SURFACE WATER INTERIM MEASURE/INTERIM REMEDIAL ACTION PLAN (IM/IRAP)

Operable Unit 2:
903 Pad, Mound, East Trenches Areas

EG&G ROCKY FLATS

ADMIN RECORD

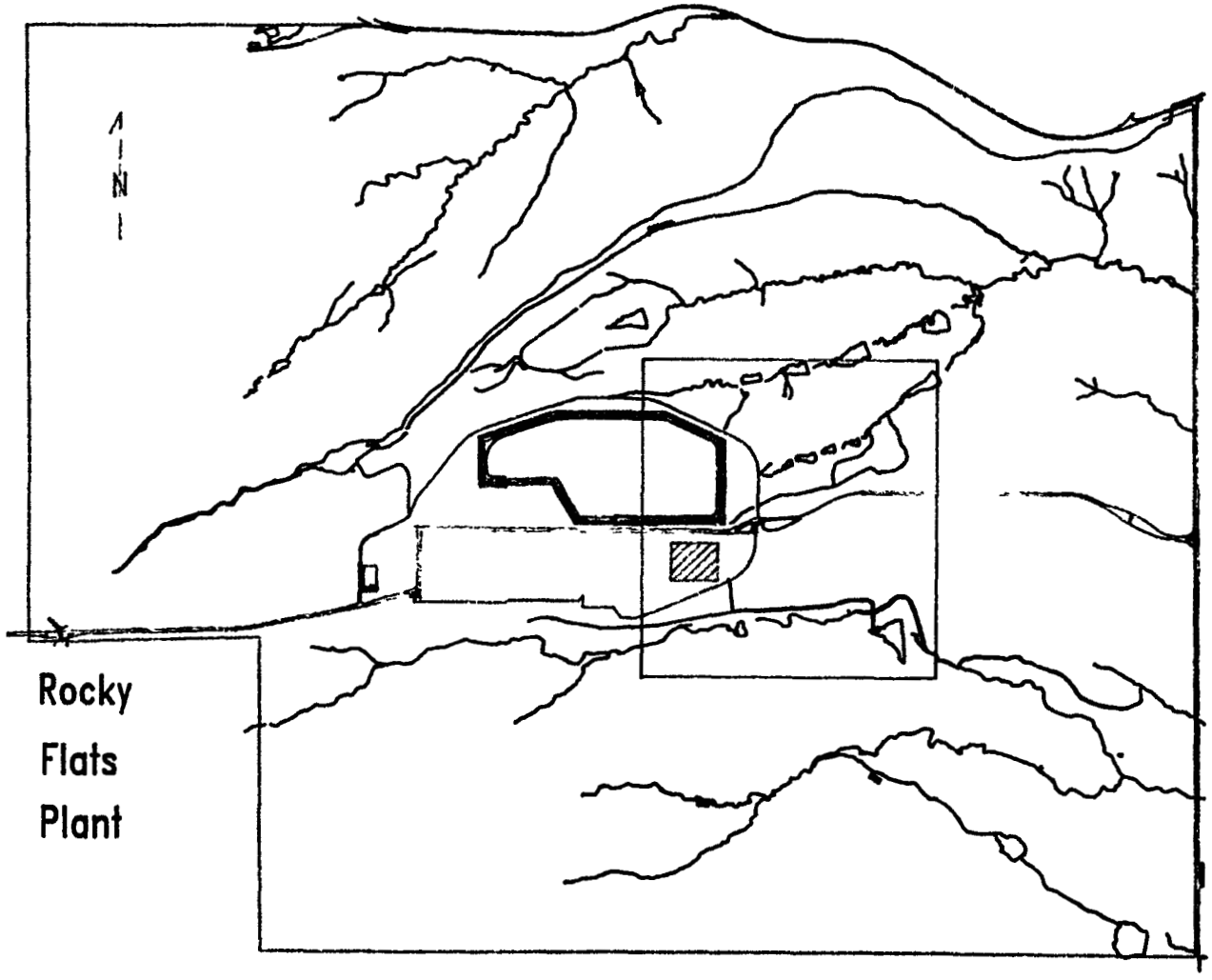
REVIEWED FOR CLASSIFICATION/UCNI
By
Date

