N00213.AR.000054
NAS KEY WEST
5090.3a

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FOR SITE 4 BOCA CHICA OPEN DISPOSAL NAS KEY WEST FL

3/2/1988

NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION

BOCA CHICA OPEN DISPOSAL AREA Site # 4

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: FL | 02 SITE NUMBER: 6170022952

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Naval Air Station, Key West-Boca Chica, Site 4
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: [Boca Chica Open Disposal Area]
03 CITY: [Boca Chica island]
04 STATE: FL | 05 ZIP CODE: 33042 | 06 COUNTY: Monroe | 07 COUNTY CODE: 087 | 08 CONG DIST: 19
09 COORDINATES LATITUDE: 24° 35' | LONGITUDE: 81° 42'
10 DIRECTIONS TO SITE (Starting from nearest public road): Site 4, Boca Chica Open Disposal Area, a 10 acre site, is located between the perimeter road and Geiger Creek at the southern part of Boca Chica.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Naval Air Station
02 STREET (Business, mailing, residential): N/A
03 CITY: Key West
04 STATE: FL | 05 ZIP CODE: 33042 | 06 TELEPHONE NUMBER: ( )
07 OPERATOR (If known and different from owner): NAS Key West
08 STREET (Business, mailing, residential):
09 CITY: Key West
10 STATE: FL | 11 ZIP CODE: 33042 | 12 TELEPHONE NUMBER: ( )
13 TYPE OF OWNERSHIP (Check one): ☐ A. PRIVATE ☒ B. FEDERAL: US Naval Air Station (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER: (Specify) ☐ G. UNKNOWN
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply): ☐ A. RCRA 3001 DATE RECEIVED: / / (Month Day Year) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (Month Day Year) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION: ☒ YES DATE 8/13/84 (Month Day Year) ☐ NO
7/10-8/4/86 CONTRACTOR NAME(S): Environdyne Engineers, Inc.; Geraghty & Miller, Inc.
BY (Check all that apply): ☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☒ D. OTHER CONTRACTORS ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: (Specify)
02 SITE STATUS (Check one): ☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN
03 YEARS OF OPERATION: 1942 (Beginning Year) | mid-1960s (Ending Year) ☐ UNKNOWN
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED: This is an old disposal and open burning place receiving all the general refuse from the Air Station. Water and soil analyses did not detect acid extractables, pesticides, or PCBs, but copper, mercury and arsenic.
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION: Based on the low concentrations of the metals in the soil-water samples, the site does not appear to be a potential hazard to the environment and to population. Further soil-water analyses should be conducted.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents): ☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on site if feasible time) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Mr. Joel Murphy
02 OF (Agency/Organization): NAVFAC / SOUTH DIV
03 TELEPHONE NUMBER: (803) 743-0577
04 PERSON RESPONSIBLE FOR ASSESSMENT: Mr. Joel Murphy
05 AGENCY: NOWY
06 ORGANIZATION: NAVFAC-SOUTHDIV
07 TELEPHONE NUMBER: (803) 743-0577
08 DATE: / / (Month Day Year)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	6170022952

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- A. SOLID
- B. POWDER, FINES
- C. SLUDGE
- D. OTHER _____ (Specify)
- E. SLURRY
- F. LIQUID
- G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS <170

03 WASTE CHARACTERISTICS (Check all that apply)

- A. TOXIC
- B. CORROSIVE
- C. RADIOACTIVE
- D. PERSISTENT
- E. SOLUBLE
- F. INFECTIOUS
- G. FLAMMABLE
- H. IGNITABLE
- I. HIGHLY VOLATILE
- J. EXPLOSIVE
- K. REACTIVE
- L. INCOMPATIBLE
- M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	An estimate of less	than 170 drums of	Estimates are difficult to come by. Today, possibly
OLW	OILY WASTE	hazardous waste	was disposed of	a small amount of Cd,
SOL	SOLVENTS	on site during a	20 year period	Hg, As and of a few organic
PSD	PESTICIDES	(1942 - mid 1960s)	was made.	compounds persists in the
OCC	OTHER ORGANIC CHEMICALS			ground.
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	naphthalene	91-20-3	OD	34.0	ppb
OCC	xylene	1330-20-7	OD	35.0	ppb
MES	mercury	7439-97-6	OD	0.01	ppm
MES	copper	1317-38-2	OD	0.06	ppm
MES	arsenic	7440-38-2	OD	0.065	ppm

V. FEEDSTOCKS (See Appendix for CAS numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

-NEESA, Initial Assessment Study of NAS-Key West, FL; Document 13-071 (May 1985).
-Geraghty & Miller, Inc., Verification Study Assessment of Potential Ground-Water Pollution at NAS-Key West, FL (March 1987).

