API Well Number: 43019500230000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☑

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
Harley Dome 1-X SWD

2. TYPE OF WORK
DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
GREATER CISCO

4. TYPE OF WELL
Water Disposal Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME

6. NAME OF OPERATOR
NEW WATER FINANCIAL LLC

7. OPERATOR PHONE
970 567-1414

8. ADDRESS OF OPERATOR
1716 East Lincoln Ave Ste 1, Fort Collins, CO, 80524

9. OPERATOR E-MAIL
mitch@newwaterfinancial.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU-82619

11. MINERAL OWNERSHIP
FEDERAL ◉ INDIAN ○ STATE ○ FEE ○

12. SURFACE OWNERSHIP
FEDERAL ○ INDIAN ○ STATE ○ FEE ◉

13. NAME OF SURFACE OWNER (if box 12 = 'fee')
New Water Financial, LLC

14. SURFACE OWNER PHONE (if box 12 = 'fee')
970-484-4100

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')
1716 E Lincoln Ave, Fort Collins, CO 80524

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')
Mitch@newwaterfinancial.com

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ○ (Submit Commingling Application) NO ◉

19. SLANT
VERTICAL ◉ DIRECTIONAL ○ HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	501 FNL 2139 FEL	NWNE	10	19.0 S	25.0 E	S
Top of Uppermost Producing Zone	501 FNL 2139 FEL	NWNE	10	19.0 S	25.0 E	S
At Total Depth	501 FNL 2139 FEL	NWNE	10	19.0 S	25.0 E	S

21. COUNTY
GRAND

22. DISTANCE TO NEAREST LEASE LINE (Feet)
501

23. NUMBER OF ACRES IN DRILLING UNIT
40

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
100

26. PROPOSED DEPTH
MD: 1695 TVD: 1695

27. ELEVATION - GROUND LEVEL
4864

28. BOND NUMBER
UTU-DOGM

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
Private water company

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
SURF	12.25	9.625	0 - 168	32.3	H-40 ST&C	8.3	Class A	68	1.18	15.6
I1	8.75	7	0 - 1345	20.0	J-55 ST&C	8.6	Class G	143	1.56	14.6
Open	6.25	0	0 - 0	0.0	No Pipe Used	8.6	No Used	0	0.0	0.0

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

- ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☑ COMPLETE DRILLING PLAN
- ☑ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ☐ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ☑ TOPOGRAPHICAL MAP

NAME David L. Allin | **TITLE** Utah PG | **PHONE** 970 254-3114

SIGNATURE | **DATE** 06/07/2012 | **EMAIL** allinpro@bresnan.net

API NUMBER ASSIGNED
43019500230000

APPROVAL
Permit Manager

RECEIVED: August 08, 2012

Form 3, Attachment 2: Drilling Program and Compliance Checklist Submittal for
New Water Financial, LLC Proposed **Harley Dome 1-X SWD**
Class II Injection Well on Fee Land Owned by New Water Financial, LLC
501' fnl 2,139' fel, NWNE Section 10, T19S, R25E, Grand County, Utah
(100' due north of Harley Dome 1, API No. 43-019-31622)

R649-3-4.1 & 2 See Form 3, Application for Permit to Drill ("APD") submitted to the Utah Division of Oil, Gas and Mining ("DOGM") for approval herewith and submissions below itemized by the applicable subsections of the Utah Administrative Code entitled Rule R649-3 Drilling and Operating Practices ("Rules").

R649-3-4.2.1 For additional information the APD author, David L. Allin, can be reached in Grand Junction, Colorado by telephone at (970) 254-3114 and/or by e-mail using allinpro@bresnan.net.

R649-3-4.2.2 The surface property is privately owned by New Water Financial, LLC ("Applicant") and partners. The oil and gas rights are federal under current lease UTU-82619. The proposed injection well is planned to be a 100' lateral offset in a slightly downdip structural position to the Harley Dome 1 which was authorized by Underground Injection Control Permit Cause No. UIC-358.1 on January 20, 2011. It is proposed that the Harley Dome 1 will be used alternately for injection and to monitor the pressure of the approved injection zone.

R649-3-4.2.3 The proposed well is not located within a unit.

R649-3-4.2.4 The location of the proposed well as staked in the field is depicted by Form 3, Attachment 1 produced by Keogh Land Surveying.

R649-3-4.2.5 Water used at the proposed drilling site will be imported from the Ute Water potable water tap at Mack, Colorado. Water from sources requiring Utah Division of Water Rights approval will not be utilized.

R649-3-4.2.6 Elements of the proposed drilling program are itemized below.

R649-3-4.2.6.1 Estimated tops of important geologic markers at depths below graded ground level elevation 4,865' above mean sea level:

Tununk Member Mancos Shale	Surface
Dakota Sandstone	20'
Cedar Mountain Formation	118'
Morrison Formation	189'
Summerville Formation	859'
Moab Member Curtis Formation	894'
Slick Rock Member Entrada Ss	1001'
Kayenta Formation	1152'
Wingate Sandstone	1351'
Chinle Formation	1688'

R649-3-4.2.6.2 No oil, gas or other mineral-bearing formations are expected to be encountered. Brine water is expected in sandstone layers within the Dakota Sandstone between 20' and 118', the Morrison

Formation between 250' and 280' and between 600' and 680', the combined Moab Member of Curtis Formation and Slick Rock Member of Entrada Sandstone between 894' and 1152' and the Wingate Sandstone between 1351' and 1688' which has been approved for Class II water disposal. The brine water aquifers will be isolated from each other by two casing strings: 9.625" surface casing set at 168' and cemented to the surface and 7.0" intermediate casing set at 1345' and cemented to the surface.

R649-3-4.2.6.3 The minimum pressure control equipment will be a rotating head with a working pressure capacity of 500 psi. The air-flow or blooie line will have a shut-off valve. The 9.625" surface casing head below the drilling flange will be plumbed with a 2" flow line with redundant shut-off valves and pressure gauge and a 2" kill line with a shut-off valve and check valve all with a minimum 1,500 psi pressure rating. The flow line and kill line will be moved up to the 7.0" intermediate casing head once that string is set and cemented to accommodate penetration of the Wingate Sandstone section. The configuration of the pressure control system is depicted by Attachment 2-A

Following notice to DOGM, casing strings will be tested to 200 psi with the rig compressor or pump prior to drilling through shoes. Leak-off must not exceed 5% in 15 minutes. Drill bits will be checked for operable float valves. The Kelly cock will be checked and repaired if necessary. A stabbing valve suitable for use in the boxes of the drill pipe and the Kelly cock wrench will be kept handy at the driller's station.

R649-3-4.2.6.4 The drilling rig to be used to spud the well and drill to projected TD is a Gardner-Denver 3000 designated number 1 and operated by Propetroco, Inc. The Propetroco 1 KB height above graded ground level is 10' when positioned on its substructure. The rig is equipped with an integrated mud pump and compressor mounted on a four axle crane carrier. For air/mist/foam drilling operations, the rig is typically supported with a pipe trailer, crew/tool trailer and auxiliary compressor and cuttings are placed in a blooie pit. If and when the need arises to circulate the well with mud, an auxiliary mud pump, steel mud pits and auxiliary water tank can be added and a reserve pit dug to hold cuttings. Propetroco 1 and all of its support equipment with pits arranged for drilling under all conditions are depicted by Attachment 2-B.

The gross possible disturbed area requested for operations with the rig for oil and gas wells is a 170' by 270' rectangle. The net disturbed area for the Harley Dome 1-X SWD will be significantly less and limited to a previously graded area within the secondary containment dike system of the Westwater Farms, LLC produced water disposal facility and the pad used to drill the Harley Dome 1 (API No. 43-019-31622). In this case the Applicant is the landowner and there are no issues of concern related to surface disturbance, access to the proposed site or run-off from the site.

Two strings of casing are planned to be run to complete the construction of the well. Surface casing consisting of 168' of 9.625", 32.30 ppf, H-40 grade, 8 rd ST&C casing will be set in 12.25" diameter hole with a cement float shoe on bottom. The surface casing string will be cemented by pump and plug from the float shoe to the surface with 68 sacks (including 50% excess) of Class A cement mixed to yield 1.18 cubic ft/sack with 15.6 lbs/gallon slurry weight and total of 14.3 Bbls of slurry. Intermediate casing consisting of 1,345' of 7.0", 20.00 ppf, J-55 grade, 8 rd ST&C casing will be set in 8.75" (or possibly 8.625") diameter hole (previously prepared by circulation with gel-polymer mud) with a cement float shoe on bottom. The intermediate casing string will be cemented by pump and plug from the float shoe to the surface with 143 sacks (including 10% excess) of Class G cement mixed with 4% bentonite, 2.8 lbs/sack gilsonite and 0.25 lbs/sack cellophane flakes to yield 1.56 cubic ft/sack with 14.6 lbs/gallon slurry weight and total of 39.6 Bbls of slurry.

Following a casing pressure test, the well will be continued through the 7.0" intermediate casing shoe with a 6.25" bit to intersect the entire approved Wingate Sandstone injection interval and a few feet into the subjacent Chinle Formation (to establish its top) near a projected TD of 1695'.

R649-3-4.2.6.5 Circulation while advancing the hole will be maintained with air and a foaming agent. Prior to running the 7.0" intermediate casing string the well will be circulated with gel-polymer mud. No monitoring equipment will be used on the mud system. While drilling, the outlet of the blooie line will be equipped with an igniter to detect and burn off natural gas although prior experience drilling the Harley Dome 1 did not indicate the presence of natural gas anywhere in the subsurface of the site.

R649-3-4.2.6.6 No testing or coring is planned. A cement bond log will be run after the well is completed which will include a gamma ray curve from TD to the surface for correlation purposes. Water samples will be acquired and analyzed to characterize the chemistry of water in the porous zones of the Morrison Formation, the combined Moab Member of Curtis Formation and Slick Rock Member of Entrada Sandstone aquifer and the Wingate Sandstone aquifer.

R649-3-4.2.6.7 The bottomhole pressure is known to be approximately 500 psi. No abnormal pressure or temperature abnormalities are known to exist. No potential hazards such as hydrogen sulfide are present.

R649-3-4.2.6.8 It is proposed that the well will be completed with a packer set on the end of 3.50" or 2.875" tubing near 1280' to allow step-rate pump testing to determine the fracture gradient of the Wingate Ss injection zone and a mechanical integrity test of the tubing-casing annulus and packer. The S-RT, MIT and water quality data will be submitted to DOGM along with a request to convert the well for use as an injection well for the disposal of produced water under a new Class II UIC permit to complement the existing UIC Cause No. 358.1. The well is intended to augment Class II fluid disposal capacity and allow a complete evaluation of the effects of injection operations at the site in conjunction with the Harley Dome 1 well.

R649-3-4.2.6.9 The requirements of this rule are not applicable to this vertical well.

R649-3-4.2.7 The Applicant is the owner of the property and has not designated a third party to act as the operator.

R649-3-4.2.8 The Applicant is willing to proceed without an Onsite Predrill Evaluation since it is the owner of the site, and the site was previously evaluated prior to commencement of operations for the construction of the Harley Dome 1, however, the Applicant will leave the decision to hold such a meeting solely in the hands of DOGM.

R649-3-4.3 This APD employed an electronic version of Form 3 provided by DOGM through its on-line ePermit system.

R649-3-5 The well will be identified by a sign posted in a conspicuous place near the well. The sign will be of durable construction with lettering kept in legible condition large enough to be read under normal conditions at a distance of 25'. The well numbering system utilized on the property will be a non-repetitive, logical and distinctive sequence. The sign will show the name of the well, the operator, emergency contact number, lease name and location by quarter section, township and range.

R649-3-6.1 Drilling operations will be conducted according to the drilling program approved under this APD by DOGM. Any changes except mitigation of emergency conditions will be submitted to DOGM on Form 9, Sundry Notices and Reports on Wells, for approval, and DOGM approval will be obtained prior to implementation. DOGM will be given verbal notice of emergency changes within 24 hours and the operator will file a written notice using Form 9 within five days.

R649-3-6.2 *Reporting Requirements.* Written notices and filing of forms with DOGM other than those that can be filed on-line will be directed to:

Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-5801

The telephone number of the DOGM receptionist during business hours and number to be used for leaving routine messages after business hours:

Utah DOGM: (801) 538-5340

MAJOR UNDESIRABLE EVENTS must be reported by telephone immediately after calling for emergency services if needed. In the case of a major undesirable event ONLY, a notification to DOGM can be made after business hours by calling (801) 243-9466.

The Applicant as operator will comply with the following routine reporting requirements to DOGM:

1. The spudding of this well will be reported within 24 hours. This report will include the well name, drilling contractor, rig number and type, spud date and time, the date that continuous drilling will be commenced, the name of the reporter and the reporter's contact number. The spud report can be directed to Oil and Gas Well Information Specialist, Carol Daniels, verbally by calling (801) 538-5284 or transmitting the report via e-mail to Ms. Daniels at caroldaniels@utah.gov.
2. Within five working days of spudding the well, the operator will fill out and file Form 6, Entity Action Form, to receive the well's entity number for future operational reporting requirements.
3. Twenty-four hours advance notice of testing blow-out preventer equipment.
4. A monthly status report on the well will be filed until such time as the well is completed and the well completion report ("WCR") is filed. The monthly reports will be filed on Form 9 and include the well depth and a description of the operations conducted on the well during the month. The reports are due no later than the fifth day of the following calendar month.
5. Twenty-four hours advance notice of casing tests required prior to drilling through the casing shoe or continuing with completion operations.
6. Fresh water aquifer layers encountered during drilling will be reported on Form 7, Report of Water Encountered during Drilling. This report will be filed with Form 8, Well Completion Report or Recompletion Report and Log.

R649-3-14. Fire Hazards on the Surface. All rubbish or debris that might constitute a fire hazard shall be removed to a distance of at least 100' from the well location, tanks, separator, or any structure. All waste oil or gas shall be burned or disposed of in a manner to avert creation of a fire hazard.

Any gas other than poisonous gas escaping from the well during drilling operations will be conducted to the blooie pit by the blooie line or gas buster line where a continuous igniter will insure that the gas is burned. The end of the blooie line will be a least 100' from the well.

R649-3-15. Pollution and Surface Damage Control. The Applicant will take all reasonable precautions to avoid polluting lands, streams, reservoirs, natural drainage ways, and underground water.

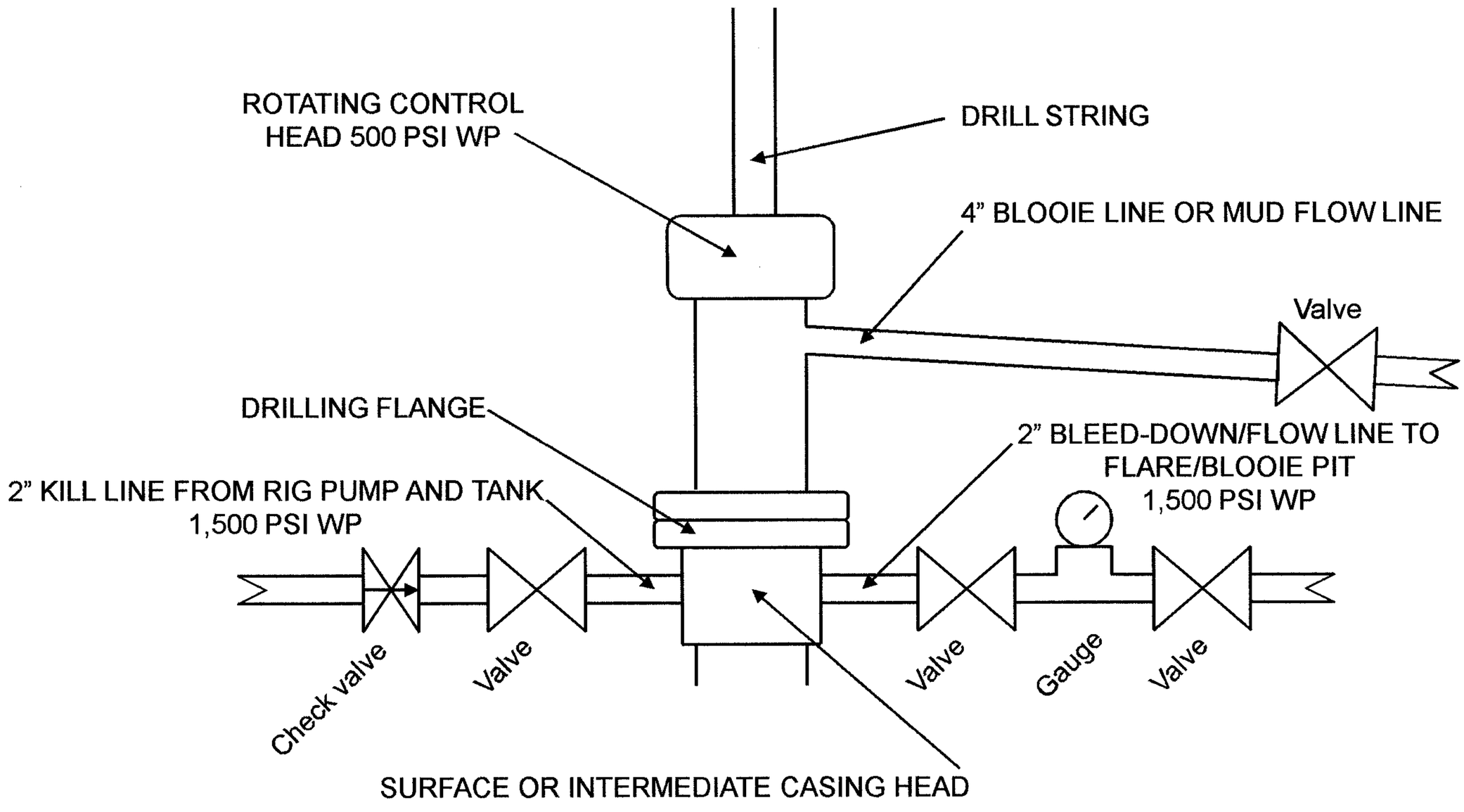
The Applicant will carry on all operations and maintain the property at all times in a safe and workmanlike manner having due regard for the preservation and conservation of the property and for the health and safety of employees and people residing in close proximity to those operations.

At minimum, the Applicant will:

1. Take reasonable steps to prevent and will remove accumulations of oil or other materials deemed to be fire hazards from the vicinity of the well locations, lease tanks and pits;
2. Remove from the property or store in an orderly manner, all scrap or other materials not in use;
3. Provide secure, workmanlike storage for chemical containers, barrels, solvents, hydraulic fluid and other non-exempt materials;
4. Maintain tanks in a workmanlike manner that will preclude leakage and provide for all applicable safety measures and construct berms of sufficient height and width to contain the quantity of the largest tank at the storage facility;
5. Insure that the use of storage tanks for crude oil or water without tops is limited to well testing operations;
6. Catch leaks and drips, contain spills and clean up promptly;
7. Practice waste reduction and recycling in order to help reduce disposal volumes;
8. Dispose of produced water, tank bottoms and other miscellaneous waste in a manner that is in compliance with DOGM Rules and other Utah State, Federal and county regulations or ordinances; and
9. Use good housekeeping practices in general.

