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NCBC GULFPORT
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CONFIRMATION STUDY COST ESTIMATES AND RANKING SYSTEM DOCUMENTATION FOR THE INITIAL ASSESSMENT STUDY NCBC GULFPORT MS

1/2/2000

NCBC GULFPORT

NCBC Gulfport Administrative Record
Document Index Number

39501-GENERAL
01.02.00.0001

Confirmation Study Cost Estimates

and

Ranking System Documentation

for the

Initial Assessment Study

of the

NAVAL CONSTRUCTION BATTALION CENTER GULFPORT

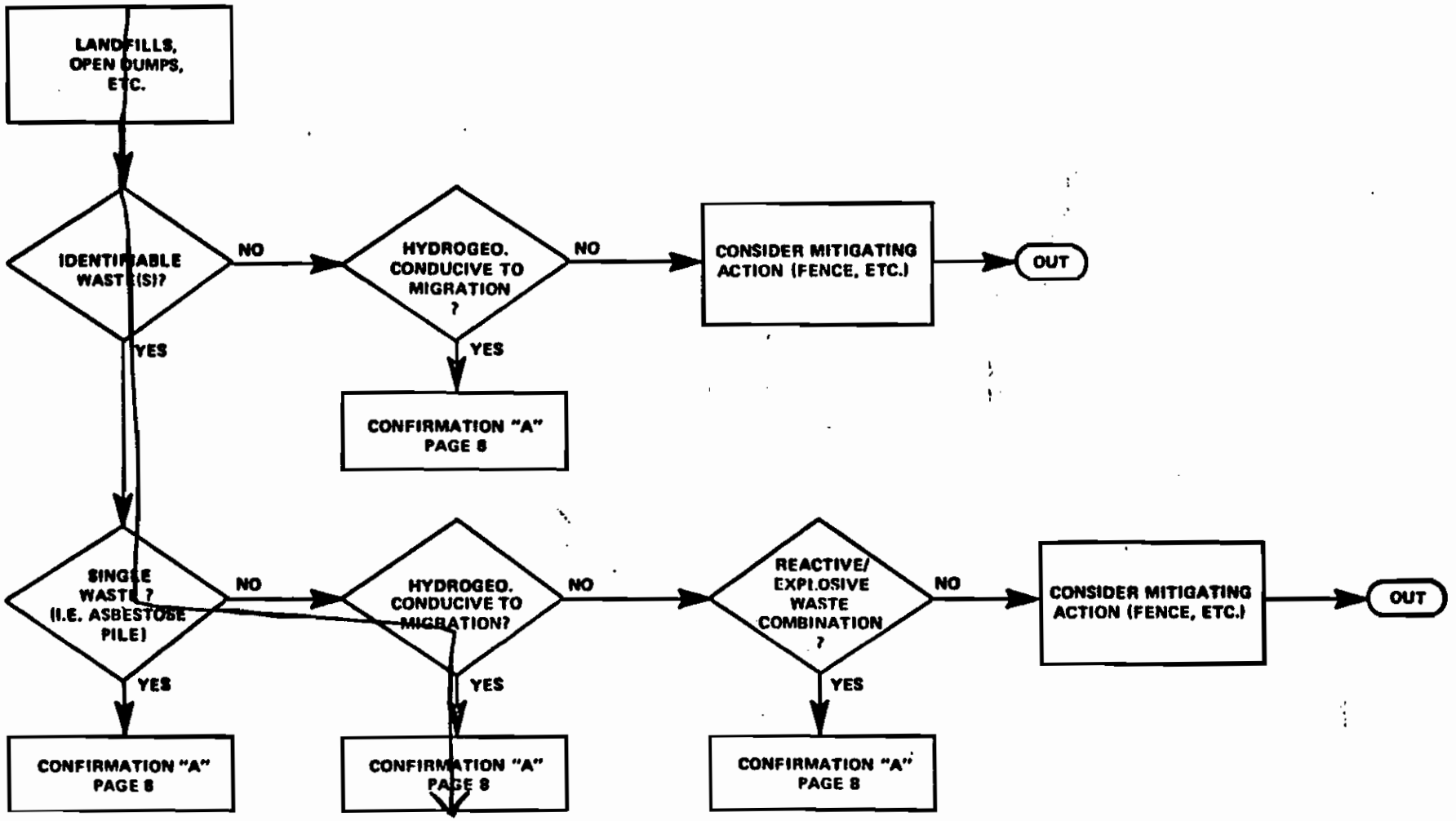

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

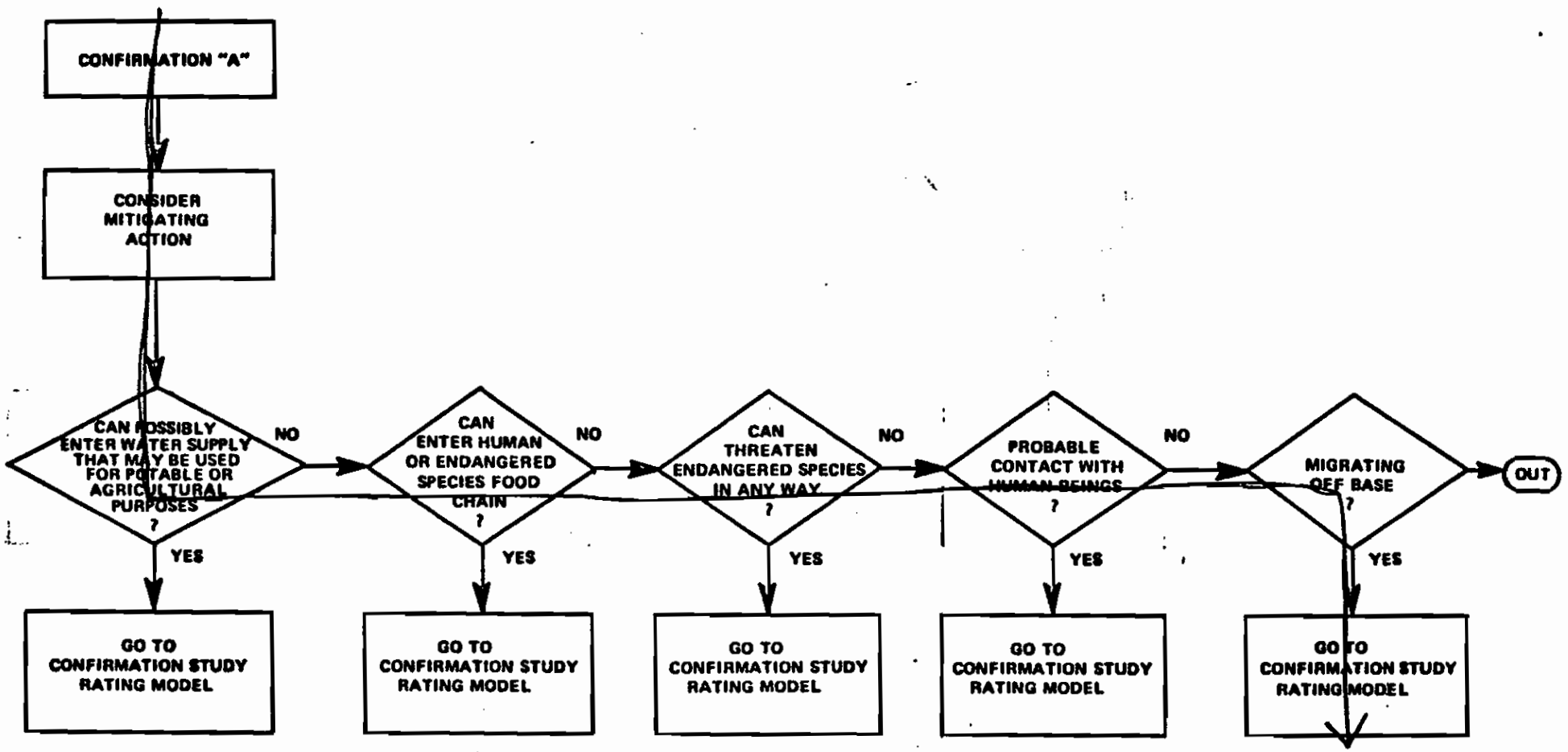

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

FIGURE 2

NAME OF SITE Golf Course landfill, SITE 4

LOCATION NCBC Gulfport

DATE OF OPERATION OR OCCURRENCE 1966 to 1972

OWNER/OPERATOR

COMMENTS/DESCRIPTION

SITE RATED BY EEI / Clark Engineers

I. RECEPTORS (see also table 1-1)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Population within 1,000 feet of site	3	4	12	12
B. Distance to nearest down gradient well	3	10	30	30
C. Land use/zoning within 1 mile radius	3	3	9	9
D. Distance to reservation boundary	3	6	18	18
E. Critical environments within 1 mile radius of site	1	10	10	30
F. Water quality of nearest surface water body	2	6	12	18
G. Ground water use of the aquifer of concern	2	9	18	27
H. Population served by surface water supply within 3 miles dowstream of site	0	6	0	18
I. Population served by ground-water supply within 3 miles of site	3	6	18	18
		Subtotals	127	180

Receptors subscore = (factor score subtotal/maximum score subtotal) 0.71

FIGURE 2 (Continued)

II. PATHWAYS (see also table 1-11)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score

A. If there is documented laboratory evidence of migration of hazardous contaminants away from the site in question, assign maximum factor subscore of 1 point for direct evidence. If direct evidence exists then proceed to C. If no evidence exists, proceed to B.

Subscore —

B. Rate the migration potential for 3 potential pathways: surface water migration, flooding, and ground water migration. Select the highest rating, and proceed to C.

1. Surface water migration

Distance to nearest down gradient surface water	3	8	24	24
Net precipitation	3	6	18	18
Surface erosion	0	8	0	24
Soil permeability	1	6	6	18
Rainfall intensity	3	8	24	24
		Subtotals	72	108

Subscore = (factor score subtotal/maximum score subtotal) 0.67

2. Flooding

Flooding	0	1	0	

Subscore = (factor score/3) 0.67

3. Ground water migration

Depth to ground water	3	8	24	24
Net precipitation	3	6	18	18
Soil permeability	2	8	16	24
Subsurface flows	3	8	24	24
Direct access to ground water	3	8	24	24
		Subtotals	106	114

Subscore = (factor score subtotal/maximum score subtotal) 0.93

C. Highest pathway subscore.

Enter the highest subscore value from A, B-1, B-2 or B-3 above.

Pathways Subscore 0.93

FIGURE 2 (Continued) Naphtha

III. WASTE CHARACTERISTICS (see also table 1-III)

A.

Rating Factor	Factor Rating (0-3)	Multiplier	Weighted Factor	
Waste Quantity	3	1	3	= Q
Acute Toxicity	3	8	24	= AT
Chronic Toxicity	3	8	24	= CT
Persistency	2	6	12	= P
Flammability	3	4	12	= F
Reactivity	0	4	0	= R
Incompatibility	1	5	5	= I
Corrosiveness	0	3	0	= C
Solubility	0	5	0	= S
Bioaccumulation	0	6	0	= B
Physical State	3	3	9	= PS
Years site was in use	2	1	2	= t
Years since site closed	2	1	2	= t

Weighted Factor = Factor Rating x Multiplier

FIGURE 2 (Continued)

III. WASTE CHARACTERISTICS (continued)

B. Take the weighted factors and multiply together as indicated below, then add the results together, and add PS from figure 2-IIIA.

	Score	Maximum Score
ATxQ =	24x3 = 72	72
CTxQ =	24x3 = 72	72
PxQx t=	12x3x2 = 72	162
FxQ =	12x3 = 36	36
RxQ =	0x3 = 0	36
IxQ =	5x3 = 15	45
CxQ =	0 x 3 = 0	27
SxQ =	0x3 = 0	45
Bx(t+t) =	0(4) = 0	108
PS =	9	9
Subtotal= =	276	612

Waste Characteristics Subscore = subtotal/maximum subtotal

= 0.45

General Note:

If data are not available or are known to be incomplete under items I-A through I, II-B-1 or II-B-3, or III-A, then leave blank for calculation of factor score and maximum subscore (i.e. for calculation of the subscore divide the factor score by the maximum subscore minus the unknown item's maximum score).

