Naturally Occurring Asbestos in Southern Nevada

Nevada Department of Transportation Board Meeting

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Purpose for This Presentation

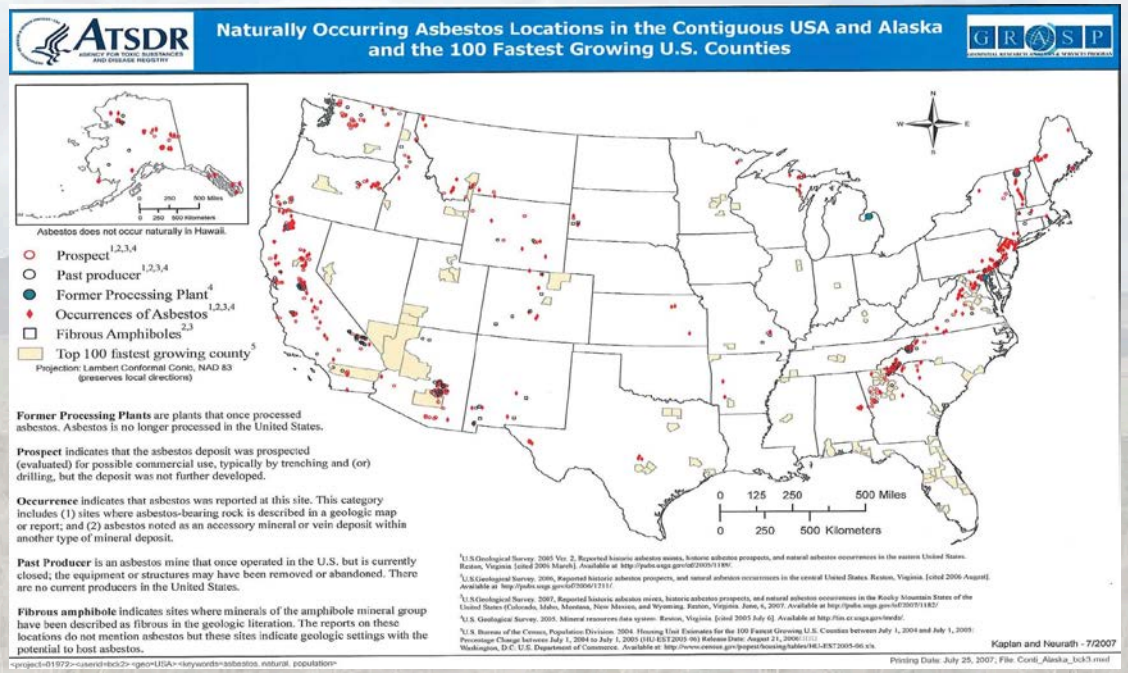
- Address Board questions about costs and impacts of Naturally Occurring Asbestos (NOA)
- I-11 Boulder City Bypass, Phases 1 and 2
- Other projects and material sources in Southern Nevada

What is Naturally Occurring Asbestos (NOA)?

- NOA occurs in rocks and soil as a result of natural geological processes. Natural weathering and human activities may disturb NOA-bearing rock or soil and release mineral fibers in the air, which poses a potential risk for exposure by inhalation.
- NOA does not refer to commercially processed, asbestos-containing material, such as insulation and fireproofing in buildings or automobile brake linings.

