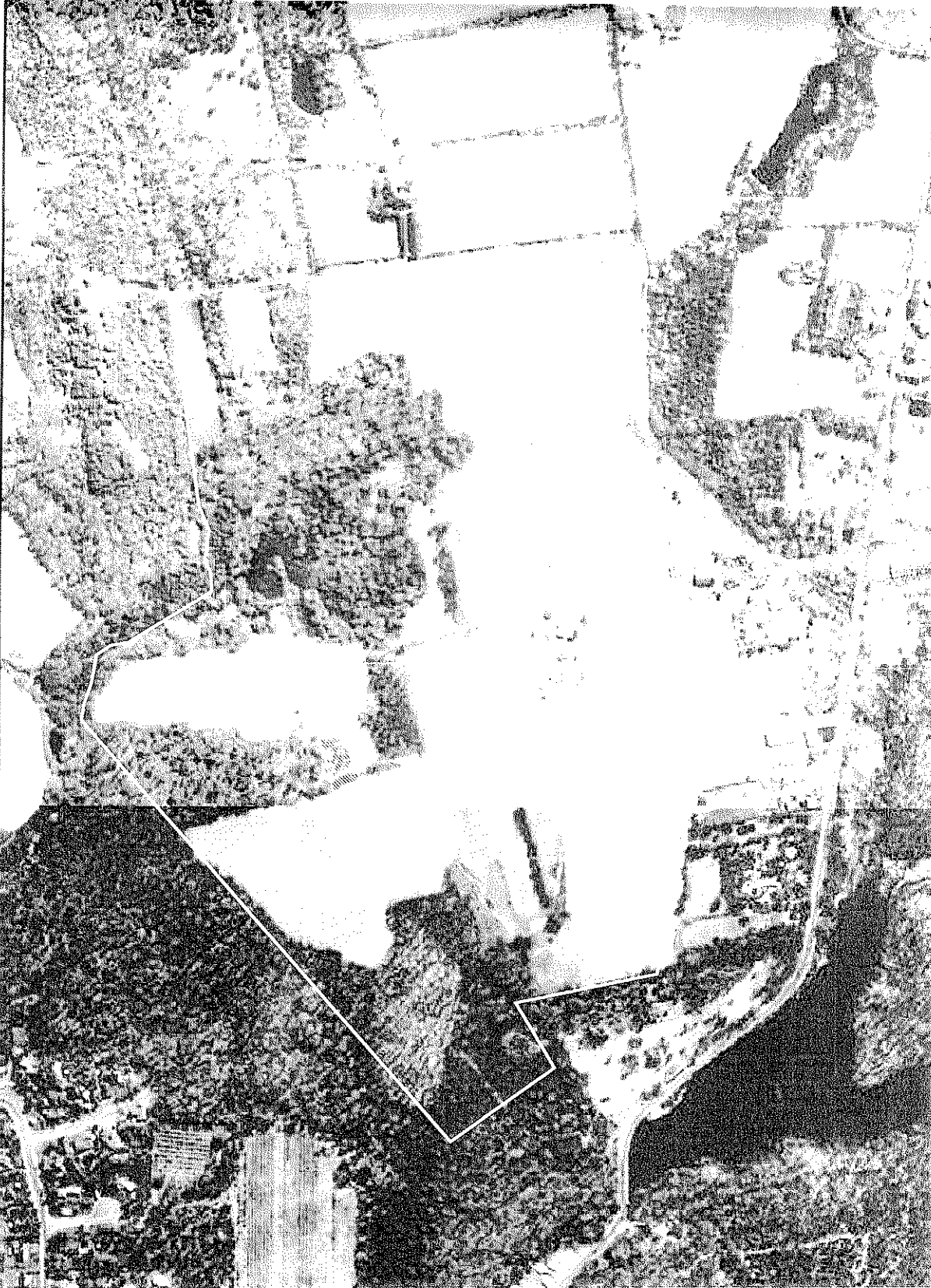
PROJECT NO
030229101
 SCALE
1" = 20'
 DATE
03/31/05
 CHECKED BY
JS
 SHEET NO.
1 of 1

FIGURE-4 DETAIL OF AREA 1
VIGH PROPERTY
MILLSTONE, NEW JERSEY

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CITY OF MILLSTONE, MERCER COUNTY, NEW JERSEY

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030229101

SCALE
3/32" = 1'

DATE
03/31/05

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1 of 1

FIGURE-3 SITE MAP
VIGH PROPERTY
MILLSTONE, NEW JERSEY

CITY OF MILLSTONE, MERCER COUNTY, NEW JERSEY

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