MEETING MINUTES

October 26, 2020-11am
REGULAR MEETING – Railroad Valley
Currant Creek Community Center

Members:
Richard W. Carver - Area 1 (Currant Creek/Smoky Valley)
Joe Westerlund - Area 2 (Tonopah/Manhattan)
James Weeks - Area 3 (Beatty /Armargosa Valley)
Helene Williams- Area 4, Position 1 (Pahrump Valley)
William Knecht- Vice Chair Area 4, Position 2 (Pahrump)
Dennis Gaddy - Area 4, Position 3 (Pahrump Valley)
Dave Hall – Chair – At Large

Legal:
Sev Carlson

Board of County Commissioners:
Debra Strickland

Finance:
Savannah Rucker

Staff:
Oz Wichman
John Klenke
Christal Behrends

Acronyms:
AG - Attorney General
AVSTP - Armargosa Valley Science & Technology Park
BOCC - Board of County Commissioners
BOR - Bureau of Reclamation
CSWP- Community Source Water Protection
CNRWA - Central Nevada Regional Water Authority
DOA - Department of Agriculture
DOI - Department of Interior
EPA - Environmental Protection Agency
GID - General Improvement District
GM - General Manager
GWE- Groundwater Evaluation Grant
GWMP – Groundwater Management Plan
HUD - Housing and Urban Development
IRWMP - Inter Regional Water Management Program
MOU - Memorandum of Understanding
NTS - Nevada Test Site
NCWDBG - Nye County Water District Governing Board
NRWA – Nevada Rural Water Association
NWRA - Nevada Water Resources Association
RFP - Request for Proposals
RNWA - Rural Nevada Water Authority
ROW - Right of Way
SNWA - Southern Nevada Water Authority
USDA - United States Department of Agriculture
UGTA - Underground Test Area
1. 11:04 AM Call to Order / Pledge of Allegiance

2. 11:05 AM Roll Call – Present: Dave Hall, Helene Williams Bill Knecht and Dennis Gaddy. Absent: James Weeks, Joe Westerlund and RW Carver.

3. 11:06 AM Mission Statement – “Provide, protect and preserve water resources within Nye County.”

4. 11:06 AM General Public Comment (first): Three-minute time limit per person. Action will not be taken on the matters considered during this period until specifically included on an agenda as an action item.

None

5. 11:07 AM Approval or modifications of the Agenda for the Water District Meeting of October 26, 2020. (Non-action item)

Agenda item 11 will be heard after Agenda item 9 and prior to Agenda item 10.

6. 11:09 AM For Possible Action – Discussion, deliberation and decision regarding Approval of Minutes for August 31, 2020. (heard after Agenda Item 7)

Bill Knecht made a motion to approve the minutes from August 31, 2020. Dennis Gaddy seconded the motion. The vote was approved 4-0.

7. 11:08 AM Water District Governing Board Member / General Manager Comments (This item limited to announcements or topic/issues proposed for future workshops/agendas).

Helene Williams asked that on the next Water District Governing Board agenda we discuss the Bylaws. They are specific in saying that we “shall” utilize the Nye County District Attorney’s office. This should be revised.

Oz mentioned that he attended the Basin Designation hearing in Goldfield. Esmeralda County has asked Oz to assist them in writing comments to NDWR. This work will not be billed to the Nye County Water District and will be done gratis.

Additionally, Oz will be travelling to Pahrump later this week as Darrell Lacy has requested that he assist in taking a look at the assets of Desert Utilities Inc. He has already reviewed an inspection done by the PUC.
8. **11:11 AM Ex-Parte Communications and Conflict of Interest Disclosure Statements.**

    Commissioner Strickland disclosed in addition to this Board’s liaison and a County Commissioner, she is also the owner of Strickland Construction, T&M Group Realty and Lakeside Storage. She has been a licensed well drilling, pump setting, septic contractor as well as a broker who brokers water rights for 26 years. She will not be voting on items during this meeting. Although she will be able to influence this Board, she does not find this to be a conflict of interest. It is her hope that her knowledge base is of value.

9. **11:12 AM For Presentation – Presentation and Discussion with Opportunity for Public Comment, Jay Dixon, Chief Hydrologist, Kinross Gold Corporation will be providing a 2020 water management update for the Round Mountain Mine project.**

    Dennis Gaddy motioned to accept presenter Jay Dixon’s hard copy presentation as additional backup. Bill Knecht seconded the motion. The vote was approved 4-0.

    Jay Dixon discussed the Round Mountain Gold Corporation Water Resources Management status to include: Hydrogeology and Dewatering system, Drilling Plans, Monitoring Procedures and a 2019 Water Rights Status. An update on the Gold Hill mining project was also discussed. In addition, a regional groundwater level review was provided on the Round Mountain Pit Area and the Round Mountain South Area.

    Presentation attached to minutes.

    **Public Comment**
    Darrell Lacy asked Jay Dixon to expand on Phase W of the RMGC project.

    Carolyn Drayton asked why do oil field royalties go to the State vs. Nye County. Oz said that he would address on break, as it was not part of this presentation.

    Kennon Forrester asked why the perennial yield of Railroad Valley is 75k. Jay referenced a report published in 1973 that will be discussed as part of Agenda Item 12.

    Commissioner Strickland asked how hard are we going to fight the suggested tax increase resolutions. Jay Dixon said Round Mountain Gold will be at the table for sure. Commissioner Strickland verbalized Nye County’s support.

