FACT SHEET / STATEMENT OF BASIS

Proposals for No Further Action for 23 Sites at the Waste Isolation Pilot Plant

RCRA Permit No. NM4890139088

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ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
bgs	below ground surface
CFR	Code of Federal Regulations
DOE	Department of Energy
HWDU	Hazardous Waste Disposal Unit
NFA	No Further Action
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMOCD	New Mexico Oil Conservation Division
NMSSL	New Mexico Soil Screening Level
Permit	WIPP Hazardous Waste Facility Permit
Permittees	DOE and WTS
PMR	Permit Modification Request
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
TCLP	Toxicity Characteristic Leaching Procedure
TSD	Technical Support Document
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WIPP	Waste Isolation Pilot Plant
WTS	Washington TRU Solutions LLC

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Under authority of the New Mexico Hazardous Waste Act (Section 74-4-1 et seq., NMSA 1978, as amended, 1992) and the New Mexico Hazardous Waste Management Regulations (20.4.1 NMAC), the New Mexico Environment Department (**NMED**) intends to approve, pending public input into this decision, an August 27, 2007 Class 3 permit modification request (**PMR**) received from the U.S. Department of Energy (**DOE**) and Washington TRU Solutions LLC (**WTS**) for the Waste Isolation Pilot Plant (**WIPP**) Hazardous Waste Facility Permit (**Permit**) pursuant to 20.4.1.900 NMAC (incorporating 40 CFR §270.42 (c)).

If approved, the PMR would grant no further action (**NFA**) status for fifteen Solid Waste Management Units (**SWMUs**) (Figure 1) and eight Areas of Concern (**AOCs**) (Figures 2 and 3). Table 2 (SWMUs Requiring an RFI) and Table 3 (AOCs Included in the Permit) of Module VII of the WIPP Permit identify the SWMUs and AOCs at the facility that are proposed for NFA status. NMED has issued a draft permit to modify Module VII by moving the SWMUs and AOCs from Tables 2 and 3 to a new Table 4 (SWMUs/AOCs Requiring No Further Action).

The Permittees' primary contact for this action is Mr. Jody Plum, US DOE/Carlsbad Field Office, 4021 National Parks Highway, Carlsbad, New Mexico, 88220.

A. Facility Description

WIPP is located in Eddy County in southeastern New Mexico, approximately 26 miles east of Carlsbad. The facility boundary corresponds to a 16-section Federal land area known as the WIPP Land Withdrawal Area, which was created when Congress approved the WIPP Land Withdrawal Act in October 1992. WIPP is an industrial facility that consists of 16 square miles of land surface, surface buildings and structures, an underground network of subsurface excavated openings, and vertical shafts that connect the surface and the subsurface areas. DOE and WTS (**the Permittees**) have developed a 1,454 acre exclusive use area located in the center of the 16 square miles. Land uses within this area are limited to activities associated with the disposal of transuranic waste.

The underground hazardous waste disposal units (**HWDUs**) are located 2,150 feet below ground surface (**bgs**) in the WIPP repository. The HWDUs are not addressed in this Statement of Basis. The facility operational period is estimated to be 35 years with a nominal 30-year post closure care period. However, DOE has committed to maintain active institutional controls for a period of 100 years after final facility closure.

B. History of Investigation

NMED issued Module VII (Corrective Action for Solid Waste Management Units) as part of the WIPP Permit on October 27, 1999. Module VII requires investigation of 23 sites, referred to as SWMUs and AOCs in the Permit.

Section H below briefly describes the location, history, evaluation of relevant information, and the basis for determination for each SWMU and AOC proposed for NFA. More detailed descriptions of the particulars for each SWMU and AOC can be found in the original NFA petition (DOE 2002) and accompanying references constituting the Administrative Record.

This Statement of Basis describes the 23 SWMUs and AOCs that were identified as "potentially appropriate for NFA." In summary, if NMED approves the Permittees' request for a permit modification, these 23 units will be listed in the new Table 4 (SWMUs/AOCs Requiring No Further Action) of Attachment VII of the revised Permit.

C. Administrative Record

The Administrative Record for this proposed action consists of the WIPP No Further Action Petition (DOE 2002), the Permittees' Class 3 PMR (DOE 2007b), this Fact Sheet / Statement of Basis, the Public Notice, the Draft Permit consisting of revised Tables 2, 3, and new Table 4 of Permit Module VII, and the referenced supporting documentation for each site. References for this Statement of Basis are listed in Section I. The complete Administrative Record may be reviewed at the following location during the public comment period:

NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303
Telephone: (505) 476-6000
Monday-Friday: 8:00 am – 5:00 pm

A copy of this Fact Sheet/Statement of Basis, the Public Notice, and the Draft Permit consisting of revised Tables 2, 3, and new Table 4 of Permit Module VII are available electronically on the NMED WIPP Information Page at <www.nmenv.state.nm.us/wipp> or may be reviewed at the following location during the public comment period:

WIPP Information Center
Skeen-Whitlock Building
4021 National Park Highway
Carlsbad, NM 88220
Telephone: (575) 234-7502, (800) 336-9477
Monday-Friday: 7:00 am – 4:30 pm

D. Public Participation

Public meetings arranged by the Permittees were held on October 2, 2007 in Carlsbad and October 4, 2007 in Santa Fe in accordance with 20.4.1.901 NMAC as part of the 60-day public comment period on the PMR required by the regulations at 40 CFR §270.42(c)(5). NMED received two written comments from the public during this comment period on the PMR.

NMED issued a revised public notice on **March 7, 2008,** to announce the beginning of an additional 60-day comment period on the Draft Permit that will now end at **5:00 pm MDT, May 6, 2008**. Any person who wishes to comment on this action or request a public hearing should submit written or electronic mail (e-mail) comment(s) with the commenter's name and address to

the address below. Only comments and/or requests received on or before **5:00 pm MDT, May 6, 2008** will be considered.

Steve Zappe, WIPP Project Leader
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303
Ref: WIPP No Further Action Petition
E-mail: steve.zappe@state.nm.us
Fax: (505) 476-6060

Written comments must be based on the Administrative Record (for example, this Fact Sheet / Statement of Basis). Documents in the Administrative Record need not be re-submitted if expressly referenced by the commenter. Requests for a public hearing shall provide: (1) a clear and concise factual statement of the nature and scope of the interest of the person requesting the hearing; (2) the name and address of all persons whom the requestor represents; (3) a statement of any objections to the proposed action, including specific references; and (4) a statement of the issues which such persons proposes to raise for consideration at the hearing. Written comment and requests for Public Hearing must be filed with Mr. Steve Zappe at the address above on or before **5:00 pm MDT, May 6, 2008**. NMED will provide a 30-day notice of a public hearing, if scheduled.

E. Next Steps

NMED will notify the Permittees and each person on the facility mailing list of the final decision. The final decision will become effective 30 days after service of the decision unless a later date is specified or unless review is required under New Mexico Hazardous Waste Regulations, 20.4.1.901.A NMAC.

F. Contact Person for Additional Information

For additional information, contact the following individual:

Steve Zappe, WIPP Project Leader
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303
Telephone: (505) 476-6000
Fax: (505) 476-6030
E-mail: steve.zappe@state.nm.us

G. NFA Criteria

NMED previously investigated SWMUs and AOCs at WIPP when the Permit was issued in October 1999, as documented in NMED's Technical Support Document (**TSD**) for exclusion/inclusion of SWMUs and AOCs (NMED, 1999). At that time, NMED determined that some SWMUs never managed (generated, treated, stored, or disposed of) Resource Conservation and Recovery Act (**RCRA**) solid or hazardous wastes and/or constituents, and that the presence

of hazardous constituents was precluded. Additionally, NMED determined that some SWMUs never had a release to the environment, and that future releases were unlikely. These SWMUS were identified in Table 1 of the TSD (NMED, 1999) and not included in the final Permit. NMED retained the remaining SWMUs and AOCs in Tables 2 and 3 of Module VII of the WIPP Permit.

In addition, NMED identified criteria in Table 4 of the TSD (NMED, 1999) by which the Permittees could also propose a SWMU or AOC for NFA:

1. The site does not exist. If it can be shown that the site does not exist, then a proposal may be made for NFA.

2. The site was not used for the management of hazardous constituents. If this can be shown, then a proposal may be made for NFA.

3. There was no release of hazardous constituents to the environment. If it can be shown that there was not, nor is there likely to be a release, then a proposal may be made for NFA.

4. There was a release, but a release assessment indicates that the concentrations of hazardous constituents are at acceptably low levels as determined by regulators. The release assessment includes site characterization, release assessment sampling, and risk assessment.

5. There was a release, but the site was characterized and/or remediated under another authority, such as the New Mexico Underground Storage Tank Bureau, and documentation such as a closure letter is available, then the site may be proposed for NFA. Regulation of a site by another authority is not, necessarily, sufficient justification for a proposal for NFA.

6. There was a release, but the site has been remediated. Typically, the site would have been remediated by means of Voluntary Corrective Actions or Expedited Cleanups/ Voluntary Corrective Measures. After remediation, evidence should show that concentrations of hazardous constituents are at acceptable levels as determined by regulators. If the site meets the criteria for remediation, then it may be proposed for NFA.

In the NFA petition (DOE 2002), the Permittees proposed NFA for fifteen SWMUS and eight AOCs.

H. Description of SWMUs and AOCs Proposed for NFA

1. SWMU 001g, H-14/P-1 Mud Pits

Location/Unit Description

SWMU 001g (Figure 4) is located in the SW ¼ of the SW ¼ of the SW ¼ of Section 29, Township 22 South, Range 31 East (DOE, 2002, Section 2.0). SWMU 001g consists of the mud pits constructed from the drilling of the H-14 Culebra test well and the P-1 potash exploration well. The H-14 mud pit is located on the north side of the drill pad area adjacent to the H-14 borehole. The mud pit is approximately 30 feet wide and 100 feet long. The area of the mud pit is delineated by disturbed soil covered with rock fragments. The P-1 mud pit is located in the middle of the drill pad. The mud pit area is approximately 25 feet by 37 feet. The P-1 mud pit area is delineated by a slightly discolored, sunken area 50 feet south of the H-14 borehole and adjacent to the P-1 borehole.

History/Current and Anticipated Future Land Use

Two boreholes (H-14 and P-1) were drilled at this location. The P-1 borehole was drilled to 1,591 feet bgs in 1976 by the Pennsylvania Drilling Company. The H-14 borehole was drilled in October 1986 to provide a Culebra monitoring well in the southwest quadrant of the WIPP site and was drilled to a final depth of 589 feet bgs. Following completion of the drilling locations, the United States Geological Survey (**USGS**) approved the closure and abandonment of the drilling sites according to then current requirements.

SWMU 001g is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001g in 1993 as part of a RCRA Facility Assessment (**RFA**). No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001g. The Permittees collected soil samples from the areas of the P-1 mud pit and the H-14 mud pit at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for Toxicity Characteristic Leaching Procedure (**TCLP**) metals. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and volatile organic compounds (**VOCs**). All constituents analyzed were detected below residential New Mexico Soil Screening Levels (**NMSSLs**) (NMED, 2006), with the exception of thallium, which had a detection limit exceeding the residential NMSSL. Because thallium was detected in one sample at an excessive detection limit, NMED included SWMU 001g in the final Permit as requiring further investigation.

In January 2007 at the direction of NMED, the Permittees collected an additional soil sample near the location of the thallium detection in 1996 (DOE, 2007a). Thallium was not detected in that sample, and the detection limit was below the NMSSL residential level (NMED, 2006).

Basis of Determination

SWMU 001g has been determined to be suitable for NFA under criterion #3.

2. SWMU 001h, H-15/P-2 Mud Pits

Location/Unit Description

SWMU 001h (Figure 5) is located in the NE ¼ of the NE ¼ of the NE ¼ of Section 28, Township 22 South, Range 31 East (DOE, 2002, Section 3.0). SWMU 001h consists of the mud pits constructed from the drilling of the P-2 potash exploration well and the H-15 Culebra test well. The H-15 mud pit is located approximately 18 feet east of the H-15 well cap and in the northeast corner of the P-2 drill pad area. The H-15 mud pit is approximately 18 feet by 55 feet. The P-2 mud pit is approximately 20 feet by 35 feet and is located approximately 40 feet southeast of the P-2 wellhead, on the eastern edge of the P-2 well pad. The P-2 well pad is not vegetated and is covered with compacted caliche.

History/Current and Anticipated Future Land Use

Two boreholes (H-15 and P-2) were drilled at this location. The P-2 borehole was drilled to a depth of 900 feet bgs in 1976 by Boyles Brothers Drilling Company. The H-15 borehole was drilled in 1986 to conduct a series of water quality evaluations and to develop a database of Culebra water levels. H-15 was drilled to a final depth of 1,895 feet bgs. Following completion of the drilling, the USGS approved the closure and abandonment of the drilling sites according to then current requirements.

SWMU 001h is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001h in 1993 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001h. The Permittees collected soil samples in the mud pit areas at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not

detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001h in the final Permit as requiring further investigation.

Subsequent thallium sampling in January 2007 by the Permittees at SWMU 001g (DOE, 2007a), using a detection limit below the NMSSL residential level (NMED, 2006), demonstrated that thallium is likely not present at sites where it was not detected above elevated detection limits. Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001h has been determined to be suitable for NFA under criterion #4.

3. SWMU 001j, P-3 Mud Pit

Location/Unit Description

SWMU 001j (Figure 6) is located in the SE ¼ of the SE ¼ of the SW ¼ of Section 20, Township 22 South, Range 31 East (DOE, 2002, Section 4.0). SWMU 001j consists of the mud pit constructed from the drilling of the P-3 potash exploration well. The P-3 mud pit is a single rectangular pit that is located on the south central part of the drill pad. The P-3 pad is heavily vegetated.

History/Current and Anticipated Future Land Use

One borehole (P-3) was drilled at this location to explore potash resources in the Salado Formation. The P-3 borehole was drilled to 1,676 feet bgs in 1976 by the Pennsylvania Drilling Company. Following completion of the drilling, the USGS approved the closure and abandonment of the drilling site according to then current requirements.

SWMU 001j is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

SWMU 001j was visually inspected in 1992 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001j. The Permittees collected soil samples in the mud pit area at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not

detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001j in the final Permit as requiring further investigation.

Subsequent thallium sampling in January 2007 by the Permittees at SWMU 001g (DOE, 2007a), using a detection limit below the NMSSL residential level (NMED, 2006), demonstrated that thallium is likely not present at sites where it was not detected above elevated detection limits. Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001j has been determined to be suitable for NFA under criterion #4.

4. SWMU 001k, P-4 Mud Pit

Location/Unit Description

SWMU 001k (Figure 7) is located in the SE ¼ of the SW ¼ of the SE ¼ of Section 28, Township 22 South, Range 31 East (DOE, 2002, Section 5.0). SWMU 001k consists of the mud pit constructed from the drilling of the P-4 potash exploration well. The P-4 mud pit is located in a hummocky sand dune area on the west side of the drill pad. The mud pit is approximately 15 feet by 70 feet. Mixed, uncompacted soil, broken caliche, and red sandstone on the surface suggest extensive grading along the west side of the drill pad.

History/Current and Anticipated Land Use

One borehole (P-4) was drilled at this location to explore potash resources in the Salado Formation. The P-4 borehole was drilled to a depth of 1,848 feet bgs in 1976 by Boyles Brothers Drilling Company. Following completion of the drilling, the USGS approved the closure and abandonment of the drilling site according to then current requirements.

SWMU 001k is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001k in 1993 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001k. The Permittees collected soil samples in the mud pit areas at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected

below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001k in the final Permit as requiring further investigation.

In 1999, the Permittees collected additional soil samples between 20- to 24-inch depths and 60- to 68-inch depths within the SWMU 001k boundary and analyzed them for total thallium (with a detection limit lower than the residential NMSSL). Thallium was not detected in any of the soil samples.

Basis of Determination

SWMU 001k has been determined to be suitable for NFA under criterion #3.

5. SWMU 001L, WIPP-12/P-5 Mud Pits

Location/Unit Description

SWMU 001L (Figure 8) is located in the SE ¼ of the SE ¼ of the SE ¼ of Section 17, Township 22 South, Range 31 East (DOE, 2002, Section 6.0). SWMU 001L is made up of the mud pit developed for the drilling of the WIPP-12 exploration borehole and the mud pit constructed to support the drilling of the P-5 potash exploration borehole. The WIPP-12 mud pit is approximately 3 acres in size. The former mud pit area is characterized by hummocky, dark bands of fill material that form berms running east and west. The P-5 mud pit is located approximately 45 feet south of the P-5 borehole and measures 18 feet by 60 feet. The mud pit areas are rough graded, exposing a mixture of surface sand and caliche material.

