CORRES CONTROL
INCOMING LTR NO

01187 RF 94

DUE DATE

ACTION

DIST.	LTR	ENC
BERMAN H S		
CARNIVAL G J		
COPP R D		
CORDOVA R C		
DAVIS G		
FERRE A D W		
FRANZ W A		
HANNI B J		
HEALY T J		
HEDAHL T G	X	X
HILBIG J G		
HUTCHINS N M		
KELL R E		
KIRBY W A		
KUESTER A W		
MAHAFFEY J W		
MANN H P		
MARX G E		
McKENNA F G		
MORGAN R V		
PIZZUTO V M		
POTTER G L		
SANDLIN N B		
SATTERWHITE D G		
SCHUBERT A L		
SETLOCK G H		
STIGER S G	X	X
SULLIVAN M T		
SWANSON E R		
WILKINSON R B		
WILSON J M		
nesta S	X	X
montgomery J N	X	X

CORRES CONTROL	x	x
ADMN RECORD/080	X	2
PATS/T130G		

Reviewed for Addressee
Corres Control RFP

3-25-94 Ci
DATE BY

Ref Ltr #

DOE ORDER # 5440 1

RF 46522 (Rev 01/94)

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Department of Energy
Rocky Flats Office

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EPD PMP.01529

Subpart D Categorical Exclusion (RFO/CX05-94) Determination

R G Lightner, Director, Office of Southwestern Area Programs, EM-45, HQ

We are writing to submit a categorical exclusion recently approved by the Rocky Flats Office for your information A copy of RFO/CX05-94, Site Characterization of OU 11, is attached

for Mark N Silverman
Manager

Attachment

cc w/Attachment
R S Scott, EM-20
L E Harris, EM-431
A Rampertaap, EM-453
P M Powell, RFO
S M Nesta, EG&G
N L Montgomery, EG&G

MAR 1994
RECEIVED
RECORDS CENTER

ADMIN RECORD

A-OU11-000146

SECTION D DETERMINATION
CATEGORICAL EXCLUSION (CX) DETERMINATION - RFO/CX05-94

Proposed Action Site Characterization of OU 11

Location: West Spray Field, Rocky Flats Plant

Proposed by: U S Department of Energy, Rocky Flats Plant, Golden, CO

Description of the Proposed Action:

Rocky Flats Office proposes to conduct field investigation activities as part of the site characterization work in Operable Unit 11 (Figure 1) at Rocky Flats Plant to support a *Resource Conservation and Recovery Act* (RCRA)*Facility Investigation/Remedial Investigation* (RFI/RI) for Operable Unit 11 (OU 11) OU 11 is also known as the West Spray Field (WSF). It is located west of the industrial area of Rocky Flats Plant and covers an area of approximately 105 acres The WSF was historically used for spray evaporation of liquids pumped from the Solar Evaporation Ponds from April 1982 to October 1985 The total combined area of direct application of spray within the WSF was 14 1 acres The spray evaporation activity is believed to have resulted in perched water conditions in the upper 30 feet of alluvium within the WSF, and this project has been proposed to verify whether this is true The proposed site characterization for OU 11 would include installation of boreholes and monitoring wells and soil sampling needed to provide the data to develop a complete RFI/RI report and risk assessment at OU 11

Wells would be used to sample alluvial groundwater and subsurface soil for the analytes of concern for OU 11 All wells would be installed in the Rocky Flats Alluvium or the uppermost hydrostratigraphic unit, and therefore cross-contamination across different hydrostratigraphic units is not a concern Six groundwater monitoring wells would be installed for the purpose of characterizing subsurface lithologies and perched water conditions in the vadose zone Sonic drilling and split spoon sampling are the preferred drilling and sampling technologies to be used Sonic drilling has an advantage over conventional auger and percussion drilling because it allows continuous sample retrieval while drilling through cobbles and boulders It uses a relatively high frequency oscillating drill head combined with downward pressure and low rotation to advance the drill string through unconsolidated and consolidated materials It also has a rapid rate of penetration and produces little drill waste at the drill site Sonic drilling would be employed as a test case on this proposed action at WSF, and if drilling objectives are successfully met at the first well, the remaining five wells would be drilled in a similar manner In the event that sonic drilling is not successful, hollow stem augering would be used as a backup alternative

The six holes would be drilled to a sufficient depth to penetrate the perched water zone (if encountered) and the underlying aquitard Actual depth of the hole would be decided during drilling by the project geologist/hydrogeologist but would in general be less than 80 feet If a perched water table is not encountered, the hole would be advanced into the saturated zone or the alluvium/bedrock contact Samples for water content measurements would be collected every two feet during drilling and used to determine if a monitoring well is needed If sufficient perched water is present, a passive monitoring well would be installed After completion and development, the wells would be sampled quarterly for a period of one year when the results would be evaluated for further sampling needs If insufficient water is encountered in the drill holes to be useful for monitoring, the hole would be plugged and abandoned

