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Final

Meeting Minutes Transmittal/Approval
Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
2440 Stevens Center, Room 1200, Richland, Washington
July 28, 1994

FROM/APPROVAL: Eric D. Goller Date 8/24/94
Eric D. Goller, 100 Area Unit Manager, RL (A5-19)

APPROVAL: Darci Teel for Date 8/24/94
Darci Teel, 100 Aggregate Area Unit Manager, WA Department of Ecology

APPROVAL: Dennis Faulk Date 8-24-94
Dennis Faulk, 100 Aggregate Area Unit Manager, EPA (B5-01)

Meeting Minutes are attached. Minutes are comprised of the following:

Attachment #1	-	Meeting Summary
Attachment #2	-	Attendance Record
Attachment #3	-	Agenda
Attachment #4	-	Action Item Status List
Attachment #5	-	July Unit Manager's Meeting 100 Area Status Package
Attachment #6	-	Vortec soil vitrification demonstration
Attachment #7	-	Dust Suppressant and Wash Water Recycling Tests on 116-D-1B Trench Soil

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Prepared by: Kay Kimmel Date: 8/24/94
Kay Kimmel, Bob Scheck GSSC (B1-42)

Concurrence by: Bob Henckel Date: 8/24/94
Bob Henckel, BHI Coordinator (H6-02)

Attachment #1
Meeting and Summary of Commitments and Agreements

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
July 28, 1994

1. **SIGNING OF THE JUNE 100 AREA UNIT MANAGER'S MEETING MINUTES** - Minutes were not available for signature. They will be presented at the August meeting.

2. **ACTION ITEM UPDATE: (See Attachment 4 for complete status, items listed below indicate the update to Action Items made during the meeting):**

1AAMS.15	Action given to Mike Thompson.
1AAMS.16	Closed 07/27/94
1AAMS.19	Closed 07/27/94. Paul Beaver is arranging a meeting to discuss waste acceptance criteria for the ERDF.

3. **NEW ACTION ITEMS:**

1AAMS.20 Confirm that all persons requesting addition to the UMM agenda distribution list
Diana Sickle from the Washington Department of Ecology have been included.

4. **100 AREA ACTIVITIES:**

100 Area Status

- Operable Unit Status: Attachment #5 was provided for general information on the 100 Areas Operable Units. Clarifications: 1) Page 2 Insitu Flow Sensors and poor collapse of formation, the sensor readings are poor because the formation did not collapse completely around the sensor; 2) Page 2 Soil Washing Tests, the basis for using a double deck screen is from bench scale tests; 3) Page 4, the 100-BC-1 and 100-BC-5 QRA documents are in the process of being transmitted to the regulators.

100 Area Treatability Studies - Joan Woolard introduced the topics and speakers for the following updates.

- Vortec Vitrification Testing - John Ludowise provided an update on the Vortec vitrification system (see Attachment #6). He indicated that it may be possible to obtain funding through the EPA SITE program. The EPA would write and run the program at the national level, however, they would accept RL guidance and would be able to change the program as needed. The purpose of the test would be to stabilize fines, possibly from soil washing, for disposal. Vortec brings with the project experience in vitrifying radioactive sites. J. Ludowise indicated that the scope of work would be written at the national level but would request approval from the Tri-Parties, so that the program will meet the needs of the local user. He indicated the 30 percent design review would begin on August 9, with two weeks to review and provide a site. A presentation will be provided at the next UMM.

- 100 Area Soil Washing Laboratory Testing of Dust Control Products - Bob Scheck explained that this ongoing work is utilizing 100-D and 100-F area soils to determine the effects of dust suppressant chemicals on soil washing activities. Shas Mattigod presented the status of the

subject tests (see Attachment #7). He indicated that in the laboratory tests currently underway, when dust suppressant is present, ten times more flocculant is necessary to gain the same reduction in turbulence than when no dust suppressant is present. He also noted that two stages were required for attrition scrubbing, with screening for fines between stages. As noted in the handout, the radiochemical component appears to be dissolving to a greater degree in the wash water when suppressants are used, however, the mass balance data to confirm this hypothesis is not yet available.

5. INFORMATION ITEMS:

- ERDF Waste Acceptance Criteria - Discussions will be held between Operable Unit Managers and ERDF design staff to come to agreement on the waste acceptance criteria. Paul Beaver and Norm Hepner have tentatively scheduled this meeting for the week of August 8, 1994 to include N. Werdel, S. Veitenheimer, O. Robertson, M. Thompson, R. Henckel, G. Eidam, S. Liedle, V. Dronen, F. Ruck, P. Staats, D. Faulk, T. Wooley, R. McLeod, B. Foley.

- ROD Working Group - In a letter dated 07/25/94, Eric Goller presented to the regulators the concept of a ROD Working Group. He discussed his expectations at this meeting. This working group's mission would be to develop a strategy for writing RODs for the 100 Area, documented with meeting minutes. The group would identify the important elements of a Record of Decision, identify how RODs are modified, how cost/benefit decisions are made, and what the cleanup levels will be. The purpose of identifying these (and other) elements is so that a RL can prepare a Proposed Plan from which a ROD can be easily written.

- Procedures & Change Package - Comments are due on the Soil Washing Procedure and the XRF Change Package July 29, 1994 with comment resolution scheduled for Tuesday August 2, 1994 at 8:00 a.m.

- 100-HR-3 Pilot Plant Test Plan - Paul Beaver stated that the classification of the pump and treat pilot plant as an "interim action" was inappropriate. The status of this issue will be reviewed by Joan Woolard.

6. NEXT MEETINGS: The next meetings are scheduled for August 24, 1994.

100 Aggregate Area Unit Manager's Meeting
Official Attendance Record
July 27, 1994

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PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
RP Henckel	BHI	100 F, K, H	376-2091
Stephanie Johansen	Dames & Moore	GSSC support - 100 area	946-3693
Brian Drost	USGS	EPA Support	206-593-6510
Connie Woods	BHI		372-9511
Paul Beaver	EPA	UM	376-8665
G.R. Eidam	BHI	100 N, O, B/C	375-4650
Wayne W Sapter	Ecology	100 Area OOM	736-3049
Kay Kimmel	MACTEC/D&M	RL Support	946-3692
John April	CHI	100 AREA	375-9441
JOAN WOOLARD	BHI	100D 100 TREATABILITY	376-2539
John Ludowise	CHI	100 Treatability	376-6470
Gary Freedman	Ecology	OUM	736-3026
Neil Morton	PRC	EPA Support	206-624-2692
Shas V. Mattigod	PNL	100 Area Soil Washing	376-4311
RON BELDEN	CHI	100 AREA SOIL WASHING	372-1226
Ted Woolard	Ecology	100/200/300	736-3012
Eric Goller	DOE-RL	100-BC Project Mgr	376-7326
BOB SCHECK	Dames & Moore	GSSC Support	946-3688

Attachment #3
Agenda

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
July 28, 1994

100 Area General Discussions

* 100 Area General Status - R. Henckel

* ROD Working Group

* Project Managers Meeting

* 100-DR-2 and IRM Burial Ground Issue

* 100 Area Treatability Studies - J. Woolard

  - Soil washing laboratory testing of dust control products - Shas Mattigod

  - Vortec vitrification testing - John Ludowise

Operable Unit Status - Questions - N. Naiknimbalkar/J. Ayres/
D. Biggerstaff/A. Krug/J. Roberts

Action Item Status

Attachment #4

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
July 28, 1994

Action Item Status List

ITEM NO.	ACTION	STATUS
1AAMS.15	Provide response to April 2 EPA letter concerning river seeps. Action: Mike Thompson (RL) 07/27/94.	Open (7/29/92). In DOE for transmittal (8/26/92). Letter is pending (03/31/94).
1AAMS.16	DOE should transmit Revision 1 of M-30-01.	Closed 07/27/94.
1AAMS.19	Meet, before the end of the month, with RL, EPA and Ecology concerned parties to discuss ERDF waste acceptance criteria and expected volumes. Action: Bryan Foley	Closed 07/27/94. Paul Beaver is arranging a meeting to discuss waste acceptance criteria for the ERDF.
1AAMS.20	Confirm that all persons requesting addition to the UMM agenda distribution list from the Washington Department of Ecology have been included. Action: Diana Sickle	Open 07/27/94.

100 AREA UNIT MANAGERS' MEETING

100-B/C, 100-K, 100-D, 100-H, AND 100-F

STATUS PACKAGE

JULY 27, 1994

Treatability Studies

100-HR-3 Pump and Treat

The test plan was submitted to the regulatory agencies for review with comment due on July 15. The waste control plan and operating procedures are currently being prepared. The ion exchange unit is scheduled for delivery on July 25. Ancillary equipment is arriving daily.

Soil Washing Tests

Recycle and water treatment bench scale tests are in progress. Dust suppressant tests were completed. Preliminary data should be available in time for the July UMM.

Ecology and EPA concurred with responses prepared to comments on RL 93-107, Draft A. Comments are being incorporated accordingly. In addition, EPA requested that Appendix B of the document be expanded to discuss potential applications for soil washing. A meeting was scheduled for July 18, 1994 to discuss this.

Several pieces of equipment for the EPA test have started to arrive, including conveyors, classifiers, and miscellaneous equipment.