History/Current and Anticipated Land Use

WIPP-12 was drilled in 1978 and was deepened in 1981 and in 1982 to investigate lithologic and stratigraphic details of the Salado and Castile Formations. WIPP-12 was drilled to a total depth of 3,928 feet bgs. The Pennsylvania Drilling Company drilled the P-5 borehole in 1976 to evaluate potash resources in the Salado Formation. Following completion of drilling, the USGS approved the closure and abandonment of the drilling sites according to then current requirements.

SWMU 001L is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001L in 1992 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001L. The Permittees collected soil samples in the mud pit areas at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and

TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001L in the final Permit as requiring further investigation.

Additional subsurface soil samples were collected within and outside the SWMU 001L boundary during 2001 and analyzed for barium. Barium was detected in all samples at concentrations below residential NMSSLs.

Subsequent thallium sampling in January 2007 by the Permittees at SWMU 001g (DOE, 2007a), using a detection limit below the NMSSL residential level (NMED, 2006), demonstrated that thallium is likely not present at sites where it was not detected above elevated detection limits. Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001L has been determined to be suitable for NFA under criterion #4.

6. SWMU 001m, P-6 Mud Pit

Location/Unit Description

SWMU 001m (Figure 9) is located in the SW ¼ of the SW ¼ of the NW ¼ of Section 30, Township 22 South, Range 31 East (DOE, 2002, Section 7.0). SWMU 001m is the abandoned mud pit generated by the drilling of the P-6 potash exploration borehole. The access roads and the surface of the site have been rough graded. The edges of the mud pit are not easily distinguished.

History/Current and Anticipated Future Land Use

The Boyles Brothers Drilling Company drilled the P-6 borehole in 1976 to evaluate potash resources in the Salado Formation. Following completion of the drilling, the USGS approved the closure and abandonment of the drilling site according to then current requirements.

SWMU 001m is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001m in 1993 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001m. The Permittees collected soil samples in the mud pit area at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001m in the final Permit as requiring further investigation.

In 1999, the Permittees collected additional soil samples from the 16- to 22-inch soil interval, 48-inch interval, and 60- to 68-inch interval within the SWMU 001m boundary and analyzed them for thallium (with a detection limit lower than the residential NMSSL). Thallium was not detected in any of the soil samples.

Basis of Determination

SWMU 001m has been determined to be suitable for NFA under criterion #3.

7. SWMU 001n, P-15 Mud Pit

Location/Unit Description

SWMU 001n (Figure10) is located in the SW ¼ of the SW ¼ of the SW ¼ of Section 31, Township 22 South, Range 31 East (DOE, 2002, Section 8.0). The mud pit was constructed for the drilling of the P-15 potash exploration borehole. The mud pit is located on the northeastern edge of the drill pad and is 10 feet by 20 feet. The P-15 well pad is heavily vegetated and no discolored soil was identified during the investigations.

History/Current and Anticipated Future Land Use

The Boyles Brothers Drilling Company drilled the P-15 borehole in 1976 to evaluate potash resources in the Salado Formation. The well was recompleted in 1979 to a depth of 1,465 feet bgs. Following completion of the drilling, the USGS approved the closure and abandonment of the drilling site according to then current requirements.

SWMU 001n is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001n in 1992 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001n. The Permittees collected soil samples in the mud pit area at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pit were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001n in the final Permit as requiring further investigation.

In 1999, the Permittees collected additional soil samples from the 18- to 24-inch soil interval and the 60- to 72-inch interval within the SWMU 001n boundary and analyzed them for thallium (with a detection limit lower than the residential NMSSL). Thallium was not detected in any of the soil samples.

Basis of Determination

SWMU 001n has been determined to be suitable for NFA under criterion #3.

8. SWMU 001o, Badger Unit Mud Pits

Location/Unit Description

SWMU 001o (Figure 11) is located in the NW ¼ of the NE ¼ of the SW ¼ of Section 15, Township 22 South, Range 31 East (DOE, 2002, Section 9.0). The mud pit area is a large stained nonvegetated area ringed with stressed vegetation. Many fragments of black polyethylene plastic liner protrude through the surface as much as 20 feet outside the stained soil. The area is approximately 280 feet by 400 feet.

History/Current and Anticipated Future Land Use

USGS well records indicate that the Badger Unit Federal #1 Well was drilled in 1973 by Superior Oil Company as a wildcat petroleum exploration well. The total depth of the well was 15,225 feet bgs and the well was abandoned in 1974. The New Mexico Oil Conservation Division (**NMOCD**) closed the well.

SWMU 001o is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

On two separate occasions in 1992, the Permittees collected soil samples and analyzed them for total metals and VOCs. Samples were collected from the mud pit area at the 18- to 24-inch interval and the 84- to 90-inch intervals. All constituents were detected below residential

NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001o has been determined to be suitable for NFA under criterion #4.

9. SWMU 001p, Cotton Baby Mud Pits

Location/Unit Description

SWMU 001p (Figure 12) is located in the SW ¼ of the NE ¼ of the SW ¼ of Section 34, Township 22 South, Range 31 East (DOE, 2002, Section 10.0). The mud pits were constructed for the drilling of a petroleum exploration well. One pit is 15 feet by 55 feet and the other is 65 feet by 85 feet. The remnants of plastic liner material and stressed vegetation can be seen at both mud pits.

History/Current and Anticipated Future Land Use

The Cotton Baby well was drilled in 1973 by Michael Grace Company as a wildcat petroleum exploration well. The total depth of the well was 4,475 feet bgs, and it was abandoned in 1974. NMOCD closed the well.

SWMU 001p is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

During the 1992 RFA, both NMED and the Permittees collected soil samples and analyzed them for s and total metals and VOCs to determine if a release had occurred. Samples were collected from the mud pit area at the 22.8- to 26.4-inch interval and the 61.2- to 66-inch interval. All constituents were detected below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001p has been determined to be suitable for NFA under criterion #4.

10. SWMU 001q, DOE-1 Mud Pits

Location/Unit Description

SWMU 001q (Figure 13) is located in the SE ¼ of the SE ¼ of the SE ¼ of Section 28, Township 22 South, Range 31 East (DOE, 2002, Section 11.0). There are two mud pits at SWMU 001q that were constructed for the drilling of DOE-1, a well drilled to collect

stratigraphic, structural, and hydrologic information. The primary mud pit is approximately 150 feet by 45 feet and the reserve pit is approximately 50 feet by 75 feet.

History/Current and Anticipated Future Land Use

The Salazar Brothers drilled DOE-1 to a depth of 4,065 feet bgs in 1982.

SWMU 001q is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

Both NMED and the Permittees collected soil samples at SWMU 001q in 1992 as part of the RFA to assess any potential releases from the mud pit. Samples were collected from the mud pit area at the 21.6- to 25.2-inch interval and the 27.6- to 32.4-inch interval. All constituents were detected below residential NMSSLs (NMED, 2006).

Additional soil samples were collected in 1996 within and outside the boundary of SWMU 001q to assess potential releases of chromium, lead, and nickel. The chromium, lead, and nickel concentrations detected were below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001q has been determined to be suitable for NFA under criterion #4.

11. SWMU 001s, ERDA-9 Mud Pit

Location/Unit Description

SWMU 001s (Figure14) is located SE ¼ of the SE ¼ of the SE ¼ of Section 20, Township 22 South, Range 31 East (DOE, 2002, Section 12.0). The rectangular pit is described as a discolored area that is currently partially covered by a railroad embankment and the compacted caliche used in the construction of the site. The pit measures approximately 50 feet by 145 feet.

History/Current and Anticipated Future Land Use

ERDA-9 was drilled to depth of 2,877 feet in 1976. The well was recompleted in 1986. ERDA-9 was the first WIPP exploratory borehole to test salt beds for the disposal of transuranic wastes. An earthen pit was constructed to support the closed-mud circulation system. Following completion of the drilling, the USGS approved the closure and abandonment of the drilling site according to then current requirements.

SWMU 001s is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is

currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001s in 1992 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001s. The Permittees collected soil samples in the mud pit area at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001s in the final Permit as requiring further investigation.

In 1999, the Permittees collected additional soil samples from the 22- to 24-inch soil interval and the 61- to 72-inch interval within the SWMU 001s boundary and analyzed them for thallium (with a detection limit lower than the residential NMSSL). Thallium was detected in one soil sample in a background location at a concentration below the residential NMSSL for thallium (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001s has been determined to be suitable for NFA under criterion #4.

12. SWMU 001t, IMC-374 Mud Pit

Location/Unit Description

SWMU 001t (Figure 15) is located in the SE ¼ of the SE ¼ of the SW ¼ of Section 30, Township 22 South, Range 31 East (DOE, 2002, Section 13.0). The mud is located in a hummocky sandy area along the west side of the drill pad.

History/Current and Anticipated Future Land Use

The IMC-374 exploration borehole was drilled to a depth of 1,149 feet bgs in 1965 by Boyles Brothers Drilling Company. SWMU 001t is the abandoned mud pit constructed for the drilling of IMC-374. The mud pit area measures approximately 15 feet by 70 feet. The site was closed by the USGS in 1965.

SWMU 001t is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is

currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001t in 1992 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001t. The Permittees collected soil samples in the mud pit area at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001t in the final Permit as requiring further investigation.

In 1999, the Permittees collected additional soil samples from the 17- to 23-inch soil interval and the 60- to 72-inch interval within the SWMU 001t boundary and analyzed them for thallium (with a detection limit lower than the residential NMSSL). Thallium was not detected in any of the soil samples.

Basis of Determination

SWMU 001t has been determined to be suitable for NFA under criterion #3.

13. SWMU 001x, WIPP-13 Mud Pit

Location/Unit Description

SWMU 001x (Figure 16) is located in the NW ¼ of the NE ¼ of the SW ¼ of Section 17, Township 22 South, Range 31 East (DOE, 2002, Section 14.0). SWMU 001x is the abandoned mud pit constructed for the drilling of WIPP-13. The mud pit area measures approximately 15 feet by 70 feet. The mud pit is sunken in approximately 1.5 feet below surface grade of the drilling pad, and measures approximately 100 feet by 120 feet. No vegetation is growing on the mud pit area and the soil is a dark grey color. Black plastic liners protrude through the surface and delineate the mud pit.

History/Current and Anticipated Future Land Use

The WIPP-13 borehole was drilled to a depth of 1,025 feet bgs in 1978 by the Pennsylvanian Drilling Company. The borehole was deepened to 3,850 feet bgs in 1979. Following completion of the drilling, the USGS approved the closure and abandonment of the drilling site according to then current requirements.

SWMU 001x is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 001x in 1992 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 001x. The Permittees collected soil samples in the mud pit area at 12- to 24-inch depths and 60- to 72-inch depths and analyzed them for TCLP metals and TCLP volatiles. TCLP analysis demonstrated only that materials sampled from the mud pits were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 001x in the final Permit as requiring further investigation.

In 2001, the Permittees collected additional soil samples from the surface and subsurface within and outside the SWMU 001x boundary and analyzed them for barium, chromium, and lead. Barium, chromium, and lead were detected in all soil samples at concentrations below residential NMSSLs (NMED, 2006).

Subsequent thallium sampling in January 2007 by the Permittees at SWMU 001g (DOE, 2007a), using a detection limit below the NMSSL residential level (NMED, 2006), demonstrated that thallium is likely not present at sites where it was not detected above elevated detection limits. Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 001x has been determined to be suitable for NFA under criterion #4.

14. SWMU 004a, Portacamp Storage Yard, West Side

Location/Unit Description

SWMU 004a (Figure 17) is an active materials storage area located in the E ½ of the NE ¼ of the NE ¼ of Section 29, Township 22 South, Range 31 East (DOE, 2002, Section 15.0). A locked, 8-foot chain link fence surrounds the 300 feet by 300 feet storage complex. Access to each area is limited to WTS and Sandia National Laboratories materials control personnel and the area is regularly patrolled by WIPP security.

History/Current and Anticipated Future Land Use

The storage yard is divided into separately managed areas. The west side of the storage area is managed by WTS and the east side is managed by Sandia National Laboratories. The storage area is used to store new/used parts and materials.

SWMU 004a is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

NMED visually inspected SWMU 004a in 1992 as part of a RFA. No samples were collected.

In 1995, the Permittees collected soil samples to characterize the vertical and horizontal extent of any potential release from SWMU 004a. Samples were collected form both the WTS and the Sandia sides of the storage yard. The Permittees collected soil samples in the mud pit area at 12- to 24-inch depths and 36- to 48-inch depths and analyzed them for TCLP metals and TCLP volatiles. Surface samples were also collected from the top 48 inches of caliche. TCLP analysis demonstrated only that materials sampled from the materials storage area were not hazardous waste.

In 1996, the Permittees collected additional soil samples from the 1995 soil sample collection locations and analyzed them for total metals and VOCs. All constituents analyzed were detected below residential NMSSLs (NMED, 2006), with the exception of thallium. Thallium was not detected; however, because the detection limit reported exceeded the residential NMSSL, NMED included SWMU 004a in the final Permit as requiring further investigation.

In 2001, the Permittees collected additional soil samples from the surface and subsurface within and outside the SWMU 004a boundary and analyzed them for chromium and nickel. Both chromium and nickel were detected in all soil samples at concentrations below residential NMSSLs (NMED, 2006).

Subsequent thallium sampling in January 2007 by the Permittees at SWMU 001g (DOE, 2007a), using a detection limit below the NMSSL residential level (NMED, 2006), demonstrated that thallium is likely not present at sites where it was not detected above elevated detection limits. Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 004a has been determined to be suitable for NFA under criterion #4.

15. SWMU 007b, SW Evaporation Pond

Location/Unit Description

SWMU 007b (Figure18) is an approximately 145 feet by 145 feet area located approximately 770 feet west of the WIPP Waste Handling Building (DOE, 2002, Section 16.0). The location is currently graded and lies within an area that receives storm and domestic water.

History/Current and Anticipated Future Land Use

During the construction of the facility, the evaporation pond received water from personnel showers.

SWMU 007b is located on land under the jurisdiction of the DOE, who will maintain active institutional controls for a period of 100 years after final facility closure. The land surface is currently used for occasional recreational activities and livestock grazing. Anticipated future land use is industrial and recreational.

Evaluation of Relevant Information

In 1992 soil samples were collected to assess the potential for release of hazardous constituents from SWMU 007b. The soil samples were analyzed for total metals. All constituents were detected at concentrations below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

SWMU 007b has been determined to be suitable for NFA under criterion #4.

16. AOC 001r, D-123 Mud Pit

Location/Unit Description

AOC 001r (Figure 19) is located in the NE ¼ of the SE ¼ of Section 34, Township 22 South, Range 31 East (DOE, 2002, Section 17.0). AOC 001r is an abandoned mud pit constructed for the drilling of potash exploratory borehole D-123. AOC 001r is covered with dune sand and accommodates a livestock watering tank. Mud pit liners and/or stained soils are evident. The mud pit is located in the southeastern portion of the cleared area and has approximate dimensions of 8 feet by 16 feet.

History/Current and Anticipated Future Land Use

The borehole was completed by Weavers Drilling Company in 1953 to a total depth of 1,880 feet bgs. The borehole was abandoned and the site was closed by the USGS in 1953.

Evaluation of Relevant Information

NMED visually inspected AOC 001r in 1992 as part of a RFA. No samples were collected.

In April of 2006, one sample of the native soil was collected from the middle of the mud pit area at a depth below the base of the former mud pit (DOE, 2008). The sample was analyzed in the laboratory for barium, chromium, lead, and thallium. Thallium was not detected. Barium, chromium, and lead were detected at concentrations below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

AOC 001r has been determined to be suitable for NFA under criterion #4.

17. AOC 001u, IMC-376 Mud Pit

Location/Unit Description

AOC 001u (Figure 20) is located in the NW ¼ of Section 20, Township 22 South, Range 31 East (DOE, 2002, Section 18.0). AOC 001u is an abandoned mud pit constructed for the drilling of potash exploratory borehole IMC-376. A zone of discolored soil and sparse vegetation in the northwestern portion of the drill pad represents the location of the approximately 12 feet by 24 feet mud pit.

History/Current and Anticipated Future Land Use

The borehole was completed by Boyles Brothers Drilling Company in 1965 to a total depth of 1,702 feet bgs. The borehole was abandoned and the site was closed by the USGS in 1965.

Evaluation of Relevant Information

NMED visually inspected AOC 001u in 1992 as part of a RFA. No samples were collected.

In April of 2006, one sample of the native soil was collected from the middle of the mud pit area at a depth below the base of the former mud pit (DOE, 2008). The sample was analyzed in the laboratory for barium, chromium, lead, and thallium. Thallium was not detected. Barium, chromium, and lead were detected at concentrations below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

AOC 001u has been determined to be suitable for NFA under criterion #4.

18. AOC 001v, IMC-456 Mud Pit

Location/Unit Description

AOC 001v (Figure 21) is an abandoned mud pit constructed for the drilling of potash exploratory borehole IMC-456 (DOE, 2002, Section 19.0). A zone of discolored soil and sparse vegetation in the northern portion of the drill pad represents the location of the approximately 8 feet by 21 feet mud pit.