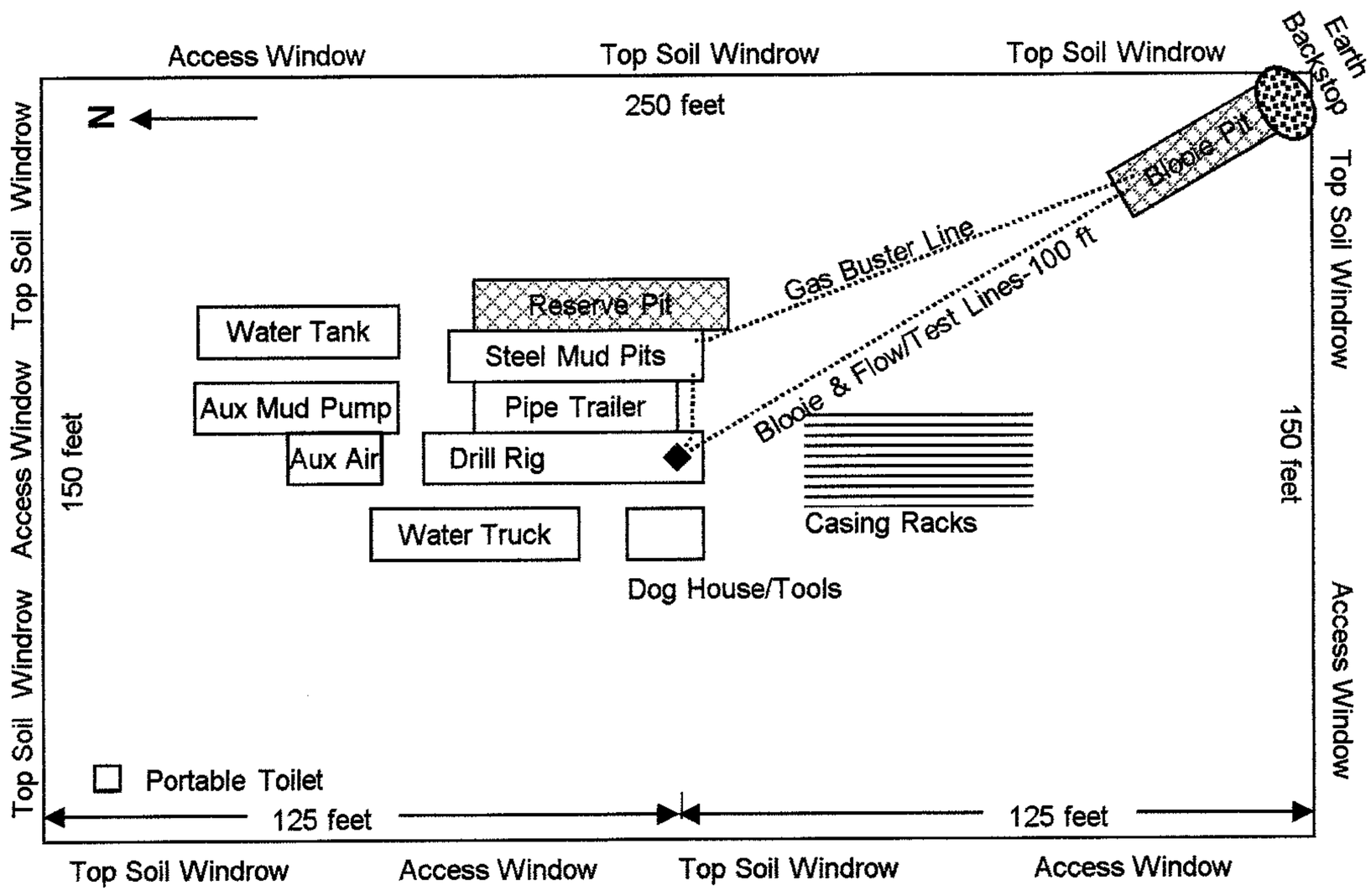
API Well Number: 43019500230000

Pressure Control System for New Water Financial, LLC Harley Dome 1-X SWD
Not drawn to scale



Form 3, Attachment 2-A

Drilling Operation Pad & Equipment Layout
Propetroco, Inc. Number 1 Rig or Equivalent Mobile Drilling Rig

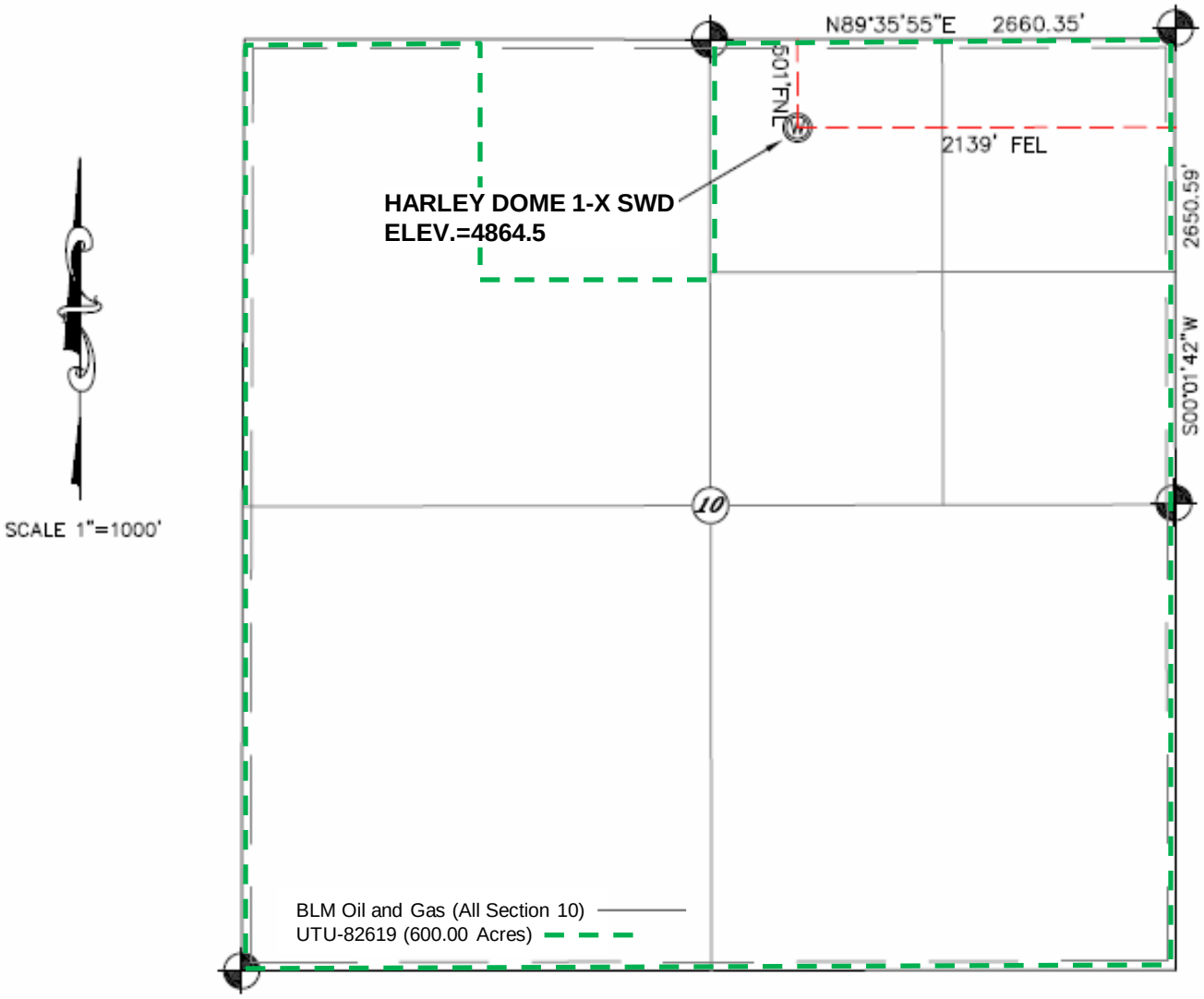


◆ Well Head Scale: 1 inch=50 feet Gross possible disturbed area 170 x 270 feet

Access roads typically 16 feet to 18 feet wide with maximum disturbed width 25 feet

API Well Number: 43019500230000

WELL LOCATION PLAT IN SECTION 10, T 19 S, R 25 E, SLM 501' FNL & 2139' FEL



ELEVATIONS BASED ON 4863.5 AT THE NORTH 1/4 CORNER SECTION 10 (FROM GPS OBSERVATION)

LEGEND

FOUND GOVERNMENT MONUMENT

SET SPIKE WITH LATH AT PROPOSED WELL LOCATION

REGISTERED LAND SURVEYOR No.171004 TIMOTHY M. KEOGH STATE OF UTAH

TIMOTHY M. KEOGH

MAY 18, 2012

DATE

KEOGH LAND SURVEYING

45 EAST CENTER STREET MOAB, UTAH, 84532

A WELL LOCATION SURVEY FOR

HARLEY DOME 1-X SWD

WITHIN SECTION 10, T 19 S, R 25 E, SLM, GRAND COUNTY, UTAH

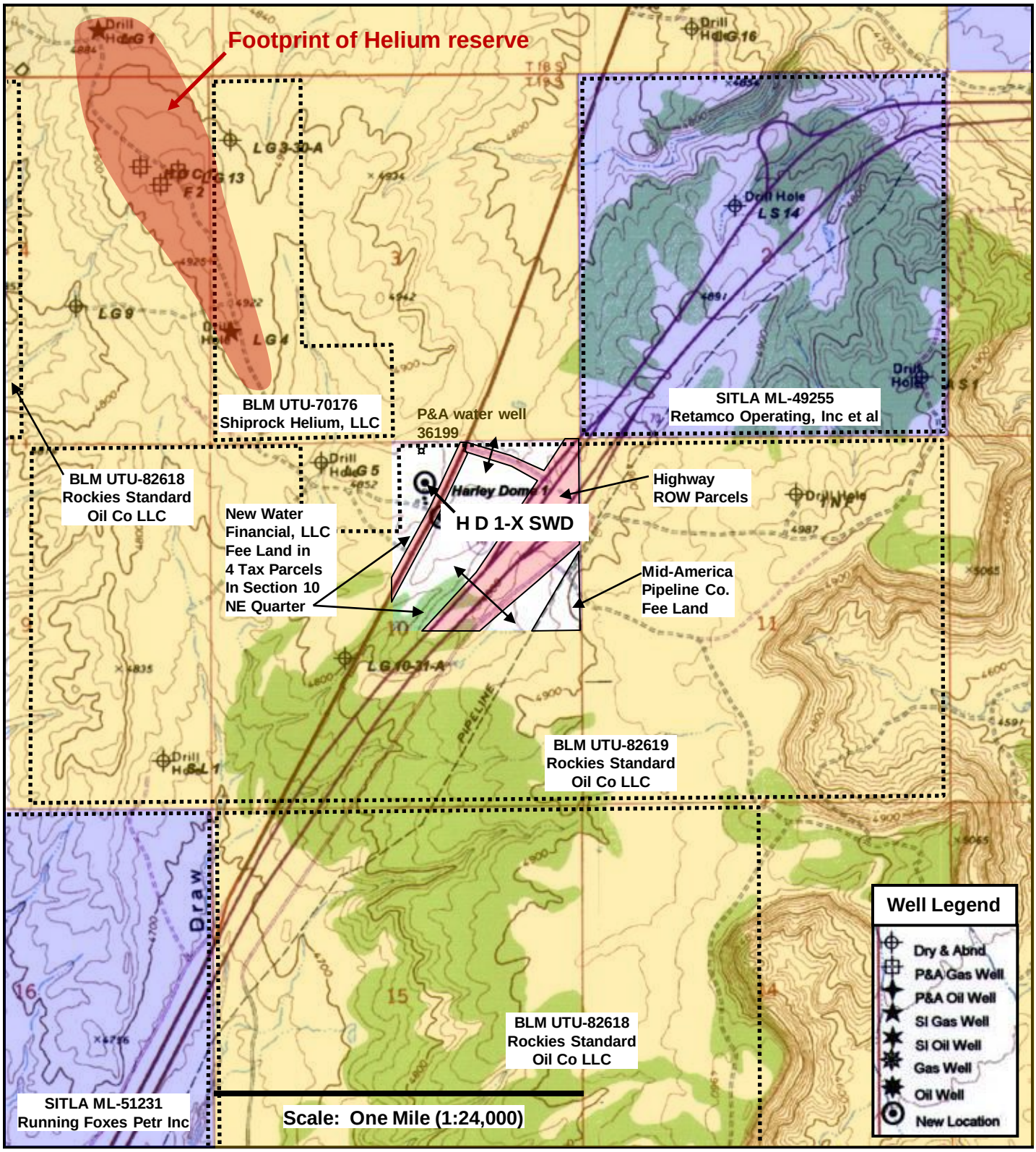
PREPARED FOR

NEW WATER FINANCIAL, LLC

DATE: 5-18-12	DRAWN BY: TMK	CHECKED BY: TMK
SCALE: 1"=1000'	F.B.# 141	HARLEYDOME.DWG

API Well Number: 43019500230000

TOPOGRAPHIC MAP showing location of proposed Harley Dome 1-X SWD injection well in NE Section 10, T19S, R25E, SLM, Grand County, Utah, all abandoned or active wells, surface owners and O&G lessees and/or operators in the area pertinent to Underground Injection Control Permit Cause No. UIC-358.1 issued to Westwater Farms, LLC for Harley Dome 1. 6-7-2012



U.S. managed by BLM | Utah managed by SITLA | U.S./Utah/County roads | Private

O&G Lease Issued by BLM or SITLA

NEW WATER FINANCIAL, LLC **Form 3, Attachment 3**

From: Earlene Russell <earlenerussell@utah.gov>
To: <allinpro@bresnan.net>
CC: Brad Hill <bradhill@utah.gov>, Diana Mason <dianawhitney@utah.gov>, Rand...
Date: 6/7/2012 4:52 PM
Subject: Re: New Water Financial CD Bond

Hi Dave,
We made an exception on the permit for the Harley Dome 1 well because BLM didn't want to permit it, even though it is on their lease. So we are treating the bond as a state bond. As the new one goes through the process, I will doctor it in the same fashion as the Harley Dome 1. Thanks for letting me know and I'll watch for it.
Earlene

On Thu, Jun 7, 2012 at 4:44 PM, David L Allin <allinpro@bresnan.net> wrote:

> Earlene,****
>
> ** **
>
> I got the New Water Financial APD for the Harley Dome 1-X SWD filed a few
> minutes ago. The oil and gas lease under this fee property site is
> federal, so the APD system required that I input a federal bond number. I
> filled that blank with “UTU-DOGM” just to put something in there.****
>
> ** **
>
> I hope it won’t cause you any problems. The APD number assigned was
> 6202. I downloaded a copy, so it seems to be in order for processing.****
>
> ** **
>
> Thanks,****
>
> ** **
>
> Dave****
>
> ** **
>
> David L. Allin, CPG, UPG****
>
> Consultant to New Water Financial****
>
> Vice President-Exploration Manager****
>
> *Del-Rio Resources, Inc.*
>
> AAPG DPA Certified Petroleum Geologist 2934****
>
> Utah Professional Geologist DOPL 5526699****
>
> 475 Seasons Drive****
>
> Grand Junction, CO 81507-8749****
>

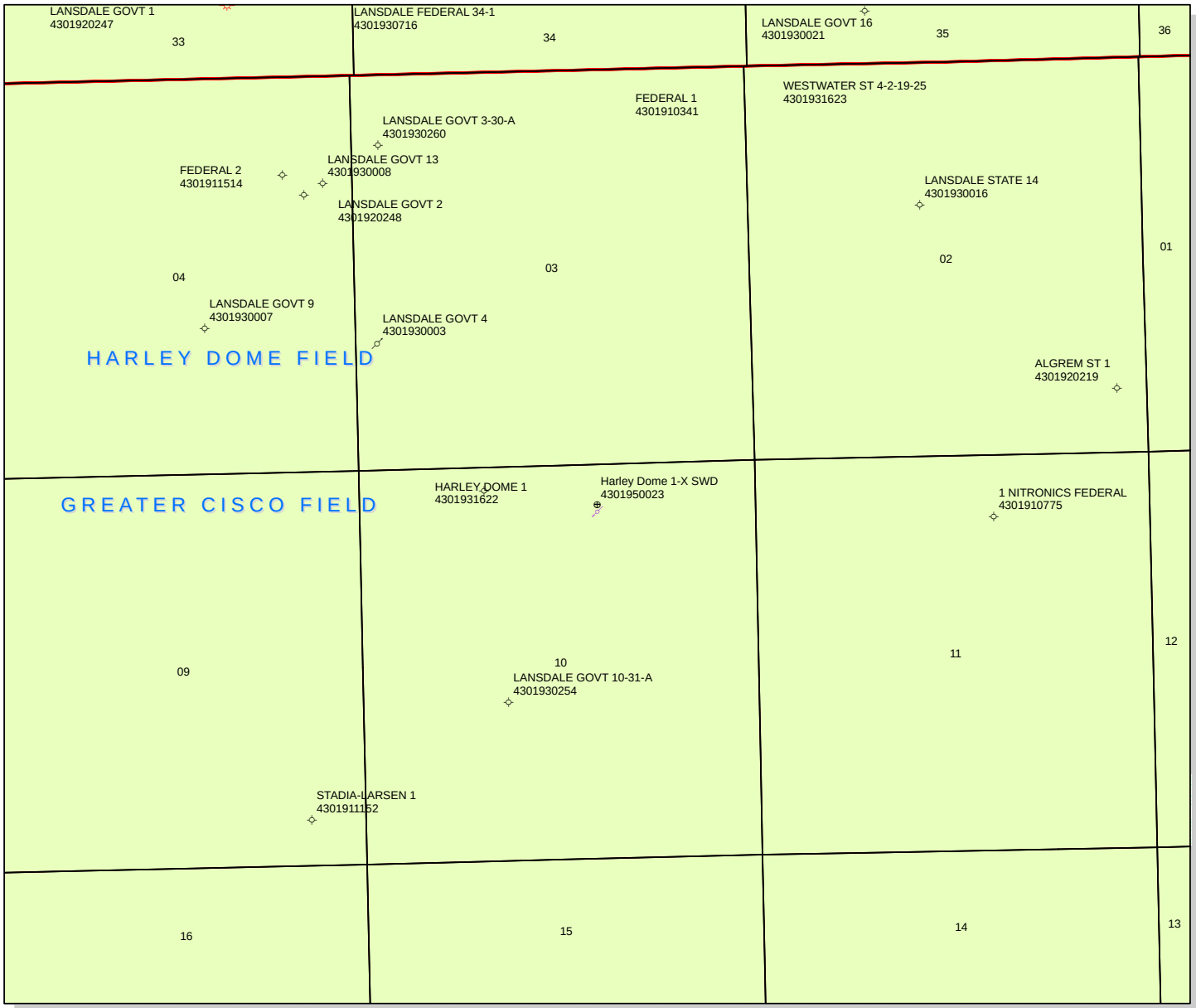
RECEIVED: June 08, 2012

> 970-254-3114****
>
> allinpro@bresnan.net****
>
> ** **
>
> ** **
>
> *From:* Earlene Russell [mailto:earlenerussell@utah.gov]
> *Sent:* Thursday, June 07, 2012 3:03 PM
> *To:* zoe.menges@wellsfargo.com; chris.federman@wellsfargo.com
> *Cc:* mitch@newaterfinancial.com; allinpro@bresnan.net; Rachel Medina;
> Randy Thackeray
> *Subject:* New Water Financial CD Bond****
>
> ** **
>
> Hi Zoe and Chris,****
>
> Here is the letter of authorization for a CD Bond for New Water Financial,
> LLC. If you or your legal team have any questions, please feel free to
> contact me. I can provide other account numbers to use as samples, if you
> need.****
>
> Thanks again.****
>
> Earlene
> --
> Earlene Russell****
>
> Division of Oil, Gas and Mining****
>
> 1594 W North Temple, Suite 1210****
>
> Salt Lake City, UT 84116****
>
> Phone 801 538-5336****
>
> e-mail earlenerussell@utah.gov****
>
> ** **
>