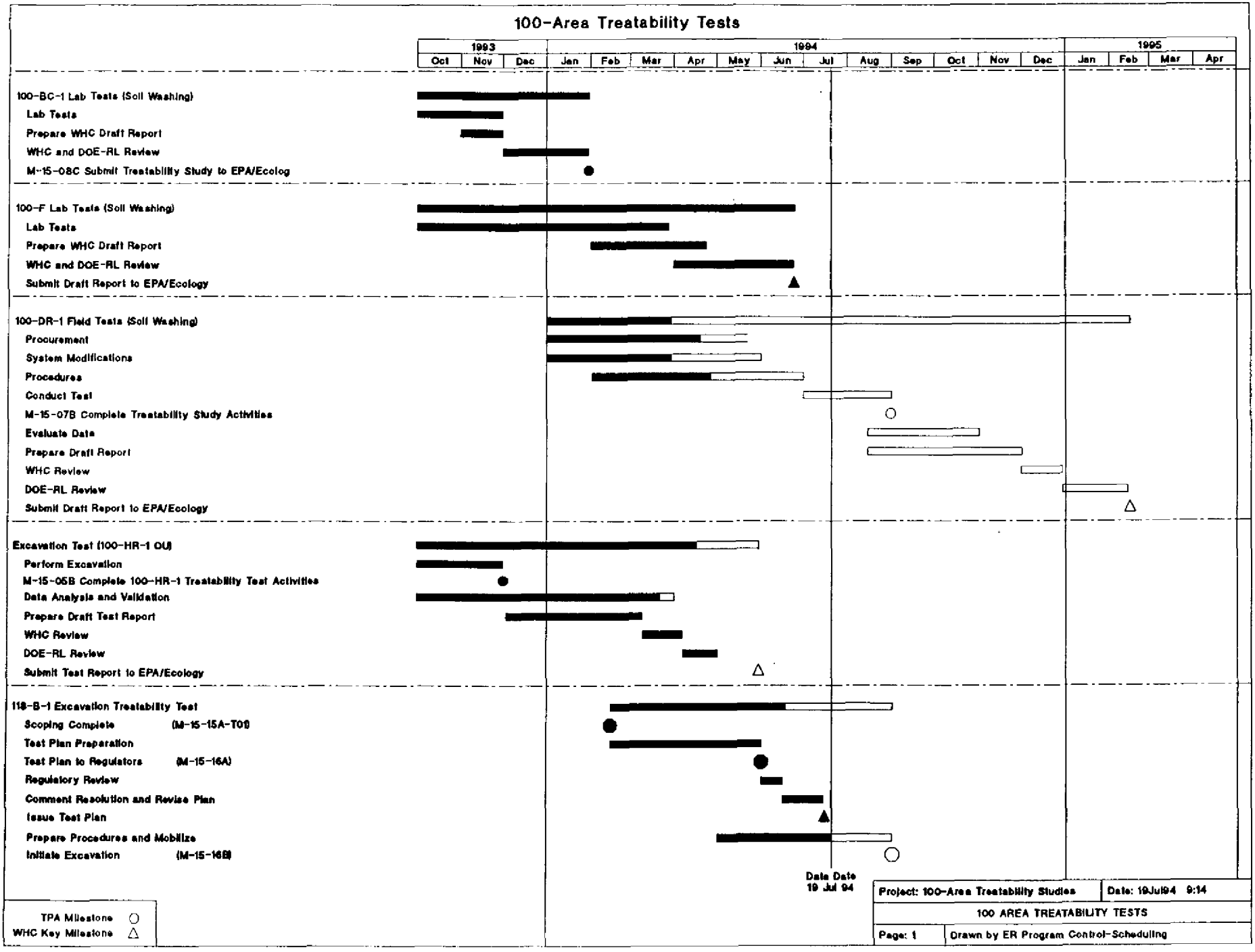
It was determined that for the 100-DR-1 test a double deck screen would be more efficient than the EPA trommel and shaker screens used for 300 Area tests. As a result, a purchase request and statement of work are being prepared.

Due to delays in obtaining soil washing test equipment, a request was submitted by RL to extend the milestone to start the test March 31, 1995. In the mean time RL and Bechtel are pursuing a parallel path option to see if a vendor can be brought in to expedite the test to be performed this winter.

INSITU FLOW SENSORS - HR-3

- The insitu flowmeters (SFM-2, SFM-3 and SFM-5) installed in proximity to the 183-H Solar Basin in the H Reactor area continue to function properly; SFM-1 (furthest inland sensor) continues to show convection response consistent with poor formation collapse around the sensor. This sensor will continue to be monitored for a limited time to see if the formation will collapse around the probe. SFM-2 and SFM-3 are completed in the Hanford formation continue to show good three-dimensional flow field response. SFM-5, completed in the Ringold, also shows good flow field response. Analysis of sensor data by Sandia Laboratories is continuing.

100-Area Treatability Tests



B AREA

100-BC-1 QRA and LFI Reports

TASK 11: 100-BC-1 QRA (WHC-SD-EN-RA-003, Rev. 0) has been reviewed by the regulators and released as Rev. 0.

TASK 13: 100-BC-1 LFI (DOE/RL-93-06 Rev. 0) was given to DOE on April 19 for distribution to the regulators.

100-BC-1 FFS Report

The Decisional Draft was delivered on July 15 for DOE review.

100-BC-2 QRA and LFI Reports

TASK 11: The 100-BC-2 QRA was initiated in January, 1994 and was subsequently combined with the LFI, producing one document. DOE comments have been received and dispositioned, and a comment resolution meeting has been set for July 26, 1994.

TASK 13: The 100-BC-2 LFI was initiated in January, 1994 and was subsequently combined with the QRA, producing one document. DOE comments have been received and dispositioned, and a comment resolution meeting has been set for July 26, 1994.