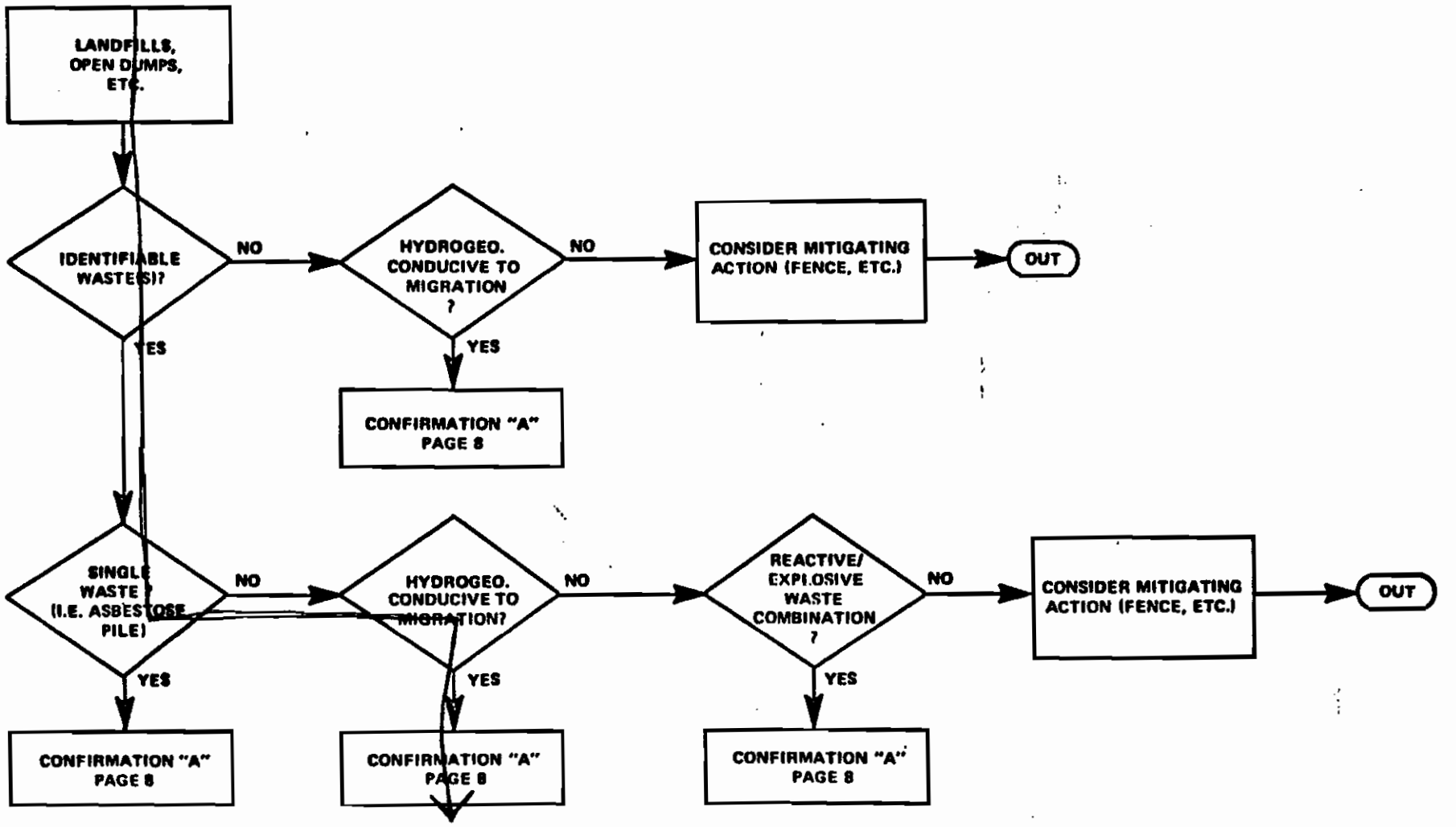

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

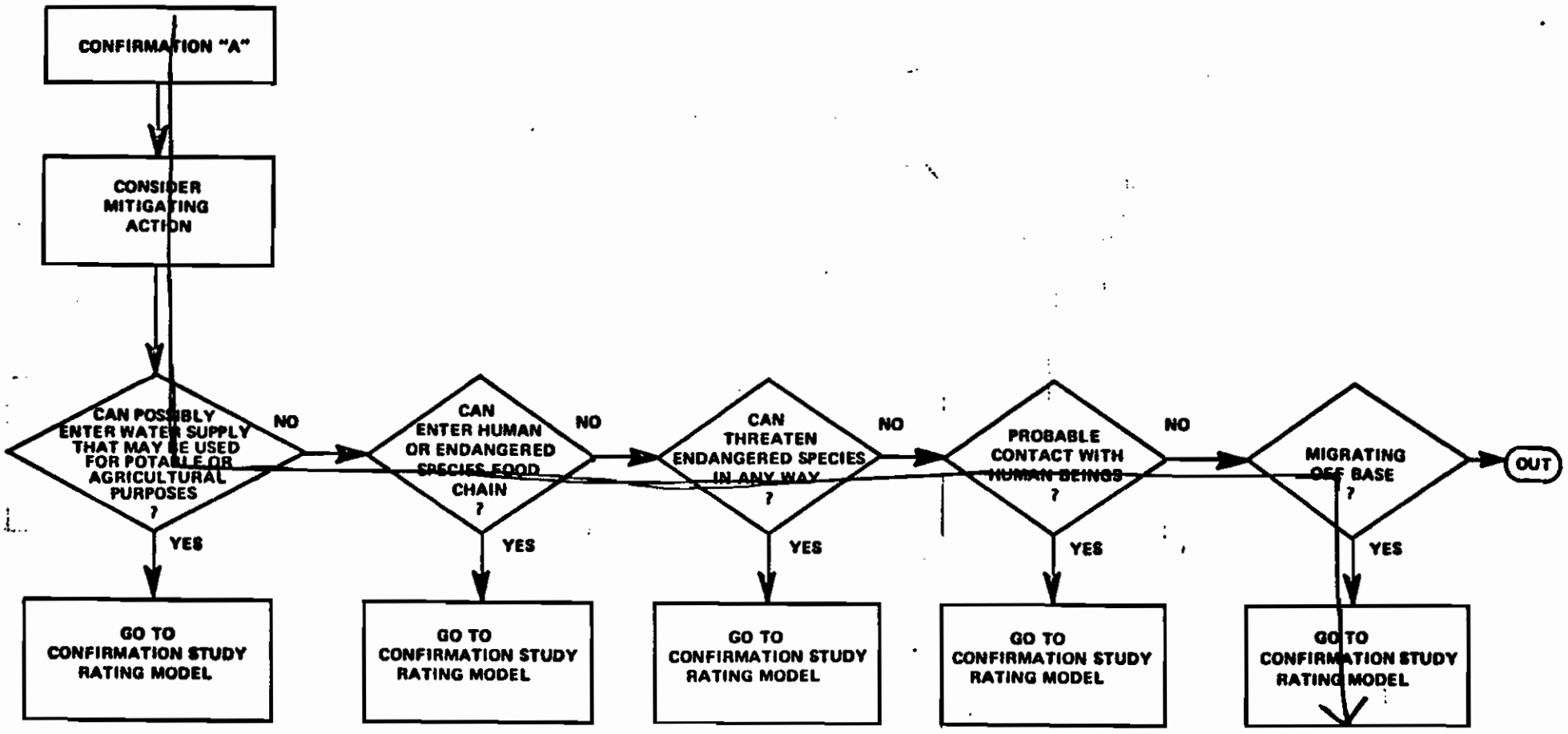

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

FIGURE 2

NAME OF SITE Heavy Equipment Training Area Landfill, Site 5

LOCATION NCBC Gulfport

DATE OF OPERATION OR OCCURRENCE 1972 to 1976

OWNER/OPERATOR

COMMENTS/DESCRIPTION

SITE RATED BY EEI / Clark Engineers

I. RECEPTORS (see also table 1-1)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
A. Population within 1,000 feet of site	3	4	12	12
B. Distance to nearest down gradient well	3	10	30	30
C. Land use/zoning within 1 mile radius	3	3	9	9
D. Distance to reservation boundary	3	6	18	18
E. Critical environments within 1 mile radius of site	1	10	10	30
F. Water quality of nearest surface water body	2	6	12	18
G. Ground water use of the aquifer of concern	2	9	18	27
H. Population served by surface water supply within 3 miles dowstream of site	0	6	0	18
I. Population served by ground-water supply within 3 miles of site	3	6	18	18
		Subtotals	127	180

Receptors subscore = (factor score subtotal/maximum score subtotal) 0.71

FIGURE 2 (Continued)

II. PATHWAYS (see also table 1-11)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score

A. If there is documented laboratory evidence of migration of hazardous contaminants away from the site in question, assign maximum factor subscore of 1 point for direct evidence. If direct evidence exists then proceed to C. If no evidence exists, proceed to B.

Subscore _____

B. Rate the migration potential for 3 potential pathways: surface water migration, flooding, and ground water migration. Select the highest rating, and proceed to C.

1. Surface water migration

Distance to nearest down gradient surface water	3	8	24	24
Net precipitation	3	6	18	18
Surface erosion	2	8	16	24
Soil permeability	1	6	6	18
Rainfall intensity	3	8	24	24
		Subtotals	88	108

Subscore = (factor score subtotal/maximum score subtotal) 0.81

2. Flooding | 0 | 1 | 0 |

Subscore = (factor score/3) 0

3. Ground water migration

Depth to ground water	3	8	24	24
Net precipitation	3	6	18	18
Soil permeability	2	8	16	24
Subsurface flows	3	8	24	24
Direct access to ground water	3	8	24	24
		Subtotals	106	114

Subscore = (factor score subtotal/maximum score subtotal) 0.93

C. Highest pathway subscore.

Enter the highest subscore value from A, B-1, B-2 or B-3 above.

Pathways Subscore 0.93

DDT
dichloro diphenyl trichloroethane

FIGURE 2 (Continued)

III. WASTE CHARACTERISTICS (see also table 1-III)

A.

Rating Factor	Factor Rating (0-3)	Multiplier	Weighted Factor	
Waste Quantity	3	1	3	= Q
Acute Toxicity	3	8	24	= AT
Chronic Toxicity	2	8	16	= CT
Persistency	3	6	18	= P
Flammability	0	4	0	= F
Reactivity	0	4	0	= R
Incompatibility	0	5	0	= I
Corrosiveness	0	3	0	= C
Solubility	0	5	0	= S
Bioaccumulation	3	6	18	= B
Physical State	3	3	9	= PS
Years site was in use	2	1	2	= t
Years since site closed	2	1	2	= t

Weighted Factor = Factor Rating x Multiplier

FIGURE 2 (Continued)

III. WASTE CHARACTERISTICS (continued)

B. Take the weighted factors and multiply together as indicated below, then add the results together, and add PS from figure 2-IIIA.

Score	Maximum Score
ATxQ = 24 x 3 = 72	72
CTxQ = 16 x 3 = 48	72
PxQx t = 18 x 3 x 2 = 108	162
FxQ = 0 x 3 = 0	36
RxQ = 0 x 3 = 0	36
IxQ = 0 x 3 = 0	45
CxQ = 0 x 3 = 0	27
SxQ = 0 x 3 = 0	45
Bx(t+t) = 18(4) = 72	108
PS = 9	9
Subtotal = 309	612

Waste Characteristics Subscore = subtotal/maximum subtotal

= .50

General Note:

If data are not available or are known to be incomplete under items I-A through I, II-B-1 or II-B-3, or III-A, then leave blank for calculation of factor score and maximum subscore (i.e. for calculation of the subscore divide the factor score by the maximum subscore minus the unknown item's maximum score).

FIGURE 2 (Continued)

IV. WASTE MANAGEMENT AND FINAL SCORE (see also table 1-IV)

A. Receptors Subscore = 0.71 = U_R

Pathways Subscore = 0.93 = U_P

Waste Characteristics Subscore = 0.50 = U_W

Enter the above subscores in the equation:

Site Subscore = U_{site} = 100 $(U_R)(U_P)(U_W)$

= 33

B. Apply factor for waste containment from waste management (table 1-IV)

Site Subscore x Waste Management = Final Score

33 x 1.0 = 33

Note: If Final Scores are tied for sites on one base, rate the sites according to the confidence level of the information.

Confirmed Criteria	Suspected Criteria
• At least 2 verbal reports from interviews or written information from records.	• One or no verbal reports or conflicting verbal reports, and no written information from records.
• Knowledge of types and quantities of wastes generated by shops and other areas on base.	• Logic based on a knowledge of types and quantities of wastes generated at the base, and a history of past waste disposa practices indicate that these wastes were disposed of at the site.
• Based on the above, a determination of the types and quantities of waste disposed of at the site.	

nfirmed sites would be above suspected sites in the ranking.