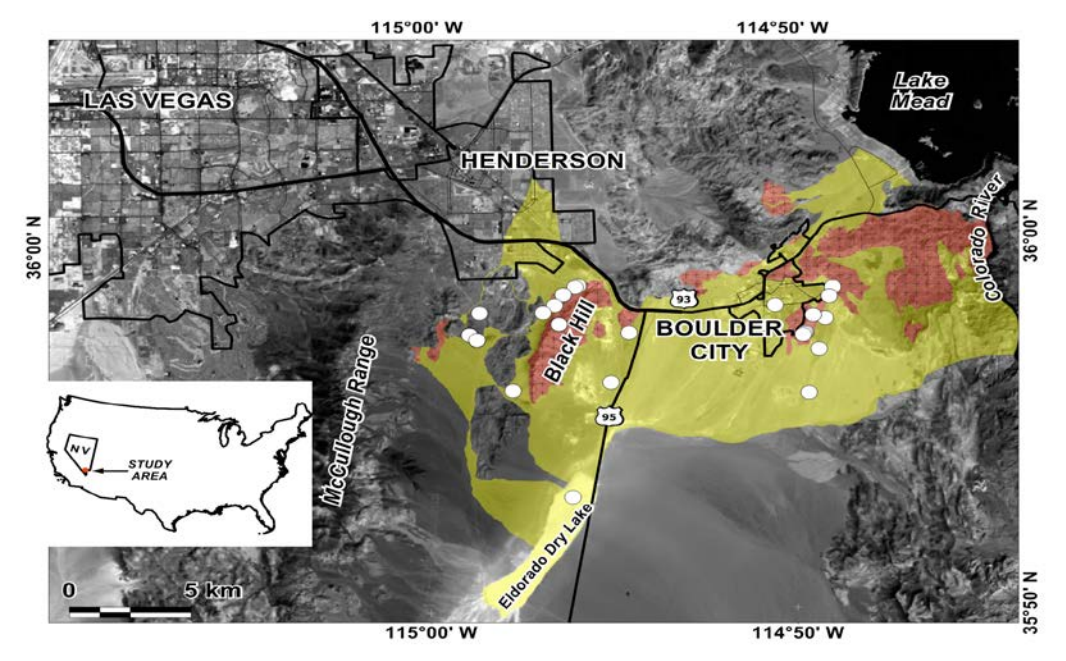
NOA Locations Nationwide

- Occurs in at least 35 States
- 44 out of 58 counties in California have documented occurrences of NOA



UNLV Study

- 2013 study identified the presence of NOA at various locations in and around Boulder City.



Potential naturally occurring asbestos rock outcrops (red) and potential NOA bearing soils (yellow). White