11. **12:03 PM For Presentation – Presentation and Discussion with Opportunity for Public Comment, John Klenke, Geoscientist, Nye County Water District, to present detail regarding the established water level monitoring program in Railroad Valley including a program report with maps and hydrographs.**

    John Klenke presented hydrograph maps and detail on the Railroad Valley Water Level Measurement program. Currently there are 14 wells in the program being measured. It was disclosed which wells are showing measurable water level increases or decreases. Information is also shared with: NDWR, CNRWA and USGS.
Program report and map attached to minutes.

Large map posted at Currant Creek Community Center

**BREAK 12:27 PM – 12:35 PM**

**10. 12:35 PM For Presentation- Presentation and Discussion with Opportunity for Public Comment, 3PLO Railroad Valley Lithium Development Project Update by Vincent Ramirez, CEO and Jay Dixon, Hydrologic Consultant.**

Helene Williams motioned to accept presenter Vincent Ramirez’ and Jay Dixon’s hard copy presentation as additional backup. Bill Knecht seconded the motion. **The vote was approved 4-0.**

Vincent Ramirez provided an overview of: 3PL Operating Inc. organizational structure, lithium extraction technology, refinement processes, pending lithium applications and planned permitting. Also discussed was Railroad Valley’s brine pool to include the depth and thickness of the super brine complex. Additionally, a reservoir development and maintenance conceptual model was presented.

Presentation attached to minutes.

Public Comment

Dave Hall asked if they operate on a closed loop system. Vincent answered yes.

Commissioner Strickland asked what kind of economic impact this could bring to Railroad Valley. Both Vincent and Jay expressed they feel the impact could be extremely significant. The lithium in Railroad Valley has the potential of the World Class deposits mined in Tibet.

Helene Williams asked if lithium can be detected by satellite. Vincent said not to his knowledge.

Vincent Ramirez provided his email address for further questions. [Vince@3PLOOperating.com](mailto:Vince@3PLOOperating.com)

**12. 1:37 PM For Presentation – Presentation and Discussion with Opportunity for Public Comment, Dan Randles, Water Resource Specialist 2, Nevada Division of Water Resources, to discuss general Basin health of Basin 173A and 173/B.**

Dennis Gaddy motioned to accept presenter Dan Randles hard copy handouts (2) as additional backup. Bill Knecht seconded the motion. **The vote was approved 4-0.**

Dan Randles discussed the groundwater commitments and availability in Basin 173A & 173B. Focusing on Basin 173B, there is 28,725.18 AFA committed to irrigation, making up the bulk commitment total of 31,837.70 AFA. Basin 173B’s perennial yield is 75K.

Handouts attached to minutes.
Darrell Lacy asked if the numbers presented include a 10% reserve. Dan Randles responded by stating not yet, but will be accounted for in the near future.

13. 1:50 PM For Presentation – Presentation and Discussion with Opportunity for Public Comment, Adam Sullivan, Deputy Administrator and Micheline Fairbank, Deputy Administrator, Nevada Division of Water Resources, to provide a community update and overview of Basin designation hearing (to be held 10/26/20 at 2pm).

Adam Sullivan and Micheline wanted to make themselves available to answer any questions prior to the NDWR Basin designation hearing following this meeting. Adam expressed there has been a lot of turnover / retirements at the Nevada Division of Water Resources. One of the key initiatives is to develop the “younger” staff.

Jay Dixon asked as Adam and Micheline are both doing 1.5 jobs, what is the status of the open Deputy Administrator position. Micheline stated that one of the biggest challenges in filing the position has come with the recent budget cuts.

Bob Coache asked what was the percent cut that came from the Governor’s office. Adam responded by stating 4% in FY 20 and 9% in FY 21.

14. 2:00 PM District Member, Staff and Liaison Reports/Comments:

   a. Finances
      FY 20-21 Budget Status through September 2020
      Financial reports attached to backup and available on-line. Savannah Rucker can be contacted with questions.

   b. Board Reports
      I. LVVWD/SNWA
      II. CNRWA-Commissioner Debra Strickland
      CNRWA will be meeting this Thursday, 10/29 via teleconference.

   c. Staff Reports
      I. Oz Wichman
      Oz was contacted by Micheline at NDWR and has been asked to travel to Carson City to meet with staff regarding NDWR policies and pending legislation. He is appreciative of being asked.

      II. John Klenke

      III. Christal Behrends
      Christal attended the WaterSmart Innovations conference which was virtual this year. Topics of focus remain: turf removal, leak detection and
underground drone technology.

d. Projects Status Report
   I. Staff

e. Board Liaison Reports
   I. Commissioner Debra Strickland

f. Report from other individuals, groups and or agencies regarding water-related issues; for informational purposes only.

15. 2:04 PM For Possible Action-Discussion concerning future Water District Governing Board meetings to include:
December 14, 2020 9am (Pahrump)

Bill Knecht motioned that we accept December 14, 2020 at 9am as a scheduled meeting. Dennis Gaddy seconded the motion. The vote was approved 4-0.

16. 2:05 PM General Public Comment (Second)
None

17. 2:06 PM Adjourn
**NCWD AGENDA INFORMATION FORM**

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**Department:** NCWD Staff  
**Date:** October 26, 2020

**Contact:** Oz Wichman  
**Phone:** 775-727-3487

**Return to:** Christal Behrends  
**Location:** Nye County Water District  
**Phone:** 775-727-3487

**Action requested:** (Include what, with whom, when, where, why, how much ($) and terms)

For Presentation – Presentation and Discussion with Opportunity for Public Comment, Jay Dixon, Chief Hydrologist, Kinross Gold Corporation will be providing a 2020 water management update for the Round Mountain Mine project.