History/Current and Anticipated Future Land Use

The borehole was completed by Boyles Brothers Drilling Company in 1976 to a total depth of 1,975 feet bgs. The borehole was abandoned and the site was closed by the USGS in 1976.

Evaluation of Relevant Information

NMED visually inspected AOC 001v in 1992 as part of a RFA. No samples were collected.

In April of 2006, one sample of the native soil was collected from the middle of the mud pit area at a depth below the base of the former mud pit (DOE, 2008). The sample was analyzed in the laboratory for barium, chromium, lead, and thallium. Thallium was not detected. Barium, chromium, and lead were detected at concentrations below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

AOC 001v has been determined to be suitable for NFA under criterion #4.

19. AOC 001w, IMC-457 Mud Pit

Location/Unit Description

AOC 001w (Figure 22) is located in the SW ¼ of Section 27, Township 22 South, Range 31 East (DOE, 2002, Section 20.0). AOC 001w is an abandoned mud pit constructed for the drilling of the potash exploratory borehole IMC-457. The drill pad for IMC-457 is built up about 0.3 meters above the natural terrain. A zone of discolored soil and sparse vegetation in the northwestern portion of the drill pad represents the location of the approximately 8 feet by 8 feet mud pit.

History/Current and Anticipated Future Land Use

The borehole was completed by Boyles Brothers Drilling Company in 1976 to a total depth of 1,885 feet bgs. The borehole was abandoned and the site was closed by the USGS in 1976.

Evaluation of Relevant Information

NMED visually inspected AOC 001w in 1992 as part of a RFA. No samples were collected.

In April of 2006, one sample of the native soil was collected from the middle of the mud pit area at a depth below the base of the former mud pit (DOE, 2008). The sample was analyzed in the laboratory for barium, chromium, lead, and thallium. Thallium was not detected. Barium, chromium, and lead were detected at concentrations below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

AOC 001w has been determined to be suitable for NFA under criterion #4.

20. AOC 001ac, DSP-207 Mud Pit

Location/Unit Description

AOC 001ac (Figure 23) is located in the SW ¼ of the NE ¼ of the SW ¼ of Section 19, Township 22 South, Range 31 East (DOE, 2002, Section 21.0). AOC 001ac is an abandoned mud pit constructed for the drilling of potash exploratory borehole DSP-207. The drill pad for DSP-207 is sparsely vegetated. A zone of discolored soil and sparse vegetation in the southern portion of the drill pad represents the location of the approximately 8 feet by 18 feet mud pit.

History/Current and Anticipated Future Land Use

The borehole was completed by Joy Drilling Company in 1958 to a total depth of 1,613 feet bgs. The borehole was abandoned and the site was closed by the USGS in 1958.

Evaluation of Relevant Information

NMED visually inspected AOC 001ac in 1992 as part of a RFA. No samples were collected.

In April of 2006, one sample of the native soil was collected from the middle of the mud pit area at a depth below the base of the former mud pit (DOE, 2008). The sample was analyzed in the laboratory for barium, chromium, lead, and thallium. Thallium was not detected. Barium, chromium, and lead were detected at concentrations below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

AOC 001ac has been determined to be suitable for NFA under criterion #4.

21. AOC 001ae, IMC-337 Mud Pit

Location/Unit Description

AOC 001ae (Figure24) is located in the NW ¼ of the NW ¼ of Section 22, Township 22 South, Range 31 East (DOE, 2002, Section 22.0). AOC 001ae is an abandoned mud pit constructed for the drilling of potash exploratory borehole IMC-337. The drill pad for IMC-337 is sparsely vegetated. A zone of discolored soil and sparse vegetation in the northeastern portion of the drill pad represents the location of the approximately 8 feet by 16 feet mud pit.

History/Current and Anticipated Future Land Use

The borehole was completed by Boyles Brothers Drilling Company in 1965 to a total depth of 1,876 feet bgs. The borehole was abandoned and the site was closed by the USGS in 1965.

Evaluation of Relevant Information

In April of 2006, one sample of the native soil was collected from the middle of the mud pit area at a depth below the base of the former mud pit (DOE, 2008). The sample was analyzed in the

laboratory for barium, chromium, lead, and thallium. Thallium was not detected. Barium, chromium, and lead were detected at concentrations below residential NMSSLs (NMED, 2006). Therefore, NMED concludes that if there was a release, the concentrations of hazardous constituents are at acceptably low levels.

Basis of Determination

AOC 001ae has been determined to be suitable for NFA under criterion #4.

22. AOC 010b, Waste Handling Shaft Sump

Location/Unit Description

AOC 010b is located at S400/E300 at the bottom of the Waste Handling Shaft in the permitted facility, approximately 2,269 feet bgs (DOE, 2002, Section 23.0). The diameter of the Waste Handling Shaft is 20 feet and extends 119 feet below the facility horizon to accommodate the hoist counter weights. The unlined sump at the bottom of this shaft is AOC 010b.

History/Current and Anticipated Future Land Use

The Waste Handling Shaft is the route of entry for waste to be disposed of in the Hazardous Waste Disposal Units. The shaft is part of the operation of the facility and will continue to be used until the facility is closed. Wastes reportedly accumulated in the AOC during the construction phase of the facility included cement grout, chemical grout, grease, and other construction debris. All of these wastes have been removed from the sump. The installation of a fiberglass (?) catchment basin at the base of the Exhaust Shaft prevented any new flow of brine to the Waste Handling Shaft.

Evaluation of Relevant Information

NMED visually inspected AOC 010b as part of the RFA.

During routine sampling in 1995, brine was analyzed for TCLP metals. TCLP analysis demonstrated only that materials sampled from the shaft were not hazardous waste.

Basis of Determination

AOC 010b has been determined to be suitable for NFA under criterion #3 because it is part of the permitted facility and there is no release mechanism or pathway to the accessible environment.

23. AOC 010c, Exhaust Shaft Sump

Location/Unit Description

AOC 010c is located at S400/E480 at the bottom of the Exhaust Shaft in the permitted facility, approximately 2,150 feet bgs (DOE, 2002, Section 24.0).

History/Current and Anticipated Future Land Use

The Exhaust Shaft is the main ventilation exhaust route for the underground facility. The shaft is part of the operation of the facility and will continue to be used until the facility is closed. Wastes reportedly accumulated in the AOC during the construction phase of the facility included cement grout, chemical grout, grease, and other construction debris. All of these wastes have been removed from the sump. A catchment basin was installed at the base of the exhaust shaft to collect brine.

Evaluation of Relevant Information

Brine that accumulated in the sump was sampled and analyzed for TCLP metals. TCLP analysis demonstrated only that materials sampled from the shaft sump were not hazardous waste.

Basis of Determination

AOC 010c has been determined to be suitable for NFA under criterion #3 because it is in the permitted facility and there is no release mechanism or pathway to the accessible environment.

I. References

US Department of Energy (DOE), 2002. WIPP No Further Action Petition for Solid Waste Management Units and Areas of Concern, Waste Isolation Pilot Plant, Carlsbad, New Mexico. September 2002.

US Department of Energy (DOE), 2007a. Submittal of Thallium Sampling Data Package Solid Waste Management Unit (SWMU 001g) to the New Mexico Environment Department. March 27, 2007.

US Department of Energy (DOE), 2007b. Notification of a Class 3 Permit Modification Request to the Hazardous Waste Facility Permit, Permit Number: NM4890139088-TSDF. August 27, 2007.

US Department of Energy (DOE), 2008. Request for Area of Concern Analytical Data from an April 2006 Sampling Event. January 31, 2008.

New Mexico Environment Department (NMED), 1999. Technical Support Document, Exclusion/Inclusion of Solid Waste Management Units, Permit Module VII, Corrective Action for Solid Waste Management Units. October 27, 1999

New Mexico Environment Department (NMED), 2006. Soil Screening Levels, Revision 4.0. June 2006