Drilling equipment would consist of a drill rig, equipment truck, and a portable geological laboratory Disturbance to vegetation and soil would be minimal, approximately 20 square feet at each well site The equipment would use existing dirt roads within the WSF wherever possible to access each proposed well site

Monitoring well development is the process by which the well drilling fluids and mobile particulates are removed from within and adjacent to newly installed wells The objective of a complete well development is to provide groundwater inflow that is as physically and chemically representative of the aquifer as possible An inertial pump or bottom discharge/filling bailer would be used remove drilling fluids and particulates Well development would be conducted as soon as possible after well installation, but no sooner than 48 hours after grouting and pad installation are completed

Well casings would consist of new, threaded, flush-joint Schedule 40 PVC All well casings would be steam cleaned and stored in plastic sleeves prior to use The well casing would extend from the top of the well screen to approximately two feet above ground surface The tops of all casings would be fitted with slip-on or threaded PVC caps All joints within the casing string would be threaded, and O-rings or Polytera flouroethylene (PTFE) tape would be wrapped around the joint threads to improve the seal

Well screens would consist of new, threaded PVC pipe with 0 010-inch factory-machined slots or wrapped screen The filter pack material would be chemically inert, rounded, silica sand of approximately 16-40 gradation The filter pack would extend approximately 2 feet above the top of the screen unless otherwise specified A bentonite seal would be installed above the filter pack. The seal would consist of a layer of bentonite pellets that is at least 3 feet thick when measured immediately after placement, without allowance for swelling The annular space between the well casing and the borehole would be grouted from the top of the bentonite seal to ground surface

All drilling equipment would be decontaminated prior to being taken to the work site The drill string would be decontaminated between installations of monitoring wells at the work site Sampling equipment would be decontaminated between samples at the drill site Decontamination would be accomplished by washing and rinsing the parts with water which is subsequently placed in drums and stored as waste Equipment would be inspected for evidence of fuel oil or hydraulic system leaks If lubricants are required for down hole equipment, pure vegetable oil would be used All sampling equipment would be separated from the ground surface with clear plastic sheeting during drilling

Well soil samples would be collected from ground surface to total depth as wells are drilled To collect composite samples, the sample material would be placed in a safe location, out of direct sunlight, until the appropriate number of core samples have been collected The recovered material would be classified, logged, peeled, disaggregated, and mixed into a 6-foot composite and placed in appropriate containers for lab analysis

After sample collection, the exterior of the sample containers would be decontaminated and the containers would be placed in coolers lined with a plastic bag designated for sample transportation Blue Ice or its equivalent would be placed in each cooler Official custody of samples would be maintained and documented from the time of collection until the time that valid analytical results have been obtained or the lab has been authorized to dispose of the sample

Drilling and sampling activities would be conducted in accordance with the *OU 11 Site-Specific Health and Safety Plan* Activities related to the monitoring well installation program would be

carried out in accordance with all applicable Environmental Management Department operating procedures Those procedures are detailed in the EG&G Rocky Flats Plant, Environmental Management Department, *EMD Operating Procedures Manual, Manual No 5-21000-OPS-FO, -GW, and -GT, Controlled Document (various revisions/dates)*

If the results from well soil samples indicate that more soil contamination information is needed, surface soil samples would be taken from up to 50 sample locations The samples would consist of a small amount of soil removed from the ground surface using hand tools The known locations of soil sampling are shown on Figure 2

The estimated total cost for the characterization activities is $1,897,000, which also incudes the cost of a surface radiation survey and ecological evaluation No wetland areas or threatened or endangered species would be impacted by this proposal

Categorical exclusion to be applied:

B3 1 Site characterization and environmental monitoring, including siting, construction, operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA Specific activities include, but are not limited to (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, and radar), geochemical, and engineering surveys and mapping, including the establishment of survey marks;(b) Installation and operation of field instruments, such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools,(c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells,(d) Aquifer response testing,(e) Installation and operation of ambient air monitoring equipment,(f) Sampling and characterization of water, soil, rock, or contaminants,(g) Sampling and characterization of water effluents, air emissions, or solid waste streams,(h) Installation and operation of meteorological towers and associated activities, including assessment of potential wind energy resources,(i) Sampling of flora or fauna, and(j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7

DOE NEPA REGULATIONS SUBPART D
CATEGORICAL EXCLUSION DETERMINATION - RFO/CX05-94
Site Characterization of OU 11

I have determined that the proposed action meets the requirements for a categorical exclusion as defined in the Subpart D of 10 CFR 1021 Therefore, I approve the categorical exclusion of the proposed action from further NEPA review and documentation