**Complete description of requested action:** (Include, if applicable, background, impact, long-term commitment, existing water district policy, future goals, obtained by competitive bid, accountability measure)

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**Expenditure Impact by FY(s):**

- No financial impact

**Routing & Approval (Sign & Date)**

<table>
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<td>2. WD Manager</td>
<td>Date</td>
<td>4. County</td>
<td>Date</td>
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**Water District Governing Board Action**

- Approved
- Disapproved
- Amended as follows:

| Date |
2020 RMGC WATER RESOURCE MANAGEMENT STATUS UPDATE

SECTION 1:
1. Round Mountain Overview
2. Hydrogeology & Dewatering System
3. 2019 Dewatering Overview and Highlights
4. 2020 Drilling Plans

SECTION 2:
1. Gold Hill Water Management Update
2. Round Mountain Water Management Update
3. Monitoring Plan Review and Update

SECTION 3:
1. 2019 Water Rights Status
   - Options for Amending Order 1233 (Super Permit 83333)
DEWATERING PROGRAM HIGHLIGHTS AND PLANNING

- 2019 Dewatering System Overview and Highlights
- 2020 Drilling Plans
### Round Mountain 2019 Drilling Summary

<table>
<thead>
<tr>
<th>Drilling / Foundation Type</th>
<th>Completion ID</th>
<th>Property / Well Name</th>
<th>General Location(s)*</th>
<th>Number of Formations Permitted</th>
<th>Final Depth</th>
<th>Remarks</th>
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<tr>
<td>Operating Hole</td>
<td>DW-67</td>
<td>B1333</td>
<td>In-Pit Bedrock, RM</td>
<td>1</td>
<td>953</td>
<td>12 Wells; 11,300 ft</td>
</tr>
<tr>
<td></td>
<td>DWG-02, DWG-</td>
<td>B8333</td>
<td>Alluvium, RM</td>
<td>15</td>
<td>10,195</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8, 10, 11, 12, 13, 14, 15, 16, 17, 18</td>
<td>B9333</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MD-11-1</td>
<td>MJD 2-1-02</td>
<td>In-Pit Alluvium, North RM Pit</td>
<td>2 total with completion each</td>
<td>1,800</td>
<td>5 Drains; 1,800 ft</td>
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<tr>
<td></td>
<td>MD 2019-1</td>
<td>N/A</td>
<td>In-Pit Bedrock, East RM Pit</td>
<td>3</td>
<td>1,800</td>
<td>70 Inst. Boreholes; 7,045 ft</td>
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<tr>
<td></td>
<td>MD/2018-J</td>
<td>N/A</td>
<td>Alluvium, RM</td>
<td>7</td>
<td>3,245</td>
<td></td>
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<tr>
<td></td>
<td>MD/2018-J</td>
<td>N/A</td>
<td>Alluvium, RM</td>
<td>1</td>
<td>1,300</td>
<td></td>
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<tr>
<td></td>
<td>MD 2018-1</td>
<td>N/A</td>
<td>Alluvium, RM</td>
<td>1</td>
<td>1,300</td>
<td></td>
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<tr>
<td></td>
<td>GHB-03-08, GHB-03-09</td>
<td>MJD 2375, MJD 2380</td>
<td>Alluvium, Gish</td>
<td>2</td>
<td>1,300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DE-18-2</td>
<td>N/A</td>
<td>In-Pit Bedrock, RM Pit</td>
<td>1</td>
<td>1,300</td>
<td>2 Pilot Holes; 1,100 ft</td>
</tr>
</tbody>
</table>

Total Drilled Footage = 72,445 ft

*Note: RM = Round Mountain; Gish = Gish Hill

### Pod - Existing in 2019

[Map showing Pod Status 2019: Existing, New, Abandoned, Mixed Out 2019, 2019 Locals/Ortho]
DEWATERING PROGRAM HIGHLIGHTS AND PLANNING

- 2019 Dewatering System Overview and Highlights
- 2020 Drilling Plans

ROUND MOUNTAIN PIT – WEST WALL / STEBBINS HILL

Depressurize 2 Lithology Units for Highwall Stability
- Alluvium
  - Wells: Crest and Slope
- Stebbins Hill Clay (TS7)
  - Drains
HISTORICAL VS. PHASE W DEWATERING

GOLD HILL STATUS UPDATE
GOLD HILL SUMMARY

- 4 Dewatering / Production Wells
  - 2 Wells completed in the Sinter Unit; (0 to 750 gpm)
  - 2 Wells completed in Mt. Jefferson Tuff (60 to 120 gpm)
    - Backup wells for most of 2018 and 2019

- No Booster Stations

- 1 Freshwater Storage/Process Pond

- 100% consumption (no discharge)

- Pumped 436 AF in 2019 (max. diversion = 1.18 cfs, 530 gpm)
ROUND MOUNTAIN WATER BALANCE

<table>
<thead>
<tr>
<th>Input (ac-ft)</th>
<th>Output (ac-ft)</th>
<th>( \Delta ) Storage (ac-ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13,364</td>
<td>9,197</td>
<td>2,020</td>
</tr>
<tr>
<td>13,364</td>
<td>9,197</td>
<td>2,020</td>
</tr>
<tr>
<td>13,364</td>
<td>9,197</td>
<td>2,020</td>
</tr>
</tbody>
</table>