Site 6, Fire Fighting Training Area
NCBC, Gulfport

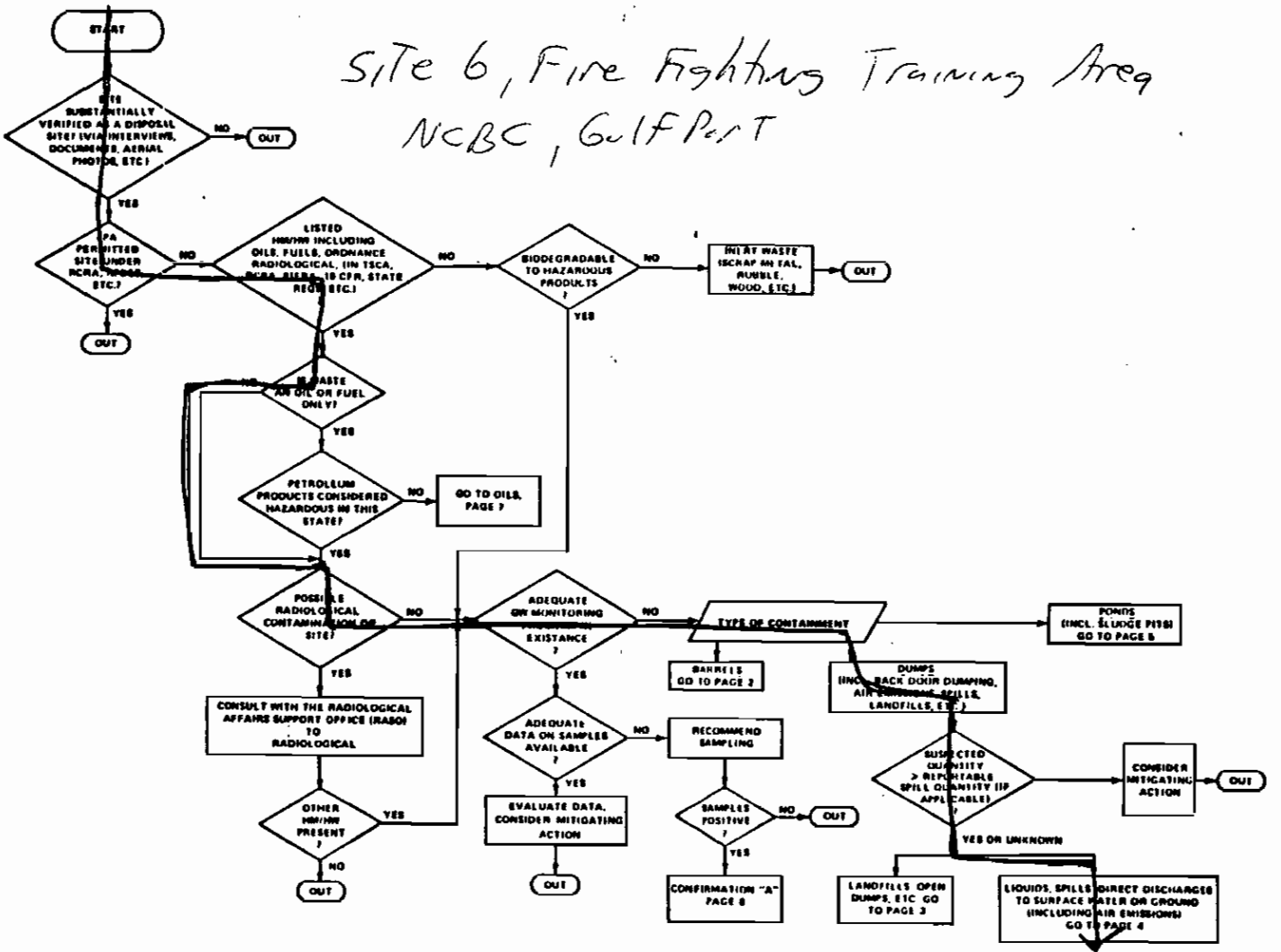

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

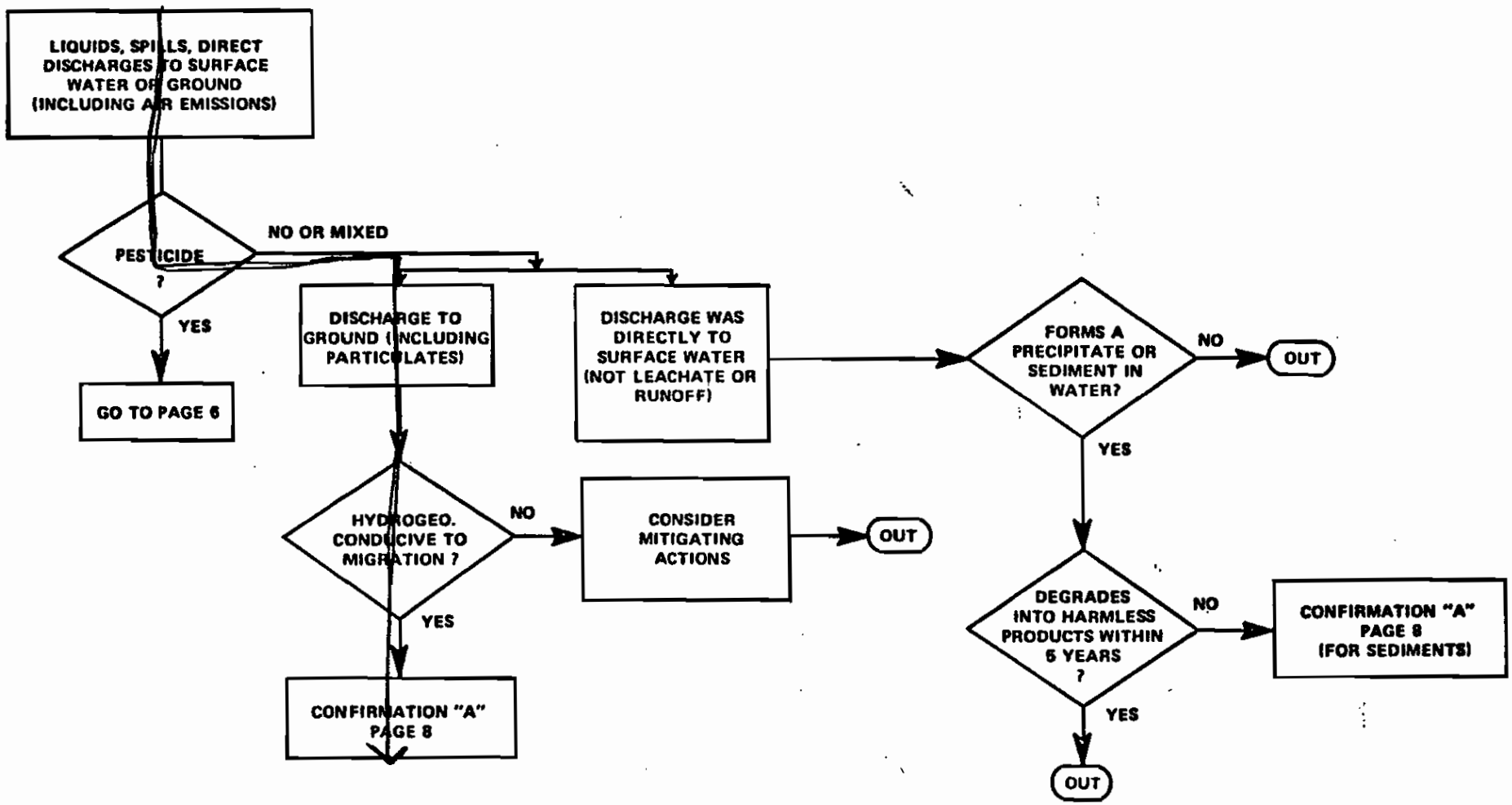

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

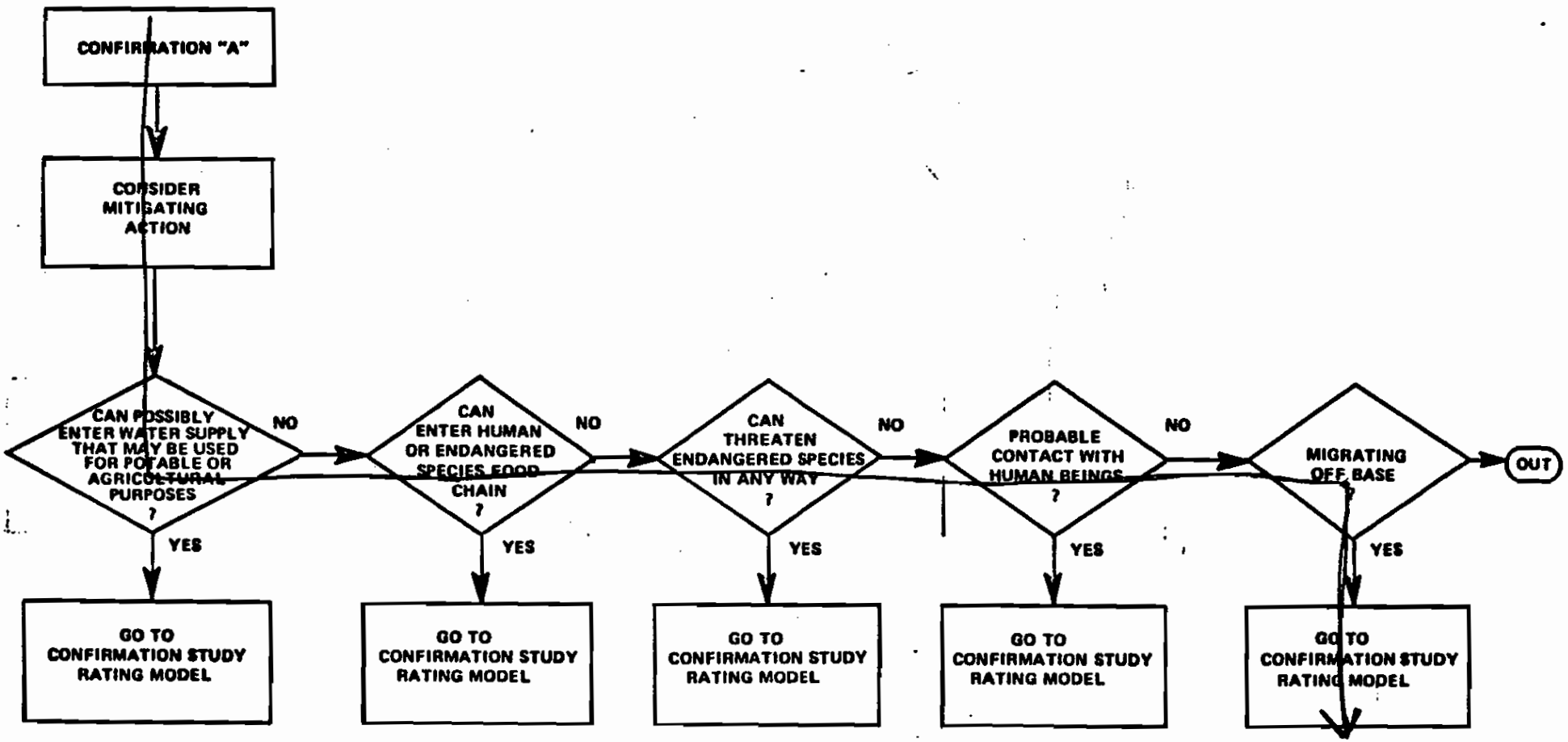

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

FIGURE 2

NAME OF SITE FIRE FIGHTING TRAINING AREA, SITE 6

LOCATION NCBC GULFPORT

DATE OF OPERATION OR OCCURRENCE 1966 to 1975

OWNER/OPERATOR

COMMENTS/DESCRIPTION

SITE RATED BY EEI / Clark Engineers

I. RECEPTORS (see also table 1-1)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
A. Population within 1,000 feet of site	3	4	12	12
B. Distance to nearest down gradient well	3	10	30	30
C. Land use/zoning within 1 mile radius	3	3	9	9
D. Distance to reservation boundary	2	6	12	18
E. Critical environments within 1 mile radius of site	1	10	10	30
F. Water quality of nearest surface water body	2	6	12	18
G. Ground water use of the aquifer of concern	2	9	18	27
H. Population served by surface water supply within 3 miles dowstream of site	0	6	0	18
I. Population served by ground-water supply within 3 miles of site	3	6	18	18
		Subtotals	121	180

Receptors subscore = (factor score subtotal/maximum score subtotal) 0.67

FIGURE 2 (Continued)

II. PATHWAYS (see also table 1-11)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score

A. If there is documented laboratory evidence of migration of hazardous contaminants away from the site in question, assign maximum factor subscore of 1 point for direct evidence. If direct evidence exists then proceed to C. If no evidence exists, proceed to B.

Subscore —

B. Rate the migration potential for 3 potential pathways: surface water migration, flooding, and ground water migration. Select the highest rating, and proceed to C.

1. Surface water migration

Distance to nearest down gradient surface water	3	8	24	24
Net precipitation	3	6	18	18
Surface erosion	0	8	0	24
Soil permeability	1	6	6	18
Rainfall intensity	3	8	24	24

Subtotals 72 108

Subscore = (factor score subtotal/maximum score subtotal) 0.67

2. Flooding | 0 | 1 | 0 |

Subscore = (factor score/3) 0

3. Ground water migration

Depth to ground water	3	8	24	24
Net precipitation	3	6	18	18
Soil permeability	2	8	16	24
Subsurface flows	2	8	16	24
Direct access to ground water	3	8	24	24

Subtotals 98 114

Subscore = (factor score subtotal/maximum score subtotal) 0.86

C. Highest pathway subscore.

Enter the highest subscore value from A, B-1, B-2 or B-3 above.

Pathways Subscore 0.86

FIGURE 2 (Continued)

Naphtha

III. WASTE CHARACTERISTICS (see also table 1-III)

A.

Rating Factor	Factor Rating (0-3)	Multiplier	Weighted Factor	
Waste Quantity	3	1	3	= Q
Acute Toxicity	3	8	24	= AT
Chronic Toxicity	3	8	24	= CT
Persistency	2	6	12	= P
Flammability	3	4	12	= F
Reactivity	0	4	0	= R
Incompatibility	1	5	5	= I
Corrosiveness	0	3	0	= C
Solubility	0	5	0	= S
Bioaccumulation	0	6	0	= B
Physical State	3	3	9	= PS
Years site was in use	2	1	2	= t
Years since site closed	2	1	2	= t

Weighted Factor = Factor Rating x Multiplier

FIGURE 2 (Continued)

III. WASTE CHARACTERISTICS (continued)

B. Take the weighted factors and multiply together as indicated below, then add the results together, and add PS from figure 2-IIIA.

	Score	Maximum Score
ATxQ =	24x3 = 72	72
CTxQ =	24x3 = 72	72
PxQx t=	12x3x2 = 72	162
FxQ =	12x3 = 36	36
RxQ =	0x3 = 0	36
IxQ =	5x3 = 15	45
CxQ =	0x3 = 0	27
SxQ =	0x3 = 0	45
Bx(t+t) =	0x3 = 0	108
PS =	9	9
Subtotal= =	276	612

Waste Characteristics Subscore = subtotal/maximum subtotal

= 0.45

General Note:

If data are not available or are known to be incomplete under items I-A through I, II-B-1 or II-B-3, or III-A, then leave blank for calculation of factor score and maximum subscore (i.e. for calculation of the subscore divide the factor score by the maximum subscore minus the unknown item's maximum score).

FIGURE 2 (Continued)

V. WASTE MANAGEMENT AND FINAL SCORE (see also table 1-IV)

A. Receptors Subscore = 0.67 = U_R

Pathways Subscore = 0.86 = U_P

Waste Characteristics Subscore = 0.45 = U_W

Enter the above subscores in the equation:

Site Subscore = U_{site} = 100 $(U_R)(U_P)(U_W)$

= 26

B. Apply factor for waste containment from waste management (table 1-IV)

Site Subscore x Waste Management = Final Score

26 x 1.0 = 26

Note: If Final Scores are tied for sites on one base, rate the sites according to the confidence level of the information.

Confirmed Criteria	Suspected Criteria
• At least 2 verbal reports from interviews or written information from records.	• One or no verbal reports or conflicting verbal reports, and no written information from records.
• Knowledge of types and quantities of wastes generated by shops and other areas on base.	• Logic based on a knowledge of types and quantities of wastes generated at the base, and a history of past waste disposa practices indicate that these wastes were disposed of at the site.
• Based on the above, a determination of the types and quantities of waste disposed of at the site.	

nfirmed sites would be above suspected sites in the ranking.

