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EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

ADT	
[illegible]	
[illegible]	
BOSLEY, H.E.	
BRANCH, D.D.	
CARNAL, G.J.	
DAVIS, J.G.	
FERRERA, D.W.	
FRAY, R.E.	
GEIS, J.A.	
GLOVER, W.S.	
GOLAN, P.M.	
HANN, B.J.	
HARMAN, L.K.	
HEALY, T.J.	
HEDAHL, T.	
HILBIG, J.G.	
HUTCHINS, N.M.	
JACKSON, D.T.	
KELL, R.E.	
KOESTER, A.W.	
MAY, G.E.	
MCDONALD, M.M.	
MCKENNA, F.G.	
MONTROSE, J.K.	
MORGAN, R.V.	
POTTER, G.L.	
RIZZUTO, V.M.	
RISING, T.L.	
SANDLIN, N.B.	
SCHWARTZ, J.K.	
SETLOCK, G.H.	
STEWART, D.L.	
STIGER, S.G.	X
THEN, P.M.	
VOORHEIS, G.M.	
WILSON, J.M.	
WORK, S.H.	X
KEETH, S.A.	X
LEDFORD, J.H.	X
NESTA, S.M.	X
[illegible], K.T.	X
[illegible], S.M.	X
FILE	X X
RFFES, CONTROL	X X
RFFM, RECORD (080)	X X
TRAFFIC	
PATS T130G	

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DATE

IN REPLY TO RFP CC NO:

ACTION ITEM STATUS
PARTIAL OPEN
CLOSED
ITR APPROVALS:

ORIG & TYPIST INITIALS
[illegible]

December 2, 1994

94-RF-11981

M. N. Silverman
Manager
DOE, RFFO

Attn: F. R. Lockhart

NATIONAL ENVIRONMENTAL POLICY ACT DOCUMENTATION FOR PHASE II RCRA (RESOURCE CONSERVATION AND RECOVERY ACT) FACILITY INVESTIGATION/REMEDIAL INVESTIGATION SITE CHARACTERIZATION FOR OPERABLE UNIT 4: SOLAR EVAPORATION PONDS - SGS-628-94

Action: Forward to National Environmental Policy Act (NEPA) Compliance Officer

Attachment 1 is a copy of an Environmental Checklist for the subject project. This checklist has been reviewed by the Rocky Flats Environmental Technology Site NEPA Compliance Committee (NCC). The NCC and the Environmental Policy Implementation Branch recommend that the project be categorically excluded from further NEPA documentation requirements, as noted on the attached Environmental Checklist Review Form. A draft Categorical Exclusion (CX) Determination (Attachment 2) is included for your review, and an electronic copy of the draft CX Determination has been made available to the Department of Energy, Rocky Flats Field Office NEPA Compliance Officer.

These documents should be forwarded to the NEPA Compliance Officer with a request for a final NEPA determination for this proposed action. Please contact Steve Nesta at 966-6386 or Bill Moore at 966-8132 of the Environmental Policy Implementation Branch if you need more information.

for

S. G. Stiger
Director
Environmental Restoration

SMP:pjm

Orig. and 1 cc - M. N. Silverman

Attachments:
As Stated (2)

cc:
S. Howard - DOE, RFFO
M. A. Witherill - " "

ADMIN RECORD

A-SW04-001561

new original

needs new SMM signature

EG&G ROCKY FLATS
NEPA COMPLIANCE COMMITTEE
ENVIRONMENTAL CHECKLIST REVIEW FORM

EPA Record #: 428/627

C Date: 5/5/94

roject Name: Site Characterization for OU4: Solar Evaporation Ponds

uthorization or EJO#: _____ Project PA: K.T. Gap

itiating Line Manager: K.L. Ruger

EPA compliance Committee Review (Sign & date applicable space):

	CX Recommended	Date	ADM Recommended
Environ. Doc.	Bill Moore	5/5/94	
Fac. Proj. Mgmt:	Peter Wise	5/5/94	
General Counsel:	Daniel Miller	5/4/94	
Fac. Safety Eng.:	Jeff Dick	5/5/94	

Comments:

CEQ Section 1506.1(c) Review:	Yes	No
1. Project justified independently	√	
2. Project will prejudice program decision		√
10 CFR 1022 Review (wetlands issue) needed:		√

NCC Recommendation: ✓ CX recommended.

_____ ADM recommended

END Mgr. Approval/Date: SM Rueter 5/10/94

SM Rueter 5/5/94 Rev. 1

This EC/CX supercedes previous copies (Rev. 0 & Rev. 1) as noted above.

SM Rueter 12/1/94 Rev. 2

Revised: March 22, 1994

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL POLICY IMPLEMENTATION DIVISION

ENVIRONMENTAL CHECKLIST

1. Project/Activity Name: Phase II RFI/RI Site Characterization for OU4: Solar Evaporation Ponds.
2. Date: November 18, 1994
3. DR/NC#: 627 [replaces DR/NC#488]
4. Charge Number: 989 606 00
5. Work Package Number: 12165
6. ADS Number (DOE E&WM only): n/a
7. EG&G Project Administrator: S.M. Paris
8. RFFO Project Sponsor: F. Lockhart
9. Initiating Line Manager: R.T. Ogg
10. Project/Activity Description:

Rocky Flats proposes to conduct field activities as part of the site characterization work in Operable Unit 4, the Solar Evaporation Ponds, located in the northeast portion of the Industrial Area at Rocky Flats Environmental Technology Site. Up to fifty (50) new monitoring wells would be drilled for the Phase II RFI/RI [i.e., the multi-phased Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation for Operable Unit 4], which is required by the Interagency Agreement to include draft baseline risk assessments and evaluations of the effectiveness of the Interim Measures/Interim Remedial Action (IM/IRA) implemented at OU4. This Checklist addresses Phase II Site Characterization activities as modified from the previous Phase II Field Sampling Plan. The modifications involve the following: addition of temporary drive points; addition of groundwater monitoring wells; addition of surface geophysical survey work (some in wetlands).

Significant portions of this work would be staged through a progressive interpretation, wherein knowledge gained in the field is immediately used to guide subsequent field work. A specific example is surficial geophysics, which would be used to locate bedrock channels and, thereby more effectively place drive points and ultimately monitoring wells. The existing monitor wells and surface water stations have been incorporated as much as possible into the development of the Field Sampling Plan for Phase II RFI/RI site characterization activities. Site characterization activities would be discontinued at the end of the OU4 Phase II RFI/RI Field Sampling Program unless stations and/or wells are incorporated into other continuing monitoring plans.

The majority of proposed activities would not take place in wetlands or other environmentally sensitive areas. Certain nonintrusive activities need to take place in wetlands. However, no intrusive activities would be conducted within wetlands; final drilling locations would be field checked and adjusted to avoid wetlands. A Wetland Assessment was conducted for this action and is presented in **Appendix A.**

Reviewed for Classification/UCNI:
By: [illegible]
Date: 12/1/94

Nonintrusive Activities. Nonintrusive activities include the following: surface water sampling and flow monitoring, sediment sampling, surface and borehole geophysical surveys, and flow monitoring within the Interceptor Trench System (ITS). Typically, the establishment of sampling and monitoring stations does not involve soil disturbance, and heavy equipment or vehicles are not necessary to carry out the sampling program.

At seeps on the hillside north of the Solar Ponds, two surface water monitoring stations would be established to determine water quality (**Figure 1**). To determine the quality and quantity of surface water flowing onto and out of OU4, seven automatic storm/surface water monitoring flow and sampling stations would be established (Figure 1). In Bowman's Pond, behind Building 774, one sediment sampling location would be established (Figure 1). Sediment samples would be gathered from the pond bottom to determine if contaminants are present in the pond sediments. Sediment sampling station "SED-A" would be sampled quarterly by a subcontractor wading into the pond to secure the samples manually.

Surface geophysical surveys would be conducted using seismic refraction and ground penetrating radar, both of which are nonintrusive and would be implemented by a subcontractor using a small utility truck or manually on foot (**Figure 2**). Water flow monitoring and sampling would be performed at two locations in the ITS. Installation of monitoring equipment for the ITS consists of lowering of a small pressure transducer into an existing manhole/wet well. Water flow data and manhole inundation would be recorded by multi-channel data loggers set at the surface near the manhole.

Drive Point Sampling. Prior to installation of groundwater monitoring wells, 150 groundwater samples would be collected at drive point locations in order to more definitively locate a suspected plume of contamination (**Figure 3**). The activity is conducted by driving a 1-inch diameter tube into the ground to the first water-bearing unit. Sample water is drawn out by bailing and collected into a sample jar.