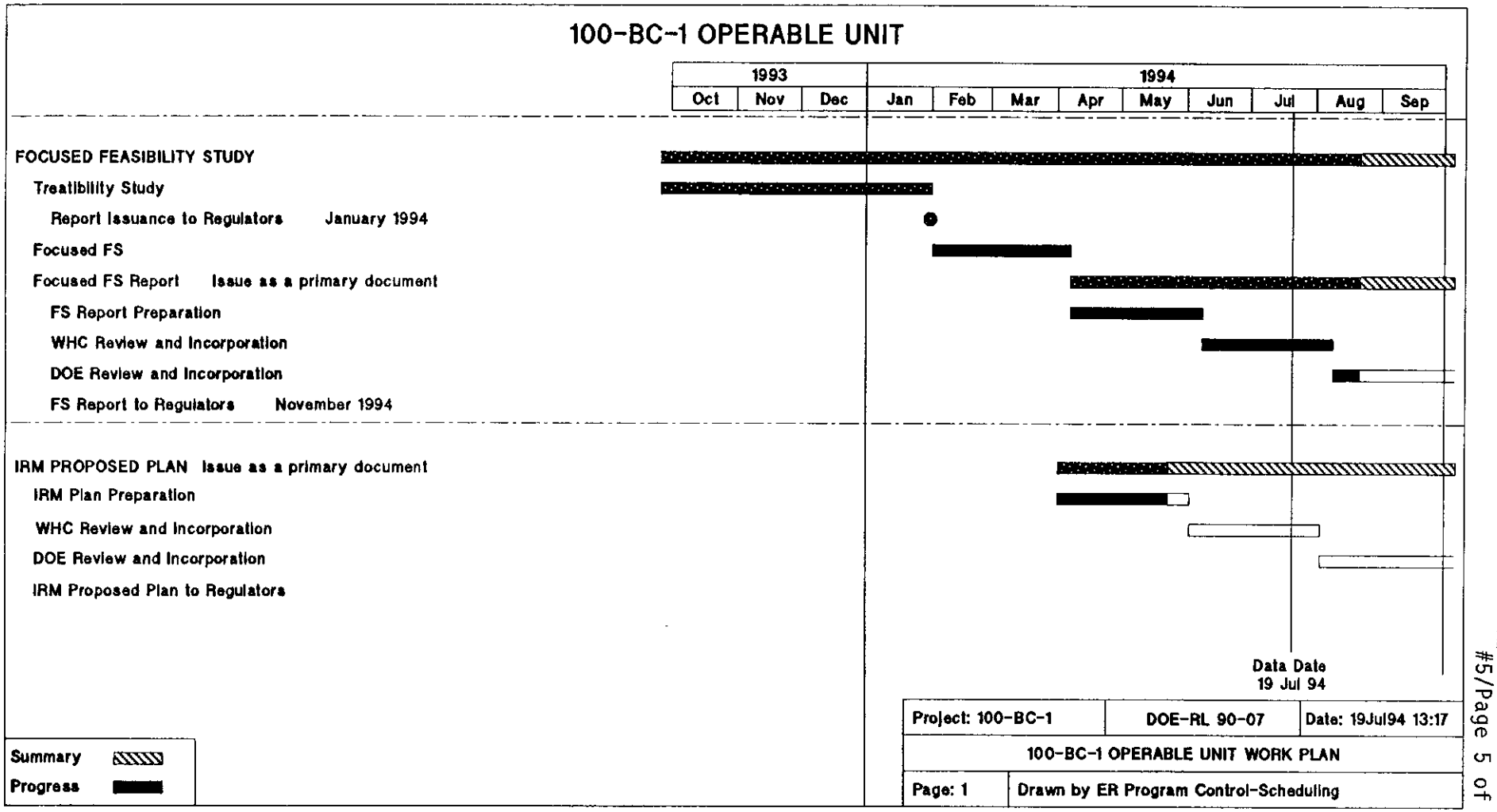
100-BC-5 QRA and LFI Reports

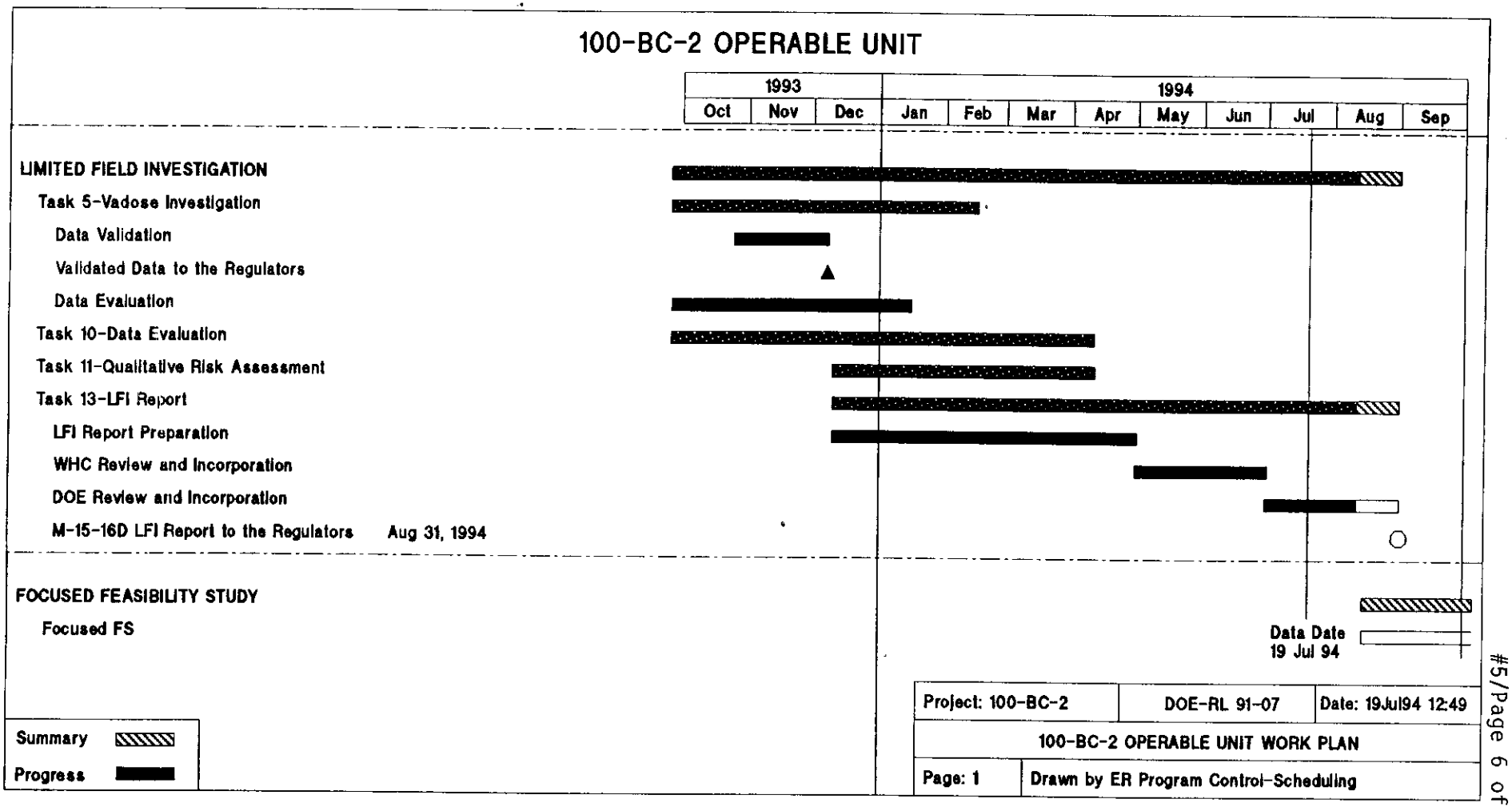
TASK 11: 100-BC-5 QRA (WHC-SD-EN-RA-006, Rev. 0) has been reviewed by the regulators and released as Rev. 0.

TASK 13: 100-BC-5 LFI (DOE/RL-93-37, Rev. 0) has been reviewed by the regulators and released as Rev. 0.

100-BC-5 FFS Report

Task was initiated in January, 1994 and is currently on schedule. Discussions are ongoing as to the format and content of the document.




100-BC-2 OPERABLE UNIT
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LIMITED FIELD INVESTIGATION
Task 5-Vadose Investigation
Data Validation
Validated Data to the Regulators
Data Evaluation
Task 10-Data Evaluation
Task 11-Qualitative Risk Assessment
Task 13-LFI Report
LFI Report Preparation
WHC Review and Incorporation
DOE Review and Incorporation
M-15-16D LFI Report to the Regulators Aug 31, 1994
FOCUSED FEASIBILITY STUDY
Focused FS
Data Date
19 Jul 94
Summary
Progress
Project: 100-BC-2
DOE-RL 91-07
Date: 19Jul94 12:49
100-BC-2 OPERABLE UNIT WORK PLAN
Page: 1
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K AREA

100-KR-1 QRA and LFI Reports

Task 11: Responses to regulator comments on 100-KR-1 QRA (WHC-SD-EN-RA-009, Rev. 0) were scheduled to be discussed the regulators on July 20, 1994.

Task 13:
Responses to regulator comments on 100-KR-1 LFI (DOE/RL 93-78, Draft A) were scheduled to be discussed with the regulators on July 20, 1994.

Task 11: The 100-KR-4 QRA (WHC-SD-EN-RA-010, Rev 0) was revised to incorporate regulator comments and was released the week of July 11, 1994.

Task 13: The 100-KR-4 LFI (DOE/RL-93-79, Draft A) was revised to incorporate regulator comments and was released the week of July 11, 1994.

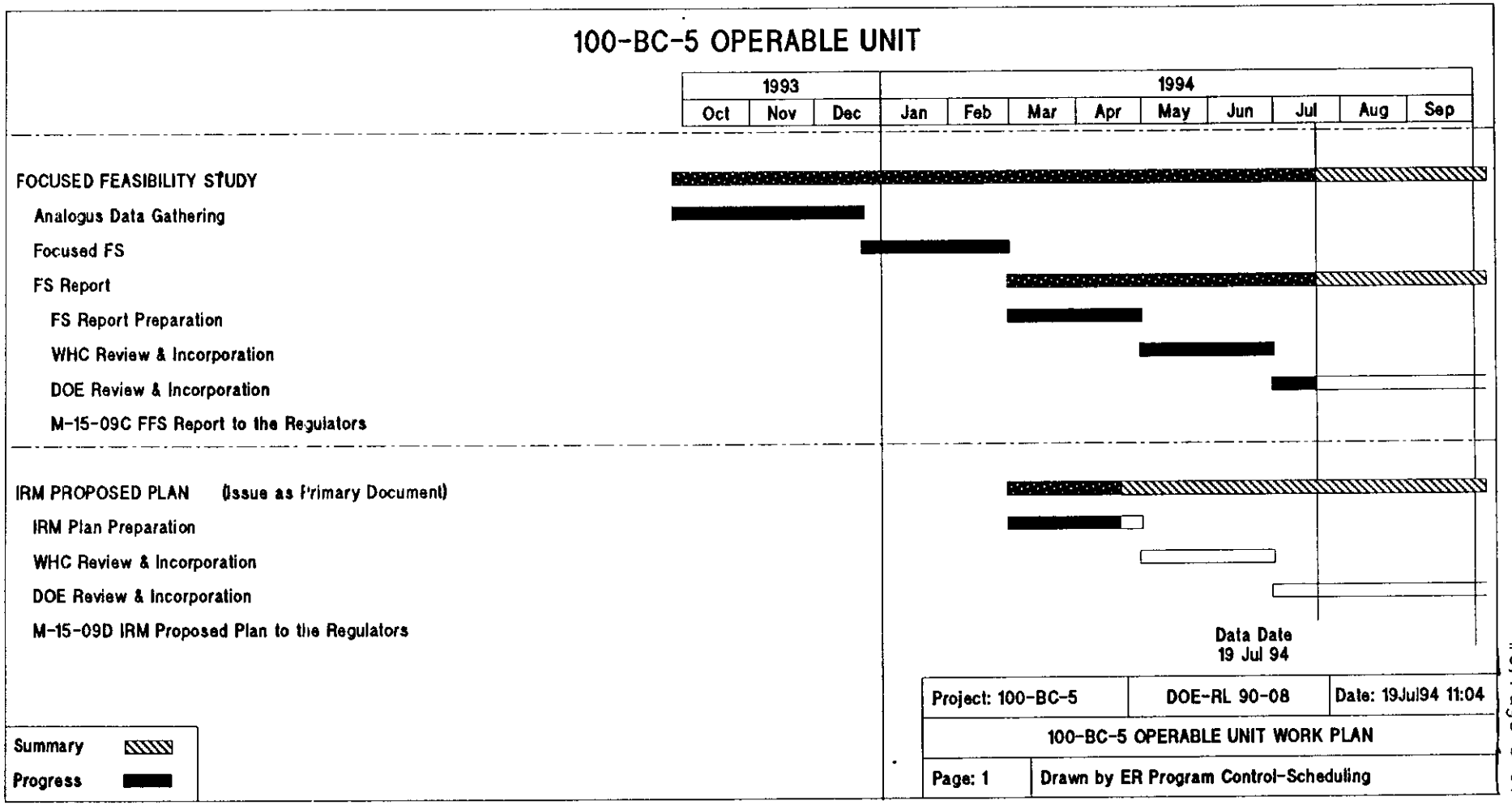
100-KR-4 Groundwater Monitoring

Task 6: Groundwater Sampling for Round 6 was completed in July, 1994.
100-KR-4 QRA and LFI Reports

Focused Feasibility Study

Work continued on the 100-KR-1 and 100-KR-4 Focused Feasibility Studies. The 100-KR-4 FFS was submitted for ERC review on July 15, 1994.