Site 7, Rubble Disposal Area
NCBC Gulf Port

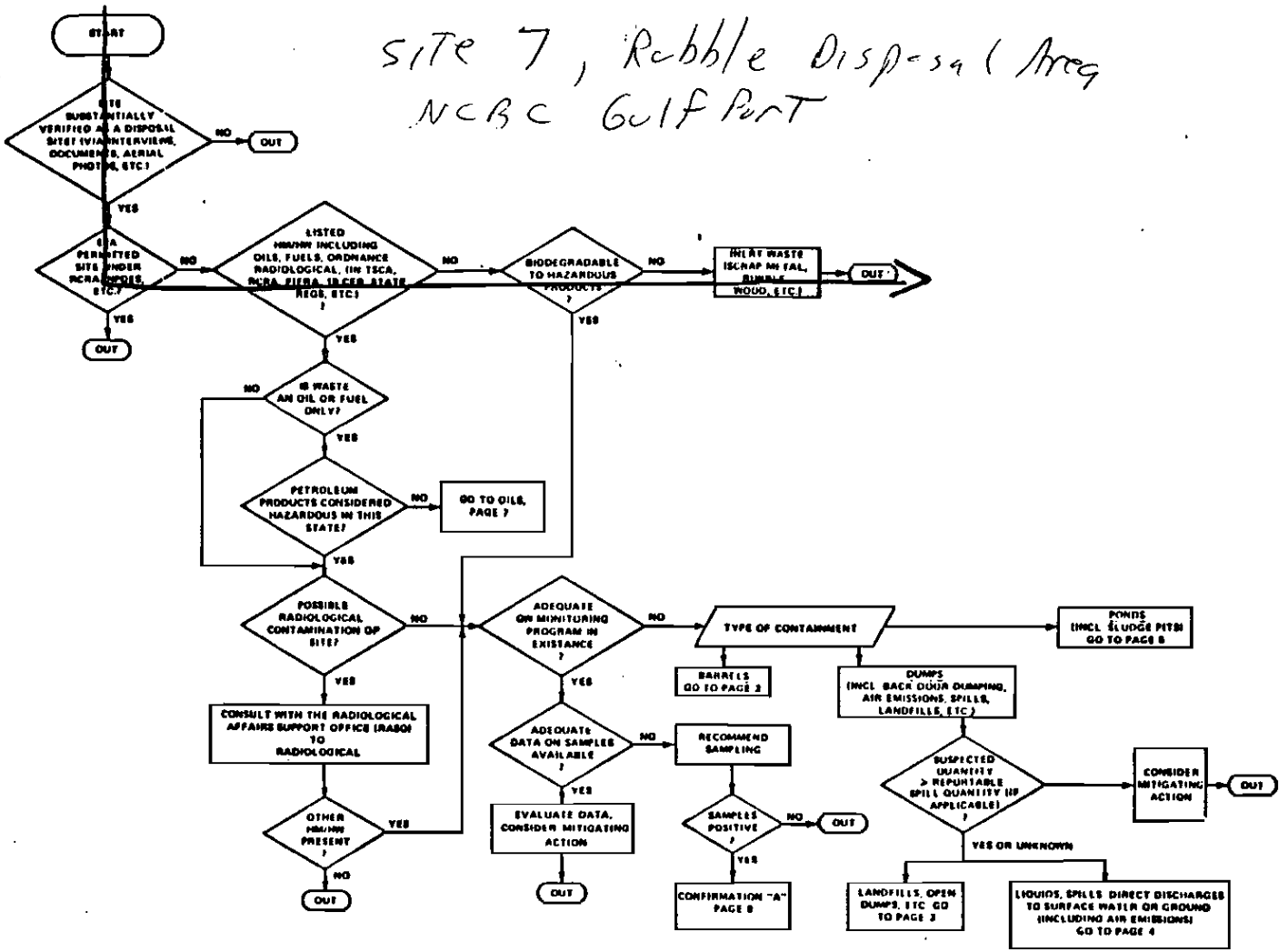

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

Site 8, Herbicide Orange Spill Area
NCBC Gulfport

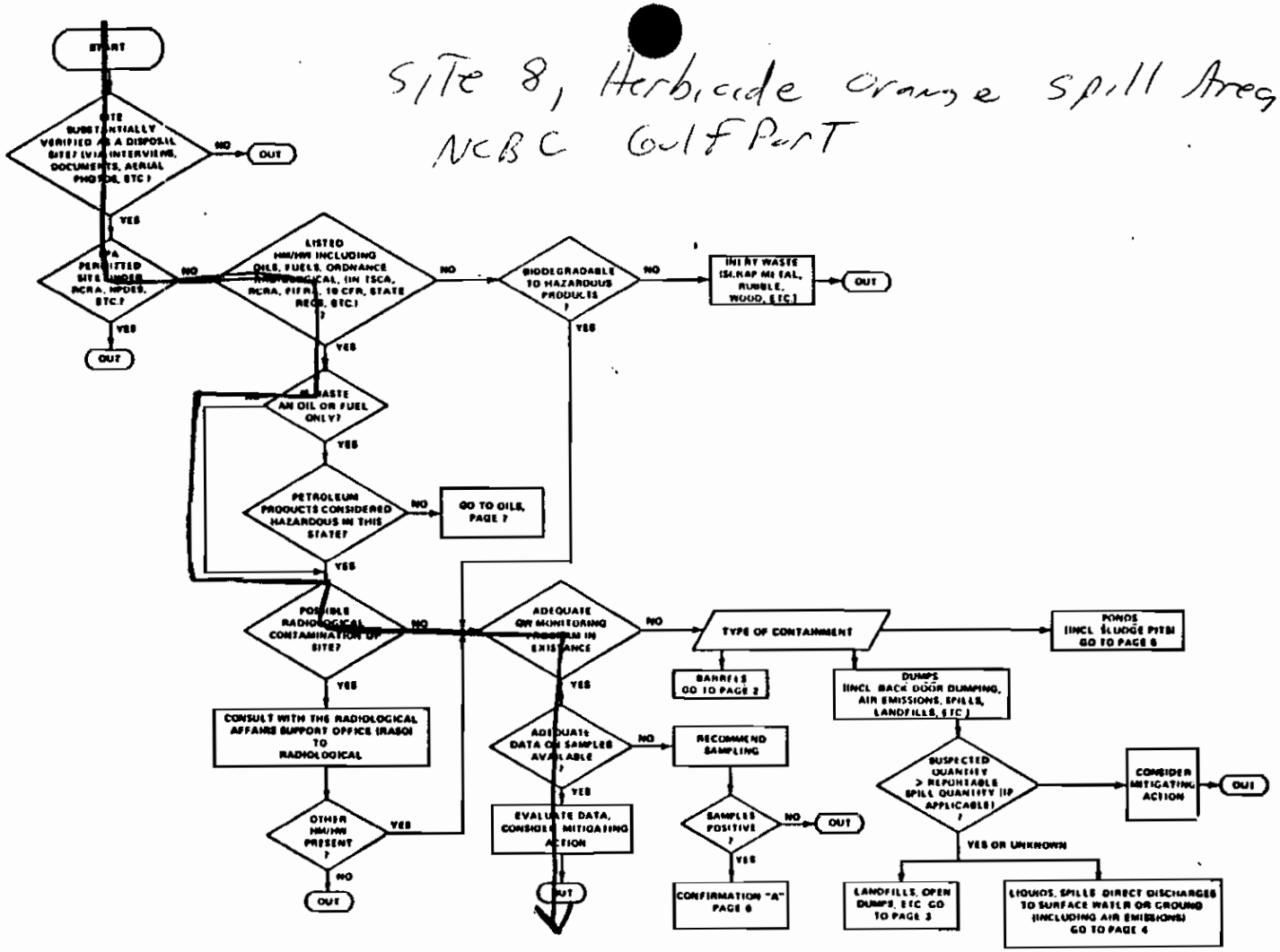

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

SITE 9, Building Foundation 271
Excavated Drum Storage Area

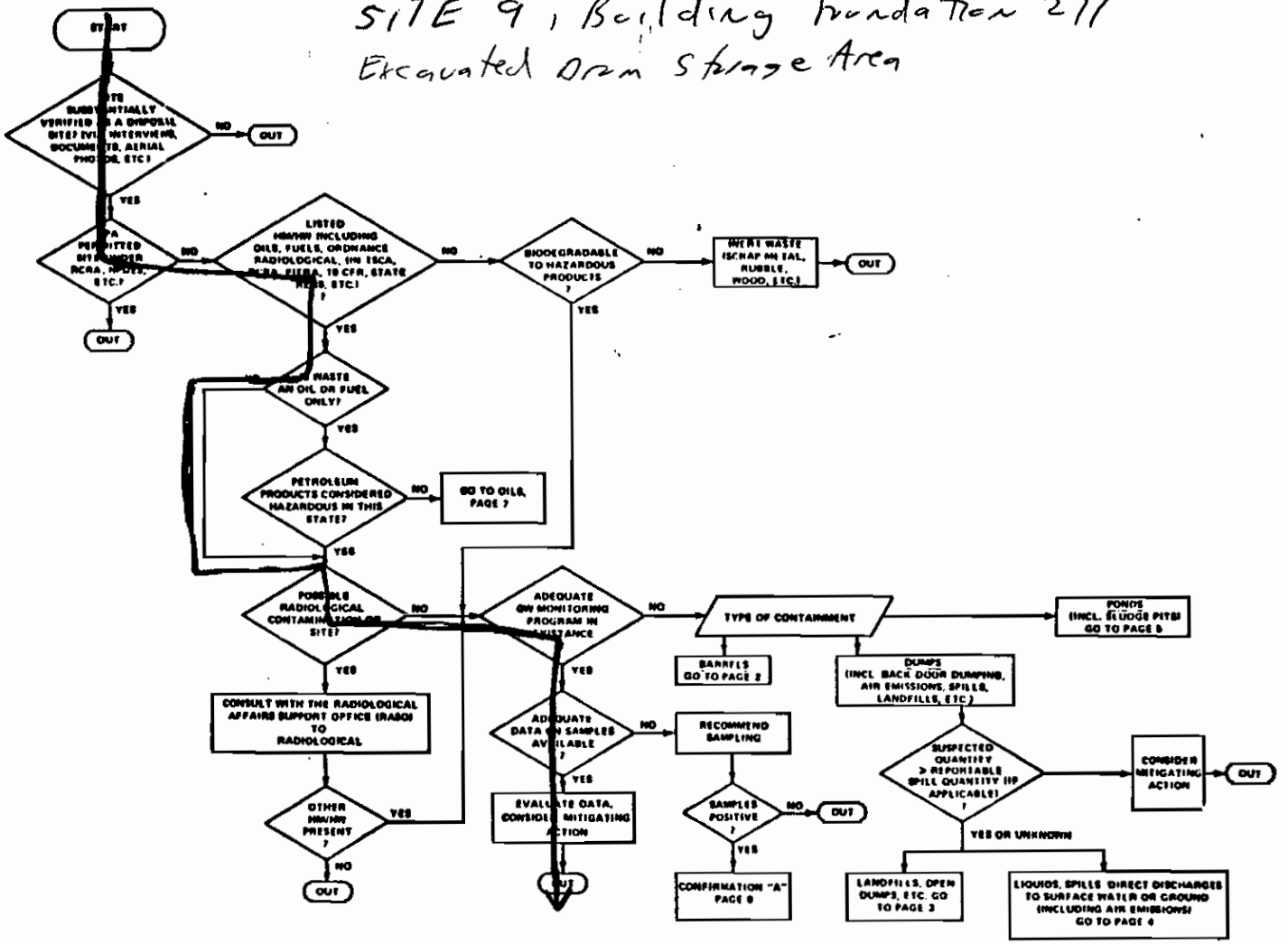

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

Table 1

Summary of Confirmation Study Costs - NCBC Gulfport
Study Number 064

Site No.	Site Identification	CSRS Score	No. of Wells	No. and Type of Samples	Frequency	Testing Parameters	Estimated Costs ($)
64-1	Disaster Recovery Disposal Area	24	4	16 Ground water	Quarterly*	Note 1	15,000
64-2	World War II Landfill	18	2	8 Ground water 4 Surface water 2 Sediment	Quarterly* Quarterly* One time only	Note 1 Note 1 Note 1	11,000
64-3	Northwest Landfill/ Burning Pit	24	3	12 Ground water 4 Surface water 1 Sediment	Quarterly* Quarterly* One time only	Note 2 Note 2 Note 2, except WL**	16,000
64-4	Golf Course Landfill	30	3	12 Ground water 4 Surface water 1 Sediment	Quarterly* Quarterly* One time only	Note 2 Note 2 Note 2, except WL	16,000
64-5	Heavy Equipment Training Area Landfill	33	3	12 Ground water 4 Surface water 2 Sediment	Quarterly* Quarterly* One time only	Note 2 Note 2 Note 2, except WL	17,000
64-6	Fire Fighting Training Area	26	1	4 Ground water 4 Surface water 1 Sediment	Quarterly* Quarterly* One time only	Note 1 Note 1 Note 1, except WL	7,000
	Background Well	-	1	4 Ground Water	Quarterly*	Note 2	5,000

*Quarterly for the first year. If contamination is detected at a site after the first quarterly sampling effort, further characterization to determine the extent of contamination can proceed immediately.
**WL = Water Level

Note 1: Scan gas chromatography (GC)/flame ionization detector (FID) with capillary column for methyl ethyl ketone (MEK), toluene, trichloroethylene and xylene; COD; TOC; TOX; cadmium, chromium, lead; oil and grease; specific conductance; pH; water level.

Note 2: Scan GC/FID with capillary column for MEK, toluene, trichloroethylene and xylene; Scan GC/ECD for pesticides; COD; TOC; TOX; cadmium, chromium, lead; oil and grease; specific conductance; pH; water level.