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: FL
02 SITE NUMBER: 6170022952

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
- There is no information indicating that a hazardous condition has been claimed or exists at the site. Groundwater was found to contain traces (a few ppb) of naphthalene, xylenes, mercury, and copper (Geraghty and Miller, Inc., 1987).

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
- No evidence of release of contaminants to surface water.
- Site is located a few feet above the sea level and adjacent to Atlantic Ocean.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
- No information was found to indicate air contamination from the disposal of waste at the site.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
- No hazardous substances that could catch fire or explode are present at the site.

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
- There is no information of any direct contact incidents. It appears that no substantial concentrations of hazardous contaminants exist at the site that can cause any incident by direct contact.

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: 7/10/85) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 10 (acres) 04 NARRATIVE DESCRIPTION
- Low levels (above laboratory detection; tenths of ppm) of copper, mercury and arsenic, as well as a few ppb of organic compounds were found (Geraghty & Miller, Inc., 1987).

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
- There is no potential the drinking water to be contaminated from the site's waste compounds. Drinking water is imported via a 125 mile pipeline from the mainland, or from rainwater catchment.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
FL	6170022952

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
—

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
—

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
—

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills, runoff, standing liquids, flooding) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
—

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
—

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
—

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
—

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
—

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

The low levels of contamination of soil and water with copper, mercury, and organic compounds indicate that a further investigation and soil-water analyses must be conducted.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- NEESA, Initial Assessment Study of NAS-Key West, FL; Document 13-071 (May 1985).
- Geraghty & Miller Inc., Verification Study: Assessment of Potential Ground Water Pollution at NAS-Key West, FL (March 1987).

Facility name: NAS Key West

Location: Key West, FL

EPA Region: 4

Person(s) in charge of the facility:

NAS Key West

Name of Reviewer: A. Antonopoulos Date: 3/2/88

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

- Boca Chica Open Disposal Area (Site 4).
- A ten acre area was used as an open disposal site from 1942 until mid-1960s. It received all the waste generated at the Air Station such as general refuse, and possibly waste oils, hydraulic fluid, paint, paint thinner and solvents approx. 2,600 tons/year; which were burned daily. Water analyses did not detect acid extractables, pesticides, or PCBs.

Scores: $S_M = 7.76$ $S_{gw} = 0$ $S_{sw} = 13.43$ $S_a = 0$,

$S_{FE} = 0$

$S_{DC} = 37.5$

DRAFT

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	**Assigned Value (Circle One)**	**Multi-plier**	**Score**	**Max. Score**	**Ref. (Section)**
1 Observed Release	(0) 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	(0) 1 2 3	2	0	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 1 2 (3)	1	3	3	
Physical State	0 1 2 (3)	1	3	3	
	Total Route Characteristics Score		8	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
	Total Waste Characteristics Score		20	26	
5 Targets					3.5
Ground Water Use	(0) 1 2 3	3	0	9	
Distance to Nearest Well/Population Served	(0) 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40	
	Total Targets Score		0	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			0	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =	0		

DRAFT

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	(0) 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 2 (3)	1	3	3	
Distance to Nearest Surface Water	0 1 2 (3)	2	6	6	
Physical State	0 1 2 (3)	1	3	3	
	Total Route Characteristics Score		12	15	
3 Containment	0 1 2 (3)	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
	Total Waste Characteristics Score		20	26	
5 Targets					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40	
	Total Targets Score		12	55	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			8,640	84,350	
7 Divide line 6 by 84,350 and multiply by 100		S_{sw} = 13.43			

DRAFT

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
4 Multiply 1 x 2 x 3			0	35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a = 0			

DRAFT

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	0	0
Surface Water Route Score (S_{sw})	13.43	180.36
Air Route Score (S_a)	0.	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		180.36
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		13.43
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		7.76

FIGURE 10
WORKSHEET FOR COMPUTING S_M

DRAFT

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1	1	3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100	S_{FE} = 0				

DRAFT

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 3	1	3	3	8.2
3 Containment	0 15	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2 3	5	15	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 5	4	8	20	
Distance to a Critical Habitat	0 1 2 3	4	4	12	
Total Targets Score			12	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			8,100	21,600	
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 37.5		

FIGURE 12
DIRECT CONTACT WORK SHEET

DRAFT

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

Facility Name: NAS Key West

Location: Key West, FL

Site #4 ; Boca Chica Open Disposal Area

GROUNDWATER ROUTE

1 OBSERVED RELEASE [score = 0]

Contaminants detected (five maximum):

- No evidence of release of a substance of concern to ground water has been recorded.