100-BC-5 OPERABLE UNIT



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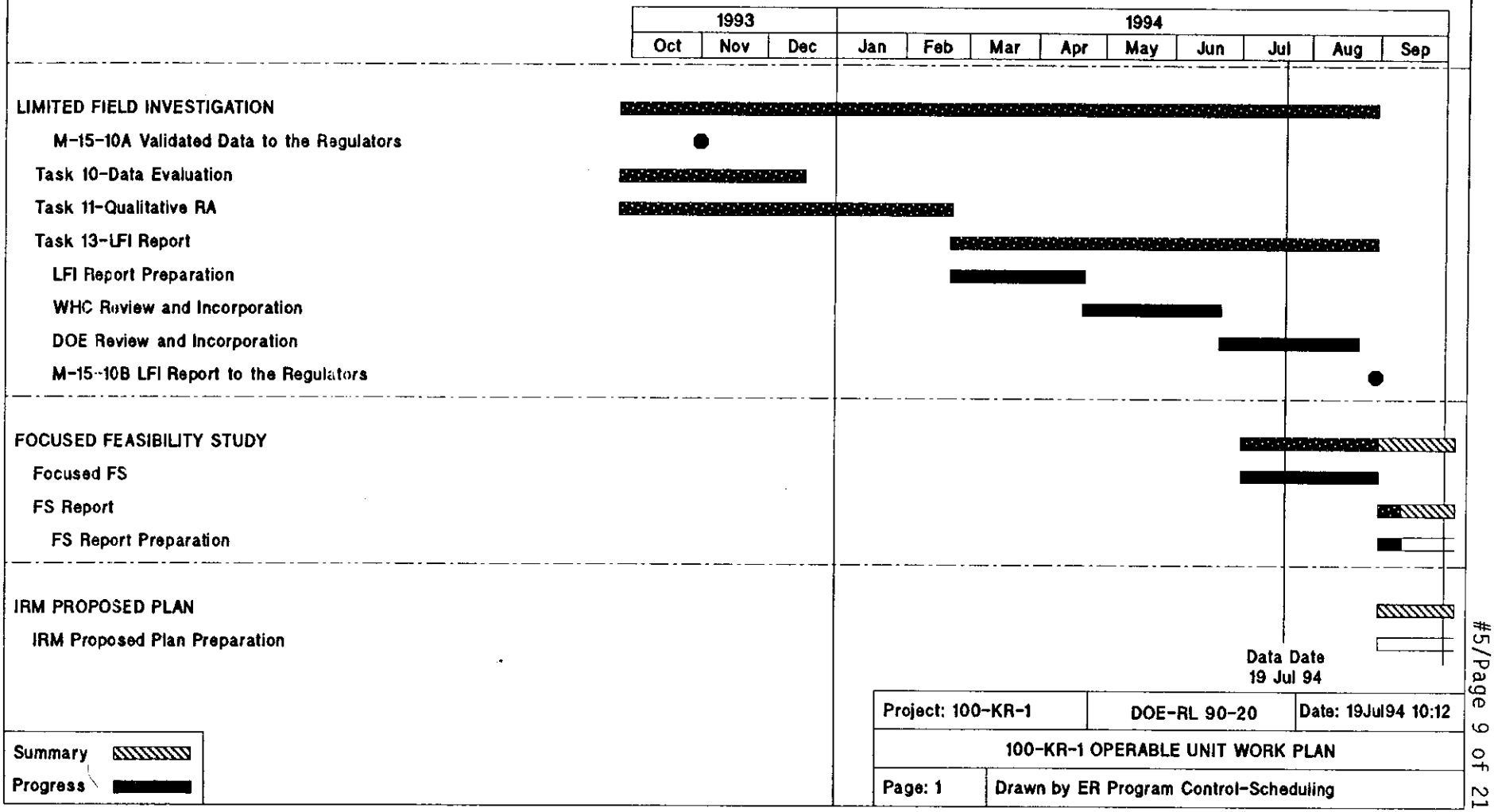

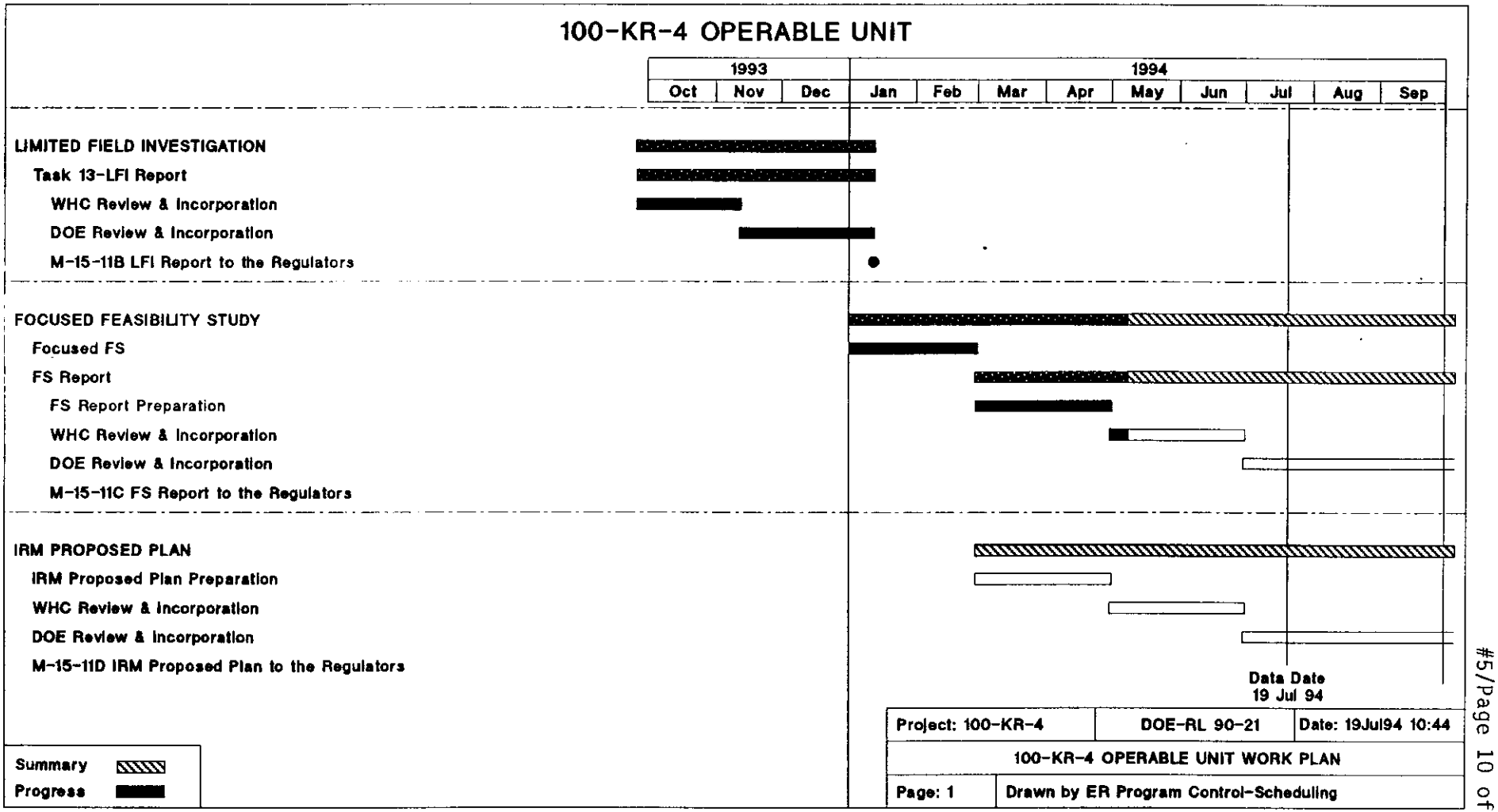
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FS Report
FS Report Preparation
WHC Review & Incorporation
DOE Review & Incorporation
M-15-11C FS Report to the Regulators
IRM PROPOSED PLAN
IRM Proposed Plan Preparation
WHC Review & Incorporation
DOE Review & Incorporation
M-15-11D IRM Proposed Plan to the Regulators
Data Date
19 Jul 94
Summary
Progress
Project: 100-KR-4
DOE-RL 90-21
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100-KR-4 OPERABLE UNIT WORK PLAN
Page: 1
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D AREA

100-DR-1

100-DR-1 Focused Feasibility Study

o 100-DR-1 Focused Feasibility Study report was submitted for DOE-RL/HQ review on July 19, 1994.