Site 1, Disaster Recovery Disposal Area
NCBC Gulfport

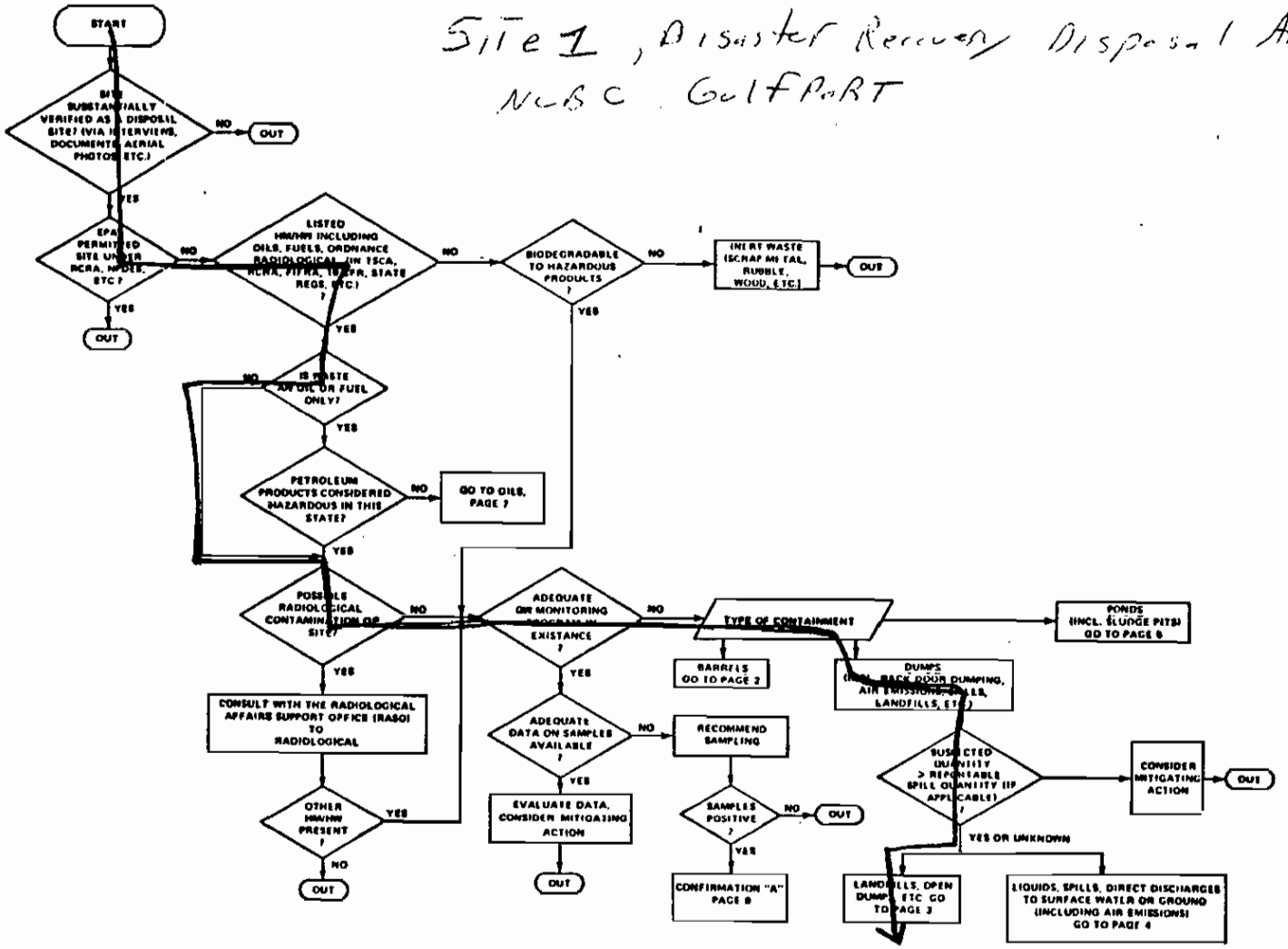

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

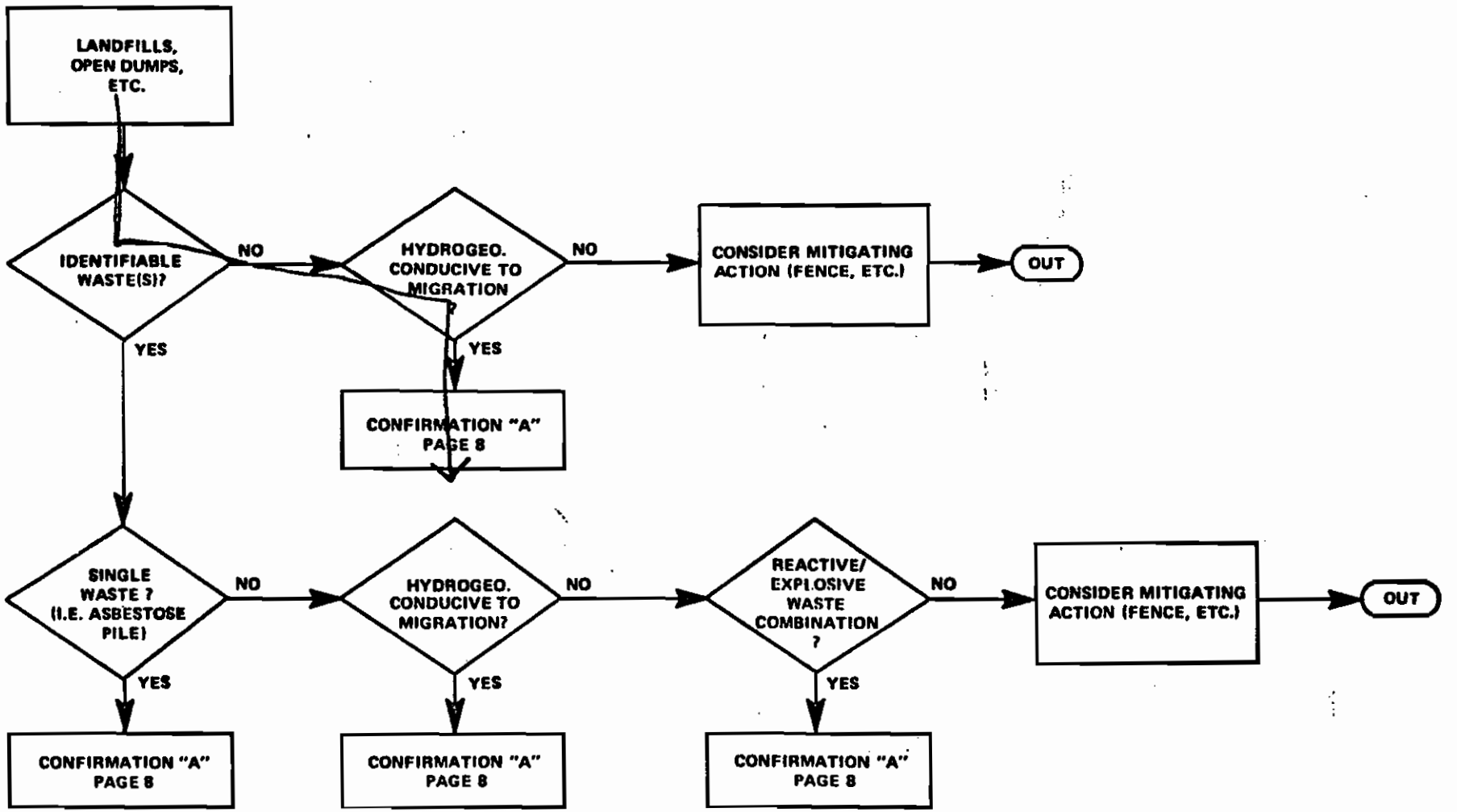

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

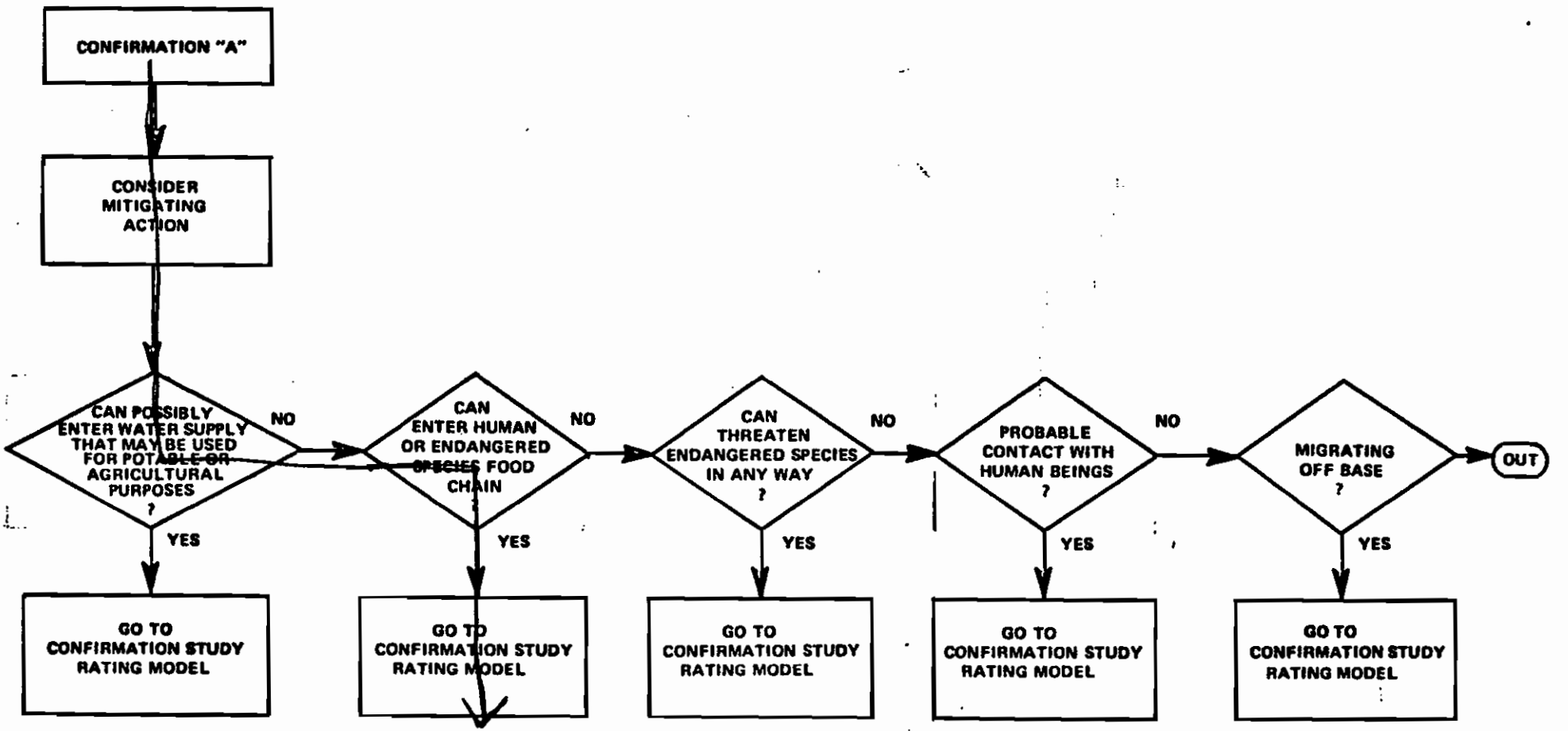

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

FIGURE 1 (Continued)

CSR FLOWCHART

Definitions

HM/HW = Hazardous Material/Hazardous Waste

GW = Ground Water

EPA = Environmental Protection Agency

RCRA = Resource Conservation and Recovery Act

NPDES = National Pollutant Discharge Elimination System

TSCA = Toxic Substances Control Act

FIFRA = Federal Insecticide, Fungicide and Rodenticide Act

10 CFR = Federal Regulations covering Radiological Materials

BUMED = Bureau of Medicine

SDWA = Safe Drinking Water Act

Mitigating Action = may include temporary/permanent actions such as fences, barriers, clay caps, changing method of storage (for barrels), etc.

FIGURE 2

NAME OF SITE Disaster Recovery Training Area, Site 1

LOCATION NCBC Gulfport

DATE OF OPERATION OR OCCURRENCE 1942 to 1948

OWNER/OPERATOR

COMMENTS/DESCRIPTION

SITE RATED BY EEI / Clark Engineers

I. RECEPTORS (see also table 1-1)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
A. Population within 1,000 feet of site	3	4	12	12
B. Distance to nearest down gradient well	3	10	30	30
C. Land use/zoning within 1 mile radius	3	3	9	9
D. Distance to reservation boundary	2	6	12	18
E. Critical environments within 1 mile radius of site	1	10	10	30
F. Water quality of nearest surface water body	2	6	12	18
G. Ground water use of the aquifer of concern	2	9	18	27
H. Population served by surface water supply within 3 miles dowstream of site	0	6	0	18
I. Population served by ground-water supply within 3 miles of site	3	6	18	18
		Subtotals	121	180

Receptors subscore = (factor score subtotal/maximum score subtotal) 0.67

FIGURE 2 (Continued)

III. PATHWAYS (see also table 1-11)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score

A. If there is documented laboratory evidence of migration of hazardous contaminants away from the site in question, assign maximum factor subscore of 1 point for direct evidence. If direct evidence exists then proceed to C. If no evidence exists, proceed to B.

Subscore —

B. Rate the migration potential for 3 potential pathways: surface water migration, flooding, and ground water migration. Select the highest rating, and proceed to C.

1. Surface water migration

Distance to nearest down gradient surface water	3	8	24	24
Net precipitation	3	6	18	18
Surface erosion	0	8	0	24
Soil permeability	1	6	6	18
Rainfall intensity	3	8	24	24
		Subtotals	72	108

Subscore = (factor score subtotal/maximum score subtotal) 0.67

2. Flooding | 0 | 1 | 0 |

Subscore = (factor score/3) 0

3. Ground water migration

Depth to ground water	3	8	24	24
Net precipitation	3	6	18	18
Soil permeability	2	8	16	24
Subsurface flows	3	8	24	24
Direct access to ground water	3	8	24	24
		Subtotals	106	114

Subscore = (factor score subtotal/maximum score subtotal) 0.93

C. Highest pathway subscore.

Enter the highest subscore value from A, B-1, B-2 or B-3 above.

Pathways Subscore 0.93

FIGURE 2 (Continued)

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III. WASTE CHARACTERISTICS (see also table 1-III)

A.

Rating Factor	Factor Rating (0-3)	Multiplier	Weighted Factor	
Waste Quantity	3	1	3	= Q
Acute Toxicity	3	8	24	= AT
Chronic Toxicity	3	8	24	= CT
Persistency	2	6	12	= P
Flammability	3	4	12	= F
Reactivity	0	4	0	= R
Incompatibility	1	5	5	= I
Corrosiveness	0	3	0	= C
Solubility	0	5	0	= S
Bioaccumulation	0	6	0	= B
Physical State	3	3	9	= PS
Years site was in use	2	1	2	= t
Years since site closed	1	1	1	= t

Weighted Factor = Factor Rating x Multiplier

FIGURE 2 (Continued)

II. WASTE CHARACTERISTICS (continued)

B. Take the weighted factors and multiply together as indicated below, then add the results together, and add PS from figure 2-IIIA.

	Score	Maximum Score
ATxQ = 24 x 3 = 72		72
CTxQ = 24 x 3 = 72		72
PxQx t = 12 x 3 x 1 = 36		162
FxQ = 12 x 3 = 36		36
RxQ = 0 x 3 = 0		36
IxQ = 5 x 3 = 15		45
CxQ = 0 x 3 = 0		27
SxQ = 0 x 3 = 0		45
Bx(t+t) = 0 x 3 = 0		108
PS =	9	9
Subtotal =	240	612

Waste Characteristics Subscore = subtotal/maximum subtotal

= 0.39

General Note:

If data are not available or are known to be incomplete under items I-A through I, II-B-1 or II-B-3, or III-A, then leave blank for calculation of factor score and maximum subscore (i.e. for calculation of the subscore divide the factor score by the maximum subscore minus the unknown item's maximum score).