Borehole Drilling Procedures and Sampling Methodology. The surface of weathered bedrock would be penetrated by 18 boreholes, which would be completed as 2-inch-diameter alluvial groundwater monitoring wells (Figure 1). The surface of unweathered bedrock would be penetrated by 22 boreholes, which would be completed as 2-inch-diameter weathered bedrock groundwater monitoring wells (Figure 1). The first water-bearing unit in the unweathered bedrock would be advanced to by 10 boreholes, which would be completed as unweathered bedrock groundwater monitoring wells (Figure 1). Borehole drilling would be performed, where possible, with a sonic drill rig; and where necessary, with a truck-mounted hollow stem auger rig.

New Alluvial/Bedrock Wells. To augment the water samples and water level measurements taken from existing wells to analyze groundwater conditions, the 50 boreholes would be completed as new alluvial or bedrock monitoring wells. Through a series of aquifer tests (slug tests and pump tests), the wells would be used to characterize upgradient groundwater quality; fill existing gaps in the alluvial monitoring network; delineate the extent of contamination; determine the connection between plumes in North and South Walnut Creeks and the Solar Evaporation Ponds; and evaluate the effectiveness of the ITS. In general, bedrock wells would be installed near existing or planned alluvial wells (and visa versa) so that the interaction between the alluvial and bedrock aquifers can be described from site

characterization. The exact locations of each well may vary slightly from mapped locations (Figure 2) depending upon limitations caused by the cultural and topographical features (e.g., buildings, pipelines, overhead powerlines) in the industrial area of the plant. This variance may range from 100 to 300 feet. In addition to serving as investigatory wells for the Phase II RFI/RI, some of the wells would be retained as post-closure monitoring wells. The rest of the wells would be abandoned and capped at the completion of the OU4 Phase II RFI/RI Field Sampling Program.

Well Abandonment. As noted previously, some of the proposed wells would be retained as post-closure monitoring wells. In addition to these wells, selected existing wells, piezometers, and vadose zone monitoring boreholes (**Figures 4** and **5**) would require abandonment under the Phase II program in order to accommodate closure of the Solar Evaporation Ponds under the OU4 IM/IRA program.

Cost and Schedule. The cost estimate for the site characterization work in OU4 is approximately $4 million. Site characterization activities are scheduled to begin in January 1995 and last for 12 months.

CHECKLIST

		YES	NO	
11.	Statutes applicable:			
11.1.	Will the project require or potentially require an application for permit(s) or permit modification(s) under the following:			
	A. Clean Air Act?	____	X	
	B. Colorado Air Quality Regulation No. 3 (APENs)	____	X	
	C. Clean Water Act?	____	X	
11.2.	Does the project involve RCRA? *(if "no," skip to 11.3)*	____	X	see Note 1
	A. Will a RCRA permit or modification be required?	____	____	
	B. Does the project include a removal?	____	____	
	C. Does project include RCRA closure?	____	____	
	- partial?	____	____	
	- full?	____	____	
	D. Does project include excavation or capping to meet RCRA requirements?	____	____	
	E. Will cost and duration stay within $2 million and 12 months? *(Explain in project description.)*	____	____	
11.3	Does the project involve CERCLA? *(if "no", skip to 11.4)*	____	X	see Note 1
	A. Does project include CERCLA removal?	____	____	
	B. Will cost and duration stay within $2 million and 12 months? *(Explain in project description.)*	____	____	
11.4	Does the project threaten to violate statutory, regulatory, or permit requirements, or DOE Order?	____	X	

		YES	NO	
11.5.	Will the action be in or near an Individual Hazardous Substance Site (IHSS)?	X		see Note 2
11.6.	Does the project potentially impact threatened or endangered species or habitat, the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Fish and Wildlife Coordination Act, Colorado Non-game, Endangered Species Conservation Act?		X	
12.	Will this project construct or require a new or expanded waste disposal, recovery, storage, or treatment facility?		X	
13.	Is project needed for IAG, AIP, FFCA, or other federal or state agreement?	X		see Note 3
14.	Is the project:			
	A. A new process, building, etc., or		X	
	B. A modification to an existing?		X	
	C. Capital equipment/machinery installation?		X	
15.	Location Items:			
	A. Will the project result in, or have the potential to result in, long term changes to the environment?		X	
	B. Will the action take place in a wetland or floodplain?	X		see Note 4
16.	Will the project result in changes and/or disturbances of the following existing considerations?			
	A. Noise levels?		X	
	B. Air emissions?		X	
	C. Liquid effluents?		X	
	D. Solid wastes?		X	
	E. Radioactive wastes (including contaminated soil)?	X		see Note 5
	F. Hazardous waste?	X		see Note 5
	G. Mixed waste (radioactive and hazardous)?	X		see Note 5
	H. Chemical or petroleum product storage?		X	
	I. Water use (withdrawal of groundwater or diversion or withdrawal of surface water)?	X		see Note 6
	J. Drinking water system?		X	
	L. Soil movement outside facility fences or beyond IHSS boundaries?	X		see Note 7
	M. Site clearing, excavation, or other physical alterations to grade?		X	
17.	Will the project threaten public health or safety?		X	
18.	Will the project have possible effects on the environment which are likely to be highly controversial?		X	

		YES	NO	
19.	Will the project establish a precedent for future actions that will have significant effects, or represent a decision in principle about a future consideration?	_____	X	
20.	Will the project be substantially related to other actions that have individually insignificant but cumulatively significant impacts?	_____	X	
21.	Will the project adversely affect federal, state, or locally designated natural areas, prime agricultural land, special water sources, or historic, archeological, or architectural sites?	_____	X	
22.	Have possible pollution prevention measures been considered?	X	_____	see Note 8

CHECKLIST NOTES:

1. The Site Characterization programs are undertaken pursuant to the provisions of RCRA and CERCLA, as part of DOE's remediation of the RFETS site; but, do not otherwise involve this act.
2. Because the program is aimed at characterizing contaminated sites, most of the activity would take place within IHSS 101 in OU4.
3. The site characterization work at OU4 is being undertaken according to schedules described in the IAG.
4. A Wetland Assessment was conducted for this action and is attached.
5. Certain borehole drilling, well drilling, and water/soil sampling could produce media contaminated with hazardous and/or radioactive substances.
6. Water samples would be withdrawn from wells and drive point locations in small (e.g. quart, gallon) quantities over a period of time.
7. Soil and core samples would be removed to onsite or offsite laboratories for analysis of their constituents.
8. Sonic drilling is the preferred technology to be used in characterizing OU4. This technology produces less drill waste at the drill site.

