BEST INTERNATIONAL PRACTICES FOR OIL SPILL RESPONSE PLANNING

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1. The Issue

In the absence of standards or "best practice" guidelines, how to evaluate **oil spill response readiness** in terms of:

- the **Oil Spill Response Plan (OSRP)**, and
- the actual **response capability**

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2. The Challenges

- There are no standards for the:

1. content or information that should be included in an OSRP, or the
2. format and presentation of the information within an OSRP.

- Readiness includes the experience, training, and skills of those involved. These human elements are intangible and difficult to evaluate.

BTC Pipeline Review Process

As there is **no single standard for OSRPs** we developed a **4-stage framework** against which a set of OSRPs and related documents could be evaluated based on internationally recognized guidelines, conventions, and laws.

A. Critical oil spill response components
B. Contents of an OSRP
C. Organization of material in an OSRP
D. Response adequacy

The procedure involves the definition of:

A. The critical components that are necessary to enable an oil spill response operation to be effective and successful, and

B. The key contents and information requirements for an OSRP.

Then each OSRP document is evaluated in the context of:

C. The organization and presentation of the information and material in the OSRP, and

D. The adequacy of the OSRP in terms of whether the plan would enable an effective and well-managed response to be carried out at the time of a spill.

A. Critical Components of a Successful Oil Spill Response Operation

FIRST:

7 planning and 7 response elements identified as the key components that would be required to implement a successful oil spill response operation.

Critical Components of a Successful Oil Spill Response Operation

PLANNING ELEMENTS
Spill Reporting
Notification-Communications
Defined Roles and Responsibilities
Risk-Based Planning
Competent National Authority
National Oil Spill Plan

RESPONSE ELEMENTS
Responsible Authority
Resource Base Knowledge
Strategy Selection
Functional Management System
Appropriate and Maintained Equipment
Appropriate Training and Exercises

B. Key Information and Content Requirements of an OSRP

SECOND:
reviewed recognized guidelines, standards, conventions, and laws to establish a list of the information items that are necessary for a complete OSRP.

This information list is the basis of an information matrix of 80 specific line items that can be used as a checklist against which to evaluate an OSRP.

International Guidelines

- **International Finance Corporation**, 2000. Environmental, Health and Safety Guidelines. Oil and Gas Development (Offshore).
- **ISO**, 2000. ISO 15544. Petroleum and natural gas industries – Offshore production installations – Requirements and guidelines for emergency response.
- USA, 1996. **United States ICP** - Integrated Contingency Plan ("One Plan")
- **IMO**, 1995. IMO Manual on Oil Pollution, Section II – Contingency Planning.
- **IPIECA**, 1991. A Guide to Contingency Planning for Oil Spills on Water.

B. Key Contents of an OSRP

Matrix approach provides a systematic method by which:

(a) the content of the plans could be cross-referenced to topics and information items,

(b) document completeness and status could be identified, and

(c) specific summary review comments could be included.

Matrix Layout

CONTENTS	LOCATION IN BTC GEORGIA PLAN	STATUS			COMMENTS - RECOMMENDATIONS
		Missing	Work in Progress	Compliant	
1.0 Introduction and Scope	OSRP 1			X	
1.1 Purpose & Objective of Plan	OSRP 1.1, 1.2BTC Az			X	Good
1.2 Regulatory Requirements, Relevant Agreements, and Guidelines	OSRP 1.4			X	Revise cross-ref to OSRP Framework in ESIA [App. EV)
1.3 Geographical Limits of Plan	OSRP App. ABTC Az			X	Add cross-ref. to Appendix in OSRP Section 1
1.4 Interface with other Plans	OSRP 1.3			X	List specific locations in GA where full IMS Manual is maintained; suggest a diagram (see GOSRP Fig. 5.2) or specific list to show GA-OSRP plan hierarchy and related documents- include Wildlife Response Plan (?), list of containment manuals (include official Doc. No.)

80 line items organized according to the recommended "Plan Format"

C. Key OSRP Format Considerations

Once the contents and information requirements were defined, then we evaluated the **organization and presentation** of that information.