2019 Distribution of Water - Round Mountain Mine

**Notes:**
1. Recycled 67,431 ac-ft of water in process
2. Consumed 32% of pumped groundwater

**RM WATER MANAGEMENT**

**ROUND MOUNTAIN SUMMARY**

- 68 Dewatering Wells / Sumps
  - 35 alluvial wells, 2 sumps (6,698 to 7,484 gpm): 87% of total
  - 26 bedrock (pitted) wells, 3 sumps, 2 sets of H. Drains (792 to 1,379 gpm): 13% of total

- 3 In-Pit Booster Stations

- 2 Freshwater Storage/Process Ponds (Relocated in 2018)

- 2 Rapid Infiltration Basin Systems (South and Valley)
RM & GH WATER MANAGEMENT
ROUND MOUNTAIN & GOLD HILL 2019 PUMPING SUMMARY

- M&M-D Pumping (RM) = 13,273 AF
  - 13,244 AF from Dewatering Wells
  - 29 AF from Ancillary (Valley) Wells

- M&M-D Pumping (GH) = 436 AF
  - Max. (Avg. Monthly) Pumping in 2019 = 529 gpm (1.18 cfs)

- Total Pumped for M&M-D in 2019 = 13,680 AF

- 2019 Temp. Permit 88738T = 40 cfs (up to 15,600 AF)
- 2020 Temp. Permit 89624T = 30 cfs (up to 15,000 AF)
HISTORICAL DEWATERING SUMMARY

ROUND MOUNTAIN & GOLD HILL HISTORICAL DEWATERING

GROUNDWATER LEVELS

REGIONAL WATER LEVEL AND MONITORING PLAN REVIEW

- Phase W Predictions
- Current Monitoring Plan Sites
- Gold Hill
- Round Mountain Pit Area
- Round Mountain South Area
GROUNDWATER LEVELS AND SPRING MONITORING

REGIONAL WATER LEVEL AND MONITORING PLAN REVIEW

- 131 Sites Reported to NDWR

GROUNDWATER LEVELS

REGIONAL WATER LEVEL REVIEW

- Round Mountain Pit Area
- Round Mountain South Area
WATER RIGHTS STATUS

- Basin 137b Status
- RMGC Permit Status
- Permit 82333 and Order 1233 Considerations

WATER RIGHTS PERMITTING

BIG SMOKY VALLEY (NORTH), BASIN 137B

Current Underground Appropriations and Utilization

<table>
<thead>
<tr>
<th>Manner of Use</th>
<th>Active Groundwater Appropriated &amp; Vested (af)</th>
<th>% Appropriated</th>
<th>Active Groundwater Pumped (af)</th>
<th>% Pumped</th>
<th>Pending [APP &amp; RIA] as of 2-28-2020</th>
<th>Active Groundwater Pumped (af)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>50</td>
<td>0.2%</td>
<td>40.61</td>
<td>0.2%</td>
<td>0</td>
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<tr>
<td>Domestic</td>
<td>22</td>
<td>0.017%</td>
<td>182.13</td>
<td>0.017%</td>
<td>0</td>
<td>180 domestic wells @ 1 af per well</td>
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<tr>
<td>Irrigation</td>
<td>17,047</td>
<td>64%</td>
<td>9,065</td>
<td>50%</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Irrigation (Vested Claims)</td>
<td>1,023</td>
<td>1%</td>
<td>1023</td>
<td>1%</td>
<td>0 based on 2017 Crop Inventory</td>
<td>0</td>
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<tr>
<td>Mining &amp; Milling</td>
<td>15,670</td>
<td>87%</td>
<td>13,680</td>
<td>74%</td>
<td>0</td>
<td>0</td>
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<tr>
<td>On</td>
<td>3,572</td>
<td>6.4%</td>
<td>3,180</td>
<td>5.5%</td>
<td>0 RMSC has 14,705 AF permitted for connection and pumped 20,382 AF in 2019</td>
<td>0</td>
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<tr>
<td>Stockpiling</td>
<td>149</td>
<td>2.3%</td>
<td>147</td>
<td>0.8%</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Other</td>
<td>46</td>
<td>0.2%</td>
<td>46</td>
<td>0.2%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>56,777</td>
<td>56.77%</td>
<td>56,777</td>
<td>56.77%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
WATER RIGHTS PERMITTING
BIG SMOKY VALLEY (NORTH), BASIN 137B

- Active Underground Applications & Claims = 58,679AF (as of 2-28-2020)
  - ~26% is Permit status
  - ~74% is Certificate status

- Pending Underground Applications (as of 2-28-2020)
  - 13 Applications RFA (all change applications)

WATER RIGHTS PERMITTING
RMGC WATER RIGHTS OVERVIEW

- Prior to 2014 RMGC maintained 22 to 30 temporary permits each year
- Without the Super Permit RMGC would have 56 temps. In 2019 at a cost of ~$61k
- 'Super Permit' -
  - POU = 15,479 acres

WATER RIGHTS PERMITTING

RMGC WATER RIGHTS OVERVIEW

Mining and Milling Water Rights

Order 1233

- Permit 83333
  - (14,767 AFA) - Consumptive Use

Annual Temp.
- (15,000 AFA for 2020)

Other Water Rights

QM, STK, IRR

Pit Lake Reap.