FIGURE 2 (Continued)

IV. WASTE MANAGEMENT AND FINAL SCORE (see also table 1-IV)

A. Receptors Subscore = 0.67 = U_R

Pathways Subscore = 0.93 = U_P

Waste Characteristics Subscore = 0.39 = U_W

Enter the above subscores in the equation:

Site Subscore = U_{site} = 100 $(U_R)(U_P)(U_W)$

= 24

B. Apply factor for waste containment from waste management (table 1-IV)

Site Subscore x Waste Management = Final Score

24 x 1.0 = 24

Note: If Final Scores are tied for sites on one base, rate the sites according to the confidence level of the information.

Confirmed Criteria

- At least 2 verbal reports from interviews or written information from records.
- Knowledge of types and quantities of wastes generated by shops and other areas on base.
- Based on the above, a determination of the types and quantities of waste disposed of at the site.

Suspected Criteria

- One or no verbal reports or conflicting verbal reports, and no written information from records.
- Logic based on a knowledge of types and quantities of wastes generated at the base, and a history of past waste disposa practices indicate that these wastes were disposed of at the site.

Confirmed sites would be above suspected sites in the ranking.

Site 2, WW II Landfill
NCBC, Gulfport

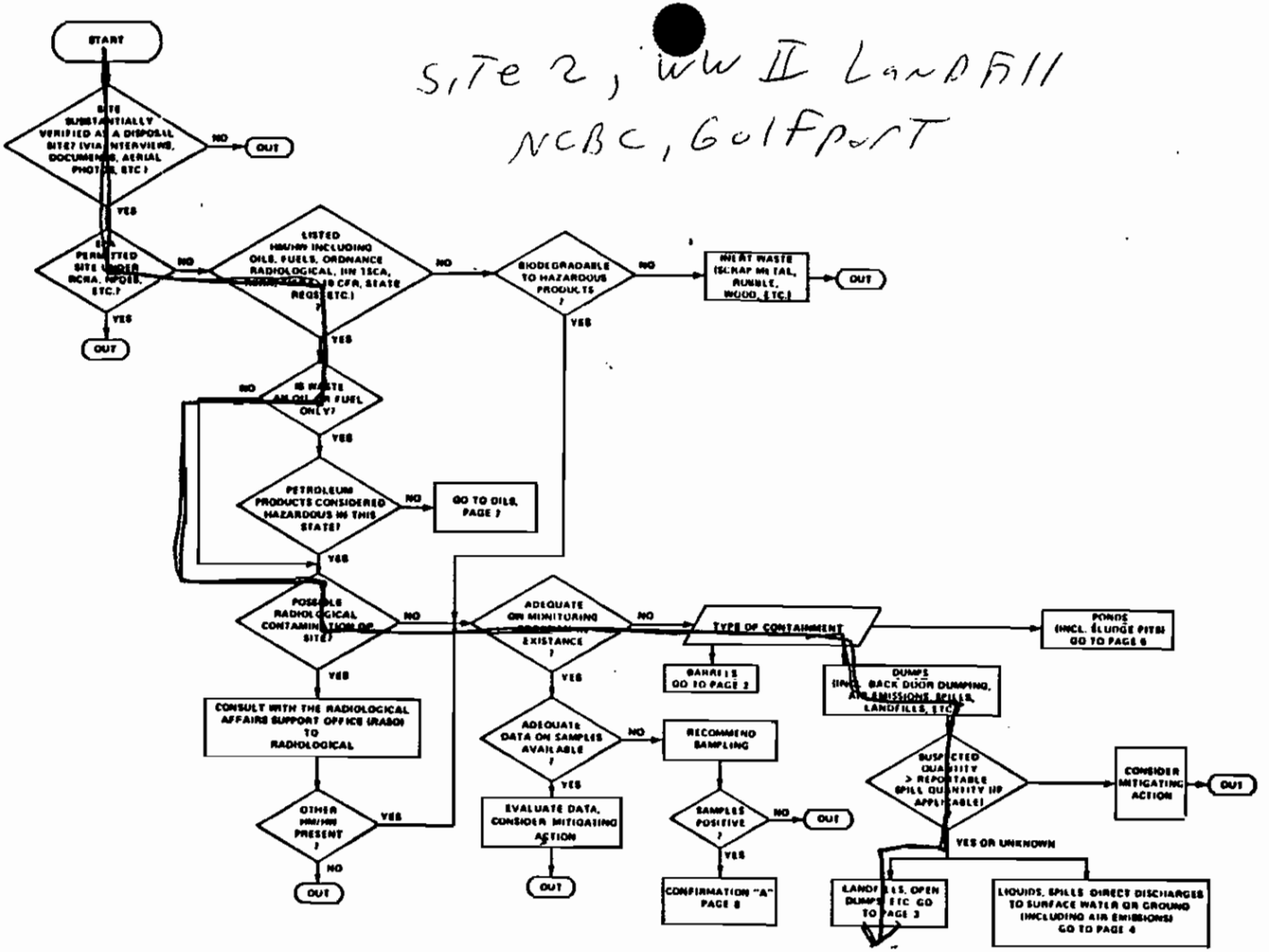

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

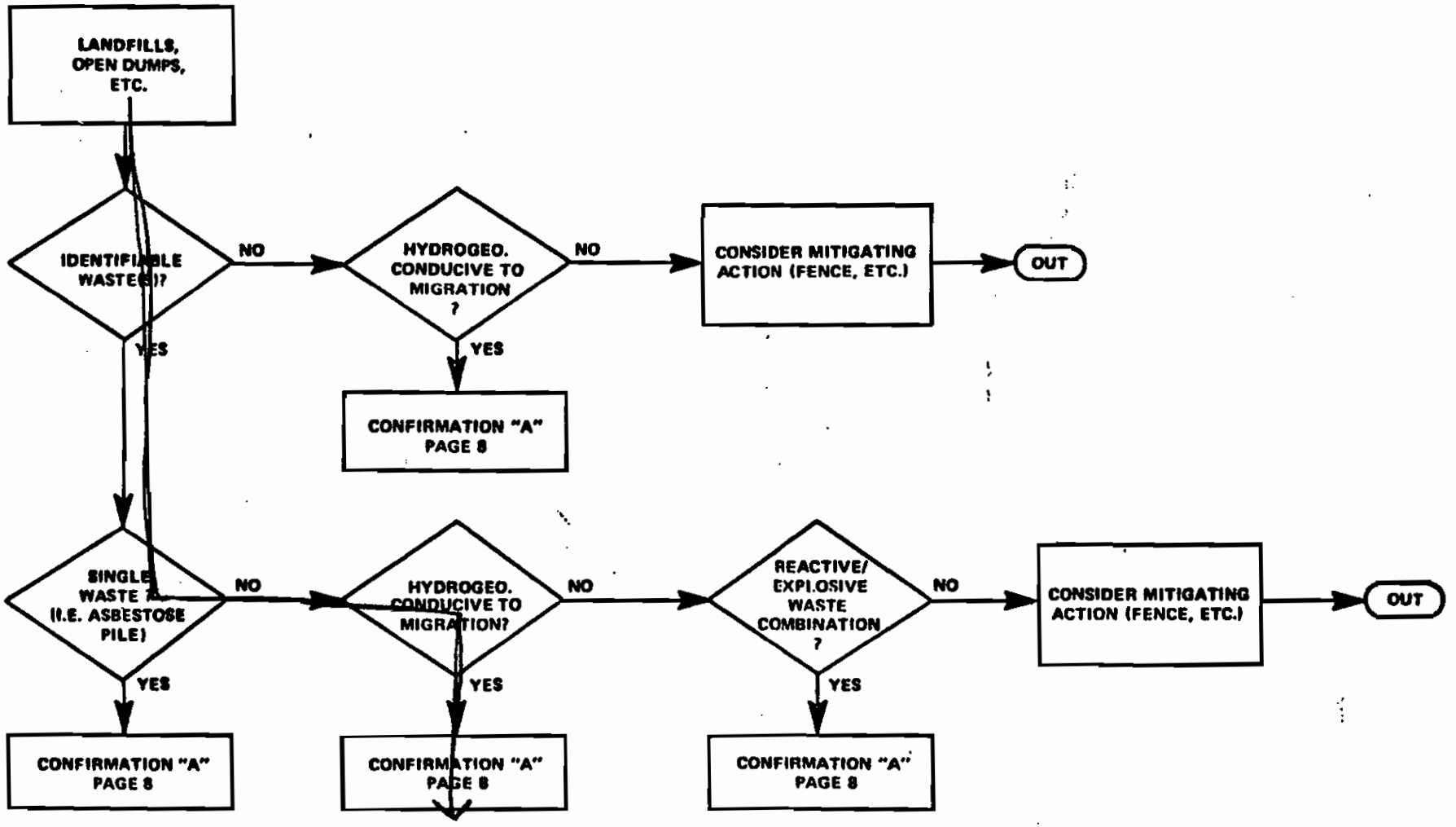

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

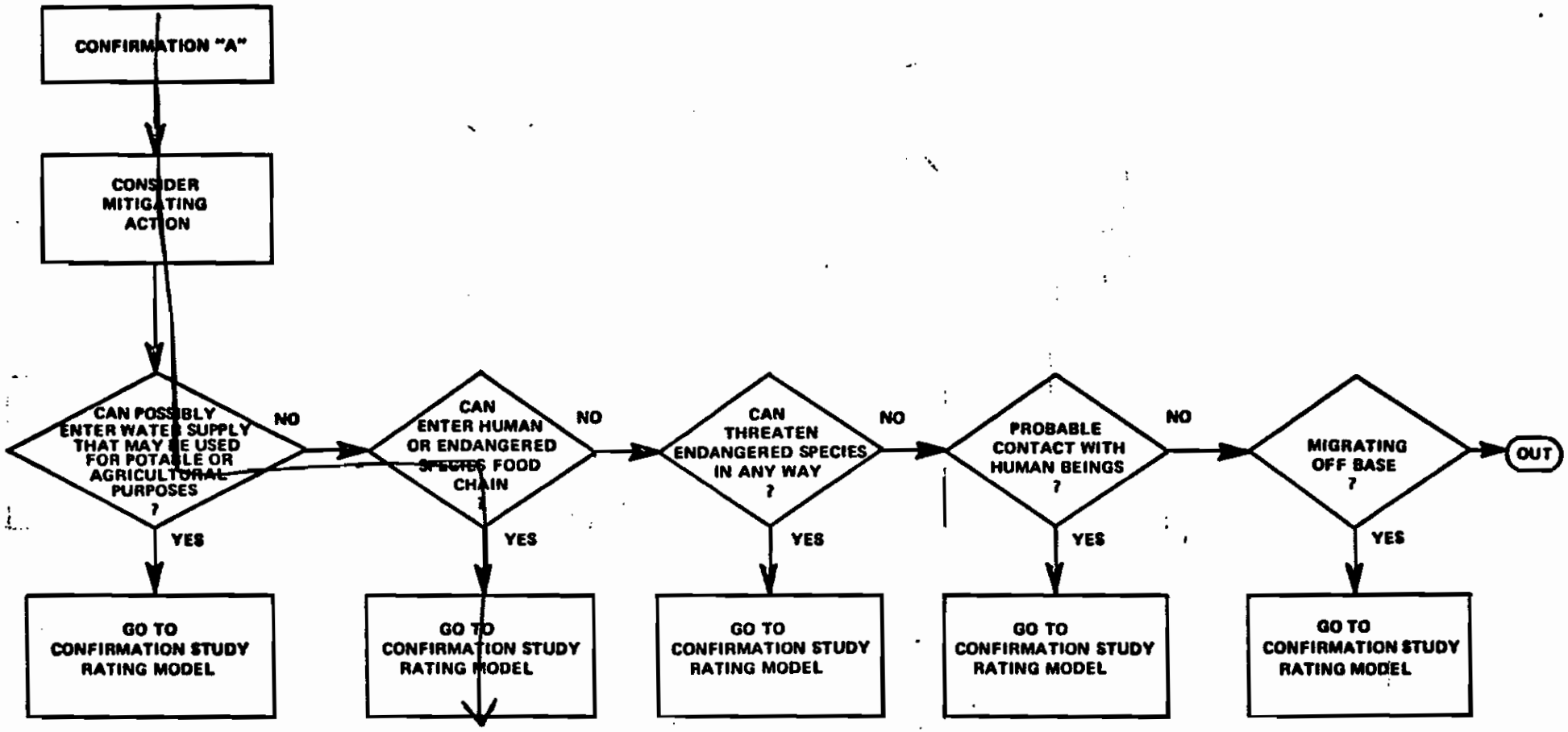

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

FIGURE 2

NAME OF SITE World War II Landfill, Site 2

LOCATION NEBC Gulfport

DATE OF OPERATION OR OCCURRENCE 1942 to 1948

OWNER/OPERATOR

COMMENTS/DESCRIPTION

SITE RATED BY EEI/Clark Engineers

I. RECEPTORS (see also table 1-1)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
A. Population within 1,000 feet of site	3	4	12	12
B. Distance to nearest down gradient well	3	10	30	30
C. Land use/zoning within 1 mile radius	3	3	9	9
D. Distance to reservation boundary	3	6	18	18
E. Critical environments within 1 mile radius of site	1	10	10	30
F. Water quality of nearest surface water body	2	6	12	18
G. Ground water use of the aquifer of concern	2	9	18	27
H. Population served by surface water supply within 3 miles dowstream of site	0	6	0	18
I. Population served by ground-water supply within 3 miles of site	3	6	18	18
		Subtotals	127	180

Receptors subscore = (factor score subtotal/maximum score subtotal) 0.71

FIGURE 2 (Continued)

. PATHWAYS (see also table 1-11)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score

A. If there is documented laboratory evidence of migration of hazardous contaminants away from the site in question, assign maximum factor subscore of 1 point for direct evidence. If direct evidence exists then proceed to C. If no evidence exists, proceed to B.

Subscore —

B. Rate the migration potential for 3 potential pathways: surface water migration, flooding, and ground water migration. Select the highest rating, and proceed to C.

1. Surface water migration

Distance to nearest down gradient surface water	3	8	24	24
Net precipitation	3	6	18	18
Surface erosion	0	8	0	24
Soil permeability	1	6	6	18
Rainfall intensity	3	8	24	24
		Subtotals	72	108

Subscore = (factor score subtotal/maximum score subtotal) 0.67

2. Flooding | 0 | 1 | 0 |

Subscore = (factor score/3) 0

3. Ground water migration

Depth to ground water	3	8	24	24
Net precipitation	3	6	18	18
Soil permeability	2	8	16	24
Subsurface flows	3	8	24	24
Direct access to ground water	3	8	24	24
		Subtotals	106	114

Subscore = (factor score subtotal/maximum score subtotal) 0.93

C. Highest pathway subscore.

Enter the highest subscore value from A, B-1, B-2 or B-3 above.

