

BRIAN SANDOVAL
Governor

STATE OF NEVADA



BRADLEY CROWELL
Director

JASON KING, P.E.
State Engineer

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

901 South Stewart Street, Suite 2002

Carson City, Nevada 89701-5250

(775) 684-2800 • Fax (775) 684-2811

<http://water.nv.gov>

January 11, 2018

RE: Applications for extension of waivers for Mineral Exploration Wells CV7 (MM-212)- and CV-8 (MM-213).

Patrick Highsmith
Esmeralda Minerals, LLC
100 West Liberty Street, 10th Floor
Reno, Nevada 89501

Re: Request to continue use of wells CV-7 and CV-8 as mineral exploration wells for mineral resource development within the Clayton Valley Hydrographic Basin (143), Esmeralda County, Nevada.

Proposed Coordinates: Universal Transverse Mercator (UTM) meters (m), North American Datum 1983 (NAD83).

CV-07 143 S02 E40 32 Bd [se¼ NW¼] UTM (m) E: 450,055, N: 4,175,143, APN: 006-281-02
CV-08 143 S02 E40 31 Ab [nw¼ NE¼] UTM (m) E: 448,955, N: 4,175,605, APN: 006-281-02

Dear Mr. Highsmith,

This letter is in response to your waiver extension requests received in this office on November 13, 2017. As provided in Nevada Administrative Code (NAC) 534.441 of the Regulation for Water Well and Related Drilling, permission is herewith **denied** to allow extension of Waivers MM-212 and MM-213 as mineral exploration wells.

The intent for the denial of these waiver applications is that new regulations are being adopted by the Nevada Division of Minerals that will oversee recovering dissolved mineral deposits that will be in force on January 1, 2018.

Should you have any questions regarding this matter, please contact me at the address above, by email at khaffey@water.nv.gov or at 775-684-2814.

Sincerely,

A handwritten signature in blue ink that reads "Kenneth M. Haffey".
Kenneth M. Haffey
Staff Engineer

KMH/jw

cc: Timothy Donahoe, SRK Consulting
Tim Wilson, Well Drilling Regulation, e-mail
Jake Echeverria, Well Drilling Regulation, e-mail
Mike Scott, Well Drilling Regulation, e-mail
Erielle Cushing, Well Drilling Regulation, e-mail

FILE COPY

IN THE OFFICE OF THE STATE ENGINEER OF THE STATE OF NEVADA
REQUEST FOR A WAIVER FOR TEMPORARY USE OF GROUND WATER
FOR MINERAL EXPLORATION

The applicant and/or person or company responsible for drilling and plugging the temporary well:

Patrick Highsmith	Chief Executive Officer	Esmeralda Minerals, LLC
Name	Title	Company
100 W. Liberty St., 10th Floor	Reno	Nevada 89501
Street Address or PO Box	City or Town	State and ZIP Code

Telephone number of responsible party: (303) 668-3264

Estimated project dates: Nov-01-2016 Start Date Ongoing Completion Date

Location of the well: PLSS, GPS Coordinates and Map Datum are required.

SE ¼ NW ¼ Section 32 T 02 S R 40 E, M.D.B. & M.

{ Latitude (N): _____ } or { UTM (m) E: 450055 } Datum
{ Longitude (W): _____ } { UTM (m) N: 4175143 } NAD83/WGS8

County Assessor Parcel Number (APN): 006-281-02

Street Address (if any): Not Applicable (Well CV-07)

Location of mineral exploration, plan of operations, and description of how water is to be used: (Attach additional sheets as necessary)

A waiver is requested to drill a well (by licensed driller) and allow temporary use of water to characterize the groundwater and mineral resources beneath Applicant's mineral claims. Applicant's NOI (N-94958) to perform exploration activities at CV-7 has been approved by BLM. The well will be developed and a small scale aquifer test will be performed to estimate aquifer parameters such as hydraulic conductivity and storativity. Water sample(s) will also be collected from the well to determine the quality of groundwater and lithium brine.

Estimated amount of water to be used:

Number of days 3 x Gallons per day 543,085 = Total Gallons 1,629,255

Is this an existing well? No If yes, what is the NDWR well log number?