circles are sample locations (taken from Buck et al. 2013: Figure 2).

Boulder City Bypass NOA Team

- Initial NOA Team (FHWA, RTCSN and NDOT)
- Augmented Team with assistance from the Volpe Center* and consulting environmental engineers and scientists
- Volpe Center assembled Expert Panel

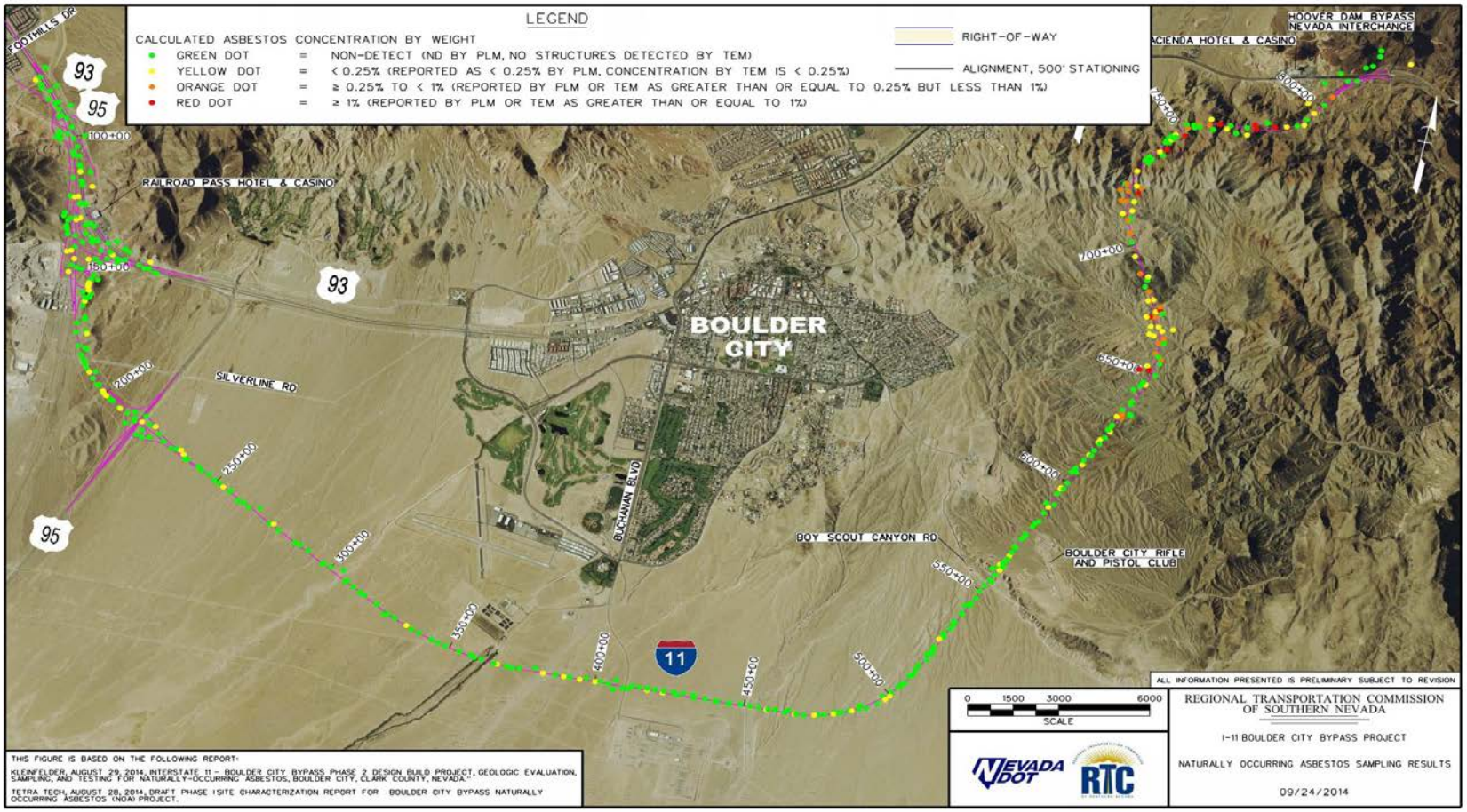
* U.S. Department of Transportation Center of Expertise