- One Temp. filed each year; fees based on projected pumping
- All well locations (new and abandoned) reconciled at year end
- 2018 Permitted Duty (88736) = 15,600 AFA
  - Pumped 13,680 AF
  - Consumptive Use = 4,383 AF
  - Peak (Avg.) Monthly Diversion Rate = 20.87 cfs (9.367 gpm)

- 2020 Pending Duty (892647) = 15,000 AFA (40 cfs)
  - Per Order 1233, Temp. App. is based on anticipated pumping
  - Anticipated consumptive use ~ 4,000 to 5,000 AF
WATER RIGHTS PERMITTING
PERMIT 83333 AND ORDER 1233 CONSIDERATIONS

**Why Are We Considering a Potential Amendments?**

1. Considering withdrawal of diversion rate only permits totaling 12 cfs (reduce permit 83333 to 53 cfs) – **COMPLETED IN APRIL 2020**

2. 2019 & 2020 Temp. App. filing with pumping volume that exceeded TCD (consumptive use)

3. Explore potential for certificating unperfected rights

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WATER RIGHTS PERMITTING
PERMIT 83333 AND ORDER 1233 CONSIDERATIONS

**Permit 83333 (aka ‘Super Permit’):**

1. Current permit 83333 terms
   - "...limited to amount placed to beneficial use, and not exceed 65 cfs or 14,767.5 efy"

2. Proposed amendment to permit 83333:
   - "...limited to amount placed to beneficial use for consumptive purposes, and not exceed 53 cfs or 14,767.5 efy"
   - Gold Hill permits issued in 2003 (x17 @ 1 cfs each), for diversion only
   - Withdrew 12 (1 cfs) permits in 2020, leaving 53 cfs combined diversion rate
Order 1233 Considerations:

1. In 2019 RMGC filed a temp. change app. under permit 83333 for 15,600 AF

   • Current permit 83333 terms
     ➢ "...total combined duty of water for consumptive purposes under ...... shall not exceed 14,767.5 afy"
     ➢ The application for 15,600 AF under 88738T is consistent with existing permit terms under 83333 and Order 1233.
     ➢ Proposed amendments would clarify the requested duty as being the amount to be pumped.
     ➢ Within the current TCD of 14,767.5 afy:
       • 4,636.22 afy (groundwater) is certificated
       • Approximately 10k afy (groundwater) is left to perfect

Order 1233 Potential Amendments:

- Beginning in 2021 and annually thereafter the operator must file a temporary application for permit no later than March 15 of each subsequent year for the anticipated water requirement for the forthcoming year.
- All dewatering diversions within the area of this order that have not been used for any permitted purpose within the preceding year shall be plugged in accordance with the provisions of Chapter 534 of the Nevada Administrative Code or file for a waiver requesting to keep the diversion well open in conjunction with the annual report with justification for keeping the unused diversion well open.
- Would allow for incremental perfection of any point of diversion of any portion of currently unperfected water rights.
- Perfection could be achieved by pumping any 'listed well' up to the total duty for mining and milling purposes.
**NCWD AGENDA INFORMATION FORM**

<table>
<thead>
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**Expenditure Impact by FY(s):**

| No financial impact |

**Routing & Approval (Sign & Date)**

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<td>2. WD Manager</td>
<td>Date</td>
<td>4. County</td>
<td>Date</td>
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**Water District Governing Board Action**

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</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Date</td>
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</table>
3PL Operating Inc.

Overview of Brine Discovery in Railroad Valley, Nevada

Vincent Ramirez
Chief Executive

2020
Cross section of the RRV super-brine complex, defined by electric log well data. The main pool is shown in purple and is 1,000 feet thick and 18 miles long. Well LD 1-32 sampled the brine fluids; the lower zones are not evaluated.
Figure 2: Well data summary of the Major Salt Groups. Bittern salts are shown in red.
1 - Evaporite solid salt mining by solution process, 103 individual layers
2 - Brine liquid mining from primary reservoir rocks

RRV Super-Brine Complex
Direct Extraction of Metals from Brine

LOI with 3PL Operating to build Demonstration Plants and Pilot Plants in Railroad Valley
Railroad Valley Water Rights Status

Prepared in Support of 3PL Operating Inc. Lithium Development Project

Jay Dixon, P.E., WRS
1. Basin Status Summary
   - Review water rights by manner of use
   - Review historical abstract of underground rights by priority

2. Existing Lithium-Related Applications and Permits
   - Pending lithium applications
   - Bema Gold/3PLO Temporary Transfer (White Pine to Nye)

3. Planned Permitting
   - Existing Points of Diversion
   - 3PLO project (water rights permitting plan)
   - Reservoir development & maintenance

4. Q & A
Basin 173b – Underground Active Summary (as of October 2020)

APPROVED ANNUAL DUTY (UNDERGROUND) BY MANNER OF USE

- Irrigation: 90%
- Mining and Milling: 3%
- Recreation: 7%
- Stockwater: 0.57%
- Commercial: 0.003%
- Industrial: 0.2%
Basin 173b – Adjusted Commitments and Available Groundwater (as of October 2020)

ADJUSTED DUTIES COMMITTED AND AVAILABLE BY MOU
(INCLUDES 2,000 AFA IN PENDING LITHIUM (M&M) APPLICATIONS)
Total Combined Underground Duty Over Time - Basin 173b

- **Perennial Yield**: Perennial yield is a constant value of 75,000 AF.
- **Unadjusted Active Duty**: Shows the changes in active duty over time.
- **Unadjusted Committed/Pending Duty**: Indicates commitments and pending duties.
- **Total Pumped in 2015**: Displays the total water pumped in 2015.

