

**MEETING NOTES** 

Final 5/6/15

Meeting Date: December 11, 2014

Place: NV Energy Pearson Building

Las Vegas, Nevada

**Project/Purpose:** NV Energy - Reid Gardner Station

Implementation of Administrative Order on Consent (AOC)

Fourth Quarter Meeting/Pond Characterization Work Plan Discussion

**Attendees:** Alison Oakley/NDEP

Brad Cross/ARCADIS U.S., Inc. John Kivett/ARCADIS U.S. Inc. David Hull/ARCADIS U.S., Inc.

Tony Garcia/ NV Energy Mike Rojo/NV Energy Jason Reed/NV Energy Scott Dethloff/CH2M Hill Mark Andersen/CDWR

Sergio Escobar/CDWR (via telephone)

Peter Mesard/Exponent Joseph Scalia/ Exponent

Becky Svatos/Stanley Consultants Todd Knause/Stanley Consultants Africa Espina/Stanley Consultants

**Notes By:** Becky Svatos/Stanley Consultants

#### **Meeting Goals**

The meeting goal was to reach consensus on the scope of the PA2, PA3, and PA5 to 7 groundwater and soil characterization activities and the schedule for these activities. An additional goal was for NV Energy to update the Nevada Division of Environmental Protection (NDEP) on the status of other AOC activities.

#### **Meeting Minutes**

NV Energy provided an update on the status of 2014 meeting minutes:

- January 2014 minutes have been revised to address NDEP comments and will be resubmitted to NDEP soon.
- April 2014 minutes have also been revised to address NDEP comments and will be resubmitted to NDEP soon.
- August 2014 meeting minutes have been drafted by NV Energy and are being reviewed internally. They will be submitted to NDEP by December 31.
- October 2014 meeting minutes have been drafted by NV Energy and are being reviewed internally. They will also be submitted to NDEP by December 31.

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• NV Energy's goal is to submit the minutes from the current meeting to NDEP within a month of the meeting. The minutes will present the conclusions reached during the meeting rather than the details of the discussions leading to the conclusions.

#### Pond Characterization Work Plan Materials

In preparation for the meeting, NV Energy submitted preliminary materials to NDEP that consisted of a cover memo, tables, and figures with the objectives and proposed scope of the PA2, PA3, and PA 5 to 7 Groundwater and Soil Characterization Work Plans (Pond Area Work Plans). NDEP reviewed these materials in advance of the meeting and discussed their comments during the meeting. Figure 1 from the preliminary materials is attached for reference.

## Objectives: memo -

It was agreed that the Pond Area Work Plans are being developed to gather data that will be used to address the following objectives in the area of the 4B, 4C, 4A, D, E, F, and G Ponds:

- 1. Characterize horizontal and vertical extent of groundwater contamination
- 2. Evaluate plume stability (current and future)
- 3. Characterize potential secondary source beneath ponds
- 4. Evaluate whether preferential flow paths are present
- 5. Evaluate potential density-driven groundwater flow
- 6. Evaluate vertical hydraulic gradients
- 7. Gather information to support future groundwater modeling efforts
- 8. Estimate mass flux
  - a. From groundwater underlying the ponds to the river
  - b. Leaving downgradient Station boundary
- 9. Gather information to support corrective action planning
- 10. Gather data to contribute to geochemical understanding

#### Data collection scope: tables/figures -

The use of Hydraulic Profiling Tool (HPT) borings during the Muddy River Investigation (MRI) and Pond Area Work Plans implementation was discussed, as follows:

