

APPLY TO DEEV

susser: Installation Restoration Program (IRP) Records Search George AFB

DEPARTMENT OF THE AIR FORCE

LANGLEY AIR FORCE BASE, VA 23665

See Distribution

TO:

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1 We provided your office with copies of the subject report on or about 26 Jan 82. This study used a site rating model developed in Jun 1981 to identify the potential for contamination resulting from past disposal practices. On 26-27 Jan 82, representatives of USAF OEHL, AFESC, several major commands, Engineering Science, and CH2M Hill met at our office to develop an improved rating system. The new rating model, Hazardous Assesment Rating Methodology (HARM), is now used for all Air Force IRP studies. To maintain consistency, AFESC had their on-call contractors review their phase I studies performed before the advent of HARM and provide two additional appendices. The new appendices address the background of the HARM system and evaluate each of the phase I sites using the Jan 82 rating methodology.

2. Enclosed are copies of the added appendices for the Installation Restoration Program (IRP) Records Search at George AFB. Request you attach these appendices to the phase I reports we provided you in Jan 82.

3. For AFRCE-WR: Request you distribute copies of the new appendices to the Regional Environmental Protection Agency, California Solid Waste Management Board and California regional Water Quality Control Board-Lahonton Region.

4. For DTIC: Request you integrate the enclosed appendices with the Installation Restoration Program Records Search for George AFB into the National Technical Information System (NTIS). The report and new appendices are approved for public release with unlimited distribution.

5. Our project officer for IRP is Mr. Burnet, A/V 432-4430.

FOR THE COMMANDER

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GEORGE C. WINDROW Actg Dir of Eng & Env Plng

l Atch Appendices

Readiness is our Profession

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INSTALLATION RESTORATION PROGRAM RECORDS SEARCH

HAZARD ASSESSMENT RATING METHODOLOGY FOR GEORGE AIR FORCE BASE, CALIFORNIA

Prepared for

Air Force Engineering and Services Center Directorate of Environmental Planning Tyndall Air Force Base, Florida 32403

Prepared by

CH2M HILL P.O. Box 1647 Gainesville, Florida 32602



June 1982 Contract No. F0863780 G0010 0015 •

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Appendix N NEW HAZARDOUS ASSESSMENT RATING METHODOLOGY

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USAF INSTALLATION RESTORATION PROGRAM HAZARD ASSESSMENT RATING METHODOLOGY

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BACKGROUND

The Department of Defense (DOD) has established a comprehensive program to identify, evaluate, and control problems associated with past disposal practices at DOD facilities. One of the actions required under this program is to:

"develop and maintain a priority listing of contaminated installations and facilities for remedial action based on potential hazard to public health, welfare, and environmental impacts." (Reference: DEQPPM 81-5, 11 December 1981).

Accordingly, the United States Air Force (USAF) has sought to establish a system to set priorities for taking further actions at sites based upon information gathered during the Records Search phase of its Installation Restoration Program (IRP).

The first site rating model was developed in June 1981 at a meeting with representatives from USAF Occupational Environmental Health Laboratory (OEHL), Air Force Engineering Services Center (AFESC), Engineering-Science (ES) and CH_2M Hill. The basis for this model was a system developed for EPA by JRB Associates of McLean, Virginia. The JRB model was modified to meet Air Force needs.

After using this model for 6 months at over 20 Air Force installations, certain inadequacies became apparent. Therefore, on January 26 and 27, 1982, representatives of USAF OEHL, AFESC, various major commands, Engineering Science, and CH_2M Hill met to address the inadequacies. The result of the meeting was a new site rating model designed to present a better picture of the hazards posed by sites at Air Force installations. The new rating model described in this presentation is referred to as the Hazard Assessment Rating Methodology.

PURPOSE

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The purpose of the site rating model is to provide a relative ranking of sites of suspected contamination from hazardous substances. This model will assist the Air Force in setting priorities for follow-on site investigations and confirmation work under Phase II of IRP.

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This rating system is used only after it has been determined that (1) potential for contamination exists (hazardous wastes present in sufficient quantity), and (2) potential for migration exists. A site can be deleted from consideration for rating on either basis.

DESCRIPTION OF MODEL

Like the other hazardous waste site ranking models, the U.S. Air Force's site rating model uses a scoring system to rank sites for priority attention. However, in developing this model, the designers incorporated some special features to meet specific DOD program needs.

The model uses data readily obtained during the Record Search portion (Phase I) of the IRP. Scoring judgments and computations are easily made. In assessing the hazards at a given site, the model develops a score based on the most likely routes of contamination and the worst hazards at the site. Sites are given low scores only if there are clearly no hazards at the site. This approach meshes well with the policy for evaluating and setting restrictions on excess DOD properties.

Site scores are developed using the appropriate ranking factors according to the method presented in the flow chart (Figure 1). The site rating form is provided in Figure 2 and the rating factor guidelines are provided in Table 1.

As with the previous model, this model considers four aspects of the hazard posed by a specific site: the possible receptors of the contamination the waste and its characteristics, potential pathways for waste contaminant migration, and any efforts to contain the contaminants. Each of these categories contains a number of rating factors that are used in the overall hazard rating.

The receptors category rating is calculated by scoring each factor, multiplying by a factor weighting constant and adding the weighted scores to obtain a total category score. The pathways category rating is based on evidence of contaminant migration or an evaluation of the highest potential (worst case) for contaminant migration along one of three pathways. If evidence of contaminant migration exists, the category is given a subscore of 80 to 100 points. For indirect evidence, 80 points are assigned and for direct evidence 100 points are assigned. If no evidence is found, the highest score among three possible routes is used. These routes are surface water migration, flooding, and ground-water migration. Evaluation of each route involves factors associated with the particular migration route. The three pathways are evaluated and the highest score among all four of the potential scores is used.

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The waste characteristics category is scored in three steps. First, a point rating is assigned based on an assessment of the waste quantity and the hazard (worst case) associated with the site. The level of confidence in the information is also factored into the assessment. Next, the score is multiplied by a waste persistence factor, which acts to reduce the score if the waste is not very persistent. Finally, the score is further modified by the physical state of the waste. Liquid wastes receive the maximum score, while scores for sludges and solids are reduced.

The scores for each of the three categories are then added together and normalized to a maximum possible score of 100. Then the waste management practice category is scored. Sites at which there is no containment are not reduced in score. Scores for sites with limited containment can be reduced by 5 percent. If a site is contained and well managed, its score can be reduced by 90 percent. The final site score is calculated by applying the waste managment practices category factor to the sum of the scores for the other three categories.

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FIGURE 2

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HAZARDOUS ASSESSMENT RATING FORM

Page 1 of 2

NAME OF SITE		•	-
LOCATION			
DATE OF OPERATION OR OCCURRENCE		and a state of the	
OWNER/OPERATOR	http://www.addwalananadi		
CUMPENTS/DESCRIPTION			
SITE RATED BY			

L RECEPTORS

Rating Pactor	Pactor Rating (0-3)	Multiplier	Factor	Maximum Possible Score
A. Population within 1,000 feet of site		4		
B. Distance to nearest well		10		·····
C. Land use/zoning within 1 mile radius		3		
D. Distance to reservation boundary		6		
E. Critical environments within 1 mile radius of site		10		· · · · · · · · · · · · · · · · · · ·
P. Water quality of nearest surface water body	مربع معرفين مربع المحمد الم	6		
G. Ground water use of uppermost aquifer		9		1 mma 197 m .
E. Population served by surface water supply within 3 miles downstream of site -		6		
I. Population served by ground-water supply within 3 miles of site		6		

Subtotals

Receptors subscore (100 % factor score subtotal/maximum score subtotal)

IL WASTE CHARACTERISTICS

- A. Select the factor score based on the estimated quantity, the degree of hazard, and the confidence level of the information.
 - 1. Waste quantity (S = small, M = medium, L = large)
 - 2. Confidence level (C = confirmed, S = suspected)
 - 3. Hazard rating (H = high, M = medium, L = low)

Factor Subscore & (from 20 to 100 based on factor score matrix)

. X _

x

B. Apply persistence factor Pactor Subscore & X Persistence Pactor = Subscore B

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C. Apply physical state multiplier

Subscore B X Physical State Multiplier - Waste Characteristics Subscore

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	· · · · · · · · · · · · · · · · · · ·	Factor Rating		Factor	Maximum Possible
Rat	ting Pactor	(0-3)	Multiplier	Score	Score
I: d: e	f there is evidence of migration of hazardous con irect evidence or 80 points for indirect evidence vidence or indirect evidence exists, proceed to 8	taminants, assig . If direct evi	n maximum fad dence exists	tor subscore then proceed	of 100 points to C. If no
				Subscore	
2. 22.	ate the migration potential for 3 potential pathw igration. Select the highest rating, and proceed	ays: Surface wa to C.	ter migration	n, flooding, a	and ground-wat
1.	. Surface water migration			_	
	Distance to mearest surface water		8		
	Net precipitation		6		
	Surface erosion		8		
	Surface permeability		6	1444 · · · · · · · · · · · · · · · · · ·	
	Rainfall intensity		8		
			Subtota	Ls	
	Subscore (100 % facto	r score subtotal	/nextmum sco	re subtotal)	
2	. Flooding	1	1		1
-			artor score/	a) ·	an an nag argan ar <u>a</u> r an an an ar an
•					
3		· ·		I	
	Depth to ground water		8		
	Net precipitation				
	Soil permeability		8		
	Subsurface flows		8		
	Direct access to ground water		8		
			Subtota	Ls	
	Subscore (100 x facto	x score subtotal	/maximum sco	re subtotal)	
Ħ	ighest pathway subscore.				
Ē	hter the highest subscore value from A, B-1, B-2	or B-3 above.			
			Pathw	ays Subscore	
,	WASTE MANAGEMENT PRACTICES				
•	·····		and mathematic		
X	verage the three subscores for fedeptors, waste o	naracteristics,	an becuasia	•	
	Rec. Wax Pat	eptors ste Characteristi shways	.C5		
	101	.al	divided by 3	• Gre	osa Total Scor

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TABLE 1

HAZARDOUS ASSESSMENT RATING METHODOLOGY GUIDELINES

÷	RECEPTORS CATEGORY					
			Rating Bcale Lev	ele		
	Rating Pactors	-		7	5	1311dister
×.	Population within 1,000 feet {includes on-base facilities}	•	1 - 25	26 - 100	Greater than 100	-
ē.	Distance to nearest water well	Greater than 3 milea	l to 3 miles	3,001 feet to 1 mile	0 to 3,000 feet	10
ບໍ	Distance to installation boundary	Greater than 2 miles	l to 2 miles	1,001 feat to 1 mile	0 to 1,000 feet	ſ
.	Land Use/Zoning (within 1 mile radius)	Completely remote (zoning not applicabl	Agricultural e)	Commercial or industrial	Recidential	ę
2	Critical environments (within 1 mile radius)	Not a critical environment	Matural areas	Pristine natural areas; minor wet- lands; preserved areas; presence of economically impor- tant natural re- sources susceptible to contamination.	Major habitat of an en- dangered or threatened species; presence of recharge area; major wetlanda.	2
2	Water guality/use designation of nearest surface water body	Agricultural or industrial use.	Becreation, propa- gation and manage- ment of fish and uildlife.	Bhellflah propaga- tion and harveating.	Potable water supplies	S.
Ċ.	Ground-Water use of uppermost aguiter	Not used, other Bources readily available.	Commercial, in- dustrial, or irrigation, very liaited other water sources.	Drinking water, municipal water available,	Drinking water, no muni- cipal water available, commercial, industrial, or irrigation, no other water source available.	с ,
÷	Population served by surface vater supplies within 3 miles down- stream of site	0	1 50	1 - 1,000	Greater than 1,000	ъ.
Ι.	. Population served by aquifer supplies within 1 miles of site	8	1 - 50	51 - 1,000	Greater than 1, 000	e

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								verbal on from	e types and enerated at the e disposal stes wure				se thàn	- 7 0 K -	rating.			
		(p,				•	e level	or coaflicting ittan informati	kmowledge of th ardoun waaten g ry of paat waat e that these wa site.			Ber's Level 3	Flach point le 80°F	Over 5 times b ground levels	ine the bazard			
		GUIDELINES (Cont					# Bumpected confidence	o No verbal reporta reports and no vr the records.	o Logic based on a quantities of bar base, and a bisto practices indicat disposed of at a	2	4	Bax's Level 2	Flash point at 60°F to 140°F	3 to 5 times back- ground levels	lioactivity and determ			
	LE 1 (Continued)	TING METHODOLOGY			l) Jrums of liquid) (d)		be low) B	l) or written	a generated types and		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Bax's Level 1	Flash point at 140'F to 200'F	l to 3 times back- ground levels	iy, ignitability and rad	Pointa	- N -	
	TAB	US ASSESSMENT RA		•	or 20 drums of liquid 20 tons or 21 to 85 d as or 85 drums of liqui	at lon	ivel (minimum criteria	interviewer (at least records.	wd quantities of wasta cass on base. determination of the lisposed of at the ait		0	Bax's Level 0	Flach point greater than 200°F	At or below background levels	rating based on toxici	Hazard Rating	lligh (H) Medium (M) Low (L)	
		BAZARD	II. MASTE CIARACTERISTICS	A-) Hazerdoue Waete Quantity	8 = Email quantity (5 ton H = Hoderate quantity (5 to L = Large quantity (20 tor	A-2 Confidence Level of Inform	C = Confirmed confidence lo	o Varhal reporta from information from the	o Knowledge of types a by shops and other a o Baaed on the above, i quantities of waste (A-3 kasard Rating	Hazard Category	Toxicity	Ignitability	Radioactivity	Use the highest individual a			

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HAZARDOUS ASSESSMENT RATING METHODOLOGY GUIDELINES (Cont'd)

II. MASTE CHARACTERISTICE (Continued)

Maste Characteristics Matrix

	-																	
llasard Rating	2	Ŧ	3	±	=	I	x	2	2	X	H	I	-	J	_	נו	I.	L
Canfidence Level of Information	o	IJ	U	68	ບ	IJ	8	C	8	υ	8	a	U	Ø	5	8	97	8
Hazardoun Wante Quantity	L		2	J	53	I	7	Ŀ	X	9	63	1	x	ч	8	Ŧ	9	Ð
Point Rating	100	90		70	60		50				9				8			20

Botes

For a site with more than one harardous waste, the waste quantities may be added using the following rules: Confidence Level

o Confirmed confidence levels (C) can be added o Buspected confidence levels (S) can be added

o Confirmed confidence levels cannot be added with

suspected confidence levels

Maste Hazard Rating

o Wastes with the same hazard tating can be added

o Wastes with different hasard retings can only be added in a downgrade mode, e.g., NCM + BCB = LCM if the total quantity is greater than 20 tons.

