

NMED-SWQB SURFACE WATER SITE ASSESSMENT WORKSHOP

MAY 19, 1998

8 AM - 5 PM

Agenda

G/M/98
MORNING SESSION (Energy Training Center, KAFB)

- 8:00 Welcome - Glenn Saums, Prog. Mgr., NMED-SWQB
- 8:15 Introduction - Barbara Hoditschek, Env. Spec., NMED-SWQB
- 8:30 Presentation/Questions - Steve Veenis, Merrick & Co./LANL
- 9:30 Break
- 9:45 Presentation/Questions - Robin Reynolds, Water Quality/Hydrology GRP., LANL
- 11:15 Distribute ER Site Documentation and Break for Lunch

AFTERNOON SESSION (Sandia National Laboratories (SNL), Bldg. 811, Rms. 218-220)

- 1:00 Meet at SNL Bldg. 811/Leave in Vans to first ER site
- 3:45 Return to SNL Bldg 811, Rms 218-220 - Refreshments
- 4:00 Form Groups to Develop Questions
- 4:15 Panel Discussion - NMED and LANL Presenters
- 5:00 Leave SNL



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AN APPROACH TO EVALUATE EROSION POTENTIAL AT ENVIRONMENTAL RESTORATION SITES

- **Over 2000 Sites Overall**
- **Sites Near Watercourse (+/- 900 sites)**
- **Develop Evaluation Criteria**
- **Matrix Development**
- **Field Logistics**
- **Surface Water Assessment Team (SWAT)**

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CONSTITUENT ASSESSMENTS CRITERIA TO BE EVALUATED

- **Action to Date**
 - **RFI, SAP, VCA, Other Plans**
- **Available Soil/Sediment Sample Data**
 - **Above detection limits**
 - **0"-12" in depth**
 - **Supporting information**
 - **Surface Water Data if Available**

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SURFACE WATER SITE ASSESSMENT

CRITERIA TO BE EVALUATED

- **Site Setting**
- **Surface Water Runoff**
- **Surface Water Runon**

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SURFACE WATER SITE ASSESSMENT

SITE SETTING

- **On Mesa Top or Hill**
- **Within Bench of Canyon or Drainage Basin**
- **Within Canyon Floodplain or Drainage Basin but not
in Watercourse**
- **Within Well Defined Channel in Canyon Floor or
Drainage Basin**
- **Estimated % of Ground and Canopy Cover**
- **Estimated % Slope**

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SURFACE WATER SITE ASSESSMENT

SURFACE WATER RUNOFF

- **Is There Visible Evidence of Runoff?**
- **Can a Determination be Made to Where the Runoff Terminates?**
- **Has Runoff Caused Visible Erosion?**

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SURFACE WATER SITE ASSESSMENT

SURFACE WATER RUN-ON

- **Are Man-Made Structures Impacting Run-on?**
- **Are Current Operations Adversely Impacting Run-on?**
- **Are Natural Drainages Impacting Run-on?**

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SURFACE WATER SITE ASSESSMENT

EROSION MATRIX SCORE SHEET

- **CRITERIA EVALUATED**
- **WEIGHTED VALUES**
- **EROSION POTENTIAL FACTORS**
- **CALCULATED SCORE**

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SURFACE WATER SITE ASSESSMENT

SURFACE WATER ASSESSMENT TEAM

- **Evaluates Constituent and Surface Water Assessments**
- **Recommends Corrective/Interim Actions**
- **Provides Input to Prioritization of Actions**
- **Identify Responsible Party**
- **Communicates Findings to Responsible Party**
- **Reference LANL BMP Guidance Document**

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AP 4.5

Part "B" Implementation and Logistics

Robin P. Reynolds

Staff Member

Water Quality & Hydrology Group

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Facility Management Work Control

Addressing Site Specific Work Control Program Requirements.

- Create Well Defined Work Packages Which Include
 - Hazard Identification
 - Analysis
 - Stated Controls
 - Lessons Learned
- FMU Work Control Process
 - Work Request
 - Work Review
 - Characterize the Requested Work
 - ES&H Screening & Hazard Control Review
 - Approval
 - Scheduling

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ES&H Hazard Screening

Instructions: An authorized person, designated by the facility manager (FM), is responsible for initial identification of environment, safety, and health (ES&H) hazards associated with this work request. Refer to LIG402-10-01.0, *Guidance for Hazard Analysis and Control*, to complete the hazard screening. If the work involves new construction projects, modified construction plans, or new or modified programs or processes, the ESH-ID process should be considered.