The following items must be submitted with the waiver request:

- If this is an existing well, submit a copy of the agreement between you and the owner
- Affidavit of Intent to Plug a Well (for new well(s) or well(s) which ownership is not claimed)
- Location Map (i.e., Large Scale, inch = miles)
- Site Detail Map (i.e., Small Scale, inch = feet)

Signatory Contact Information:

(775) 828-6800

Telephone Number

5250 Neil Road, Suite 300

Mailing Address

Reno, Nevada 89502

City, State, ZIP Code

Timothy P. Donahoe

Printed Name

Signature

Nov-10-2017

Date

CV-7 FILE COPY

STATE OF NEVADA
DIVISION OF WATER RESOURCES
WELL DRILLER'S REPORTPRINT OR TYPE IN BLACK INK ONLY
DO NOT WRITE ON BACKPlease complete this form in its entirety in
accordance with NRS 534.170 and NAC 834.340

OFFICE USE ONLY

Log No. _____

Permit No. _____

Basin No. _____

NOTICE OF INTENT NO. 76334

WELL NAME (# applicable) _____

1. OWNER/CLIENT NAME Emerald Minerals LLC

MAILING ADDRESS _____

9137 Ridgeline Blvd., Suite 250
Highlands Ranch, CO 80129

DETAILED ADDRESS AT WELL LOCATION _____

Clayton Valley South Project2. PLS LOCATION se 1/4 nw 1/4 32 Sec 2 N1/2 40PERMIT/WAIVER NO. mm-212 008-281-02

Issued By Water Resources

Current Permit No.

Subdivision Name _____

Latitude _____

Longitude _____

UTM E

UTM N

County

NAD 27

NAD 83/WGS 84

Esmeralda450,0554,175,143

3. WORKED PERFORMED

☒ New Well ☐ Deepen Orig Well☐ Replacement Original well log # _____☐ Recondition Original well log # _____☐ Domestic☐ Mining / Dewater☐ Test / Other

4. PROPOSED USE

☐ Irrigation☐ Com / Ind☐ Mun / OM☐ Monitor☐ Stock☐ Rec

5. WELL TYPE

☐ Auger☒ Rotary☐ RVC☐ Air☐ Mud☐ Sonic☐ Other

CORE

6. LITHOLOGIC LOG

Material Encountered	Lost Circ.	Water Strata	From	To
medium to yellow brown alluvium	none		0	190
pale brown alluvium			190	380
gray-brown silty clay			380	500
green-brown silt, clay, and sand			500	2000

9. WELL CONSTRUCTION

Depth Drilled 2000 FeetDepth Cased 1990.7 Feet

HOLE DIAMETER (BIT SIZE)

From	To	From	To
21	Inches	0	Feet
3.95	Inches	100	Feet
12.25	Inches	100	Feet
		2000	Feet
		2000	Feet

CASING SCHEDULE

Size O.D. (Inches)	Weight/Ft (Pounds)	Well Thickness (Inches)	From (Feet)	To (Feet)
14		.250		
6.625	pvc f480	schedule 80	+1.5	100.3
			+1.2	1990.7

ANNULAR MATERIALS

Sanitary Seal	Yes	No	From	To	Pumped	Poured
Neat Cement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	100.3	<input type="checkbox"/>	<input type="checkbox"/>
Cement Grout	<input type="checkbox"/>	<input type="checkbox"/>	0	10	<input type="checkbox"/>	<input type="checkbox"/>
Concrete Grout	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
Bentonite Chips	<input type="checkbox"/>	<input type="checkbox"/>	10	20	<input type="checkbox"/>	<input type="checkbox"/>
Gravel Pack (> 0.2 in.)	<input type="checkbox"/>	<input type="checkbox"/>	20	1990.7	<input type="checkbox"/>	<input type="checkbox"/>
Sand Pack (< 0.2 in.)	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
Other, explain	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>

we were only able to gravel pack approximately 25% of annulus

PERFORATIONS

Type of perforation:	slotted pvc				
Size of perforation:	0.02				
From	580.7	Feet	To	1930.7	Feet
From		Feet	To		Feet
From		Feet	To		Feet
From		Feet	To		Feet
From		Feet	To		Feet

Date started 17-Nov 20 16
Date completed 5-Feb 20 177. WATER QUALITIES
Static water level 53.1 Feet below land surface
Artesian Flow: G.P.M. P.S.I.
Water Temperature: cool ° Fahrenheit
Water Quality: brine