- Conduct HPT borings on north and south sides of all Muddy River transects under MRI Work Plan
  implementation; use that information to inform field decisions during Pond Area Work Plans drilling
  activities.
- Complete HPT borings at all well locations prior to well installation to aid in finalizing well location and screened interval. The goal is to screen wells across more permeable zones.
- Convert HPT borings at locations MW-24, MW-23, MW-22, MW-19, MW-18, P-31, P-29, P-28, KMW-22, KMW-23, KMW-25, KMW-26, KMW-27, KMW-28, and KMW-29 along Muddy River to 2-inch diameter shallow monitoring wells (for MRI Work Plan implementation).
- Attempt to advance HPT borings at locations MW-24, MW-21, MW-20, MW-17, P-31, P-30, P-27, KMW-23, KMW-24, KMW-27, and KMW-28 (one per Muddy River transect) to top of Muddy Creek Formation to establish depth of alluvium, and to collect soil samples in Muddy Creek Formation to visually confirm lithology. It is not necessary to collect soil samples from the Muddy Creek Formation at the following HPT locations where sonic drilling will later be conducted to install deep wells; MW-20 (if a deep well is needed), P-30, P-27, and KMW-24.
- At all locations where deep 4-inch wells will be installed later by sonic drilling, attempt HPT borings to top of Muddy Creek formation.
- Conduct additional HPT borings at selected locations (1-4C1, 1-4A, 1-RA [formerly HPT 1-DA as indicated on the attached figure], 1-PA7, 2-PA7, and 3-PA7) along Muddy River and downgradient of ponds to evaluate horizontal and vertical extent of groundwater contamination. Add HPT-KMW-5R at previous location of monitoring well cluster KMW-5. Also attempt to advance these borings to top of Muddy Creek formation.
- Move HPT-2-PA-7 closer to existing well P-7R, which currently has highest total dissolved solids (TDS) concentrations onsite; adjusting this HPT location will also result in a more even distribution of HPT

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- locations along south side of former Pond D and Pond E1.
- Although contractors have stated that HPT borings can be advanced to 100 feet, this is dependent on
  lithology. It is understood that all HPT borings attempted to Muddy Creek formation may not reach that
  depth, but sonic drilling is expected to consistently reach Muddy Creek formation. Even if all HPT
  borings do not reach Muddy Creek formation, there appears to be an adequate number of deep sonic
  drilled wells to evaluate depth of alluvium.
- Continually measure electrical conductivity during HPT borings at all HPT locations to evaluate lithology and water quality changes with depth.
- In initial HPT borings conducted during MRI Work Plan implementation, collect grab samples to confirm HPT electrical conductivity data and to evaluate the ratio of TDS to conductivity. These grab samples can be submitted to a laboratory for TDS analysis. Other methods of confirming HPT electrical conductivity data could be used such as field test kits and/or specific conductance probes. After reasonable correlation between HPT electrical conductivity and data collected by other methods is established, less frequent confirmatory testing is necessary. Repeat HPT confirmatory testing in additional locations at appropriate times throughout MRI and Pond Area Work Plans implementation (e.g. when changing HPT tools, in deep locations within the ponds, etc.). Driller should be asked to describe electrical conductivity calibration procedures.
- Gather continuous geology information through flow-pressure-response and electrical conductivity logs at all HPT locations.
- Collect soil samples at locations and depths selected by the field geologist in all HPT borings to confirm interpreted lithology.

The use of a Geoprobe SP-15 protected screen sampler (or similar) to collect discrete groundwater samples with depth was discussed, as follows:

- Discrete groundwater sampling with depth will be conducted in one boring each at locations MW-14 (PA2 area), MW-29 (PA3 area), and P-24 (PA5 to 7 area) after HPT borings have been completed.
- Discrete groundwater samples will be collected at same approximate depths below pond bottom as soil samples collected to delineate extent of secondary source material (6", 2.5', 5', 10', 15', 20', 40', 60', and 80'); depths may be adjusted in field to target sample collection in more permeable layers.
- Data will be used to evaluate equilibrium between soil and groundwater, potential density-driven flow, groundwater quality changes with depth, and to further understanding of geochemical processes beneath ponds.
- Groundwater analytical parameters will include TDS as well as other parameters such as density, metals, and major cations/anions. Because the amount of water available from Geoprobe sampler may be limited, parameters will be prioritized. TDS analysis will be the highest priority.
- Geoprobe boring will be grouted after sampling is complete and sonic drilling will then be conducted to install monitoring wells.

The use of sonic drilling during the Pond Area Work Plans implementation was discussed, as follows:

- Use sonic drill rig to install 4-inch diameter shallow, medium, and deep (S/M/D) wells at the following locations (as shown in attached Figure 1):
  - o In area of PA2; MW-11D, MW-14D, MW-17S/M, MW-21S/M, MW-25S/M, and MW-26S/M.
  - o In area of PA3; MW-20S, MW-27S/M, MW-28S/M, and MW-29S/M/D.
  - o In area of PA5 to 7; P-23S/M/D, P-24S/M/D, P-25S/M/D, P-26S/M/D, P-27S/M/D, and P-30S/M/D. P-23S/M/D wells will be moved west of location shown in attached Figure 1 towards center of former Pond D taking care to avoid overhead power lines in area.
  - o In area downgradient of PA5 to 7; KMW-4SR/MR/DR, KMW-21S/M/D, KMW-24S/M/D, and KMW-30S/M/D.
- Shallow wells will be installed in the top 25 feet of water table, medium wells between 25 and 50 feet below groundwater surface, and deep wells greater than 50 feet below groundwater surface. The location of the deep well screen will be selected to delineate vertical extent of TDS plume. Within PA2 and PA3 areas, intent is to install shallow wells above shallow clayey layer and medium wells below clayey layer.
- For all deep wells, drill into top of Muddy Creek Formation just far enough to confirm that Muddy Creek

