ECOLOGY AND ENVIRONMENT, INC.

FIELD INVESTIGATION TEAM

SITE INSPECTION PLAN

US EPA RECORDS CENTER REGION 5

553794

A. GENERAL INFORMATION

SITE: Sahara Coal Co #3

LOCATION: SW 1/4 of Section 15
T9S R6E
Saline Co.

TDD NO.: F05-8705-058

U.S. EPA NO.: ILD981197114

SSID NO.: _____

WSTS NO.: FIL0556GA

PLAN PREPARED BY: K. Neswick

DATE: _____

APPROVED BY: _____

DATE: _____

OBJECTIVE (including description of work to be performed): _____

DESIRED REPORT FORM: SI REPORT (2070-13) _____ HRS REPORT _____

OTHER (EXPLAIN) _____

PROPOSED DATE OF INVESTIGATION: _____

BACKGROUND REVIEW: Complete: ✓ Preliminary: ____

HRS PRELIMINARY SCORE OF ROUTES: GW _____ SW _____ AIR _____
(NO FIELD WORK)

DIRECT CONTACT _____ FIRE AND EXPLOSION _____

TOTAL PRELIMINARY HRS SCORE VALUE (NO FIELD WORK) _____

PROJECTED HRS SCORE: GW _____ SW _____ AIR _____
(WITH FIELD WORK)

DIRECT CONTACT _____ FIRE AND EXPLOSION _____

TOTAL PROJECTED HRS SCORE _____

IF NO SAMPLING, EXPLAIN ON PAGE 3.

INSPECTION PRIORITY (BASED ON PROJECTED HRS SCORE): LOW: ____ MEDIUM: ____ HIGH: ____

B. SITE/WASTE CHARACTERISTICS

WASTE TYPE(S): Liquid ____ Solid ____ Sludge ____ Gas ____

CHARACTERISTIC(S): Corrosive ____ Ignitable ____ Radioactive ____ Volatile ____

Toxic ____ Reactive ____ Unknown ____ Other (Name) _____

FACILITY DESCRIPTION: Sahara C.C #3 is 9.0 acres and has been reclaimed. The city of Harrisburg has been developed on the 9.0 acres, formerly a gob pile.

Principal Disposal Method (type and location):

Unusual Features (dike integrity, power lines, terrain, etc.):

Status: (active, inactive, unknown)
Mined 1904 - 1938

History: (worker or non-worker injury; complaints from public; previous agency action):

C. HAZARD EVALUATION

(Use Hazard Evaluation of Chemicals sheets for specific or representative chemicals present.):

Aluminum
Calcium
Iron
SO4
Zinc
Nickel
Sulfer
Manganese

LEVEL OF PROTECTION: A ___ B ___ C ___ D ✓

MODIFICATIONS: Rad mini: if alarm sounds or readings >0.1mR/hr abandon site
HNU = 1-5ppm level C; 5-500ppm level B; >500ppm level A
(any readings above background, abandon site + contact PSC)
O_2 meter <19.5% or >25% leave site
Explosimeter: >30% LEL leave site
Dearger tubes: Any color change leave site

SITE SAFETY PLAN ON FILE AT E & E: YES ___ NO ___

D. FIELD WORK REQUIRED

PERIMETER ESTABLISHMENT: MAP/SKETCH ATTACHED? YES ___ NO ___

Perimeter Identified? YES ___ NO ___

Zone(s) of Contamination Identified? YES ___ NO ___

Geophysical Work: YES ___ NO ___

Type: Magnetometry ___ Seismic Refraction ___ GPR ___ Resistivity ___ Other___

Comments: _____

Drilling: YES ___ NO ___

Well Location Identified: YES ___ NO ___

Drill Plan/Well Installation Plan Attached: YES ___ NO ___

Sampling Required: YES ___ NO ___

Type: GW ___ SW ___ Air ___ Soil ___ Waste ___ Other ___

Sampling Locations Identified: YES ___ NO ___

SUMMARY OF SAMPLING PROCEDURES: (Special Equipment, Facilities, or Procedures)

E. ANALYTICAL SERVICES REQUIRED

RAS ____ SAS ____ CRL ____

F. QAPP

REQUIRED: YES ____ NO ____

IF NO, EXPLAIN: _____

G. SI WORK TEAM SIZE/LIMITATION

TEAM MEMBER	DISCIPLINE	RESPONSIBILITY
		TEAM LEADER
		TEAM member
		Site Safety Officer
		Sampler

WORK LIMITATIONS (Time of day, etc.): Work daylight hours only, monitor for heat and cold stress. Maintain "Buddy System" at all times.