--
Earlene Russell
Division of Oil, Gas and Mining
1594 W North Temple, Suite 1210
Salt Lake City, UT 84116
Phone 801 538-5336
e-mail earlenerussell@utah.gov

RECEIVED: June 08, 2012

API Well Number: 43019500230000



API Number: 4301950023

Well Name: Harley Dome 1-X SWD

Township T1.9 . Range R2.5 . Section 10

Meridian: SLBM

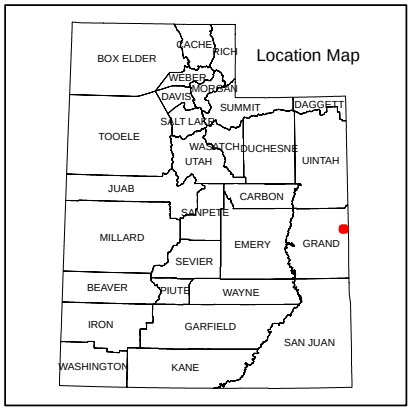
Operator: NEW WATER FINANCIAL LLC

Map Prepared:
Map Produced by Diana Mason

Units
STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields
STATUS
- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED

Wells Query
Status
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well



1,750 875 0 1,750 Feet

1:16,600

RECEIVED: June 14, 2012

API Well Number: 43019500230000

EASEMENT, RIGHT-OF-WAY
and
SURFACE USE AGREEMENT

This Easement, Right-of-Way and Surface Use Agreement ("Agreement") is entered into this seventh day of June, 2012 by and between Westwater Farms, LLC, a Colorado limited liability company with address 100 West Highway 6, P.O. Box 324, Cisco, Utah 84515 ("Surface Owner") and New Water Financial, LLC, a Colorado limited liability company ("NWF"), with offices at 1716 East Lincoln Avenue, Suite 1, Fort Collins, Colorado 80524, covering certain lands (the "Lands") situated in Grand County, Utah described as follows:

Township 19 South, Range 25 East
NE Section 10

Grand County, Utah, being ~~160.00~~ 37.78 acres more or less, Parcel ONE.

and associated roads and pipeline routes beginning at each wellsite and traversing the Lands as shall be agreed upon prior to the construction of same.

For and in consideration of the sum of ten dollars ($10.00), and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby agree to the terms and provisions set forth as follows:

1. Compensation for Wells: Release of All Claims

NWF has made full payment and provided satisfaction for any and all detriment, depreciation, injury or damage of any nature to the Lands or growing crops thereon that may occur as a result of NWF's drilling or completion operations or its continuing activities for the disposal of produced water by underground injection with the foregoing including, but not limited to, surface use, access, pipelines, pipeline interconnections, and any and all other reasonable or customary uses of land related to said operations or activities.

2. Grant of Right-of-Way and Easement

Surface Owner hereby grants, bargains, leases, assigns, and conveys to NWF an easement and right-of-way INCLUDING Surface Owner's designation of operator for the purpose of construction, using and maintaining access roads, locations for surface equipment for each well drilled upon the Lands, pipelines, and pipeline interconnections for two ~~years~~ months from date of this Agreement and so long thereafter as NWF's underground injection wells remain operational but not longer than 2 months.

This Agreement shall be binding upon the respective heirs, executors, administrators, successors, and assigns of the undersigned.

These parties have executed this document effective as of the day first above written.

WESTWATER FARMS, LLC

By: Byron T. Warnes
Tom Warnes, Member and Manager

Byron T. Warnes

NEW WATER FINANCIAL, LLC

By: Mitch Burroughs MANAGER
Mitch Burroughs, Member and Manager

STATE OF COLORADO)
) ss
COUNTY OF SUMMIT)

This instrument was acknowledged before me this 18th day of June, 2012 by Tom Warnes as a Member and Manager of Westwater Farms, LLC, a Colorado limited liability company on behalf of the company.

Witness my hand and official seal.

Notary Public

My commission expires 12/20/2015

JAMES E. DICKS NOTARY PUBLIC STATE OF COLORADO

My commission expires:
December 20, 2015

STATE OF COLORADO)
) ss
COUNTY OF Garfield)

This instrument was acknowledged before me this 30 day of June, 2012 by Mitch Burroughs as a Member and Manager of New Water Financial, LLC, a Colorado limited liability company on behalf of the company.

Witness my hand and official seal.

Notary Public

My commission expires October 20, 2012

NOTARY PUBLIC JENNIFER A. ROLEY STATE OF COLORADO

My Comm. Expires Oct. 20, 2012

API Well Number: 43019500230000

BOPE REVIEW NEW WATER FINANCIAL LLC Harley Dome 1-X SWD 43019500230000

Well Name	NEW WATER FINANCIAL LLC Harley Dome 1-X SWD 4301950023000			
String	SURF	I1	Open	
Casing Size(")	9.625	7.000	0.000	
Setting Depth (TVD)	168	1345	1695	
Previous Shoe Setting Depth (TVD)	0	168	1345	
Max Mud Weight (ppg)	8.3	8.6	8.6	
BOPE Proposed (psi)	0	500	5000	
Casing Internal Yield (psi)	2270	3740	0	
Operators Max Anticipated Pressure (psi)	500		5.7	

Calculations	SURF String	9.625	"
Max BHP (psi)	.052*Setting Depth*MW=	73	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	53	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	36	NO OK
			***Can Full Expected Pressure Be Held At Previous Shoe?**
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	36	NO OK
Required Casing/BOPE Test Pressure=		168	psi
***Max Pressure Allowed @ Previous Casing Shoe=**		0	psi *Assumes 1psi/ft frac gradient

Calculations	I1 String	7.000	"
Max BHP (psi)	.052*Setting Depth*MW=	601	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	440	YES rotating head/wiper plug
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	305	YES OK
			***Can Full Expected Pressure Be Held At Previous Shoe?**
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	342	NO OK
Required Casing/BOPE Test Pressure=		1345	psi
***Max Pressure Allowed @ Previous Casing Shoe=**		168	psi *Assumes 1psi/ft frac gradient

Calculations	Open String	0.000	"
Max BHP (psi)	.052*Setting Depth*MW=	758	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	555	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	385	YES OK
			***Can Full Expected Pressure Be Held At Previous Shoe?**
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	681	YES
Required Casing/BOPE Test Pressure=		0	psi
***Max Pressure Allowed @ Previous Casing Shoe=**		1345	psi *Assumes 1psi/ft frac gradient

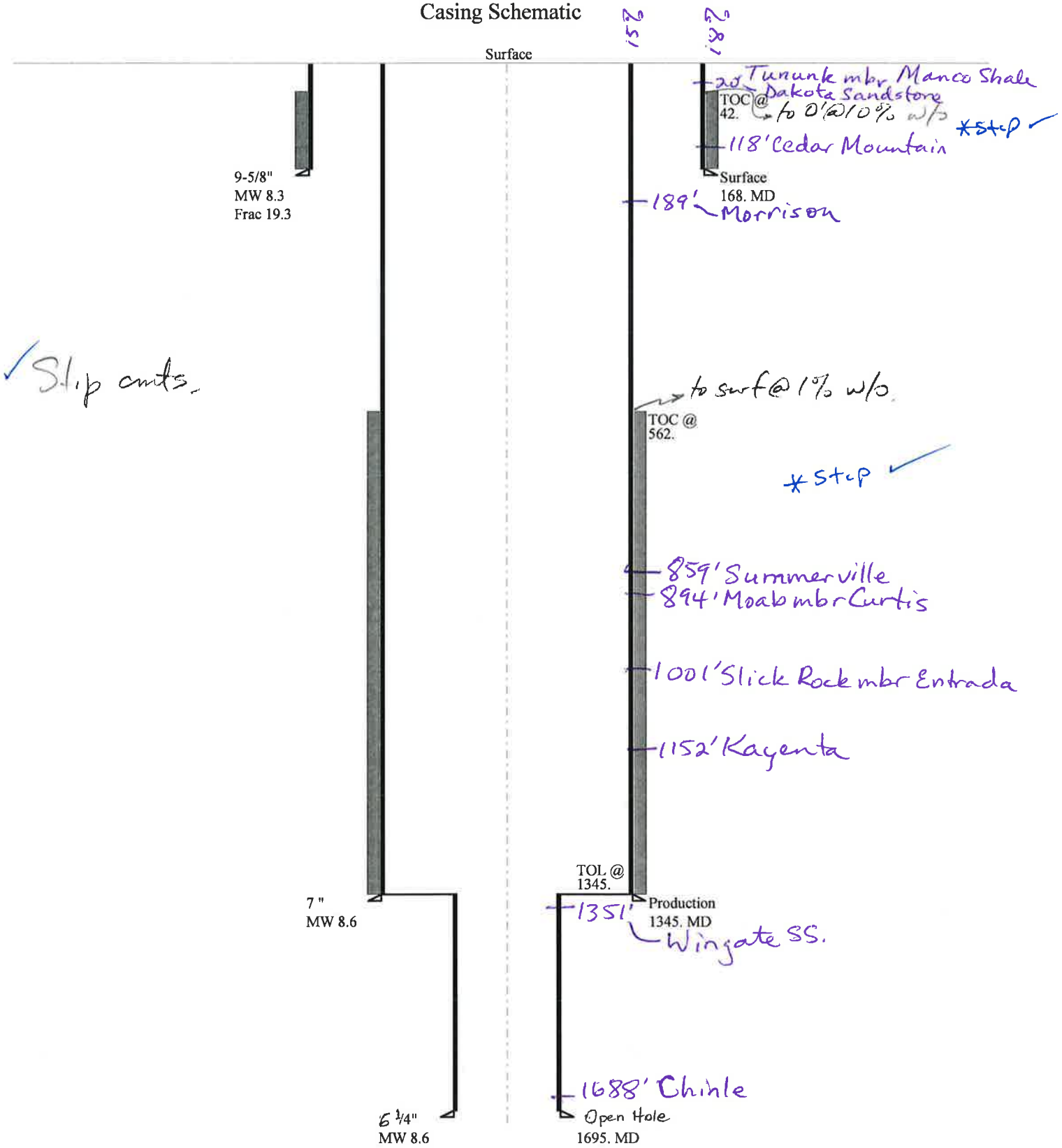
Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			***Can Full Expected Pressure Be Held At Previous Shoe?**
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
***Max Pressure Allowed @ Previous Casing Shoe=**			psi *Assumes 1psi/ft frac gradient

RECEIVED: August 07, 2012

API Well Number: 43019500230000

43019500230000 Harley Dome 1-X SWD

Casing Schematic



API Well Number: 43019500230000

Well name:	**43019500230000 Harley Dome 1-X SWD**
Operator:	**NEW WATER FINANCIAL LLC**
String type:	Surface
Project ID:	43-019-50023
Location:	GRAND COUNTY

Design parameters:

Collapse

Mud weight: 8.330 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 148 psi

Internal gradient: 0.120 psi/ft

Calculated BHP 168 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC: 1.80 (J)

8 Round LTC: 1.70 (J)

Buttress: 1.60 (J)

Premium: 1.50 (J)

Body yield: 1.50 (B)

Tension is based on air weight.

Neutral point: 147 ft

Environment:

H2S considered? No

Surface temperature: 74 °F

Bottom hole temperature: 76 °F

Temperature gradient: 1.40 °F/100ft

Minimum section length: 100 ft

Cement top: 42 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 1,345 ft

Next mud weight: 8.600 ppg

Next setting BHP: 601 psi

Fracture mud wt: 19.250 ppg

Fracture depth: 168 ft

Injection pressure: 168 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	168	9.625	32.30	H-40	ST&C	168	168	8.876	1389

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	73	1370	18.845	168	2270	13.51	5.4	254	46.81 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940

Date: July 6,2012
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 168 ft, a mud weight of 8.33 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

API Well Number: 43019500230000

Well name:	**43019500230000 Harley Dome 1-X SWD**
Operator:	**NEW WATER FINANCIAL LLC**
String type:	Production
Project ID:	43-019-50023
Location:	GRAND COUNTY

Design parameters:

Collapse

Mud weight: 8.600 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 305 psi

Internal gradient: 0.220 psi/ft

Calculated BHP 601 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC: 1.80 (J)

8 Round LTC: 1.80 (J)

Buttress: 1.60 (J)

Premium: 1.50 (J)

Body yield: 1.60 (B)

Tension is based on air weight.

Neutral point: 1,172 ft

Environment:

H2S considered? No

Surface temperature: 74 °F

Bottom hole temperature: 93 °F

Temperature gradient: 1.40 °F/100ft

Minimum section length: 100 ft

Cement top: 562 ft

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	1345	7	20.00	J-55	ST&C	1345	1345	6.331	5770

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	601	2270	3.778	601	3740	6.22	26.9	234	8.70 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940

Date: July 6,2012
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1345 ft, a mud weight of 8.6 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

ON-SITE PREDRILL EVALUATION
Utah Division of Oil, Gas and Mining

Operator NEW WATER FINANCIAL LLC
Well Name Harley Dome 1-X SWD
API Number 43019500230000 **APD No** 6202 **Field/Unit** GREATER CISCO
Location: 1/4,1/4 NWNE **Sec** 10 **Tw** 19.0S **Rng** 25.0E 501 FNL 2139 FEL
GPS Coord (UTM) **Surface Owner** New Water Financial, LLC

Participants

Bart Kettle-Division of Oil, Gas and Mining (DOGM), Lee Shenton-Grand County, Mitch Burroughs-New Water Financial LLC, David Allin-Project Consultant, Tim Hagin-Westwater farms LLC, Mike Marquez-Westwater Farms, Terry Leach-Propetco Drilling.

Regional/Local Setting & Topography

Proposed project site is located at the former Harley Dome site, roughly 15 miles north east of the town of Cisco, in Grand County Utah and 15 miles southwest of Mack, in Mesa County Colorado. Harley Dome is located adjacent to the I-70 corridor on patented lands. Annual precipitation is 8-10", vegetation is sparse at the project site, but would be described as a mixture of salt scrub rangelands and juniper woodlands. Topography immediately adjacent to the project site is a gently rising dome on the northern portions of the Uncompahgre uplift. Soils are dominated by weathered Mancos shale's, generally gray clay. Drainage is to the southwest entering Westwater Creek within 5 miles and the Colorado River within 10 miles. No perennial water source observed in close proximity to the proposed project site. Drainages in the immediate area are ephemeral in nature, being dry throughout a majority of the year. On a regional setting the project is located in the eastern portions of the Cisco Desert at the base of the Bookcliffs, a region known for it's harsh growing conditions due to low precipitation, and poorly developed salty soils. I-70, old Hwy 6, Harley Dome, Northwest Pipeline and Union Pacific train tracks are all located in close proximity to the proposed project.

Surface Use Plan

Current Surface Use
Existing Well Pad
Industrial

New Road Miles	Well Pad	Src Const Material	Surface Formation
0	**Width** 150 **Length** 250		MNCS

Ancillary Facilities

Well pad is located on graveled site from construction of the Westwater Farms Disposal facility.

Waste Management Plan Adequate?

Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

None-exisiting well pad.

RECEIVED: August 08, 2012

Soil Type and Characteristics

Mixture of gray clays, orange silts and gravel transported into the site.

Erosion Issues Y

Site prone to wind erosion.

Sedimentation Issues N

Storm water collected into secondary containment basin.

Site Stability Issues N

Site appears suitable for the proposed project.

Drainage Diverson Required? N

Drainage diversion completed previously with construction of commercial disposal facility.

Berm Required? N

Secondary containment in place.

Erosion Sedimentation Control Required? N

Paleo Survey Run? N **Paleo Potental Observed?** N **Cultural Survey Run?** N **Cultural Resources?** N

Reserve Pit

Site-Specific Factors		Site Ranking	
Distance to Groundwater (feet)	>200	0	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Low permeability	0	
Fluid Type	TDS>10000	15	
Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)	10 to 20	5	
Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	40	1 Sensitivity Level

Characteristics / Requirements

8'x12'x60' blooie pit will be used to accept formation cuttings and formation water. Formation water of up to 50,000 ppm TDS is expected while drilling through lower formations. Blooie pit shall be lined with a 12 mil liner. Formation water will be periodically removed from pit and processed in Westwater Farms LLC commercial facility. Blooie pit may be used to dispose of drilling mud following completion of drilling.

Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 12 **Pit Underlayment Required?** N

Other Observations / Comments

RECEIVED: August 08, 2012

Proposed project area is located on fee surface, held by Westwater Farms, LLC. Minerals at the site are federal. Moab BLM contacted and declined participation at the presite evaluation. Minerals group doesn't manage applications for injection, and as such are defaulting to the Divisions UIC program for well bore and surface evaluation.

Proposed TD for casing strands and open hole completion may be modified if formation tops encountered while drilling vary significantly from anticipated tops.

Grand County requesting that they remain informed through out the process. Proposed project appears to be compatible with Conditional Use Permit and Land Use Code.