A-OU01-000365

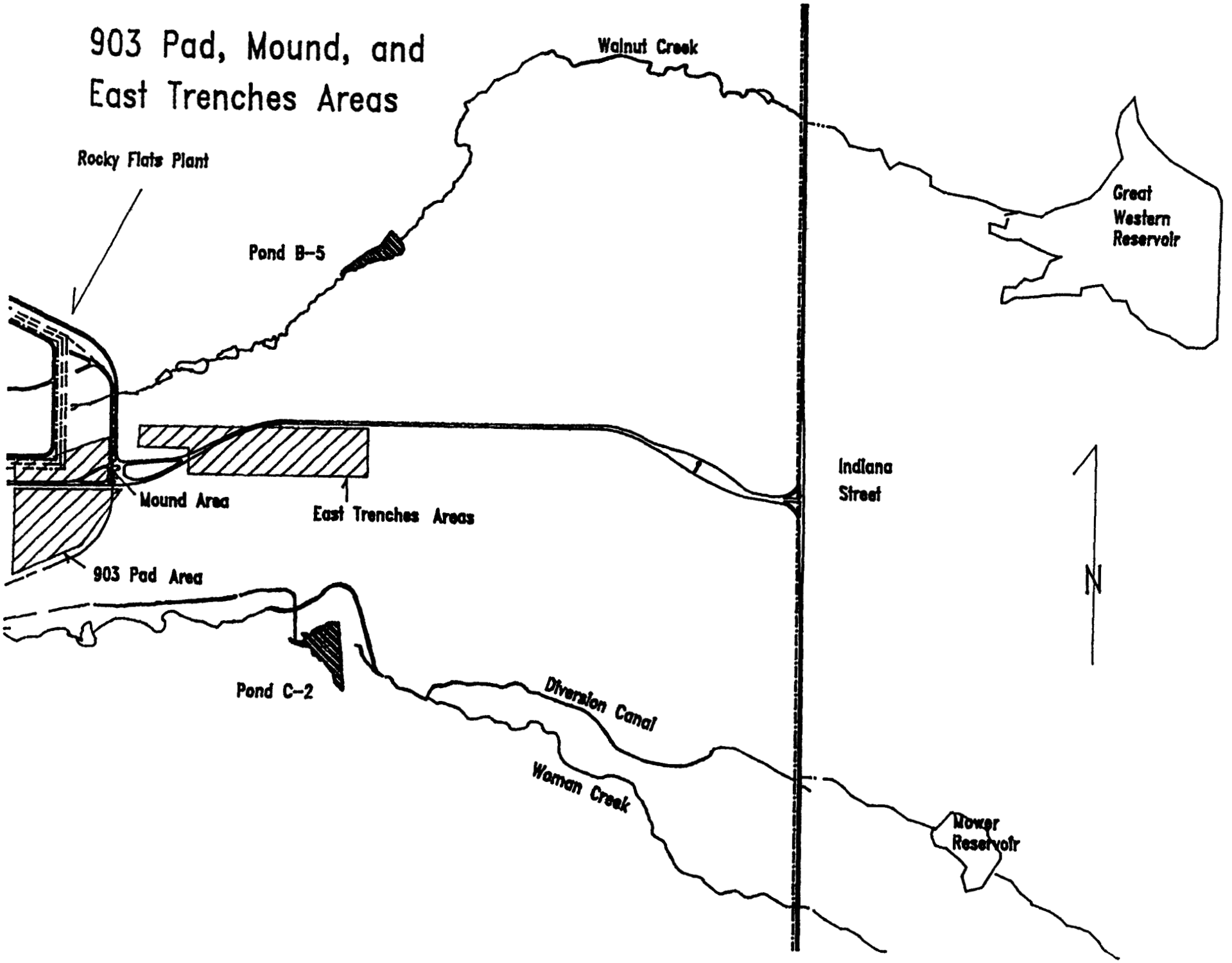
EXHIBIT #3
10/23/90

Operable Units

- Rocky Flats Plant divided into 16 Operable Units (OUs) for Environmental Restoration purposes
- OU2 located east and southeast of main plant areas
  - Contaminated with radionuclides and organics in soils, groundwater, and surface water


N
Rocky
Flats
Plant

903 Pad, Mound, and East Trenches Areas



Interim Remedial Action (IRA)