Pathways Subscore 0.93

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FIGURE 2 (Continued)

III. WASTE CHARACTERISTICS (see also table 1-III)

A.

Rating Factor	Factor Rating (0-3)	Multiplier	Weighted Factor
Waste Quantity	2	1	2 = Q
Acute Toxicity	3	8	24 = AT
Chronic Toxicity	3	8	24 = CT
Persistency	2	6	12 = P
Flammability	3	4	12 = F
Reactivity	0	4	0 = R
Incompatibility	1	5	5 = I
Corrosiveness	0	3	0 = C
Solubility	0	5	0 = S
Bioaccumulation	0	6	0 = B
Physical State	3	3	9 = PS
Years site was in use	2	1	2 = t
Years since site closed	1	1	1 = t

Weighted Factor = Factor Rating x Multiplier

FIGURE 2 (Continued)

. WASTE CHARACTERISTICS (continued)

B. Take the weighted factors and multiply together as indicated below, then add the results together, and add PS from figure 2-IIIA.

	Score	Maximum Score
ATxQ =	24 x 2 = 48	72
CTxQ =	24 x 2 = 48	72
PxQx t=	12 x 2 x 1 = 24	162
FxQ =	12 x 2 = 24	36
RxQ =	0 x 2 = 0	36
IxQ =	5 x 2 = 10	45
CxQ =	0 x 2 = 0	27
SxQ =	0 x 2 = 0	45
Bx(t+t) =	0(3) = 0	108
PS =	9	9
Subtotal= =	163	612

Waste Characteristics Subscore = subtotal/maximum subtotal

= 0.27

General Note:

If data are not available or are known to be incomplete under items I-A through I, II-B-1 or II-B-3, or III-A, then leave blank for calculation of factor score and maximum subscore (i.e. for calculation of the subscore divide the factor score by the maximum subscore minus the unknown item's maximum score).

FIGURE 2 (Continued)

IV. WASTE MANAGEMENT AND FINAL SCORE (see also table 1-IV)

A. Receptors Subscore = 0.71 = U_R

Pathways Subscore = 0.93 = U_P

Waste Characteristics Subscore = 0.27 = U_W

Enter the above subscores in the equation:

Site Subscore = U_{site} = 100 $(U_R)(U_P)(U_W)$

= 18

B. Apply factor for waste containment from waste management (table 1-IV)

Site Subscore x Waste Management = Final Score

18 x 1.0 = 18

Note: If Final Scores are tied for sites on one base, rate the sites according to the confidence level of the information.

Confirmed Criteria

- At least 2 verbal reports from interviews or written information from records.
- Knowledge of types and quantities of wastes generated by shops and other areas on base.
- Based on the above, a determination of the types and quantities of waste disposed of at the site.

Suspected Criteria

- One or no verbal reports or conflicting verbal reports, and no written information from records.
- Logic based on a knowledge of types and quantities of wastes generated at the base, and a history of past waste disposa practices indicate that these wastes were disposed of at the site.

Confirmed sites would be above suspected sites in the ranking.

Site 3, Northwest landfill
Burning Pit
NCBC, Gulfport

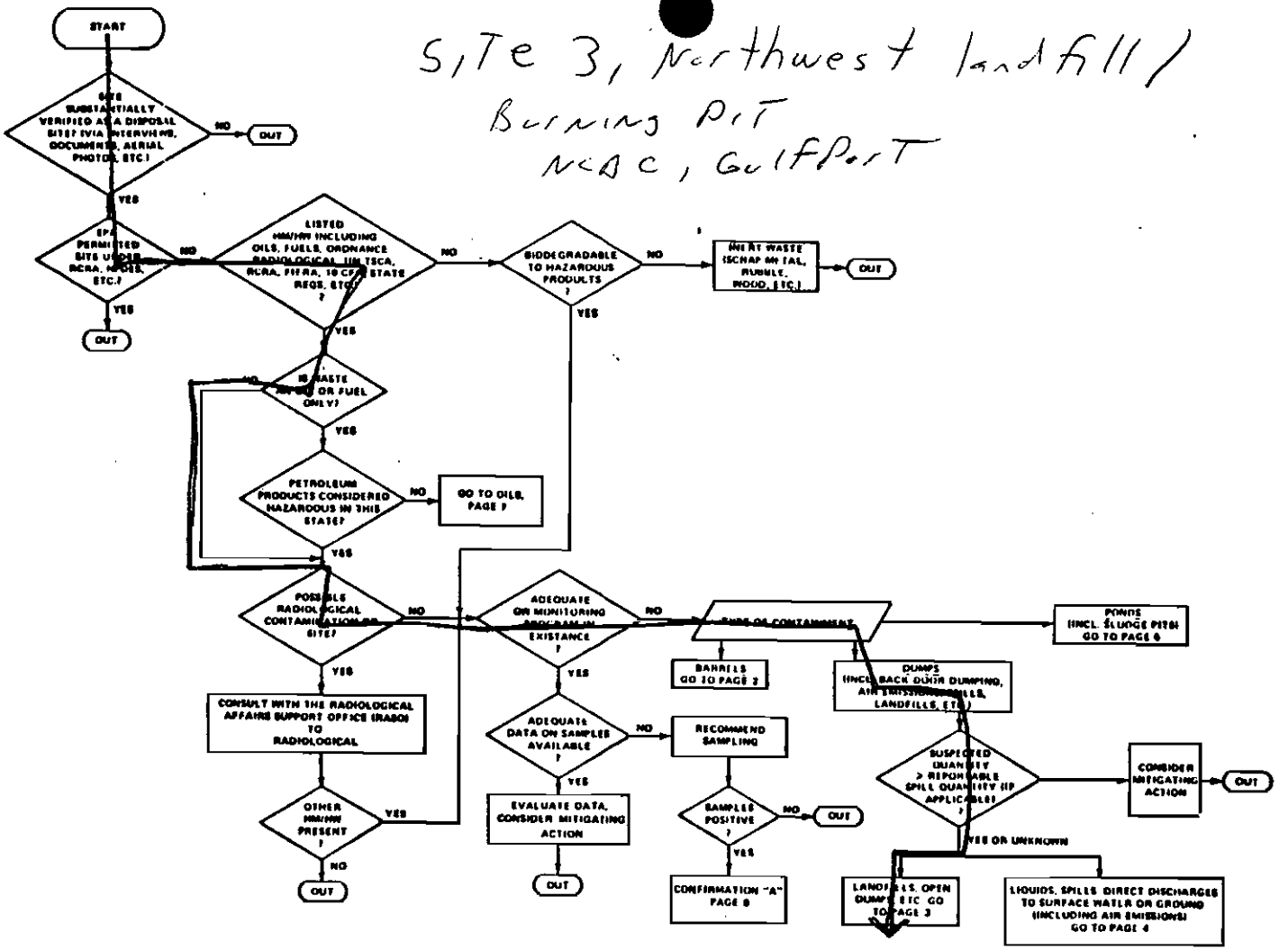

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

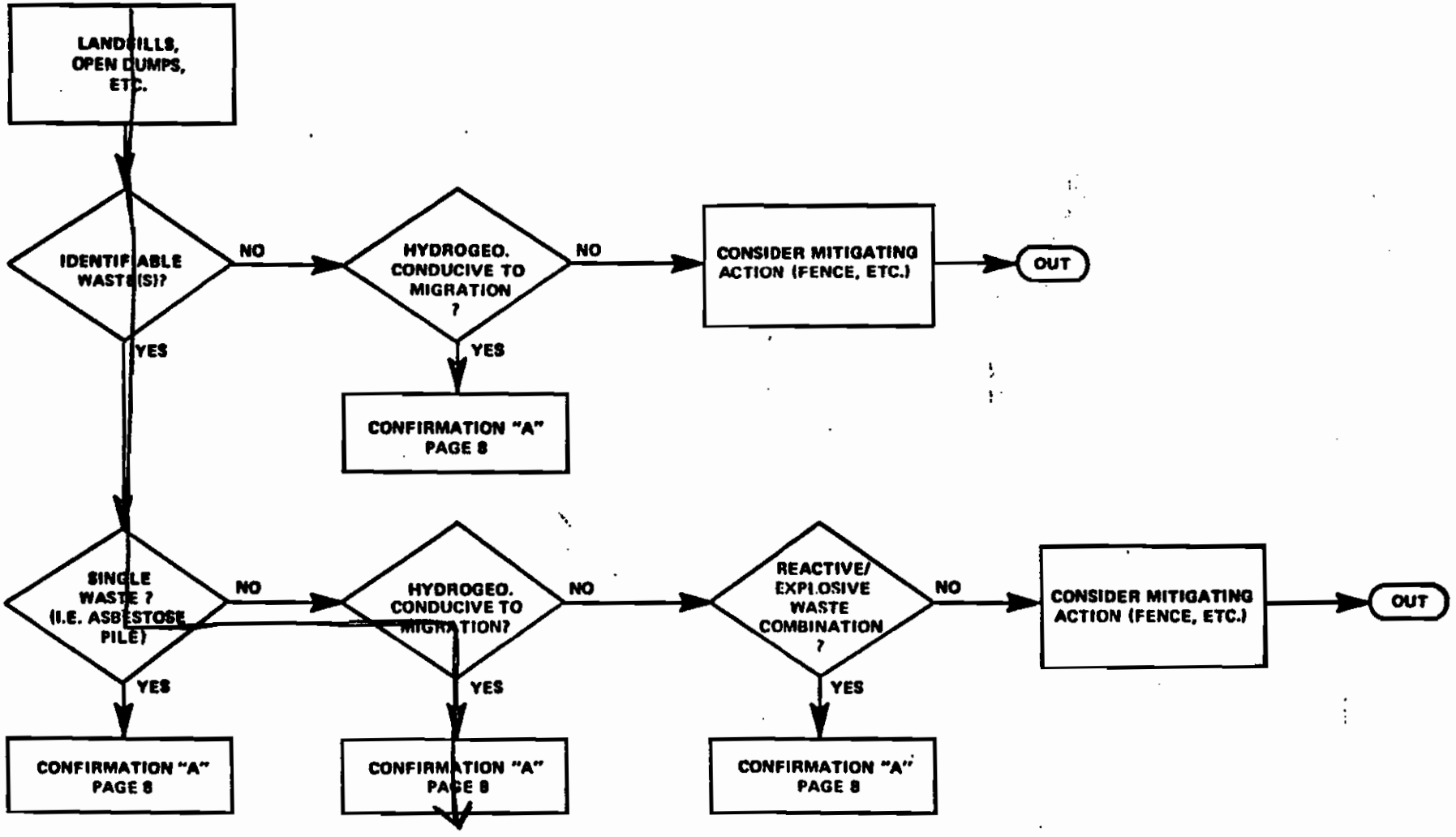

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

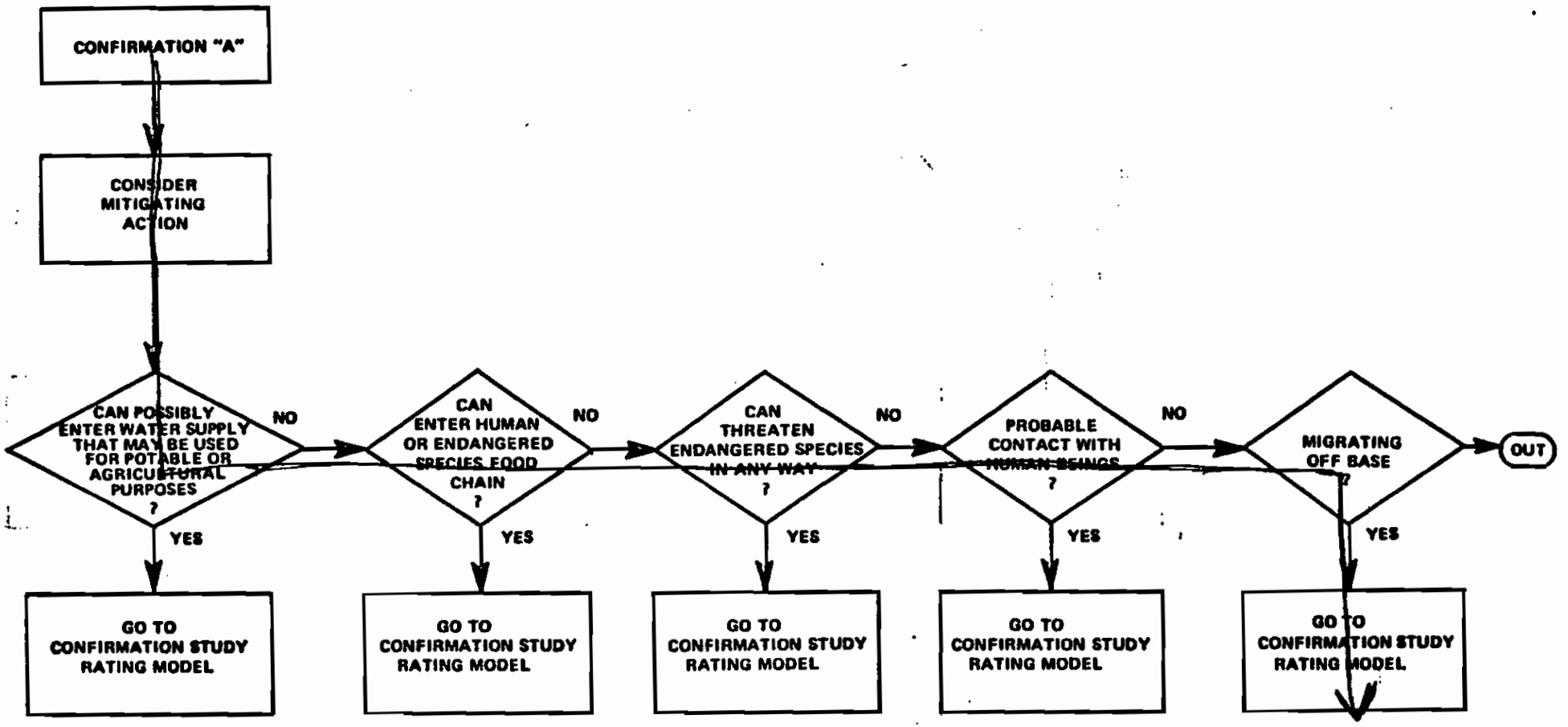

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART (CONTINUED)

FIGURE 2

NAME OF SITE Northwest Landfill/Burning Pit, Site 3

LOCATION NAS Cecil Field

DATE OF OPERATION OR OCCURRENCE 1948-1965

OWNER/OPERATOR

COMMENTS/DESCRIPTION

SITE RATED BY EEI/Clark Engineers

I. RECEPTORS (see also table 1-1)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
A. Population within 1,000 feet of site	2	4	8	12
B. Distance to nearest down gradient well	3	10	30	30
C. Land use/zoning within 1 mile radius	3	3	9	9
D. Distance to reservation boundary	2	6	12	18
E. Critical environments within 1 mile radius of site	1	10	10	30
F. Water quality of nearest surface water body	2	6	12	18
G. Ground water use of the aquifer of concern	2	9	18	27
H. Population served by surface water supply within 3 miles dowstream of site	0	6	0	18
I. Population served by ground-water supply within 3 miles of site	3	6	18	18
		Subtotals	117	180

Receptors subscore = (factor score subtotal/maximum score subtotal) 0.65

FIGURE 2 (Continued)

II. PATHWAYS (see also table 1-11)

Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score

A. If there is documented laboratory evidence of migration of hazardous contaminants away from the site in question, assign maximum factor subscore of 1 point for direct evidence. If direct evidence exists then proceed to C. If no evidence exists, proceed to B.

