

International Oil and Ice Workshop October 2007



Lessons Learned: On- Land, Cold-Weather Spill Response Clean-up Operations

Lee Majors
Alaska Clean Seas



2 H Produced Water Spill

3/26/05

- Spill Volume and Area
 - 26500 BBLS of Produced Water/Crude to tundra covering approximately 2 acres.
- Tactics
 - Heavy Equipment
 - Flushing
 - Snow Melting

[Photos](#)



85.4

85.4

86

88

86.0

Approximate area 58,618 sq ft

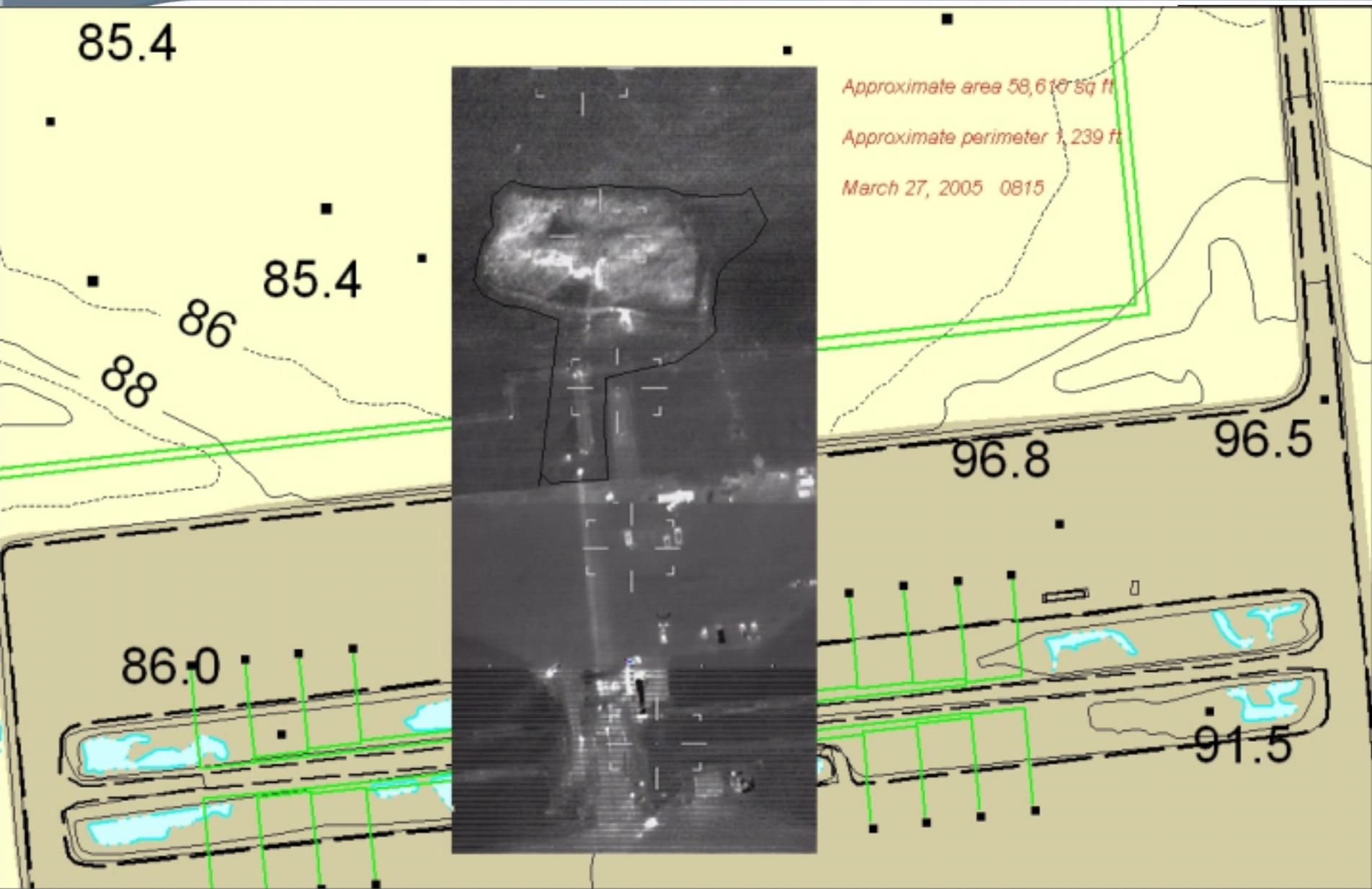
Approximate perimeter 1,239 ft

March 27, 2005 0815

96.8

96.5

91.5













Lessons Learned

- Flushing Barrier boom development
- Spill of Opportunity Test Plan for Produced Water

Drill Site 14 Crude Oil Spill

4/11/05



➤ Spill Volume and Area

- 30 BBLS of Crude Oil to tundra, pad and modules covering approximately 13 acres.

➤ Tactics

- Heavy Equipment
- Small Equipment
- Manual Labor

[Photos](#)





















Lessons Learned

- New containment tactics
 - Containing Light Layer of Oil on Snow Using Water Spray
 - Containing Oiled Snow Using Snow Fence
 - Spill of Opportunity Test Plan for Lightly Oil Surface Snow

Gathering Center 2 (GC-2) Spill

- Crude oil spill from a transit line between Gathering Center 2 (GC-2) and GC -1, Western Operating Unit, Prudhoe Bay, Alaska
- Best available estimate on the volume of oil spilled is 201,000 gallons +/- 33%, over a 1.93 acre area.
- Volume Estimation Team conducted a comprehensive survey that included extensive probing of the product depths and GPS mapping of the entire site.









40.5

35

39.0

GC-1 to GC-2 Transit Line
Area of Interest
143,800sq. ft.
Perimeter 1,781 Feet

38.0

46.9

41.7

40.2

40.5

39.5

40





























6 1:11 PM

















11 12:15 PM







16 2:45 PM























Current Status

- Cleanup Completed on April 28th
- Restoration Efforts are Ongoing
- 65,000 Gallons Direct Recovery
- Over 5,000 cubic yards to Grind & Inject



Lessons Learned

- Adherence to work shift limitations in cold weather response.



Transition Ice Project

- July 2006 on North Slope
- Overflow Ice Conditions
- Airboat operations
- Boom and Skimmer Deployment
- Determine Limitations and Concerns























Lessons Learned

- Airboat Boom Towing Limitations
- Airboat Operating Limits in Overflood Ice Conditions
- Personnel on Ice Safety Considerations

Yak...Yak...Yak...



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THE END