LCM (60 points). In this case, the correct point rating for the waste is 80. Example: Beveral wastes may be present at a site, each having an MCM designation (60 points). By adding the quantities of each waste, the designation may change to

B. Pergistence Multiplier for Point Rating

Perelatence Criteria	From Part A by the Pollowi
Metals, polycyclic compounds, and halogenated hydrocarbons	0.1
Bubstituted and other ring	0.9
compounds Straight chain hydrocarbons	0.8
Easily blodegradable compounds	•••
cal State Multiplier	

Multiply Point Bating

C. Phyal

Parts A and B by the Following Multiply Point Total Prom

Physical State Liquid Bludge Bolid

1.0 0.75 0.50

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TABLE 1 (Continued)

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HAZARDOUS ASSESSMENT RATING METHODOLOGY GUIDELINES (Cont'd)

III. PATHWAYS CATEGORY

A. Evidence of Contamination

Direct evidence is obtained from laboratory analyses of hazardous contaminants present above matural background levels in surface water, ground water, or air. Evidence should confirm that the source of contamination is the site being evaluated. Indirect evidence might be from visual observation (i.e., leachate), vegetation stroms, sludge deposits, presence of taste and odors in drinking water, or reported discharges that cannot be directly confirmed as resulting from the site, but the site is greatly suspected of being a source of contastination.

B-1 POTENTIAL FOR BURPACE WATER CONTAMINATION

Rating Factor	0	Rating Boale Lev	991a - 2	•	aul tiplier
Diatance to marest murface veter (includes drainage ditches and atorm severs)	Greator than 1 mile	, 2,001 feet to] mile	50] faat to 2,000 faat	0 to 500 feet	8
Net precipitation	Less than -10 in.	-10 to + 5 Ån.	45 to 420 in.	Groator than +20 in.	Q
Burface erosion	None	Blight	Moderate	Bayar e	a
Burface permeability	01 to_151 clay (>10 a_300)	10 to 10 alay (10 to 10 cm/and)	301 to 5071 alay (10 to 10 cm/sea)	Greater than 50% olay (< 10 cm/sect)	J.
Rainfall intensity based on 1 year 24-hr rainfall	<1.0 inch	1.0-2.0 inches	2.1-3.0 inches	>3.0 ţpches	a
B-2 POTENTIAL POR PLOODING					
Floodplain	Beyand 100-year floadplain	In 25-y aa r flood- plain	In 10-y aa r flood- plain	Ploods annually	-
- POTENTIAL ROR CHORND-WATE	B CONTAMINATION				
Depth to ground water	Greater than 500 ft	50 to 500 feet	11 to 50 feet	0 to 10 feet	ø
Net precipitation	Lees than -10 in.	-10 to +5 in.	+5 to +20 in.	Greater than +20 in.	ę
Boil permeability	Greater than 501 clay (>10 ⁻¹ cm/sec)	<u>30</u> % to 50% clay (10 to 10 cm/sec)	151 to 301 alay (10 to 10 cm/sec)	06 to_156 clay (<10 ² om/sec)	a
Subsurface flows	Bottom of site great- er than 5 feet above high ground-water level	Bottom of site cocasionally submerged	Bottom of site frequently sub- merged	Bottom of site lo- cated below mean ground-water level	8
Direct access to ground water (through faults, fractures, faulty well casings, eubsidence flasure	No evidence of tiak	Low rlak	Moderato risk	Bigh riek	8

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TABLE 1 (Continued)

HAZARDOUS ASSESSMENT RATING METHODOLOGY GUIDELINES (Cont'd)

IV. WASTE WANAGEMENT PRACTICES CATEGORY

This category adjusts the total risk as determined from the receptors, pathways, and waste characteristics categories for waste management practices and engineering controls designed to reduce this risk. The total risk is determined by first averaging the receptors, pathways, and waste characteristics subscores. ż

MASTE MANAGEMENT PRACTICES PACTOR å

The following multipliers are then applied to the total risk points (from A):

Waste Management Pract	tice Multiplier
No containment Limited containment Pully containment	1.0 0.95
full compliance	0.10
Guidelines for fully contained.	
Landfille.	Sur face Tepoundaents:
o Clay cap or other importmosphe cover	o Liners in good condition
o Leachate collection system	o Bound dikes and adequate freeboard
o Linera in good condition	o Adequate monitoring wells
o Adequate monitoring wells	
<u>Bpills</u> ı	Fire Proection Training Areas
o Quick apill cleanup action taken	o Concrete, surface and berms
o Contaminated soil removed	o Oil/water separator for pratreatment of rumoff
o Soil and/or water namplep confirm total cleanup of the spill	o Effluent from oil/water separator to treatment plant

General Note: If data are not available or known to be complete the factor ratings under items I-A through I, III-B-1 or III-B-3, then leave blank for calculation of factor score and maximum possible score.

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Appendix 0

Appendix O NEW SITE RATING FORMS

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Table 1 SUMMARY OF RESULTS OF SITE ASSESSMENTS

(Sum of Subscores/3) Overall Score 48 39 39 33 34 63 38 34 44 38 34 42 44 44 44 46 37 44 44 43 42 41 41 (% of Maximum Possible Score in Each Category) Waste Characteristics 40 50 60 60 54 Subscores Pathways 28 28 28 28 Receptors 50 44 44 47 44 48 48 48 41 49 49 42 46 44 49 63 52 44 49 49 44 44 44 44 41 Industrial Outfall and Pipeline Fire Department Training Area Pesticide and Paint Burial Radioactive Disposal Site Street Sweepings Disposal Abandoned Fire Department Site Description Pesticide and Oil Burial Tip Tank Drainage Area WWTP Percolation Ponds Original Base Landfill Miscellaneous Burial Sludge Drying Beds Munitions Disposal TEL Disposal Site Paint Drum Burial Fuel/Oil Disposal POL Leach Field Training Area POL Leach Field Acid/Oil Burial Base Landfill Base Landfill French Drain French Drain Golf Course Landfill B-10 S-20 S-22 S-23 Site L-12 L-13 S-12 S-21 S-25 L-11 B-9 L-3 B-2 B-8 S-1 **P**S S-5 S-6 S-7 **с-1** C-6 M-2 5 L-2 S-4 No.

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: M-2, Munitions Disposal LOCATION: Ceorge AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Munitions residue POL SITE RATED BY: Michael Kemp

I. RECEPTORS

	Rating Factor	Factor Rating <u>(0-3)</u>	Multiplier	Factor Score	Maximum Possible <u>Score</u>
Α.	Population within 1,000 feet of site	1	4	4	12
8.	Distance to nearest well	1	10	10	30
с.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
c.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
1.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	80	180
	Receptors subscore (100 × factor score subtotal/max1	num subtota	1)		
п.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M = medium, L = large)			S
	2. Confidence level (C = confirmed, S = suspected)				С
	3. Hazard rating (H = high, M = medium, L = low)				M ·
	Factor Subscore A (from 20 to 100 based on factor sci	ore matrix)			50
в.	Apply persistence factor Factor Subscore A x Persistence Factor ⇒ Subscore B				
	50 × 1.0 = 50				
c.	Apply physical state multiplier				
	Subscore B x Physical State Multiplier = Waste Charac	cteristics	Subscore		
	$50 \times 1.0 = 50$				

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Page 2 of 2

III. PATHWAYS

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	Rating Factor	Factor Rating (0~3)	<u>Multiplier</u>	Factor Score	Maximum Possible Score
Α.	If there is evidence of migration of hazardous co 100 points for direct evidence or 80 points for t then proceed to C. If no evidence or indirect ev	ontaminants, as: Indirect eviden vidence exists,	sign maximum fac ce. if direct of proceed to B.	ctor subsco avidence ex	re of ists
			Su	ubscore	0
8.	Rate the migration potential for three potential and ground-water migration. Select the highest (pathways: suri	face-water migra	stion, floo	ding,
	1. Surface-water migration				
	Distance to nearest surface water	0	.8	0	24
	Net precipitation	0	6	. 0	18
	Surface erosion	2	8	16	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	22	108
	Subscore (100 x factor score subtotal/maximum sco	ore subtotal)			20
	2. Flooding	0	1	0	100
		Subscore	(100 × factor :	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	. 8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	· 1	8	8	24
			Subtotals	32	114
	Subscore (100 × factor score subtotal/maximum sco	ore subtotal)			28
c.	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B-2	, or B-3 above.	•		
			Pathways Subs	зсоге	
IV.	WASTE MANAGEMENT PRACTICES				
Α.	Average the three subscores for recentors, waste	characteristics	s, and nathways,		
			Recentors	•	44
			Waste Charact Pathways Total 122 div	eristics	50 28 41
8.	Apply factor for waste containment from waste man	agement practic	085	Gro	oss lotal Scol
	Gross Total Score x Waste Management Practices Fa	ctor = Final Sc	ore		
			41 × 1.0 =		_41
					—

L-1, Base Landfill NAME OF SITE: George AFB, California LOCATION: DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Industrial, domestic SITE RATED BY: Michael Kemp

RECEPTORS 1.

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible <u>Score</u>
Α.	Population within 1,000 feet of site	1	4	4	12
в.	Distance to nearest well	2	10	20	30
с.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	· 0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
۱.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	90	180
	Receptors subscore (100 x factor score subtotal/maxim	num subtota	1)		50
11.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M = medium, L = large)			м
	<pre>2. Confidence level (C = confirmed, S = suspected)</pre>				C
	 Hazard rating (H = high, M = medium, L = low) 				M
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			60
8.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B				
	$60 \times 1.0 = 60$				
с.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Charac	teristics :	Subscore		

60 × 1.0 = <u>60</u>

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III. PATHWAYS

R	Rating Factor	Factor Rating (0-3)	<u>Multiplier</u>	Factor Score	Maximum Possible Score
۱.	if there is evidence of migration of hazardous 100 points for direct evidence or 80 points fo then proceed to C. If no evidence or indirect	contaminants, ass r indirect evidenc evidence exists,	sign maximum fac e. If direct e proceed to B.	ctor subscore avidence exis	of ts
			Su	ibscore	0
	Rate the migration potential for three potential and ground-water migration. Select the highes	al pathways: suri t rating, and proc	ace-water migra	ation, floodi	ng,
	1. Surface-water migration				
	Distance to nearest surface water	0	8	0	24
	Net precipitation	0	6	0	18
	Surface erosion	2	8	16	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	.22	108
	Subscore (100 x factor score subtotal/maximum	score subtotal)			20
	2. Flooding	0	۲	0	100
	· · ·	Subscore	(100 × factor s	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8.	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum s	score subtotal)			28
•	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, I	B-2, or B-3 above.			
			Pathways Subs	score	
v.	WASTE MANAGEMENT PRACTICES				
•	Average the three subscores for receptors, was	te characteristic:	s, and pathways.		
			Receptors Waste Charact Pathways Total 138 div	ceristics	50 60 28 46
				Gros	5 10781 3
•	Apply factor for waste containment from waste i	management practic	:05		
	uross lotal score x waste Management Practices	ractor = Final Sc	ore		
			46 x 1.0 ≖		<u>_46</u>

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HAZARDOUS ASSESSMENT RATING FORM

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NAME OF SITE: L-2, TEL Disposal Site LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Leaded fuel sludge SITE RATED BY: Michael Kemp

I. RECEPTORS

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	. Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Α.	Population within 1,000 feet of site	1	4	4	12
8.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9.	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
۱.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	80	180
	Receptors subscore (100 x factor score subtotal/maxim	num subtota	1)		44
A.	WASTE CHARACTERISTICS Select the factor score based on the estimated quanti level of the information.	ty, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M ⇒ medium, L ⇒ large))			м
	 Confidence level (C = confirmed, S = suspected) 				с
	3. Hazard rating (H = high, M = medium, L = low) .				н·
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			80
Β.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$80 \times 1.0 = 80$				
c.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Charac	teristics S	Subscore		
	$80 \times .75 = 60$				