FIGURE 1
Surface Water/Sediment
Sampling Locations
and Well Locations

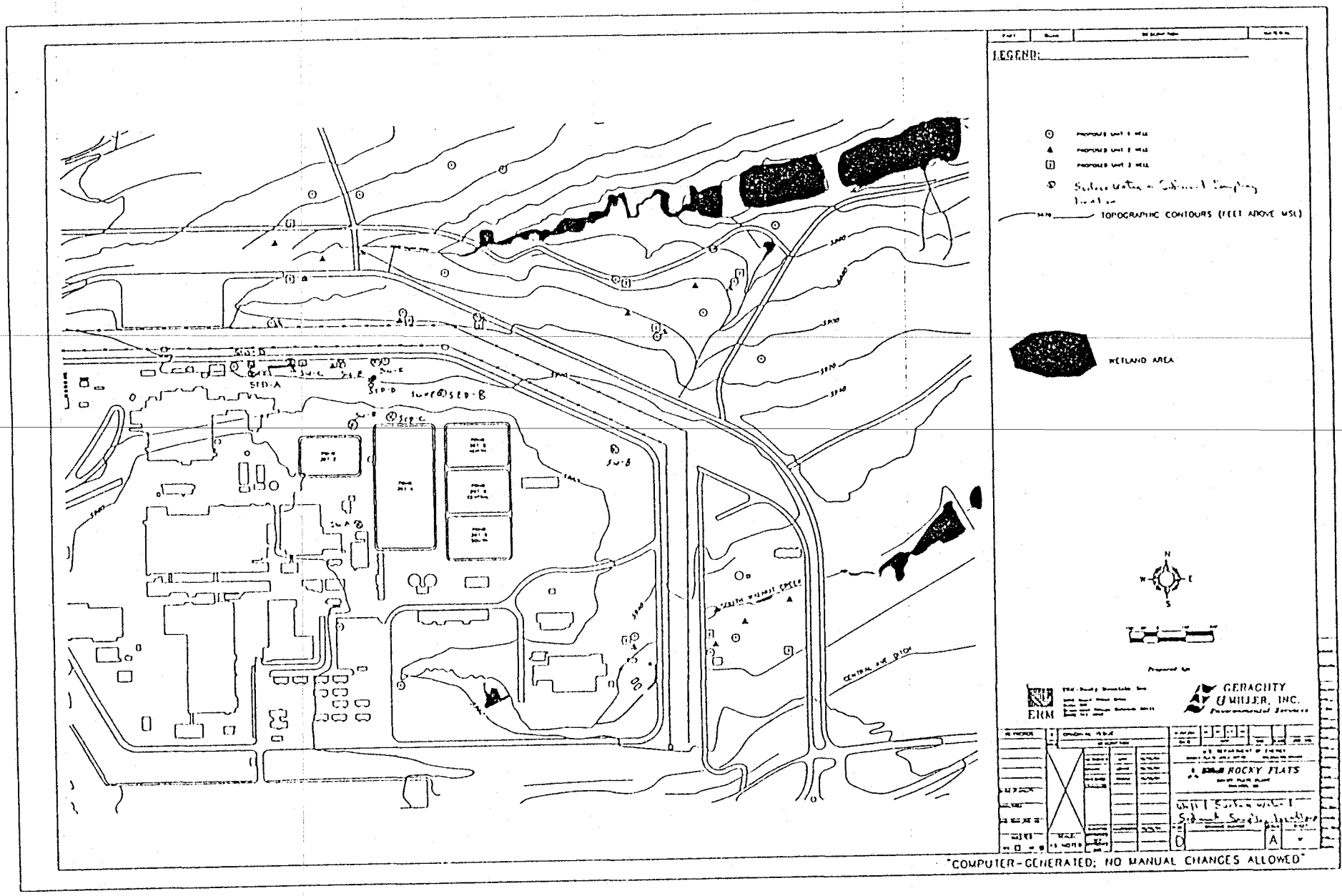
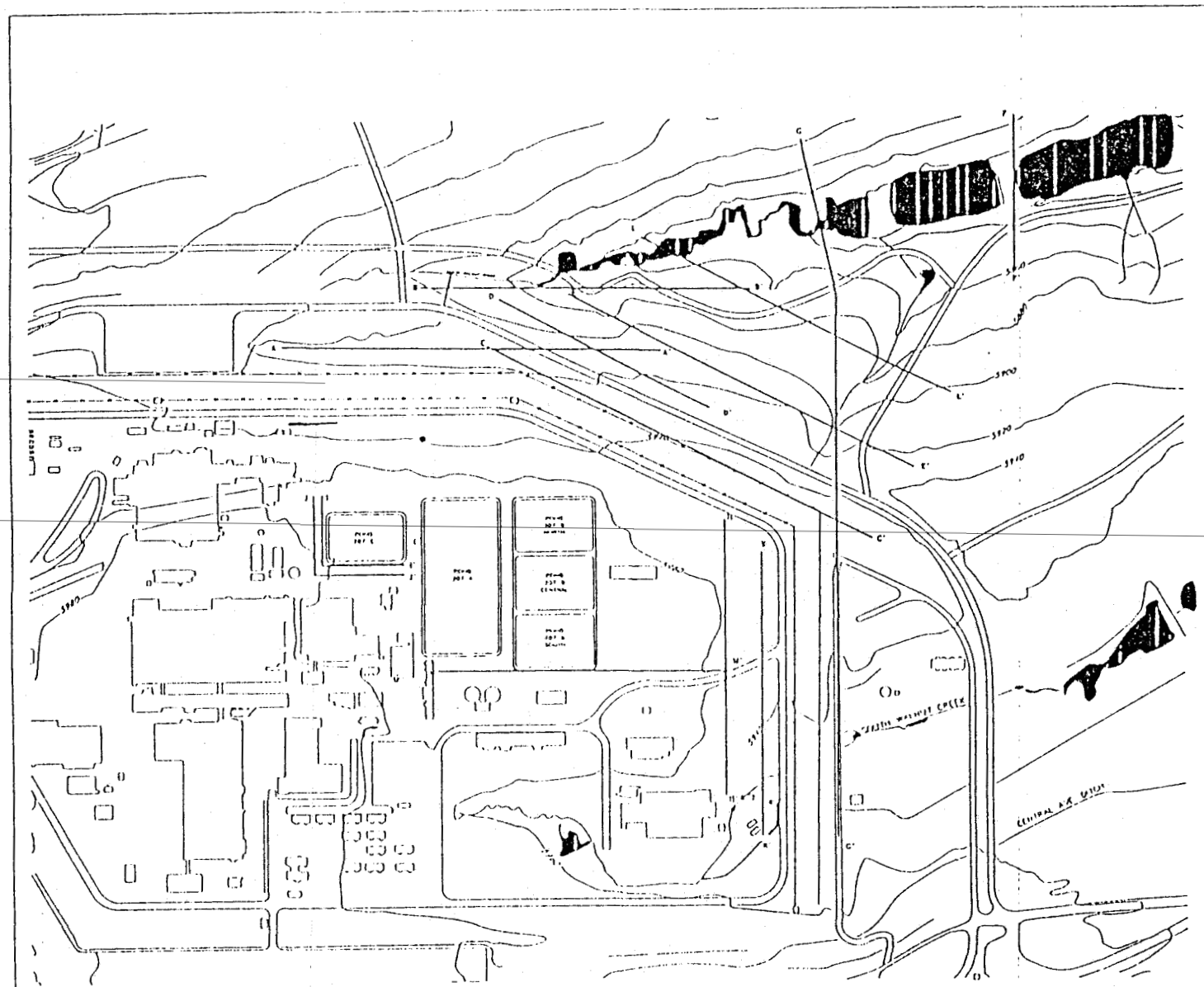


FIGURE 2
Geophysical
Survey Lines



LEGEND:

PROPOSED GEOPHYSICAL LINE

TOPOGRAPHIC CONTOURS (FEET ABOVE MSL)

WETLAND AREA

Attachment 1
94-RF-11981
Page 8 of 14

ERM

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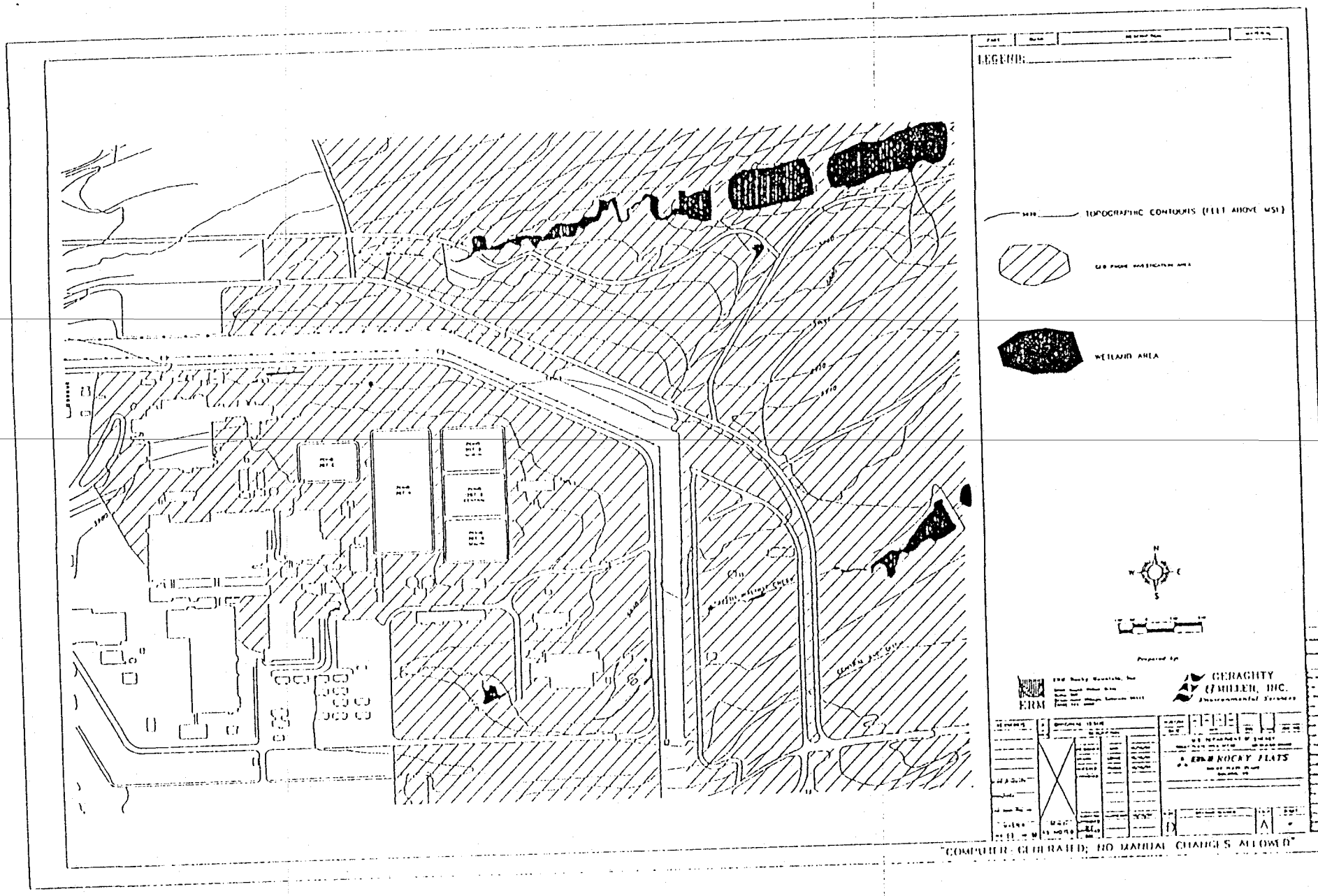
Environmental Services