100-DR-2

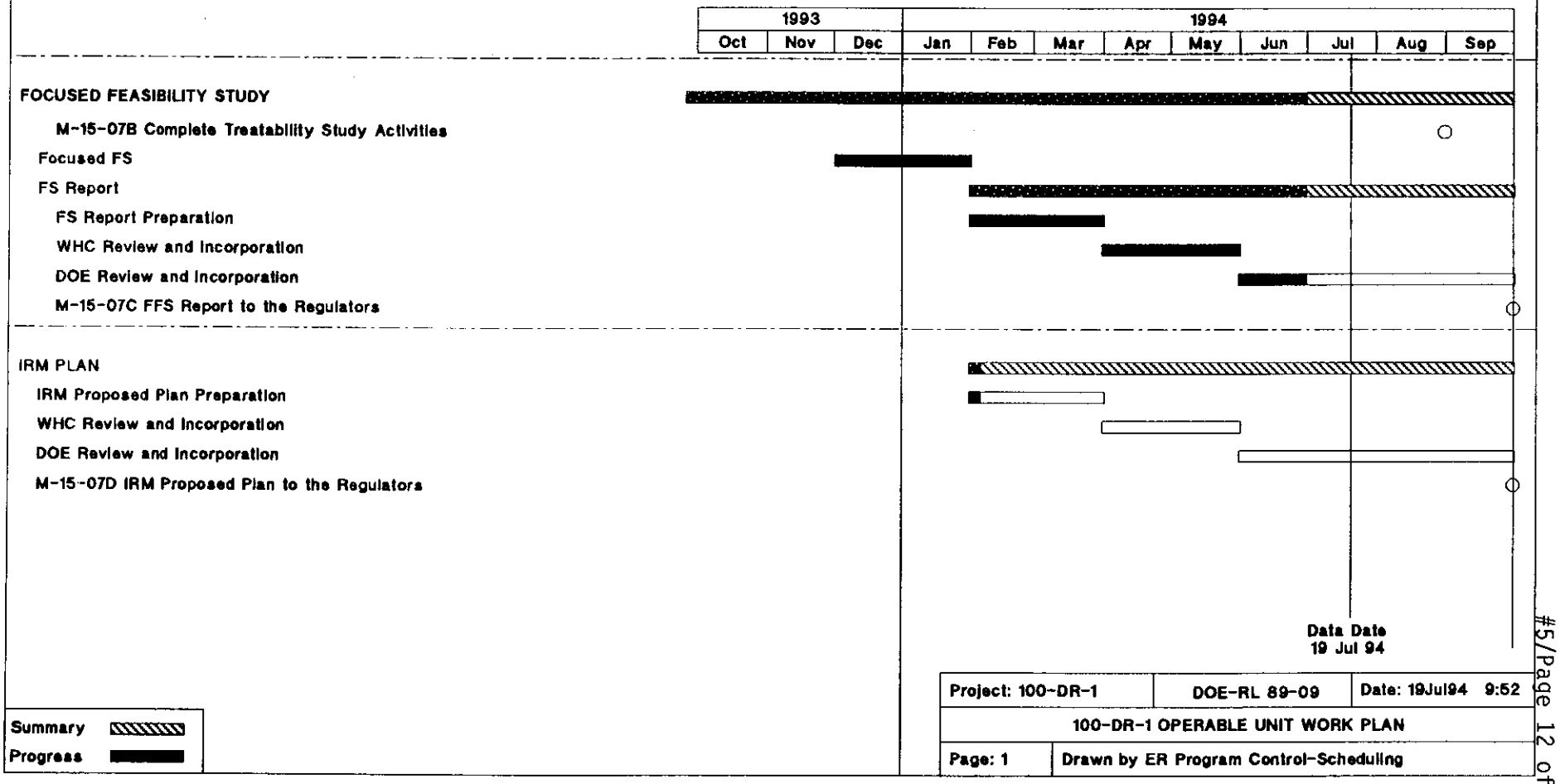
100-DR-2 Work Plan

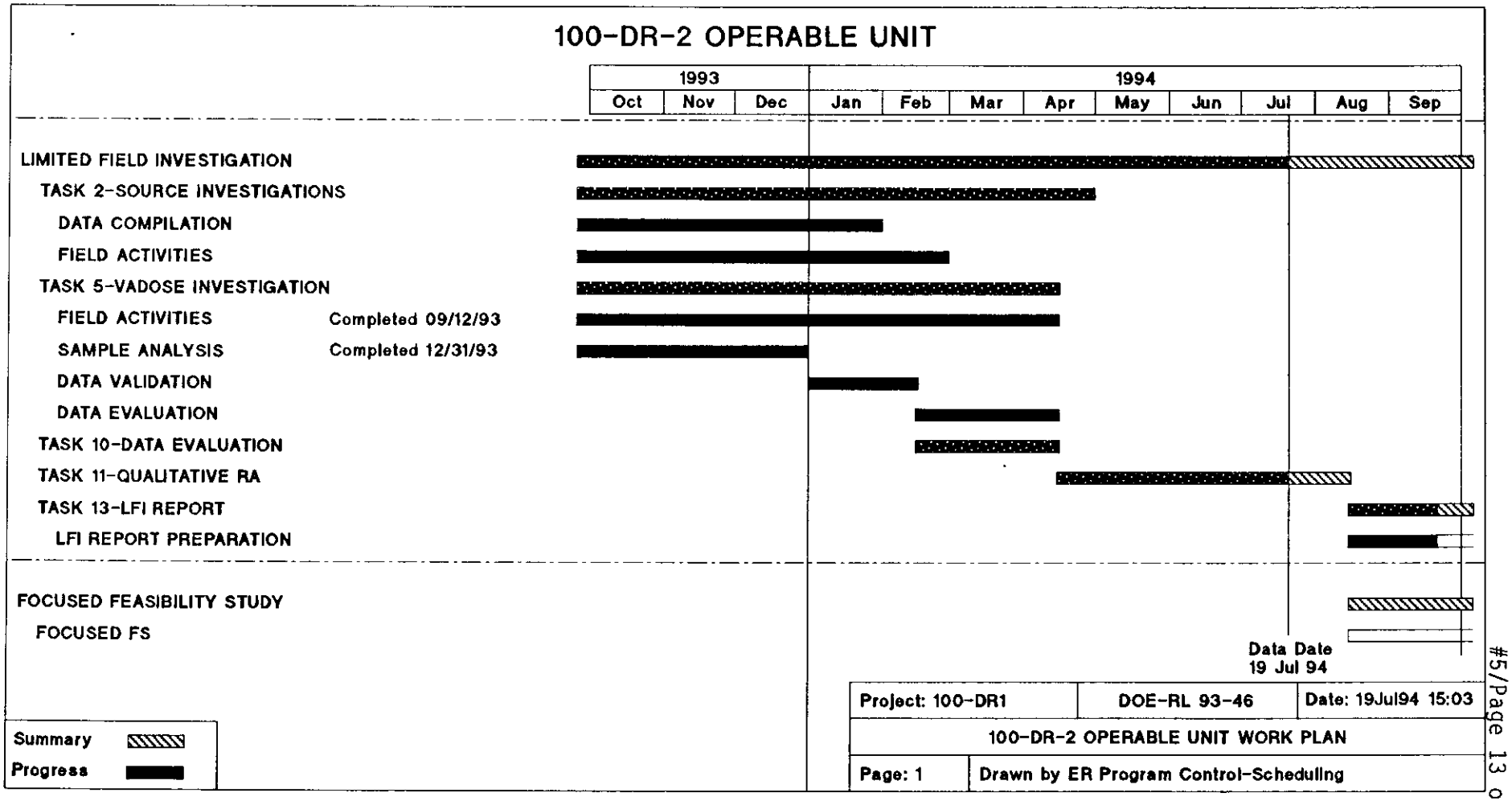
o The 100-DR-2 Work Plan, Draft B was submitted for DOE-RL review on June 24, 1994. The comments are anticipated by the end of July, 1994.

100-DR-2 LFI (LFI/QRA) Report

o The LFI report was received from IT for internal review on July 15, 1994.

100-DR-1 OPERABLE UNIT





H Area

100 HR-1

- Task 11: QRA Report- The 100-HR-1 QRA (WHC-SD-EN-RA-004, Rev. 0) document was released in July.

- Task 12: LFI Report- The 100-HR-1 LFI (DOE/RL-93-51, Rev 0) was released in July.

100-HR-2

PLANNING DOCUMENT: 100-HR-2 Work Plan (DOE/RL-93-20 Draft A-1) is currently at USEPA/WDOE for review of comment responses prior to release of the document. TPA change form for HR-2 Interim Milestones has been delayed since the May 23, 1994 submittal.

100-HR-2 RADIOLOGICAL SURFACE SURVEY: The survey report is currently being finalized for internal review.

Task 11 & 13: The DOE Decisional Draft of the 100-HR-2 LFI/QRA Report (DOE/RL-94-53) is due to BHI July 22 for incorporation of comments.

FOCUSED FEASIBILITY REPORT: The internal review copy for BHI, due July 15, will be submitted by July 22 due to the incorporation of comments developed during the review of the BC-1, DR-1, and HR-1 FFS reports.

100-HR-3

Task 13- LFI/QRA REPORTS

- A comment resolution meeting was held the week of June 20 to resolve final Regulatory comments on the Qualitative Risk Assessment and Limited Field Investigation Reports. The report is being prepared for release in July.

Task 6- GROUNDWATER INVESTIGATION

- A task order was written to initiate Round 7 groundwater sampling, scheduled to commence in late July.

- The ODEC rig, supporting the drilling of the Aquifer Test Wells, has experienced considerable operational start-up problems over the last two+ months. Drilling finally commenced the week of July 6, but a lost bit at 15 ft required the rig to be moved a few feet and a new hole is scheduled to commence Monday, July 18.

Task 1- PROJECT MANAGEMENT

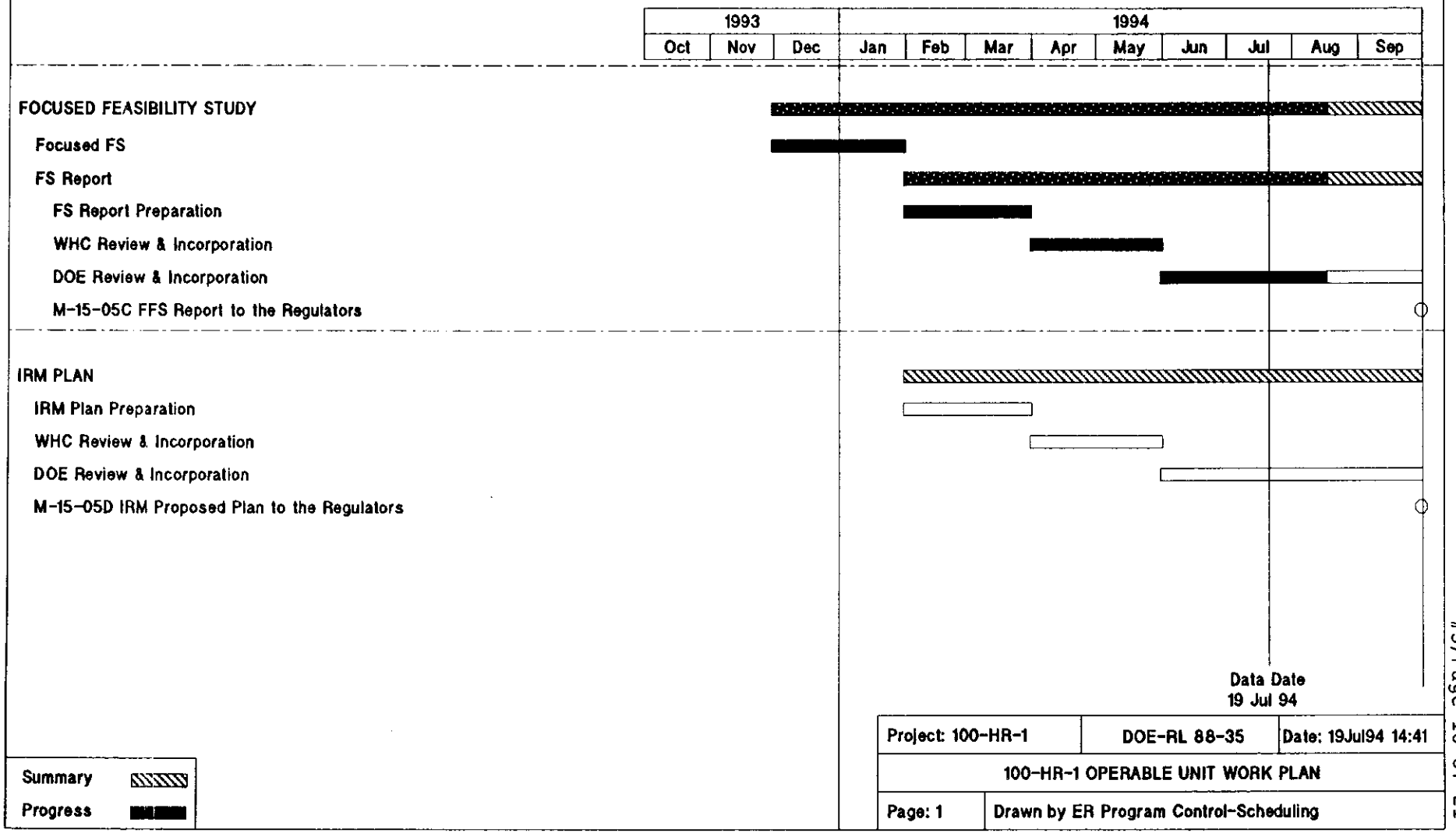
- Initial budget planning for FY 1995 commenced and will be complete in July.