Date 3/22/94

Signature: [signature]
Title: Mark N Silverman
Manager, Rocky Flats Office

RFO Project Sponsor

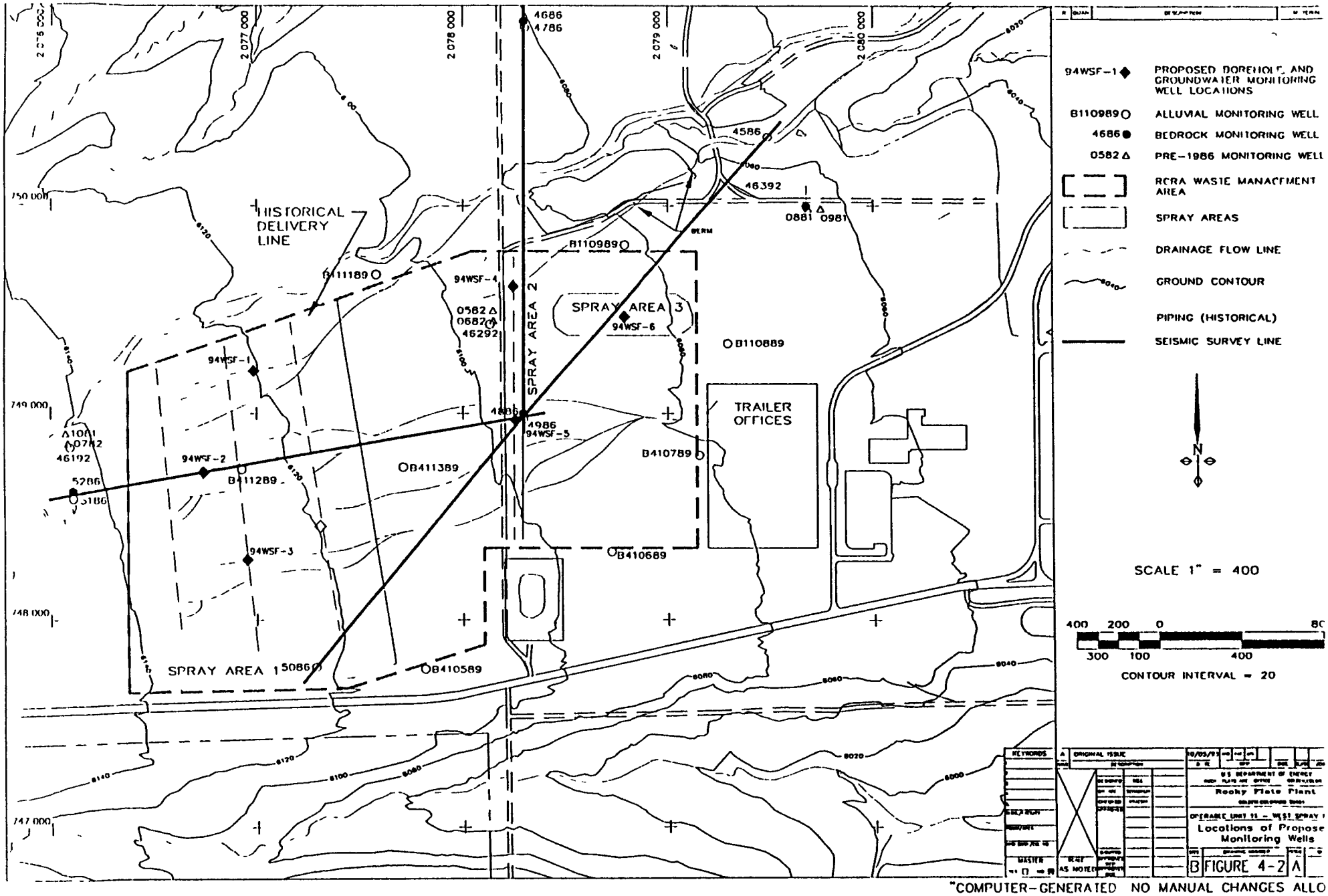
Date 3/22/94

Signature [signature]
Jessie Roberson
Title Acting Assistant Manager
Environmental Restoration

I have reviewed this determination and find that a categorical exclusion is the appropriate level of NEPA documentation