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- Formation has been reached. This information will be used to establish thickness of the alluvium and to confirm lithology of Muddy Creek Formation.
- NDEP requested that deep wells be added at MW-27 and MW-28 because there are not many deep monitoring wells at the site, particularly in that area.
- NDEP requested that medium and deep wells be installed at MW-20 if HPT results along river indicate groundwater is flowing under river from 4B/4C Ponds. These wells could also be used to evaluate vertical gradients.
- NDEP requested a second deep well (not shown in attached Figure 1) be installed at P-24, MW-14, and MW-29 to create 4-well clusters at these locations. The deepest well would be installed at bottom of alluvial aquifer and may be useful for evaluating alluvial background. The well screened above the deepest well would also be a deep well screened greater than 50 feet into groundwater table. The location of this deep well screen would be selected to delineate vertical extent of TDS plume. At each of these three locations, an HPT boring and a Geoprobe boring will be advanced before sonic drilling to assist in determining monitoring well screen placement intervals. NV Energy will provide HPT and Geoprobe data to NDEP with recommendations on where to set screens for each well. NV Energy will attempt to obtain NDEP concurrence prior to installing wells at these three locations.
- Screen deep wells at approximate vertical limit of groundwater plume could be a medium well at some locations. No wells will be installed in the Muddy Creek formation.
- Soil sampling with depth (6"-12", 2'-2.5', 4.5'-5', 10', 15', 20', 40', 60', and 80' below pond bottom) will be conducted at MW-11, MW-14, MW-29, P-23, P-24, and P-25 to evaluate vertical extent of potential secondary source material, evaluate equilibrium between soil and groundwater, and to further understanding of geochemical processes beneath ponds; depths may be adjusted in field based on changes in lithology. Samples will be submitted to laboratory to be analyzed for chemical parameters.
- Soil sampling described in approved Ponds 4A, 4C1, and 4C2 Solids Removal Work Plans will also be conducted, as previously approved by NDEP.
- Samples from MW-11, MW-14, MW-29, P-23, P-24, and P-25 will be collected at 6"-12" and 2' 2.5' for soil leaching analyses by Sequential Batch Leaching Test (SBLT) at same pH as site groundwater; NDEP suggested NV Energy use unaffected site water such as groundwater from BG-1S or water from the Raw Water Ponds, rather than laboratory water, for leaching tests.
- Three soil samples each will be collected from MW-11, MW-14, MW-29, P-23, P-24, and P-25 at 6"-12", 4'-4.5', and 20' below pond bottom for laboratory analysis of geochemical parameters. A call will be held between ARCADIS USA and SS Papadopulos and Associates (SSPA) geochemists to discuss the analyses, including these changes proposed by NDEP:
  - o Addition of organic sulfur analyses.
  - o Nitrate isotope analyses on first batch of water from SBLT.
  - Addition of speciation analyses in samples outside pond areas.
- The Pond Area Work Plans will need to provide details on how batch adsorption tests will be conducted.
- Up to eight samples each will be collected from MW-11, MW-14, MW-29, P-23, P-24, and P-25 for physical testing to characterize changes in lithology, including permeability testing of selected undisturbed samples.
- Soil samples will also be collected from MW-17, MW-21, MW-27, P-26, P-27, and P-30 for chemical, geochemical, and physical analyses.
- Existing and new well clusters will be used to evaluate vertical hydraulic gradients.
- Data from HPT borings and sonic drilling will be used to establish and monitor vertical extent of groundwater contamination and evaluate the nature of potential secondary sources.
- NV Energy will save sonic soil cores and/or chips from deep wells for up to one year.