Boulder City Bypass NOA Team

Site Characterization

- Environmental engineering firms tested soil and rock samples along the alignment
  - 611 samples were collected from depths ranging from the surface to 200’ below ground in large rock cut areas
- Samples were tested to determine if NOA was present
  - If so, where it occurs and at what concentrations

Site Characterization



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Site Characterization

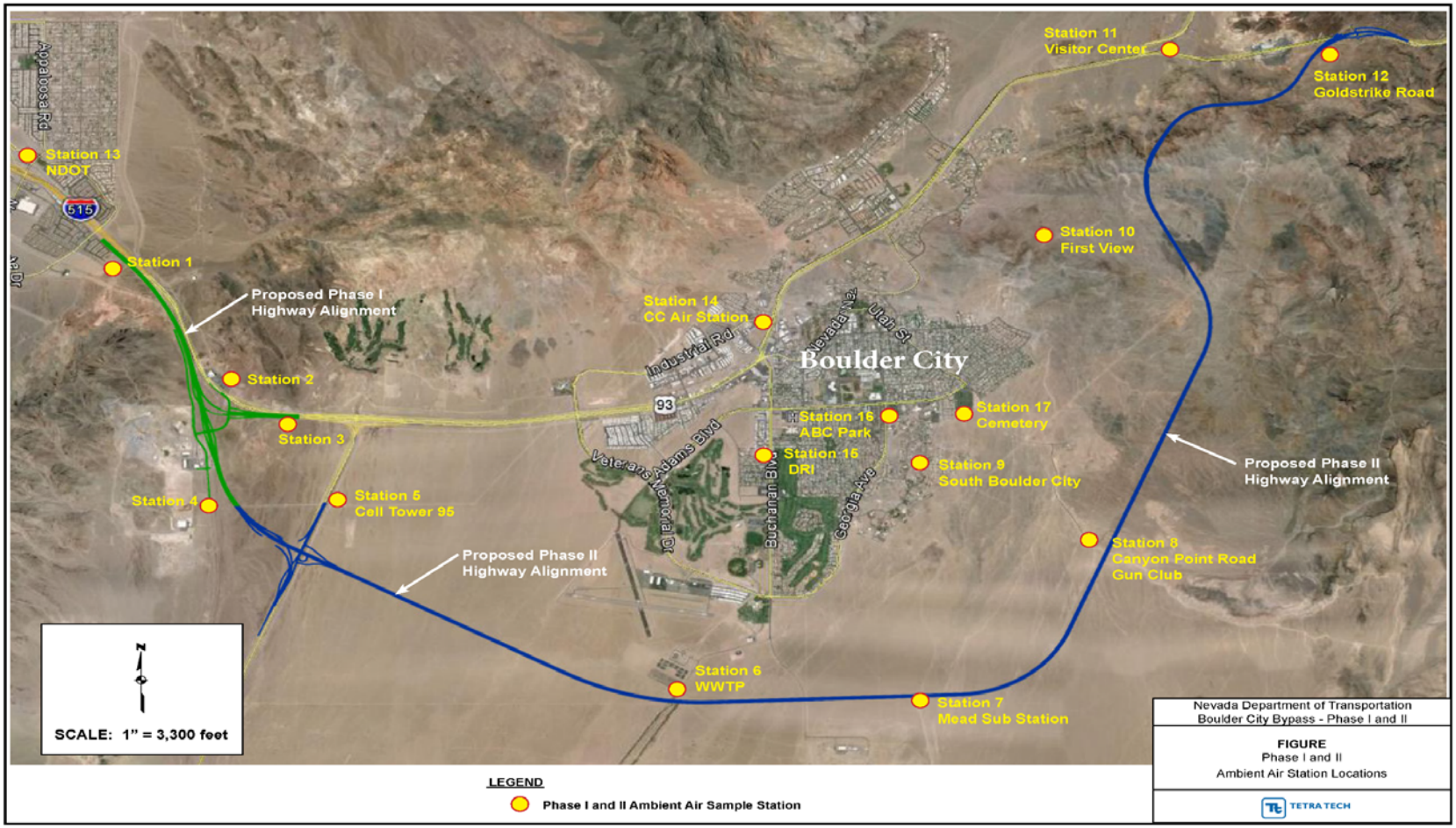
NOA sampling results

- 597 samples test below 1%
  - 406 were non detect
  - 154 had concentrations of less than 0.25%
  - 37 had concentrations between 0.25% and 1%
- 14 samples test above 1%
  - 13 between 1% and 2%
  - 1 at 6.38%
- Overall: Comparatively higher concentrations of NOA are located in foothills and mountainous areas east of Boulder City