Date March 3, 1994

Signature [signature]
Patricia M Powell
Title NEPA Compliance Officer


94WSF-1 PROPOSED BOREHOLE AND GROUNDWATER MONITORING WELL LOCATIONS
B110989 ALLUVIAL MONITORING WELL
4686 BEDROCK MONITORING WELL
0582 PRE-1986 MONITORING WELL
RCRA WASTE MANAGEMENT AREA
SPRAY AREAS
DRAINAGE FLOW LINE
GROUND CONTOUR
PIPING (HISTORICAL)
SEISMIC SURVEY LINE
N
SCALE 1" = 400
400 200 0 80
300 100 400
CONTOUR INTERVAL = 20
HISTORICAL DELIVERY LINE
SPRAY AREA 1
SPRAY AREA 2
SPRAY AREA 3
TRAILER OFFICES
BERM
94WSF-1
94WSF-2
94WSF-3
94WSF-4
94WSF-5
94WSF-6
B111189
B110989
B110889
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4686
4786
4586
46392
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46292
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Rocky Flats Plant
Locations of Propose
Monitoring Wells
FIGURE 4-2
"COMPUTER-GENERATED NO MANUAL CHANGES ALLO

Figure 1

OU11 West Spray Field Proposed Sampling Locations

for Soils

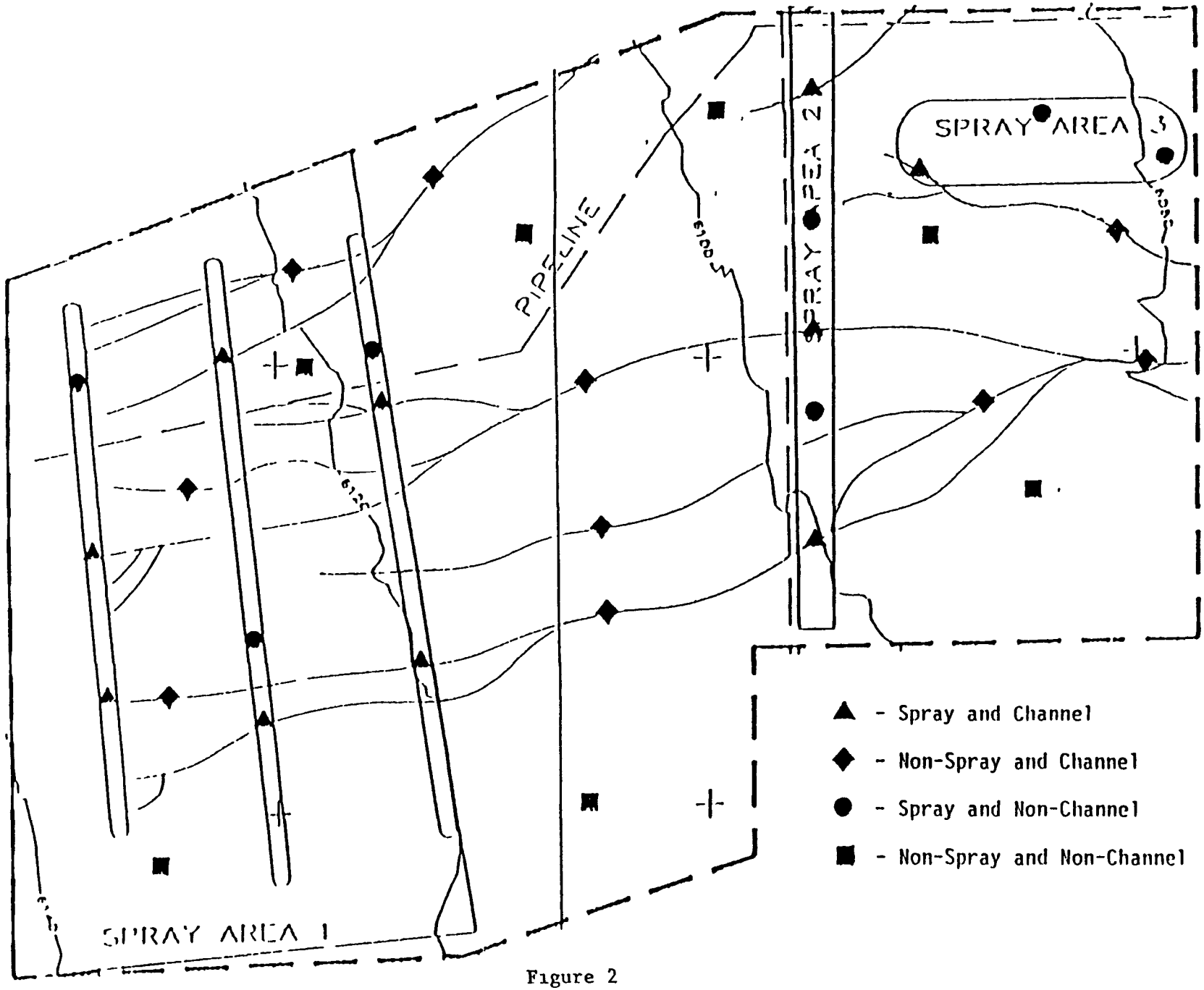

Figure 2