ROCKY FLATS

"COMPUTER-GENERATED; NO MANUAL CHANGES ALLOWED"

FIGURE 3
Geoprobe
Investigation Area
(excluding wetlands)



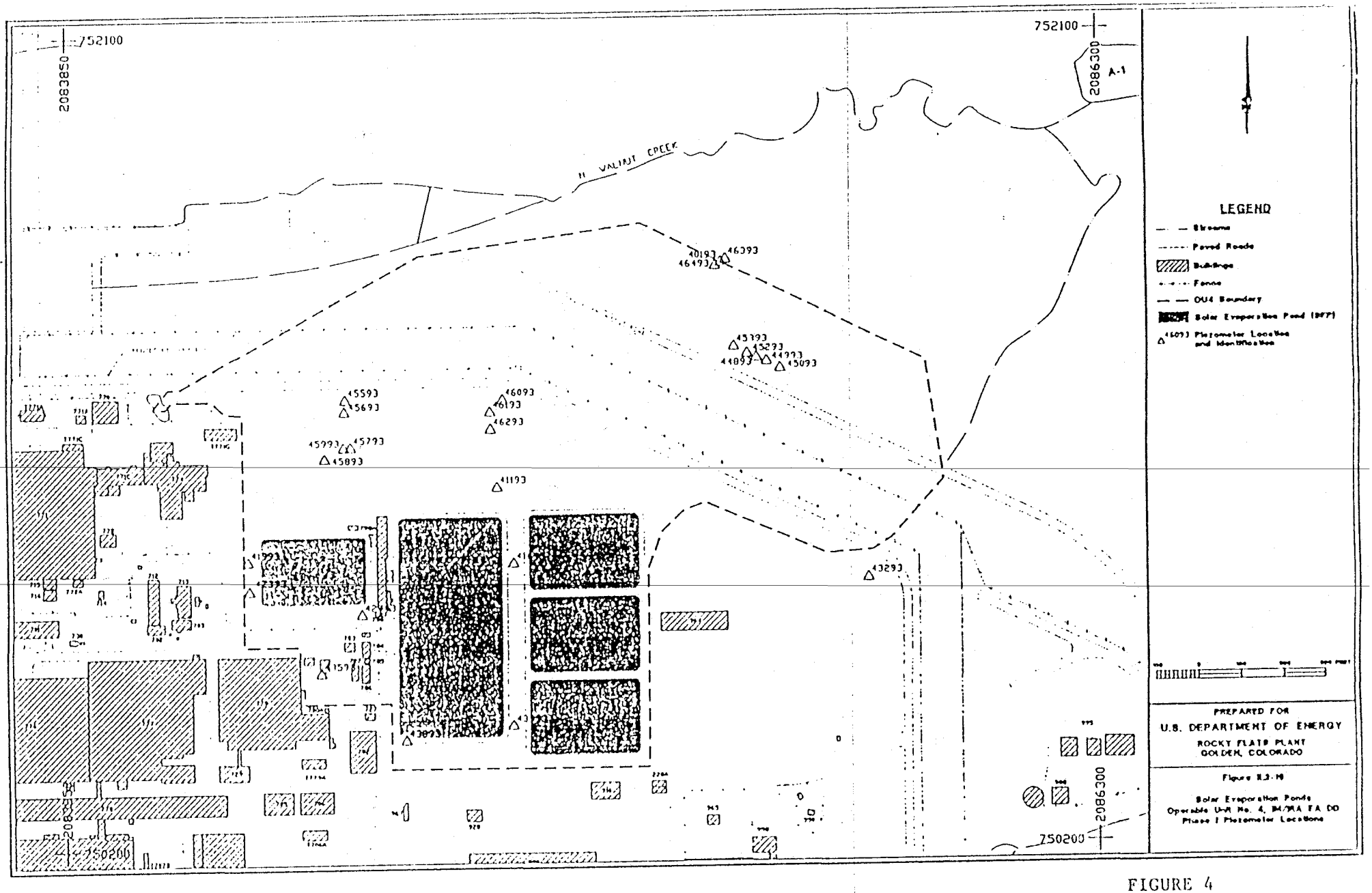
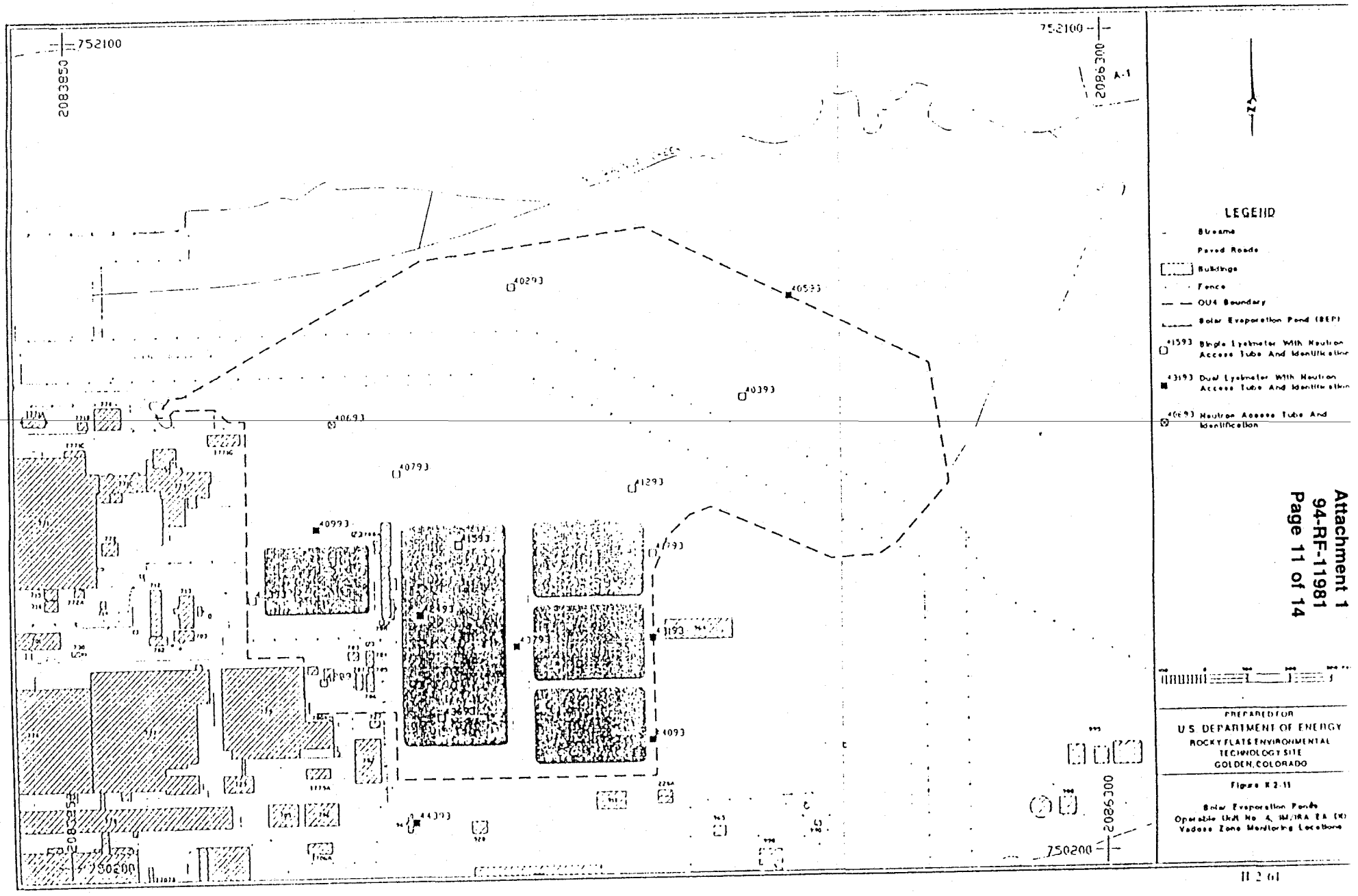


FIGURE 4
Piezometer
Abandonment Locations

FIGURE 5
Vadose Zone/Monitoring
Wells
Abandonment Locations



Attachment 1
94-RF-11981
Page 11 of 14

II.2.61

APPENDIX A

WETLANDS ASSESSMENT
for
PHASE II RFI/RI SITE CHARACTERIZATION FOR OU4: SOLAR EVAPORATION PONDS

PROJECT DESCRIPTION

The Department of Energy (DOE) proposes a project at the Rocky Flats Environmental Technology Site (RFETS), located north of Golden, Colorado, portions of which may take place in wetlands. The project is part of the site characterization work in Operable Unit (OU) 4, the Solar Evaporation Ponds, located in the northeast portion of the Industrial Area at RFETS. The project includes both intrusive activities such as drilling groundwater monitoring wells and boreholes, and nonintrusive activities such as surface water sampling and surface geophysical surveys.

