Burnaby Refinery Area 2 Hydrocarbon Seep Community Advisory Panel (CAP) November 25, 2010





#### Objective of this presentation



To provide a brief overview to CAP and other neighbours of progress made in managing the Area 2 Hydrocarbon Seep



#### Recap: Seep discovered and reported April 21, 2010





#### Mitigation started same day





Burrard Clean deploys boom Observed volume of material estimated to be 5-7 tablespoons per day at beach



Railroad trench – April 22, 2010

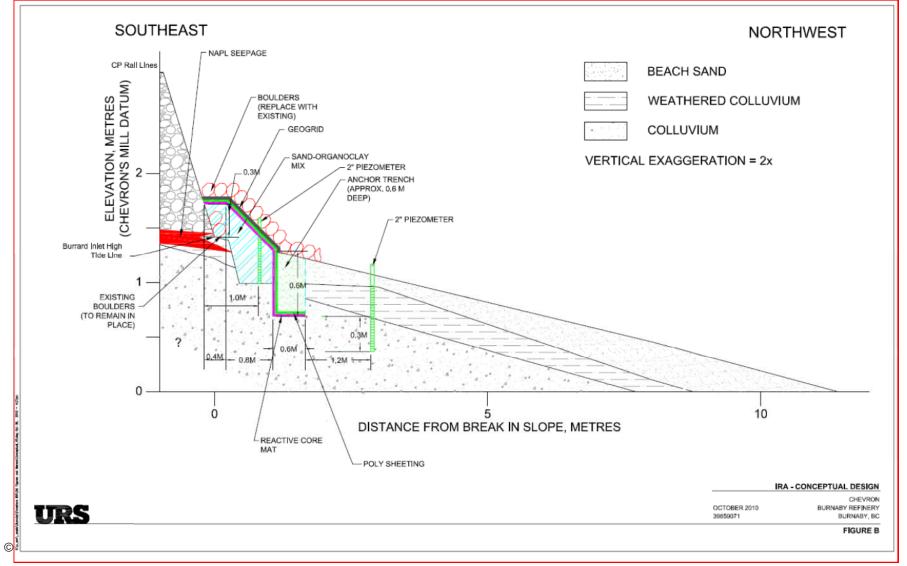
#### COAST GUARD TOWER HIGH TIDE LINE Beach seel 3-02 MM03-01 @ @ EIE-10 A2MM09-02.6 A2MM09-11 **₩**E18-8 **Red highlights ⊕**EIB-7 A2MW09-01 @ @EIB-6 indicate · E10-6 exceedances (all<sup>09-10</sup> Wells <0.9 m deep) 1618-3 A2M 109-051 ar 62-24/**#**u 25 m **@ EIB-1** 5

**Beach** 



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# Beach: Next Steps – Absorption Mats (subject to approval)



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#### Railroad

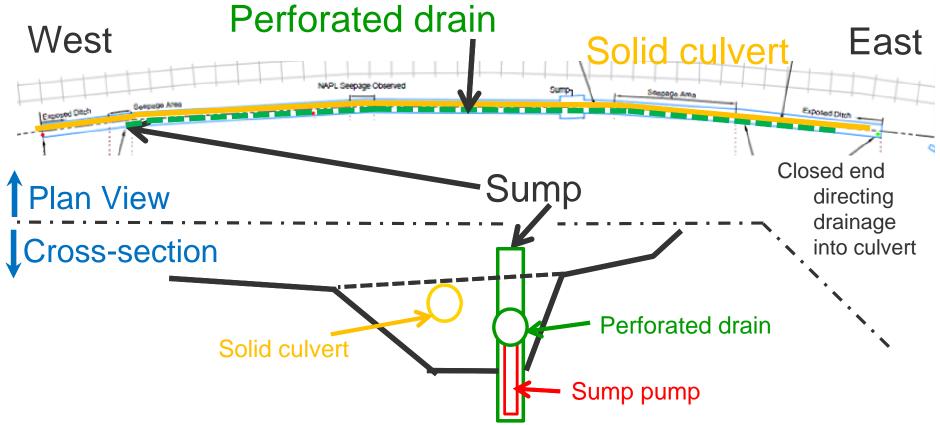


#### Goals:

- 1. Understand extent
- 2. Capture as much liquid hydrocarbon as possible
- 3. Ensure safety and slope stability
- 4. No impact on CP Rail schedule