- Inter-agency Agreement (IAG) provides for IRAs to expedite responses to a portion of an OU
- Schedule for final actions at OU2 (soils, groundwater, surface water):
  - Remedial investigations 1991-93
  - Feasibility studies 1992-94
  - Remedial design 1995-96
  - Remedial action (construction) 1996-98
- This IRA provides accelerated response addressing treatment of contaminated surface water
  - First elements in place Spring 1991
  - Fully implemented before end of 1991

OU2 IRA History

- 1989: DOE proposed IRA for groundwater
  - Drill groundwater wells
  - Pump and treat
  - Discharge treated water
- Feb - Mar 1990: DOE/EPA/CDH elected to delay groundwater remedial action until additional hydrogeological characterization is completed.

OU2 Surface Water IRA

- June 1990: DOE proposed a surface water IRA
  - Treat specific surface water discharges and surface water seeps
  - Use existing ditches and culverts to bring several flows to common collection points; minimize soil disturbance
  - Collect base flows (low flows) only. High flow events will not be collected in this IRA

OU2 Surface Water IRA

Apparent Contamination Sources

- Organic contamination comes from the ground water
- Plutonium contamination results from suspension of solids at the surface
- Phase II remedial investigation to confirm; RI starts Feb 1991

OU2 Surface Water IRA

Where does the water go now?

- Most of the surface seep water evaporates or percolates back into the ground.
- The remainder now flows through Woman Creek and South Walnut Creek to existing detention ponds and is treated to NPDES standards before release offsite.
- Rigorous RFP site-specific standards for water discharge are being met.
- No immediate threat to public health or environment since water is contained and treated.
- This surface water IRA is being implemented as part of longer-term contamination source cleanup program.

Interim Measure/Interim Remedial Action Plan (IM/IRAP)

- The document details intended surface water IRA
  - Collect surface water flows upstream of existing ponds; collect at seeps and from S. Walnut Creek
  - Remove suspended solids, metals, & radionuclides with chemical precipitation and membrane filtration
  - Remove organics with granular activated carbon
  - Process to be confirmed by field-scale treatability tests
  - Field treatability test equipment custom-built for this project

OU2 IRA Construction/Testing Activities in 1991

Initial Sources (S. Walnut Cr. Drainage)

- Construct collection system (sumps, pumps and piping)
- Deliver and install carbon filter unit (organics removal)
- Begin treatability testing
- Deliver and install radionuclide removal and sludge handling units
- Continue treatability testing