Again, no format standards, so we reviewed internationally recognized guidelines to develop **a functional and logical format** that could be recommended for the organization and presentation of this information.

C. Key OSRP Format Considerations

PLAN FORMAT and ORGANIZATION	
INTRODUCTION AND SCOPE	LOGISTICS
OIL SPILL RISKS	FINANCE AND CONTRACTING
RESPONSE ORGANIZATION	TRAINING AND DRILLS
SAFETY	
NOTIFICATION	Appendices:
INITIAL RESPONSE ACTIONS	Contacts
RESPONSE OPERATIONS	Equipment Lists
WASTE MANAGEMENT	Maps
WILDLIFE	Forms

C. Key OSRP Format Considerations

CONCISE/COMPLETE
DOCUMENT CONTROL
EASE OF USE FORMAT
ORGANIZATION
STANDARD DESIGN
ACRONYMS
INTEGRATED
TIER 1 STAND-ALONE

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D. Intangible Elements of an OSRP

There are many components to OSR planning.

- Key elements include the experience, training, and skills of those involved.
- These human elements are **intangible** and difficult to evaluate.
- One approach to this challenge is to review the question "*what are the critical elements necessary to adequately and appropriately respond to an oil spill and are they in place?*"

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Response Adequacy

The generation of an information base for an OSRP is no guarantee that the plan will enable an effective and well-managed response to be carried out at the time of a spill incident. So…

To evaluate the **adequacy** of each OSRP, in the context of the purpose and scope of response planning, we consolidated the general issues by reviewing 10 topics suggested by ITOPF with one additional item (# 11).

Topics used to Evaluate the Adequacy of an OSRP (1)

1. **RISK ANALYSIS** – is there arealistic assessment of possible threats, resources most at risk, based on probable movement of spilled oil?
2. **PROTECTION PRIORITIES** - have agreed protection priorities taken into account the viability of the various protection and clean-up options?
3. **RESPONSE, RECOVERY, AND PROTECTION STRATEGIES** – are protection and cleaning strategies agreed and clearly explained?

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Topics used to Evaluate the Adequacy of an OSRP (2)

4. **MANAGEMENT ORGANIZATION AND TRAINING** – is the necessary organization outlined and responsibilities of all those involved been clearly stated (no 'gray areas'); are participants aware of what is expected of them?
5. **EQUIPMENT FOR TIERS 1, 2, AND 3** – are levels of equipment, materials and manpower sufficient to deal with the anticipated size of spill? Are back-up resources identified and have mechanisms for obtaining their release and entry to the country been established?

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Topics used to Evaluate the Adequacy of an OSRP (3)

6. **WASTE MANAGEMENT** - Have temporary storage sites and final disposal routes for collected oil and debris been identified?

7. **NOTIFICATION AND MONITORING** - Are the alerting and initial evaluation procedures fully explained?

8. **COMMUNICATIONS** - Have the arrangements for ensuring effective communication between shore, sea and air been described?

Topics used to Evaluate the Adequacy of an OSRP (4)

9. **EXERCISES** - Have all aspects of the plan been tested and nothing significant found lacking?

10. **TIER 2 AND 3 PLAN COMPATIBILITY** - Is the plan compatible with plans for adjacent areas and other activities?

11. ***HEALTH AND SAFETY -*** *Is there a Health and Safety Plan that is appropriate for the operating environment?*

Exercises

- A final step in the evaluation of OSRP implementation and completeness involves on-site evaluations of **oil spill response exercises**.
- Exercises should include **management (table top)** and **field (deployment)** components to test planned response procedures, organization, communications, and management using realistic scenarios.
- Exercises demonstrate (internally and externally) how the OSRP is applied and provide a mechanism to test, critique, and improve the OSRP and associated documents.

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Review Findings Letter Codes

R a **required** improvement to comply with agreements and/or to meet international standards or best practices,

M material that is **missing** or lacking

D a **discrepancy** or inconsistency between documents and/or source materials

I an item that is not strictly necessary but would be an **improvement** to conform with international best practices (**I**), or

C a **comment** or observation that may not necessarily involve a remedial action, but that would improve the document.