Grand County inquired regarding public input regarding UIC permitting at the time of the presite evaluation. Division informed the county presite evaluations are set up and conducted to asses impacts to surface resources. Public comment regarding geology and ground water as they relate to UIC permitting would be heard at a later date.

Bart Kettle	6/19/2012
Evaluator	**Date / Time**

RECEIVED: August 08, 2012

Application for Permit to Drill
Statement of Basis
Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
6202	43019500230000	LOCKED	WD	P	No

Operator	NEW WATER FINANCIAL LLC	**Surface Owner-APD**	New Water Financial, LLC
Well Name	Harley Dome 1-X SWD	**Unit**	
Field	GREATER CISCO	**Type of Work**	DRILL
Location	NWNE 10 19S 25E S 501 FNL 2139 FEL GPS Coord (UTM) 661190E 4337836N		

Geologic Statement of Basis

Good quality groundwater is likely to be found in the bedrock at this location. Poorly permeable soil is formed from the Mancos Shale which overlies the Cretaceous Dakota Sandstone. The Mesozoic sandstones below the Mancos Shale are very likely to contain usable groundwater. The well is likely to penetrate as many as four locally recognized aquifers. The proposed casing and cementing program should adequately isolate any zones of fresh water that may be encountered. No underground water rights have been filed within a mile radius of the proposed well site.

Ammon McDonald	6/28/2012
APD Evaluator	**Date / Time**

Surface Statement of Basis

Presite surface evaluation completed on June 19, 2012. In attendance: Bart Kettle-Division of Oil, Gas and Mining (DOGM), Lee Shenton-Grand County, Mitch Burroughs-New Water Financial LLC, David Allin-Project Consultant, Tim Hagin-Westwater Farms LLC, Mike Marquez-Westwater Farms, Terry Leach-Propetco Drilling. Invited and choosing not to attend: Eric Jones-Moab BLM and Melanie Hunter-Moab BLM

As proposed the project falls within a previously disturbed site for the Westwater Farms LLC E&P waste water treatment facility. A surface use agreement between New Water Financial LLC and Westwater Farms LLC is being prepared for submission at the time of presite evaluation.

Drilling activities are expected to generate formation waters with chloride concentrations up 50,000 ppm TDS. As such pit used to contain formation water and cuttings should be lined with a 12 mil liner. Pit shall be reclaimed within 6 months following completion of drilling. Pit shall not be used for the storage of produced fluids, outside E&P waste or secondary containment for the proposed waste water treatment facility.

Soils observed at proposed project site are prone to dusty conditions when disturbed. Frequent fresh water applications may be required to prevent break up of road surface and powdering of soils in periods of hot dry conditions.

Drilling activities will be visible from both I-70 and Grand County Road 193, as such it is reasonable to expect scrutiny form the general public. Operations should be maintained in a workmen like manner.

RECEIVED: August 08, 2012

Bart Kettle	6/19/2012
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 12 mils shall be properly installed and maintained in the reserve pit.
Surface	Fresh water shall be applied to access road and well pad as needed to control dust and erosion of disturbed soils.

RECEIVED: August 08, 2012

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 6/7/2012
API NO. ASSIGNED: 43019500230000
WELL NAME: Harley Dome 1-X SWD
OPERATOR: NEW WATER FINANCIAL LLC (N3840)
PHONE NUMBER: 970 254-3114
CONTACT: David L. Allin

PROPOSED LOCATION: NWNE 10 190S 250E
Permit Tech Review: ✔

SURFACE: 0501 FNL 2139 FEL
Engineering Review: ✔

BOTTOM: 0501 FNL 2139 FEL
Geology Review: ✔

COUNTY: GRAND
LATITUDE: 39.17483
LONGITUDE: -109.13397
UTM SURF EASTINGS: 661190.00
NORTHINGS: 4337836.00
FIELD NAME: GREATER CISCO
LEASE TYPE: 1 - Federal
LEASE NUMBER: UTU-82619
PROPOSED PRODUCING FORMATION(S): CHINLE
SURFACE OWNER: 4 - Fee
COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- ✔ **PLAT**
- ✔ **Bond:** FEDERAL - UTU-DOGM
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** Private water company
- ☐ **RDCC Review:**
- ✔ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit:

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

Board Cause No: Cause 102-16 (B)
Effective Date: 11/15/1979
Siting: 500' Fr Property lease line & 200' Fr qtr qtr line

- ☐ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
5 - Statement of Basis - bhill
12 - Cement Volume (3) - hmacdonald
25 - Surface Casing - hmacdonald

RECEIVED: August 08, 2012

GARY R. HERBERT
Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: Harley Dome 1-X SWD
API Well Number: 43019500230000
Lease Number: UTU-82619
Surface Owner: FEE (PRIVATE)
Approval Date: 8/8/2012

Issued to:
NEW WATER FINANCIAL LLC, 1716 East Lincoln Ave Ste 1, Fort Collins, CO 80524

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 102-16 (B). The expected producing formation or pool is the CHINLE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Cement volume for the 7" production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to surface as indicated in the submitted drilling plan.

Surface casing shall be cemented to the surface.

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284
  (please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company; **NEW WATER FINANCIAL, LLC**

Well Name: **HARLEY DOME 1-X SWD**

Api No: **43-019-50023** Lease Type **SURF FED – MIN FEE**

Section **10** Township **19S** Range **25E** County **GRAND**

Drilling Contractor **LEON ROSS DRLG** RIG # **BUCKET**

SPUDDED:

Date **09/25/2012**

Time **10:00 AM**

How **DRY**

Drilling will Commence: ***09/26/2012***

Reported by **DAVID ALLEN**

Telephone # **(970) 254-3114**

Date **09/26/2012** **Signed** **CHD**

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
HARLEY DOME 1-X SWD

2. NAME OF OPERATOR:
NEW WATER FINANCIAL LLC

9. API NUMBER:
43019500230000

3. ADDRESS OF OPERATOR:
1716 East Lincoln Ave Ste 1 , Fort Collins, CO, 80524

PHONE NUMBER:
970 567-1414 Ext

9. FIELD and POOL or WILDCAT:
GREATER CISCO

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0501 FNL 2139 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 10 Township: 19.0S Range: 25.0E Meridian: S

COUNTY:
GRAND

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 9/30/2012	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

September, 2012 status report. See attachment for daily details of operations.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
October 09, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
David L. Allin	970 254-3114	Utah PG

SIGNATURE	DATE
N/A	10/6/2012

RECEIVED: Oct. 06, 2012

Attachment to Form 9 Dated October 6, 2012

Monthly Status Report of Operations Conducted during September, 2012
New Water Financial, LLC Harley Dome 1-X SWD, API No. 43-019-50023
NWNE Section 10, T19S, R25E, SLM, Grand County, Utah
Submitted by David L. Allin
Note: All depths recited are below KB elevation 4,874'

2012-09-21	Leveled location; MIRU Propetroco, Inc. Rig 1, substructure & auxiliary equipment
2012-09-22	SDFWE
2012-09-23	SDFWE
2012-09-24	MIRU Propetroco, Inc. Rig 1 & auxiliary equipment
2012-09-25	09:00 drove 20" x 7' conductor pipe & set up diverter; 10:00 Spudded surface hole w/12.25" button bit on air hammer; 14:16 left v-mail notice of spud for Carol Daniels-DOGM; 17:00 154' TD in Cedar Mountain Fm; SDFN
2012-09-26	03:00 e-mail notice of spud w/details transmitted to Carol Daniels; Prepared equipment to handle 9.625" surface csg; 12:05 resumed drilling; Bottoms-up misty but no significant fluid influx overnight; 12:25 called TD for 12.25" surface hole in lower Cedar Mountain Fm at 174'; 16:30 landed 9.625" J-55, 36.0 ppf, 8 rd ST&C casing at 171' with cement float collar on bottom & centralizers immediately above cmt FC and over second collar down from top; Notified Mark Jones-DOGM of surf csg cmt schedule; 174' TD in Cedar Mountain Fm; SDFN
2012-09-27	10:10 verified surf csg cmt schedule w/Mark Jones; 12:00 reciprocated casing & circulated bottoms-up through cmt FC with air; No fluid recovered; 12:30 Mark Jones on site; 12:55 began cement pour down backside from mixer truck; 13:12 achieved cement fill-up with no apparent loss; 13:15 topped off backside w/1 sk & released mixer truck; Cement used was Class A slurry mixed to yield 1.18 cuft/sk & 15.6 lbs/gallon & estimated volume was 54 cuft or 9.6 Bbls (46 sx); A sample of the slurry was collected & preserved; 14:15 cmt top holding without fallback; 171' TD in Cedar Mountain Fm; WOC
2012-09-28	171' TD in Cedar Mountain Fm; WOC
2012-09-29	171' TD in Cedar Mountain Fm; WOC & SDFWE
2012-09-30	171' TD in Cedar Mountain Fm; WOC & SDFWE

RECEIVED: Oct. 06, 2012

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
HARLEY DOME 1-X SWD

2. NAME OF OPERATOR:
NEW WATER FINANCIAL LLC

9. API NUMBER:
43019500230000

3. ADDRESS OF OPERATOR:
1716 East Lincoln Ave Ste 1 , Fort Collins, CO, 80524

PHONE NUMBER:
970 567-1414 Ext

9. FIELD and POOL or WILDCAT:
GREATER CISCO

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0501 FNL 2139 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 10 Township: 19.0S Range: 25.0E Meridian: S

COUNTY:
GRAND

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 10/28/2012	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

October, 2012 and final status report. See attachment for daily details of operations.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
October 29, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
David L. Allin	970 254-3114	Utah PG

SIGNATURE	DATE
N/A	10/28/2012

RECEIVED: Oct. 28, 2012

Attachment to Form 9 Dated October 28, 2012

Monthly Status Report of Operations Conducted during October, 2012
New Water Financial, LLC Harley Dome 1-X SWD, API No. 43-019-50023
NWNE Section 10, T19S, R25E, SLM, Grand County, Utah
Submitted by David L. Allin
Note: All depths recited are below KB elevation 4,874'

2012-10-01 Cement top on 9.625" csg held OK; 09:05 began csg pressure test with 180 psi air pressure; 09:15 ended csg pressure test with 180 psi air pressure; RU to drill through surface csg shoe; Dug blooie pit; 171' TD in Cedar Mountain Fm; SDFN

2012-10-02 08:30 lined blooie pit with two layers of 6 mil poly film; 12:00 tagged up on 9.625" float collar with 8.75" PDC bit on DC's and began circulation; 12:15 suspended operations to repair injection pump; 171' TD in Cedar Mountain Fm; SDFN

2012-10-03 08:45 began circulation; 08:57 began drilling float; 10:44 full 265' BHA in hole: 8.75" bit; Bit sub; 2 6.25" DC's; X-over; 5 4.75" DC's, 5 3.75" DC's and X-over (all DC's & DP 20' jts); 16:21 completed drilling for the day & POOH 1 std; 611' TD in Salt Wash Member of Morrison Fm; SDFN

2012-10-04 08:45 TIH 1 std, began circulation & unloaded hole; 08:47 collected Water Sample 1 from 2 to 3 bbl of overnight fill; **Water Analysis Report of Sample 1 (Halliburton W454 2012-10-05): Temp 66.0° F; SG 1.008; pH 7.9; Rw 0.7 Ω-m; Conductivity 25.7 mS/cm; TDS 14,600 mg/L; Chloride 5,163 mg/L; Sulfate 30 mg/L; Carbonate 0 mg/L; Bicarbonate 250 mg/L; Hydroxide 0 mg/L; Total Fe 1.1 mg/L; K 13 mg/L; Ca 210 mg/L; Mg 190 mg/L and Na 2,848 mg/L**; 09:01 began drilling continuation of 8.75" hole from 611'; 16:27 completed drilling for the day & POOH 10 stds; 1011' TD in Slick Rock Member of Entrada Ss; SDFN

2012-10-05 09:00 TIH 10 stds; 09:20 unloaded hole with 290 psi air pressure from 971' indicating the fluid level was near 315'; 09:27 collected Water Sample 2 from commingled bottoms-up circulation; **Water Analysis Report of Sample 2 (Halliburton W462-S1 2012-10-07): Temp 68.7° F; SG 1.020; pH 7.1; Rw 0.3 Ω-m; Conductivity 33.0 mS/cm; TDS 18,700 mg/L; Chloride 14,580 mg/L; Sulfate 0 mg/L; Carbonate 0 mg/L; Bicarbonate 228 mg/L; Hydroxide 0 mg/L; Total Fe 4.5 mg/L; K 47 mg/L; Ca 1,556 mg/L; Mg 344 mg/L and Na 7,073 mg/L**; 10:38 began drilling continuation of 8.75" hole from 1011' with 21' DP jt with string float; 13:30 collected Water Sample 3 from drilling returns from 1220' in the upper Kayenta Fm with all of the overlying Curtis/Entrada aquifer open and adding 2 to 3 bbl per hour to returns; **Water Analysis Report of Sample 3 (Halliburton W462-S2 2012-10-07): Temp 68.9° F; SG 1.029; pH 7.6; Rw 0.5 Ω-m; Conductivity 64.0 mS/cm; TDS 17,200 mg/L; Chloride 9,447 mg/L; Sulfate 230 mg/L; Carbonate 0 mg/L; Bicarbonate 176 mg/L; Hydroxide 0 mg/L; Total Fe 0.5 mg/L; K 84 mg/L; Ca 960 mg/L; Mg 100 mg/L and Na 4,963 mg/L**; 17:11 8.75" hole TD called at 1352' after show of gray water presumed to be Harley Dome 1 injectate in returns & POOH 21 stds; 1352' TD in top of Wingate Ss; SDFWE

2012-10-06 SDFWE

2012-10-07 SDFWE

2012-10-08 09:00 began mixing pure gel mud, RD blooie line & RU to circulate mud; 12:45 TIH 21 stds to circulate mud & condition hole to run casing; 13:41 began circulating mud & unload formation water from hole just above TD 1352'; 13:55 collected Water Sample 4 from early returns of displaced formation water fill-up from over the weekend; **Water**

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	Analysis Report of Sample 4 (Halliburton W465 2012-10-08): Temp 68.5° F; SG 1.015; pH 7.1; Rw 0.3 Ω-m; Conductivity 3.9 (?) mS/cm; TDS 15,481 mg/L; Chloride 9,447 mg/L; Sulfate 50 mg/L; Carbonate 0 mg/L; Bicarbonate 395 mg/L; Hydroxide 0 mg/L; Total Fe 13.8 mg/L; K 46 mg/L; Ca 1,170 mg/L; Mg 555 mg/L and Na 3,864 mg/L; 14:15 collected Water Sample 5 from late returns of displaced formation water fill-up from over the weekend including gray water presumed to be Harley Dome 1 injectate; **Water Analysis Report of Sample 5 (Halliburton W466 2012-10-08): Temp 68.0° F; SG 1.022; pH 6.4; Rw 0.3 Ω-m; Conductivity 3.9 (?) mS/cm; TDS 20,424 mg/L; Chloride 12,948 mg/L; Sulfate 40 mg/L; Carbonate 0 mg/L; Bicarbonate 915 mg/L; Hydroxide 0 mg/L; Total Fe 26.7 mg/L; K 205 mg/L; Ca 4,225 mg/L; Mg 1,650 mg/L and Na 646 (?) mg/L**; 14:30 mud circulated around with no apparent loss; 15:00 RU to run 7" csg; Notified Bart Kettle-DOGM of csg cement & csg test schedule; 1352' TD in top of Wingate Ss; SDFN
2012-10-09	09:15 RU Weatherford csg crew & checked tools; 11:15 PU first jt of 7" csg; 15:00 landed 7" J-55, 20.0 ppf, 8 rd ST&C casing at 1342' with guide shoe on bottom & cement float collar on top of first jt & a total of 6 centralizers placed immediately above cmt guide shoe, over every other collar above & over second collar down from top; 15:15 RDMO Weatherford & MIRU Halliburton; 15:30 RU blooie line to direct returns to blooie pit; 16:49 began pumping spacer & got returns in less than 1 min indicating the hole had remained nearly full; 16:58 began pumping lead cmt; 17:04 began pumping tail cmt; 17:16 dropped top plug & began displacement; 17:27 bumped plug after circulating 20 bbl lead cmt to blooie pit witnessed by Bart Kettle; 17:41 successfully completed 10 min csg pressure test at 1,500 psi witnessed by Bart Kettle; Cement used for lead was Class H (Versacem™) slurry mixed with 86 sx to yield 2.38 cuft/sk & 12.3 lbs/gallon & total volume of 204.7 cuft or 36.5 bbl; Cement used for tail was Class G (Halcem™) slurry mixed with 110 sx to yield 1.17 cuft/sk & 15.8 lbs/gallon & total volume of 128.7 cuft or 22.9 bbl; Total cement job used 196 sx to yield 59.5 bbl displaced with 53.0 bbl of water; Net cement job used 39.5 bbl with under 2 bbl unaccounted for; No immediate fallback of cmt top; Samples of the slurries were collected & preserved; 17:50 RDMO Halliburton; 1342' TD in lower Kayenta Fm; WOC & SDFN
2012-10-10	Cut off 7" casing & RU rotating head to continue drilling with 6.25" PDC bit circulating air/foam; Collected Water Sample 6 of commingled, filtered injectate inventory of 4,000 bbl stored on site to be used for step-rate injection testing; **Water Analysis Report of Sample 6 (Halliburton W470 2012-10-10): Temp 68.0° F; SG 1.142; pH 6.2; Rw 0.05 Ω-m; TDS 90,429 mg/L; Chloride 63,560 mg/L; Sulfate 820 mg/L; Carbonate 0 mg/L; Bicarbonate 230 mg/L; Hydroxide 0 mg/L; Total Fe 67.0 mg/L; K 620 mg/L; Ca 7,190 mg/L; Mg 2,560 mg/L and Na 28,173 mg/L**; Notified Bart Kettle of schedule for sampling Wingate Ss injection zone water while drilling the following day; 1342' TD in lower Kayenta ; WOC & SDFN
2012-10-11	09:00 TIH with 6.25" PDC bit; 203' BHA in hole: 6.25" bit; Bit sub; 5 4.75" DC's, 5 3.75" DC's & X-over (all DC's & DP 20' jts); 09:58 unloaded displacement water from 7" csg; 12:33 began drilling through FC in 7"csg; 13:45 drilled through 7" csg guide shoe & began drilling 6.25" open hole injection segment of well; 14:28 collected Water Sample 7 from returns while drilling at 1430' with 88' of Wingate Ss open & yielding water at 10 bbl per hour; **Analysis Report of Sample 7 (Halliburton W475 2012-10-11): Temp 67.2° F; SG 1.114 (?); pH 7.0; Rw 0.3 Ω-m; Conductivity 45.9 mS/cm; TDS 13,500 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 10,434 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 375 mg/L; Hydroxide 0 mg/L; Total Fe 1.2 mg/L; K 93**