No intrusive activities will take place in wetlands; final drilling locations will be field checked and adjusted to avoid wetlands. Some nonintrusive activities may need to be conducted in wetlands in order to accomplish their intended purpose. These nonintrusive activities include surface water sampling, surface water flow monitoring, sediment sampling, and surface geophysical surveys.

The purpose of the surface water sampling, surface water flow monitoring, and sediment sampling is to determine the quality and quantity of surface water flowing onto and out of OU4. The data will be used to support the OU4 water balance and the Interceptor Trench System water balance calculations. The importance of storm water as a contaminant pathway will be assessed using this data.

The purpose of the surface geophysical surveys is to characterize the alluvial and bedrock hydrologic systems, and locate bedrock channels that act as preferential pathways for contaminant migration. This information will allow more effective placement of drive points and monitoring wells.

Two surface water sampling locations would be established at seeps on the hillside north of the solar ponds to determine water quality. A small stainless steel bowl would be buried in each seep to collect a sufficient amount of water for sampling. Seven (7) automatic storm/surface water monitoring flow and sampling stations would be located in corrugated metal pipes or in ditches to collect surface water flowing onto and out of OU4. Some of these stations would require placement of Parshall flumes flush-mounted on the ground. The throats of the flumes would be 6-12 inches wide, and the flumes would be approximately 2 feet long. Some excavation may be required to properly install the flumes. Monitoring equipment for the automatic stations would be placed on platforms placed on the ground at the station location. Platforms will be placed outside of wetlands, if possible.

One (1) sediment sampling station would be established in a small depression known as Bowman's Pond located approximately 100 feet north of Building 774, which was previously used to collect condensate from Building 774. Sediment samples would be collected from the

pond bottom to determine if contaminants are present in the pond sediments. Sampling would be done quarterly by wading into the pond to manually collect the sediment.

Surface geophysical surveys would be conducted using seismic refraction and ground penetrating radar. The equipment consists of geophones connected by electrical cables to a data logger. The geophones would be laid out using a small utility truck or manually on foot. Equipment would be carried by hand into wetland areas. Once the geophones are in place, a metal plate is placed on the ground and is struck by a sledgehammer. The equipment detects and logs the energy transmitted when the metal plate is struck.

WETLAND EFFECTS

The identifiable physical effects on wetlands would be temporary minor flattening of vegetation as geophones are carried in by hand, placed in the wetland, and then removed. If metal plates that are struck with the sledgehammer must be placed in wetlands, they will also temporarily flatten some vegetation. Minor excavation would be required to place the stainless steel bowls in the seeps and to properly install the parshall flumes to collect the flow in the ditches. If platforms for automatic water sampling equipment must be placed in wetlands, the platforms will flatten exisiting wetland vegetation. The proposed activities would have no noticeable positive or negative, direct or indirect, short or long term effects on the survival, quality, or natural and beneficial values of the wetlands.

ALTERNATIVES

The no action alternative is the only other action that was considered for this project. The no action alternative would not result in any adverse impacts to wetlands. However, the no action alternative would not allow collection of the necessary data. Therefore, the no action alternative is not considered a reasonable alternative to the proposed project.

Wetland impacts were avoided as much as possible by relocating activities to non-wetland locations. Impacts to wetlands will be minimized by hand carrying geophysical equipment into the wetlands instead of transporting by a small utility truck. Metal plates that are struck by a sledgehammer will not be placed in wetlands unless it is necessary to place the plates in wetlands to accomplish the purpose of the project. Platforms for automatic water sampling equipment will not be placed in wetlands if it is possible to place them outside the wetlands.

SECTION D DETERMINATION
CATEGORICAL EXCLUSION (CX) DETERMINATION - RFFO/CX 00-94

Proposed Action: Phase II RFI/RI Site Characterization for OU4: Solar Evaporation Ponds.

Location: Rocky Flats Environmental Technology Site, Golden, Colorado.

Proposed by: U.S. Department of Energy, Rocky Flats Field Office.

Description of the Proposed Action:

Rocky Flats proposes to conduct field activities as part of the site characterization work in Operable Unit 4, the Solar Evaporation Ponds, located in the northeast portion of the Industrial Area at Rocky Flats Environmental Technology Site. Up to fifty (50) new monitoring wells would be drilled for the Phase II RFI/RI [i.e., the multi-phased Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation for Operable Unit 4], which is required by the Interagency Agreement to include draft baseline risk assessments and evaluations of the effectiveness of the Interim Measures/Interim Remedial Action (IM/IRA) implemented at OU4.

Significant portions of this work would be staged through a progressive interpretation, wherein knowledge gained in the field is immediately used to guide subsequent field work. A specific example is surficial geophysics, which would be used to locate bedrock channels and, thereby more effectively place drive points and ultimately monitoring wells. The existing monitor wells and surface water stations have been incorporated as much as possible into the development of the Field Sampling Plan for Phase II RFI/RI site characterization activities. Site characterization activities would be discontinued at the end of the OU4 Phase II RFI/RI Field Sampling Program unless stations and/or wells are incorporated into other continuing monitoring plans.

The majority of proposed activities would not take place in wetlands or other environmentally sensitive areas. Certain nonintrusive activities need to take place in wetlands. However, no intrusive activities would be conducted within wetlands; final drilling locations would be field checked and adjusted to avoid wetlands. A Wetland Assessment was conducted for this action and is presented in **Appendix A.**

Nonintrusive Activities. Nonintrusive activities include the following: surface water sampling and flow monitoring, sediment sampling, surface and borehole geophysical surveys, and flow monitoring within the Interceptor Trench System (ITS). Typically, the establishment of sampling and monitoring stations does not involve soil disturbance, and heavy equipment or vehicles are not necessary to carry out the sampling program.

At seeps on the hillside north of the Solar Ponds, two surface water monitoring stations would be established to determine water quality (**Figure 1**). To determine the quality and quantity of surface water flowing onto and out of OU4, seven automatic storm/surface water monitoring flow and sampling stations would be established (Figure 1). In Bowman's Pond, behind Building

774, one sediment sampling location would be established (Figure 1). Sediment samples would be gathered from the pond bottom to determine if contaminants are present in the pond sediments. Sediment sampling station "SED-A" would be sampled quarterly by a subcontractor wading into the pond to secure the samples manually.

Surface geophysical surveys would be conducted using seismic refraction and ground penetrating radar, both of which are nonintrusive and would be implemented by a subcontractor using a small utility truck or manually on foot (Figure 2). Water flow monitoring and sampling would be performed at two locations in the ITS. Installation of monitoring equipment for the ITS consists of lowering of a small pressure transducer into an existing manhole/wet well. Water flow data and manhole inundation would be recorded by multi-channel data loggers set at the surface near the manhole.

Drive Point Sampling. Prior to installation of groundwater monitoring wells, 150 groundwater samples would be collected at drive point locations in order to more definitively locate a suspected plume of contamination (Figure 3). The activity is conducted by driving a 1-inch diameter tube into the ground to the first water-bearing unit. Sample water is drawn out by bailing and collected into a sample jar.

Borehole Drilling Procedures and Sampling Methodology. The surface of weathered bedrock would be penetrated by 18 boreholes, which would be completed as 2-inch-diameter alluvial groundwater monitoring wells (Figure 1). The surface of unweathered bedrock would be penetrated by 22 boreholes, which would be completed as 2-inch-diameter weathered bedrock groundwater monitoring wells (Figure 1). The first water-bearing unit in the unweathered bedrock would be advanced to by 10 boreholes, which would be completed as unweathered bedrock groundwater monitoring wells (Figure 1). Borehole drilling would be performed, where possible, with a sonic drill rig; and where necessary, with a truck-mounted hollow stem auger rig.