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Specific Findings and Recommendations – for example…

Required Improvement	18
Missing	4
Discrepancy	6
Improvement	12
Comment	4

Examples of Possible Key Issues

"**R**" or "**M**" Elements:

- Upgrade scenarios to include resource requirements
- Add winter operations and trans-boundary scenarios (with country OSRP links)
- Clarify trans-boundary notifications

- Organization of plan material (**I**)

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Examples of **Review Findings**

Table 8 Combined Summary of Initial Review Findings and Recommendations, with BTC Comment and Response and with Polaris Reply of 3 December.

REVIEW FINDING	COMMENT - RECOMMENDATION		BTC AZ-GE COMMENT AND RESPONSE 11 November	BOTAS TURKEY COMMENT AND RESPONSE 26 November	POLARIS REPLY 3 December
3. Environmental Risk Assessment diagrams representing the geographic variation in spill sizes and sensitivity along the line show important information; hard to read to be clearly understood.	4. TK OSRP could be used as a model in terms of consistent graphical standards between all the Plans (see Fig A5-2).	4. I (AZ-GE only)	Figures AZ 2.5 and GE 2.4 have been revised.		RESOLVED AZ/GE
4. GE OSRP App. 3.2.1 lacks summary results of overland flow modeling	5. Include summary table for final Georgia OSRP as per AZ Plan App. 3.3.1	5. R (GE only)	Summary Table A3.2 and linkage to report added.		RESOLVED GE
6. AZ and GE OSRPs summarize predicted drainage zones along the pipeline, based on a combination of computer modeling of overland spill movements and topographic analysis of surface flow. No equivalent work or drainage zone maps for TK.	6. Complete the necessary drainage zone maps for the TK OSRP.	6. R (TK only)		Reference given in Table 1-4. Example drainage zone analysis shown in Figure V-3 (Appendix – Environmental Risk and Sensitivity).	RESOLVED Figures V-11 and V-12 ***TK-GE*** *Please cross-check consistency between Figures V-10 and V-11 in TK OSRP and Figure A6-1 in GE OSRP*

Review Process

Exhaustive, systematic, forensic-type, 4-stage process to identify and review both tangible and intangible elements.

- Use Information Matrices to cross check line item content
- Review Planning, Response, Format, and Presentation elements
- Evaluate intangible elements using (i) 11 “adequacy” questions and (ii) exercises

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OSR "Tools"

Oil Spill Response Plans

Tactics Manuals

Oil Spill Response Plans

- Designed to meet regulatory requirements
- Limited value for responders – procedures document - more useful for managers

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Oil Spill Response Plans

facility plan

national plan

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NATIONAL PLAN

1 Introduction
2 Response Team Org.
3 Notification & Initial Actions
4 Spill Risks
5 Sensitive Areas
6 On-water Response
7 Shoreline Response
8 On-Land Response
9 Waste Management
10 Wildlife Response
11 Health & Safety
12 Logistics
13 Training & Exercises
14 Claims & Investigation
A Plan Maintenance
B Contacts
C Equipment
D Role Checklists
E Forms
F Bibliography & References
G Mutual Aid Agreements

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Facility Plan (Tier 1)

1. INTRODUCTION
2. FACILITY AND OPERATIONS OVERVIEW
3. INITIAL RESPONSE ACTIONS
4. NOTIFICATION / REPORTING
5. SPILL RESPONSE MANAGEMENT
6. PLANNING
7. OPERATIONS
8. LOGISTICS
9. SPILL INVESTIGATION
10. TRAINING & EXERCISES