J. Map and Figures

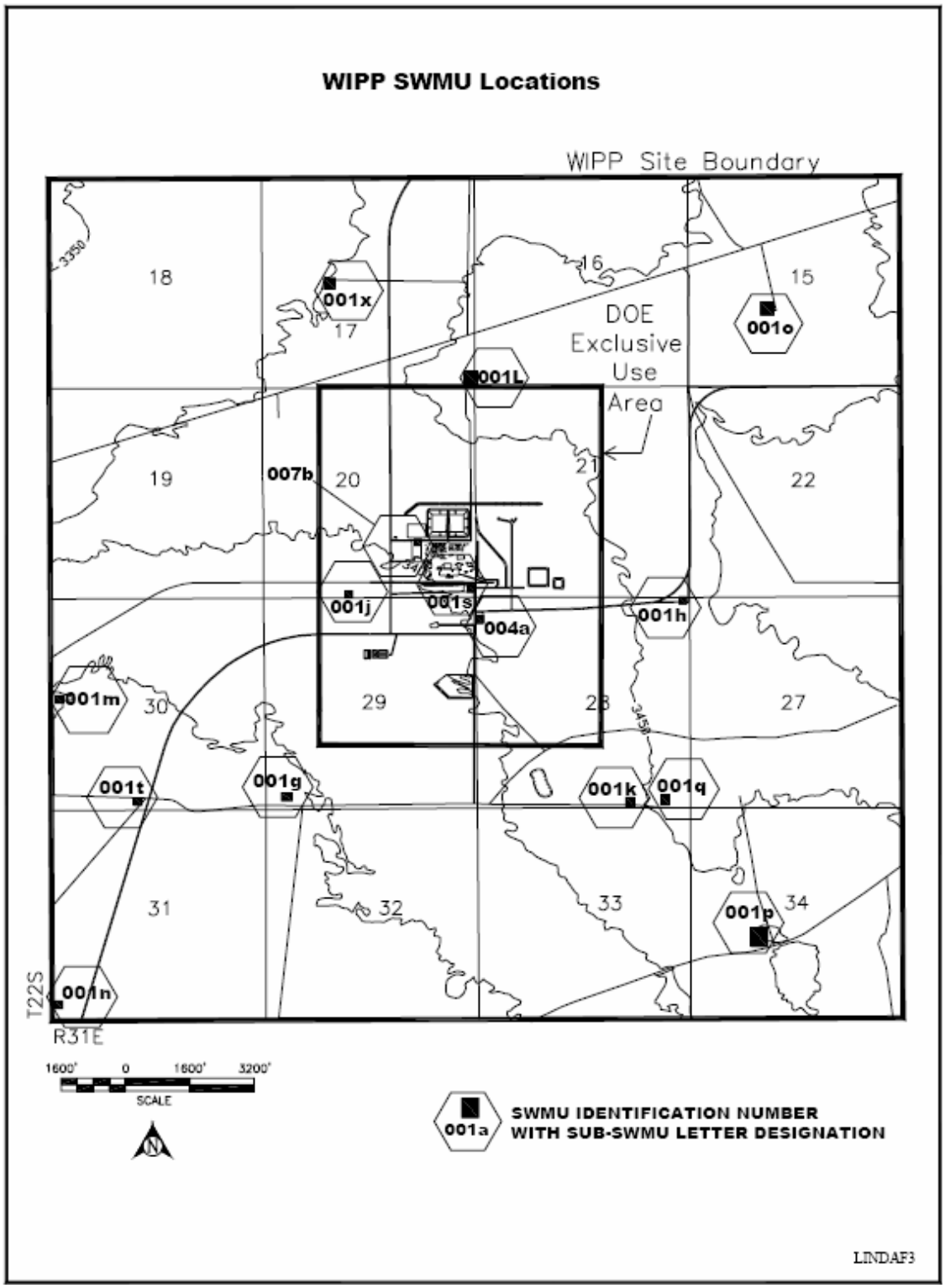

Figure 1. WIPP SWMU Locations

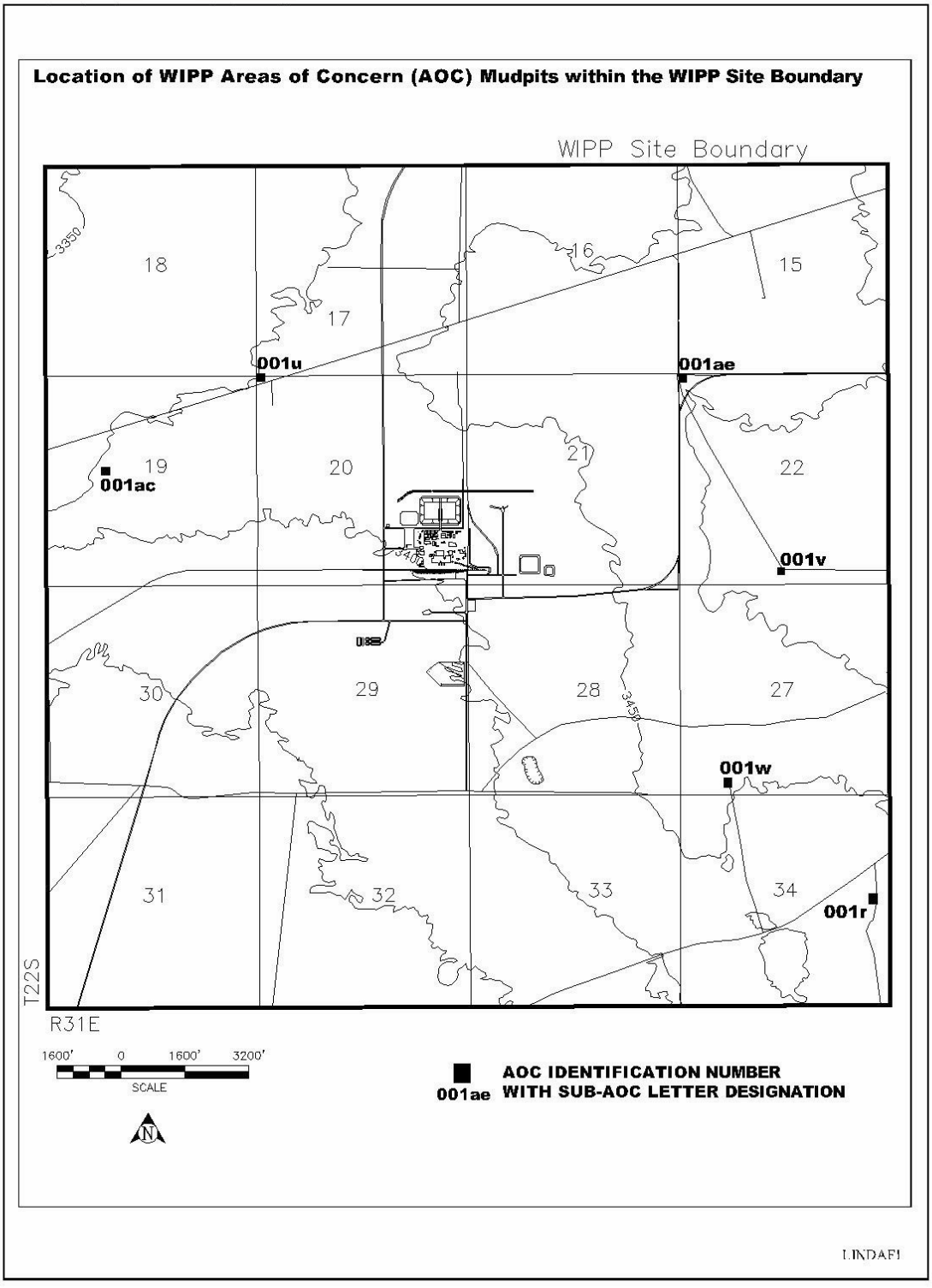

Figure 2. WIPP Aboveground AOC Locations

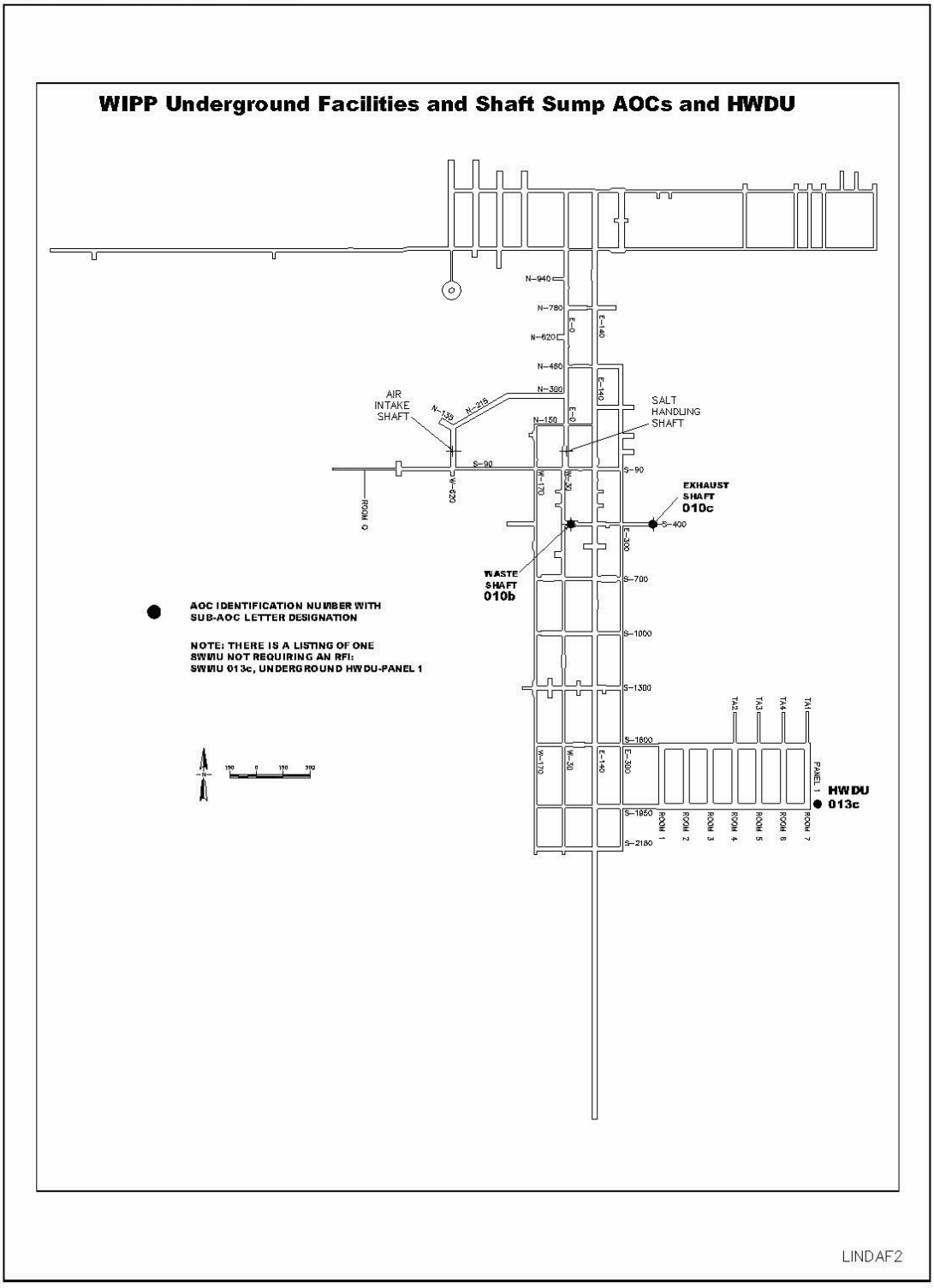

Figure 3. WIPP Underground AOC Locations

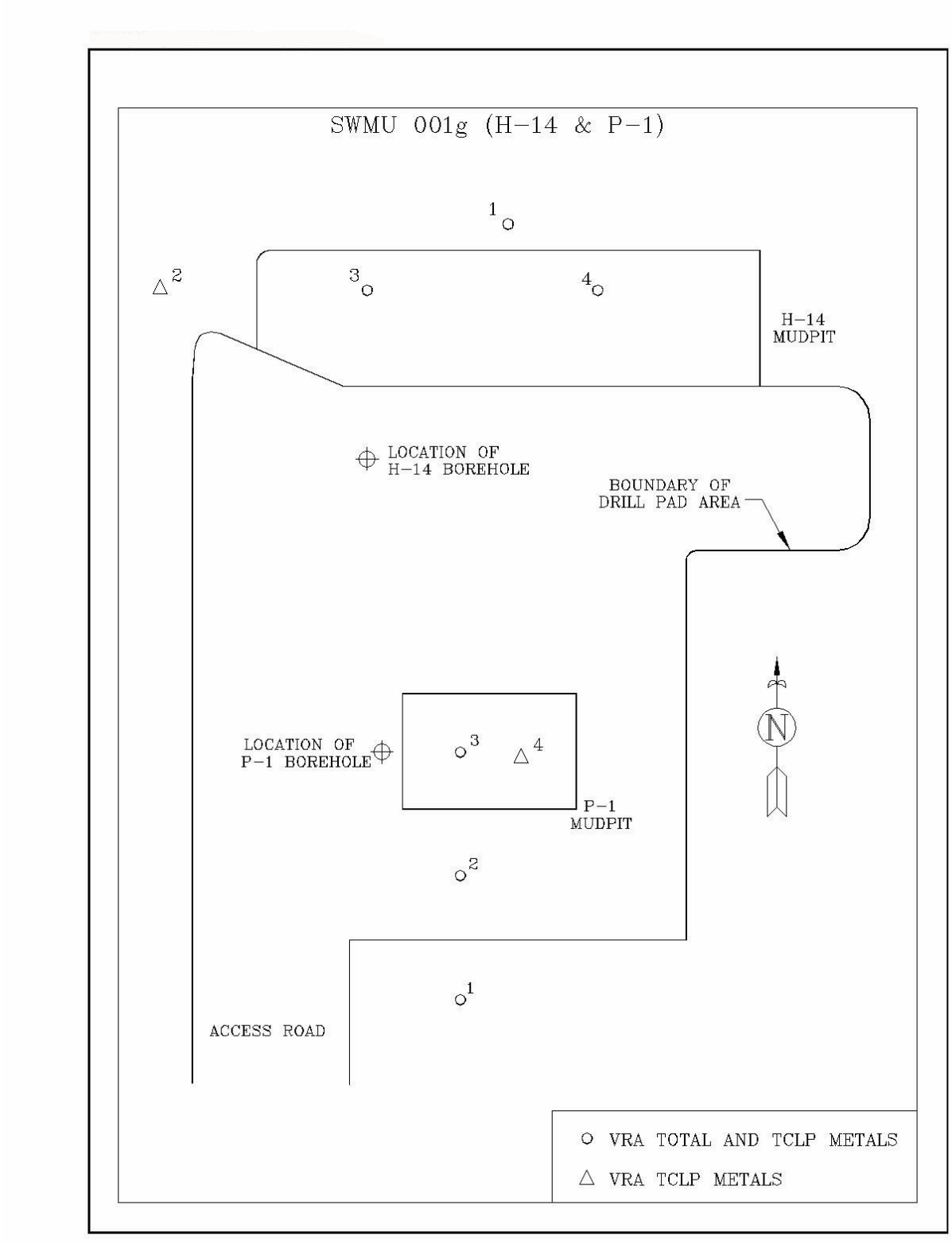

Figure 4. Sample Location Sketch - SWMU 001g (H-14 & P-1 Mud Pits)

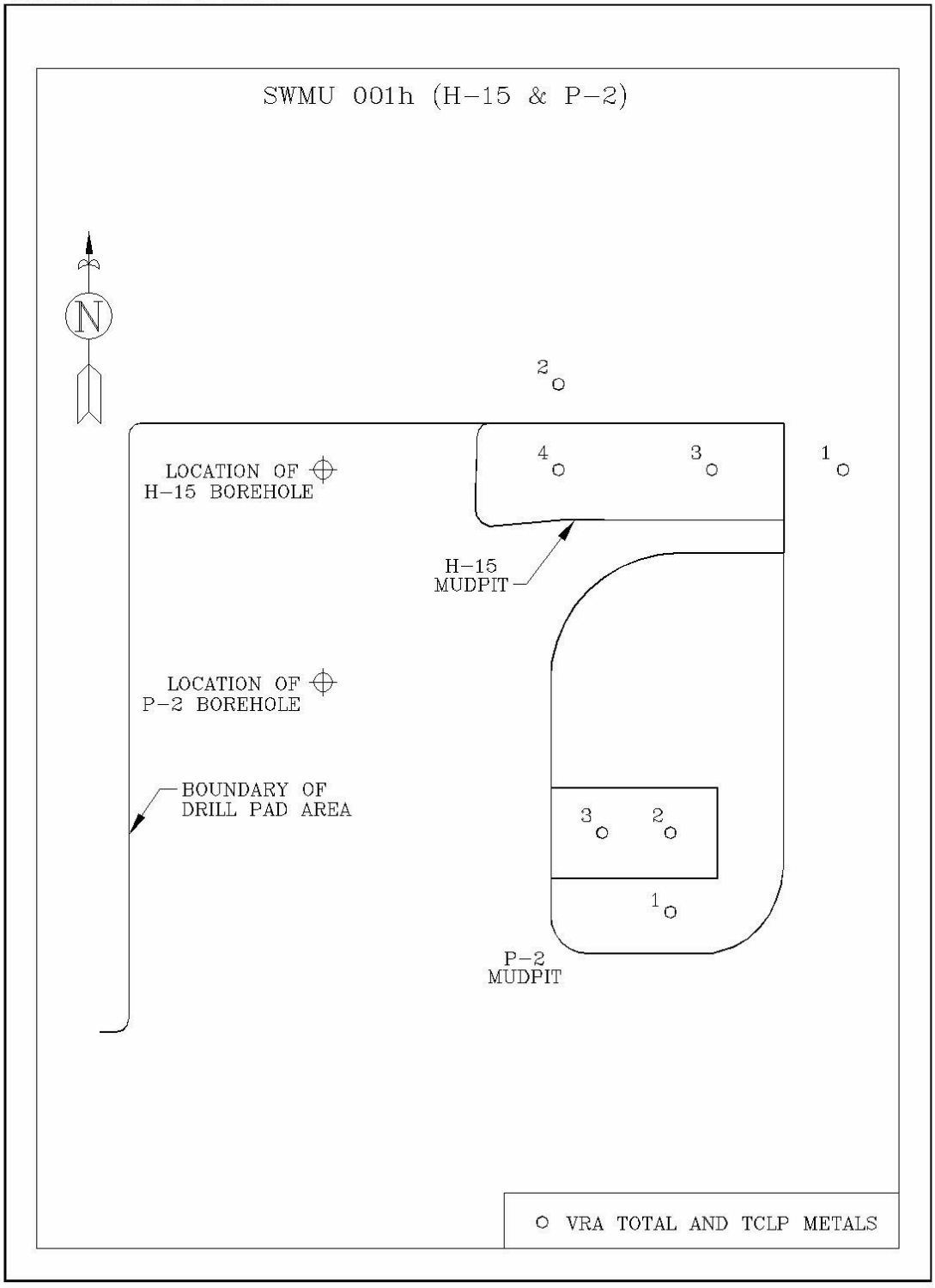

Figure 5. Sample Location Sketch - SWMU 001h (H-15 & P-2 Mud Pits)

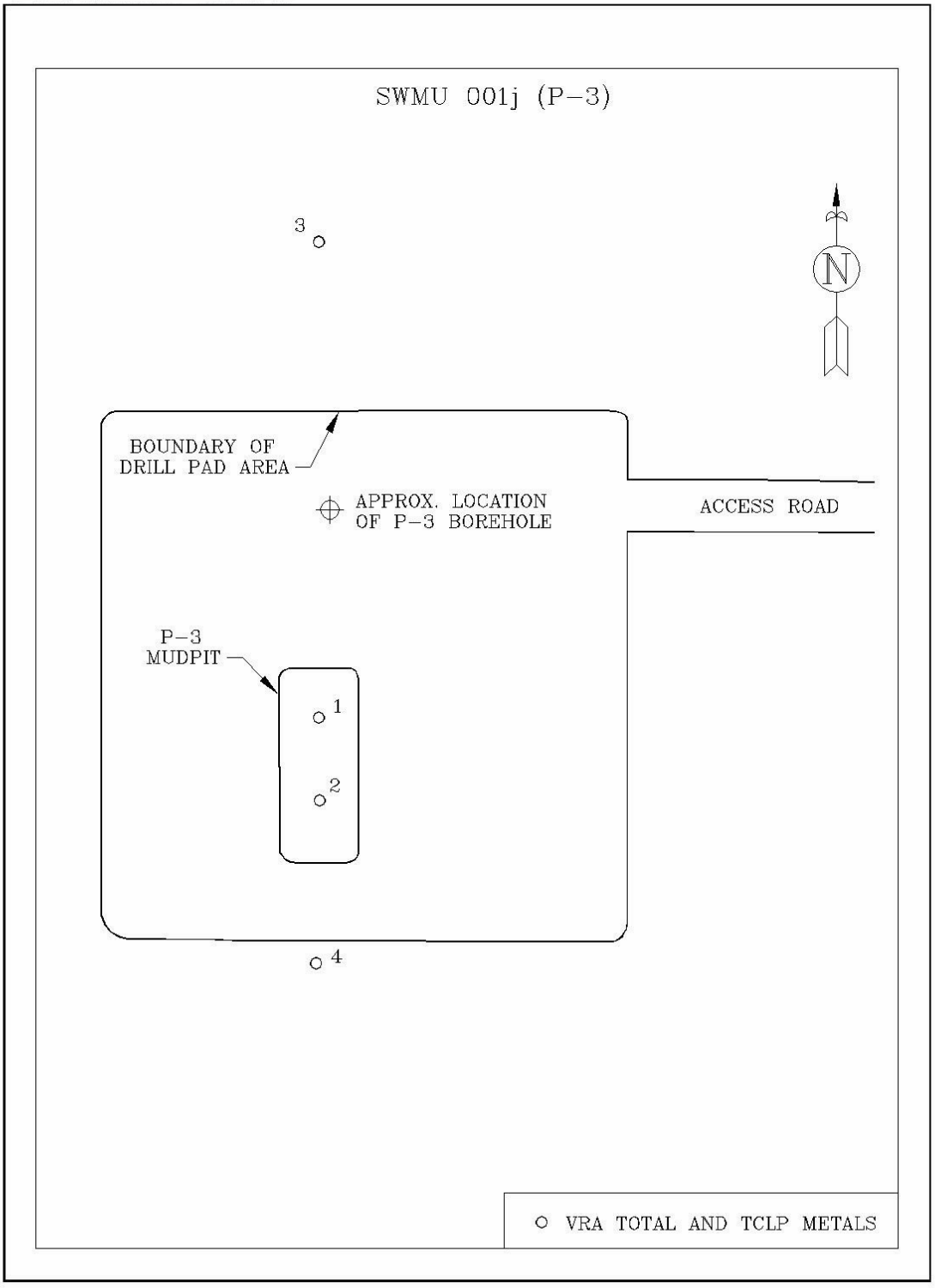

Figure 6. Sample Location Sketch - SWMU 001j (P-3 Mud Pit)

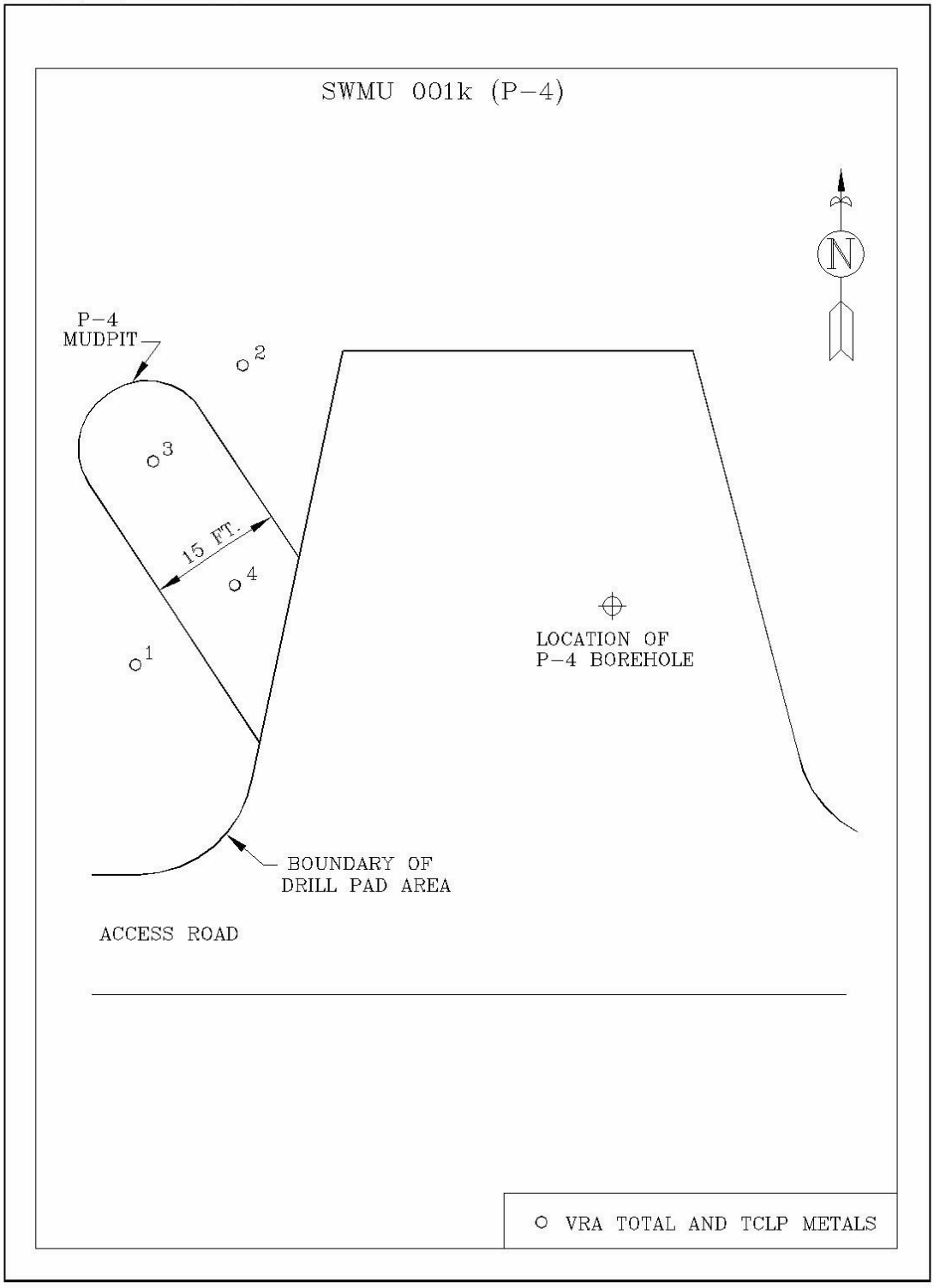

Figure 7. Sample Location Sketch - SWMU 001k (P-4)