New Alluvial/Bedrock Wells. To augment the water samples and water level measurements taken from existing wells to analyze groundwater conditions, the 50 boreholes would be completed as new alluvial or bedrock monitoring wells. Through a series of aquifer tests (slug tests and pump tests), the wells would be used to characterize upgradient groundwater quality; fill existing gaps in the alluvial monitoring network; delineate the extent of contamination; determine the connection between plumes in North and South Walnut Creeks and the Solar Evaporation Ponds; and evaluate the effectiveness of the ITS. In general, bedrock wells would be installed near existing or planned alluvial wells (and visa versa) so that the interaction between the alluvial and bedrock aquifers can be described from site characterization. The exact locations of each well may vary slightly from mapped locations (Figure 2) depending upon limitations caused by the cultural and topographical features (e.g., buildings, pipelines, overhead powerlines) in the industrial area of the plant. This variance may range from 100 to 300 feet. In addition to serving as investigatory wells for the Phase II RFI/RI, some of the wells would be retained as post-closure monitoring wells. The rest of the wells would be abandoned and capped at the completion of the OU4 Phase II RFI/RI Field Sampling Program.

Well Abandonment. As noted previously, some of the proposed wells would be retained as post-closure monitoring wells. In addition to these wells, selected existing wells, piezometers,

and vadose zone monitoring boreholes (Figures 4 and 5) would require abandonment under the Phase II program in order to accommodate closure of the Solar Evaporation Ponds under the OU4 IM/IRA program.

Cost and Schedule. The cost estimate for the site characterization work in OU4 is approximately $4 million. Site characterization activities are scheduled to begin in January 1995 and last for 12 months.

* * *

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 35 CFR part 800 and 43 CFR part 7.

DOE NEPA REGULATIONS SUBPART D
CATEGORICAL EXCLUSION DETERMINATION — RFFO/CX00-94

Phase II RFI/RI Site Characterization for OU4: Solar Evaporation Ponds

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

Date: _____ Signature: _____
M. N. Silverman
Title: Manager, Rocky Flats Office

DOE Program Sponsor:
I have reviewed this project description and have determined that it is accurate and appropriate.

Date: _____ Signature: _____
J. Roberson
Title: Assistant Manager,
Environmental Restoration

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

Date: _____ Signature: _____
P. M. Powell
Title: NEPA Compliance Officer

FIGURE 1
Surface Water/Sediment
Sampling Locations
and Well Locations

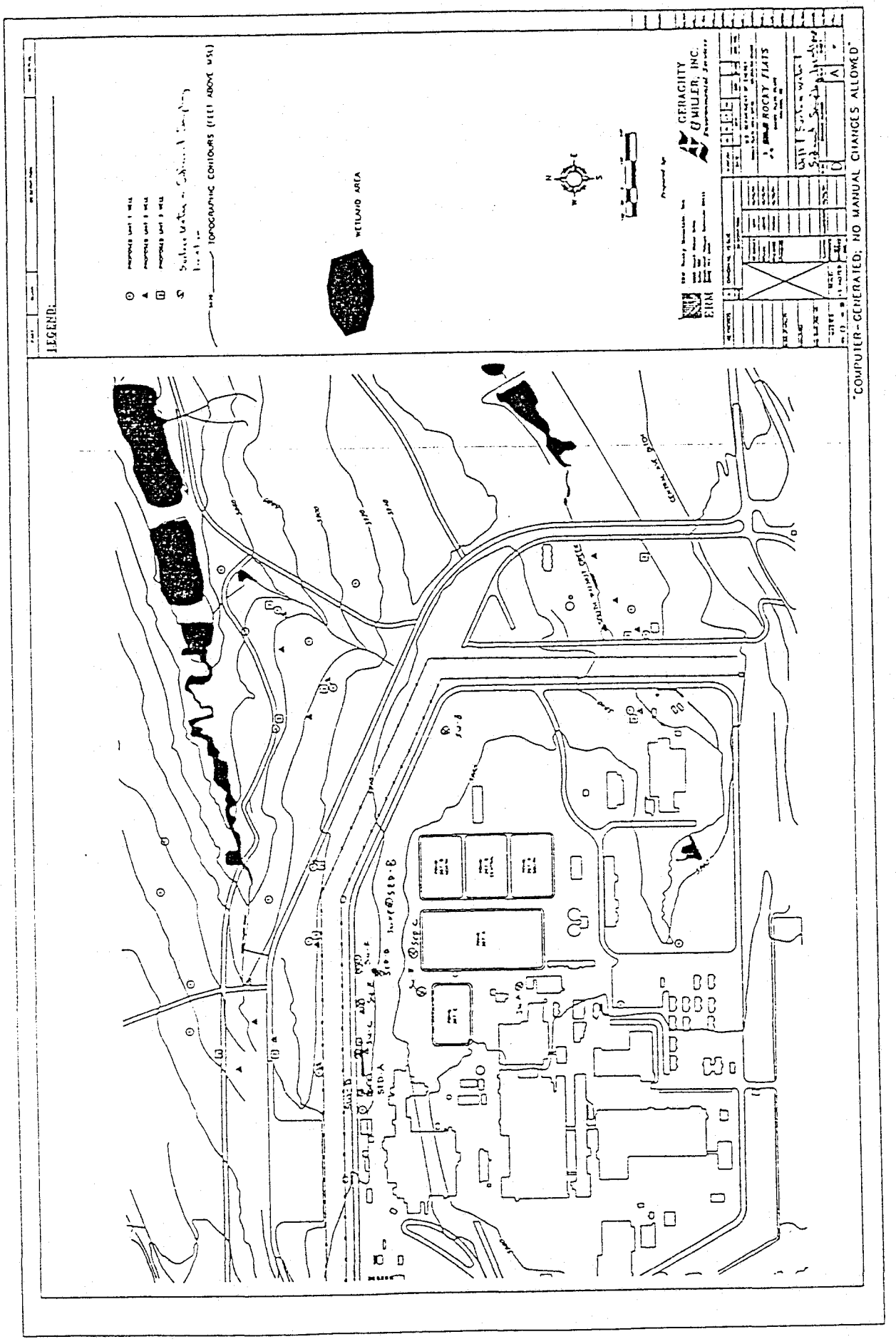
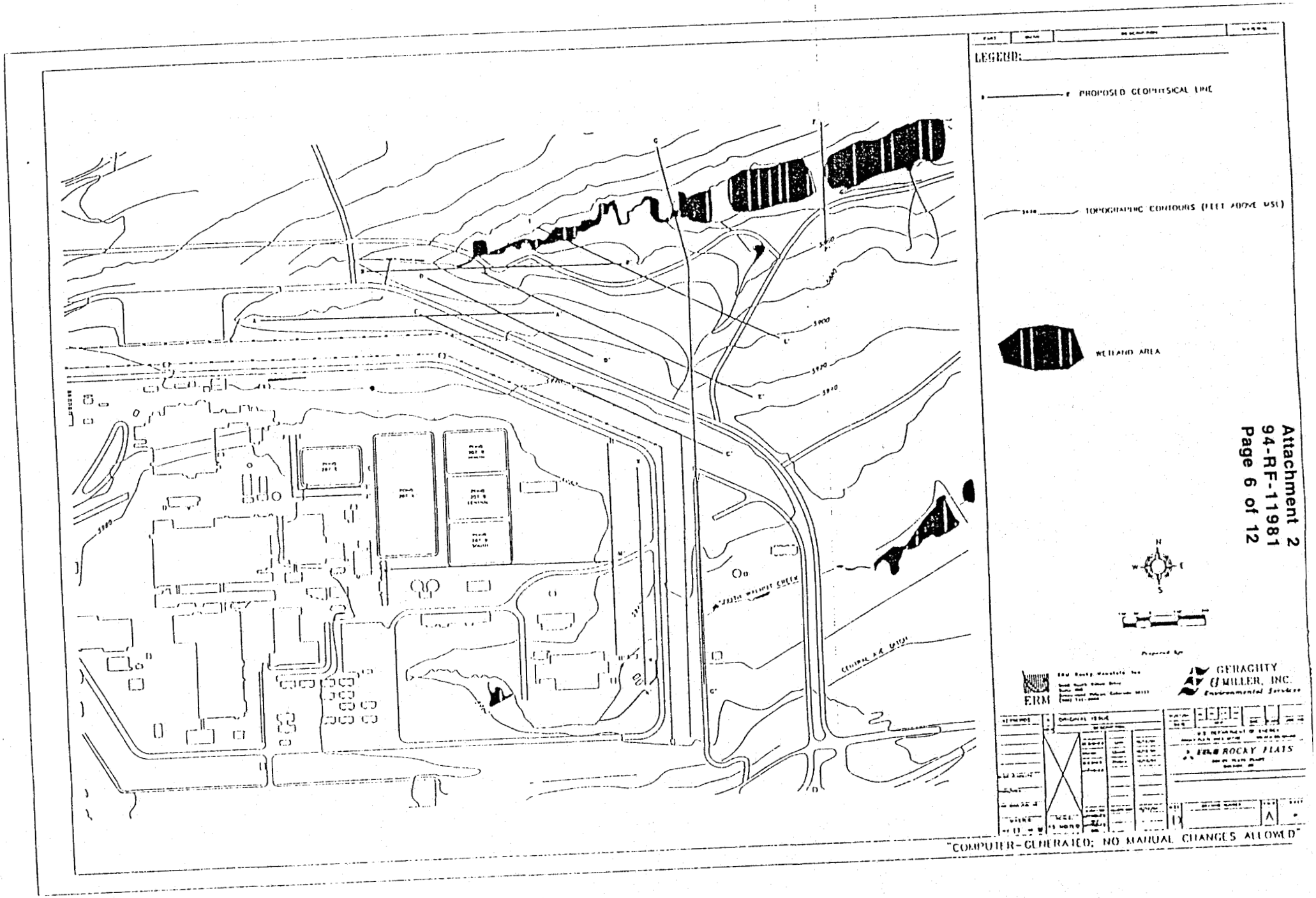