The approach for differentiating between impacts from Ponds D/E/F/G and Hidden Valley Ranch (Ranch) impacts was discussed, as follows:

- Eight samples of surface precipitates will be collected; seven will be collected south and west of former Pond D and Pond E1 while one will be collected in Ranch area. Data will be used to evaluate if deposits are related to pond operations, former dairy operations, or result from naturally occurring processes.
- NDEP requested inclusion of oxygen and sulfur isotopes in the precipitate analyses; this request also to be

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- discussed during call between ARCADIS and SSPA geochemists.
- Muddy River and Station effluent samples will be collected for laboratory analyses of selected isotopes and other parameters to help identify river water signature and differentiate between groundwater contamination due to NV Energy's operations and Ranch operations.
- NDEP stated that monitoring wells will likely need to be installed on Bureau of Land Management (BLM) property south of former Pond D and Pond E1 to characterize extent of groundwater contamination. Because obtaining BLM access requires an extended period of time, NDEP suggested that NV Energy begin that process.

The groundwater sampling approach following monitoring well installation was discussed, as follows:

- During second semi-annual groundwater monitoring event typically conducted in August 2015, samples will also be collected from all new wells.
- Because the semi-annual groundwater monitoring program no longer includes them (per NDEP approval letter dated November 26, 2014), beryllium and titanium analyses will not be conducted on groundwater samples collected as part of implementation of MRI and Pond Area Groundwater and Soil Characterization Work Plans.
- NDEP requested that NV Energy analyze groundwater samples collected from wells in Ranch area for major ions and that laboratory analyses for manganese be included.
- Groundwater density analyses will be included for all new and existing wells in areas of PA2, PA3, and PA5 to 7.

Monitoring wells KMW-3S/M/D, KMW-4S/M/D, KMW-5S/M/D, and KMW-6S/M/D will be abandoned in accordance with State requirements because the integrity of these wells has been compromised.

NDEP noted that the proposed MRI and Pond Area Work Plan investigations will require a significant amount of decision-making in the field. NDEP requested interaction during the field activities through frequent status updates and receipt of field data soon after collection. ARCADIS USA representatives will observe field investigations on behalf of NDEP.

#### Pond and Muddy River Work Plan Schedule, Implementation, and Reporting

<u>Work plan schedules/Implementation schedules/Mobilizations</u> - NV Energy reviewed the preliminary planned sequencing of the MRI Work Plan and the Pond Area Work Plans:

- December 2014 NV Energy conducts site visit to MRI drilling locations to determine access requirements; NV Energy will then work with contractor to clear areas and build roads, if appropriate, to provide adequate access prior to drilling.
- January 9, 2015 Draft MRI Work Plan to NDEP
- February 6, 2015 NDEP to provide comments on Draft MRI Work Plan within a month of receipt.
- February 2015 MRI Work Plan implementation begins with river transect surveying and river flow measurement.
- February 2015 Draft Pond Area Work Plans to NDEP

   specific date yet to be determined
- March 2015 NDEP to provide comments on the Draft Pond Area Work Plans within a month of receipt.
- Late February/early March 2015 MRI Work Plan implementation drilling activities begin after driller is contracted; NV Energy currently preparing request for proposals to select driller.
- April/May 2015 MRI Work Plan implementation drilling complete; drilling estimated to take 6 − 12 weeks to complete.
- April 2015 Pond Area Work Plans implementation begins.
- June/July Pond Area Work Plans implementation complete; duration dependent on ability of selected driller to provide multiple rigs.
- August 2015 Semi-annual groundwater monitoring event will include sampling of all new wells.
- December 2015 Data collected during implementation of MRI Work Plan and Pond Area Work Plans used to update Conceptual Site-Wide Model (CSM) which will be presented during NDEP workshop.

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• March/April 2016 – MRI Work Plan implementation complete after 12 months of data collection.

<u>Conceptual Site-Wide Model</u> - The data collected in 2015 will be used to more fully develop the CSM. NV Energy will develop a plan to share data with NDEP as it is collected. Deliverables that will be provided prior to the December 2015 CSM Workshop will include updated geologic fence diagrams (cross-sections), isopachs of more permeable lithologic units, groundwater potentiometric maps, and other relevant summaries/analyses of field data.

Groundwater Modeling - A discussion of the timing and utility of the development of a groundwater model of the site was discussed. It was concluded that if a model is necessary, it would be best if it were developed after the 2015 data collection efforts because that data would be key to more accurately modeling the site. All agreed that the site is complex and accurate modeling may be difficult. The California Department of Water Resources (CDWR) stated that they previously developed a groundwater flow model of the site for their own use and it calibrated well with the data available at that time. They are currently updating the model with information obtained since the model was initially developed, and have offered to share the file(s) with NV Energy with the intent to aid in the development of a potential site wide groundwater model that may be useful for AOC purposes.