A. MSDS SHEETS
B. EQUIPMENT LISTS
C. MUTUAL AID
D. FORMS
E. PLAN MAINTENANCE

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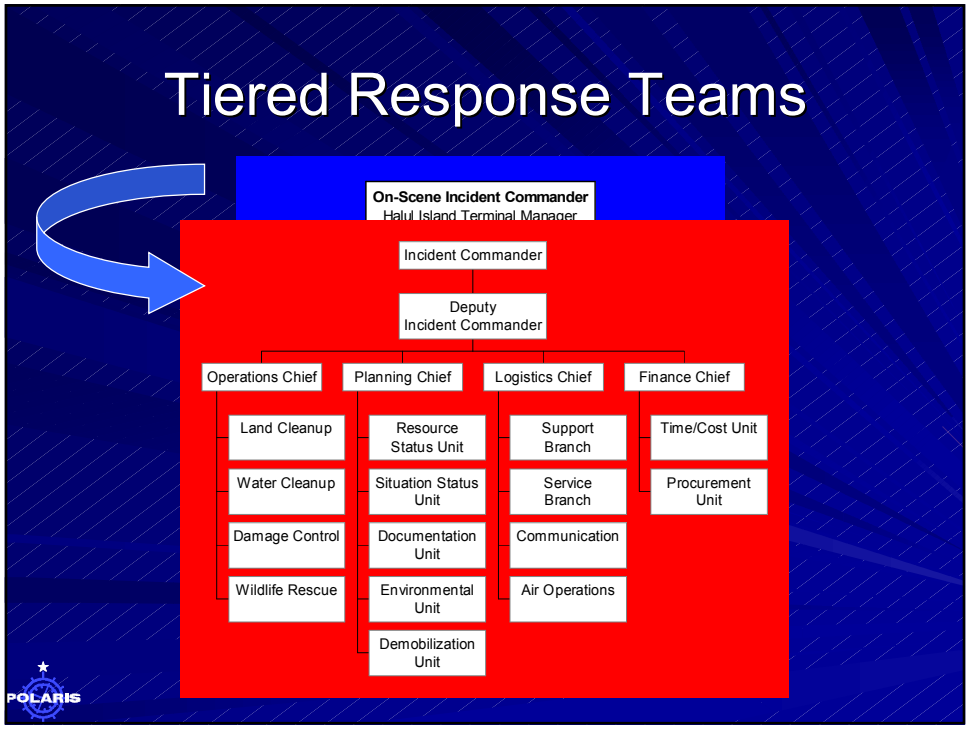
Tiered Response Teams
On-Scene Incident Commander
Halul Island Terminal Manager
Incident Commander
Deputy Incident Commander
Operations Chief
Planning Chief
Logistics Chief
Finance Chief
Land Cleanup
Water Cleanup
Damage Control
Wildlife Rescue
Resource Status Unit
Situation Status Unit
Documentation Unit
Environmental Unit
Demobilization Unit
Support Branch
Service Branch
Communication
Air Operations
Time/Cost Unit
Procurement Unit
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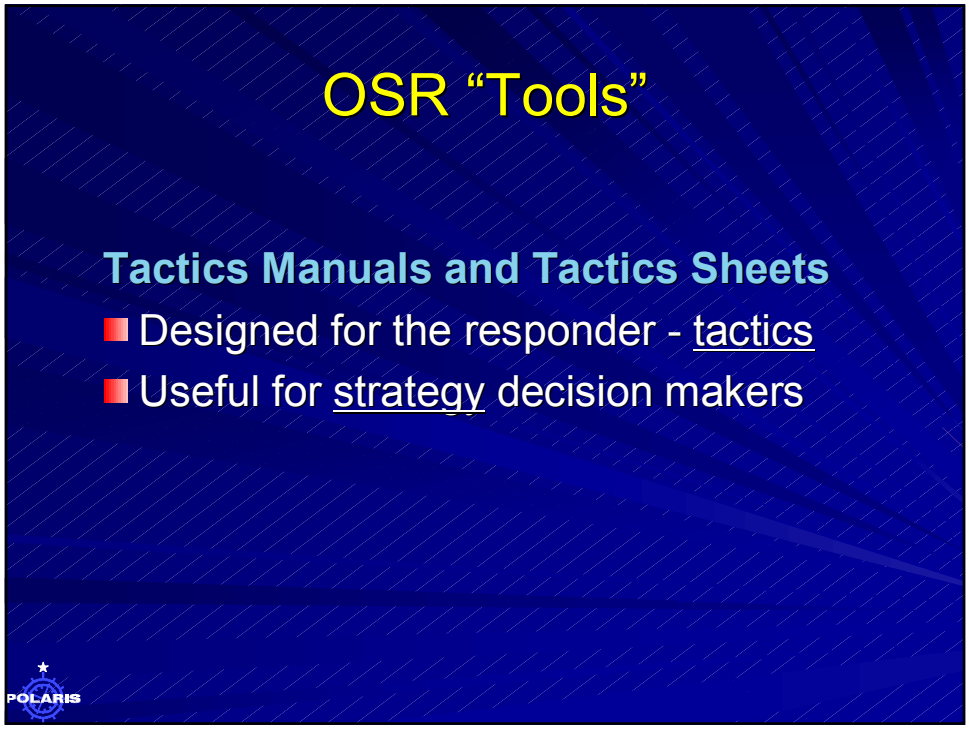
OSR "Tools"
Tactics Manuals and Tactics Sheets
Designed for the responder - tactics
Useful for strategy decision makers
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Tactics Manuals