FIGURE 2
Geophysical
Survey Lines



Attachment 2
94-RF-11981
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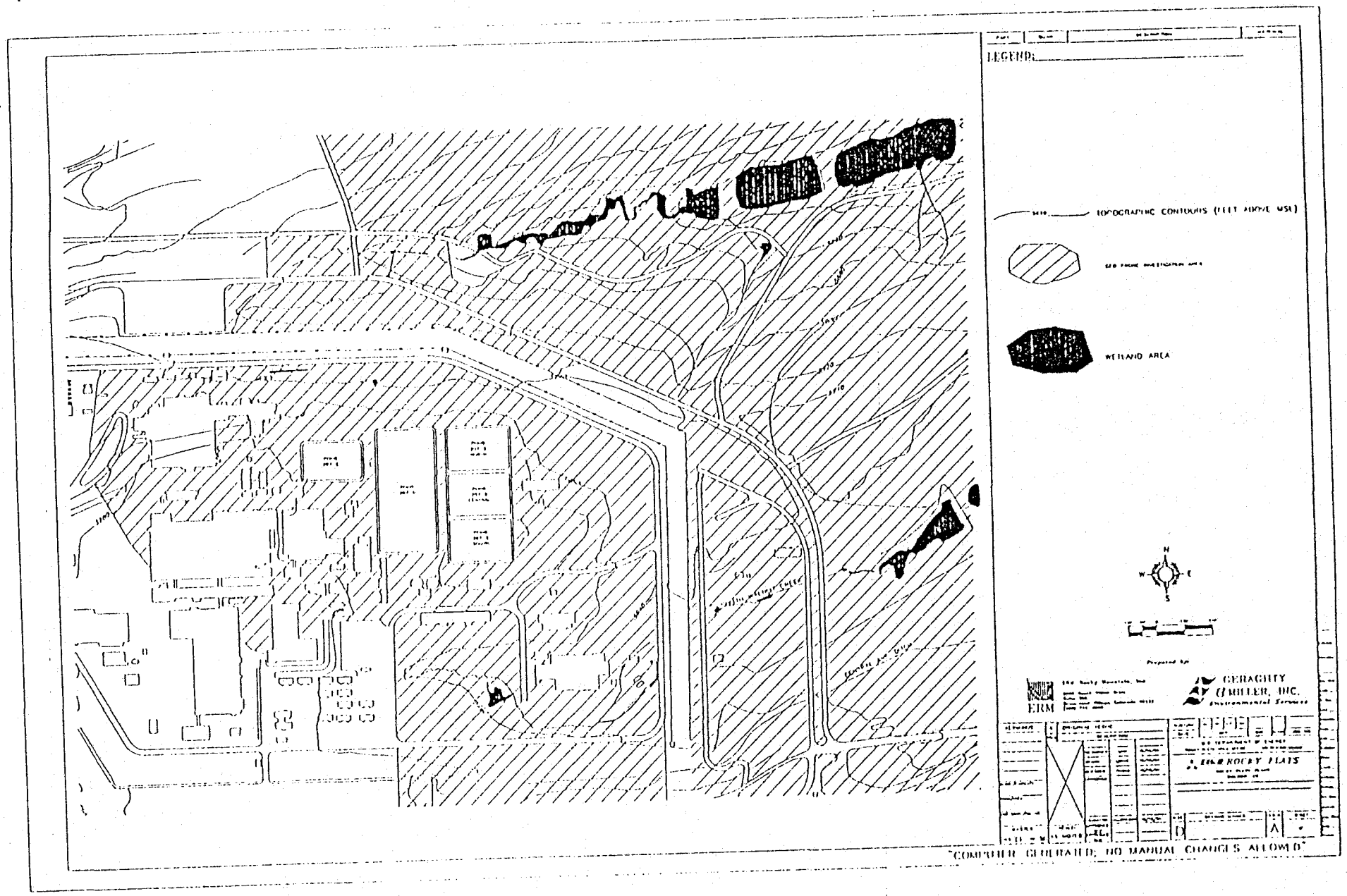
FIGURE 3
Geoprobe
Investigation Area
(excluding wetlands)