**Notes:**
- Includes domestic wells (36 wells at 2 AF per well)
- NDWR (Unadjusted) Commitment Report = 31,837 AF

**Important Data Points:**
- NDWR Reported Pumping in 2015 = 15,120 AF
- Total Active & Pending (Unadjusted) Commitments & Dom. Wells = 32,791 AF
- 2,000 AF Pending (Lithium Project)
- Total Unadjusted Duty = 30,791 AF*
Total Combined Underground Duty Over Time - Basin 173b

Accounting for Supplemental Sources and Consumptive Use (Adjustments) Results in a 5,000 AF increase in Available Groundwater.

Total Active & Pending Commitments & Dom. Wells = 32,791 AF

Pending Lithium Applications for 2,000 AF (LITHION USA (NEVADA) CORP)

NDWR Reported Pumping in 2015 = 15,120 AF

Total Adjusted Duty = 27,971 AF
Basin 173b – Underground Abstract by Priority

Total Combined Underground Duty Over Time - Basin 173b

Perennial Yield - 75,000 AFA

47,029 AFA Available (If All & Pending Existing Rights Were Fully Utilized as Permitted)
49,029 AFA Available Not Counting Existing Lithium Applications

NDWR Reported Pumping in 2015 = 15,120 AF
Lithium-Related Water Right Applications (Status)

- Pending Lithium-Related Applications:
  - Lithion USA (Nevada) Corp. filed for 2,000 AF on 11/21/17; currently RFA

- Bema Gold Temporary Transfer to 3PLO Exploration Well (LD-1-32)
LD-1-32 Well Summary

- Completed in June 2018 under BLM Notice N-96489 and NDOM Permit W0003
LD-1-32 Well Summary

- Based right permit 26239 (cert. 8779) is owned by Bema Gold (U.S.) Inc.
  - A subsidiary of Kinross Gold USA, Inc.

- 3PLO executed an agreement with Kinross / Bema on June 22, 2020 in support of a temporary transfer of 5.37 AF under permit 26239 to 3PLO well LD-1-32 in Railroad Valley Basin 173b

- County Notices sent on September 4, 2020; Permit issued on September 18, 2020
3PLO WR Permitting Plan

- Place of Use = Claim Boundary (36,071 acres)
- Expect 81% efficiency with 19% consumption
- Total combined consumptive duty = 18,465 AFA
- Initial applications to include 40 Potential Points of Diversion
- 140 cfs (~98,736 AFA) total diverted, 3.5 cfs (per application)
- Non-consumptive water/brine to be re-injected (reservoir maintenance)
Table 10.— Preliminary estimates of perennial yield

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<tr>
<th>Valley</th>
<th>Estimated perennial yield (acre-feet)</th>
<th>Assumptions regarding quantities salvaged</th>
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<tbody>
<tr>
<td>RAILROAD</td>
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<td>(see table 9)</td>
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<tr>
<td>Northern part</td>
<td>75,000</td>
<td>All evapotranspiration.</td>
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</table>

1. The generally poor quality of ground water beneath the playas may limit development.

Recon 60 (Van Denburgh and Rush, 1974)
Conceptual Model – Reservoir Development & Maintenance

Groundwater budget = R1 - D1 + R2 + R3 + R4 - D2 - D3 - D4 - D5
R1 = In-place recharge from precipitation
R2 = Recharge from perennial and ephemeral streams (includes mountain stream baseflow, runoff, recharge from canals, and recharge from irrigation)
R3 = Recharge from imported surface water (includes recharge from canals, and recharge from irrigation)
R4 = Recharge from subsurface inflow from an upgradient hydrographic area
D1 = Discharge to mountain streams and mountain springs
D2 = Discharge to evapotranspiration
D3 = Discharge to basin-fill springs and basin-fill streams/lakes/reservoirs
D4 = Discharge to well withdrawals
D5 = Discharge to subsurface outflow to a downgradient hydrographic area
Conceptual Model – Reservoir Development & Maintenance

Evapotranspiration = 75,000 AFA
3PLO’s proposed consumptive use (18,465 AFA) will capture 38% of remaining perennial yield leaving 30,564 AFA for future UG appropriations

Playa Evapotranspiration Reduced by Consumptive Use (18,465 AFA)

Over-pumping the brine reservoir results in freshwater intrusion (contamination)
Questions?
NCWD AGENDA INFORMATION FORM

Action: [ ] Presentation [X] Presentation & Action

Agenda Item: 11

Department: NCWD Staff

Date: October 26, 2020

Contact: Oz Wichman

Phone: 775-727-3487

Location: Nye County Water District

Phone: 775-727-3487

Continued from meeting of:

Return to: Christal Behrends

Action requested: (Include what, with whom, when, where, why, how much ($) and terms)

John Klenke, Geoscientist, Nye County Water District, to present detail regarding the established water level monitoring program in Railroad Valley including a program report with maps and hydrographs.

Complete description of requested action: (Include, if applicable, background, impact, long-term commitment, existing water district policy, future goals, obtained by competitive bid, accountability measure)

A poster containing maps and hydrographs will be displayed at meeting location. PDF format is included in backup.

Any information provided after the agenda is published or during the meeting of the Board will require you to provide 10 copies: one for each Board Member (7), two for NCWD Staff, one for the Public and one for the Water District Manager. Contracts or documents requiring signature must be submitted with three original copies.