## Update on AOC/Reid Gardner Station Activities

<u>Background Conditions Report</u> - NDEP concurrence with the report is documented in a letter dated November 7, 2014. NV Energy will provide revised report covers indicating that the report is final.

<u>Groundwater Monitoring Program - Now that the Groundwater Monitoring Report (GMR) is only submitted annually, NV Energy has reorganized it and will provide it in a 3-ring binder. NV Energy's responses to NDEP's comments on the last GMR will be provided in a letter in the front of the annual report rather than in a Response to Comments Tracking Form. The GMR will be provided to NDEP by January 30, 2015.</u>

The parameter reductions approved by NDEP in a letter dated November 26, 2014, will be implemented during the first quarter semi-annual event in February 2015. The need for total phosphorus analyses vs. phosphate analyses was discussed. NV Energy will confirm which analyses are currently conducted, check that the GMR accurately reflects current analyses, and continue to conduct the same analyses to provide continuity of data.

NDEP currently receives monthly AOC progress reports as well as quarterly reports. The quarterly reports are required by the AOC, but all agreed that the monthly reports were sufficient and made the quarterly reports redundant. NV Energy will submit a letter to NDEP requesting approval to stop submitting quarterly reports and only submit monthly reports.

<u>4A/C1/C2 solids removal - Pond 4A</u> solids removal began on September 2, but stopped on September 8 due to the Muddy River flooding. Solids removal resumed on November 11 and an estimated 61,000 cubic yards of solids have been removed from Pond 4A through the end of November 2014. Pond 4C2 solids removal began on November 24 and an estimated 13,000 cubic yards of solids have been removed through the end of November 2014. Solids removal in Pond 4A is estimated to be complete in July 2015 and 4C2 solids removal is estimated to be complete in April 2015. Once Pond 4C2 solids removal is completed, solids removal will begin in either Pond 4C1 or Pond E2.

<u>Pond E2 solids removal - NDEP</u> provided comments on the Pond E2 Solids Removal Work Plan in a letter dated December 8, 2014. NV Energy confirmed that the solids removal effort completed at Pond E2 before the double synthetic liner system was installed included all of the accessible pond solids. Ponds 4C1 and 4C2 were the only ponds where it was known that NV Energy did not attempt to remove all accessible solids prior to installation of a double synthetic liner system.

<u>Pond 4A solids data</u> - The solids in Pond 4A were sampled and the data have been validated. The results will be submitted to NDEP along with recommendations for parameters to be included in underlying soil sampling.

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Preliminary Geochemical CSM Report - The draft report will be provided to NDEP by March 6, 2015.

<u>Muddy River Investigation Data</u> - The laboratory data from the August 2014 field investigations will be provided to NDEP soon. The laboratory speciation data were slow to be received.

<u>SA-14 Laser Induced Fluorescence (LIF) Petroleum Area Investigations - The LIF borings were completed on December 5, 2014, and the confirmation soil sampling was completed on December 10, 2014. The locations are scheduled to be surveyed. The LIF report will be provided to NDEP by March 10, 2015.</u>

<u>Decommissioning</u> - Reid Gardner Station Units 1-3 will stop operations on December 31, 2014. The demolition contractor is scheduled to receive notice-to-proceed on July 1, 2015. The Vehicle Maintenance Building will be demolished first so this area can be used for a laydown area by the contractor. Investigation of soil contamination and removal of contaminated soil in the Units 1-3 areas is scheduled to be completed by October 2015.

<u>Letters requesting investigation closed determination - The PA8, SA17, and SA12 letters will be provided during the first quarter of 2015.</u>

<u>Additional Work Plans</u> - The prioritization and scope of additional work plans is dependent on the LIF results and the decommissioning schedule. NDEP will be updated at the next meeting on the schedule for these work plans.

<u>Community Relations Fact Sheet - NV Energy is updating the fact sheet and will provide it to NDEP for posting on the web site.</u>

Closure Plan - An update to the Closure Plan will be provided to NDEP in 2015.