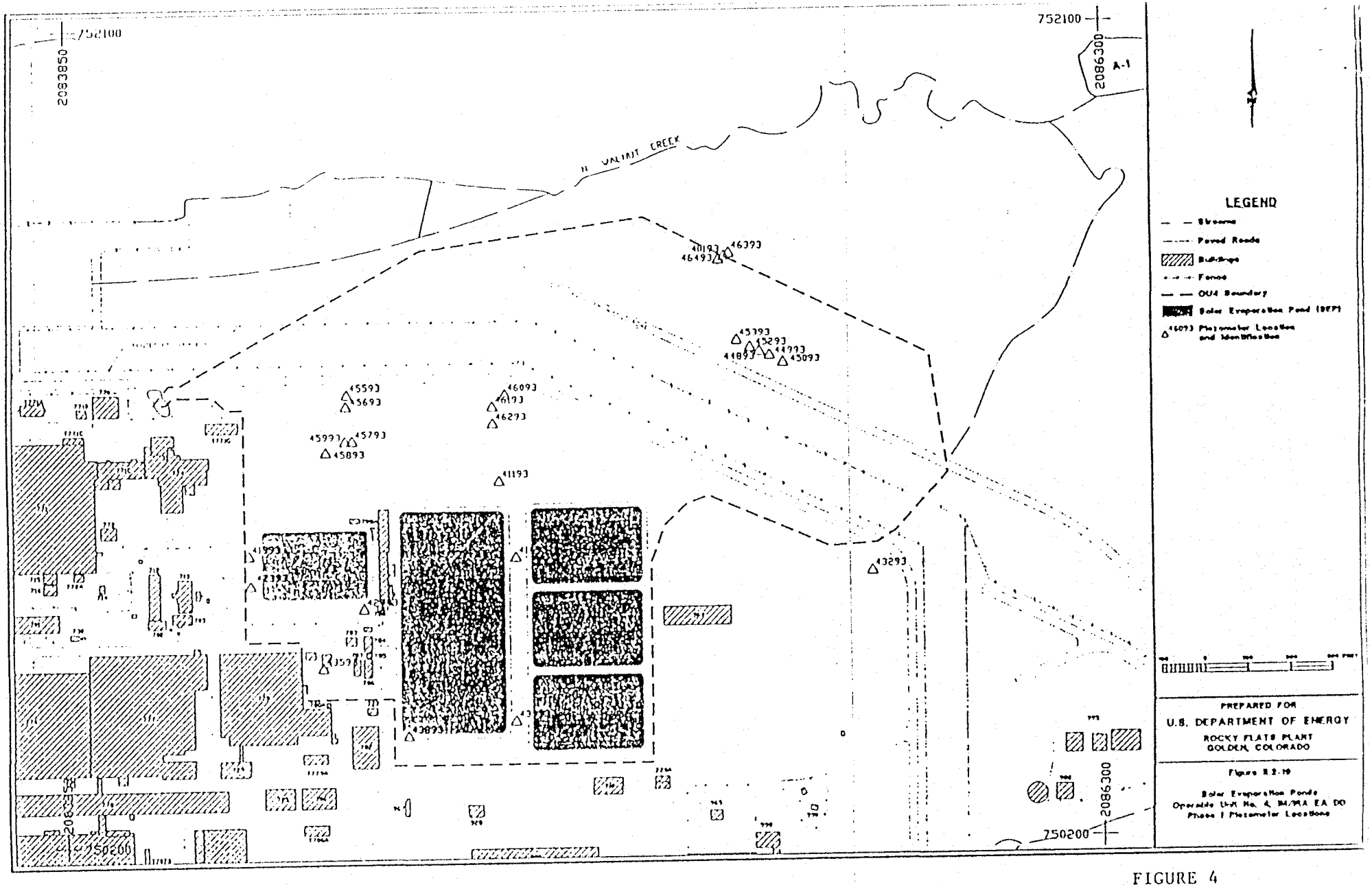
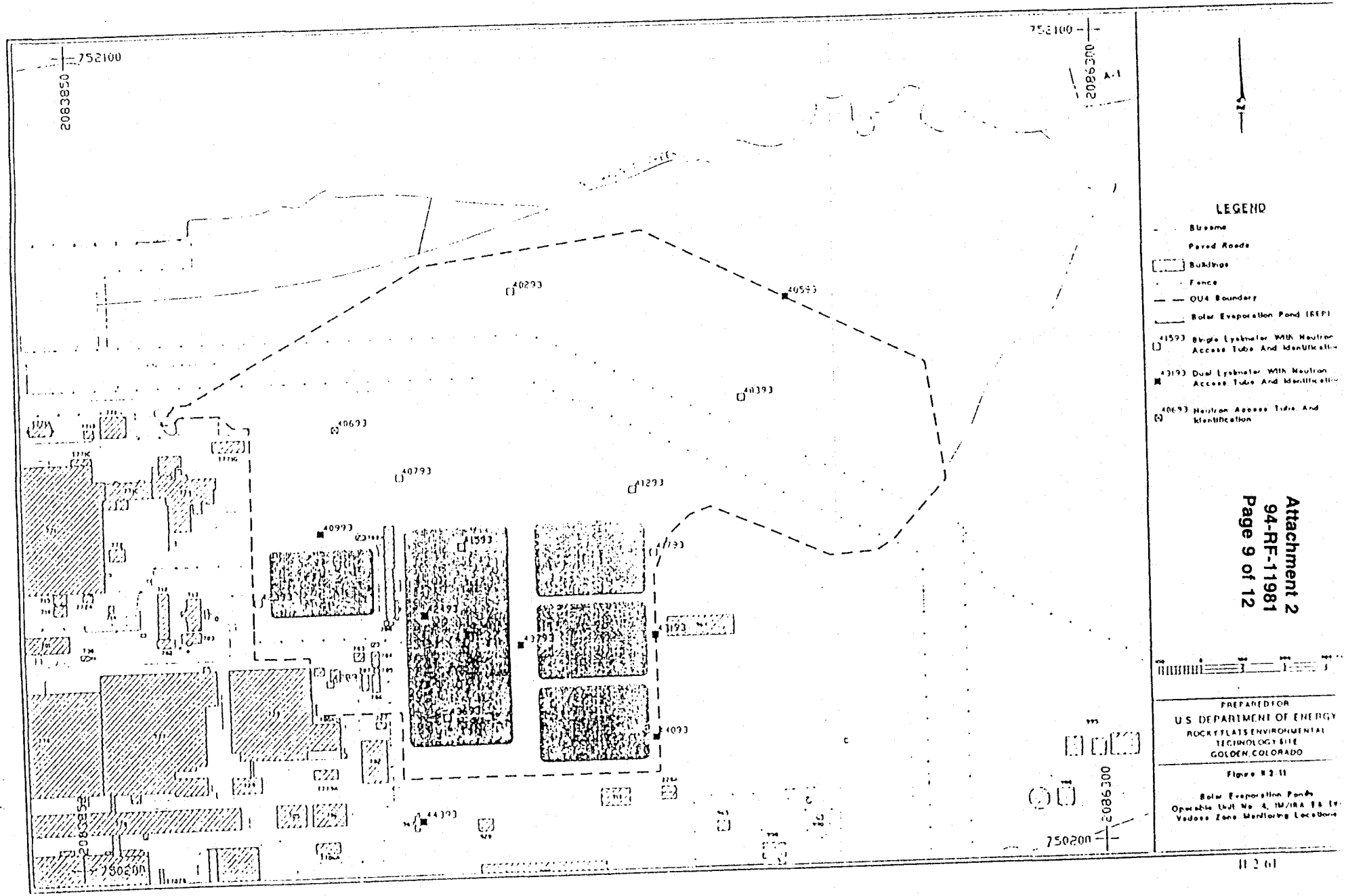


FIGURE 4
Piezometer
Abandonment Locations

FIGURE 5
Vadose Zone/Monitoring
Wells
Abandonment Locations



II-2-61

APPENDIX A

WETLANDS ASSESSMENT
for
PHASE II RFI/RI SITE CHARACTERIZATION FOR OU4: SOLAR EVAPORATION PONDS

PROJECT DESCRIPTION

The Department of Energy (DOE) proposes a project at the Rocky Flats Environmental Technology Site (RFETS), located north of Golden, Colorado, portions of which may take place in wetlands. The project is part of the site characterization work in Operable Unit (OU) 4, the Solar Evaporation Ponds, located in the northeast portion of the Industrial Area at RFETS. The project includes both intrusive activities such as drilling groundwater monitoring wells and boreholes, and nonintrusive activities such as surface water sampling and surface geophysical surveys.

No intrusive activities will take place in wetlands; final drilling locations will be field checked and adjusted to avoid wetlands. Some nonintrusive activities may need to be conducted in wetlands in order to accomplish their intended purpose. These nonintrusive activities include surface water sampling, surface water flow monitoring, sediment sampling, and surface geophysical surveys.

The purpose of the surface water sampling, surface water flow monitoring, and sediment sampling is to determine the quality and quantity of surface water flowing onto and out of OU4. The data will be used to support the OU4 water balance and the Interceptor Trench System water balance calculations. The importance of storm water as a contaminant pathway will be assessed using this data.

The purpose of the surface geophysical surveys is to characterize the alluvial and bedrock hydrologic systems, and locate bedrock channels that act as preferential pathways for contaminant migration. This information will allow more effective placement of drive points and monitoring wells.

Two surface water sampling locations would be established at seeps on the hillside north of the solar ponds to determine water quality. A small stainless steel bowl would be buried in each seep to collect a sufficient amount of water for sampling. Seven (7) automatic storm/surface water monitoring flow and sampling stations would be located in corrugated metal pipes or in ditches to collect surface water flowing onto and out of OU4. Some of these stations would require placement of Parshall flumes flush-mounted on the ground. The throats of the flumes would be 6-12 inches wide, and the flumes would be approximately 2 feet long. Some excavation may be required to properly install the flumes. Monitoring equipment for the automatic stations would be placed on platforms placed on the ground at the station location. Platforms will be placed outside of wetlands, if possible.

One (1) sediment sampling station would be established in a small depression known as Bowman's Pond located approximately 100 feet north of Building 774, which was previously used to collect condensate from Building 774. Sediment samples would be collected from the

pond bottom to determine if contaminants are present in the pond sediments. Sampling would be done quarterly by wading into the pond to manually collect the sediment.

Surface geophysical surveys would be conducted using seismic refraction and ground penetrating radar. The equipment consists of geophones connected by electrical cables to a data logger. The geophones would be laid out using a small utility truck or manually on foot. Equipment would be carried by hand into wetland areas. Once the geophones are in place, a metal plate is placed on the ground and is struck by a sledgehammer. The equipment detects and logs the energy transmitted when the metal plate is struck.

WETLAND EFFECTS

The identifiable physical effects on wetlands would be temporary minor flattening of vegetation as geophones are carried in by hand, placed in the wetland, and then removed. If metal plates that are struck with the sledgehammer must be placed in wetlands, they will also temporarily flatten some vegetation. Minor excavation would be required to place the stainless steel bowls in the seeps and to properly install the parshall flumes to collect the flow in the ditches. If platforms for automatic water sampling equipment must be placed in wetlands, the platforms will flatten exisiting wetland vegetation. The proposed activities would have no noticeable positive or negative, direct or indirect, short or long term effects on the survival, quality, or natural and beneficial values of the wetlands.

ALTERNATIVES

The no action alternative is the only other action that was considered for this project. The no action alternative would not result in any adverse impacts to wetlands. However, the no action alternative would not allow collection of the necessary data. Therefore, the no action alternative is not considered a reasonable alternative to the proposed project.

Wetland impacts were avoided as much as possible by relocating activities to non-wetland locations. Impacts to wetlands will be minimized by hand carrying geophysical equipment into the wetlands instead of transporting by a small utility truck. Metal plates that are struck by a sledgehammer will not be placed in wetlands unless it is necessary to place the plates in wetlands to accomplish the purpose of the project. Platforms for automatic water sampling equipment will not be placed in wetlands if it is possible to place them outside the wetlands.