Rationale for attributing the contaminants to the facility:

- NA*

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern [score = 0]

Name or description of aquifer(s) of concern:

- Hawthorn Formation - Suwannee Limestone

Depth(s) from the ground surface to the highest seasonal level of the saturated zone (water table[s]) of the aquifer of concern:

- Deeper than 900 feet

Depth from the ground surface to the lowest point of waste disposal or storage:

- ~ 5 feet.

---

* NA = not applicable

Net Precipitation [score = 2]

Mean annual or seasonal precipitation (list months for seasonal):

40"

Mean annual lake or seasonal evaporation (list months for seasonal):

30" (≃ 70% of mean annual precipitation)

Net precipitation (subtract the above figures):

10"

Permeability of Unsaturated Zone [score = 3]

Soil type in unsaturated zone:

- Miami Oolite soil

Permeability associated with soil type:

- Highly permeable oolite (calcium carbonate and tiny oolids or spherical calcareous grains) soil and subsoil. [In certain spots soil compaction has reduced porosity and permeability.]

Physical State [score = 3]

Physical state of substances at time of disposal (or at present time for generated gases):

→ (1942 until mid-1960s)

- Solids (general refuse)
- Liquids (possibly waste oils, hydraulic fluid, paint, paint thinner and solvents).

3 CONTAINMENT [score = 3]

Method(s) of waste or leachate containment evaluated:

- The site was operated as an open disposal and burning area; open to run-off and leaching. Three abandoned above-ground tanks are in the site.

Method with highest score:

- Unsound surface impoundment; highly permeable underground.

4 WASTE CHARACTERISTICS

Toxicity and Persistence [score = 18]

Compound(s) evaluated:

- Because the burning operation was not a controlled process, the wastes may not have been completely destroyed.
- PCB (from hydraulic fluid)
- Mercury, copper, arsenic

Compound with highest score:

- Mercury, Arsenic.

Hazardous Waste Quantity [score = 2]

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (give a reasonable estimate even if quantity is above maximum):

- During 1942 to mid-1960s the following wastes were disposed at the site: general refuse, 60,000 tons; waste oils & fuels, 50,000 gallons; solvents, 40,000 gallons; waste paints, 1,000 gallons; waste thinners, 3,000 gallons.

Basis of estimating and/or computing waste quantity:

- At most, 1% of the disposed liquids was hazardous; which brings to an estimation of about 170 drums of hazardous waste was there disposed of during a 20 year period.

5 TARGETS

Groundwater Use [score = 0]

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

- No fresh water wells exist at Boca Chica (NAS Key West). The produced water from the well in the adjacent Key West island (which comes from the under the area aquifer) is not potable. It is used for commercial and recreational purposes.

Distance to Nearest Well [score = 0]

Location of nearest well drawing from aquifer of concern of occupied building not served by a public water supply:

- Key West well.

Distance to above well or building:

- About 9 miles

Population Served by Groundwater Wells within a 3-Mile Radius [score = 0]

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

- No population in Boca Chica is served by the well-water at Key West.

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and conversion to population (1.5 people per acre):

NA

Total population served by groundwater within a 3-mile radius:

NA

SURFACE WATER ROUTE

1 OBSERVED RELEASE [score = 0]

Contaminants detected in surface water at the facility or downhill from it (five maximum):

- No direct evidence of release of contaminants to surface water.

Rationale for attributing the contaminants to the facility:

- Contaminants were disposed of at this site.

2 ROUTE CHARACTERISTICS [score = 0]

Facility Slope and Intervening Terrain

Average slope of facility in percent:

- Less than 3% ; about flat.

Name or description of nearest downslope surface water:

- The south portion of the site is bordered by the Atlantic Ocean, while the east portion is adjacent to Geiger Creek. Its downslope is toward the sea water

Average slope of terrain between facility and above-cited surface water body in percent:

- Less than 3%.

Is the facility located either totally or partially in surface water?

- It is located a few feet above the sea level.

Is the facility completely surrounded by areas of higher elevation?

- No

1-Year 24-Hour Rainfall in Inches [score = 3]

- Approximately 4".