- Describe response techniques
  - what to do and how to do it
- Define appropriate applications
- Identify operational limitations
- Indicate things to avoid

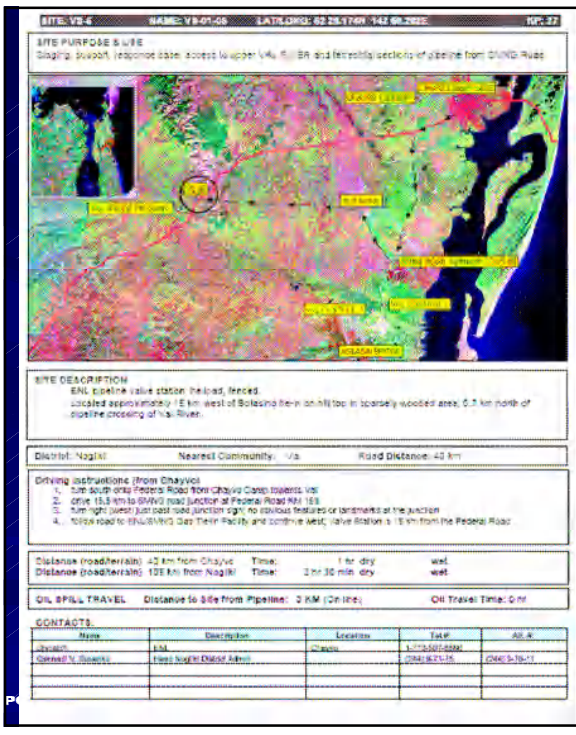
Tactics Sheets

Provide **First Responders** with information on:

- How to get to a site – e.g. driving directions
- What the site looks like - photos and sketch maps
- What to do when get there - first response intercept or control points