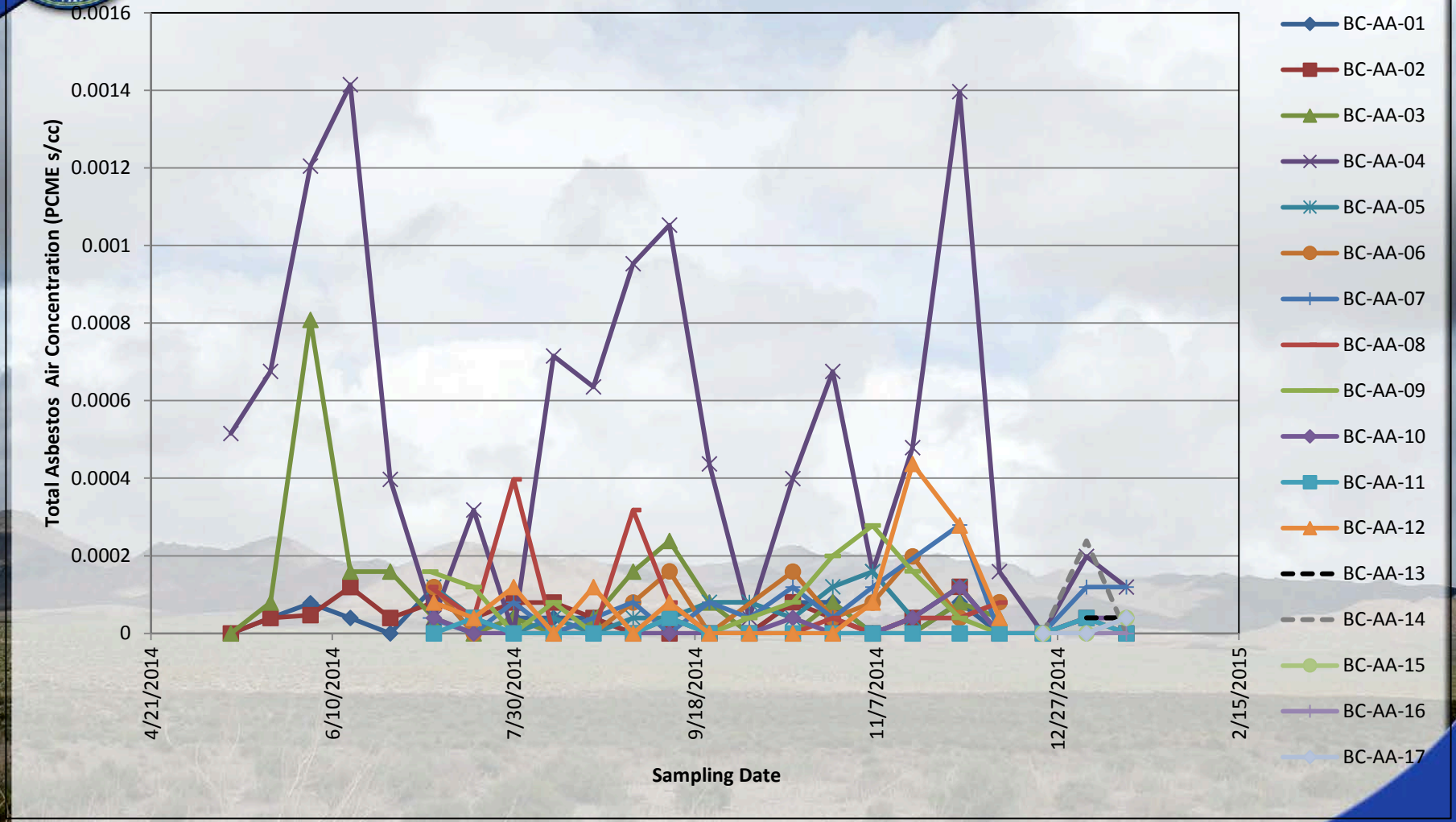
Ambient Air Characterization

- Established 17 monitoring stations to determine possible presence and concentrations of NOA in the air
- Monitoring station locations included residential and public-use areas outside highway project boundaries

Ambient Air Characterization



Ambient Air Results



Source: Based on raw data provided by Tetra Tech, current as of 1/15/15

NEPA Re-evaluation Process

- FHWA regulations allow for a re-evaluation process for completed EIS documents and outline when a Supplemental Environmental Impact Statement (SEIS) is required
  - 23 CFR 771.129(c) and 130(c)
- Develop appropriate studies to assess the impacts of the changes
- Conclusion: By implementing the proposed NOA mitigation measures on the Boulder City Bypass Project the preparation of a SEIS is not warranted.

NOA Mitigation Measures

- Thoroughly wet work areas and unpaved road surfaces using water trucks, hoses, spray systems or sprinklers
- Reduce vehicle driving speeds in the work area to limit dust generation
- Reduce drilling and excavating speeds
- Excavate and blast during periods of calm or low wind speeds

NOA Mitigation Measures

- Avoid overloading trucks to prevent “spill out”
- Clean equipment and vehicles to prevent tracking soil out of the project work area
- Limit NOA concentration to less than 0.25 percent for surfacing material (topsoil, landscaping, etc.)

NOA Schedule Impacts I-11

- UNLV Paper on NOA in Southern Nevada published in October 2013
- NEPA Reevaluation of EIS completed and approved November 2014
- Phase 2 award delayed 9 months to November 2014
- Phase 1 bids delayed 9 months to December 2014
- Estimated 6 month delays to construction projects due to NOA
- Both projects expected to be complete and I-11 open in 2018

NOA Design and Environmental Costs I-11

- NDOT Phase 1 and 2 NEPA Reevaluation and Phase 1 Exploration, Testing, and Design Assistance - $1,006,960 (Tetra Tech)

- RTCSN Phase 2 Exploration, Testing, and D/B Assistance - $1,165,085 (Kleinfelder, CDM Smith, Tetra Tech(via agreement w/ NDOT))

NOA Construction Costs I-11

- NDOT Phase 1- NOA Assistance with Construction Augmentation – CDMSmith - $2,589,155
- NOA items in DBB – Fisher $1,800,000
- RTCSN Phase 2 – Assistance with Construction Oversight – CDMSmith - $2,153,650
- NOA costs to DB – LV Paving $4,700,000 (est)