CORRECTIVE MEASURES STUDY PROCESS

Task 1-4- FOCUSED FEASIBILITY REPORT

- The FFS Report was submitted to DOE on schedule July 15 for DOE submittal to USEPA/WDOE.

100-HR-1 OPERABLE UNIT



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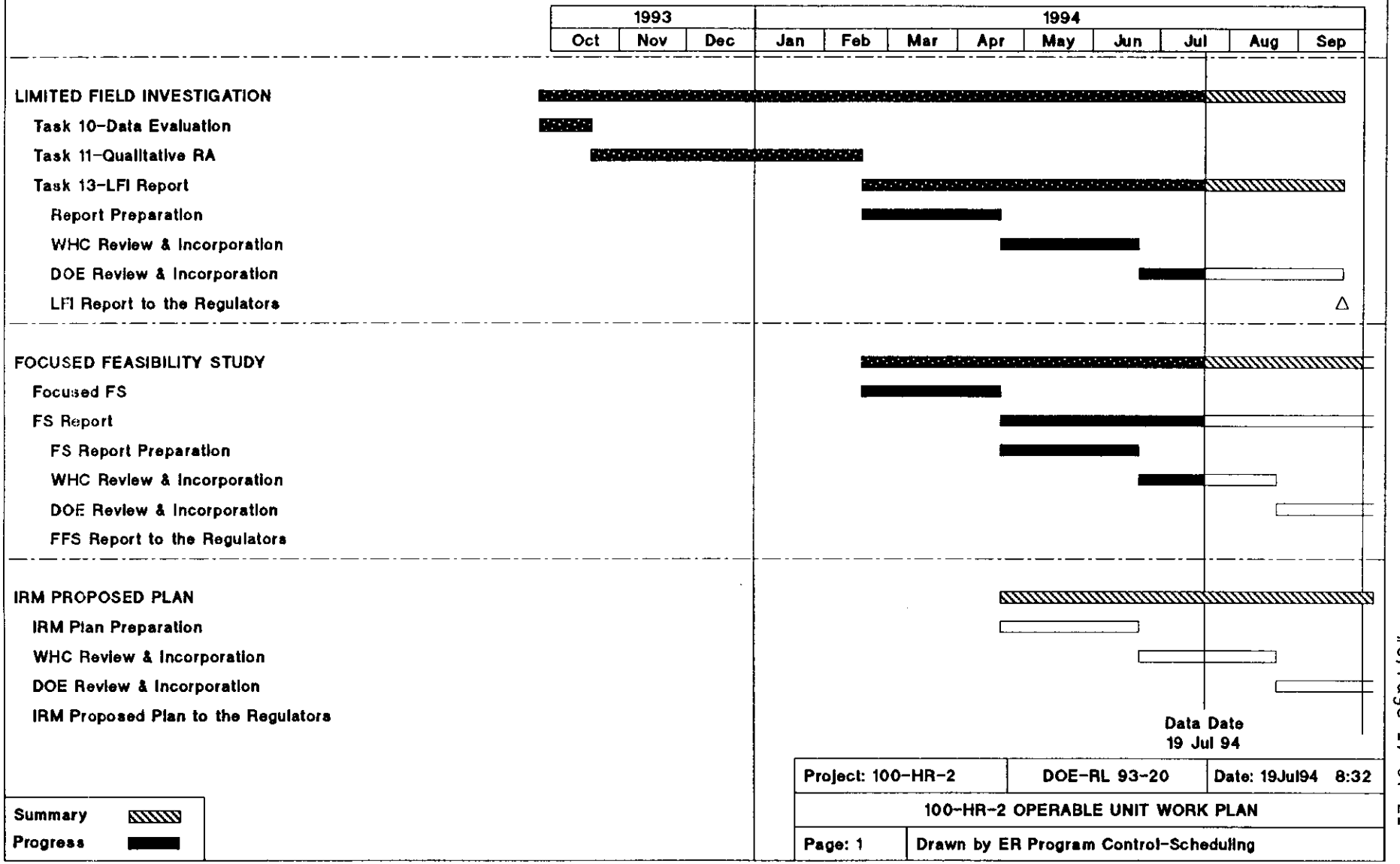

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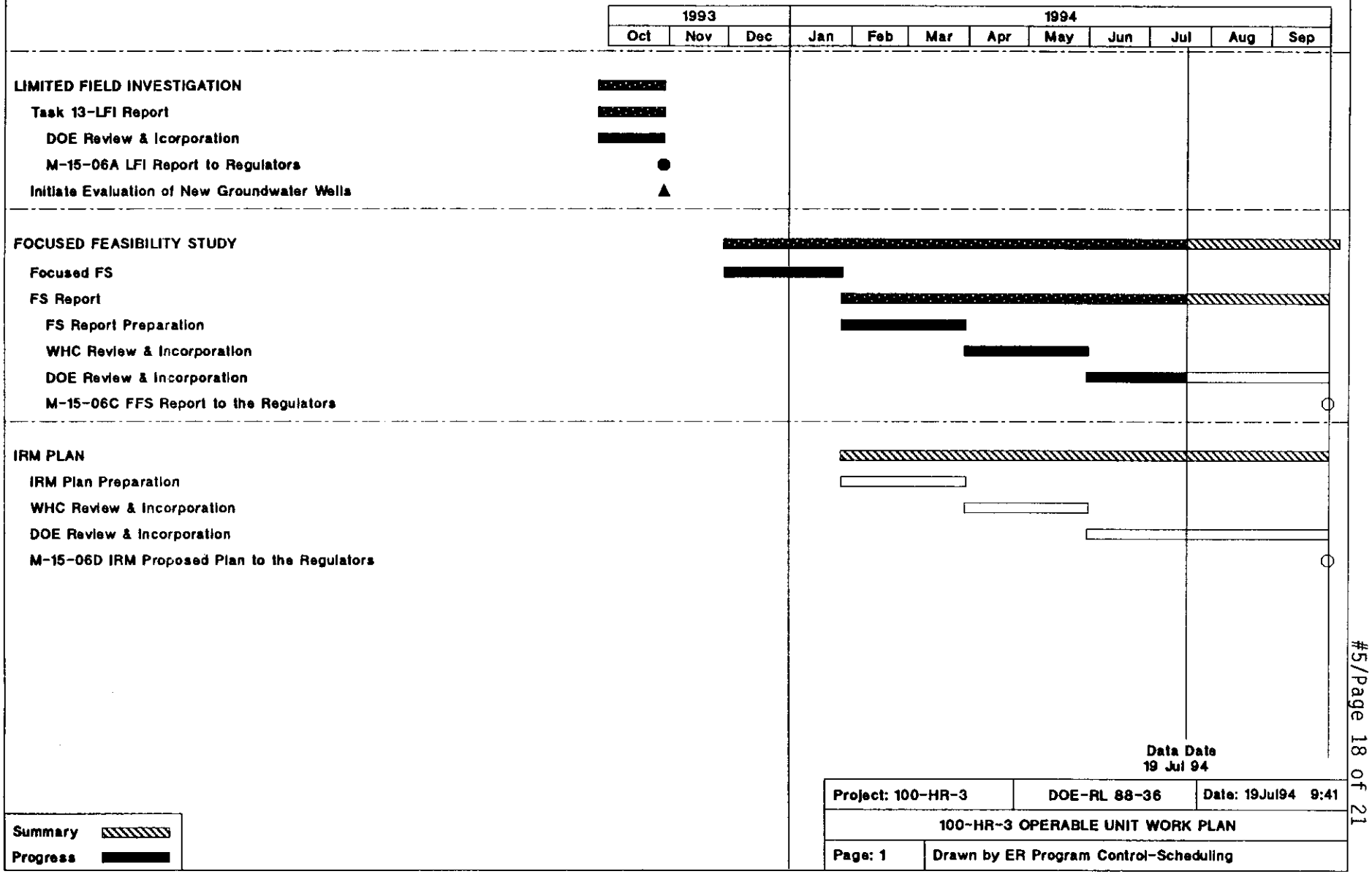


F Area

100-FR-1

TASK 11: 100-FR-1 QRA (WHC-SD-EN-RA-013, Rev. 0) is in process. Responses to DOE comments have been prepared and submitted to DOE for concurrence.

TASK 13: 100-FR-1 LFI (DOE/RL-93-82, Draft A) is in process. Responses to DOE comments have been prepared and submitted to DOE for concurrence.