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					Page 2 of 2
	PATHWAYS				•
	Rating Factor	Factor Rating (0-3)	Multiplier	Factor	Maximum Possible Score
٩.	If there is evidence of migration of hazardous of 100 points for direct evidence or 80 points for then proceed to C.	indirect evidence	sign maximum fac ce. If direct of proceed to B	ctor subsco evidence ex	re of ists
			Si Si	ubscore	0
8.	Rate the migration potential for three potential and ground-water migration. Select the highest	pathways: sur rating, and pro	fac o-w ater migra ceed to C.	ation, floo	ding,
	1. Surface-water migration			-	
	Distance to nearest surface water	0	8	O	24
	Net precipitation	0	6	٥	18
	Surface erosion	1	8	8	24
	Surface permeability	1	6	6	18
	Rainfall intensity	O	8	0	24
			Subtotals	14	108
	Subscore (100 x factor score subtotal/maximum sc	core subtotal)			13
	2. Flooding	0	1	٥	100
		Subscore	(100 x factor	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	. 8	24
	Net precipitation	O	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum so	ore subtotal)			28
•	Highest pathway subscore				• •
	Enter the highest subscore value from A, 8-1, 8-	2, or 8-3 above	•		
			Pathways Sub	SCOFO	
٧.	WASTE MANAGEMENT PRACTICES				
•	Average the three subscores for receptors, waste	characteristic:	s, and pathways	•	
			Receptors Waste Charac Pathways Total 132 div	teristics vided by 3 a Gre	44 60 28 ≠ 44 055 Total Sco
	Apply factor for waste containment from waste ma	nagement practi	Ces		
3.		-			
	Gross Total Score x Waste Management Practices F	actor = Final Se	ore		

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NAME OF SITE: L-3, Radioactive Disposal Site LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Possible toxics SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Rating (0-3)	Multipiler	Factor Score	Possible Score
Α.	Population within 1,000 feet of site	1	4	4	12
в.	Distance to nearest well	1	10	10	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	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
c.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	o	6	0	18
1.	Population served by ground-water supply within 3 miles of site	3 ΄	6	18	18
			Subtotals	80	1 80
11.	Receptors subscore (100 × factor score subtotal/maxin WASTE CHARACTERISTICS	num subtota	1)		<u>44</u>
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	 Waste quantity (S = small, M = medium, L = large))			S
	<pre>2. Confidence level (C = confirmed, S = suspected)</pre>				C
	 Hazard rating (H = high, H = medium, L = low) 				H ·
	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			60
8.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$60 \times 1.0 = 60$				
c.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Charac	teristics S	Subscore		
	60 x 1.0 = <u>60</u>				

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111. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	<u>Multiplier</u>	Factor Score	Maximum Possibl Score
	if there is evidence of migration of hazardous 100 points for direct evidence or 80 points fo then proceed to C. If no evidence or indirect	contaminants, as: r indirect evidence evidence exists,	sign maximum fac ce. If direct of proceed to B.	ctor subsco evidence exi	re of ists
		-	S	ubscore	0.
•	Rate the migration potential for three potenti and ground-water migration. Select the highes	al pathways: sur t rating, and pro	face-water migra ceed to C.	ation, flood	ding,
	1. Surface-water migration				
	Distance to nearest surface water	0	8	0	24
	Net precipitation	0	6	0	18
	Surface erosion	1	8	8	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	14	108
	Subscore (100 x factor score subtotal/maximum	score subtotal)			13
	2. Flooding	0	1	0	100
		Subscore	(100 × factor :	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	8	24
	Net precipitation	0.	. 6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum :	score subtotal)			28
	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, I	B-2, or B-3 above.			
			Pathways Subs	score	28
	WASTE MANAGEMENT PRACTICES				
•	Average the three subscores for recentors, was	te characteristic	s. and nathways.		
			Receptors Waste Charact Pathways Total 132 div	eristics vided by 3 = Gro	44 60 28 44 55 Total S
	Apply factor for waste containment from waste m	management practic	:6 s		
	Gross Total Score x Waste Management Practices	Factor = Final Sc	ore		
			$44 \times 1.0 =$		44

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NAME OF SITE: L-11, Street Sweepings Disposal LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Possible industrial domestic SITE RATED BY: Michael Kemp

I. RECEPTORS

	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Α.	Population within 1,000 feet of site	2	4	8	12
в.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18 -
۱.	Population served by ground-water supply within 3 miles of site	3 ,	6	18	18
			Subtotals	84	180
	Receptors subscore (100 x factor score subtotal/maxim	n um su btota	1)		47
н.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quanti- level of the information.	ity, the de	gree of hazard,	and the co	fidence
					ni luence
	1. Waste quantity (S = small, M = medium, L = large)			M
	 Waste quantity (S = small, M = medium, L = large Confidence level (C = confirmed, S = suspected))			M
	 Waste quantity (S = small, M = medium, L = large Confidence level (C = confirmed, S = suspected) Hazard rating (H = high, M = medium, L = low))			M S M
	 Waste quantity (S = small, M = medium, L = large) Confidence level (C = confirmed, S = suspected) Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score)) pre matrix}			M S M . 40
B.	 Waste quantity (S = small, M = medium, L = large) Confidence level (C = confirmed, S = suspected) Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score) Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B) pre matrix}			M S M 40
в.	 Waste quantity (S = small, M = medium, L = large) Confidence level (C = confirmed, S = suspected) Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score) Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 x 1.0 = 40) ore matrix}			M S M. 40
B. C.	 Waste quantity (S = small, M = medium, L = large) Confidence level (C = confirmed, S = suspected) Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score) Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 x 1.0 = 40 Apply physical state multiplier) ore matrix)			M S M 40
B. C.	 Waste quantity (S = small, M = medium, L = large Confidence level (C = confirmed, S = suspected) Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score) Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 x 1.0 = 40 Apply physical state multiplier Subscore B × Physical State Multiplier = Waste Charace) ore matrix}	Subscore		M S M 40

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III. PATHWAYS

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_	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possibl Score
•	If there is evidence of migration of hazardous co 100 points for direct evidence or 80 points for i then proceed to C. If no evidence or indirect ev	ntaminants, as ndirect eviden idence exists,	sign maximum fac ce. If direct e proceed to B.	ctor subsco evidence ex	re of ists
			Su	ubscore	· 0
•	Rate the migration potential for three potential and ground-water migration. Select the highest r	pathways: sur ating, and pro	face-water migra ceed to C.	stion, floo	ding,
	1. Surface-water migration	·			
	Distance to nearest surface water	1	8	8	24
	Net precipitation	0	6	0	18
	Surface erosion	2	8	16	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	30	108
	Subscore (100 × factor score subtotal/maximum sco	re subtotal)			28
	2. Flooding	0	1	0	100
		Subscore	(100 × factor s	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	. 8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum sco	re subtotal)			28
•	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B-2	, or B-3 above	•		
			Pathways Subs	core	
/.	WASTE MANAGEMENT PRACTICES				
	Average the three subscores for receptors, waste	characteristic	s, and pathways.		
			Receptors Waste Charact Pathways Total 115 div	eristics rided by 3 = Gro	47 40 28 38 555 Total
	Apply factor for waste containment from waste man	agement practi	C0 5		
	Gross Total Score × Waste Management Practices Fac	ctor = Final S	core		
			38 x 1.0 =		38

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: L-12, Original Base Landfill LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Industrial, domestic SITE RATED BY: Michael Kemp

I. RECEPTORS

. <u> </u>	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible <u>Score</u>
Α.	Population within 1,000 feet of site	1	4	4	12
8.	Distance to nearest well	1	10	10	30
с.	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	0	10	0	30
F.	Water quality of nearest surface-water body	D	6	0	18
C.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
1.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	80	180
11.	Receptors subscore (100 x factor score subtotal/maxie WASTE CHARACTERISTICS	num subtota	1)		<u>_44</u>
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M = medium, L = large)			м
	 Confidence level (C = confirmed, S = suspected) 				S
	 Hazard rating (H ≈ high, M ≈ medium, L = low) 				M -
	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			40
Β.	Apply persistence factor Factor Subscore A × Persistence Factor ⊏ Subscore B				
	$40 \times 1.0 = 40$				
с.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Charac	cteristics S	Subscore		