Subscore ___

B. Rate the migration potential for 3 potential pathways: surface water migration, flooding, and ground water migration. Select the highest rating, and proceed to C.

1. Surface water migration

Distance to nearest down gradient surface water	3	8	24	24
Net precipitation	3	6	18	18
Surface erosion	2	8	16	24
Soil permeability	1	6	6	18
Rainfall intensity	3	8	24	24

Subtotals 88 108

Subscore = (factor score subtotal/maximum score subtotal) 0.81

2. Flooding | 0 | 1 | 0 |

Subscore = (factor score/3) 0

3. Ground water migration

Depth to ground water	3	8	24	24
Net precipitation	3	6	18	18
Soil permeability	2	8	16	24
Subsurface flows	3	8	24	24
Direct access to ground water	3	8	24	24

Subtotals 106 114

Subscore = (factor score subtotal/maximum score subtotal) 0.93

C. Highest pathway subscore.

Enter the highest subscore value from A, B-1, B-2 or B-3 above.

Pathways Subscore 0.93

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FIGURE 2 (Continued)

III. WASTE CHARACTERISTICS (see also table 1-III)

A.

Rating Factor	Factor Rating (0-3)	Multiplier	Weighted Factor	
Waste Quantity	3	1	3	= Q
Acute Toxicity	3	8	24	= AT
Chronic Toxicity	3	8	24	= CT
Persistency	2	6	12	= P
Flammability	3	4	12	= F
Reactivity	0	4	0	= R
Incompatibility	1	5	5	= I
Corrosiveness	0	3	0	= C
Solubility	0	5	0	= S
Bioaccumulation	0	6	0	= B
Physical State	3	3	9	= PS
Years site was in use	3	1	3	= t
Years since site closed	1	1	1	= t

Weighted Factor = Factor Rating x Multiplier

FIGURE 2 (Continued)

I. WASTE CHARACTERISTICS (continued)

B. Take the weighted factors and multiply together as indicated below, then add the results together, and add PS from figure 2-IIIA.

	Score	Maximum Score
ATxQ = 24 x 3 =	72	72
CTxQ = 24 x 3 =	72	72
PxQx t = 12 x 3x1 =	36	162
FxQ = 12 x 3 =	36	36
RxQ = 0 x 3 =	0	36
IxQ = 5 x 3 =	15	45
CxQ = 0 x 3 =	0	27
SxQ = 0 x 3 =	0	45
Bx(t+t) = 0(4) =	0	108
PS =	9	9
Subtotal =	240	612

Waste Characteristics Subscore = subtotal/maximum subtotal

= 0.39

General Note:

If data are not available or are known to be incomplete under items I-A through I, II-B-1 or II-B-3, or III-A, then leave blank for calculation of factor score and maximum subscore (i.e. for calculation of the subscore divide the factor score by the maximum subscore minus the unknown item's maximum score).

FIGURE 2 (Continued)

IV. WASTE MANAGEMENT AND FINAL SCORE (see also table 1-IV)

A. Receptors Subscore = 0.65 = U_R

Pathways Subscore = 0.93 = U_P

Waste Characteristics Subscore = 0.39 = U_W

Enter the above subscores in the equation:

Site Subscore = U_{site} = 100 $(U_R)(U_P)(U_W)$

= 24

B. Apply factor for waste containment from waste management (table 1-IV)

Site Subscore x Waste Management = Final Score

24 x 1.0 = 24

Note: If Final Scores are tied for sites on one base, rate the sites according to the confidence level of the information.

Confirmed Criteria

- At least 2 verbal reports from interviews or written information from records.
- Knowledge of types and quantities of wastes generated by shops and other areas on base.
- Based on the above, a determination of the types and quantities of waste disposed of at the site.

Suspected Criteria

- One or no verbal reports or conflicting verbal reports, and no written information from records.
- Logic based on a knowledge of types and quantities of wastes generated at the base, and a history of past waste disposa practices indicate that these wastes were disposed of at the site.

Confirmed sites would be above suspected sites in the ranking.

Site 4, Golf Course Landfill
NCBC, Gulfport

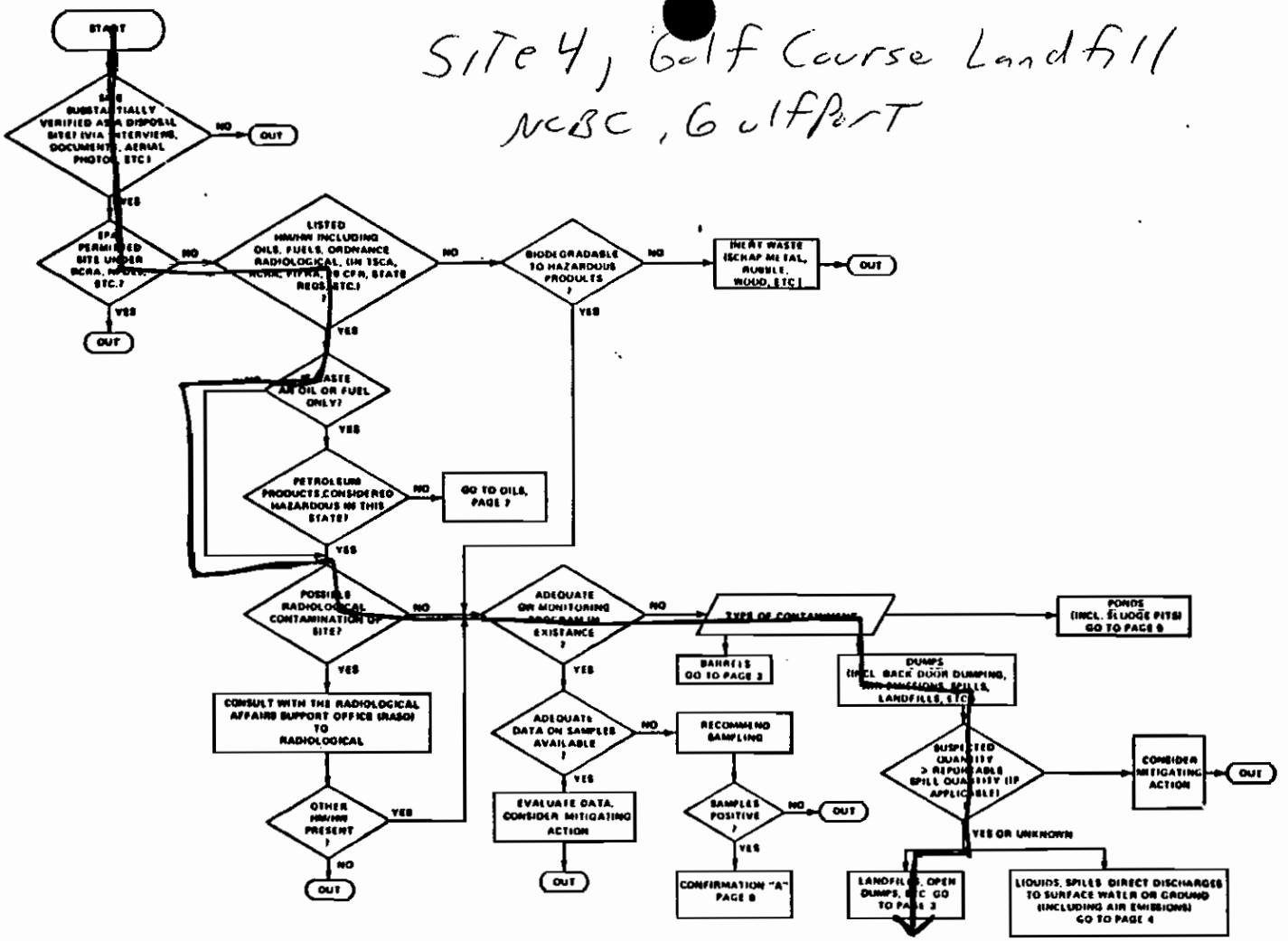

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART

FIGURE 2 (Continued)

. WASTE MANAGEMENT AND FINAL SCORE (see also table 1-IV)

A. Receptors Subscore = 0.71 = U_R

Pathways Subscore = 0.93 = U_P

Waste Characteristics Subscore = 0.45 = U_W

Enter the above subscores in the equation:

Site Subscore = U_{site} = 100 $(U_R)(U_P)(U_W)$

= 30

B. Apply factor for waste containment from waste management (table 1-IV)

Site Subscore x Waste Management = Final Score

30 x 1.0 = 30

Note: If Final Scores are tied for sites on one base, rate the sites according to the confidence level of the information.

Confirmed Criteria	Suspected Criteria
• At least 2 verbal reports from interviews or written information from records.	• One or no verbal reports or conflicting verbal reports, and no written information from records.
• Knowledge of types and quantities of wastes generated by shops and other areas on base.	• Logic based on a knowledge of types and quantities of wastes generated at the base, and a history of past waste disposa practices indicate that these wastes were disposed of at the site.
• Based on the above, a determination of the types and quantities of waste disposed of at the site.	

Confirmed sites would be above suspected sites in the ranking.

Site 5, Heavy Equipment Training Area Landfill
NCBC, Gulfport

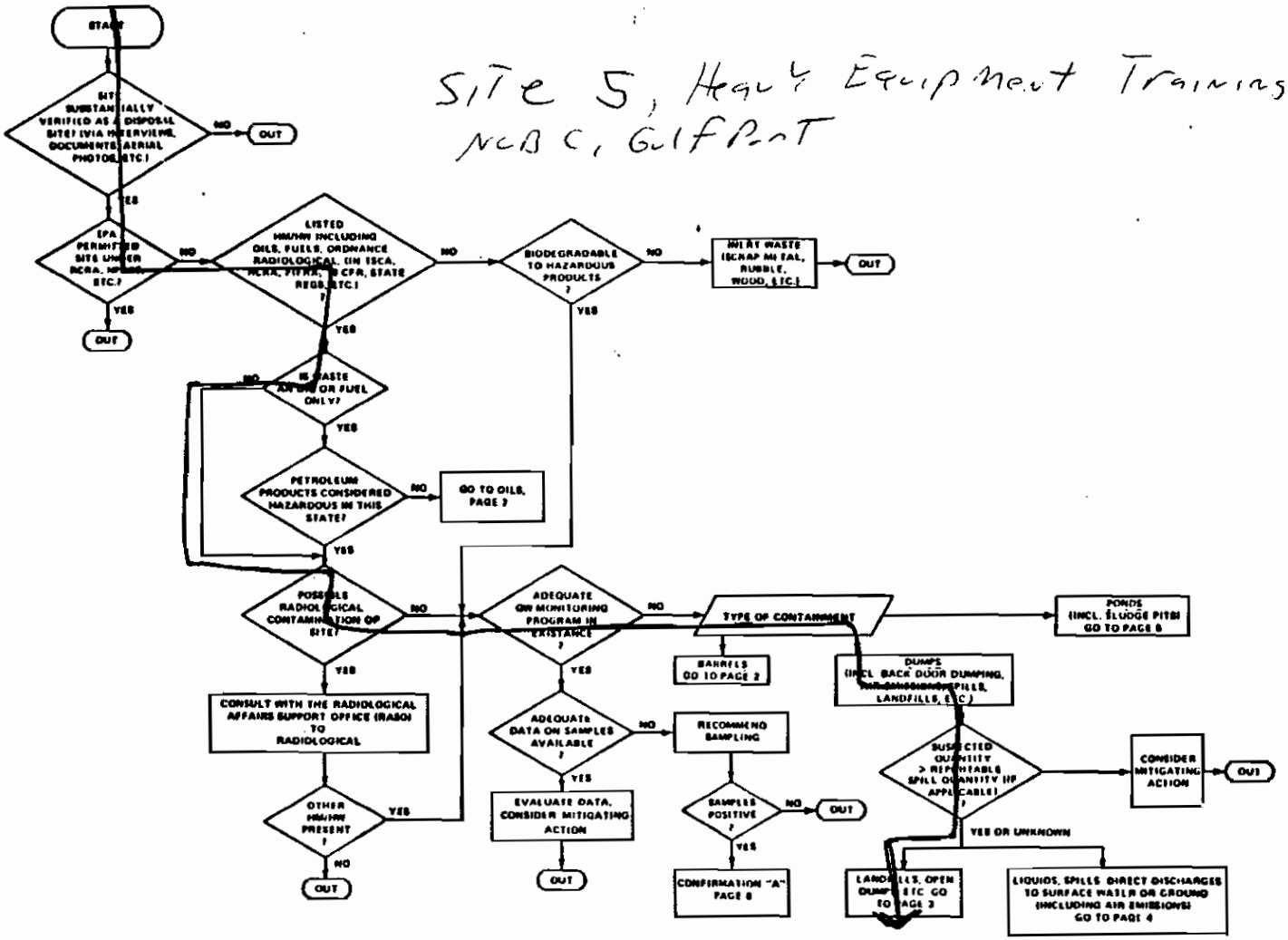

FIGURE 1. CONFIRMATION STUDY RANKING FLOWCHART