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	mg/L; Ca 1,935 mg/L; Mg 770 mg/L and Na 3,181 mg/L; 14:55 collected Water Sample 8 from returns while drilling at 1470' with 128' of Wingate Ss open & yielding water at 15 bbl per hour; **Analysis Report of Sample 8 (Halliburton W476 2012-10-11): Temp 67.4° F; SG 1.113 (?); pH 7.2; Rw 0.3 Ω-m; Conductivity 62.0 mS/cm; TDS 17,573 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 12,948 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 830 mg/L; Hydroxide 0 mg/L; Total Fe 3.9 mg/L; K 99 mg/L; Ca 3,035 mg/L; Mg 750 mg/L and Na 3,752 mg/L**; 15:50 collected Water Sample 9 from returns while drilling at 1544' with 202' of Wingate Ss open & yielding water at 20 bbl per hour; **Analysis Report of Sample 9 (Halliburton W477 2012-10-11): Temp 66.5° F; SG 1.176 (?); pH 7.3; Rw 0.3 Ω-m; Conductivity 62.9 mS/cm; TDS 19,145 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 14,730 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 760 mg/L; Hydroxide 0 mg/L; Total Fe 0.3 mg/L; K 210 mg/L; Ca 2,985 mg/L; Mg 660 mg/L and Na 5,048 mg/L**; Water sample collections witnessed by Bart Kettle; The water sample bottles were sealed with tape and accompanied by a chain of custody document; 17:50 6.25" hole & well TD called at 1684' after Chinle Fm was identified in drill cuttings; 18:00 conditioned hole & POOH 20 stds; 1684' TD in upper Chinle Fm; SI & SDFN
2012-10-12	08:00 Continued POOH laying down DP & DC's; 13:45 broke off bit & RU RMWS to log well; 14:15 GIH with wireline tool to record CBL/CCL/GR & found fluid level at 150'; 14:45 completed logging operation; Recorded GR for correlation from TD to the surface; CBL indicated good bond from 7" csg shoe at 1342' to 82' & poorer bond from 82' to 43' where lack of fluid in the csg ended the CBL log; The lead/tail cement interface was logged at 456'; The fluid level was raised by adding water while logging to record as close to the surface as possible; A top job to bring cement to the surface will be required due to fallback during curing process; 15:15 field prints of log completed; RDMO RMWS; 1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-13	1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-14	1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-15	Removed drill rig from substructure & repositioned to run tbg; 1684' TD in upper Chinle Fm; SI & WOCT
2012-10-16	Notified Mark Jones of schedule for step-rate & mechanical integrity testing; 1684' TD in upper Chinle Fm; SI & WOCT
2012-10-17	10:00 PU first jt of 3.5" J-55 9.3 ppf EUE tbg & made up Guiberson G-1 3.5" x 7" packer on bottom with nothing below; 12:30 wellhead slips set with end of packer at 1316'; 1684' TD in upper Chinle Fm; SI
2012-10-18	09:00 MIRU Halliburton double cement pump unit and connected booster pump to tank battery with 4,000 bbl SG 1.142 filtered injectate available for step-rate test; 10:20 began pumping S-RT at 2 bpm & continued test with 1 bpm pump rate increases at 30 min intervals until a 12 bpm pump rate step began at 15:23 & was held until SD at 16:53; Subtle breakdown events were achieved during the 10 bpm rate at 868 psi; Total volume pumped 3,085 bbl; Maximum recorded pump pressure 1,145 psi; ISIP 393 psi, 5 min 372 psi, 10 min 360 psi, 20 min 343 psi & 30 min 332 psi; 17:34 began mechanical integrity test of 3.5" x 7" annulus, packer & wellhead with 1,080 psi; 18:08 MIT passed & chart of S-RT & MIT completed; All testing ops witnessed by Mark Jones; 18:15 RDMO Halliburton; 1684' TD in upper Chinle Fm; SI
2012-10-19	RDMO Propetroco Rig 1 & auxiliary equipment; 1684' TD in upper Chinle Fm; SI
2012-10-20	1684' TD in upper Chinle Fm; SI
2012-10-21	1684' TD in upper Chinle Fm; SI

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2012-10-22	1684’ TD in upper Chinle Fm; SI
2012-10-23	1684’ TD in upper Chinle Fm; SI
2012-10-24	1684’ TD in upper Chinle Fm; SI
2012-10-25	1684’ TD in upper Chinle Fm; SI
2012-10-26	13:00 inserted 1” PVC pipe into 7” x 9.625” annulus, connected to compressor & blew out fluid; Mixed 8 sx Portland cement with 5 gal water per sack to yield a 1.17 cuft/sk, 15.8 ppg Class A slurry; Removed PVC pipe, centered 7” csg & filled annulus with cmt to the surface; Total volume of 9.2 cuft enough to fill 56’ of completely empty annular space & was sufficient to correct partial fallback of circulated cement to 82’ (KB); 1684’ TD in upper Chinle Fm; SI & final report; Waiting for authorization to begin Class II produced water injection operations under a pending UIC permit application.

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STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
HARLEY DOME 1-X SWD

2. NAME OF OPERATOR:
NEW WATER FINANCIAL LLC

9. API NUMBER:
43019500230000

3. ADDRESS OF OPERATOR:
1716 East Lincoln Ave Ste 1 , Fort Collins, CO, 80524

PHONE NUMBER:
970 567-1414 Ext

9. FIELD and POOL or WILDCAT:
GREATER CISCO

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0501 FNL 2139 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 10 Township: 19.0S Range: 25.0E Meridian: S

COUNTY:
GRAND

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
October 30, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
David L. Allin	970 254-3114	Utah PG

SIGNATURE	DATE
N/A	10/28/2012

RECEIVED: Oct. 30, 2012

Attachment to Form 9 Dated October 28, 2012

Monthly Status Report of Operations Conducted during October, 2012
New Water Financial, LLC Harley Dome 1-X SWD, API No. 43-019-50023
NWNE Section 10, T19S, R25E, SLM, Grand County, Utah
Submitted by David L. Allin
Note: All depths recited are below KB elevation 4,874'

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2012-10-06 SDFWE

2012-10-07 SDFWE

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RECEIVED: Oct. 28, 2012

	Analysis Report of Sample 4 (Halliburton W465 2012-10-08): Temp 68.5° F; SG 1.015; pH 7.1; Rw 0.3 Ω-m; Conductivity 3.9 (?) mS/cm; TDS 15,481 mg/L; Chloride 9,447 mg/L; Sulfate 50 mg/L; Carbonate 0 mg/L; Bicarbonate 395 mg/L; Hydroxide 0 mg/L; Total Fe 13.8 mg/L; K 46 mg/L; Ca 1,170 mg/L; Mg 555 mg/L and Na 3,864 mg/L; 14:15 collected Water Sample 5 from late returns of displaced formation water fill-up from over the weekend including gray water presumed to be Harley Dome 1 injectate; **Water Analysis Report of Sample 5 (Halliburton W466 2012-10-08): Temp 68.0° F; SG 1.022; pH 6.4; Rw 0.3 Ω-m; Conductivity 3.9 (?) mS/cm; TDS 20,424 mg/L; Chloride 12,948 mg/L; Sulfate 40 mg/L; Carbonate 0 mg/L; Bicarbonate 915 mg/L; Hydroxide 0 mg/L; Total Fe 26.7 mg/L; K 205 mg/L; Ca 4,225 mg/L; Mg 1,650 mg/L and Na 646 (?) mg/L**; 14:30 mud circulated around with no apparent loss; 15:00 RU to run 7" csg; Notified Bart Kettle-DOGM of csg cement & csg test schedule; 1352' TD in top of Wingate Ss; SDFN
2012-10-09	09:15 RU Weatherford csg crew & checked tools; 11:15 PU first jt of 7" csg; 15:00 landed 7" J-55, 20.0 ppf, 8 rd ST&C casing at 1342' with guide shoe on bottom & cement float collar on top of first jt & a total of 6 centralizers placed immediately above cmt guide shoe, over every other collar above & over second collar down from top; 15:15 RDMO Weatherford & MIRU Halliburton; 15:30 RU blooie line to direct returns to blooie pit; 16:49 began pumping spacer & got returns in less than 1 min indicating the hole had remained nearly full; 16:58 began pumping lead cmt; 17:04 began pumping tail cmt; 17:16 dropped top plug & began displacement; 17:27 bumped plug after circulating 20 bbl lead cmt to blooie pit witnessed by Bart Kettle; 17:41 successfully completed 10 min csg pressure test at 1,500 psi witnessed by Bart Kettle; Cement used for lead was Class H (Versacem™) slurry mixed with 86 sx to yield 2.38 cuft/sk & 12.3 lbs/gallon & total volume of 204.7 cuft or 36.5 bbl; Cement used for tail was Class G (Halcem™) slurry mixed with 110 sx to yield 1.17 cuft/sk & 15.8 lbs/gallon & total volume of 128.7 cuft or 22.9 bbl; Total cement job used 196 sx to yield 59.5 bbl displaced with 53.0 bbl of water; Net cement job used 39.5 bbl with under 2 bbl unaccounted for; No immediate fallback of cmt top; Samples of the slurries were collected & preserved; 17:50 RDMO Halliburton; 1342' TD in lower Kayenta Fm; WOC & SDFN
2012-10-10	Cut off 7" casing & RU rotating head to continue drilling with 6.25" PDC bit circulating air/foam; Collected Water Sample 6 of commingled, filtered injectate inventory of 4,000 bbl stored on site to be used for step-rate injection testing; **Water Analysis Report of Sample 6 (Halliburton W470 2012-10-10): Temp 68.0° F; SG 1.142; pH 6.2; Rw 0.05 Ω-m; TDS 90,429 mg/L; Chloride 63,560 mg/L; Sulfate 820 mg/L; Carbonate 0 mg/L; Bicarbonate 230 mg/L; Hydroxide 0 mg/L; Total Fe 67.0 mg/L; K 620 mg/L; Ca 7,190 mg/L; Mg 2,560 mg/L and Na 28,173 mg/L**; Notified Bart Kettle of schedule for sampling Wingate Ss injection zone water while drilling the following day; 1342' TD in lower Kayenta ; WOC & SDFN
2012-10-11	09:00 TIH with 6.25" PDC bit; 203' BHA in hole: 6.25" bit; Bit sub; 5 4.75" DC's, 5 3.75" DC's & X-over (all DC's & DP 20' jts); 09:58 unloaded displacement water from 7" csg; 12:33 began drilling through FC in 7"csg; 13:45 drilled through 7" csg guide shoe & began drilling 6.25" open hole injection segment of well; 14:28 collected Water Sample 7 from returns while drilling at 1430' with 88' of Wingate Ss open & yielding water at 10 bbl per hour; **Analysis Report of Sample 7 (Halliburton W475 2012-10-11): Temp 67.2° F; SG 1.114 (?); pH 7.0; Rw 0.3 Ω-m; Conductivity 45.9 mS/cm; TDS 13,500 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 10,434 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 375 mg/L; Hydroxide 0 mg/L; Total Fe 1.2 mg/L; K 93**

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	mg/L; Ca 1,935 mg/L; Mg 770 mg/L and Na 3,181 mg/L; 14:55 collected Water Sample 8 from returns while drilling at 1470' with 128' of Wingate Ss open & yielding water at 15 bbl per hour; **Analysis Report of Sample 8 (Halliburton W476 2012-10-11): Temp 67.4° F; SG 1.113 (?); pH 7.2; Rw 0.3 Ω-m; Conductivity 62.0 mS/cm; TDS 17,573 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 12,948 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 830 mg/L; Hydroxide 0 mg/L; Total Fe 3.9 mg/L; K 99 mg/L; Ca 3,035 mg/L; Mg 750 mg/L and Na 3,752 mg/L**; 15:50 collected Water Sample 9 from returns while drilling at 1544' with 202' of Wingate Ss open & yielding water at 20 bbl per hour; **Analysis Report of Sample 9 (Halliburton W477 2012-10-11): Temp 66.5° F; SG 1.176 (?); pH 7.3; Rw 0.3 Ω-m; Conductivity 62.9 mS/cm; TDS 19,145 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 14,730 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 760 mg/L; Hydroxide 0 mg/L; Total Fe 0.3 mg/L; K 210 mg/L; Ca 2,985 mg/L; Mg 660 mg/L and Na 5,048 mg/L**; Water sample collections witnessed by Bart Kettle; The water sample bottles were sealed with tape and accompanied by a chain of custody document; 17:50 6.25" hole & well TD called at 1684' after Chinle Fm was identified in drill cuttings; 18:00 conditioned hole & POOH 20 stds; 1684' TD in upper Chinle Fm; SI & SDFN
2012-10-12	08:00 Continued POOH laying down DP & DC's; 13:45 broke off bit & RU RMWS to log well; 14:15 GIH with wireline tool to record CBL/CCL/GR & found fluid level at 150'; 14:45 completed logging operation; Recorded GR for correlation from TD to the surface; CBL indicated good bond from 7" csg shoe at 1342' to 82' & poorer bond from 82' to 43' where lack of fluid in the csg ended the CBL log; The lead/tail cement interface was logged at 456'; The fluid level was raised by adding water while logging to record as close to the surface as possible; A top job to bring cement to the surface will be required due to fallback during curing process; 15:15 field prints of log completed; RDMO RMWS; 1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-13	1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-14	1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-15	Removed drill rig from substructure & repositioned to run tbg; 1684' TD in upper Chinle Fm; SI & WOCT
2012-10-16	Notified Mark Jones of schedule for step-rate & mechanical integrity testing; 1684' TD in upper Chinle Fm; SI & WOCT
2012-10-17	10:00 PU first jt of 3.5" J-55 9.3 ppf EUE tbg & made up Guiberson G-1 3.5" x 7" packer on bottom with nothing below; 12:30 wellhead slips set with end of packer at 1316'; 1684' TD in upper Chinle Fm; SI
2012-10-18	09:00 MIRU Halliburton double cement pump unit and connected booster pump to tank battery with 4,000 bbl SG 1.142 filtered injectate available for step-rate test; 10:20 began pumping S-RT at 2 bpm & continued test with 1 bpm pump rate increases at 30 min intervals until a 12 bpm pump rate step began at 15:23 & was held until SD at 16:53; Subtle breakdown events were achieved during the 10 bpm rate at 868 psi; Total volume pumped 3,085 bbl; Maximum recorded pump pressure 1,145 psi; ISIP 393 psi, 5 min 372 psi, 10 min 360 psi, 20 min 343 psi & 30 min 332 psi; 17:34 began mechanical integrity test of 3.5" x 7" annulus, packer & wellhead with 1,080 psi; 18:08 MIT passed & chart of S-RT & MIT completed; All testing ops witnessed by Mark Jones; 18:15 RDMO Halliburton; 1684' TD in upper Chinle Fm; SI
2012-10-19	RDMO Propetroco Rig 1 & auxiliary equipment; 1684' TD in upper Chinle Fm; SI
2012-10-20	1684' TD in upper Chinle Fm; SI
2012-10-21	1684' TD in upper Chinle Fm; SI

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2012-10-22	1684’ TD in upper Chinle Fm; SI
2012-10-23	1684’ TD in upper Chinle Fm; SI
2012-10-24	1684’ TD in upper Chinle Fm; SI
2012-10-25	1684’ TD in upper Chinle Fm; SI
2012-10-26	13:00 inserted 1” PVC pipe into 7” x 9.625” annulus, connected to compressor & blew out fluid; Mixed 8 sx Portland cement with 5 gal water per sack to yield a 1.17 cuft/sk, 15.8 ppg Class A slurry; Removed PVC pipe, centered 7” csg & filled annulus with cmt to the surface; Total volume of 9.2 cuft enough to fill 56’ of completely empty annular space & was sufficient to correct partial fallback of circulated cement to 82’ (KB); 1684’ TD in upper Chinle Fm; SI & final report

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STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

RECEIVED
OCT 01 2012
DIV. OF OIL, GAS & MINING

FORM 6

ENTITY ACTION FORM

Operator: New Water Financial, LLC
Address: 1716 East Lincoln Avenue, Suite 1
city Fort Collins
state CO zip 80524

Operator Account Number: N 3840
Phone Number: (970) 484-4100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4301950023	Harley Dome 1-X SWD		NWNE	10	19S	25E	Grand
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	new	18789	9/25/2012			10/31/12	

Comments: Class II injection well twin to Harley Dome 1 (API No. 4301931622)
Chin

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

ACTION CODES:
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

David L. Allin
Name (Please Print)
Signature
Permit Agent/Consultant
Title
9/28/2012
Date

(5/2000)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ (highlight changes)

FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

8. WELL NAME and NUMBER: Harley Dome 1-X SWD

9. API NUMBER: 4301950023

10 FIELD AND POOL, OR WILDCAT: Greater Cisco

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ OTHER Injection/Disposal

b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

2. NAME OF OPERATOR: New Water Financial, LLC

3. ADDRESS OF OPERATOR: 1716 E Lincoln Ave #1 CITY Fort Collins STATE CO ZIP 80524

PHONE NUMBER: (970) 567-1414

4. LOCATION OF WELL (FOOTAGES)

AT SURFACE: 501' FNL & 2,139' FEL

AT TOP PRODUCING INTERVAL REPORTED BELOW: 501' FNL & 2,139' FEL

AT TOTAL DEPTH: 501' FNL & 2,139' FEL

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWNE 10 19S 25E S

12. COUNTY: Grand

13. STATE: UTAH

14. DATE SPUDDED: 9/25/2012

15. DATE T.D. REACHED: 10/11/2012

16. DATE COMPLETED: 10/26/2012 ABANDONED ☐ READY TO PRODUCE ☑

17. ELEVATIONS (DF, RKB, RT, GL): 4,864' GL & 4,874' KB

18. TOTAL DEPTH: MD 1,684 TVD 1,684

19. PLUG BACK T.D.: MD TVD

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

CBL/GR/CCL hand delivered to Bradley Hill 10/24/2012

23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☑ YES ☐ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
12.25"	9.625" J-55	36.0	0	171		A 46	10	Surface	
8.75"	7" J-55	20.0	0	1,342		G 196	60	82	
						A 8	2	Surface	
6.25"		Open hole		1,684					

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
3.5"	1,312	1,316						

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) Wingate Ss	1,342	1,680	1,342	1,680
(B)				
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☐ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☑ OTHER: Well diagram

30. WELL STATUS: Shut-in

(5/2000)

(CONTINUED ON BACK)

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL B (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.
Dakota Ss	40	50	Dry
	74	115	Dry
Cedar Mtn Fm	144	182	Brackish water
Morrison Fm	210	254	Brackish water
	263	274	Brackish water
	482	488	Brackish water
	557	573	Brackish water
	630	650	Brackish water
Curstis/Entrada	888	1,145	Brine water
Wingate Ss	1,342	1,680	Brine water