40 × 1.0 = <u>40</u>

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111. PATHWAYS

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 A. If there is evidence of migration of hazardous contaminants, assign maximum factor subtion proceed to C. If no evidence or indirect evidence exists, proceed to B. Subscore B. Rate the migration potential for three potential pathways: surface-water migration, fl and ground-water migration. Solect the highest rating, and proceed to C. 1. Surface-water migration Distance to nearest surface water 1 8 8 Net precipitation 0 8 0 Subtotals 14 6 6 Rainfall intensity 0 8 0 Subscore (100 x factor score subtotal/maximum score subtotal) 2. Flooding 0 1 0 6 0 Surface flows 0 8 0 Subsurface flows 0 8 0 Subscore (100 x factor score subtotal/maximum score subtotal) 2. Flooding 0 8 0 0 8 0 0 8 0 0 1 0 Subscore (100 x factor score subtotal/maximum score subtotal) 2. Flooding 0 8 0 0 8 0 0 8 0 0 1 0 0 6 0 0 1 0 0 8 0 0 1 0 1. Subscore (100 x factor score subtotal/maximum score subtotal) 2. Flooding 0 8 0 0 1 0 0 6 0 0 1 0 0 8 0 <li< th=""><th>Maximum Possible Score</th><th>Factor Score</th><th>ctor ting -3) <u>Multiplior</u></th><th>Factor Rating (0-3)</th><th>Rating Factor</th><th></th></li<>	Maximum Possible Score	Factor Score	ctor ting -3) <u>Multiplior</u>	Factor Rating (0-3)	Rating Factor	
Subscore B. Rate the migration potential for three potential pathways: surface-water migration, f) and ground-water migration. Distance to nearest surface water 1 Surface oresion 1 Surface oresion 1 Surface oresion 1 Surface permeability 1 Subscore (100 x factor score subtotal/maximum score subtotal) 2. Flooding 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Water access to ground water 1 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, maste characteristics, and pathways. Receptors Maste Characteristics Nater Characteristi	exists	ctor subscor evidence exi	ts, assign maximum f evidence. If direct xists, proceed to B.	contaminants, as indirect eviden evidence exists,	If there is evidence of migration of hazardous 100 points for direct evidence or 80 points fo then proceed to C. If no evidence or indirect	. f 10 th
 B. Rate the migration potential for three potential pathways: surface-water migration, fi and ground-water migration. Select the highest rating, and proceed to C. 1. Surface-water migration Distance to nearest surface water 1 8 8 Net precipitation 0 6 0 Surface erosion 0 8 0 Surface permeability 1 6 6 6 Rainfall intensity 0 8 0 Subtotals 14 Subscore (100 x factor score subtotal/maximum score subtotal) 2. Flooding 0 9 0 1 0 1 0 Subscore (100 x factor score subtotal/maximum score subtotal) 3. Ground-water migration Depth to ground water 1 8 Net precipitation 0 9 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1		ubscore				
 Surface-water migration Distance to nearest surface water I B Net precipitation G Surface erosion Surface permeability G Reinfall intensity G Subtotals Subscore (100 x factor score subtotal/meximum score subtotal) Flooding Ground-water migration Ground-water migration Ground water B Subscore (100 x factor score subtotal/meximum score subtotal) Ground-water migration Ground water B Net precipitation G Subsurface flows B Subscore (100 x factor score subtotal/maximum score subtotal) Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. V. WASTE MANAGEMENT PRACTICES Average the three subscores for receptors, maste characteristics, and pathways. Receptors Maste Characteristics Pathways Total 111 divided by 	ooding,	ation, flood	: surface-water mig nd proceed to C.	l pathways: sur rating, and pro	Rate the migration potential for three potenti and ground-water migration. Select the highes	. Ra an
Distance to nearest surface water188Net precipitation060Surface erosion080Surface permeability166Rainfall intensity080Subscore (100 x factor score subtotal/maximum score subtotal)102. Flooding010Subscore (100 x factor score subtotal/maximum score subtotal)3.012. Flooding010Subscore (100 x factor score subtotal/maximum score subtotal)3.06Subscore (100 x factor score subtotal/maximum score subtotal)8003. Cround-water migration0600Depth to ground water1880Subsurface flows0800Direct access to ground water188Subscore (100 x factor score subtotal/maximum score subtotal)32Subscore (100 x factor score subtotal/maximum score subtotal)1Subscore (100 x factor score subtotal/maximum score subtotal)32Subscore (100 x fac					1. Surface-water migration	1.
Net precipitation060Surface erosion080Surface permeability166Rainfall intensity080Subscore (100 x factor score subtotal/meximum score subtotal)14Subscore (100 x factor score subtotal/meximum score subtotal)102. Flooding010Subscore (100 x factor score subtotal/meximum score subtotal)103. Ground-water migration060Depth to ground water188Net precipitation060Soil permeability2816Subscore (100 x factor score subtotal/meximum score subtotal)32Subscore (100 x factor score subtotal/meximum score subtotal)4VWASTE MANACEMENT PRACTICESPathways SubscoreA verage the three subscores for receptors, waste characteristics, and pathways. Total 111 divided by Total 111 divided by	24	8	1 8	1	Distance to nearest surface water	
Surface erosion080Surface permeability166Rainfall intensity080Subscore (100 x factor score subtotal/maximum score subtotal)14Subscore (100 x factor score subtotal/maximum score subtotal)102. Flooding010Subscore (100 x factor score subtotal/maximum score subtotal)103. Ground-water migration060Depth to ground water188Net precipitation060Soil permeability2816Subscore (100 x factor score subtotal/maximum score subtotal)32Subscore (100 x factor score subtotal/maximum score subtotal)32WASTE MANAGEMENT PRACTICESPathways SubscoreV. WASTE MANAGEMENT PRACTICESKeceptorsV. WASTE MANAGEMENT PRACTICESWaste Characteristics, and pathways. Waste Characteristics Pathways Total 111 divided by Total 111 divided by	18	0	0 6	٥	Net precipitation	
Surface permeability 1 6 6 Rainfall intensity 0 8 0 Subscore (100 x factor score subtotal/maximum score subtotal) 14 Subscore (100 x factor score subtotal/maximum score subtotal) 1 0 2. Flooding 0 1 0 Subscore (100 x factor score/3) 3. Ground-water migration 0 6 0 Depth to ground water 1 8 8 8 8 0 0 1 0	24	0	0 8	O	Surface erosion	
Reinfall intensity 0 8 0 Subscore (100 x factor score subtotal/maximum score subtotal) 14 14 Subscore (100 x factor score subtotal/maximum score subtotal) 0 1 0 2. Flooding 0 1 0 1 0 Subscore (100 x factor score/3) 3. Ground-water migration 1 8 8 Depth to ground water 1 8 8 0 0 16 0 Sofi permeability 2 8 16 8 0 0 16 0 0 10 0 16 0 0 16 0 0 16 0 0 16 0	18	6	1 6	1	Surface permeability	
Subscore (100 x factor score subtotal/maximum score subtotal) 1 0 2. Flooding 0 1 0 Subscore (100 x factor score/3) 3. Ground-water migration 0 4 8 Depth to ground water 1 8 8 8 Net precipitation 0 6 0 Soli permeability 2 8 16 Subscore (100 x factor score subtotal/maximum score subtotal) 32 32 Subscore (100 x factor score subtotal/maximum score subtotal) 32 32 Subscore (100 x factor score subtotal/maximum score subtotal) 2 8 V. MASTE MANAGEMENT PRACTICES Pathways Subscore V. WASTE MANAGEMENT PRACTICES Receptors Waste Characteristics, and pathways. Fathways Total 111 divided by	24	0	8 0	0	Rainfall intensity	
Subscore (100 × factor score subtotal/maximum score subtotal) 2. Flooding 0 1 0 Subscore (100 × factor score/3) 3. Ground-water migration Depth to ground water 1 8 8 Net precipitation 0 6 0 Soil permeability 2 8 16 Subsurface flows 0 8 0 0 1 8 0 0 0 0	1.08	14	Subtotals			
 2. Flooding 0 1 0 Subscore (100 x factor score/3) 3. Ground-water migration Depth to ground water 1 8 8 Net precipitation 0 6 0 Soil permeability 2 8 16 Subsurface flows 0 8 0 Direct access to ground water 1 8 8 Subscore (100 x factor score subtotal/maximum score subtotal) C. Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. It is the three subscores for receptors, waste characteristics, and pathways. Average the three subscores for receptors, waste characteristics, and pathways. 	13		tal)	core subtotal)	Subscore (100 × factor score subtotal/maximum	Su
Subscore (100 x factor score/3) 3. Cround-water migration Depth to ground water 1 8 8 Net precipitation 0 6 0 Soil permeability 2 8 16 Subsurface flows 0 8 0 Direct access to ground water 1 8 8 Subscore (100 x factor score subtotal/maximum score subtotal) 32 Subtotals 32 Subscore (100 x factor score subtotal/maximum score subtotal)	100	0	0 1	0	2. Flooding	2.
 3. Ground-water migration Depth to ground water 1 8 8 Net precipitation 0 6 0 Soil permeability 2 8 16 Subsurface flows 0 8 0 0 lirect access to ground water 1 8 8 Subtotals 32 Subscore (100 x factor score subtotal/maximum score subtotal) 2. Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. V. WASTE MANAGEMENT PRACTICES Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics pathways Total 111 divided by 	0	score/3)	bscore (100 × factor	Subscore		
Depth to ground water 1 8 8 Net precipitation 0 6 0 Soli permeability 2 8 16 Subsurface flows 0 8 0 Direct access to ground water 1 8 8 Subscore (100 x factor score subtotal/maximum score subtotal) 32 32 Subscore (100 x factor score subtotal/maximum score subtotal)					3. Ground-water migration	3.
Net precipitation 0 6 0 Soil permeability 2 8 16 Subsurface flows 0 8 0 Direct access to ground water 1 8 8 Subscore (100 x factor score subtotal/maximum score subtotal) 32 Subscore (100 x factor score subtotal/maximum score subtotal) 8 1 L Highest pathway subscore 8 1 Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANAGEMENT PRACTICES Receptors A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Pathways Total 111 divided by	24	8	1 8	1	Depth to ground water	
Soil permeability 2 8 16 Subsurface flows 0 8 0 Direct access to ground water 1 8 8 Subtotals 32 Subscore (100 x factor score subtotal/maximum score subtotal) 32 Subscore (100 x factor score subtotal/maximum score subtotal) 8 C. Highest pathway subscore 8 Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANACEMENT PRACTICES Receptors A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Pathways Total 111 divided by	18	0	0 6	0	Net precipitation	
Subsurface flows 0 8 0 Direct access to ground water 1 8 8 Subtotals 32 Subscore (100 x factor score subtotal/maximum score subtotal) 32 Subscore (100 x factor score subtotal/maximum score subtotal) 8 C. Highest pathway subscore 8 Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANACEMENT PRACTICES Receptors Average the three subscores for receptors, waste characteristics, and pathways. Receptors Pathways Total 111 divided by	24	16	2 8	2	Soil permeability	
Direct access to ground water 1 8 8 Subtotals 32 Subtotals 32 Subscore (100 × factor score subtotal/maximum score subtotal) C. Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by	24	0	6 0	0	Subsurface flows	
Subtotals 32 Subscore (100 x factor score subtotal/maximum score subtotal) C. Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by	24	. 8	1 8	1	Direct access to ground water	
Subscore (100 x factor score subtotal/maximum score subtotal) C. Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by	114	32	Subtotals			
C. Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by	28		tal)	core subtotal)	Subscore (100 x factor score subtotal/maximum	Sบ
Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by					Highest pathway subscore	. н
Pathways Subscore IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by			above.	-2, or B-3 above	Enter the highest subscore value from A, B-1, I	En
IV. WASTE MANAGEMENT PRACTICES A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by	28	score	Pathways Su			
A. Average the three subscores for receptors, waste characteristics, and pathways. Receptors Waste Characteristics Pathways Total 111 divided by					WASTE MANAGEMENT PRACTICES	V. WA
Receptors Waste Characteristics Pathways Total 111 divided by			ristics, and pathway	e characterístic	Average the three subscores for receptors, was	. Av
	44 40 28 3 = 37 Gross Total Sci	teristics vided by 3 = Gro	Receptors Waste Chara Pathways Total 111 d			• • • •
B. Apply factor for waste containment from waste management practices			practices	anagement practi	Apply factor for waste containment from waste	. Ар
Gross Total Score x Waste Management Practices Factor = Final Score			inal Score	Factor = Final Se	Gross Total Score x Waste Management Practices	Gr
37 × 1.0 =	37		37 × 1.0 =			

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: L-13 LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Industrial, domestic fill SITE RATED BY: Michael Kemp

1. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Α.	Population within 1,000 feet of site	1	4	4	12
в.	Distance to nearest well	1	10	10	30
с.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	3	6	18	18
ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
۱.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	86	180
	Receptors subscore (100 × factor score subtotal/maxim	num subtota	1)		48
H.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quanti level of the information.	ity, the de	gree of hazard,	and the co	nfidenc e
	1. Waste quantity (S = small, M = medium, L = large))			м
	<pre>2. Confidence level (C = confirmed, S = suspected)</pre>				с
	3. Hazard rating (H = high, M = medium, L = low)				М.,
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			60
3.	Apply persistence factor Factor Subscore A x Persistence Factor ⇒ Subscore B				
	60 x 1.0 = 60				
~					

C. Apply physical state multiplier

Subscore B x Physical State Multiplier = Waste Characteristics Subscore

 $60 \times 1.0 = 60$

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Page 2 of 2

	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possibl Score
Α.	if there is evidence of migration of hazardous co 100 points for direct evidence or 80 points for i then proceed to C. If no evidence or indirect ev	ntaminants, as ndirect eviden idence exists,	sign maximum fa co. If direct proceed to B.	ctor subsco evidence ex	re of ists
			s	ubscore	0
в.	Rate the migration potential for three potential and ground-water migration. Select the highest r	pathways: sur ating, and pro	face-water migr ceed to C.	ation, floo	ding,
	1. Surface-water migration				
	Distance to nearest surface water	1	8	8	24
	Net precipitation	0	6	0	18
	Surface erosion	2	8	16	24
	Surface permeability	t	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	30	108
	Subscore (100 x factor score subtotal/maximum sco	re subtotal)			28
	2. Flooding	0	1	0	100
		Subscore	(100 × factor	score/3)	0
	3. Ground-water migration				
	Depth to ground water	2	8	16	24
	Net precipitation	` ٥	6	0	18
	Soil permeability	2	. 8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	, 1	8	8	24
			Subtotals	40	114
	Subscore (100 x factor score subtotal/maximum sco	re subtotal)			35
2.	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B-2	, or B-3 above.			
	· .		Pathways Sub	score	35
v.	WASTE MANAGEMENT PRACTICES				
١.	Average the three subscores for receptors, waste	characteristic:	s, and pathways		
			Receptors		48
			Waste Charact Pathways	teristics	60 35
			Total 143 div	vided by 3 = Gro	= 48 ss Total (
3.	Apply factor for waste containment from waste man	agement practic	:05		
	Gross Total Score × Waste Management Practices Fa	ctor = Final Sc	ore		
	-		48 x 1.0 =		48
					=

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HAZARDOUS ASSESSMENT RATING FORM

Page 1 of 2

NAME OF SITE: B-2, Paint Drum Burial LOCATION: Ceorge AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Possible <u>Score</u>
Α.	Population within 1,000 feet of site	1	4	4	12
8.	Distance to nearest well	1	10	10	30
Ċ.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	3	6	18	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3 ·	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
١.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	86	180
11.	Receptors subscore (100 × factor score subtotal/maxin WASTE CHARACTERISTICS	num subtota'	1)		48
А.	Select the factor score based on the estimated quant level of the information.	ity, the dep	gree of hazard,	and the co	nfidence
	1. Waste quantity (S ≕ small, M ≕ medium, L ⊐ large)	•		S
	2. Confidence level (C = confirmed, S = suspected)				S
	3. Hazard rating (H ≈ high, M ≕ medium, L ≃ low)				Η.
			•		<u>۵</u> ۵
	Factor Subscore A (from 20 to 100 based on factor sc	pre matrix)		-	40
в.	Factor Subscore A (from 20 to 100 based on factor sc Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B	ore matrix)			40
в.	Factor Subscore A (from 20 to 100 based on factor sc Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 × 1.0 = 40	ore matrix)			40
в. С.	Factor Subscore A (from 20 to 100 based on factor sc Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 x 1.0 = 40 Apply physical state multiplier	ore matrix)			
в. С.	Factor Subscore A (from 20 to 100 based on factor sc Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 × 1.0 = 40 Apply physical state multiplier Subscore B × Physical State Multiplier = Waste Charac	cteristics (Subscore		

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III. PATHWAYS

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	Rating Factor	Rating (0-3)	Multiplier	Factor <u>Score</u>	Possible Score
lf 100 the	there is evidence of migration of hazardous points for direct evidence or 80 points for n proceed to C. If no evidence or indirect	contaminants, as indirect evidence evidence exists,	sign maximum fac ce. If direct e proceed to B.	ctor subscore ividence exis	of ts
			Su	ibscore	. 0
Rat and	e the migration potential for three potentia ground-water migration. Select the highest	I pathways: sur rating, and proc	face-water migra	tion, floodi	ng,
۱.	Surface-water migration				
	Distance to nearest surface water	0	8	0	24
	Net precipitation	0	6	0	18
	Surface erosion	0	8	0	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	6	108
Sub	score (100 × factor score subtotal/maximum s	core subtotal)			6
2.	Flooding	0	1	0	100
		Subscore	(100 x factor s	core/3)	0
3.	Ground-water migration				
	Depth to ground water	ı	8	8	24
	Net precipitation	0	6	0	18
	Soil parmeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
Sub	score (100 x factor score subtotal/maximum s	core subtotal)			28
Hig	hest pathway subscore				
Ent	er the highest subscore value from A, B-1, B	-2, or 8-3 above			
			Pathways Subs	core	_28
WAS	TE MANAGEMENT PRACTICES			•	
Ave	rage the three subscores for receptors, wast	e characterístic:	s, and pathways.	•	
			Receptors Waste Charact Pathways Total 116 div	eristics	48 40 28 39
Aon	ly factor for waste containment from waste m	anacement cracti	:es	0,03	
Gro	ss Total Score x Waste Management Practices	Factor = Final S	0 re		
			39 x 1 6 =		20
	lf 100 the Rata and 1. Sub 2. 3. Sub 2. 3. Ave Gro	If there is evidence of migration of hazardous 100 points for direct evidence or 80 points for then proceed to C. If no evidence or indirect Rate the migration potential for three potentia and ground-water migration. Select the highest 1. Surface-water migration Distance to nearest surface water Net precipitation Surface erosion Surface permeability Rainfall intensity Subscore (100 x factor score subtotal/maximum s 2. Flooding 3. Ground-water migration Depth to ground water Net precipitation Soil permeability Subsurface flows Direct access to ground water Subscore (100 x factor score subtotal/maximum s Highest pathway subscore Enter the highest subscore value from A, B-1, B WASTE MANAGEMENT PRACTICES Average the three subscores for receptors, wast	If there is evidence of migration of hazardous conteminats, as: Ide points for direct evidence or 80 points for indirect evidence exists, Rate the migration potential for three potential pathways: suriand ground-water migration. Select the highest rating, and providence to nearest surface water 1. Surface-water migration Distance to nearest surface water 0 Net precipitation 0. Surface erasion 0. Surface erasion 0. Surface permeability 1. Rainfall intensity 0 Subscore (100 x factor score subtotal/maximum score subtotal) 2. Flooding 0 Subscore 3. Ground-water migration Depth to ground water 1 Net precipitation 0 Subscore 3. Ground-water migration Depth to ground water 1 Net precipitation 0 Soli permeability 2 Subscore (100 x factor score subtotal/maximum score subtotal) Highest pathway subscore Enter the highest subscore value from A, B-1, B-2, or B-3 above. WASTE MANAGEMENT PRACTICES <	Kating factor [0-3] Multiplier if there is evidence or migration of hazardous contaminents, assign maximum faction potential for three solonics for indirect evidence. If direct evidence arists, proceed to B. Su Rate the migration potential for three potential pathways: surface-water migration Su Distance to nearest surface water 0 8 Net precipitation 0 6 Surface erasion 0 8 Surface permeability 1 6 Rainfall intensity 0 8 Subscore (100 x factor score subtotal/maximum score subtotal) 2 Flooding 0 1 Depth to ground water 1 8 Net precipitation 0 6 Subscore (100 x factor score subtotal/maximum score subtotal) 2 1 Cround-water migration 0 1 8 Depth to ground water 1 8 Subscore (100 x factor score subtotal/maximum score subtotal) Het precipitation 0 6 3 1 8 Subscore (100 x factor score subtotal/maximum score subtotal) 4 1	Rating ractor (U-3) Multiplier Score If there is evidence of migration of hazardous contaminants, assign maximum factor subscore Ideat State of St