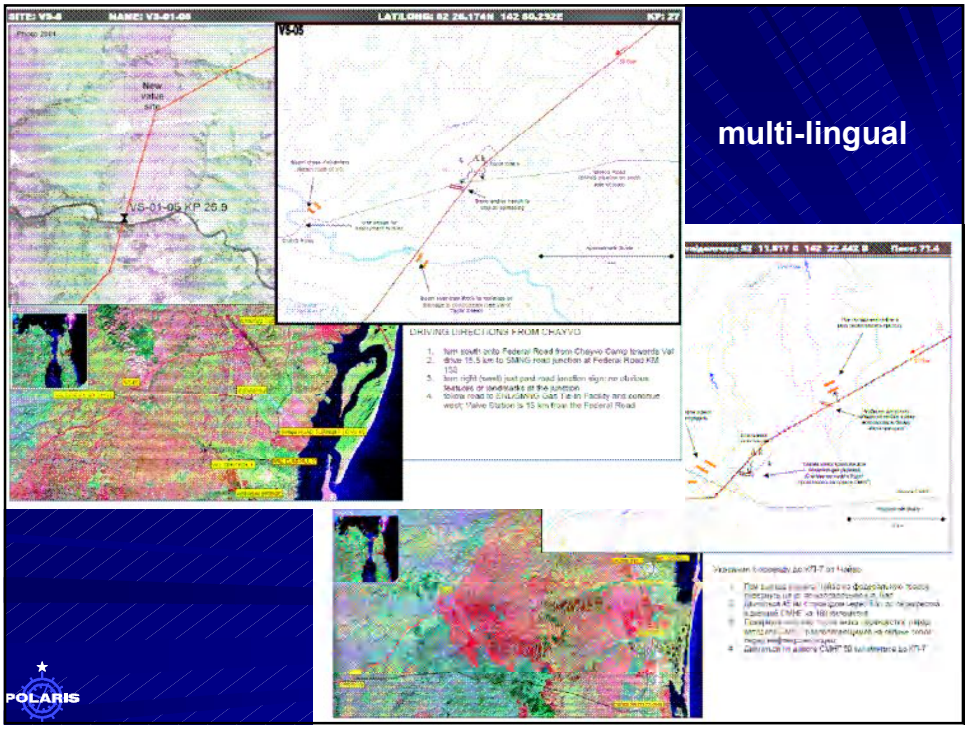
Tactics Sheets

- One set of Tactics Sheets per site
- Visual simplicity – easy to read
- Only contain essential information
- Summer and winter conditions/photos



Cover Sheet

- general location map
- site character
- driving instructions
- distances from OSR base(s)
- oil spill travel times
- contacts


multi-lingual
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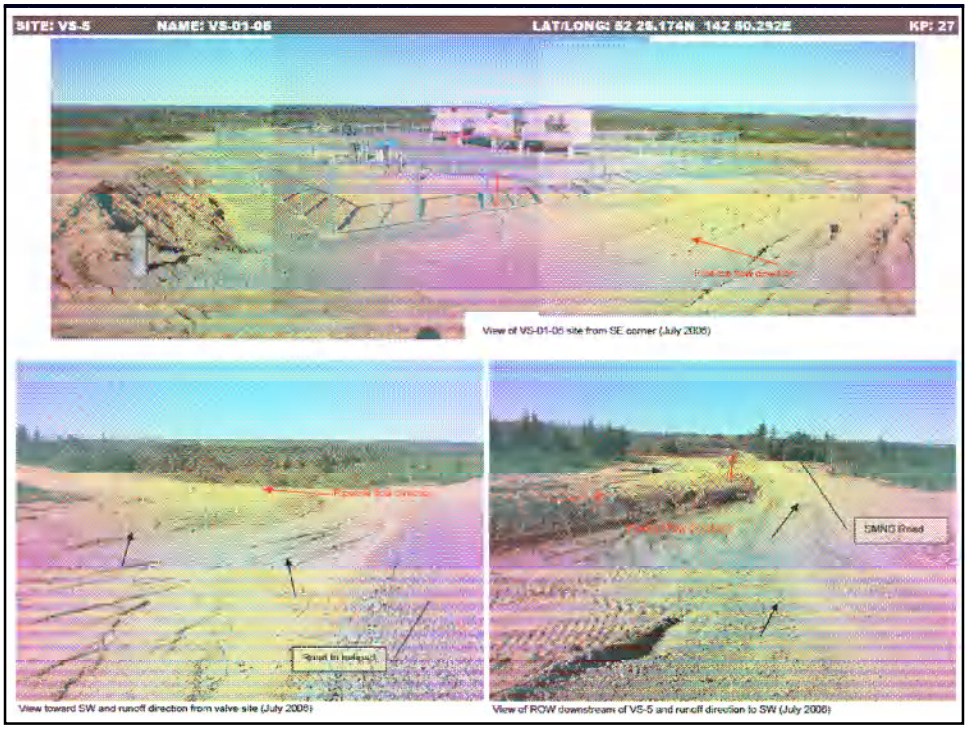
SITE: VS-5
NAME: VS-01-05
LAT/LONG: 52 25.174N 142 50.292E
KP: 27
View of VS-01-05 site from SE corner (July 2006)
SMNG Road
View toward SW and runoff direction from valve site (July 2006)
View of ROW downstream of VS-5 and runoff direction to SW (July 2006)

To Evaluate

Oil Spill Response Readiness

Define the ...

A. Critical oil spill response components
B. Key contents of an OSRP

Systematically review and evaluate the ...

C. Organization of material in an OSRP
D. Response adequacy