34. FORMATION (Log) MARKERS:

Name	Top (Measured Depth)
Dakota Ss	23
Cedar Mtn Fm	115
Morrison Fm	183
Summerville Fm	854
Moab Mbr Curtis Fm	888
Slick Rock Mbr Entrada Ss	999
Kayenta Fm	1,145
Wingate Ss	1,342
Chinle Fm	1,680

35. ADDITIONAL REMARKS (Include plugging procedure)

S-RT & MIT completed on October 18, 2012; Final work on well finished October 26, 2012; Waiting for issuance of UIC permit

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) David L. Allin TITLE Utah PG, Agent for New Water Financial, LLC

SIGNATURE D L Allin DATE 10/28/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

(5/2000)

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 368518	**Ship To #:** 2954756	**Quote #:**	**Sales Order #:** 9859661
Customer: NEW WATER FINANCIAL LLC		**Customer Rep:** Allin, Dave	
Well Name: Harley Dome	**Well #:** 1-X SWD		**API/UWI #:** 43-019-50002
Field:	**City (SAP):** THOMPSON	**County/Parish:** Grand	**State:** Utah
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Cement Production Casing			
Well Type: Development Well	**Job Type:** Cement Production Casing		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** CASTILLO, JAVIER	**MBU ID Emp #:** 513620	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
CASTILLO, FRANCISCO P	9.5	513620			513620	CHASTAIN, DERICK Allan	9.5	455848
MILLER II, MATTHEW Reginald	9.5	425164	WALPOLE, DARREN Livingston	9.5	485294			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10744549	90 mile	10951249	90 mile	10995027	90 mile	11223557	90 mile

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
10/9/2012	9.5	1						
TOTAL								

Total is the sum of each column separately

Job

Formation Name			
Formation Depth (MD)	**Top** SURFACE	**Bottom**	1352
Form Type		**BHST**	
Job depth MD	1352. ft	**Job Depth TVD**	1352. ft
Water Depth		**Wk Ht Above Floor**	3. ft
Perforation Depth (MD)	From	**To**	

Job Times

	Date	Time	Time Zone
Called Out	10/9/2012	05:00	MST
On Location	09 - Oct - 2012	09:00	MST
Job Started	09 - Oct - 2012	16:40	MST
Job Completed	31 - Oct - 2012	17:41	GMT
Departed Loc	09 - Oct - 2012	18:45	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe	7	1		1347	Packer					Top Plug	7	1	HES
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar	7	1		1305	Retainer					SSR plug set			
Insert Float										Plug Container	N/A		
Stage Tool										Centralizers	7	6	

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty	

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom

HALLIBURTON

Cementing Job Summary

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Water Spacer		10.00	bbl	.	.0	.0	1	
2	Lead Cement	VERSACEM (TM) SYSTEM (452010)	86.0	sacks	12.3	2.38	13.77	6	13.77
3	Tail Cement	HALCEM (TM) SYSTEM (452986)	110.0	sacks	15.8	1.17	5.0	5	5.0
	5 Gal	FRESH WATER							
4	Displacement		53.00	bbl	.	.0	.0	6	

Calculated Values		Pressures		Volumes					
Displacement	6BPM	Shut In: Instant		Lost Returns	NONE	Cement Slurry	59.5BBLS	Pad	
Top Of Cement	SURFACE	5 Min		Cement Returns	20BBLS	Actual Displacement	53	Treatment	
Frac Gradient		15 Min		Spacers	10BBLS	Load and Breakdown		Total Job	122

Rates

Circulating	RIG	Mixing	6	Displacement	6	Avg. Job	6

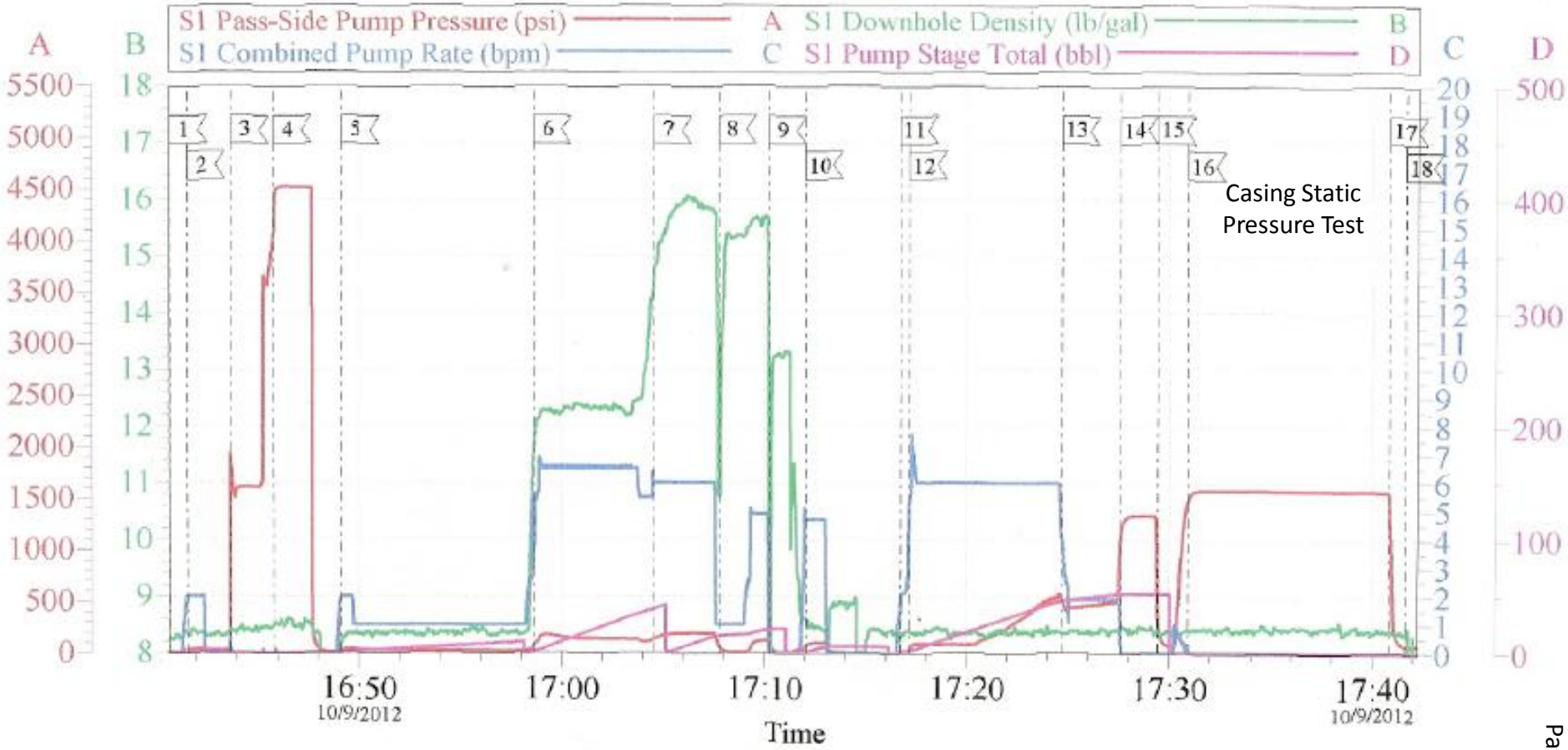
Cement Left In Pipe	Amount	42 ft	Reason	Shoe Joint

Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID

The Information Stated Herein Is Correct	Customer Representative Signature

NEW WATER/HARLEY DOME 1-X

7" PRODUCTION



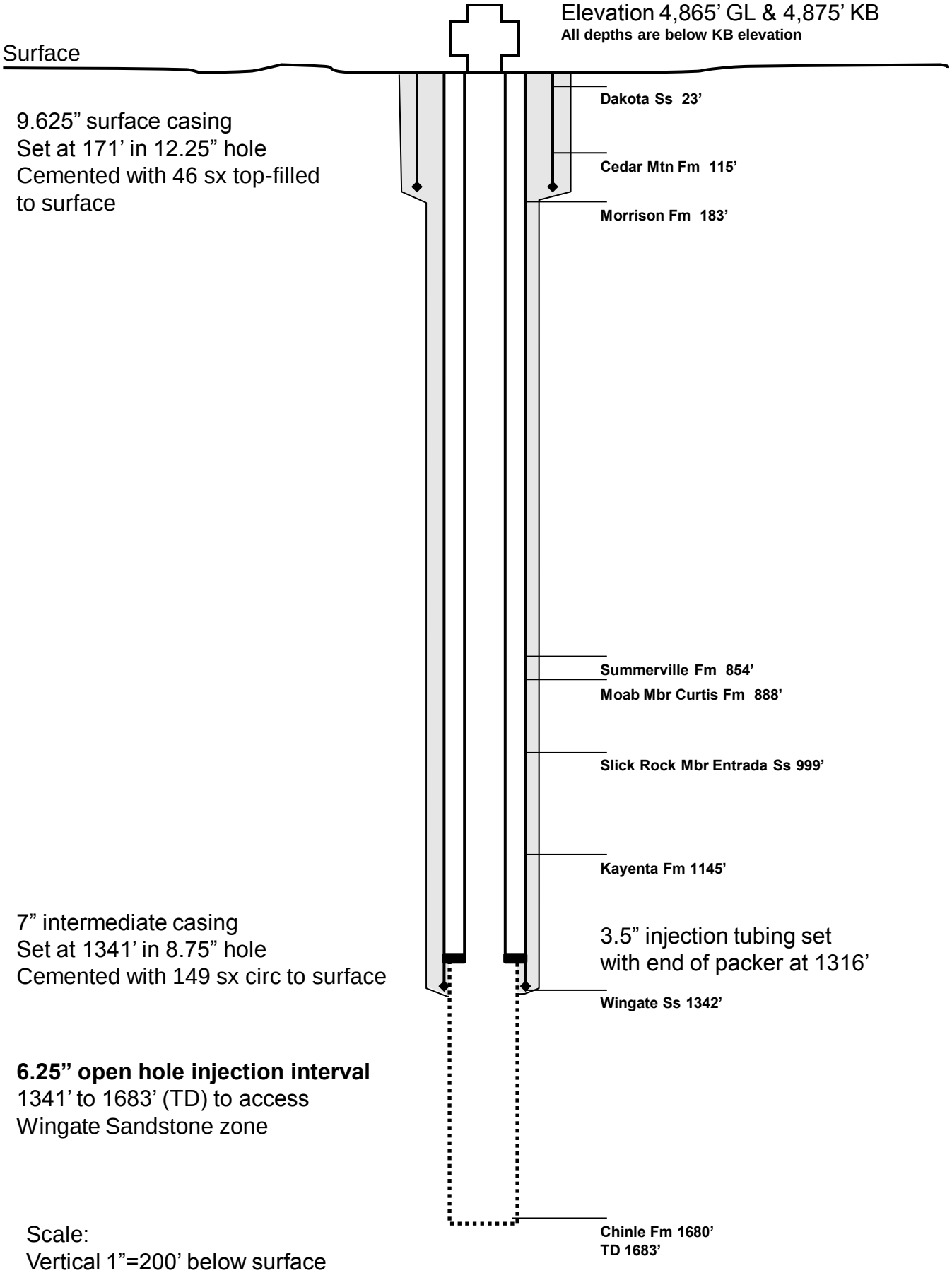
Local Event Log

1	START JOB	16:40:45	2	FILL LINES	16:41:35	3	5TH GEAR STALL-OUT	16:43:43
4	TEST LINES	16:45:48	5	SPACER	16:49:10	6	LEAD SLURRY	16:58:37
7	TAIL SLURRY	17:04:35	8	SLOWDOWN/AIR BUBBLE	17:07:47	9	SHUT DOWN	17:10:15
10	WASH PUMP	17:12:03	11	DROP PLUG	17:16:43	12	DISPLACEMENT	17:17:10
13	SLOW RATE	17:24:42	14	BUMP PLUG	17:27:34	15	CHECK FLOATS	17:29:25
16	TEST CASING	17:30:53	17	RELEASE PRESSURE	17:40:50	18	END JOB	17:41:37

Customer:	NEW WATER FINANCIAL LLC	Job Date:	09-Oct-2012	Sales Order #:	9859661
Well Description:	Harley Dome 1-X SWD	Job Type:	7" PRODUCTION	ADC Used:	YES
Company Rep:	TERRY LEACH	Cement Supervisor:	JAVIER CASTILLO	RED TIGER#11223557	DERICK CHASTAIN

OptiCem v6.4.10
09-Oct-12 18:11

Schematic Diagram of Harley Dome 1-X SWD
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-50023)
Harley Dome, Greater Cisco Field, Grand County, Utah

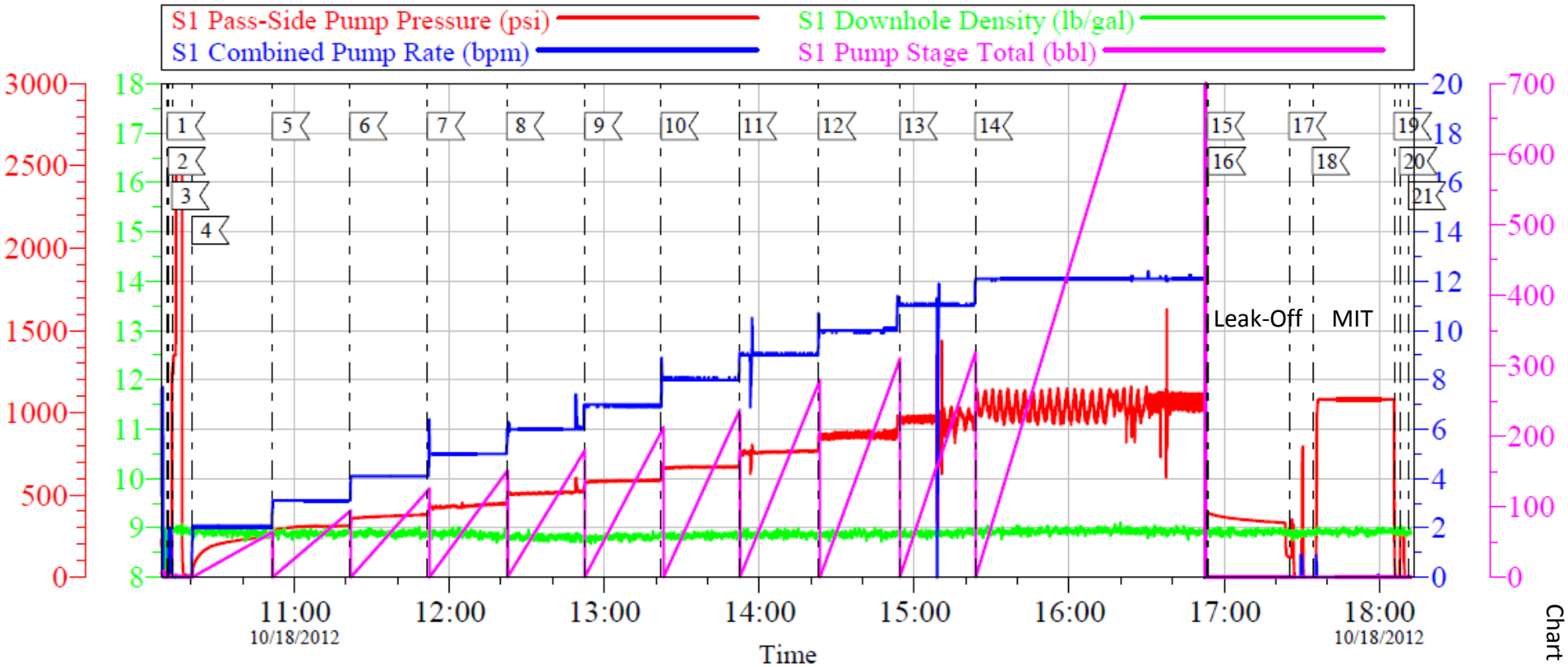


Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

Drafted 10-20-12

NEW WATER FINANCIAL, LLC

NEW WATER HARLEY DOME 1-X SWD
MISC PUMP



Local Event Log

1	START JOB	10:10:57	2	FILL LINES	10:11:10	3	PRESSURE TEST	10:12:39
4	PUMP INJECTION	10:20:19	5	INCREASE RATE	10:51:33	6	INCREASE RATE	11:21:34
7	INCREASE RATE	11:51:38	8	INCREASE RATE	12:22:13	9	INCREASE RATE	12:52:32
10	INCREASE RATE	13:22:02	11	INCREASE RATE	13:52:21	12	INCREASE RATE	14:23:01
13	INCREASE RATE	14:54:33	14	INCREASE RATE	15:23:43	15	SHUTDOWN	16:53:32
16	ISIP	16:53:59	17	RELEASE PRESSURE	17:25:08	18	PRESSURE UP ANNULUS	17:34:17
19	RELEASE PRESSURE	18:05:53	20	CHECK TUBING PRESSURE	18:08:01	21	END JOB	18:11:26

Customer:	NEW WATER	Job Date:	18-Oct-2012	Sales Order #:	9898870
Well Description:	HARLEY DOME 1-X SWD	Job Type	MISC PUMP	ADC Used	YES
Company Rep	DAVID ALLIN	Cement Supervisor	RYAN WYCKOFF	Elite #4	ANDREW LINN

OptiCem v6.4.10
18-Oct-12 18:14

Chart of Step-Rate Test & MIT 2012-10-18

C

FORM 6

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM

Operator: New Water Financial, LLC
Address: 1716 E Lincoln Ave
city Fort Collins CO
state CO zip 80524

Operator Account Number: N 3840

Phone Number: (970) 484-4100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4301950023	HARLEY DOME 1-X SWD		NWNE	10	19S	25E	GRAND
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	18789	18789	9/25/2012			10/26/2012	

Comments: New Water Financial, LLC drilled a new well on location to increase capacity as the first well's daily capacity did not allow for an economical business. wingt 11/27/2012

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Mitch Burroughs
Name (Please Print)

Signature

Owner/Manager
Title

11/27/2012
Date

RECEIVED
NOV 27 2012
Div. of Oil, Gas & Mining

(5/2000)

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
HARLEY DOME 1-X SWD

2. NAME OF OPERATOR:
NEW WATER FINANCIAL LLC

9. API NUMBER:
43019500230000

3. ADDRESS OF OPERATOR:
1716 East Lincoln Ave Ste 1 , Fort Collins, CO, 80524

PHONE NUMBER:
970 567-1414 Ext

9. FIELD and POOL or WILDCAT:
GREATER CISCO

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0501 FNL 2139 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 10 Township: 19.0S Range: 25.0E Meridian: S

COUNTY:
GRAND

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ NOTICE OF INTENT
  Approximate date work will start:
- ✓ SUBSEQUENT REPORT
  Date of Work Completion: 11/21/2012
- ☐ SPUD REPORT
  Date of Spud:
- ☐ DRILLING REPORT
  Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	✓ WATER DISPOSAL
☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The first day of commercial injection operations was November 21, 2012.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
March 13, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
David L. Allin	970 254-3114	Utah PG

SIGNATURE	DATE
N/A	3/12/2013

RECEIVED: Mar. 12, 2013

Allin Proprietary/David L. Allin-Consultant
AAPG Certified Petroleum Geologist 2934 ☼ Utah Licensed Professional Geologist 5526699
475 Seasons Drive, Grand Junction, CO, USA 81507-8749
Telephone: 970-254-3114 E-mail: allinpro@bresnan.net

July 25, 2012

RECEIVED
JUL 3 1 2012
DIV. OF OIL, GAS & MINING

State of Utah
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-5801

Re: Underground Injection Control Permit Application for a New Class II Injection Well
Harley Dome 1-X SWD (API No. 43-019-50023)
NWNE (501' FNL and 2,139' FEL) Section 10, T19S, R25E, SLM
Grand County, Utah

Ladies and Gentlemen:

A complete copy of the Underground Injection Control Permit application for a proposed new Class II injection well is enclosed for consideration by the Utah Division of Oil, Gas and Mining ("DOGM"). The well is proposed to be constructed at the location referenced above as soon as an Application for Permit to Drill is approved by DOGM. The newly constructed well is proposed to be converted for use as a Class II injection well upon approval of an Underground Injection Control Permit by DOGM and any other permits that may be required by other regulatory agencies.