Work Request Number	Originator Name			Originator Z Number
Facility Management Unit	Technical Area	Building	Room	Other
Work Description				
Environmental Impacts: Does the work involve . . .				
Watercourses (e.g., potential disturbance of a river, creek, arroyo, canyon, draw, or wash)	No	Yes	Don't Know	
Emissions or Discharges (e.g. production, or new or modified air emissions or water discharges to the environment)	No	Yes	Don't Know	
Existing Waste Streams (e.g., changes to existing waste streams)	No	Yes	Don't Know	
New Waste (e.g., generation of hazardous waste)	No	Yes	Don't Know	
Worker Hazards: Does the work involve . . .				
Ionizing Radiation (e.g., handling radioactive material, entry into possible radiological areas, working with or near radiation-producing devices)	No	Yes	Don't Know	
Worker Exposure (e.g., working with or potential exposure to nonionizing radiation, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes)	No	Yes	Don't Know	
Energized/Operative Systems (e.g., working on or near energized electrical systems or explosive materials; or working on or with gas, water, steam, waste-line other than sewer-line, pressure, or cryogen systems; unprotected belts, pulleys, chains, or rotating equipment; fuel-fired equipment other than vehicles; or spark- or flame-producing operations)	No	Yes	Don't Know	
Confined Spaces (e.g., entry into tanks, manholes, cooling towers, sumps)	No	Yes	Don't Know	
Excavations or Penetrations (e.g., indoor or outdoor excavation; soil disturbance; or ceiling, floor, wall, or roof penetration)	No	Yes	Don't Know	
Material-Handling/Heavy Equipment (e.g., working with or near operating cranes, hoists, rigging equipment, forklifts, or heavy equipment including bulldozers, backhoes, or drill rigs)	No	Yes	Don't Know	
Elevated Work Surfaces (e.g., platforms, roofs, or unprotected raised structures above six feet)	No	Yes	Don't Know	
Other (Describe)	No	Yes	Don't Know	
Special Training, Escort, or Access Requirements (Describe)				
<p>Note: If any answers to the questions above are <i>Yes</i> or <i>Don't Know</i>, Form 1693, <i>ES&H Hazard Controls</i>, must be completed by qualified personnel. Assistance from institutional ESH personnel is available as needed.</p> <p>If all answers to the questions above are <i>No</i>, work may proceed upon authorization by the FM or designee.</p>				
Signature				
<p>Authorized Person _____ / _____ Date _____</p> <p style="text-align: center;">Name Signature</p>				

GENERAL FIELD WORK

Purpose

This Water Quality and Hydrology Group Procedure describes safety and emergency procedures for field work.

Scope

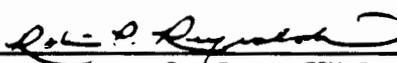
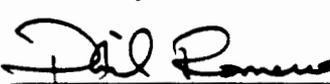
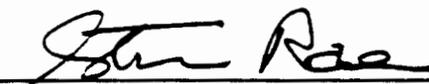
This procedure applies to all group personnel who conduct field work.

In this procedure

This procedure addresses the following major topics:

Topic	See Page
General Information	2
Who Requires Training to this Procedure?	2
Background	4
Before Leaving for the Field	5
Site Specific Activities	6
In the Field	7
Injury in the Field	8
Lost Person or Person Who Has Not Checked In or Returned	9
Electrical & Mechanical Hazards	9
Chemical Hazards	10
General Field Hazards	11
Lightning Hazards	12
Poisonous Snakes and Ticks	13
Prevention of Plague and Hantavirus Infection	14
Attachment 1. Field Work Checklist	16
Attachment 2. Preventive Medicine	17
Attachment 3. AR 1-12	19

Signatures

Revised by:  Robin Reynolds, ESH-18	Date: June 4, 1997
Reviewed by:  Safety Committee Chair Person	Date: June 4, 1997
Reviewed by:  ESH-5 Reviewer	Date: June 23, 1997
Approved by:  Steven Rae, ESH-18 Group Leader	Date: July 7, 1997