Groundwater Contaminants of Concern - NV Energy would like to receive concurrence from NDEP that the 12 parameters previously discussed (antimony, arsenic, boron, cadmium, chromium, fluoride, molybdenum, phosphorus, selenium, sulfate, thallium, TDS) can be used as indicator parameters when evaluating site contamination. The complete Site-Related Chemicals (SRC) list is extensive and NV Energy would like to focus efforts on those indicator parameters when analyzing and presenting data rather than attempting to address all SRCs. The complete SRC list will still be applicable under the AOC, but specific data evaluations such as groundwater plume maps and plume stability analyses will focus on the 12 indicator parameters. NV Energy will submit a letter requesting approval of the use of the 12 indicator parameters.

Next Meeting - The next meeting was scheduled for March 4, 2015.

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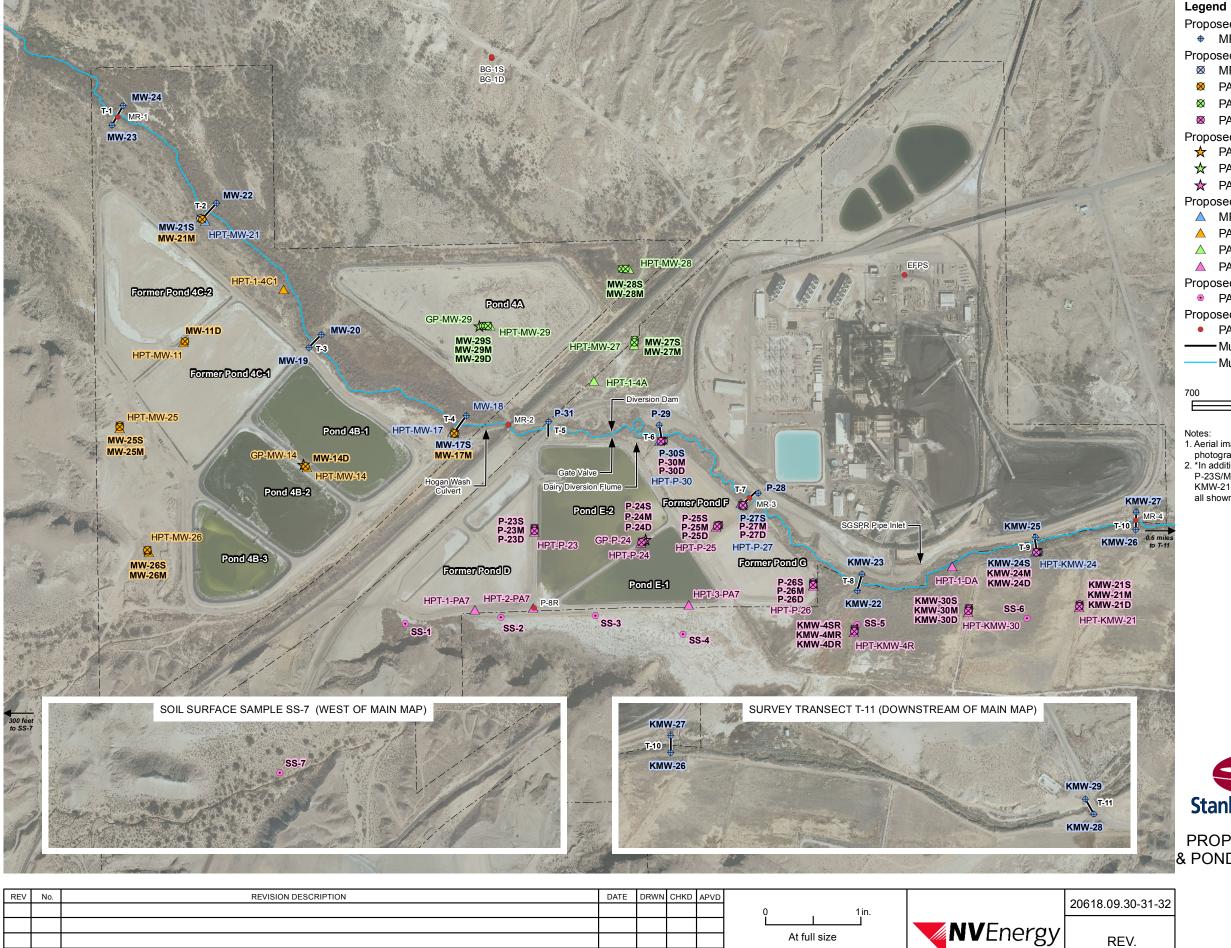
NDEP ACTION ITEMS								
Priority	Deliverable	Submittal Date	Party Respon	sible	Notes			
	No deliverables awaiting NDEP review							
NEAR TERM DELIVERABLES TO BE SUBMITTED TO THE NDEP								
Deliverable			Estimated Delivery Date	Party Res		Notes		
Revised meeting minutes from 1/29/14 quarterly AOC meeting			12/19/14		y/Stanley Consultants			
Revised meeting minutes from 4/30/14 quarterly AOC meeting			12/19/14		y/Stanley Consultants			
Draft meeting minutes from 8/18/14 quarterly AOC GoToMeeting			12/31/14		y/Stanley Consultants			
Draft meeting minutes from 10/8/14 Muddy River technical meeting			12/31/14 12/31/14		y/Stanley Consultants			
	Final covers for Background Conditions Report				gy/Stanley Consultants			
Tables of laboratory data from August 2014 sampling event			12/13/14		gy/Stanley Consultants			
Updated Community Relations Fact Sheet and site figure			12/31/14		gy/Stanley Consultants			
Draft MRI Work Plan			1/9/15		y/Stanley Consultants			
Comments on Draft MRI Work Plan			2/6/15	NDEP/AF	RCADIS	NDEP to comment within a month of receipt of draft		
Revised Pond E2 Solids Removal Work Plan			1/30/15	NV Energ	y/Stanley Consultants			
Letter requesting approval to stop submitting quarterly AOC reports			1/30/15	NV Energ	y/Stanley Consultants			
Pond 4A solids data and validation reports			1/30/15	NV Energ	y/Stanley Consultants			
Annual Groundwater Monitoring Report			1/30/15	NV Energ	gy/Stanley Consultants			
Letter requesting concurrence on 12 indicator parameters			1/30/15		y/Stanley Consultants			
Draft Pond Area Groundwater and Soil Characterization Work Plans			2/27/15	NV Energ	y/Stanley Consultants			
Comments on Draft Pond Area Groundwater and Soil			3/27/15	NDEP/AF	RCADIS	NDEP to comment within a		
Characterization Work Plans						month of receipt of drafts		
Draft Preliminary Geochemical CSM Report			3/6/15		y/Stanley Consultants/SSPA			
Draft LIF report			3/10/15		y/Stanley Consultants			
Mesa Gro	Mesa Groundwater Evaluation Approach Memo				y/Stanley Consultants			
Muddy River Water Quality Memo			Q1 2015	NV Energ	y/Stanley Consultants			
Request for Investigation Closed status for PA-8, SA-12, and SA-17			Q1 2015	NV Energ	y/Stanley Consultants			
Draft revi	Draft revised Closure Plan			NV Energ	y/Stanley Consultants			