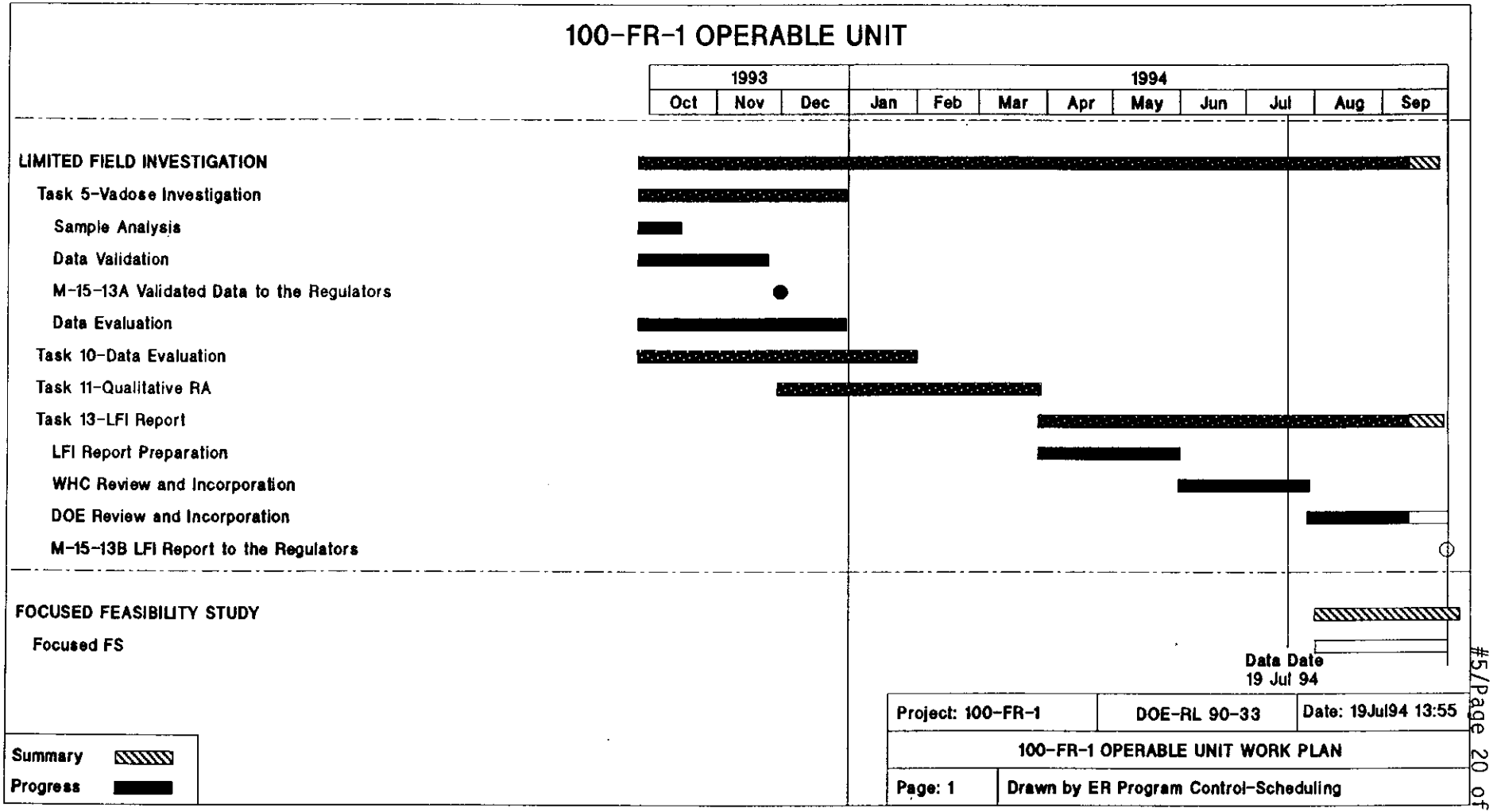
100-FR-3

Task 11: Regulator review comments on the 100-FR-3 QRA have been received and comment resolutions submitted to DOE.

Task 13: Regulator review comments on the 100-FR-3 LFI have been received and comment resolutions submitted to DOE.

Focused Feasibility Study

- The Focused Feasibility Study has been initiated and the ERC review draft is due in August 1994.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Data Evaluation
Task 10-Data Evaluation
Task 11-Qualitative RA
Task 13-LFI Report
LFI Report Preparation
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M-15-13B LFI Report to the Regulators
FOCUSED FEASIBILITY STUDY
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100-FR-1 OPERABLE UNIT WORK PLAN
Page: 1
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- Initial contacts have been made with Norma Lewis of the EPA's Emerging Technology Program in Cincinnati

- Scope of work needs to be finalized

- Implementation depends on whether or not funds are to be transferred

  - Interagency Agreement (funds transfer for EPA to DOE-RL)

  - Addendum to MOA (no funds transferred)

- EPA SITE program could sponsor some of the work related to the Vortec Phase III demonstration by providing both technical expertise and funding

  - Preparation of QA plans, test plans, sampling and analysis plans, etc. (EPA funds directly)

  - Analytical work related to product (glass) TCLP and air pollution (EPA funds directly)

  - Utility hookups (transfer of funding to DOE-RL)

  - Foundations (transfer of funding to DOE-RL)

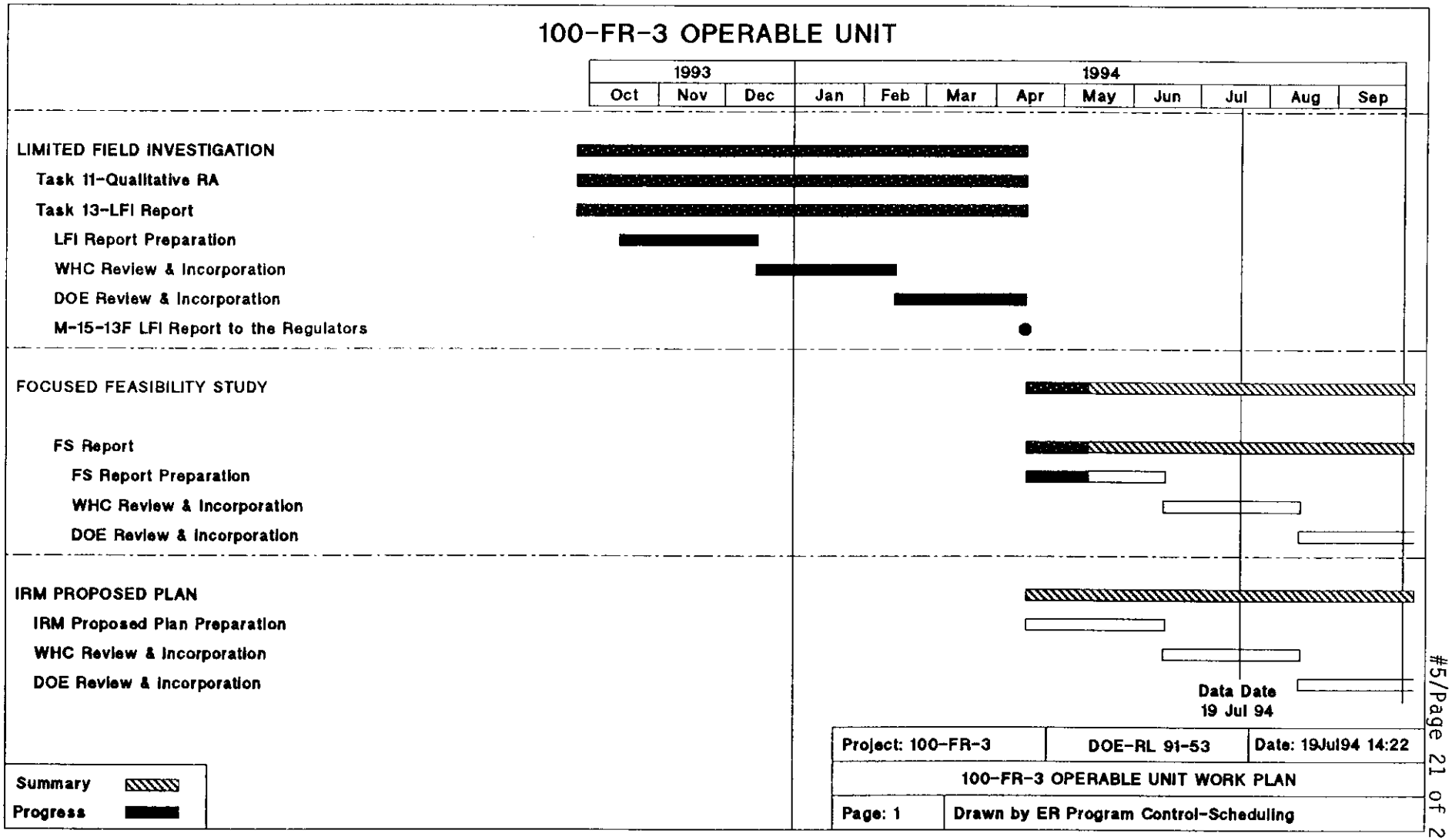
  - Final report (EPA funds directly)

- Memorandum of understanding (MOU) between EPA and DOE established policies and methods that permit cooperation between the two agencies in the area of research and development related to hazardous and mixed waste cleanup and minimization

- Vortec soil vitrification demonstration currently scheduled to be conducted in late summer of 1995

- Vortec vitrification system previously tested under EPA Superfund Innovative Technology Evaluation (SITE) Program

- EPA SITE Program is interested in continuing to support development of the Vortec system



Dust Suppressant and Wash Water Recycling Tests on 116-D-1B Trench Soil

S. V. Mattigod and R. J. Serne
Pacific Northwest Laboratory

Dust Suppressant Tests

- Dust Suppressant Compounds

  1. *XDCA*: A polysaccharide by-product from sugar beet processing.

  2. *DUSTAC*: Lignosulfonate resulting from fermented sulfite liquor from paper manufaturing.

- Application Rates: 2 and 4 L/m^2.

Dust Suppressant and Wash Water Recycling Tests on 116-D-1B Soil

- Test the effects of dust suppressants on wet-sieving and radionuclide distribution.

- Test the influence of dust suppressants on recycling of wash waters resulting from wet-sieving and attrition scrubbing operations.