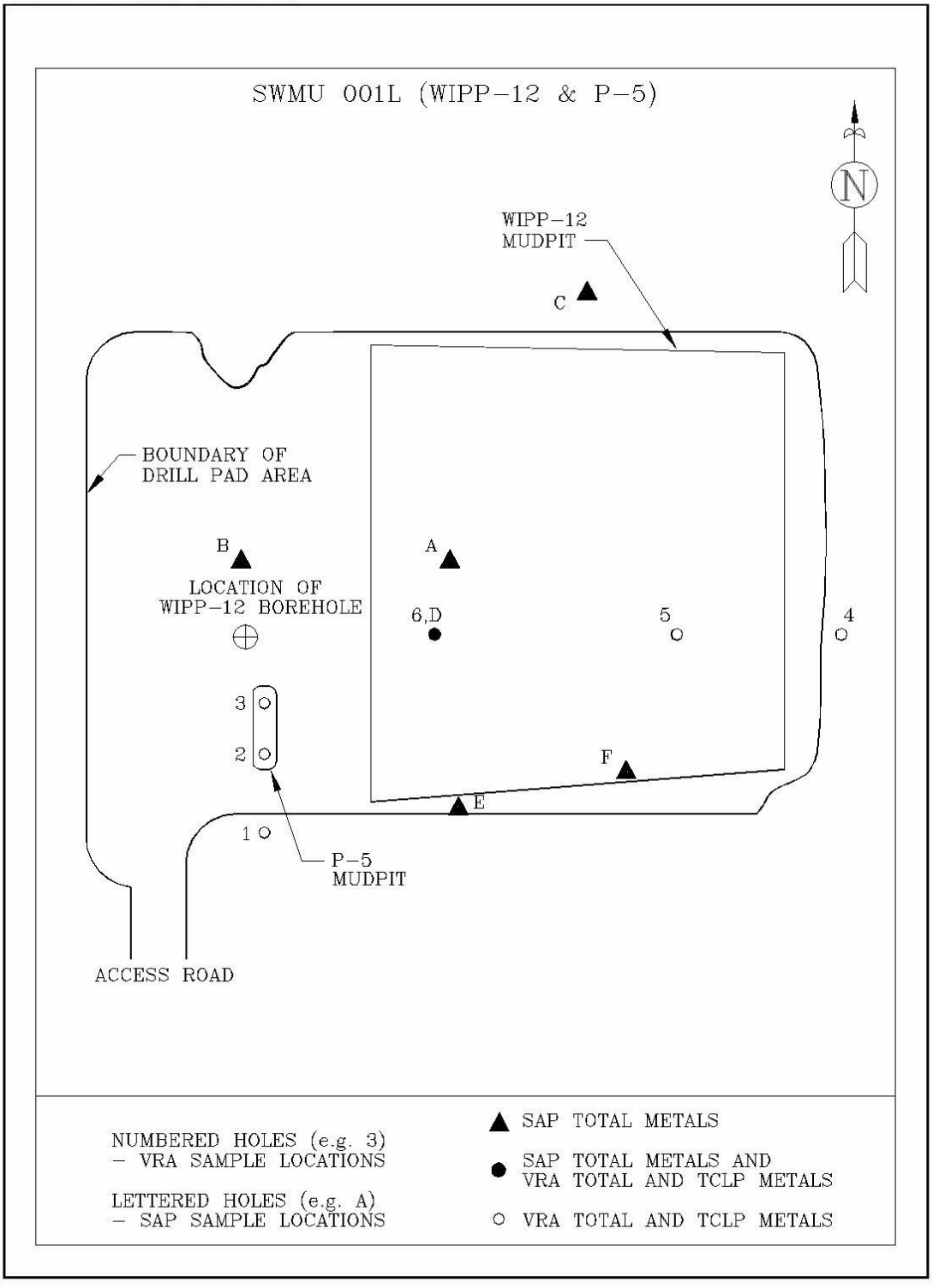

Figure 8. Sample Location Sketch - SWMU 001L (WIPP-12 & P-5 Mud Pits)

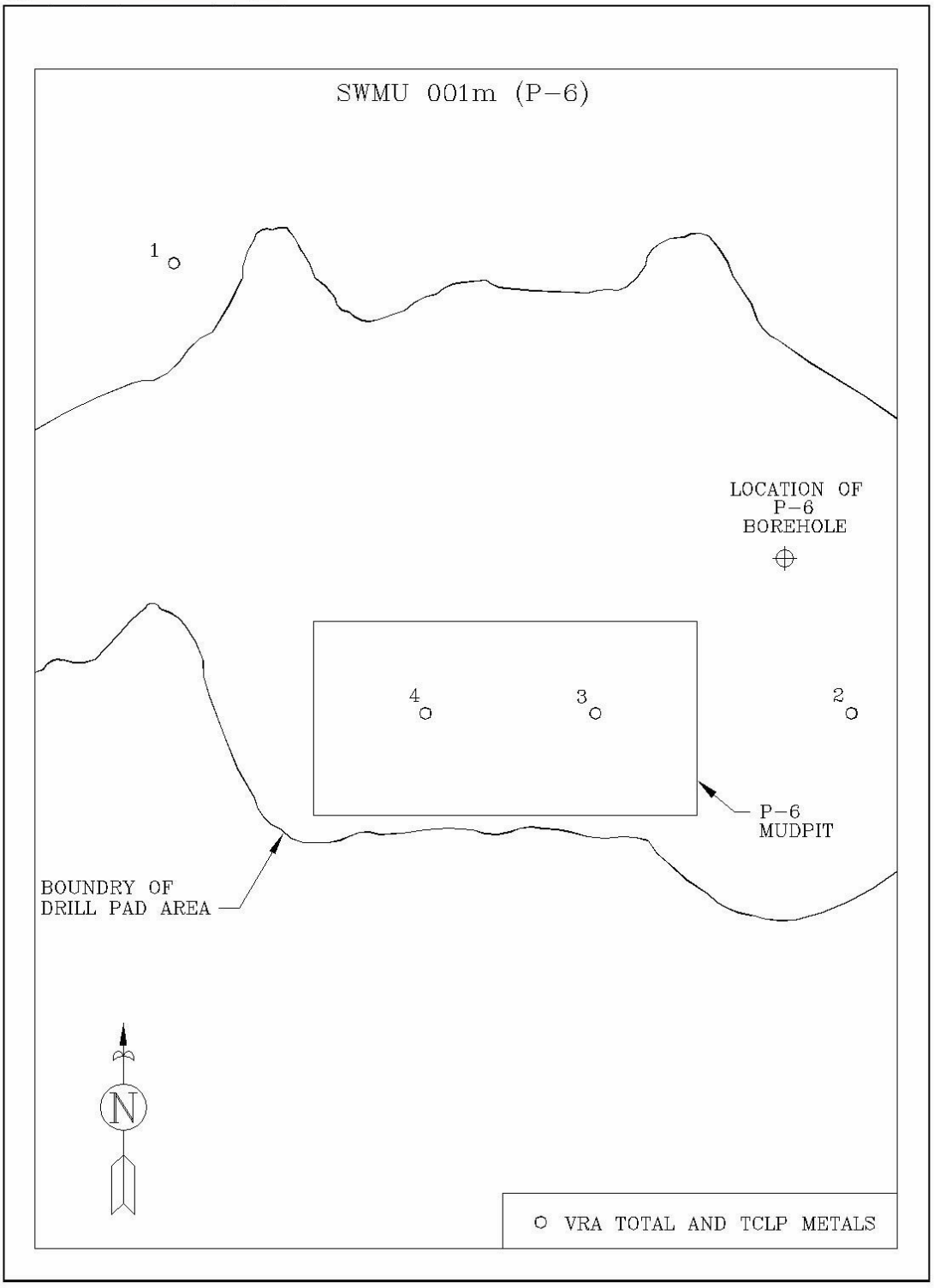

Figure 9. Sample Location Sketch - SWMU 001m (P-6 Mud Pit)

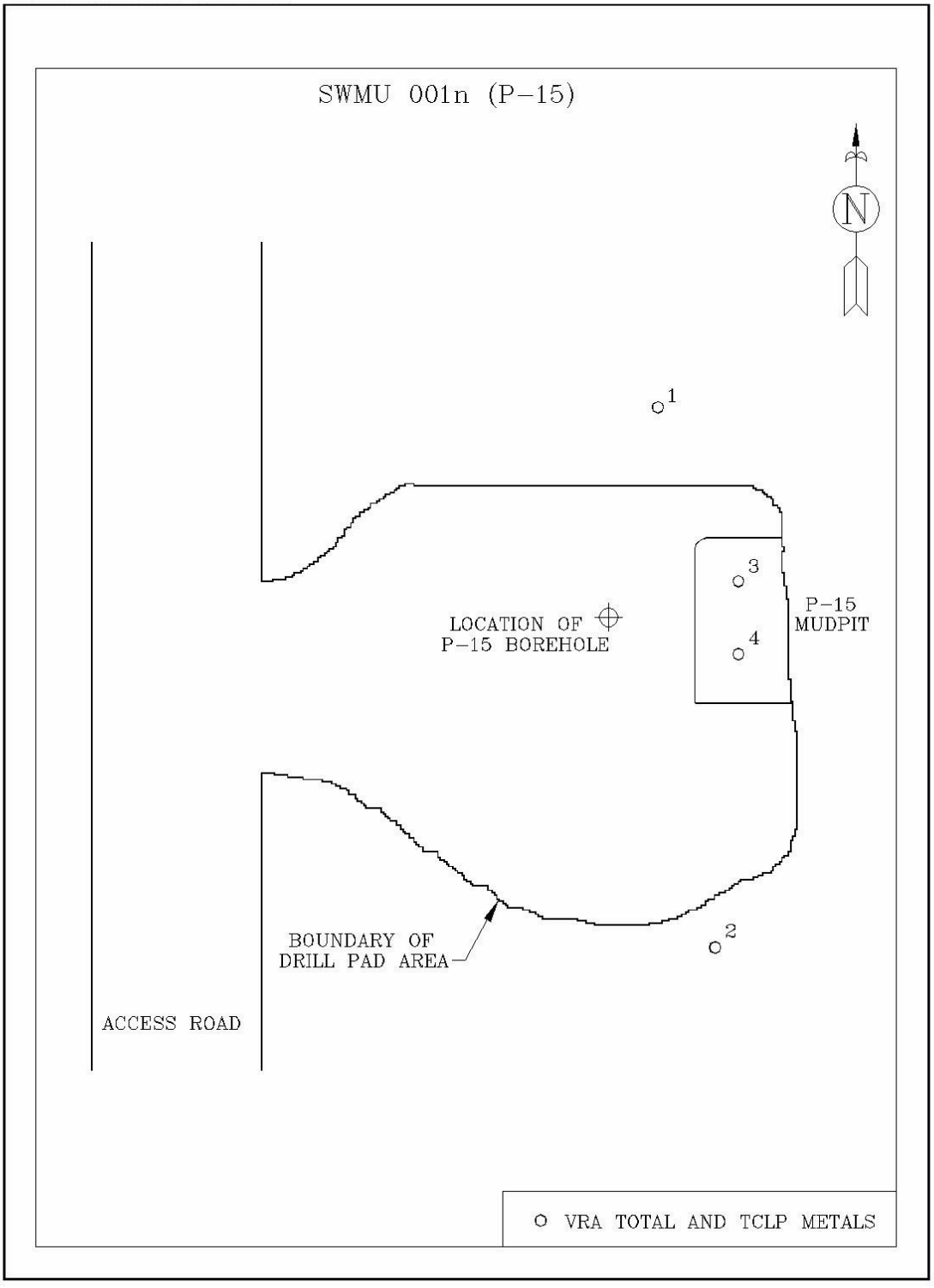

Figure 10. Sample Location Sketch - SWMU 001n (P-15 Mud Pit)

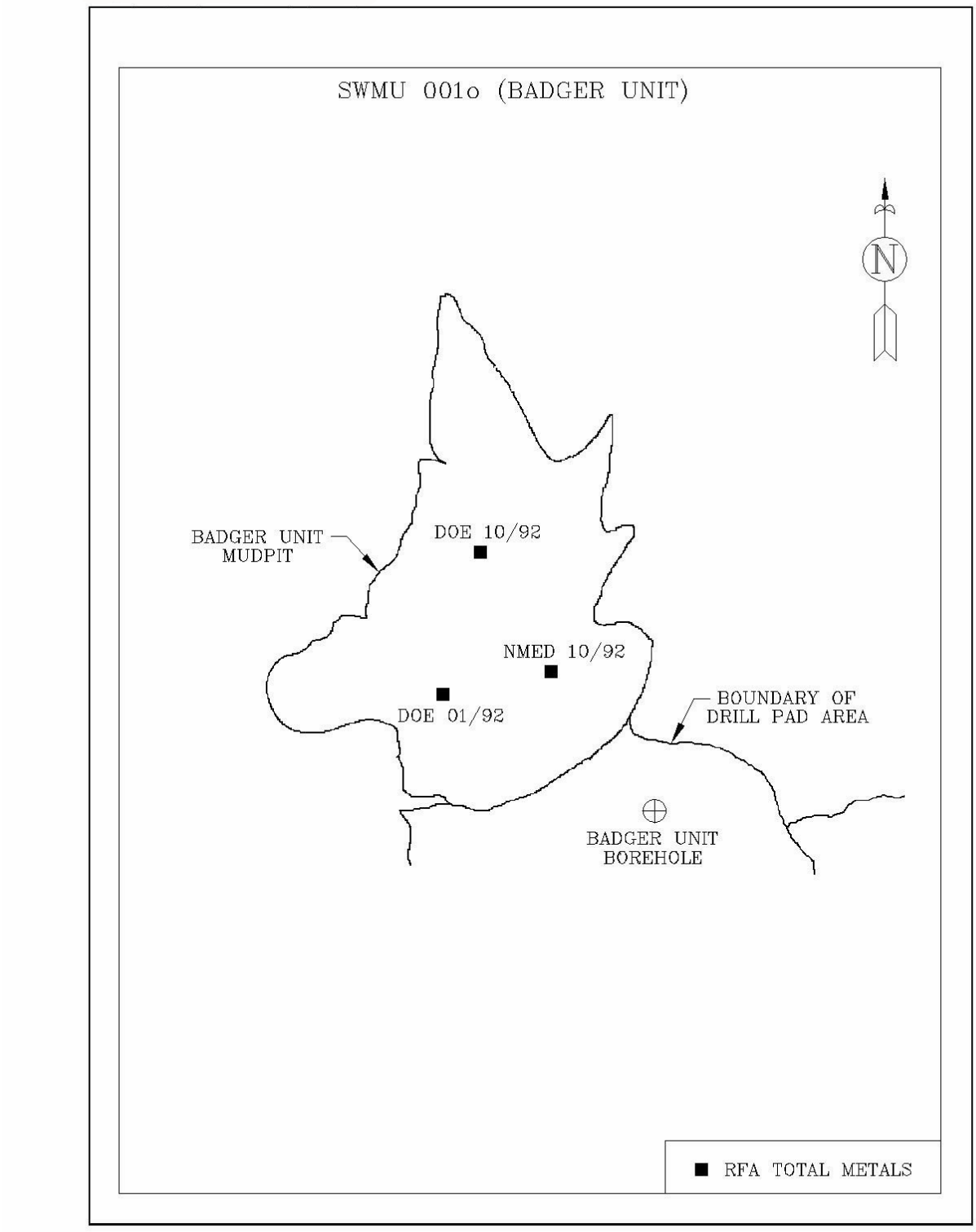

Figure 11. Sample Location Sketch - SWMU 001o (Badger Unit Drilling Mud Pits)