8. WELL TEST DATA			
Test Method	Ballor	Pump	Air Lift
G.P.M.	Draw Down (Feet Below Static)	Recorded Time (Hours)	
air eductor			40
pump	80		48

10. DRILLER'S CERTIFICATION

This well was drilled under my supervision. This report is true to the best of my knowledge

Name HARRIS EXPLORATION DRILLING AND ASSOCIATES INC.Address P.O. BOX 81805 SAN DIEGO CA. 92109Phone 760-822-7886

Nevada contractor's license number

as issued by the State Contractors Board

0028000A A-8

Nevada well driller's license number as issued by the

Nevada Division of Water Resources (see driller)

2554 patrick harrisSigned Patrick M. HarrisDate 2/16/2017

USE ADDITIONAL SHEETS IF NECESSARY

pg. 1 of pg. 1

November 10, 2017

Mr. Jason King, PE
Nevada Division of Water Resources
901 South Stewart Street, Suite 2002
Carson City, NV 89701-5250

RE: Applications for MM-Waiver(s) for Wells CV-7 and CV-8 and Temporary Use of Groundwater for Mineral Exploration Activities in Clayton Valley (10-143), Esmeralda County, Nevada

Dear Mr. King,

On behalf of Pure Energy Minerals Ltd. (PEM), SRK Consulting is submitting the subject waiver applications in the name of PEM's wholly owned subsidiary, Esmeralda Minerals, LLC. A check made payable to NDWR in the amount of \$240 is also included herewith to cover the statutorily mandated filing fees.

The requested waivers are necessary to renew waivers MM-212 and MM-213 that were previously issued for PEM's wells, designated as CV-7 and CV-8, until new regulations for dissolved minerals are jointly developed and adopted by NDOM, NDWR and NDEP.

Thank you for your service and assistance in this matter – it is greatly appreciated. Should you desire additional information or clarification, please feel free to contact me at your convenience.

Sincerely,

SRK Consulting (U.S.), Inc.



Timothy P. Donahoe, PLS, WRS, CEM
Senior Consultant (Hydrogeology and Water Rights)
tdonahoe@srk.com
775-828-6800

cc w/ enc:

Patrick Highsmith (Pure Energy Minerals)
Walter Weing (Pure Energy Minerals)
Paul Taggart (Taggart & Taggart, Ltd.)
SRK Project file: 483600.010

RECEIVED
2017 NOV 13 AM 9:11
STATE ENGINEERS OFFICE

U.S. Offices:

Anchorage	907.677.3520
Denver	303.985.1333
Elko	775.753.4151
Fort Collins	970.407.8302
Reno	775.828.6800
Tucson	520.544.3688

Mexico Office:

Guadalupe, Zacatecas	52 492.927.8982
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Canadian Offices:

Saskatoon	308.955.4778
Sudbury	705.682.3270
Toronto	416.801.1445
Vancouver	604.681.4198
Yellowknife	867.873.8870

Group Offices:

Africa
Asia
Australia
Europe
North America
South America

FILE COPY

IN THE OFFICE OF THE STATE ENGINEER OF NEVADA

AFFIDAVIT OF INTENT
TO ABANDON A WELL

Notice of Intent # _____

I, Walter Weinig, V.P.

Name & Title

ESMERALDA MINERALS, LLC.

Company

108 N. Minnesota Street

Address

Carson City, NV 89703

(775) 882-9900

Telephone Number

of the real property located at:

Street address (if any) not applicable (Well CV-08)

County Assessor Parcel Number (APN) 006-281-02

Situated within the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 31 T 02 S R 40 E. M.D.B. & M.

{ Latitude (N): _____ } or { UTM (m) E: 448955 } Datum
{ Longitude (W): _____ } { UTM (m) N: 4175605 } NAD83/WGS84

and whereupon an existing well or wells are located or to be located, fully understand that I shall be responsible for, and shall cause the existing well to be plugged in accordance with the provisions contained in Nevada Administrative Code (NAC) 534.420 and all other applicable rules and regulations for drilling/plugging wells in the State of Nevada.

I shall further make any purchaser of this parcel aware of these conditions.