COMMENTS: _____

PRE-HRS

Facility name: Sahara Coal Co. #3

Location: SW 1/4 of Sect 15 T.9S.-R6E.

FACILITY DESCRIPTION: Sahara Coal Co. #3 is 9.0 acres and has been reclaimed + Developed.

POTENTIAL SW + GW	OBS. RELEASE SW + GW
Scores S_M = (S_{gw} = S_{sw} = S_a =)	S_M = (S_{gw} = S_{sw} = S_a =)
S_{FE} =	S_{FE} =
S_{DC} =	S_{DC} =
Potential SW OBS. RELEASE GW	**Potential GW OBS RELEASE SW**
S_M = (S_{gw} = S_{sw} = S_a =)	S_M = (S_{gw} = S_{sw} = S_a =)
S_{FE} =	S_{FE} =
S_{DC} =	S_{DC} =

PRE-HRS
WORKSHEET
-GW & SW

Groundwater Route	
Depth to aquifer of concern	~ 50 ft (2)
Net precipitation	43.5 - 35.8 = 7.7 (2)
Perneability (material type)	10^{-5} - 10^{-3} (1)
Physical state	Solid (1)
Containment (type, degree)	Piles unstablized, Surface impoundment unsound (3)
Toxicity; persistence (compounds)	Al, CA, Fe, SO4, Zn, Ni, S, Mg (18)
quantity	9 acres of gobpiles (8)
Groundwater use	Drinking (3)
Population served	
Nearest well	
Surface Water Route	
Slope and terrain	Avg slope + terrain (1)
24 hr rainfall	3.0 inches (2)
Nearest Surface water	2 miles to Middle Fork (1)
Physical state	Solid (1)
Containment (type, degree)	Waste unconsolidated (3)
Toxicity; persistence (compounds)	Al, CA, Fe, SO4, Zn, Ni, S, Mg (18)
quantity	9 acres of gob piles (8)
Surface water use	Recreation (2)
Sensitive environment	NA
Intake distance	NA
Population served	NA

05T:2T

Ground Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	OBS. RELEASE
1 Observed Release	0 45	1		45	3.1	
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2						
2 Route Characteristics					3.2	
Depth to Aquifer of Concern	0 (1) 2 3	2	2	6		
Net Precipitation	0 1 (2) 3	1	2	3		
Permeability of the Unsaturated Zone	0 1 2 (3)	1	3	3		
Physical State	0 (1) 2 3	1	1	3		
	Total Route Characteristics Score		8	15		
3 Containment	0 1 2 (3)	1	3	3	3.3	
4 Waste Characteristics					3.4	
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8		
	Total Waste Characteristics Score		26	26		
5 Targets					3.5	
Ground Water Use	0 1 2 (3)	3	9	9		
Distance to Nearest Well/Population Served	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	20	40		
	Total Targets Score		29	49		
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5				57,330		
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =				

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	OBS. RELEASE
1 Observed Release	0 45	1		45	4.1	
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2						
2 Route Characteristics					4.2	
Facility Slope and Intervening Terrain	0 (1) 2 3	1	1	3		
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	3		
Distance to Nearest Surface Water	0 (1) 2 3	2	2	6		
Physical State	0 (1) 2 3	1	1	3		
Total Route Characteristics Score			6	15		
3 Containment	0 1 2 (3)	1	3	3	4.3	
4 Waste Characteristics					4.4	
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8		
Total Waste Characteristics Score			26	26		
5 Targets					4.5	
Surface Water Use	0 1 (2) 3	3	6	9		
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6		
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40		
Total Targets Score			6	55		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			2808	64,350		
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} = 4.36				