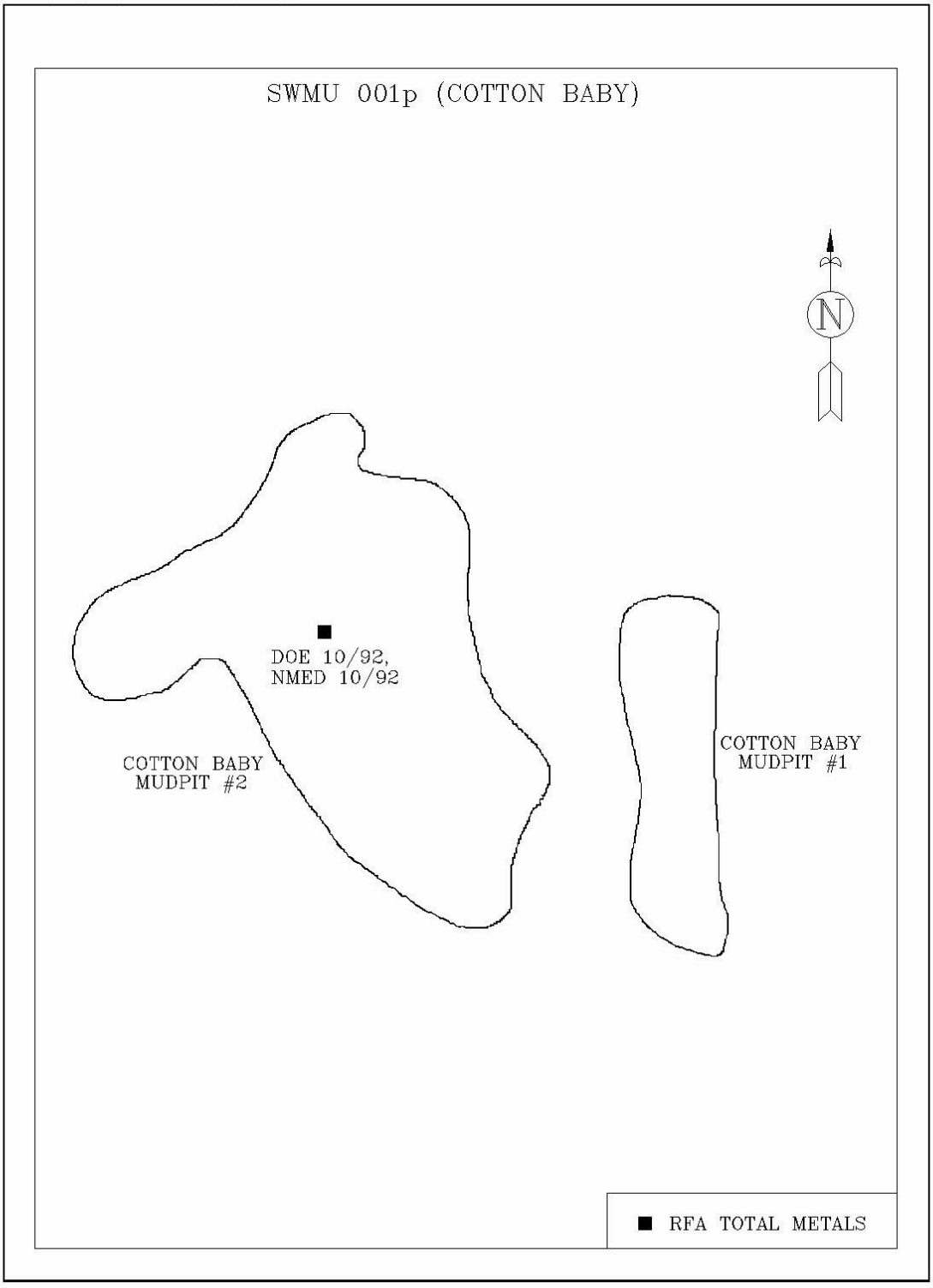

Figure 12. Sample Location Sketch - SWMU 001p (Cotton Baby Mud Pits)

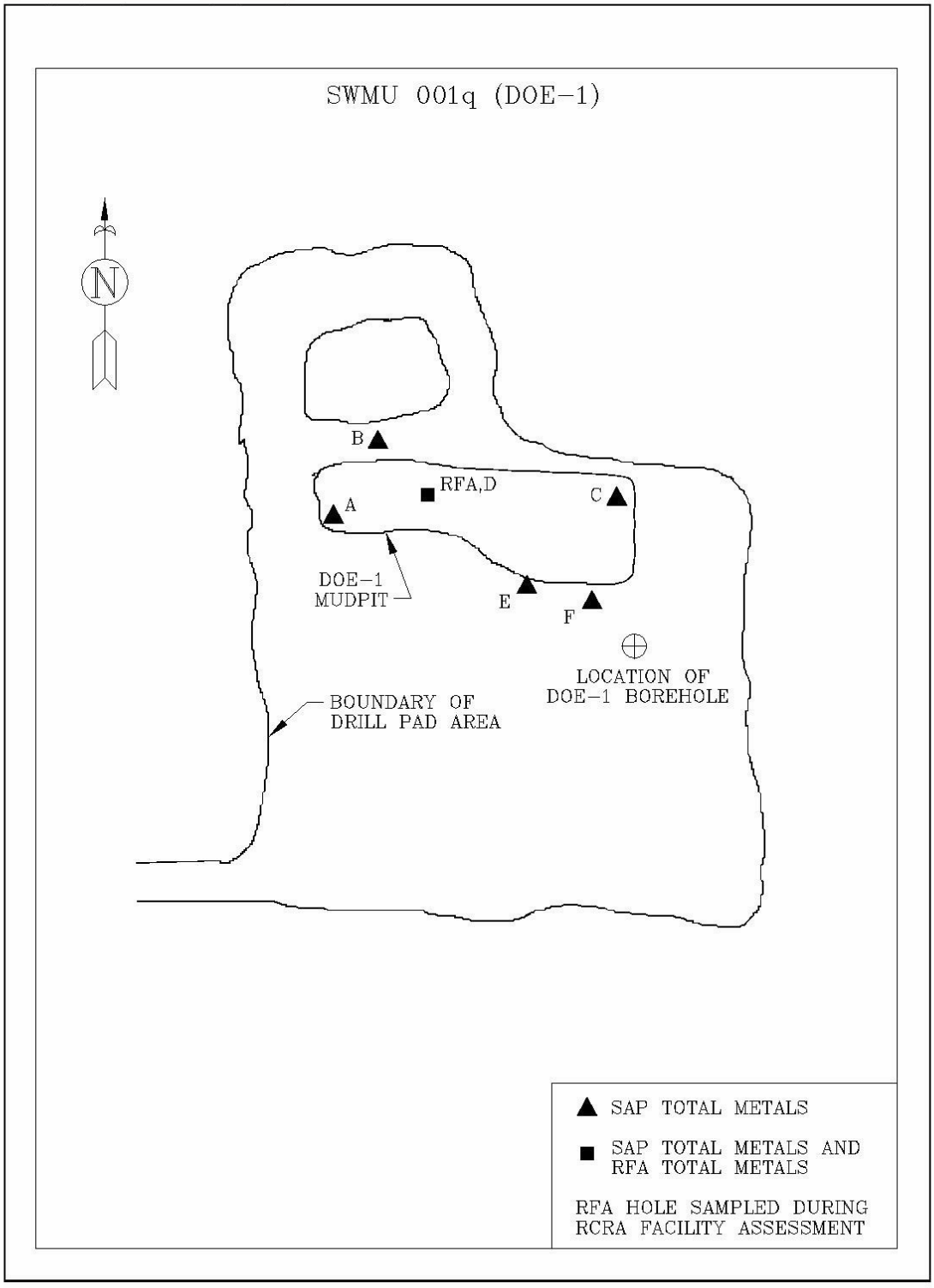

Figure 13. Sample Location Sketch - SWMU 001q (DOE-1 Mud Pits)

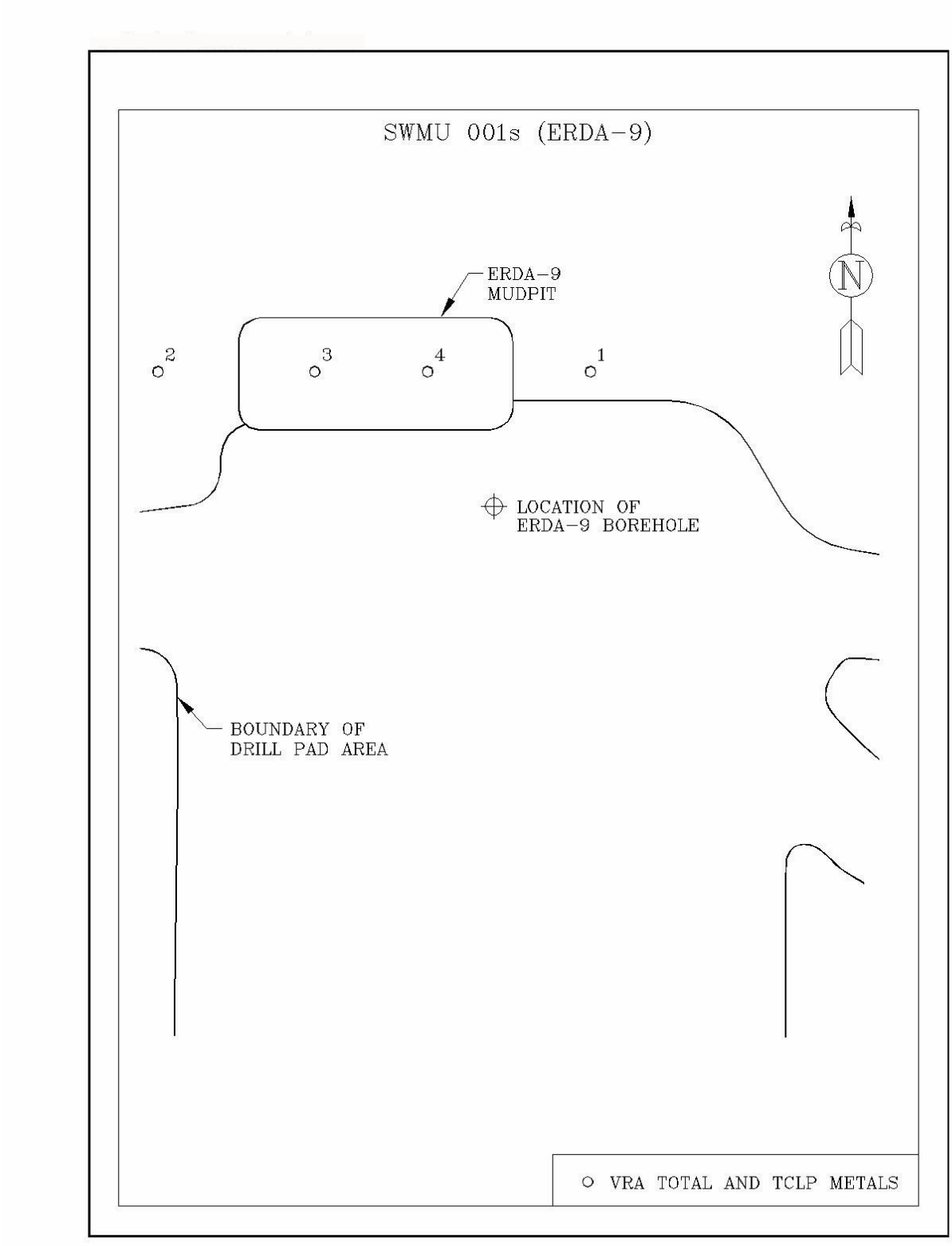

Figure 14. Sample Location Sketch - SWMU 001s (ERDA-9 Mud Pit)

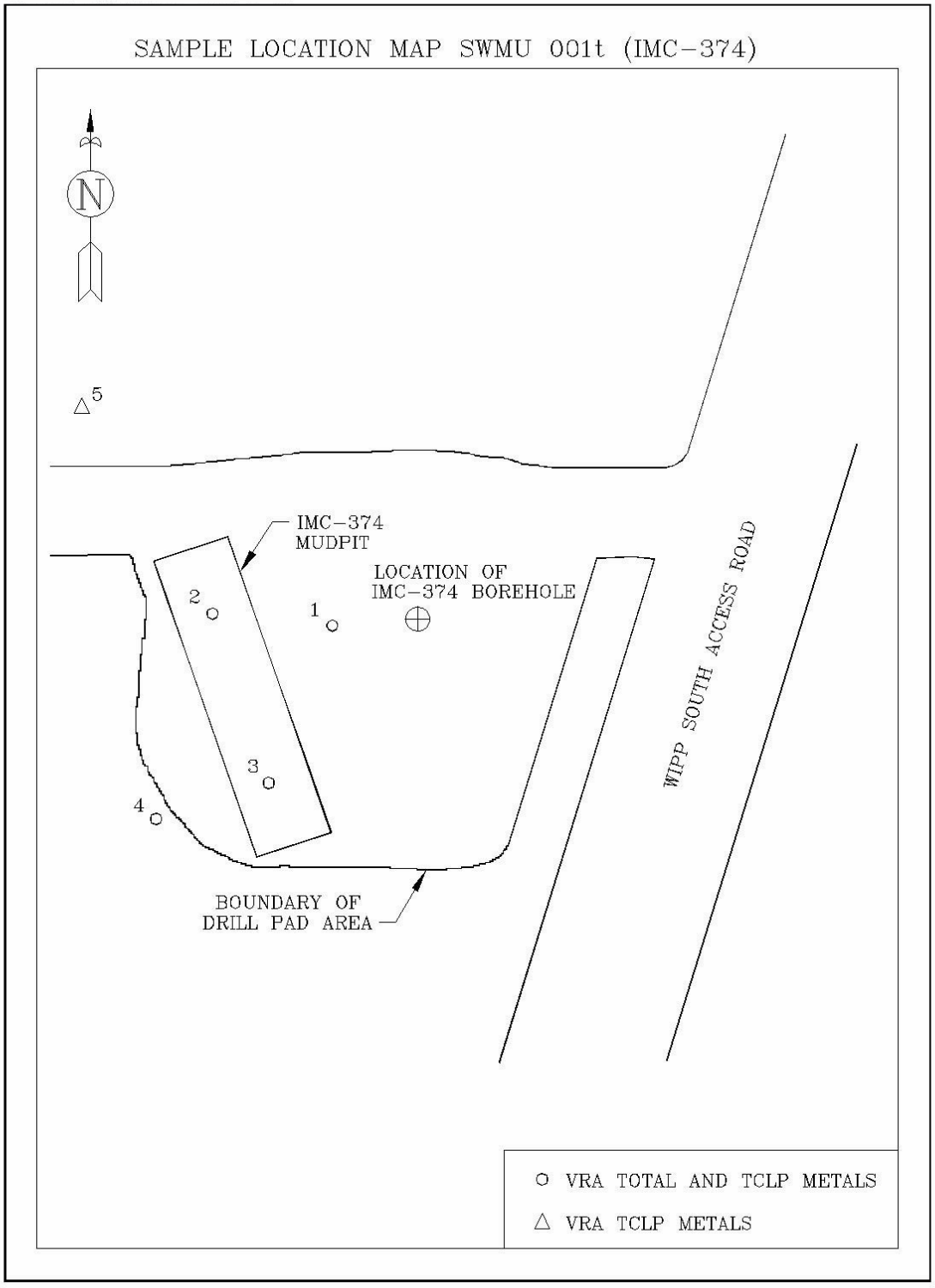

Figure 15. Sample Location Sketch - SWMU 001t (IMC-374 Mud Pit)