Expenditure Impact by FY(s):

[X] No financial impact

Routing & Approval (Sign & Date)

1. WD Staff

Date

2. WD Manager

Date

3. WD Secy/Treas

Date

4. County

Date

Water District Governing Board Action

[ ] Approved  [ ] Disapproved  [ ] Amended as follows:

Date
Green Springs Well located in the extreme northern part of the basin is showing a water level increase of 2 to 3 feet as compared to the 2015 to 2019 readings. During the previous three years (9/17/12 to 9/9/15), this well had been showing a decline rate of -0.2 ft/yr. USBLM-Bull Creek Well 1, located farther south in the north central part of the basin continues to show a slight downward trend, of just under -0.2 ft/yr, which has been occurring since 2008. The water level in this well has been fluctuating but over the long term has been declining at an average rate of about -0.1 ft/yr since the highest measured level on 5/29/94. To the southeast, in the area of Current NV, four of the five monitoring wells (Currant Well #1, Currant Well #4, Dingo #1, Dingo #2) are showing a mix of water level increases and decreases on the order of a couple of feet, but USGS-MX (N. R&R Valley), located 1 mile SW of Current, appears to be showing a pause to the previous steady decline since 1999 of roughly -1.4 ft/yr. It should be noted that there are a number of fields which have been under cultivation for a number of years within a five mile radius of Current, NV. USGS #1, USGS #2, and USGS #3, located in the west central part of the basin have remained steady to date, and except for spiking on 3/26/19, have all had less than one foot of water level fluctuations since they were first measured by the USGS on 1/24/19. To the south, in the east central part of the basin, both MX112 and Grant Canyon #2 MX12 continue to show steady declines of about -0.25 ft/yr, which have been occurring since 9/25/14. However, this decline rate is considerably less than the previous rate of -0.74 ft/yr which occurred between 9/23/13 and 9/25/14. Grant Canyon #1 remains comparatively steady, showing only a ±0.14 ft variation over the last year, but shows a +0.85 ft foot increase since it was first measured by the USGS on 6/1/1969. MX007 and Forester Pivot #1 Pump #1 are located in the south central part of the basin and are both showing water level decreases since the beginning of the year. MX107 previously had been showing decline of about -0.4 ft/yr (9/25/12 to 9/17/14), but now appears to show an increase in decline of about -1.4 ft/yr from 9/17/18 to 8/22/19. However, this last observation is based on only one reading and should be taken cautiously. Forester Pivot #5, Pump #1 is showing a ±1 ft decline from 1/13/20 to 7/12/20, but previously showed an increase of about ±0.74 ft from 4/18/19 to 1/13/20. These large water level fluctuations are most likely due to the well functioning as a center pivot feed, and also because of the large number of pixels under cultivation in the surrounding area. USGS-MX (S. R&R Valley), located in the extreme south of the basin continues to show a steady decline of about -0.2 ft/yr, which began sometime in the 1997 to 1998 timeframe.

**Artesian Wells**

Forland Artesian located in the east central part of the basin has been showing flow rate fluctuations since it was fist measured on 1/13/19. Readings since last year’s Water District Governing Board Meeting were 6.67 gpm on 10/21/19 (down from 7.93 gpm on 8/7/19), increasing to 7.48 gpm on 1/13/20 and then increasing again to 7.55 gpm on 7/12/20. Evans Field #1 and Evans Field #2 are located in the east central part of the basin. Evans Field #1 has been showing flow rate fluctuations since it was first measured on 1/15/19. Recent readings were 71.45 gpm on 10/21/19 (down from 92.84 gpm on 8/7/19), increasing to 72.96 gpm on 1/13/20 and then increasing again to 77.99 gpm on 7/12/20. Evans Field #2 showed a constant discharge of 476.67 ft³/’day, (skill), but the NCWD has not yet been successful in obtaining flow rates from this well. Crow’s Nest #1, Crow’s Nest #2 are also located in the east central part of the basin, and about 1.1 miles SW of Evans Field #1. Crow’s Nest #1 shows a drop in flow rates since it was first measured on 1/13/20, but recently it appears to have stabilized. The most recent readings were 11.99 gpm on 10/21/2019 (down from 13.04 gpm on 8/7/19), decreasing to 11.82 gpm on 1/13/20 and then stabilizing at 11.80 gpm on 7/12/20. Crow’s Nest #2 has fluctuated from about 23 to 60 gpm since it was fist measured on 1/13/19, with the latest readings of 48.50 gpm on 10/21/19 (down from 59.60 gpm on 8/7/19), increasing to 53.43 gpm on 1/13/20 and then again to 53.80 gpm on 7/12/20.
Since NCWD’s last Railroad Valley meeting, held on 10/17/19 the Nye County Water District (NCWD) has taken three additional sets of water level / flow measurements (10/21/20, 1/3/20, and 7/12/20) within the Nye County portion of Basin 173B. The fourteen wells being measured by NCWD’s water level measurement program (white hydrographs on poster) consists of nine wells in which the water levels are monitored: **Currant Well #1, Currant Well #4, Dingo #1, Dingo #2, Forrester Pivot #1- Pump #1, Grant Canyon #1, USGS #1, USGS #2, and USGS #3** (white diamonds with red outlines on map); and five artesian wells, in which the flow rates are monitored: **Crow’s Nest #1, Crow’s Nest #2, Evans Field #1, Evans Field #2, and Forland Artesian** (solid red diamonds on map). The NDWR’s website lists one additional set of water level measurements (8/22/19) having been taken in USBLM-Bull Creek Well 1, USGS-MX (S. R&R Valley), MX107, MX112, and Green Springs Well, with data being supplied by the Central Nevada Regional Water Authority (CNRWA) (blue hydrographs, and blue dots on map). The USGS’s website lists four sets of additional water level measurements (10/21/19, 1/13/20, 5/11/20, and 8/31/20) taken in USGS-MX (N. R&R Valley), USGS-MX (S. R&R Valley), and USBLM-Bull Creek Well 1, (green hydrographs, and green dots on map). The last two USGS wells, USGS-MX (S. R&R Valley), and USBLM-Bull Creek Well 1 are also monitored by the NDWR, but under a separate program. All new water level / flow measurement data are shown as bright red points on hydrographs.