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NAME OF SITE: B-8, Pesticide and Paint Burial LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	<u>Multiplier</u>	Factor Score	Maximum Possible Score
Α.	Population within 1,000 feet of site	0	4	0	12
8.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	· 2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
c.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
١.	Population served by ground-water supply within 3 miles of site	3 -	6	18	18
			Subtotals	86	180
11. A.	WASTE CHARACTERISTICS Select the factor score based on the estimated quantitievel of the information.	ity, the de	gree of hazard,	and the co	nfidence
	I. Waste quantity (S = small, M = medium, L = large))			S
	2. Confidence level (C = confirmed, S ≈ suspected)				S
	3. Hazard rating (H ≕ high, M = medium, L = low)				Н.
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			40
8.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B				
	$40 \times 1.0 = 40$. •		
c.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Charac	cteristics S	Subscore		
	$40 \times 1.0 = 40$				

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		Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible <u>Score</u>
Α.	۱f 100 the	there is evidence of migration of hazardous) points for direct evidence or 80 points fo an proceed to C. If no evidence or indirect	contaminants, as r indirect evidence evidence exists,	sign maximum fac ce. If direct of proceed to B.	ctor subsco evidence ex	re of lats
				S	ubscore	•
3.	Rat and	e the migration potential for three potential ground-water migration. Select the highes	al pathways: suri t rating, and prod	face-water migra	ation, floo	ding,
	1.	Surface-water migration				
		Oistance to nearest surface water	1	8	8	24
		Net precipitation	0	6	0	18
		Surface erosion	1	8	8	24
		Surface permeability	· 1	6	6	18
		Rainfall intensity	0	8	0	24
				Subtotals	2 2	108
	Sub	score (100 × factor score subtotal/maximum :	score subtotal)			20
	2.	Flooding	. 0	1	0	100
			Subscore	(100 x factor :	score/3)	0
	з.	Ground-water migration	• • •			
		Depth to ground water	1	8	8	24
		Net precipitation	0	6	0	. 18
		Soil permeability	2	8	16	24
		Subsurface flows	0	8	ο	24
		Direct access to ground water	1	8	8	24
				Subtotals	32	114
	Sub	score (100 × factor score subtotal/maximum s	score subtotal)			28
•	H1 g	hest pathway subscore				
	Ent	er the highest subscore value from A, B-1, B	3-2, or B-3 above.			
				Pathways Subs	score	28
v.	WAS	TE MANAGEMENT PRACTICES				
	Ave	race the three subscores for receptors, was	te characteristics	, and pathways,		
		- · · · · · · · · · · · · · · · · · · ·		Receptors Waste Charact Pathways Total 116 div	eristics rided by 3 = Gro	48 40 28 39 ss Total S
•	Арр	ly factor for waste containment from waste m	management practic	:05		
	Gra	ss Total Score x Waste Management Practices	Factor = Final So	ore		
				39 - 1 0 =		39

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NAME OF SITE: B-9, Acid and Oil Burial LOCATION: George AFB, California

DATE OF OPERATION OR OCCURRENCE: --

OWNER/OPERATOR: George AFB, California

COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible <u>Score</u>
Α.	Population within 1,000 feet of site	0	4	0	12
в.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	2	3	6	9
٥.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	. 0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
١.	Population served by ground-water supply within 3 miles of site	3.	6	18	18
			Subtotals	73	180
	Receptors subscore (100 x factor score subtotal/maxim	mum subtota	1)		41
11.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quantilevel of the information.	ity, the de	gree of hazard,	and the co	nfidence
	 Waste quantity (S ≈ small, M = medium, L = large))			S
	2. Confidence level (C = confirmed, S = suspected)				S
	 Hazard rating (H = high, M = medium, L = low) 		-		Μ.
	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			30
8.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$30 \times 1.0 = 30$				
c.	Apply physical state multiplier				
	Subscore B x Physical State Multiplier = Waste Charac	teristics a	Subscore		

30 × 1.0 ≖ <u>30</u>

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III. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
۹.	If there is evidence of migration of hazardous co 100 points for direct evidence or 80 points for i then proceed to C. If no evidence or indirect ev	ntaminants, as: ndirect evidend idence exists,	sign maximum fac ce. If direct o proceed to B.	ctor subsco evidence exi	re of Ists
			Si	ubscore	0
3.	Rate the migration potential for three potential and ground-water migration. Select the highest r	pathways: suri ating, and proc	face-water migra	tion, floo	ding,
	1. Surface-water migration		-		
	Distance to nearest surface water	1	8	8	24
	Net precipitation	0	6	0	18
	Surface erosion	1	8	8	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	22	108
	Subscore (100 x factor score subtotal/maximum sco	re subtotal)			20
	2. Flooding	0	1	0	100
		Subscore	(100 x factor :	score/3)	o
	3. Ground-water migration				
	Depth to ground water	1	8	8	24
	Net precipitation	ο	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum sco	re subtotal)			28
•	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B-2	, or B-3 above.			
			Pathways Sub	score	28
v.	WASTE MANAGEMENT PRACTICES				—
•	Average the three subscores for receptors, waste	characteristic	, and pathways.		
			Receptors Waste Charact Pathways Total 99 divi	teristics Ided by 3 = Gro	41 30 28 33 555 Total Sci
•	Apply factor for waste containment from waste man	agement practic	:05		
	Gross Total Score x Waste Management Practices Fa	ctor = Final Sc	ore		

33 x 1.0 =

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: B-10, Pesticide and Oil Burial LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Rating (0-3)	<u>Multiplier</u>	Factor Score	Possible Score
A.	Population within 1,000 feet of site	0	4	0	12
в.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	2	3	· 6	9
D.	Distance to reservation boundary	2	6	. 12 -	18
E.	Critical environments within 1 mile radius of site	, 0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aguifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
1.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtota1s	73	180
н. А.	WASTE CHARACTERISTICS Select the factor score based on the estimated quant	ity, the de	gree of hazard,	and the co	nfidence
	level of the information.	N .			c
	1. Waste quantity (5 = small, $H = medium, L = large,$)			5 C
	2. Confidence level ($C = confirmed$, $S = suspected$)				ы.
	5. Hazard rating ($n = high, n = heatan, c = how)$				40
_		ore matrix;			40
в.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$40 \times 1.0 = 40$				
с.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Charac	teristics S	Subscore		
	40 × 1.0 ≠ <u>40</u>				

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III. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score		
۱.	If there is evidence of migration of hazardou 100 points for direct evidence or 80 points for then proceed to C. if no evidence or indirect	s contaminants, ass or indirect evidenc t evidence exists,	ign maximum fa e. if direct proceed to B.	ctor subsco evidence ex	re of ists		
			s	ubscore	0		
3.	Rate the migration potential for three potent and ground-water migration. Select the highe	ial pathways: surf st rating, and proc	ace-water migr eed to C.	ation, flood	jing,		
	1. Surface-water migration						
	Distance to nearest surface water	1	8	8	24		
	Net precipitation	0	6	0	18		
	Surface erosion	1	8	8	24		
	Surface permeability	1	6	6	18		
	Rainfall intensity	0	8	0	24		
	· · ·		Subtotals	22	108		
	Subscore (100 x factor score subtotal/maximum	score subtotal)			. 20		
	2. Flooding	0	1	0	100		
		Subscore	(100 x factor	score/3)	0		
	3. Ground-water migration						
	Depth to ground water	1	8	8	Ż4		
	Net precipitation	0	6	. 0	18		
	Soll permeability	2	8	16	24		
	Subsurface flows	0	8	0	24		
	Direct access to ground water	1	8	8	24		
			Subtotals	32	114		
	Subscore (100 × factor score subtotal/maximum	score subtotal)			28		
•	Highest pathway subscore						
	Enter the highest subscore value from A, B-1,	B-2, or B-3 above.					
			Pathways Sub	score			
v.	WASTE MANAGEMENT PRACTICES						
	Average the three subscores for receptors, wa	ste characteristics	, and pathways	•			
			Receptors Waste Charact Pathways Total 109 di	teristics vided by 3 = Cro	41 40 28 36 55 Total S		
•	Apply factor for waste containment from waste management practices						
	Gross Total Score x Waste Management Practice:	s Factor = Final Sc	ore				
			36 x 1.0 =		36		

HAZARDOUS ASSESSMENT RATING FORM

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NAME OF SITE: S-1, POL Leach Field LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

I. RECEPTORS

	Rating Factor	Rating (0-3)	Multiplier	Factor Score	Possible Score
Α.	Population within 1,000 feet of site	3	4	12	12
в.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
с.	Cround-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
١.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	88	180
	Receptors subscore (100 x factor score subtotal/maxim	mum subtota	1)		49
н.	WASTE CHARACTERISTICS		•		
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the cor	nfidence
	1. Waste quantity (S = small, M = medium, L = large)			S
	<pre>2. Confidence level (C = confirmed, S = suspected)</pre>				S
	3. Hazard rating (H = high, M = medium, L = low)				М.
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			30
8.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	30 × .8 = 24				
c.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Charac	cteristics S	Subscore		

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34 x 1.0 =

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III. PATHWAYS

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		Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Α.	lf 100 the	there is evidence of migration of hazardous c points for direct evidence or 80 points for an proceed to C. If no evidence or indirect e	ontaminants, as: indirect evidence widence exists,	sign maximum fa ce. If direct proceed to B.	ctor subsco evidence exi	re of Ists
				s	ubscore	0
в.	Rat and	e the migration potential for three potential ground-water migration. Select the highest	pathways: surf rating, and prod	face-water migr ceed to C.	ation, flood	ding,
	1.	Surface-water migration				
		Distance to nearest surface water	0	ß	0	24
		Net precipitation	0	6	0	18
		Surface erosion	0	8	0	24
		Surface permeability	1	6	6	18
		Rainfall intensity	0	8	0	24
				Subtotals	6	108
	Sub	score (100 × factor score subtotal/maximum sc	ore subtotal)			6
	2.	Flooding	0	1	0	100
			Subscore	(100 x factor	score/3)	0
	3.	Ground-water migration				
		Depth to ground water	1	8	8	24
		Net precipitation	· 0	6	0	18
		Soil permeability	2	8	16	24
		Subsurface flows	0	8	o	24
		Direct access to ground water	1	8	8.	24
				Subtotals	32	114
	Sub	score (100 × factor score subtotal/maximum sc	ore subtotal)			28
с.	Hig	hest pathway subscore				
	Ent	er the highest subscore value from A, B-1, B-	2, or B-3 above.			
			·	Pathways Sub	score	_28
١٧.	WAS	TE MANAGEMENT PRACTICES				
Α.	Ave	rage the three subscores for receptors, waste	characteristics	. and pathwavs		
				Receptors Waste Charac Pathways Total 101 di	teristics vided by 3 = Gro	49 24 28 34 55 Total S
в.	Арр	ly factor for waste containment from waste ma	nagement practic	:es		
	C co	ss Total Score v Weste Nanadement Practices E	actor w Final Sc	0.54		

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NAME OF SITE: S-3, POL Leah Field LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California

COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

۱. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maxim um Possible <u>Score</u>
Α.	Population within 1,000 feet of site	3	- 4	12	12
в.	Distance to nearest well	1	10	10	30
с.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6.	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
۶.	Population served by ground-water supply within 3 miles of site	3	6	18	18
		-	Subtotals	88	180
	Receptors subscore (100 x factor score subtotal/maxim	num subtota	1)		49
п.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M ≖ medium, L = large)			S
	<pre>2. Confidence level (C = confirmed, S = suspected)</pre>				S
	3. Hazard rating (H = high, M = medium, L = low)				M ·
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			30
в.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B			Ifer Factor Score Possible Score 12 12 12 10 30 9 9 9 9 9 12 18 0 30 0 18 18 18 13 18 18 18 18 18 14 18	
	$30 \times .8 = 24$				
c.	Apply physical state multiplier				
	Subscore B x Physical State Multiplier = Waste Charac	teristics	Subscore		
	$24 \times 1.0 = 24$				
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III. PATHWAYS