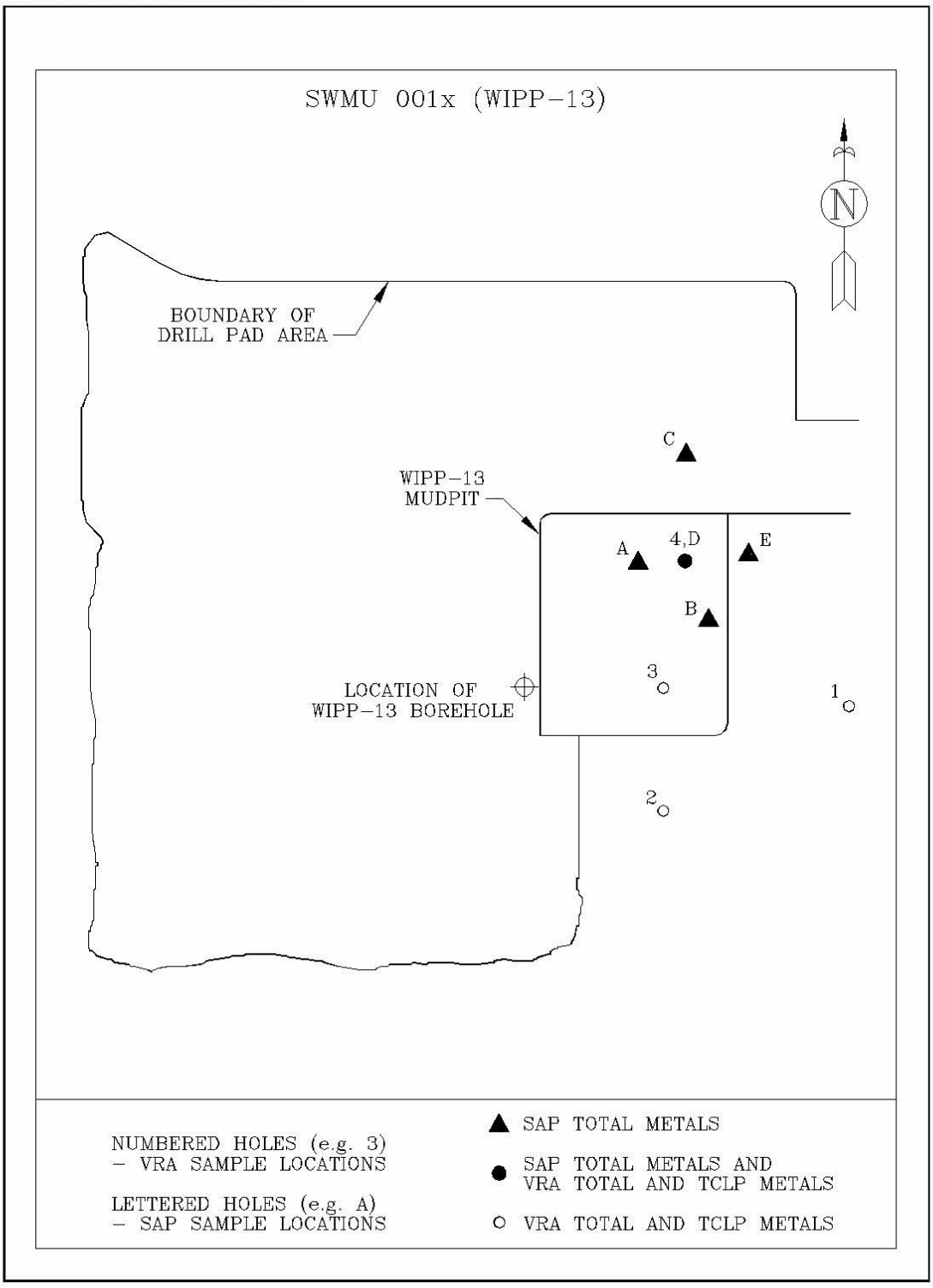

Figure 16. Sample Location Sketch - SWMU 001x (WIPP-13 Mud Pit)

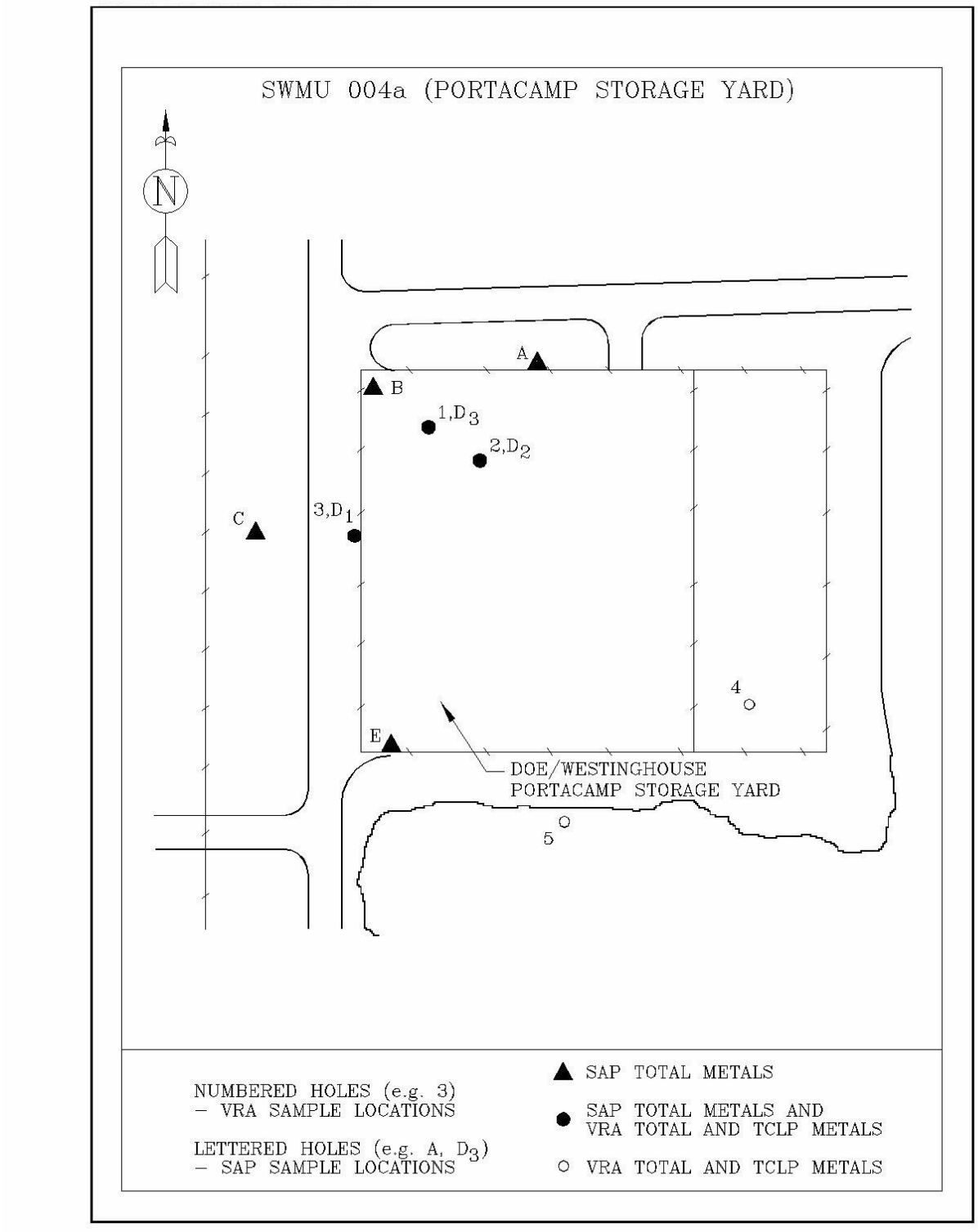

Figure 17. Sample Location Sketch - SWMU 004a (Portacamp Storage Yard, West Side)

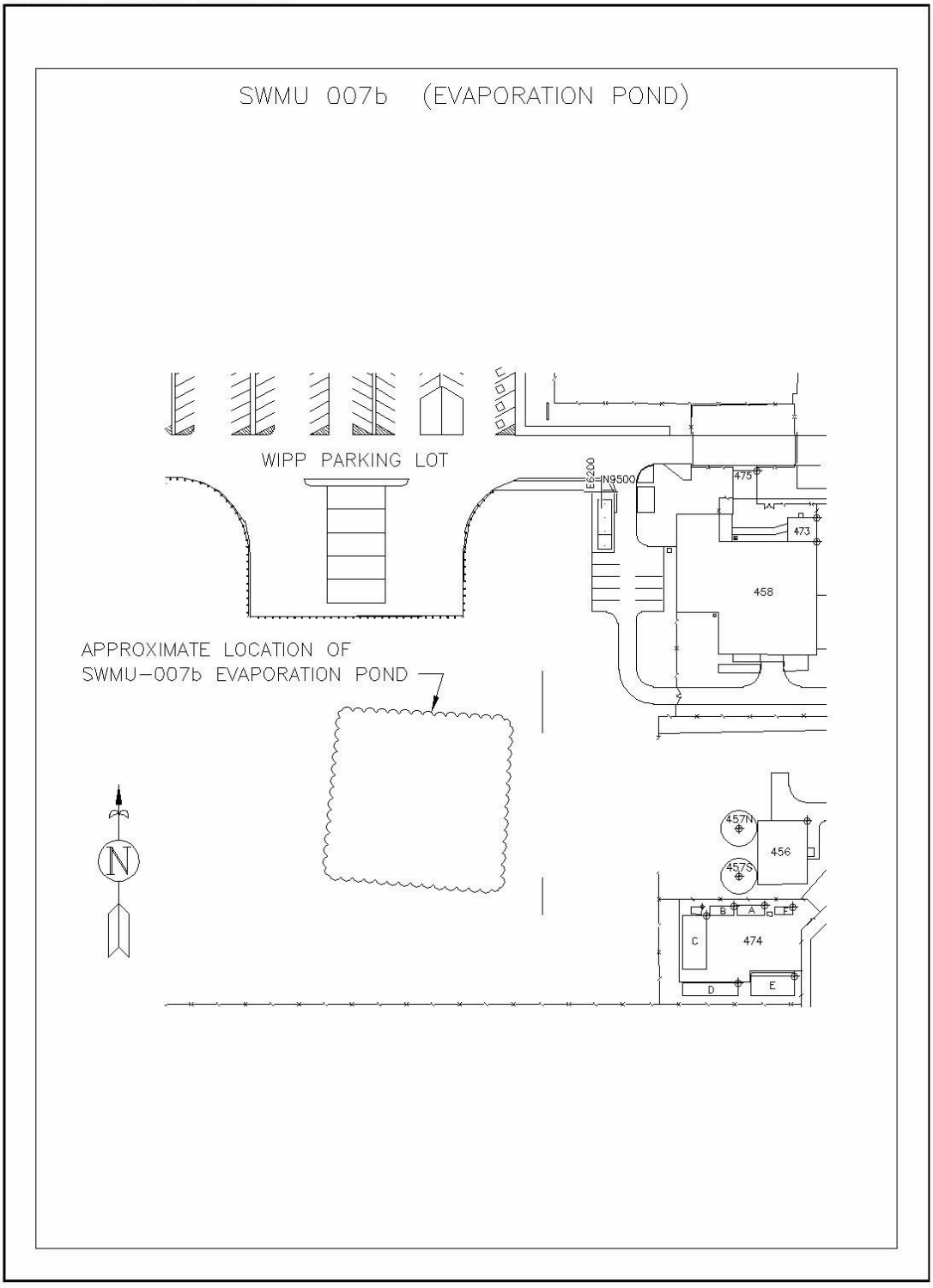

Figure 18. Sample Location Sketch - SWMU 007b (SW Evaporation Pond)

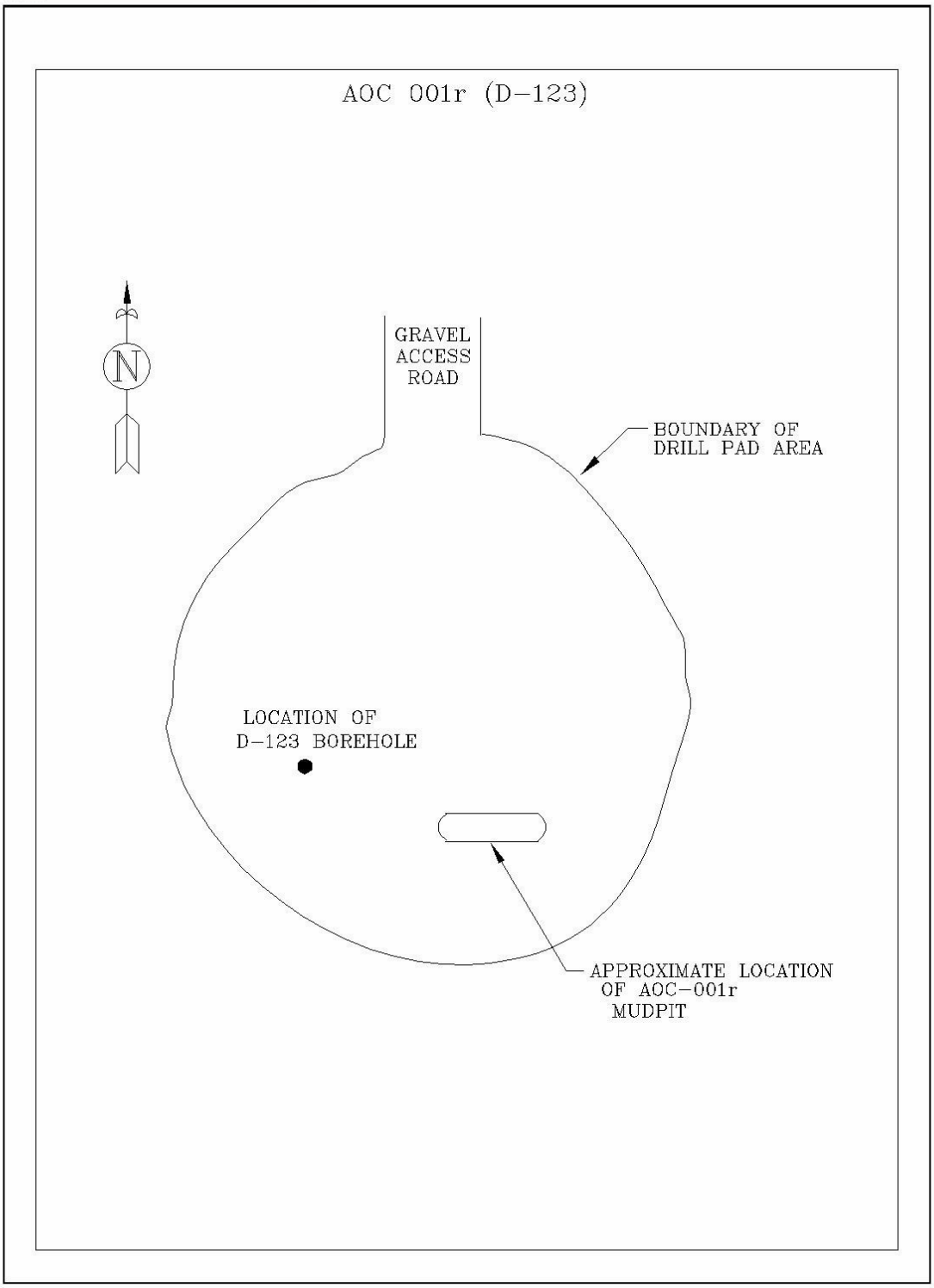

Figure 19. Location Sketch - AOC 001r (D-123 Mud Pit)

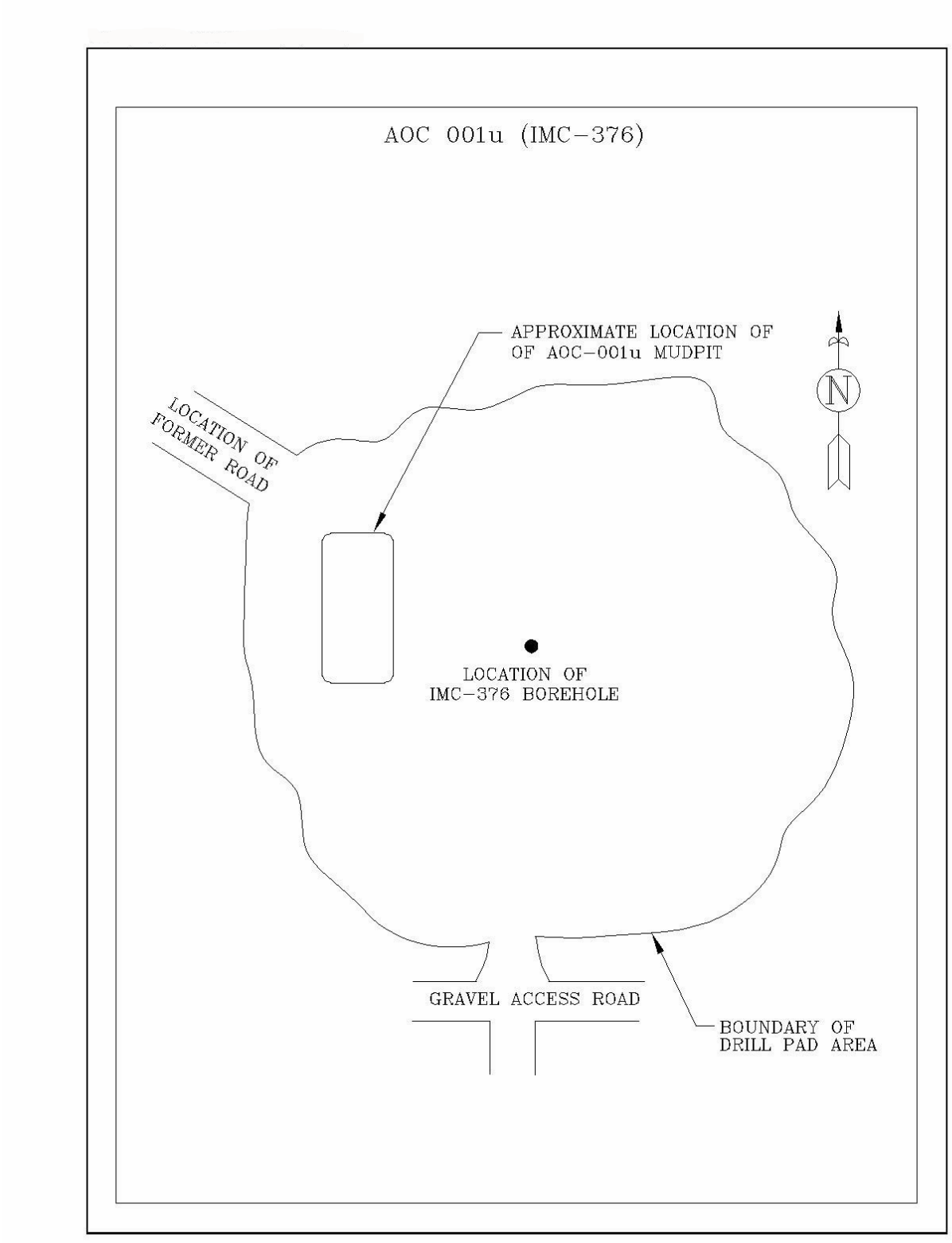

Figure 20. Location Sketch - AOC 001u (IMC-376 Mud Pit)