**Water levels**

**Green Springs Well** located in the extreme northern part of the basin is showing a water level increase of 2 to 3 feet as compared to the 2015 -2019 readings. During the previous three years (9/17/12 to 9/9/15), this well had been showing a decline rate of -2.2 ft/year. **USBLM-Bull Creek Well 1** located farther south in the north central part of the basin continues to show a slight downward trend, of just under -0.2 ft/yr, which has been occurring since 2008. The water level in this well has been fluctuating but over the long term has been declining at an average rate of about -0.1 ft/yr since the highest measured level on 3/29/94. To the southeast, in the area of Current NV, four of the five monitoring wells (**Currant Well #1, Currant Well #4, Dingo #1, Dingo #2**) are showing a mix of water level increases and decreases on the order of a couple of feet, but **USGS-MX (N. R&R Valley)**, located 1 mile SW of Currant, appears to be showing a pause to the previous steady decline since 1999 of roughly -1.4 ft/yr. It should be noted that there are a number of fields which have been under cultivation for a number of years within a five mile radius of Current, NV. **USGS #1, USGS #2, and USGS #3**, located in the west central part of the basin have remained steady to date, and except for spiking on 3/26/92, have all had less than one foot of water level fluctuations since they were first measured by the USGS on 1/1/81. To the south, in the east central part of the basin, both MX112 and **Grant Canyon #1 MX112** continue to show steady declines of about -0.23 ft/yr, which has been occurring since 9/25/14. However, this decline rate is considerably less than the previous rate of -0.74 ft/yr which occurred between 9/23/13
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NCWD AGENDA INFORMATION FORM

**Agenda Item: 12**

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<tr>
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<th>Presentation</th>
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**Department:** NCWD Staff  
**Date:** October 26, 2020

**Contact:** Oz Wichman  
**Phone:** 775-727-3487

**Return to:** Christal Behrends  
**Location:** Nye County Water District  
**Phone:** 775-727-3487

**Action requested:** (Include what, with whom, when, where, why, how much ($) and terms)

For Presentation – Presentation and Discussion with Opportunity for Public Comment, Dan Randles, Water Resource Specialist 2, Nevada Division of Water Resources, to discuss general Basin health of Basin 173A and 173/B.

**Complete description of requested action:** (Include, if applicable, background, impact, long-term commitment, existing water district policy, future goals, obtained by competitive bid, accountability measure)

Dan Randles, Water Resource Specialist 2, Nevada Division of Water Resources, to discuss general Basin health of Basin 173A and 173/B.

Any information provided after the agenda is published or during the meeting of the Board will require you to provide 10 copies: one for each Board Member (7), two for NCWD Staff, one for the Public and one for the Water District Manager. Contracts or documents requiring signature must be submitted with three original copies.

**Expenditure Impact by FY(s):**

- No financial impact

**Routing & Approval (Sign & Date)**

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**Water District Governing Board Action**

- Approved  
- Disapproved  
- Amended as follows:

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<td>Groundwater Available for Appropriation</td>
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1 Domestic well use commitment is considered to be the number of active domestic wells in the NDWR database multiplied by 2 AFA (NRS 534.180). The amount of groundwater actually used by domestic wells is commonly approximated to be 1 AFA or less.

2 Groundwater Reserved pursuant to NRS 533.0241. See State Engineer Interim Order #1308.

3 Groundwater Committed is the sum of all permitted, certificated, decreed, reserved, relinquished, revocable, unadjudicated vested claims to groundwater rights, domestic well use commitment, and the groundwater reserve.

4 Groundwater Available for Appropriation is estimated as the difference between perennial yield and groundwater committed. If groundwater committed exceeds perennial yield, available groundwater is zero. Caution to User: This simplified estimate does not take into account several variables that may affect groundwater availability, such as the supplemental nature of groundwater to surface water sources, rights that were issued with an expiration date, rights that are temporary in nature (e.g., mining and milling), the consumptive use of individual rights, hydrogeologic setting, hydraulic connectivity to surface water, adjudication status, and geothermal appropriations. The use of “-” in the Groundwater Available for Appropriation field indicates the basin has special circumstances associated with its perennial yield that affect the amount of groundwater available for appropriation. The user is referred to the appropriate Yield References, Rulings, and Orders.
### Hydrographic Area Summary

**Hydrographic Area No.** 173B  
**Hydrographic Area Name** RAILROAD VALLEY-NORTHERN PART  
**Subarea Name** Northern Part  
**Hydrographic Region No.** 10  
**Hydrographic Region Name** CENTRAL  
**Area (sq. mi.)** 2149  
**Counties within the hydrographic area** Nye, White Pine, Lincoln  
**Nearest Communities to Hydrographic Area** Current, Duckwater

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#### Yield Values
- **Perennial Yield (AFY):** 75000
- **System Yield (AFY):**
- **Yield Reference(s):** USGS Recon. 60
- **Yield Remarks:**

#### Source of Committed Data:
- **NDWR Database**
- **Supplementally Adjusted?** Y

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#### Related Reports
- **USGS Reconnaissance:** 60
- **USGS Bulletin:** 12
- **Other References:**

Comments:

10/22/2020 2:10:17 PM