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⊧1 		Rating Factor	Factor Rating (0-3)	Multiplier	Factor <u>Score</u>	Maximum Possible Score
	Α.	If there is evidence of migration of hazardous 100 points for direct evidence or 80 points for then proceed to C. If no evidence or indirect	conteminants, ass r indirect evidence evidence exists,	ign maximum fa e. If direct proceed to B.	ctor subsco evidence ex	re of ists
		· · · · ·	•	5	ubscore	0
.	₿.	Rate the migration potential for three potential and ground-water migration. Select the highest	al pathways: surf t rating, and proc	ace-water migr	ation, floo	ding,
		1. Surface-water migration				
		Distance to nearest surface water	0	8	0	24
		Net precipitation	0	6	0	18
		Surface erosion	0	8	0	24
		Surface permeability	1	6	6	18
		Rainfall intensity	o	8	0	24
-				Subtotals	6	108
		Subscore (100 x factor score subtotal/maximum s	score subtotal)			6
•		2. Flooding	0	1	0	100
- = 			Subscore	(100 × factor	score/3)	0
7		3. Ground-water migration			-	
-		Depth to ground water	1	8	8	24
Ĩ	;	Net precipitation	O	, 6	0	18
_ .		Soil permeability	2	8	16	24
È		Subsurface flows	0	8	0	24
		Direct access to ground water	1	8	8	24
1. 1.				Subtotals	32	114
E		Subscore (100 x factor score subtota)/maximum s	score subtotal)			28
.	с.	Highest pathway subscore				
		Enter the highest subscore value from A. B-1.	3-2, or 8-3 above.			
<u>.</u>				Pathways Sub	score	28
-	IV.	WASTE MANAGEMENT PRACTICES				
	Α.	Average the three subscores for receptors, wast	te characteristics	, and pathways	•	
		•		Receptors Waste Charac Pathways Total 101 di	teristics vided by 3	49 24 28 = 34 pss Total Sc
	В.	Apply factor for waste containment from waste m	nanagement practic	:A5		
	5.	Gross Total Score x Waste Management Practices	Factor = Final Sc	ore		
				34 x 1.0 ≠		34
						<u> </u>

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: S-4, Fuel Oil Disposal LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/DPERATOR: George AFB, California COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Α.	Population within 1,000 feet of site	1	4	4	12
в.	Oistance to nearest well	0	10	0	30
с.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	3	6	18	18
ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
C.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
۱.	Population served by ground-water supply within 3 miles of site	3	6	18	18 180
			Subtotals	76	180
11.	Receptors subscore (100 x factor score subtotal/maxin WASTE CHARACTERISTICS	num subtota	1)		42
Α.	Select the factor score based on the estimated quanti level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M = medium, L = large))			м
	2. Confidence level (C = confirmed, S = suspected)				С
	3. Hazard rating (H = high, M = medium, L = low)				м
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			60
8.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B				
8.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 60 x .9 = 54				
в. с.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 60 x .9 = 54 Apply physical state multiplier				
В. С.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 60 x .9 = 54 Apply physical state multiplier Subscore B x Physical State Multiplier = Waste Charac	cteristics (Subscore		

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III. PATHWAYS

		Factor Rating (0-3)	<u>Multiplier</u>	Factor <u>Score</u>	Maximum Possible Score
Α.	If there is evidence of migration of hazardous contained points for direct evidence or 80 points for inditional then proceed to C. If no evidence or indirect evidence or indirec	minants, as irect eviden ence exists,	sign maximum fa ce. If direct proceed to B.	ctor subsco evidence ex	re of ists
			S	ubscore	0
8.	Rate the migration potential for three potential par and ground-water migration. Select the highest rat	thways: sur ing, and pro	face-water migr ceed to C.	ation, floo	ding,
	1. Surface-water migration				
	Distance to nearest surface water	0	8	0	24
	Net precipitation	0	6	0	18
	Surface erosion	0	8	0	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	6	108
	Subscore (100 x factor score subtotal/maximum score	subtotal)			6
	2. Flooding	0	1	0	100
		Subscore	(100 × factor	score/3)	0
	3. Ground-water migration				
	Depth to ground water	t	8	8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 × factor score subtotal/maximum score	subtotal)			28
c.	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B-2, d	or 8-3 above	•		
			Pathways Sub	score .	
IV.	WASTE MANAGEMENT PRACTICES				
Α.	Average the three subscores for receptors, waste cha	racteristic	s. and pathways	_	
			Receptors Waste Charac Pathways Total 124 di	teristics vided by 3 = Gro	42 54 28 ■ 41 pss Total Scor
8.	Apply factor for waste containment from waste manage	ment practi	ces		
	Gross Total Score x Waste Management Practices Facto	or = Final S	core		
			41 x 1.0 =		41

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NAME OF SITE: S-5, fire Training Area LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: POL, solvents SITE RATED BY: Michael Kemp

I. RECEPTORS

	Rating Factor	Rating (0-3)	Multiplier	Factor Score	Possible Score
Α.	Population within 1,000 feet of site	1	4	4	12
в.	Distance to nearest well	1	10	10	30
¢.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	3	6	18	18
ε.	Critical environments within'1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Cround-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
١.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	86	180
	Receptors subscore (100 x factor score subtotal/maxi	mum subtota	1)		46
п.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	 Waste quantity (S = small, M = medium, L = large)			м
	 Confidence level (C = confirmed, S = suspected) 				С
	3. Hazard rating (H = high, M = medium, L = low)				Μ.
-	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			60
в.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$50 \times .9 = 54$				
c.	Apply physical state multiplier				
	Cubecome P v Physical State Wilsialies - Wash, Chara		*		

Subscore B x Physical State Multiplier = Waste Characteristics Subscore

 $54 \times 1.0 = 54$

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PAI	THWAYS				
	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score_	Ma Po S
(f 100 七內	there is evidence of migration of hazardous D points for direct evidence or 80 points fo en proceed to C. If no evidence or indirect	contaminants, ass r indirect evidence evidence exists,	ign maximum fa e, if direct proceed to B.	ctor subsco evidence ex	re of ists
			S	ubscore	
Rat and	te the migration potential for three potential does not the migration of the second second second second second	al pathways: surf t rating, and prod	ace-water migr	ation, floo	ding,
1.	Surface-water migration				
	Distance to nearest surface water	0	8	0	
	Net precipitation	0	6	0	
	Surface erosion	1	8	8	
	Surface permeability	1	6	6	
	Rainfall intensity	0	8	0	
			Subtotals	14	
Sut	oscore (100 x factor score subtotal/maximum :	score subtotal)	-		
2.	Flooding	0 ·	1	0	
		. .		6 - 1	

Subscore (100 x factor score/3) 0 3. Ground-water migration 8 8 24 Depth to ground water 1 6 0 18 Net precipitation ۵ Soil permeability 2 8 16 24 Subsurface flows 0 8 0 24 R 24 Direct access to ground water 1 8 32 114 Subtotals 28

Subscore (100 x factor score subtotal/maximum score subtotal) с. Highest pathway subscore

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

Pathways Subscore	28

WASTE MANAGEMENT PRACTICES ί٧.

Average the three subscores for receptors, waste characteristics, and pathways. Α.

Receptors	46	
Waste Characteristics	54	
Pathways	28	
Total 128 divided by 3 =	43	
Gross	Total	Score

₿. Apply factor for waste containment from waste management practices

Gross Total Score x Waste Management Practices Factor = Final Score

43 x 1.0 = 43

III. PATHWAYS

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Page 2 of 2

Maximum Possible

Score

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: S-6, Abandoned Fire Training Area LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: --

SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Α.	Population within 1,000 feet of site	1	4	4	12
в.	Distance to nearest well	1	10	10	30
C.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	Q .	. 6	0	18
۱.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	80	180
	Receptors subscore (100 x factor score subtotal/maxim	mum subtota	1)		44
11.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M = medium, L = large)			м
	<pre>2. Confidence level (C = confirmed, S = suspected)</pre>	•			с
	 Hazard rating (H ≈ high, M = medium, L = low) 				M ·
	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			60
в.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$60 \times .9 = 54$	-	. •		
с.	Apply physical state multiplier				
	Subscore B x Physical State Multiplier = Waste Chara	cteristics :	Subscore		
	$54 \times 1.0 = 54$				

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III. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	<u>Multiplier</u>	Factor Score	Maximum Possible Score
۱.	if there is evidence of migration of hazardous (100 points for direct evidence or 80 points for then proceed to C. If no evidence or indirect (contaminants, as indirect eviden evidence exists,	sign maximum fac ce. if direct e proceed to B.	tor subscor widence exi	re of ists
	•		Su	ibscore	0
3.	Rate the migration potential for three potential and ground-water migration. Select the highest	l pathways: sur rating, and pro-	face-water migra ceed to C.	ition, flood	ding,
	1. Surface-water migration				
	Distance to nearest surface water	0	8	0	24
	Net precipitation	. 0	6	0	18
	Surface erosion	2	8	16	24
	Surface permeability	1	6	6	18
	Rainfall intensity	Ō	8	0	24
			Subtotals	22	108
	Subscore (100 × factor score subtotal/maximum so	core subtotal)			20
	2. Flooding	0	1	0	100
		.Subscore	(100 × factor s	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum so	core subtotal)			28
	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B-	-2, or B-3 above	•		
			Pathways Subs	core	28
v.	WASTE MANAGEMENT PRACTICES				
•	Average the three subscores for receptors, waste	e characteristic:	s, and pathways.		-
			Receptors Waste Charact Pathways Total 126 div	eristics ided by 3 = Gro	44 54 28 42 555 Total
	Apply factor for waste containment from waste ma	anagement practic	ces		
	Gross Total Score x Waste Management Practices f	Factor = Final So	core		
			42 x 1.0 =		42

HAZARDOUS ASSESSMENT RATING FORM

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NAME OF SITE: S-7, Tip Tank Drainage Area LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Fuel SITE RATED BY: Michael Kemp

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I. RECEPTORS

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	Rating Factor	Rating (0-3)	Multiplier	Factor Score	Possible
Α.	Population within 1,000 feet of site	3	4	12	12
в.	Distance to nearest well	t	10	10	30
c.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	O	18
1.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	88	180
	Receptors subscore (100 x factor score subtotal/maxi	mum subtota	1)		49
н.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M = medium, L = large)			м
	2. Confidence level (C = confirmed, S = suspected)				С
	3. Hazard rating (H = high, M = medium, L = ĭow)				М
	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			60
8.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$60 \times .8 = 48$				
с.	Apply physical state multiplier				
	Subscore B × Physical State Multiplier = Waste Chara	cteristics	Subscore		
	$48 \times 1.0 = 48$				

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Page 2 of 2

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III. PATHWAYS

	Rating Factor	Rating (0-3)	Multiplier	Factor <u>Score</u>	Possible Score			
Α.	If there is evidence of migration of hazardous (100 points for direct evidence or 80 points for then proceed to C. If no evidence or indirect (contaminants, as: indirect evidence evidence exists,	sign maximum fa ce. If direct proceed to B.	ctor subsco evidence ex	re of ists			
			S	ubscore	0			
8.	Rate the migration potential for three potential and ground-water migration. Select the highest	l pathways: suri rating, and prod	fac e-w ater migr ceed to C.	ation, floo	ding,			
	1. Surface-water migration							
	Distance to nearest surface water	O	.8	0	24			
	Net precipitation	O	6	0	18			
	Surface erosion	0	8	0	24			
	Surface permeability	1	6	6	18			
	Rainfall intensity	0	8	0	24			
			Subtotals	6	108			
	Subscore (100 x factor score subtotal/maximum se	core subtotal)			6			
	2. Flooding	0	1	0	100			
	Subscore (100 x factor score/3) 0							
	3. Ground-water migration			-				
	Depth to ground water	1	8	8	24			
	Net precipitation	0	. 6	٥	18			
	Soil permeability	2	8	16	24			
	Subsurface flows	0	8	0	24			
	Direct access to ground water	1	8	8	24			
	•		Subtotals	32	114			
	Subscore (100 x factor score subtotal/maximum so	core subtotal)			28			
c.	Highest pathway subscore							
	Enter the highest subscore value from A, B-1, B	-2, or B-3 above.	,					
			Pathways Sub	score				
ıv.	WASTE MANAGEMENT PRACTICES							
Α.	Average the three subscores for receptors, waste	e characteristic:	s, and pathways					
			Receptors		49			
			Waste Charac Pathways	teristics	48 28			
			Total 125 div	vided by 3 = Gro	= 42 ss Total \$			
в.	Apply factor for waste containment from waste ma	anagement practic	:es		-2			
	Cross Total Score x Waste Management Practices F	Factor = Final Sc	:o re					
			42 x 1.∩ ≖		47			

HAZARDOUS ASSESSMENT RATING FORM

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а. Дар

NAME OF SITE: S-12, Golf Course

LOCATION: George AFB, California

DATE OF OPERATION OR OCCURRENCE: --

OWNER/OPERATOR: George AFB, California

COMMENTS/DESCRIPTION: Percolation pond effluent irrigation

SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	 Maximum Possible Score
Α.	Population within 1,000 feet of site	- 3	4	12	12
в.	Distance to nearest well	3	10	30	30
Ç.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	3	6	18	18
ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
c.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
ι.	Population served by ground-water supply within 3 miles of site	3 6 18	18	18	
			Subtotals	114	180
	Receptors subscore (100 x factor score subtotal/maxim	num subtota	1)		
п.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M = medium, L = large)			м
	2. Confidence level (C = confirmed, S = suspected)				S
	 Hazard rating (H = high, M = medium, L = low) 				M
	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			40
в.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
	$40 \times 1.0 = 40$		• .		
с.	Apply physical state multiplier				