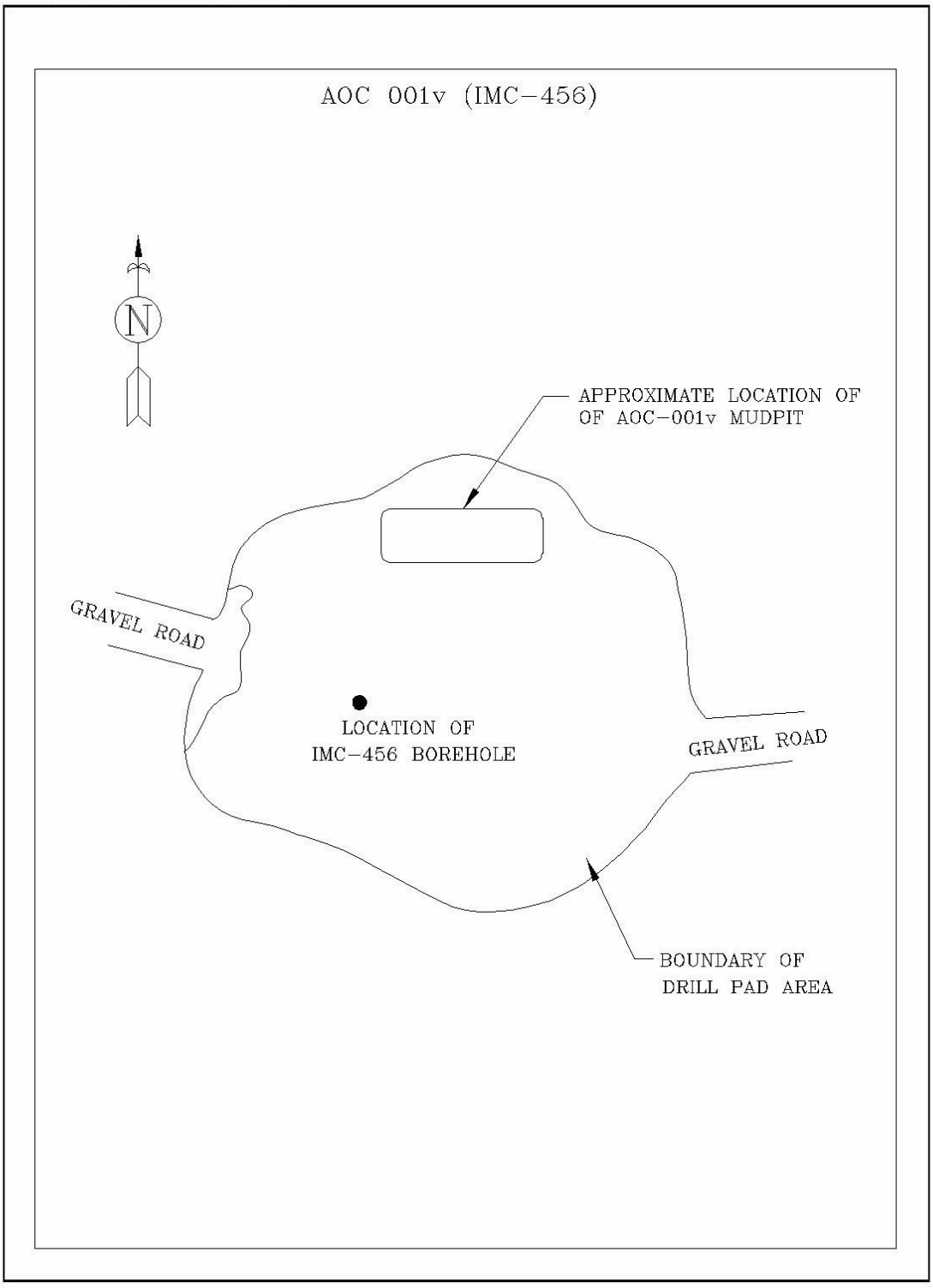

Figure 21. Location Sketch - AOC 001v (IMC-456 Mud Pit)

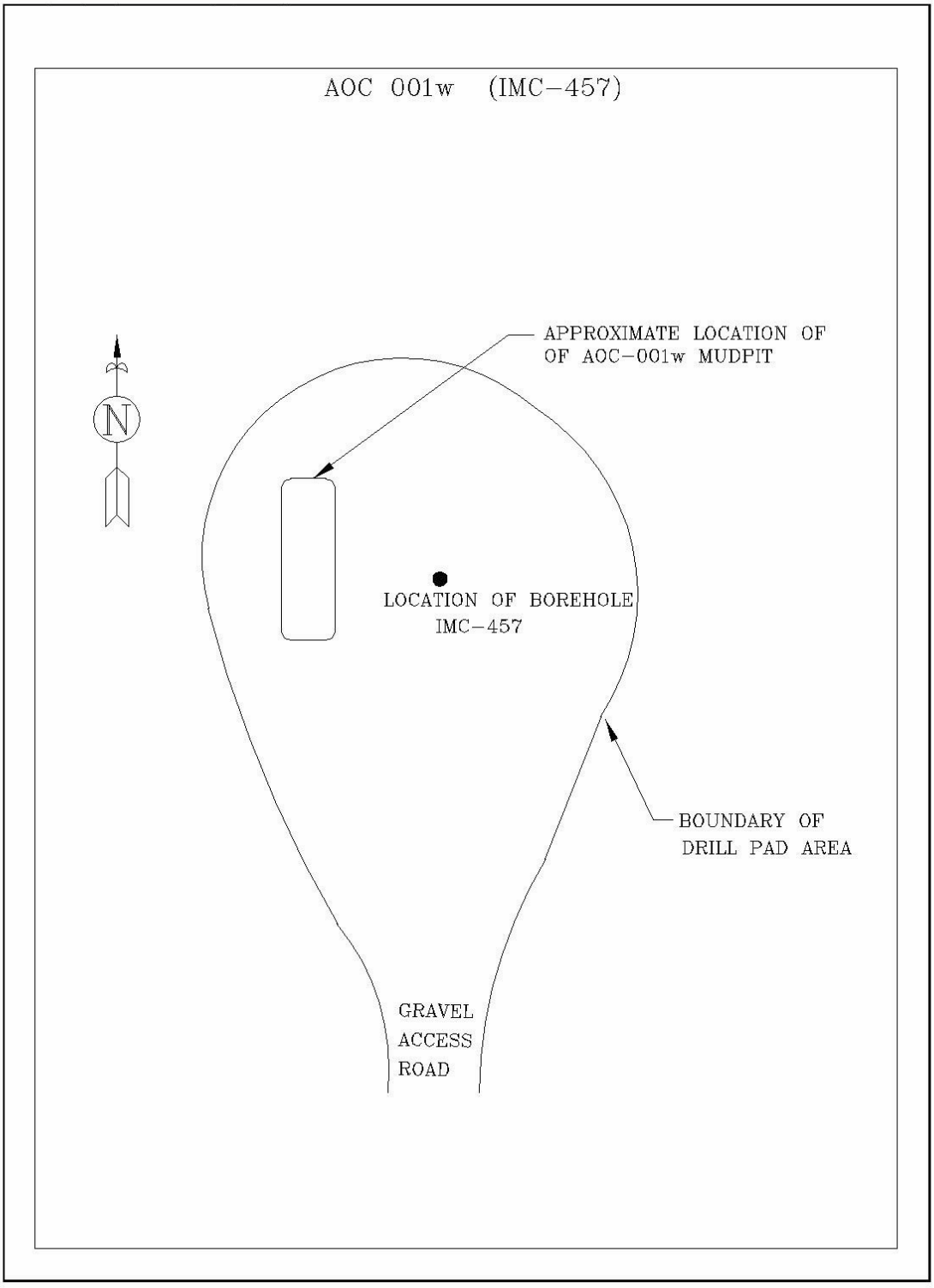

Figure 22. Location Sketch - AOC 001w (IMC-457 Mud Pit)

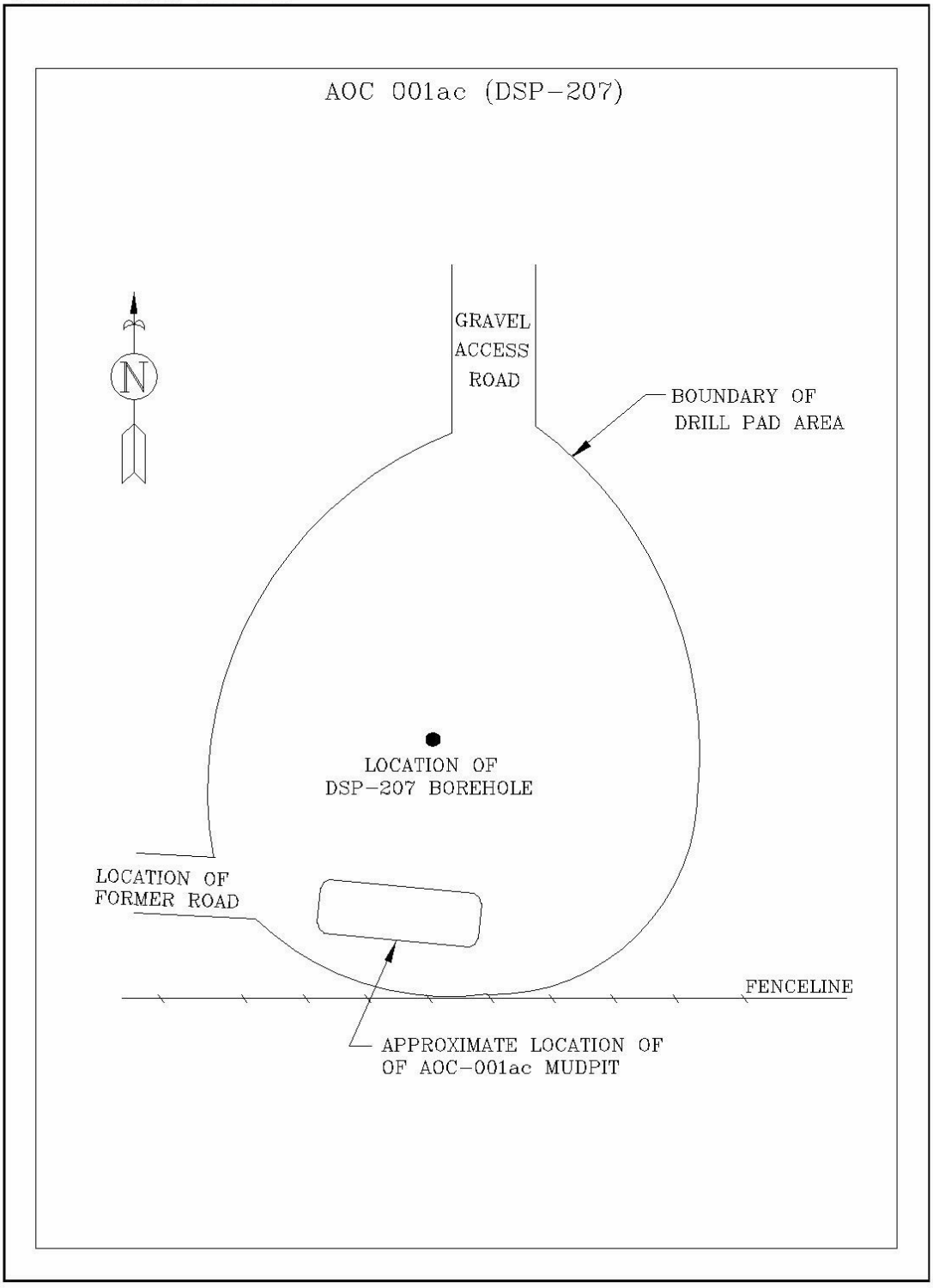

Figure 23. Location Sketch - AOC 001ac (DSP-207 Mud Pit)

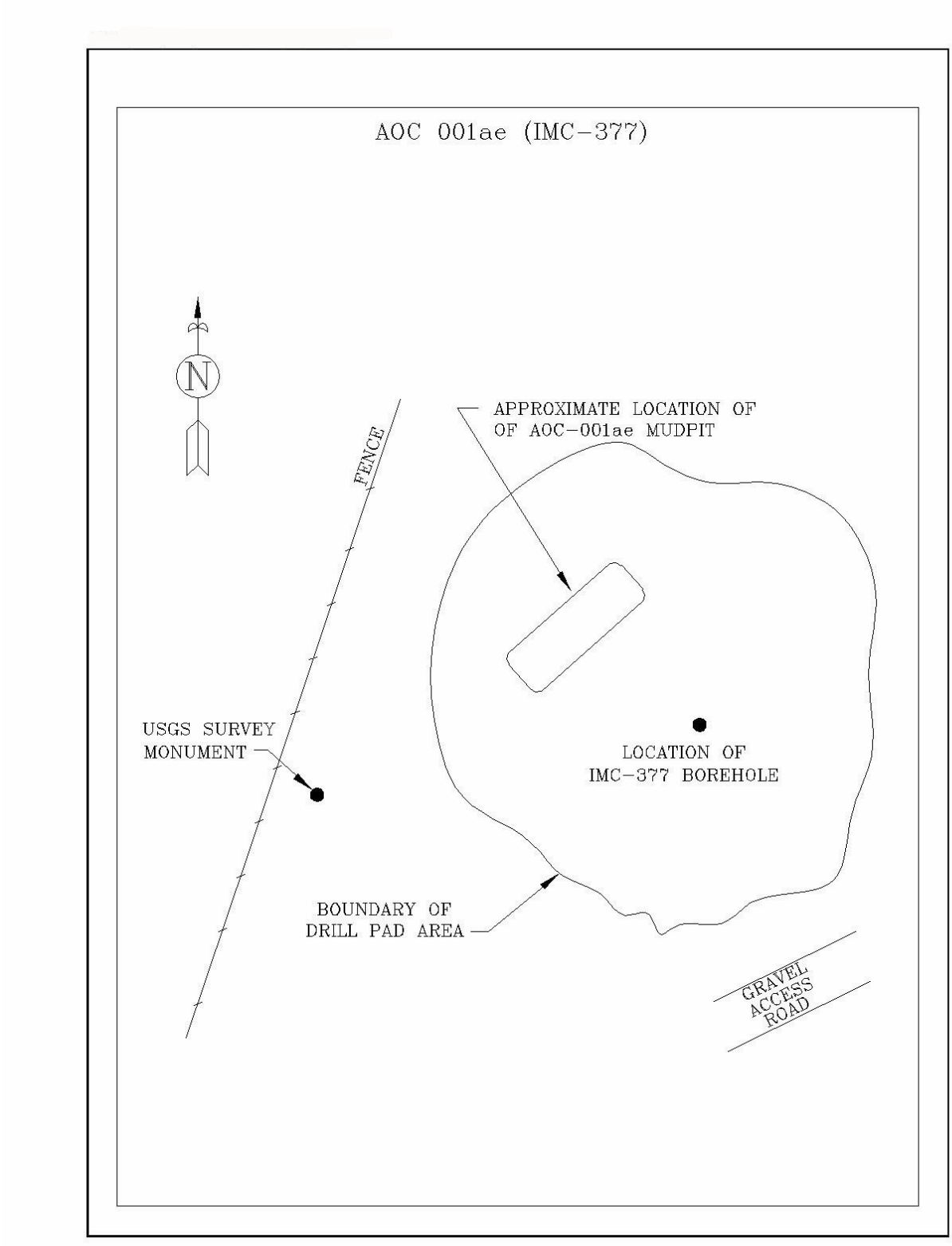

Figure 24. Location Sketch - AOC 001ae (IMC-377 Mud Pit)