Field Checklist for AP 4.5

Camera and film
GPS
Radio
Cellular
Metal clipboards with blank forms
Dry erase board, marker
Marking ribbon
Hard hats
Baseball cap
Safety glasses
First aid kits
Bug repellent
Sun screen
Cooler with drinks
Rain gear
Security badge (ERB, photo ID'S)

Training Requirements

ESH-18 Work Control Documentation; Site _____.
FM Training
Tailgate meeting
4.5 Hazards/Controls
FM Specific Requirements

Facility Management Work Control (Con't)

- Job Specific Safety Plans
- Security Issues
 - Cleared/Uncleared
 - Escorts
 - Sight Specific Security Training
- Access Control Requirements
 - Permits
 - Special Access

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3. Site Setting (check all that apply)

- On mesa top (a). ○ In the canyon floor, but not in an established channel (c).
- Within a bench of a canyon (b). ○ Within established channel in the canyon floor (d).

Observations

- Site Setting Critical in Defining a Location for the Listed Site.
- Topographical Map Very Useful in Site Location Determination.

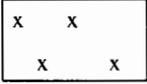
Lessons Learned

- Know the Regulatory Definition of a Watercourse.
- Be Very Specific About Defining Location in Part B Explanation.
- Photograph: 1. Close up of Site 2. Over All Site Setting.

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Site Setting Information (Con't)

4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

(illustration) (a)  (b)  (c) 

Estimated % of Ground/Canopy Cover 0% to 25% 25% to 75% 75% to 100

Observations

- Take Into Consideration All Types of Cover; Overhead & Surface.
- Document Site Cover as Well as Surrounding Area.

Lessons Learned

- Always Include Specifics in Explanation.
- Photographs: 1. Close Up of Site 2. Over All Site Setting.

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Site Setting Information (Con't)

5. Steepest Slope at Area Impacted:

(a)  (b)  (c) 

Less Than 10% 10% to 30% 30% and Greater

Observations

- Estimate Steepest Slope at Listed Site Only.
- Visual Comparison to Illustration Part B Form.

Lessons Learned

- Photograph From Side View With Standing Person as Reference.
- Photographs: 1). Side View of Close-up 2). Distant Perspective

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Run Off Factors

Y/N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
- 6a) Is runoff channelized? If yes, describe: man-made channel natural channel

Observations

- Record Physical Observations, i.e. Sediment, Grass, Debris, Erosional Channels.
- Be Very Specific in Documented Explanation.
- Specify Between Man-Made Channel & Natural Channel.
- If No Evidence is Found, Describe in Explanation.

Lessons Learned

- Visual Assessment of Listed Site, Only.
- Photo Documentation Essential - Close-up of Visible Evidence.
- Place Land Mark at Center of Site for Discharge Route Reference.

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Run Off Factors

- 6 b) Where does evidence of runoff terminate?
- Drainage or wetland (name) _____.
 - Within a bench of a canyon setting (name) _____.
 - Other (i.e., retention pond, meadow, mesa top) _____.

Observations

- Topographical Map Helpful.
- Inspectors Should all Know Definition for Terms.

Lessons Learned

- Where More Than One Setting is Described, Focus Explanation on Most Conservative Setting.
- Photograph Distant Perspective for Topography Reference.

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Run Off Factors (Con't)

Y/N

- 6c) Has runoff caused visible erosion at the site?
 If yes, explain below: o sheet o rill o gully

Observations

- Drawing Helpful of Site in Relationship to Visible Erosion.
- Description of Visible Signs of Erosion.

Lessons Learned

- More Detail Concerning Potential for the Movement of Surface Sediments from the Site.
- Photographs to Document Visible Signs of Erosion.

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Run On Factors

Y/N

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?
 8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?
 9. Are natural drainage patterns directing stormwater onto site?

Observations

- Impacts May Not be Obvious With One Visit.
- Normally, Question 7 or 9 Selected Independently.

Lessons Learned

- More than One Site Visit Required for Potentially High Scoring Sites.
- Photographs to Document Run-on is Critical.

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AP 4.5 LESSONS LEARNED

Results of May 14 & 15, 1998 EPA Region VI NPDES Storm Water Inspection

- EPA has determined that all Solid Waste Management Sites (SWMUs), regardless of having identifiable runoff channels, are considered Point Source Discharges under the definition of Storm Water Discharge Associated with Industrial Activity.

- All SWMUs, even those sites with no runoff channels or rills, must be covered under a Permit and where applicable a SWPP Plan and appropriate BMPs.

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