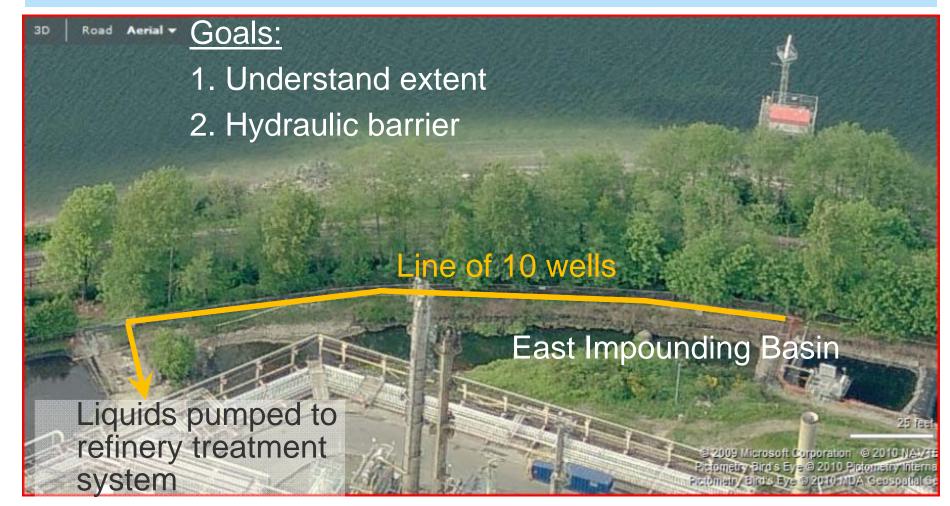
# Railroad Next Steps – Potential Trench Design



Flow is from east to west. The object of this design is to divert clean flow from upgradient portions of the trench past the seepage area, and to allow for monitoring and extraction of the seep material. Chevror

### EIB (East Impounding Basin) Wells





View looking north

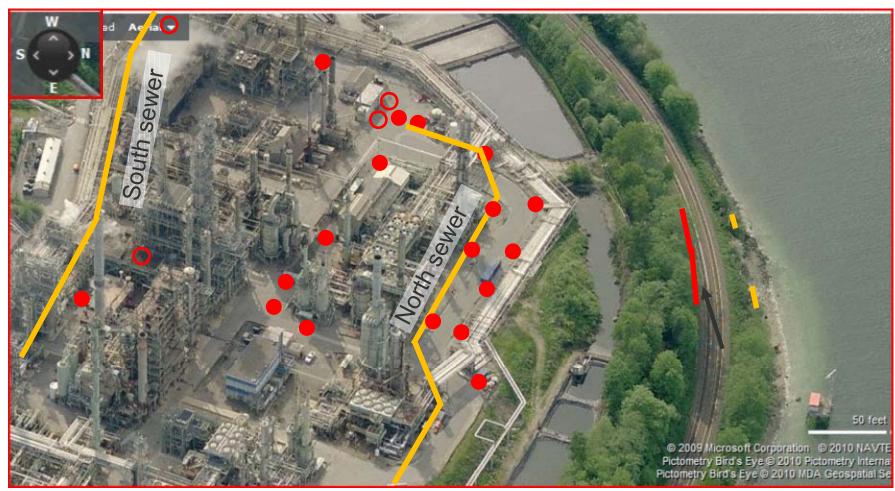
#### **Source Investigation**





Sewer excavation

## Source Investigation Next Steps – More Drilling



Approximate location of completed boreholes

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Approximate location of proposed boreholes

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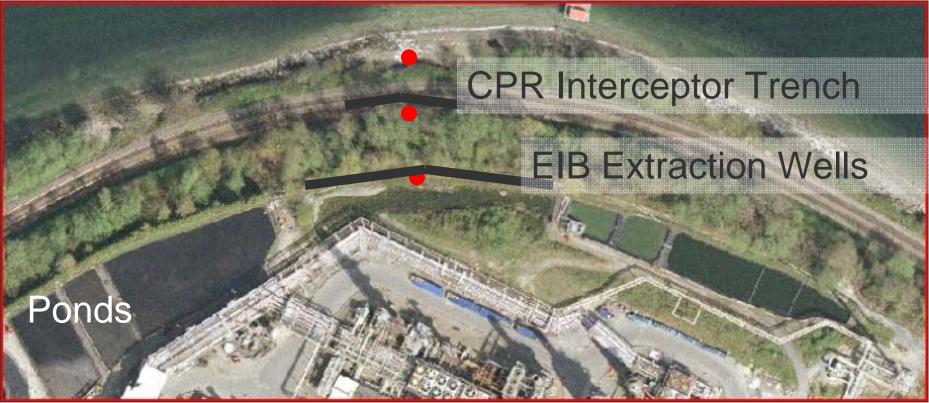
#### **Cross Section**



**NORTHWEST** SOUTHEAST LEGEND: Borehole/ Monitoring Well Fill/Colluvium/Brown Till: sand, some 080808 50 gravel, silt and clay imported fill in areas Screened Interval Groundwater Till: sandy silt, trace gravel, dense, Elevation grey July 2010 55 Rip-rap boulders 000 Office Pipe Rack Process Sewer A2MW09-01 UEIB-5 A2MW10-21 A2MW10-2D NAPL Road 50 (Non-Aqueous Phase Liquid) ELEVATION (metres) East Toe of Slope and Approximate High Tide Line Impounding A2MW09-11 45 Basin 40 0 5 10m CP HORIZONTAL Approximate Low Tide Line Railway 35 30 -Inlet 25

#### Remediation – 2 lines of extraction





Starting to see reduction of hydrocarbon accumulation at the CPR Interceptor Trench

EIB = East Impounding Basin

### Commitment



- Chevron is committed to ensuring that we protect our local environment, and mitigate and contain any potential impacts relating to this seepage.
- Our priority is to contain and prevent material from leaving our site, with oversight by the designated regulator.