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# NV Energy – Reid Gardner Station Implementation of Administrative Order on Consent Fourth Quarter Meeting/Pond Characterization Work Plan Discussion December 11, 2014 List of Attendees

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12/01/14 JS/CC TK/AE RLS

Submittal to NDEP

1 inch = 700 feet

Proposed HPT with 2" Well

MRI Work Plan

Proposed Sonic with 4" Well

- MRI Work Plan
- PA-2 Work Plan
- PA-3 Work Plan

# Proposed Geo-Probe

- ★ PA-2 Work Plan
- ★ PA-3 Work Plan
- ★ PA-5,6,7 Work Plan

#### Proposed HPT

- MRI Work Plan
- PA-2 Work Plan
- PA-3 Work Plan
- ▲ PA-5,6,7 Work Plan

#### Proposed Soil Surface Sample

PA-5,6,7 Work Plan

Proposed Water Forensics Sample at Existing Location\*

- PA-5,6,7 Work Plan
- Muddy River Transect
  - Muddy River



- 1. Aerial imagery provided by Clark County Assessor Office;
- photographs taken Spring 2013
- 2. \*In addition to sites shown in this layer, other Water Forensic sites include: P-23S/M/D, P-24S/M/D, P-26S/M/D, KMW-4SR/MR/DR, KMW-6SR/MR/DR, KMW-21S/M/D, KMW-22, KMW-24S/M/D, KMW-26; all shown on map in one of the "Proposed Well" layers





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December 2014

PROPOSED MUDDY RIVER INVESTIGATION & POND WORK PLAN SAMPLING LOCATIONS

Pond Groundwater and Soil **Characterization Work Plans NV** Energy **Reid Gardner Station** Moapa, NV Figure 1