Subscore B x Physical State Multiplier = Waste Characteristics Subscore

 $40 \times 1.0 = 40$

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111. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
A.	if there is evidence of migration of hazardou 100 points for direct evidence or 80 points for then proceed to C. If no evidence or indirect	s contaminants, as: or indirect evidenc t evidence exists,	ign maximum fa be. if direct proceed to B.	ctor subsco evidence ex	re of ists
			\$	ubscore	Ó
8.	Rate the migration potential for three potent and ground-water migration. Select the highe	ial pathways: suri st rating, and prod	a ce-wate r migr med to C.	ation, floo	ding,
	1. Surface-water migration				
	Distance to nearest surface water	2	8 ·	16	24
	Net precipitation	· 0	6	0	18
	Surface erosion	0	8	0	24
	Sunface permeability	1 .	· 6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	22	108
	Subscore (100 x factor score subtotal/maximum	score subtotal)			20
	2. Flooding	0	1	0	100
		Subscore	(100 × factor	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	. 8	8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
	·		Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum	score subtotal)			28
•	Highest pathway subscore				
	Enter the highest subscore value from A, B-1,	B-2, or B-3 above	•		
		-	Pathways Sub	score	_28
v . '	WASTE MANAGEMENT PRACTICES				
	Average the three subcorres for recentors	sta characteristic	. and nathwave		
•	Average the three subscores for receptors, we		Pecentore	•	63
			Waste Charac	teristics	40
			Total 131 df	vided by 3	20 a 44
	Annin Anaton for which contribute for			Gr	035 IOTAI 3
•	Coose Total Score & Write Manager Provide Score	management practi	UC 8		
	uruss Iutai Scure X waste Management Präctice	s ractor = Final S	core		
			44 x 1.0 ≖		44

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NAME OF SITE: S-20, Industrial Outfall and Pipeline LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: --SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Rating (0-3)	Multiplier	Factor Score	Possible Score
Α.	Population within 1,000 feet of site	3	4	12	12
6.	Distance to nearest well	1	10	10	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	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Cround-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
۱.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtota1 s	94	180
	Receptors subscore (100 x factor score subtotal/maxin	num subtota	1)		
۱۱ .	WASTE CHARACTERISTICS	ity the de	aree of bazard.	and the co	nfidence
11. A.	WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information.	ity, the de	gree of hazard,	and the co	nfidence
11. A.	WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large	ity, the dea	gree of hazard,	and the co	nfidence L
11. A.	<pre>WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected)</pre>	ity, the de	gree of hazard,	and the co	nfidence L C
11. A.	<pre>WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected) 3. Hazard rating (H = high, M = medium, L = low)</pre>	ity, the de	gree of hazard,	and the co	nfidence L C M ·
11. A.	<pre>WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected) 3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score)</pre>	ity, the dep) pre matrix)	gree of hazard,	and the co	nfidence L C M · 80
н. А. В.	<pre>WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected) 3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B</pre>	ity, the dep) pre matrix)	gree of hazard,	and the co	nfidence L C M 80
н. А. В.	<pre>WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected) 3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 80 x 1.0 = 80</pre>	ity, the de) pre matrix)	gree of hazard,	and the co	nfîdence L C M 80
П. А. В.	<pre>WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected) 3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 80 x 1.0 = 80 Apply physical state multiplier</pre>	ity, the dep) pre matrix)	gree of hazard,	and the co	nfidence L C M 80
н. А. В.	<pre>WASTE CHARACTERISTICS Select the factor score based on the estimated quant level of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected) 3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 80 x 1.0 = 80 Apply physical state multiplier Subscore B x Physical State Multiplier = Waste Character</pre>	ity, the dep) pre matrix)	gree of hazard,	and the co	nfidence L C M 80

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III. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	<u>Multiplier</u>	Factor Score	Maximum Possibl Score			
A	If there is evidence of migration of hazardous (100 points for direct evidence or 80 points for then proceed to C. If no evidence or indirect (contaminants, ass indirect evidence evidence exists,	ign maximum fac e. If direct e proceed to B.	tor subsco ovidence exi	re of ists			
			Su	ibscore	0			
в.	Rate the migration potential for three 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 surface water	3	8	24	24			
	Net precipitation	0	6	0	18			
	Surface erosion	2	8	16	24			
	Surface permeability	1	6	6	18			
	Rainfall intensity	0	8	0	24			
			Subtotals	46	108			
	Subscore (100 × factor score subtotal/maximum se	core subtotal}			43			
	2. Flooding	0	1	0	100			
		Subscore	(100 x factor s	core/3)	0			
	3. Ground-water migration							
	Depth to ground water	3	, 8	24	24			
	Net precipitation	0	6	0	18			
	Soil permeability	2	8	16	24			
	Subsurface flows	1	8	8	24			
	Direct access to ground water	2	8	16	24			
			Subtotals	64	114			
	Subscore (100 x factor score subtotal/maximum so	core subtotal)			56			
c.	Highest pathway subscore							
	Enter the highest subscore value from A, B-1, B-	-2, or B-3 above.						
			Pathways Subs	core	56			
IV.	WASTE MANAGEMENT PRACTICES							
Α.	Average the three subscores for receptors, waste	characteristics	, and pathways.					
			Receptors Waste Charact Pathways Total 188 div	eristics ided by 3 = Gro	52 80 56 63 55 Total 5			
в.	Apply factor for waste containment from waste ma	inagement practic	es					
	Gross Total Score x Waste Management Practices F	actor = Final Sc	ore					
			63 x 1.0 =		63			

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HAZARDOUS ASSESSMENT RATING FORM

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NAME OF SITE:	S-21, WWTP Percolation Ponds
LOCATION:	George AFB, California
DATE OF OPERATI	ON OR OCCURRENCE:
OWNER/OPERATOR:	Ceorge AFB, California
COMMENTS/DESCRI	PTION: Sanitary, industrial
SITE RATED BY:	Michael Kemp

I. RECEPTORS

	Rating Factor	Factor Rating <u>(0-3)</u>	Multiplier	Factor Score	Maximum Possible <u>Score</u>
Α.	Population within 1,000 feet of site	1	4	4	12
в.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	. 18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
c.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
١.	Population served by ground-water supply within 3 miles of site	· 3	6	18	18
			Subtotals	80	180
	Receptors subscore (100 × factor score subtotal/maxi	mum subtota	1)		44
11.	WASTE CHARACTERISTICS				_
Α.	Select the factor score based on the estimated quant level of the information.	ity, the deg	gree of hazard,	and the co	nfidence
	 Waste quantity (S = small, M = medium, L = large)			м
	 Confidence level (C = confirmed, S = suspected) 				с
	3. Hazard rating (H = high, M = medium, L = low)				м
	Factor Subscore A (from 20 to 100 based on factor so	ore matrix)			60

Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B

в.

 $60 \times 1.0 = 60$

C. Apply physical state multiplier

Subscore B x Physical State Multiplier = Waste Characteristics Subscore

 $60 \times 1.0 = 60$

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III. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
Α.	If there is evidence of migration of hazardous 100 points for direct evidence or 80 points for then proceed to C. If no evidence or indirect	contaminants, as indirect eviden evidence exists,	sign maximum fac ce. if direct e proceed to B.	tor subscor vidence exi	re of ists
			Su	ibscore	0
8.	Rate the migration potential for three potentia and ground-water migration. Select the highest	1 pathways: sur rating, and pro	face-water migra ceed to C.	tion, flood	ding,
	1. Surface-water migration				
	Distance to nearest surface water	0	8	0	24
	Net precipitation	0	6	0	18
	Surface erosion	0	8	0	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
	· ·		Subtota1s	6	108
	Subscore (100 × factor score subtotal/maximum s	core subtotal)			6
	2. Flooding	0	1	0	100
		Subscore	(100 × factor s	core/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	. 8	16	24
	Subsurface flows	0	8	ο	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum s	core subtocal)			28
с.	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B	-2, or B-3 above			
			Pathways Subs	core	28
					=
. v.	WASTE MANAGEMENT PRACTICES				
۹.	Average the three subscores for receptors, wast	e characteristic:	s, and pathways.		
			Receptors Waste Charact	eristics	44 60
			Pathways Total 132 div	ided by 3 =	28 = 44
				Gro	ss Total Sc
5.	Apply factor for waste containment from waste m	anagement practio	ces		
	Gross Total Score x Waste Management Practices	Factor = Final So	core		
			$44 \times 1.0 =$		44

HAZARDOUS ASSESSMENT RATING FORM

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NAME OF SITE: S-22, French Drain LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Waste POL SITE RATED BY: Michael Kemp

I. RECEPTORS

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	Rating Factor	Rating (0-3)	Multiplier	Factor <u>Sc</u> ore	Possible Score
Α.	Population within 1,000 feet of site	3	4	12	12
в.	Distance to nearest well	1	10	10	30
c.	Land use/zoning within 1 mile radius	3	3	9	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	O	6	0	· 18
1.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	88	180
	Receptors subscore (100 x factor score subtotal/maxim	num subtota	1)		49
11.	WASTE CHARACTERISTICS				
Α.	Select the factor score based on the estimated quanti- level of the information.	ity, the de	gree of hazard,	and the co	nfidence
	1. Waste quantity (S = small, M ≃ medium, L = large))			м
	 Confidence level (C = confirmed, S = suspected) 				с
	 Hazard rating (H = high, M = medium, L = 1ow) 				M
	Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			60
в.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B				
	60 × .9 ≠ 54				
с.	Apply physical state multiplier				
	Subscore B x Physical State Multiplier = Waste Charac	teristics	Subscore		

54 × 1.0 = <u>54</u>

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Factor Maximum Rating Factor Possible Score Rating Factor (0-3) Multiplier Score if there is evidence of migration of hazardous contaminants, assign maximum factor subscore of ۸. 100 points for direct evidence or 80 points for indirect evidence. If direct evidence exists then proceed to C. If no evidence or indirect evidence exists, proceed to B. Subscore 0 8. Rate the migration potential for three potential pathways: surface-water migration, flooding, and ground-water migration. Select the highest rating, and proceed to C. 1. Surface-water migration 24 Distance to nearest surface water 0 8 0 0 6 0 18 Net precipitation Surface erosion 8 Ô 24 0 6 18 Surface permeability 1 6 0 0 8 24 Rainfall intensity Subtotals 6 108 Subscore (100 x factor score subtotal/maximum score subtotal) 6 0 1 0 100 2. Flooding Subscore (100 x factor score/3) 0 3. Ground-water migration 24 Depth to ground water 1 8 8 0 0 18 Net precipitation 6 Soil permeability 2 8 16 24 Subsurface flows 0 8 0 24 24 Direct access to ground water 1 8 8 32 114 Subtotals 28 Subscore (100 x factor score subtotal/maximum score subtotal) Highest pathway subscore с. Enter the highest subscore value from A, B-1, B-2, or B-3 above. Pathways Subscore ١٧. WASTE MANAGEMENT PRACTICES ۸. Average the three subscores for receptors, waste characteristics, and pathways. 49 Receptors Waste Characteristics 54 28 Pathways Total 131 divided by 3 = 44 Gross Total Score 8. Apply factor for waste containment from waste management practices Gross Total Score x Waste Management Practices Factor = Final Score 44 $44 \times 1.0 =$

III. PATHWAYS

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: S-23, French Drain LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Jet fuel, POL SITE RATED BY: Michael Kemp