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

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

FIGURE 9
AIR ROUTE WORK SHEET

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

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

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

FIGURE 12
DIRECT CONTACT WORK SHEET

WORK PLAN

ecology and environment, inc.
CHICAGO, ILLINOIS

ITE NAME Johns Coal #3 TDD F05-8705-058 PROJECT ACCOUNT NO. F1L05566A

ROJECT LEADER _____ PROJECTED LOE HOURS _____

ATE ASSIGNED / / DATE COMPLETED / / WEEK ENDING 12/12/87

EMPLOYEE	SUBTASK CODE / SUBTASK: GENERAL NON-SPECIFIC A	FILE SEARCH/REVIEW B	WORK PLAN C	SAFETY PLAN D	MOBILIZATION AND DEMOBILIZATION F	TRAVEL G	NON-SAMPLING FIELD WORK H	DATA PROCESSING/ MODELLING P	TOTAL
Neswick			16						
TOTALS FOR WEEK									
PREVIOUS TOTAL									
TOTALS FOR PROJECT									

CRIPTIONS OF WEEKS ACTIVITIES _____

WORK PLAN

ecology and environment, inc.
CHICAGO, ILLINOIS

ITE NAME Sahara 3 TDD F05-8705-058 PROJECT ACCOUNT NO. F1L0556GA

ROJECT LEADER _____ PROJECTED LOE HOURS _____

ATE ASSIGNED / / DATE COMPLETED / / WEEK ENDING 12/5/87

EMPLOYEE	SUBTASK CODE: GENERAL NON-SPECIFIC A	FILE SEARCH/REVIEW B	WORK PLAN C	SAFETY PLAN D	MOBILIZATION AND DEMOBILIZATION F	TRAVEL G	NON-SAMPLING FIELD WORK H	DATA PROCESSING/ MODELLING P	TOTAL
Craig Carlson	3								
Neswick			16						
TOTALS FOR WEEK									
PREVIOUS TOTAL									
TOTALS FOR PROJECT									

CRIPTIONS OF WEEKS ACTIVITIES _____

ecology and environment, inc.
CHICAGO, ILLINOIS

WORK PLAN

SITE NAME Sahara Coal #3 TDD F05-8705-058 PROJECT ACCOUNT NO. F1L0556GA

PROJECT LEADER _____ PROJECTED LOE HOURS _____

DATE ASSIGNED / / DATE COMPLETED / / WEEK ENDING 11/28/87

EMPLOYEE	SUBTASK CODE	GENERAL NON-SPECIFIC	FILE SEARCH/REVIEW	WORK PLAN	SAFETY PLAN	MOBILIZATION AND DEMOBILIZATION	TRAVEL	NON-SAMPLING FIELD WORK	DATA PROCESSING/ MODELLING	TOTAL
		A	B	C	D	F	G	H	P	
Neswick				4						
Craig Carlson										
TOTALS FOR WEEK										
PREVIOUS TOTAL										
TOTALS FOR PROJECT										

DESCRIPTIONS OF WEEKS ACTIVITIES _____

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WORK PLAN

SITE NAME Sahara #3 TDD F05-8705-058 PROJECT ACCOUNT NO. FL055566A

PROJECT LEADER _____ PROJECTED LOE HOURS _____

DATE ASSIGNED / / DATE COMPLETED / / WEEK ENDING 10/31/87

EMPLOYEE \ SUBTASK CODE	SUBTASK: GENERAL NON-SPECIFIC (A)	FILE SEARCH/REVIEW (B)	WORK PLAN (C)	SAFETY PLAN (D)	MOBILIZATION AND DEMOBILIZATION (F)	TRAVEL (G)	NON-SAMPLING FIELD WORK (H)	DATA PROCESSING/ MODELLING (P)	TOTAL
NESWICK	4								
TOTALS FOR WEEK									
PREVIOUS TOTAL									
TOTALS FOR PROJECT									

DESCRIPTIONS OF WEEKS ACTIVITIES _____