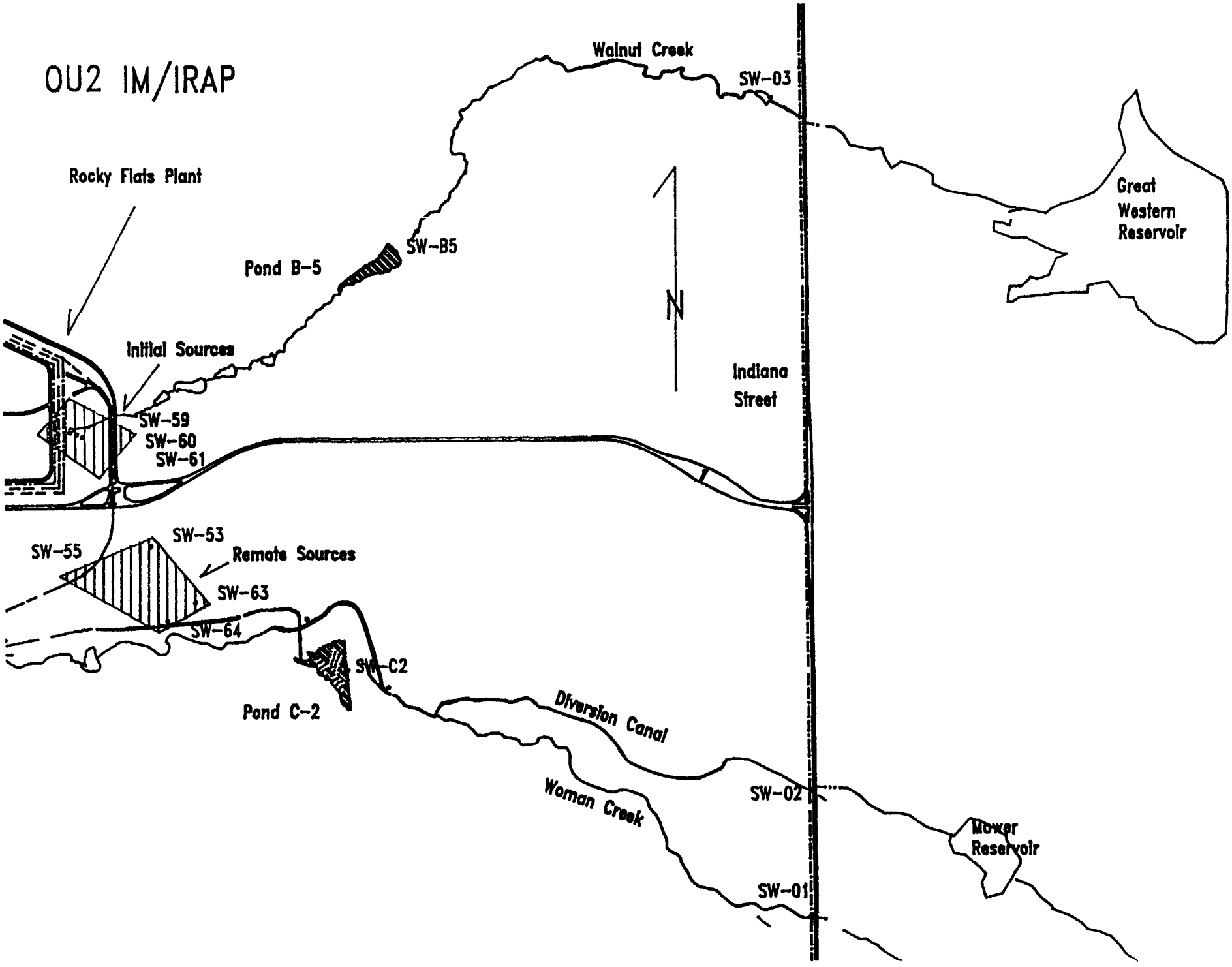
OU2 IRA Construction/Testing Activities in 1991
(continued)

Remote sources (Woman Cr. Drainage)

- Construct collection and transport (truck or pipe) system
- Continue treatability testing

System Capacity

- Full treatment system rated at 60 gpm capacity
- Initial Sources collection system (S. Walnut Cr.)
  ~ 40 gpm
- Remote Sources collection system (Woman Cr.)
  ~ 10 gpm


OU2 IM/IRAP
Rocky Flats Plant
Initial Sources
Pond B-5
SW-B5
Walnut Creek
SW-03
N
Indiana Street
Great Western Reservoir
SW-59
SW-60
SW-61
SW-55
SW-53
Remote Sources
SW-63
SW-64
SW-C2
Pond C-2
Diversion Canal
Woman Creek
SW-02
SW-01
Mower Reservoir

Field Treatability Tests: Purposes

- Tests will demonstrate ability of treatment system to achieve desired performance (ARARs).
- System can be modified to alter process to optimize treatment.
- Field treatability test system is full-size, not pilot-size.
  - If EPA and CDH are satisfied with performance of system, this equipment could become the IRA treatment facility.

Schedules

	Date
• IM/IRAP document released to the public	Oct 23, 1990
• Public information meeting on	Sept 26, 1990
• End public comment period	Nov 24, 1990
• Final IM/IRAP	Jan 1991
• Construct "initial sources" collection system & initial treatability test units	Feb-Mar 91
• Conduct treatability tests (initial sources)	Mar-Dec 91
• Construct remainder of treatment facilities	~Apr-Jun 91
• Construct "remote source" collection system	Jun-Sept 91
• Complete construction (IAG milestone)	Sept 30, 1991
• Conduct field treatability tests (remote sources combined with initial sources)	Oct-Dec 91
• Submit draft treatability study report	Apr 1992

Summary

- Surface seeps are a priority, but pose no imminent threat to public health or safety.
- The Interim Measure is just that - the full RI/FS-RA process continues in parallel.
- Treatability tests will evaluate effectiveness of the technology chosen.
- Treatability test equipment is tailored to this project.