L. RECEPTORS

Rating Factor	Rating (0-3)	<u>Multiplier</u>	Factor Score	Possible Score
Population within 1,000 feet of site	3	4	12	12
Distance to nearest well	1	10	10	30
Land use/zoning within 1 mile radius	3	3	9	9
Distance to reservation boundary	2	6	12	18
Critical environments within 1 mile radius of site	0	10	0	30
Water quality of nearest surface-water body	0	6 .	0	18
Ground-water use of uppermost aquifer	- 3	9	27	27
Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
Population served by ground-water supply within 3 miles of site	3	, 6.	18	18
		Subtotals	88	180
Receptors subscore (100 x factor score subtotal/maxim	num subtota	1)		49
WASTE CHARACTERISTICS				-
Select the factor score based on the estimated quanti level of the information.	ity, the de	gree of hazard,	and the co	nfidence
1. Waste quantity (S = small, M = medium, L = large))			M
2. Confidence level (C = confirmed, S = suspected)				S
3. Hazard rating (H = high, M = medium, L = low)				M·
Factor Subscore A (from 20 to 100 based on factor see	ore matrix)			40
Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B				
40 x .9 = 36				
Apply physical state multiplier				
Subscore B x Physical State Multiplier = Waste Charac	cteristics	Subscore		
	Rating Factor Population within 1,000 feet of site Distance to nearest well Land use/zoning within 1 mile radius Distance to reservation boundary Critical environments within 1 mile radius of site Water quality of nearest surface-water body Ground-water use of uppermost aquifer Population served by surface-water supply within 3 miles downstream of site Population served by ground-water supply within 3 miles of site Receptors subscore (100 x factor score subtotal/maxin WASTE CHARACTERISTICS Select the factor score based on the estimated quantilevel of the information. 1. Waste quantity (S = small, M = medium, L = large 2. Confidence level (C = confirmed, S = suspected) 3. Hezard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 40 x .9 = 36 Apply physical state multiplier	RatingRating (0-3)Population within 1,000 feet of site3Distance to nearest well1Land use/zoning within 1 mile radius3Distance to reservation boundary2Critical environments within 1 mile radius of site0Water quality of nearest surface-water body0Ground-water use of uppermost aquifer3Population served by surface-water supply within 3 miles downstream of site0Population served by ground-water supply within 3 miles of site3Receptors subscore (100 x factor score subtotal/maximum subtotaWASTE CHARACTERISTICSSelect the factor score based on the estimated quantity, the de level of the information.1. Waste quantity (S = small, M = medium, L = large)2. Confidence level (C = confirmed, S = suspected)3. Hazard rating (H = high, H = medium, L = low)Factor Subscore A (from 20 to 100 based on factor score matrix)Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B 40 x .9 = 36Apply physical state multiplierSubscore B x Physical State Multiplier = Waste Characteristics	Rating FactorMultiplierPopulation within 1,000 feet of site34Distance to nearest well110Land use/zoning within 1 mile radius33Distance to reservation boundary26Critical environments within 1 mile radius of site010Water quality of nearest surface-water body06Ground-water use of uppermost aquifer39Population served by surface-water06Supply within 3 miles downstream of site06Population served by ground-water36Supply within 3 miles of site36Subtotals36Receptors subscore (100 x factor score subtotal/maximum subtotal)WASTE CHARACTERISTICSSelect the factor score based on the estimated quantity, the degree of hazard, level of the information.1. Waste quantity (S = small, H = medium, L = large)2. Confidence level (C = confirmed, S = suspected)3. Hazard rating (H = high, H = medium, L = low)Factor Subscore A (from 20 to 100 based on factor score matrix)Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B40 x .9 = 36Apply physical state multiplierSubscore B x Physical State MultiplierSubscore B x Physical State Multiplier	Rating FactorFactorFactor (0-3)Factor ScorePopulation within 1,000 feet of site3412Distance to nearest well11010Land use/zoning within 1 mile radius339Distance to reservation boundary2612Critical environments within 1 mile radius of site0100Water quality of nearest surface-water body060Ground-water use of uppermost aquifer3927Population served by surface-water supply within 3 miles downstream of site060Population served by ground-water supply within 3 miles of site3618Subtotals8888Receptors subscore (100 x factor score subtotal/maximum subtotal)VASTE CHARACTERISTICS88Select the factor score based on the estimated quantity, the degree of hazard, and the collevel of the information.1Nester water subscore A (from 20 to 100 based on factor score matrix)Apply presistence factor Factor Subscore A (from 20 to 100 based on factor score matrix)Apply physical state multiplierApply physical state multiplierSubscore B × Physical State MultiplierSubscore

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III. PATHWAYS

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	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score			
Α.	If there is evidence of migration of hazardous co 100 points for direct evidence or 80 points for f then proceed to C. If no evidence or indirect ev	ontaminants, as: Indirect evidend Vidence exists,	sign maximum fac ce. If direct e proceed to B.	tor subsco vidence ex	re of lsts			
			Su	bscore	0			
в.	Rate the migration potential for three potential and ground-water migration. Select the highest r	pathways: suri ating, and proc	face-water migra	tion, floo	ding,			
	1. Surface-water migration							
	Distance to nearest surface water	0	8	0	24			
	Net precipitation	0	6	0	18			
	Surface erosion	0	8	0	24			
	Surface permeability	1	6	6	18			
	Rainfall intensity	0	8	0	24			
	_		Subtotals	6	108			
	Subscore (100 x factor score subtotal/maximum sco	ore subtotal)			6			
	2. Flooding	0	1	0	100			
		Subscore	(100 x factor s	core/3)	0			
	3. Ground-water migration							
	Depth to ground water	1	8	8	24			
	Net precipitation	0	· 6	0	18			
	Soil permeability	2	8	16	24			
	Subsurface flows	0	8	0	24			
	Direct access to ground water	1	8	8	24			
	-		Subtotals	32	114			
	Subscore (100 x factor score subtotal/maximum sco	re subtotal)			28			
с.	Highest pathway subscore							
	Enter the highest subscore value from A. B-1. B-2	. or B-3 above.						
		,	Pathways Subs	COLE	28			
			-					
IV.	WASTE MANAGEMENT PRACTICES							
Α.	Average the three subscores for receptors, waste	characteristics	s, and pathways.					
			Receptors Waste Charact Pathways Total 113 div	eristics	49 36 28 38			
				Gra	oss Total Sco			
в.	Apply factor for waste containment from waste man	agement practic	63					
	Gross Total Score x Waste Management Practices Factor = Final Score							
	Closs local scole x waste Management Flattices Fa							
	GIOSS IOLAT SCOLE & Waste Phonagement Flattites Fa		38 x 1.0 =		38			

HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: S-25, Sludge Drying Beds LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --* OWNER/OPERATOR: George AFB, California COMMENTS/DESCRIPTION: Sanitary, some industrial SITE RATED BY: Michael Kemp .

RECEPTORS ۱.

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	Rating Factor	Factor Rating (0-3)	<u>Multiplier</u>	Factor <u>Score</u>	Possible Score
А.	Population within 1,000 feet of site	1	4	4	12
в.	Distance to nearest wall	1	10	10	30
с.	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	0	10	0	30
F.	Water quality of nearest surface-water body	0	6	0	18
с.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18
۱.	Population served by ground-water supply within 3 miles of site	3	6	18	18
			Subtotals	80	180
II. A	WASTE CHARACTERISTICS	ity the de	area of bazard	and the cou	
к.	level of the information.	ity, the dep	gree of nazard,	and the con	Trigence
	 Waste quantity (S ≃ small, M ≃ medium, L = large)			м
	2. Confidence level (C = confirmed, S = suspected)				
					S
	3. Hazard rating (H = high, M = medium, L = low)				S M
	3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor sco	ore matrix)			S M . 40
в.	3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B	ore matrix)			S M . 40
в.	3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 x 1.0 = 40	ore matrix)			S M . 40
B.	3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor scent Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 x 1.0 = 40 Apply physical state multiplier	ore matrix)			S M . 40
B. c.	3. Hazard rating (H = high, M = medium, L = low) Factor Subscore A (from 20 to 100 based on factor score Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B 40 x 1.0 = 40 Apply physical state multiplier Subscore B × Physical State Multiplier = Waste Charace	ore matrix) cteristics (Subscore		S M . 40

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•					Page 2 of 2
, .	PATHWAYS				1 dye 2 01 2
	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Maximum Possible Score
A.	If there is evidence of migration of hazardous co 100 points for direct evidence or 80 points for i then proceed to C. If no evidence or indirect ev	ontaminants, as indirect eviden vidence exists,	sign maximum fa ce. if direct proceed to B.	ctor subsco evidence ex	re of ists
			5	ubscore	0
8.	Rate the migration potential for three potential and ground-water migration. Select the highest r	pathways: sur ating, and pro	face-water migr ceed to C.	ation, floo	ding,
	1. Surface-water migration				
	Distance to nearest surface water	0	8	0	24
	Net precipitation	0	6	0	18
	Surface erosion	2	8	16	24
	Surface permeability	1	6	6	18
	Rainfall intensity	0	8	0	24
			Subtotals	22	108
	Subscore (100 x factor score subtotal/maximum sco	ore subtotal)	•		20
	2. Flooding	0	1	0	100
		Subscore	(100 × factor	score/3)	0
	3. Ground-water migration				
	Depth to ground water	1	8	8	24
	Net precipitation	0	6	0	18
	Soil permeability	2	8	16	24
	Subsurface flows	0	8	0	24
	Direct access to ground water	1	8	8	24
			Subtotals	32	114
	Subscore (100 x factor score subtotal/maximum sco	re subtotal)			28
c.	Highest pathway subscore				
	Enter the highest subscore value from A, B-1, B-2	, or B-3 above	•		
			Pathways Sub	score	
IV.	WASTE MANAGEMENT PRACTICES		-		
Α.	Average the three subscores for receptors, waste	characteristic	s, and pathways	•	
		•	Receptors Waste Charac Pathways Total 102 di	teristics vided by 3 Gr	44 30 28 ≖ 34 oss Total Scord
в.	Apply factor for waste containment from waste man	agement practi	ces		
	Gross Total Score x Waste Management Practices Fa	ctor = Final S	core		

34 x 1,0 =

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HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: C-1, Landfill LOCATION: George AFB, California DATE OF OPERATION OR OCCURRENCE: --OWNER/OPERATOR: George AFB, California

COMMENTS/DESCRIPTION: Domestic, industrial, munitions

SITE RATED BY: Michael Kemp

1. RECEPTORS

	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	Possible Score
Α.	Population within 1,000 feet of site	2	4	8	12
8.	Distance to nearest well	2	10	20	30
с.	Land use/zoning within 1 mile radius	2	3 ·	6	9
D.	Distance to reservation boundary	2	6	12	18
Ε.	Critical environments within 1 mile radius of site	0	10	ο΄	30
F.	Water quality of nearest surface-water body	0	6	0	18
G.	Ground-water use of uppermost aquifer	3	9	27	27
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0,	18
۱.	Population served by ground-water supply within 3 miles of site	1	, 6	6	18
			Subtotals	79	180
	Receptors subscore (100 x factor score subtotal/maxin WASTE CHARACTERISTICS	mum subtota	1)		44
۸.	Select the factor score based on the estimated quant level of the information.	ity, the de	g ree of hazard,	, and the co	onfidence
	1. Waste quantity (S = small, M = medium, L = large)			м
	 Confidence level (C = confirmed, S = suspected) 				с
	3. Hazard rating (H = high, M = medium, L = low)				M ·
	Factor Subscore A (from 20 to 100 based on factor sc	ore matrix)			60
₿.	Apply persistence factor Factor Subscore A x Persistence Factor = Subscore B				
	$60 \times 1.0 = 60$				
c.	Apply physical state multiplier				
	Subscore B x Physical State Multiplier = Waste Chara	cteristics	Subscore		
	$60 \times 1.0 = 60$				

0 - 49

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B

				65					
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4	•					Page 2 of 2			
	PAT	HWAYS							
		Rating Factor	Factor Rating (0-3)	<u>Multiplier</u>	Factor Score	Maximum Possible Score			
۸.	lf 100 the	there is evidence of migration of h) points for direct evidence or 30 p in proceed to C. If no evidence or	azardous contaminants, asso oints for indirect evidence indirect evidence exists,	sign meximum fa te. If direct proceed to 8.	ctor subsca evidence ex	re of ists			
				S	ubscore	<i>.</i> 0			
8.	Rate the migration potential for three 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 surface water	0	8	0	24			
		Net precipitation	0	6	0	18			
		Surface erosion	2	8	16	24			
		Surface permeability	. 1	6	6	18			
		Rainfall intensity	0	8	0	24			
				Subtotals	22	108			
	Subscore (100 × factor score subtotal/maximum score subtotal)					20			
	2.	Flooding	0	1	0	100			
			Subscore	(100 x factor	score/3)	0			
	3.	Ground-water migration							
		Depth to ground water	1	8	8	24			
		Net precipitation	0	· 6	0	18			
		Soil p ermea bility	2	8	16	24			
		Subsurface flows		8	0	24			

Average the three subscores for receptors, waste characteristics, and pathways. Α.

Receptors	44	
Waste Characteristics	60	
Pathways	28	
Total 132 divided by 3 =	44	
Gross	Total	Score

8 32

— В. Apply factor for weste containment from waste management practices

Subscore (100 x factor score subtotal/maximum score subtotal)

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

Direct access to ground water

Highest pathway subscore

IV. WASTE MANAGEMENT PRACTICES

c.

8.

Gross Total Score x Waste Management Practices Factor = Final Score

44 x 1.0 =

8

Pathways Subscore

Subtotals

44

24

114

28

28

HAZARDOUS ASSESSMENT RATING FORM

NAME OF SITE: C-6, Miscellaneous Burial

LOCATION: George AFB, California

DATE OF OPERATION OR OCCURRENCE: --

OWNER/OPERATOR: George AFB, California

COMMENTS/DESCRIPTION: Possible industrial, domestic, munitions

SITE RATED BY: Michael Kemp

i. RECEPTORS

	Rating Factor	Factor Rating (0-3)	Multiplier	Factor Score	-Maximum Possible Score		
Α.	Population within 1,000 feet of site	2	4	8	12		
в.	Distance to nearest well	2	10	20	30		
с.	Land use/zoning within 1 mile radius	2	3	6	9		
D.	Distance to reservation boundary	2	6	12	18		
Ε.	Critical environments within 1 mile radius of site	0	10	0	30		
F.	Water quality of nearest surface-water body	0	6	. 0	18		
G.	Ground-water use of uppermost aquifer	3	9	. 27	27		
н.	Population served by surface-water supply within 3 miles downstream of site	0	6	0	18		
۱.	Population served by ground-water supply within 3 miles of site	1	[~] 6	6	18		
			Subtotals	79	180		
	Receptors subscore (100 × factor score subtotal/maxim	mum subtota	1)		44		
11	WASTE CHARACTERISTICS						
A.	Select the factor score based on the estimated quantity, the degree of hazard, and the confidence level of the information.						
	1. Waste quantity (5 = small, M = medium, L = large)			S		
	<pre>2. Confidence level (C = confirmed, S = suspected)</pre>	•			С		
	 Hazard rating (H = high, H = medium, L = low) 				M ·		
	Factor Subscore A (from 20 to 100 based on factor score matrix)						
8.	Apply persistence factor Factor Subscore A × Persistence Factor = Subscore B						
	$50 \times 1.0 = 50$						
с.	ADD/v physical state multiplier						

Subscore B x Physical State Multiplier = Waste Characteristics Subscore

50 × 1.0 = 50

0 ~ 51

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OR OCCURRENCE:

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