Distance to Nearest Downslope Surface Water [score = 6]

- Adjacent is the sea water

Physical State of Waste [score = 3]

- Liquids.

3 CONTAINMENT [score = 3]

Method(s) of waste or leachate containment evaluated:

- None. The site was an open disposal and burning area.

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence [score = 18]

Compound(s) evaluated:

- See Groundwater section.

Compound with highest score:

- Mercury

Hazardous Waste Quantity [score = 2]

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (give a reasonable estimate even if quantity is above maximum):

- ≃ 170 drums.

Basis of estimating and/or computing waste quantity:

During a 20 year period, estimated 1700 drums of waste liquids were disposed, and, at most, 1% was hazardous waste.

5 TARGETS

Surface Water Use [score = 6]

Use(s) of surface water within 3 miles downstream of the hazardous substance:

- Locally, the surface run off water from the site is not used; it goes to the sea, which is used for recreation.

Is there tidal influence?

- Yes.

Distance to a Sensitive Environment [score = 6]

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less: <1/2 mi

- In the immediate area are the Great White Heron Wildlife Refuge and the Key West National Wildlife Refuge. The surface waters within these areas are classified as Outstanding Florida Waters and are afforded the highest protection by the State.

Distance to 5-acre (minimum) freshwater wetland, if 1 mile or less:

- Adjacent.

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

- Within a mile.

Population Served by Surface Water [score = 0]

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

- No surface water is used.

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

NA

Total population served:

NA

Name or description of nearest of above water bodies:

NA

Distance to above-cited intakes, measured in stream miles:

NA

AIR ROUTE

1 OBSERVED RELEASE [score = 0]

Contaminants detected:

No information was found to indicate that any measurements of air contamination sufficient for HRS scoring purposes have been made.

Date and location of detection of contaminants:

NA

Methods used to detect the contaminants:

NA

Rationale for attributing the contaminants to the site:

NA

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

NA

Most incompatible pair of compounds:

NA

Toxicity

Most toxic compound:

NA

Hazardous Waste Quantity

Total quantity of hazardous waste:

NA

Basis of estimating and/or computing waste quantity:

NA

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0-4 mi 0-1 mi 0-1/2 mi 0-1/4 mi

NA

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

NA

Distance to 5-acre (minimum) freshwater wetland, if 1 mile or less:

NA

Distance to critical habitat of an endangered species, if 1 mile or less:

NA

Land Use

Distance to commercial/industrial area, if 1 mile or less:

NA

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

NA

Distance to residential area, if 2 miles or less:

NA

Distance to agricultural land in production within past 5 years, if 1 mile or less:

NA

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

NA

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

NA

FIRE AND EXPLOSION

1 CONTAINMENT [score = 1]

Hazardous substances present:

- No hazardous substances that could catch fire or explode are present in the site.
- A fire marshal has not certified that the site presents a significant threat.

Type of containment, if applicable:

NA

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

NA

Ignitability

Compound used:

NA

Reactivity

Most reactive compound:

NA

Incompatibility

Most incompatible pair of compounds:

NA

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

NA

Basis of estimating and/or computing waste quantity:

NA

3 TARGETS

Distance to Nearest Population

NA

Distance to Nearest Building

NA

Distance to Sensitive Environment

Distance to wetlands:

NA

Distance to critical habitat:

NA

Land Use

Distance to commercial/industrial area, if 1 mile or less:

NA

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

NA

Distance to residential area, if 2 miles or less:

NA

Distance to agricultural land in production within past 5 years, if 1 mile or less:

NA

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

NA

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

NA

Population within 2-Mile Radius

NA

Buildings within 2-Mile Radius

NA

DIRECT CONTACT

1 OBSERVED INCIDENT [score = 0]

Date, location, and pertinent details of incident:

- There is no information of any direct contact incidents.

2 ACCESSIBILITY [score = 3]

Describe type of barrier(s):

- Barriers do not surround the site.

3 CONTAINMENT [score = 15]

Type of containment, if applicable:

The site is an old open disposal and burning area. No containment exists there.

4 WASTE CHARACTERISTICS [score = 3]

Toxicity

Compounds evaluated:

- Primarily, mercury, arsenic.

Compound with highest score:

- Mercury, arsenic.

5 TARGETS

Population within 1-Mile Radius [score = 2]

- Less than 1000.

Distance to Critical Habitat of Endangered Species [score = 1]

- Less than 1 mile.