Responsible Party

(Printed Name):

Walter Weinig

(Signature):

Walter Weinig

State of Nevada

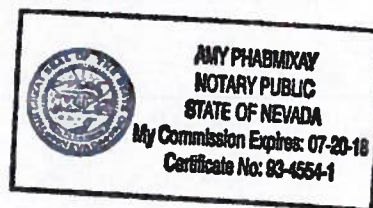
County of

Clark

Subscribed and sworn to before me on November 3, 2017

by Walter Weinig

Signature of Notary Public Required



Notary Seal

CU-8

STATE OF NEVADA
DIVISION OF WATER RESOURCES
WELL DRILLER'S REPORT

OFFICE USE ONLY
Log No. 127466
Permit No. _____
Basin 143

PRINT OR TYPE ONLY
DO NOT WRITE ON BACK

Please complete this form in its entirety in
accordance with NRS 534.170 and NAC 534.340

1. OWNER Esmeralda Minerals LLC ADDRESS AT WELL LOCATION 43502 E40 31A
MAILING ADDRESS 9137 Ringline Blvd Ste 250
Highlands Ranch, CO 80129
2. LOCATION N 1/4 NE 1/4 Sec 31 T 2 N R 40 E Subdivision Name: _____ County: Esmeralda
PERMIT/WAIVER No. MM-213 1006-281-02 Latitude UTM E 448995 ☐ NAD 27
Longitude N 4135625 ☒ NAD 83/WGS 84

3. WORKED PERFORMED
☒ New Well ☐ Replace ☐ Recondition
☐ Deepen ☐ Other _____
4. PROPOSED USE
☐ Domestic ☐ Irrigation ☒ Test ☐ Stock
☐ Municipal/Industrial ☐ Monitor ☐ Other _____
5. WELL TYPE
☐ Cable ☒ Rotary ☐ RVC
☐ Air ☒ Other _____

6. LITHOLOGIC LOG
Material Water State From To Thickness
gray brown clay, silt, gravel 0 1447 1447
green silt, clay 1447 2544 1097
brown conglomerate with sand 2544 3105 561
yellow/red sandstone, rock and 3105 3192 87
metamorphic rock

9. WELL CONSTRUCTION
Depth Drilled 3192 Feet Depth Cased 2874 Feet
HOLE DIAMETER (BIT SIZE)
From To
19 inches 0 feet 40 feet
14.75 inches 40 feet 519.4 feet
9.875 inches 519.4 feet 2940 feet

CASING SCHEDULE
Size O.D. (Inches) Weight/Wt. (Pounds) Wall Thickness (Inches) From (Feet) To (Feet)
16 50 .375 0 40
10.75 40.5 .350 +2 519.4
4.62 8.8 .450 +2 2874

Perforations:
Type of perforation knife slot
Size of perforation .020
From 1189.5 feet to 2381 feet
From 2584.4 feet to 2845.4 feet
From _____ feet to _____ feet
From _____ feet to _____ feet
From _____ feet to _____ feet

Annular Seal: ☒ Yes ☐ No
☒ Neat Cement 0 to 519.4 ☒ Pumped ☐ Poured
☐ Cement Grout _____ to _____ ☐ Pumped ☐ Poured
☐ Concrete Grout _____ to _____ ☐ Pumped ☐ Poured
☐ 230% Bentonite Grout _____ to _____ ☐ Pumped ☐ Poured
Gravel Pack: ☒ Yes ☐ No _____ to _____ ☒ Pumped ☐ Poured
Type: #4
Bentonite Chips: ☐ Yes ☐ No _____ to _____ ☐ Pumped ☐ Poured
Type: _____

Date started: 11-21 20 16
Date completed: 2-27 20 17

7. Water Level
Static water level: 66 feet below land surface
Artesian Flow: NA G.P.M. NA P.S.I.
Water Temperature: _____ °F
Quality: _____

8. WELL TEST DATA
TEST METHOD: ☐ Baker ☐ Pump ☒ Air Lift
G.P.M. Draw Down (Feet Below Static) Time (Hours)
1300 11 23 feet 98 hour
None

10. DRILLER'S CERTIFICATION
This well was drilled under my supervision and the report is true to the best of my knowledge.
Name Robert Tex Boat Longyear Co. Contractor
Address 2745 W. California Ave, SLC Utah 84104 Contractor
Nevada contractor's license number 10157
Issued by the State Contractor's Board
Nevada driller's license number issued by the 1809
Division of Water Resources, the on-site driller
Signed By [Signature]
Date 2-27-17
by either performing actual drilling on site or contractor

Form 53-02

USE ADDITIONAL SHEETS IF NECESSARY

NAD 27: 37.726362, -117.577869