Dust Suppressant Tests: Wet-Sieving Particle Size distribution Data (Wt%) for 116-D-1B Soil

Particle Size (mm)	Control	XDCA		DUSTAC	
		2 L/m^2	4 L/m^2	2 L/m^2	4 L/m^2
2 - 0.425	72.9	69.5	71.5	67.1	69.8
0.425 - 0.25	5.1	7.9	6.7	7.8	6.9
0.25 - 0.074	10.5	11.0	9.2	9.1	9.7
<0.074	11.5	11.6	12.6	16.0	13.6

Dust Suppressant Tests:

Preliminary Data, ^{60}Co Activity Distribution (pCi/g)

Particle Size (mm)	Control	XDCA		DUSTAC	
		2 L/m^2	4 L/m^2	2 L/m^2	4 L/m^2
2 - 0.425	5.7	3.9	3.6	5.1	3.9
0.425 - 0.25	5.5	4.6	3.4	5.0	5.9
0.25 - 0.074	9.0	9.5	7.9	9.5	12.6
<0.074	92.4	91.9	79.3	77.8	73.0

Dust Suppressant Tests:

Preliminary Data, ^{137}Cs Activity Distribution (pCi/g)

Particle Size (mm)	Control	XDCA		DUSTAC	
		2 L/m^2	4 L/m^2	2 L/m^2	4 L/m^2
2 - 0.425	145	105	93	134	88
0.425 - 0.25	143	136	131	135	146
0.25 - 0.074	439	445	474	431	442
<0.074	905	957	868	904	796

Dust Suppressant Tests:

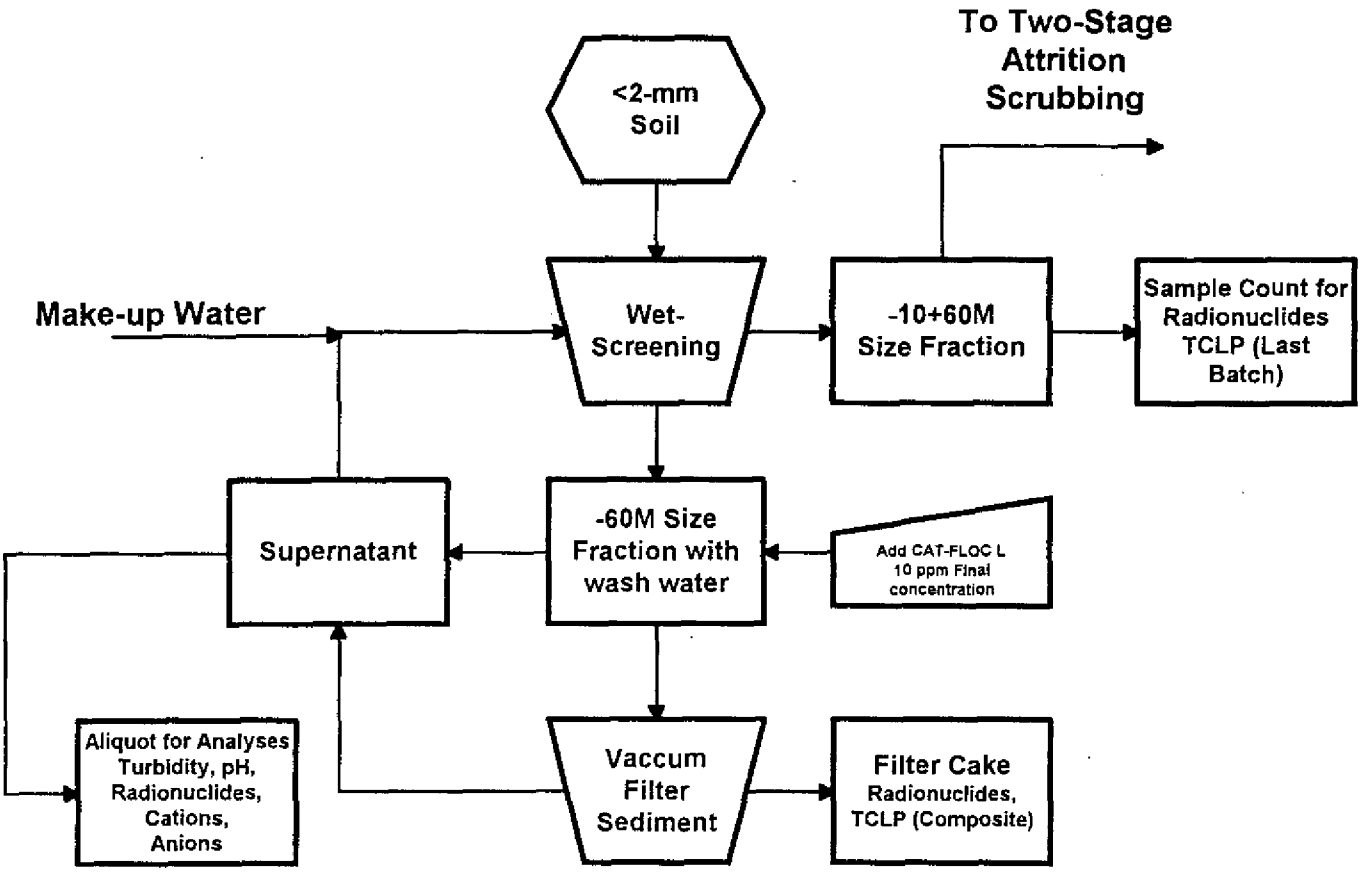
Preliminary Data, ^{152}Eu Activity Distribution (pCi/g)

Particle Size (mm)	Control	XDCA		DUSTAC	
		2 L/m^2	4 L/m^2	2 L/m^2	4 L/m^2
2 - 0.425	81	52	48	64	39
0.425 - 0.25	72	57	53	54	57
0.25 - 0.074	113	94	99	91	130
<0.074	1125	1202	1039	1012	1008

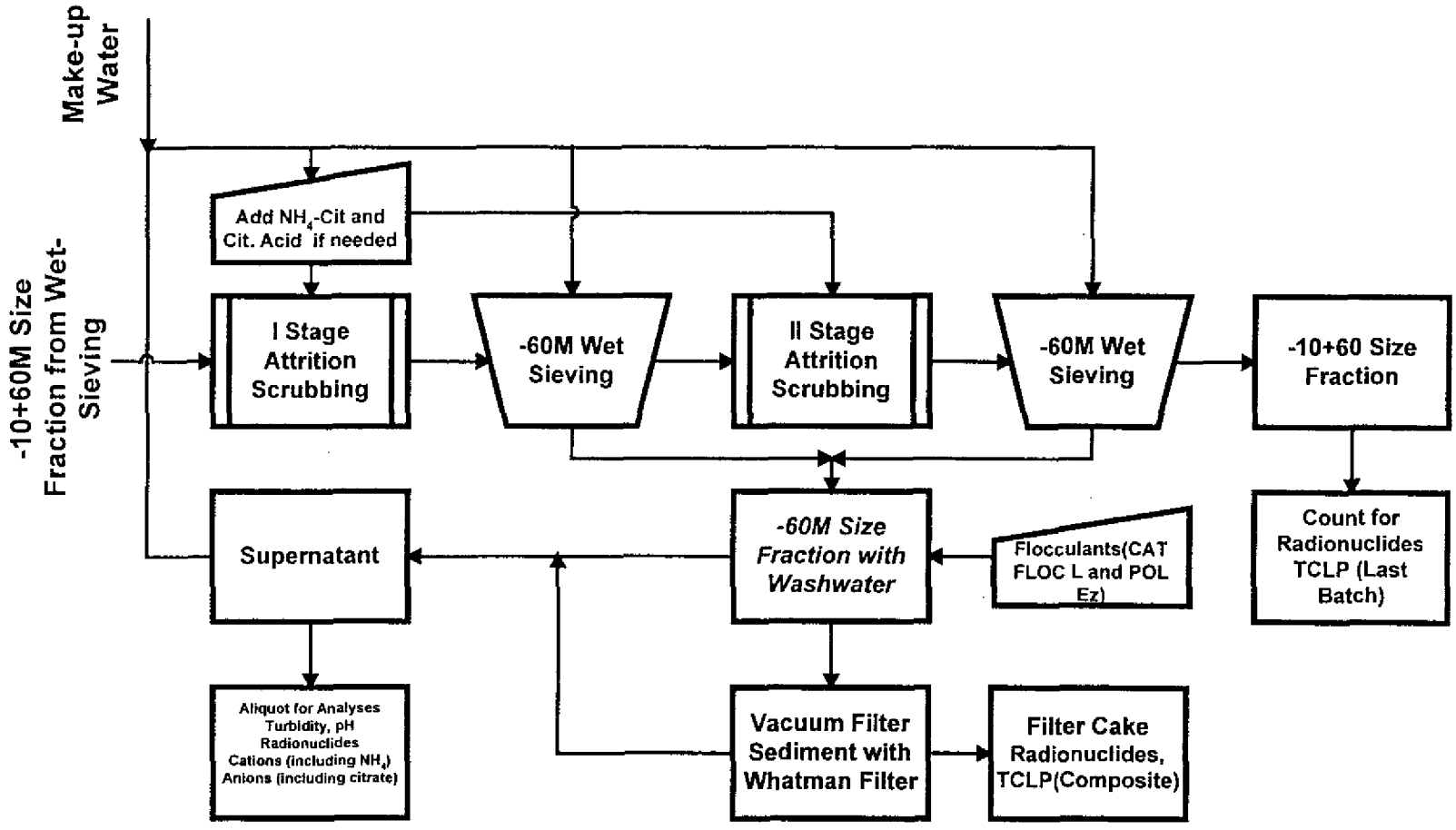
Dust Suppressant Tests: Summary

- Both XDCA and DUSTAC do not appear to affect the wet-sieving of 116-D-1B soil.
- Radionuclide (^{60}Co, ^{137}Cs, and ^{152}Eu) mass balance for the soils and wash waters is being evaluated. Results are incomplete at this time.
- Effects of XDCA, and DUSTAC on characteristics (conductivity, turbidity, pH) and treatability (flocculation) of wash water is being assessed.

Test Scheme for Recycling Washwater from Wet-Sieving Trench 116-D-1B Soil



Test Scheme for Recycling Washwater from Attrition Scrubbing of 2 - 0.25-mm Size Fraction of 116-D-1B Trench Soil with Electrolyte



Recycling Tests: Wash Water from Wet-Sieving of 116-D-1B Soil. Preliminary Data

Parameter	I	II	III	IV	V
pH (SU)	7.0	8.4	7.9	7.6	7.7
Conductivity (µS/cm)	161	--	176	151	212
Turbidity (NTU)	0.22	0.33	0.48	0.35	0.47
^{60}Co (pCi/L)	12.0	8.2	9.9	7.0	8.1
^{137}Cs (pCi/L)	30.1	34.0	30.6	30.8	24.6
^{152}Eu (pCi/L)	<28	<28	<28	<28	<28

Drinking water regulations 40 CFR 141, 142 for ^{60}Co, ^{137}Cs, and ^{152}Eu are 218, 119, and 841 pCi/L respectively.

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July 28, 1994

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