NOA I-11

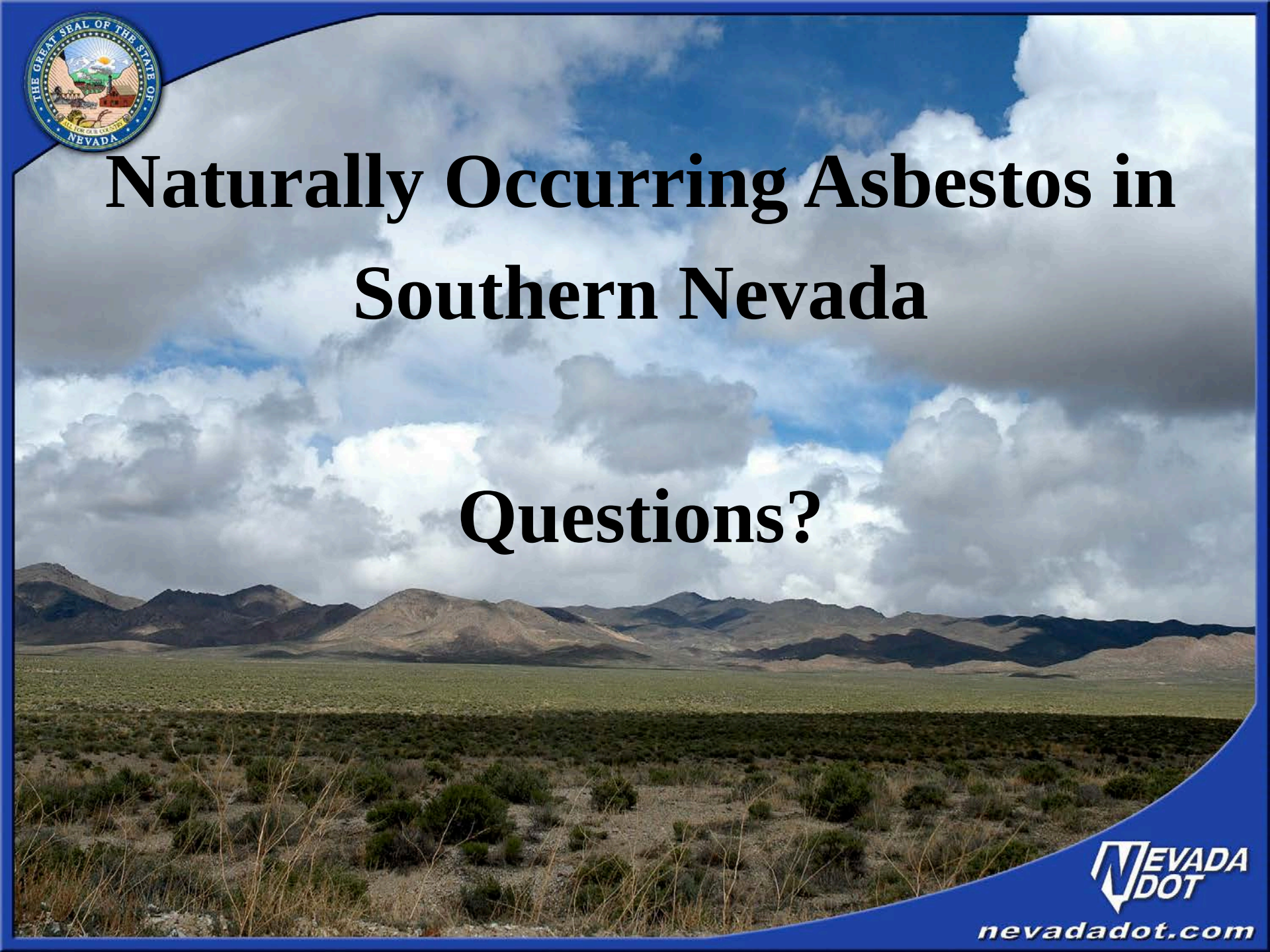
- Establish Certified NOA Lab for Source Acceptance
- Existing NDOT labs not set up to handle NOA
- I-11 BC Bypass Phases 1 and 2 (per agreement with RTCSN)
- $ 200,000 – for 4 years
  - June 2015

NOA In Southern Nevada

- Current Critical Material Sources (Pits)
  - Amend Tetra Tech to sample/clear current pits
  - Landscape Rock
  - Other?
  - Estimate $80,000

NOA In Southern Nevada

- Future Projects and pits
  - Current NDOT pits testing/clearing
  - Future Pits
  - Project specification and testing plan
  - Projects by Task Order
  - Full RFP Solicitation - $1million (est)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Questions?
NEVADA DOT
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