The applicant and property owner, New Water Financial, LLC, can be contacted at:

New Water Financial, LLC
Attn: Mitch Burroughs (Office telephone: 970-484-4100)
1716 East Lincoln Avenue, Suite 1
Fort Collins, CO 80524

I will be available to answer general questions about this application and can be reached at the contact points given in the letterhead above.

Sincerely yours,

David L. Allin
Permit Agent for New Water Financial, LLC

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

RECEIVED
JUL 3 1 2012
DIV. OF OIL, GAS & MINING

UIC FORM 1

APPLICATION FOR INJECTION WELL

Name of Operator New Water Financial LLC	Utah Account Number N 3840	Well Name and Number Harley Dome 1-X SWD
Address of Operator 1716 E Lincoln Ave #1 Fort Collins CO 80524	Phone Number (970) 484-4100	API Number 4301950023
Location of Well Footage : 501' FNL and 2,139' FEL County : Grand QQ, Section, Township, Range: NWNE 10 19S 25E State : UTAH		Field or Unit Name Greater Cisco Lease Designation and Number UTU-82619

Is this application for expansion of an existing project?	Yes ☑	No ☐
Will the proposed well be used for: Enhanced Recovery?	Yes ☐	No ☑
Disposal?	Yes ☑	No ☐
Storage?	Yes ☐	No ☑
Is this application for a new well to be drilled?	Yes ☑	No ☐
If this application is for an existing well, has a casing test been performed?	Yes ☐	No ☐
Date of test: _____		

Proposed injection interval: from 1,351 to 1,688

Proposed maximum injection: rate 10,000 bpd pressure 360 psig

Proposed injection zone contains oil ☐, gas ☐, and / or fresh water ☐ within ½ mile of the well.

List of attachments: Att. 1: Plat showing wells & ownership. Att. 2: Annotated well log excerpts & geologic data. Att. 3: R649-5-2 compliant submissions including casing plan, casing test plan, operating limits & zonal confinement data, geologic data on the proposed injection interval & confining layers & position of nearest USDW's. Att. 4: Water analyses. Att. 5: Affidavit certifying

ATTACH ADDITIONAL INFORMATION AS REQUIRED BY CURRENT UTAH OIL AND GAS CONSERVATION GENERAL RULES

that copies of this application were mailed to operators, owners and interested parties within one-half mile radius of the proposed injection well.

I hereby certify that this report is true and complete to the best of my knowledge.

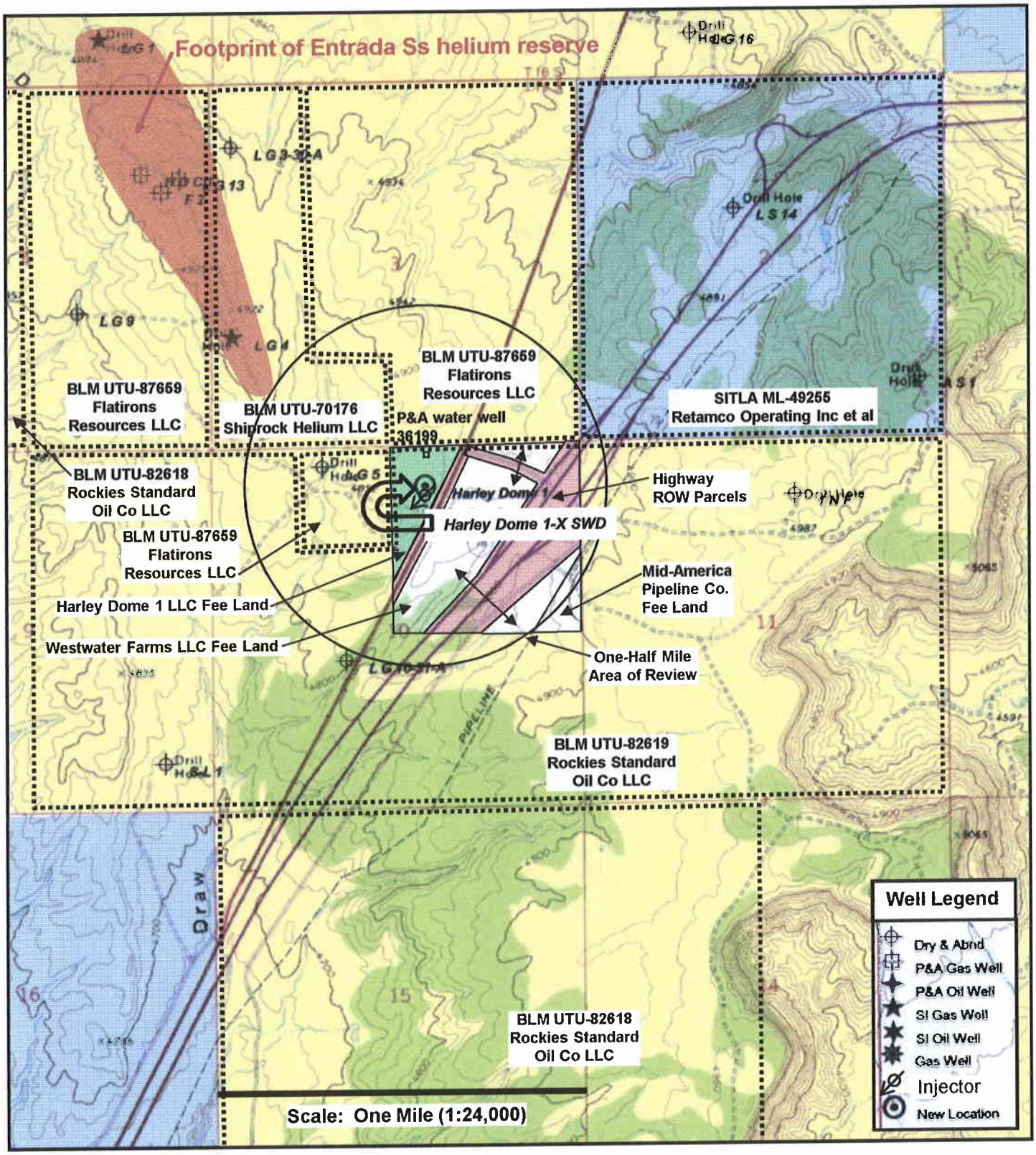
Name (Please Print) David L. Allin (970) 254-3114 Title Consultant allinpro@bresnan.net

Signature D L Allin Date 7/16/2012

(5/2002)

UIC Form 1 Attachment 1: Plat showing location of proposed Harley Dome 1-X SWD injection well in NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah, all abandoned or active wells, surface owners and O&G lessees and/or operators in the area and particularly within a one- half mile radius area of review for this application submitted by New Water Financial, LLC.

Revised July 11, 2012



U.S. managed by BLM

Utah managed by SITLA

U.S./Utah/County ROW's

Private

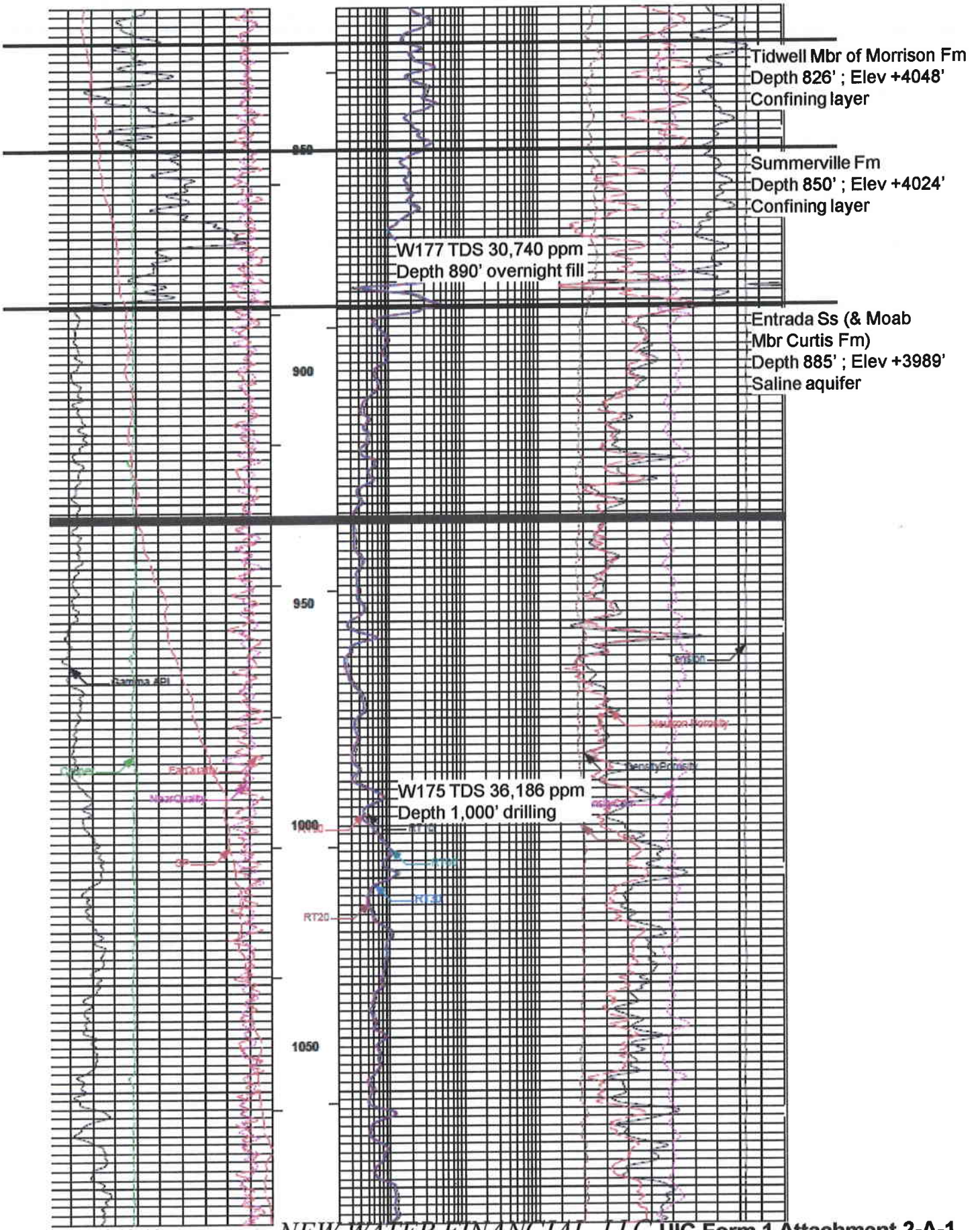
BLM or SITLA O&G Lease

NEW WATER FINANCIAL, LLC **UIC Form 1 Attachment 1**

UIC Form 1 Attachment 2-A-1: HD 1 Triple 5-22-10, Water Quality & Completion (1 of 4)

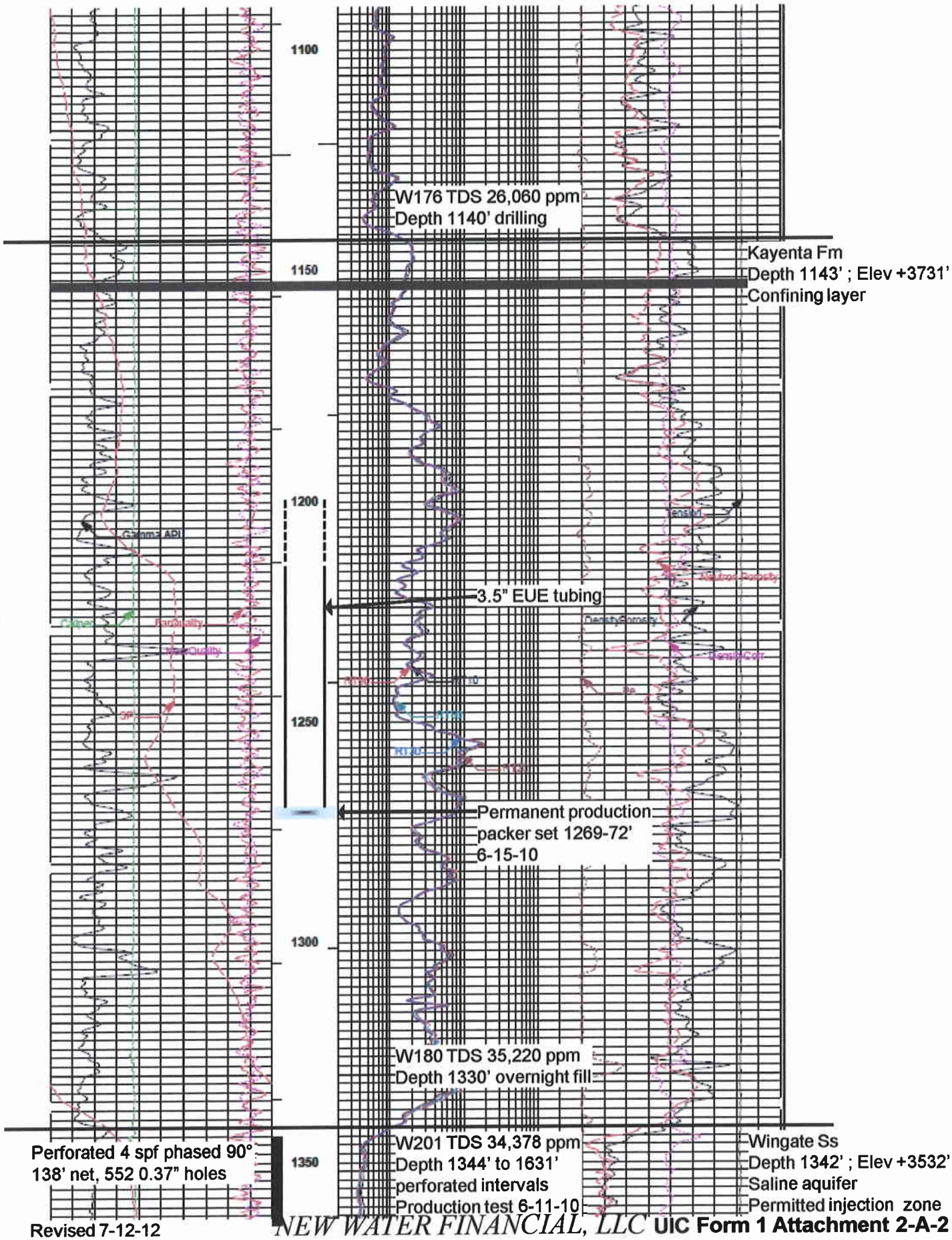
NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

0	Gamma API	200	2	RT90 (Ohm-m)	2K 30	Neutron Porosity	-10
4"	Caliper	14"	2	RT10 (Ohm-m)	2K 30	Density Porosity	-10



UIC Form 1 Attachment 2-A-2: HD 1 Triple 5-22-10, Water Quality & Completion (2 of 4)

NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

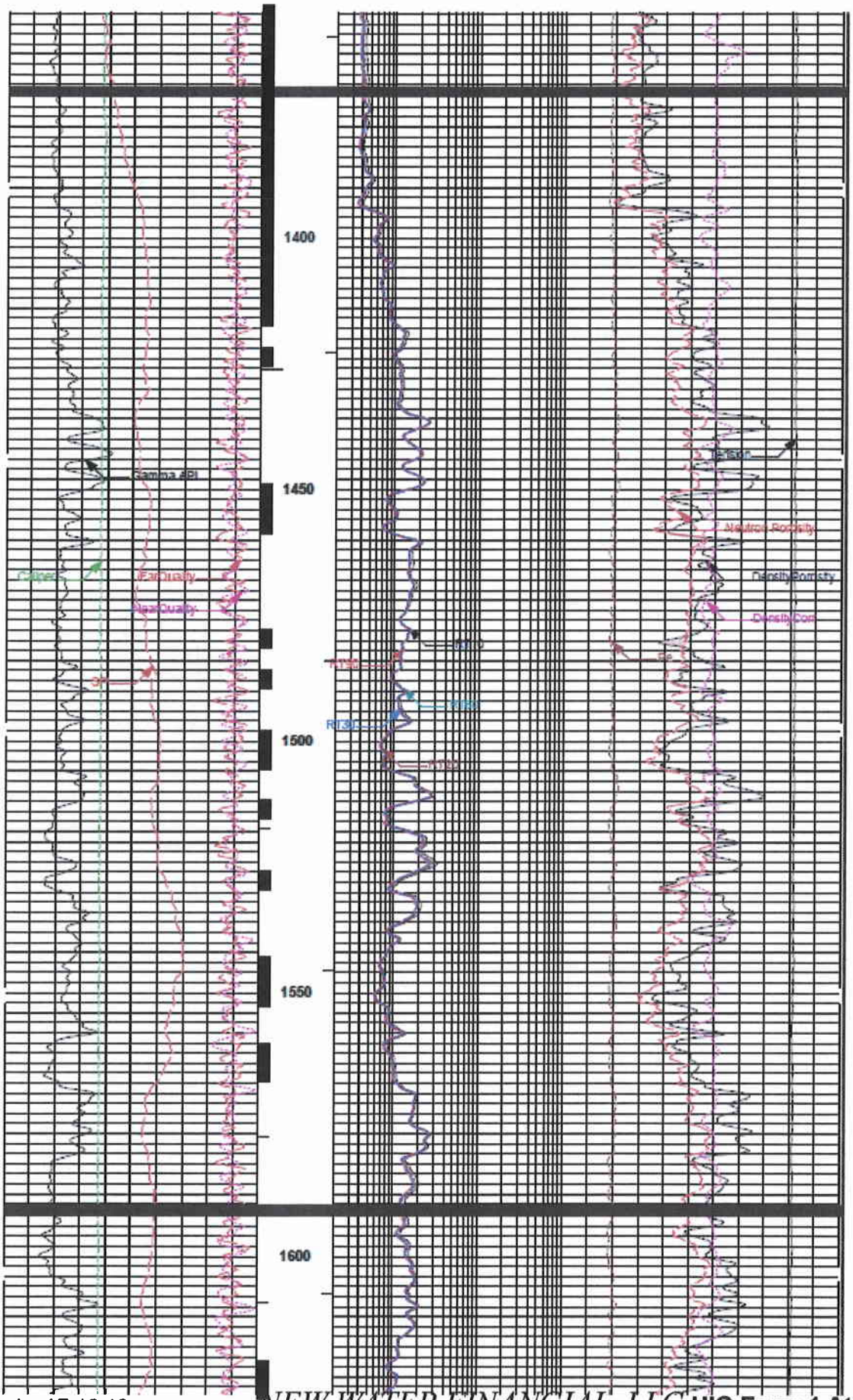


Revised 7-12-12

UIC Form 1 Attachment 2-A-3: HD 1 Triple 5-22-10, Water Quality & Completion (3 of 4)

NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

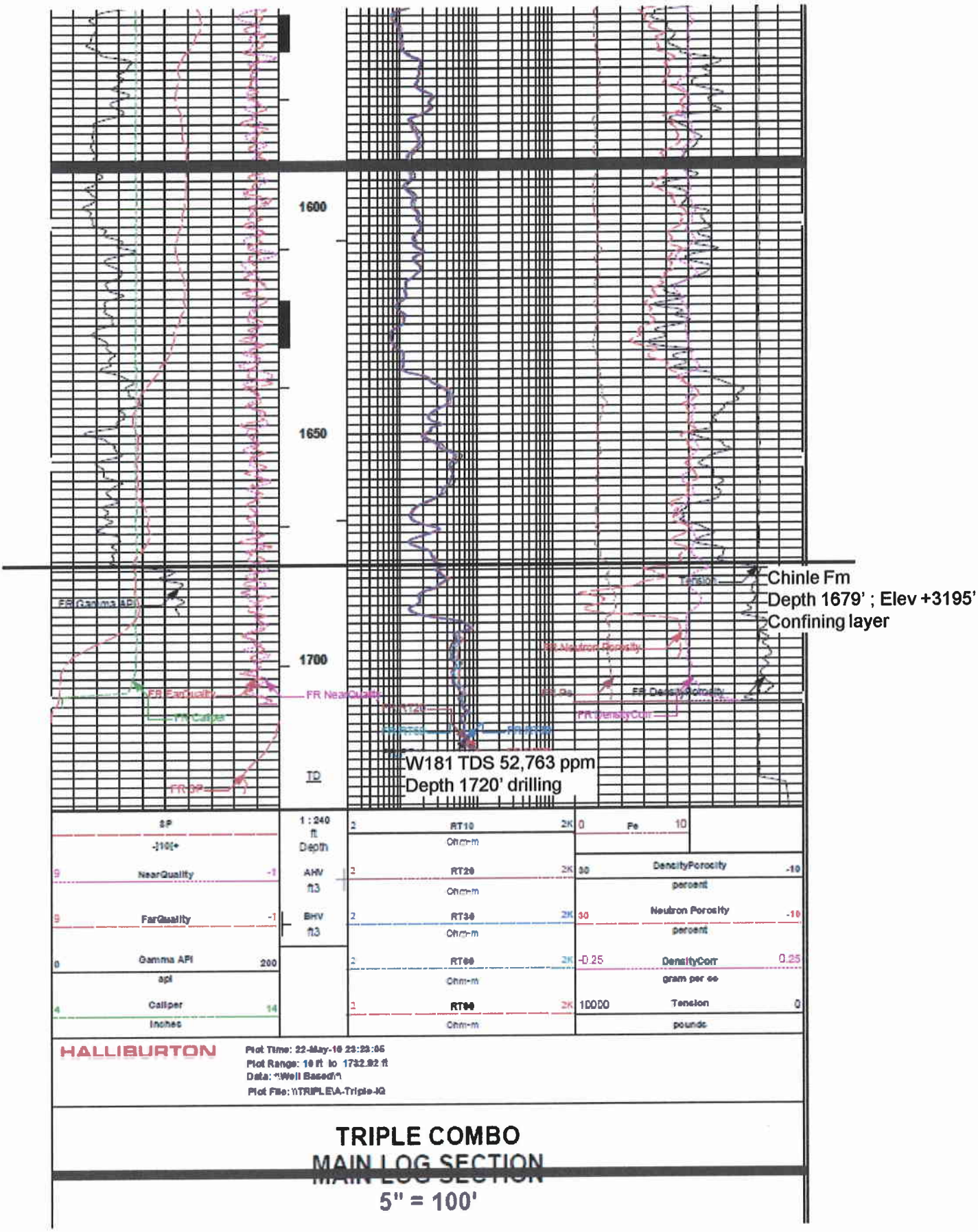
0	Gamma API	200	2	RT90 (Ohm-m)	2K 30	Neutron Porosity	-10
4"	Caliper	14"	2	RT10 (Ohm-m)	2K 30	Density Porosity	-10



UIC Form 1 Attachment 2-A-4: HD 1 Triple 5-22-10, Water Quality & Completion (4 of 4)

NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

0	Gamma API	200	2	RT90 (Ohm-m)	2K 30	Neutron Porosity	-10
4"	Caliper	14"	2	RT10 (Ohm-m)	2K 30	Density Porosity	-10

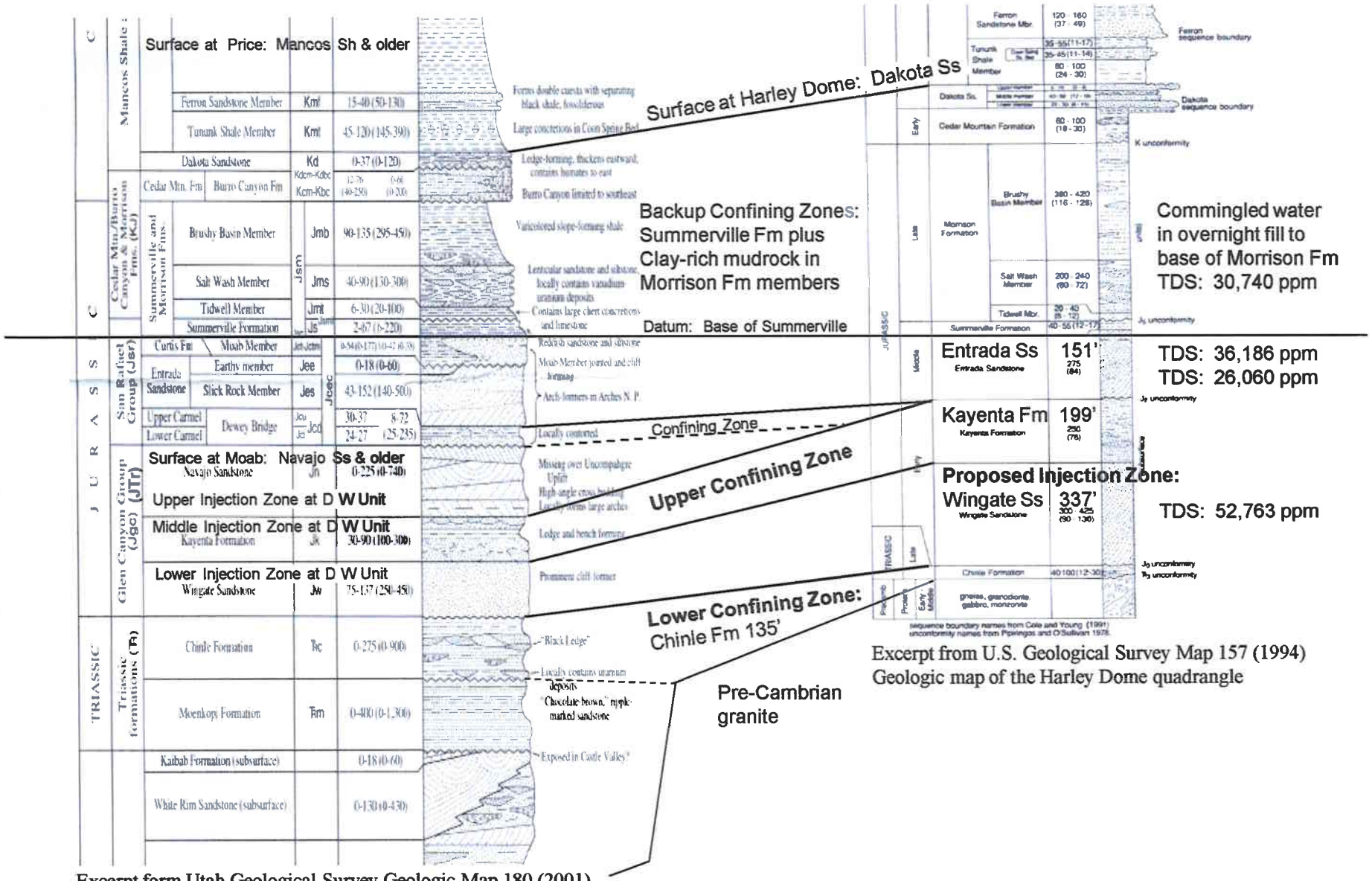


UIC Form 1 Attachment 2-B: Correlation of Stratigraphic Columns in Grand County, Utah

Revised 7-16-12

Southwest
Southern Grand County including Arches NP and Moab

Northeast
Harley Dome, Eastern Grand County
Thickness & Water Quality Data from Harley Dome 1



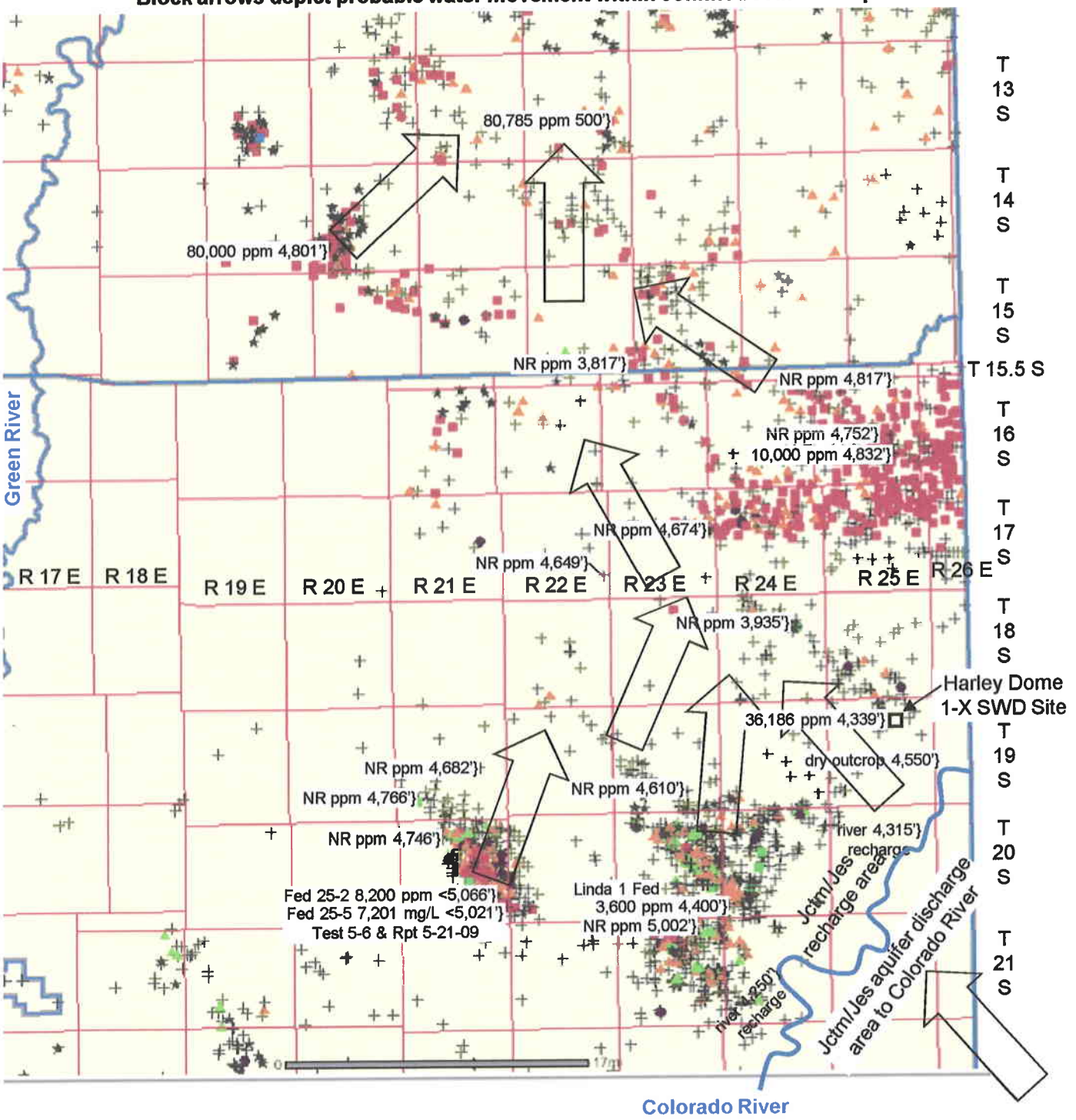
Excerpt form Utah Geological Survey Geologic Map 180 (2001)
Geologic Map of the Moab and eastern part of the San Rafael Desert 30' x 60' quadrangles

Excerpt from U.S. Geological Survey Map 157 (1994)
Geologic map of the Harley Dome quadrangle

UIC Form 1 Attachment 2-C: Entrada Aquifer Regional Water Quality and Pressure Data Map

Salinity Information and Head (Potentiometric Surface) Values Reported from Wells
in Moab Member Curtis Formation (Jctm) and Slick Rock Member Entrada Sandstone (Jes)
in Southern Uintah County and Northern Grand County, Utah
Oil and Gas Well Map Base from Utah DOGM Web Site Map Server
Data from U.S. Geological Survey Open-File Report 87-397 and David L. Allin Files

The salinity data is followed by the "ppm" label and the head data is labeled "'" for feet above sea level
Well data point is the symbol nearest the pointer of the bracket to the right of the data
Block arrows depict probable water movement within confined Jctm/Jes aquifer



UIC Form 1 Attachment 2-D: Geologic Structure Map of Southern Grand County, Utah Depicting the Setting of the Proposed Harley Dome 1-X SWD on the Uncompahgre Uplift/Entrada & Wingate Watershed and Town of Moab on the La Sal/Glen Canyon Watershed
Revised 7-12-12

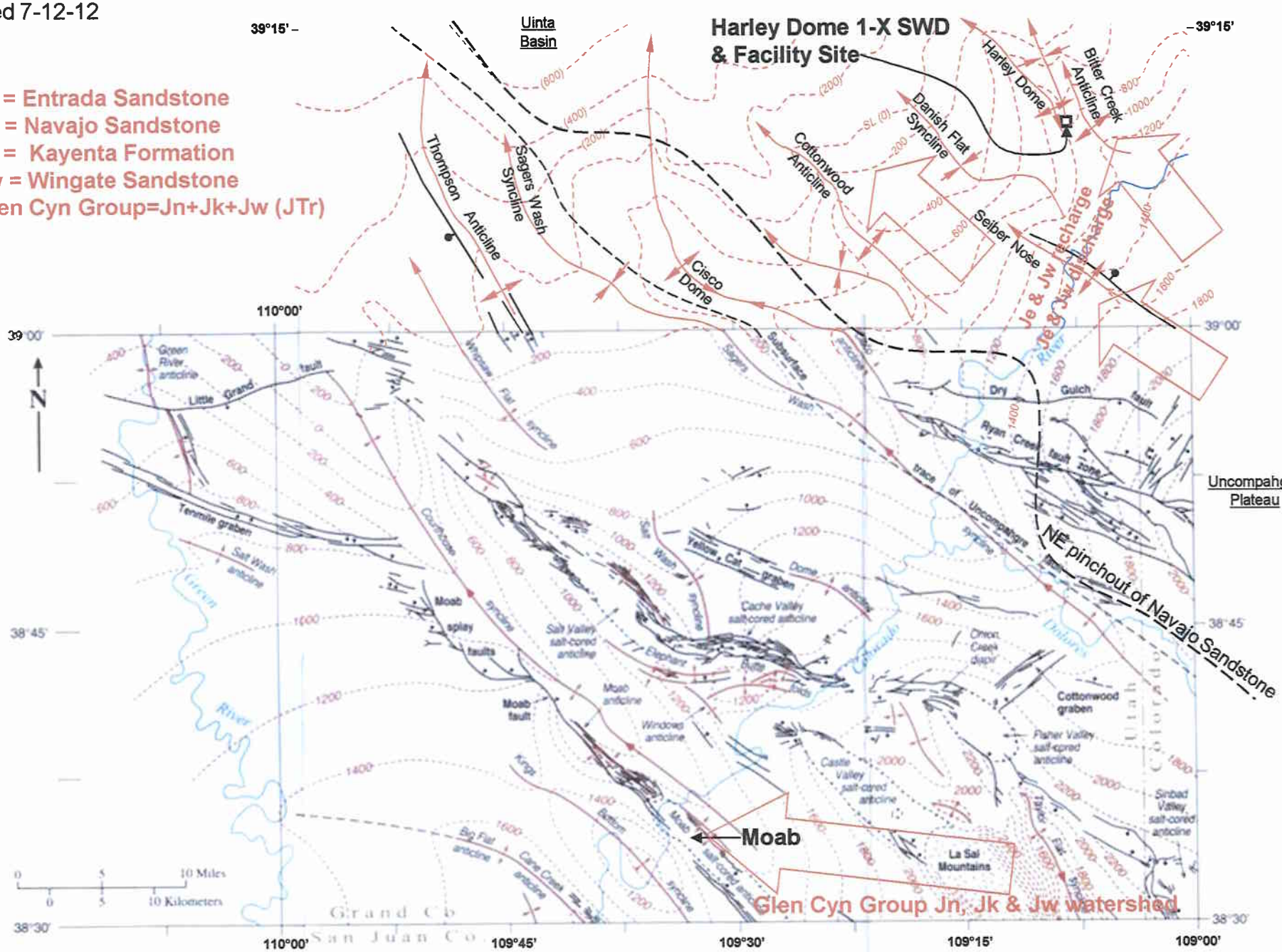
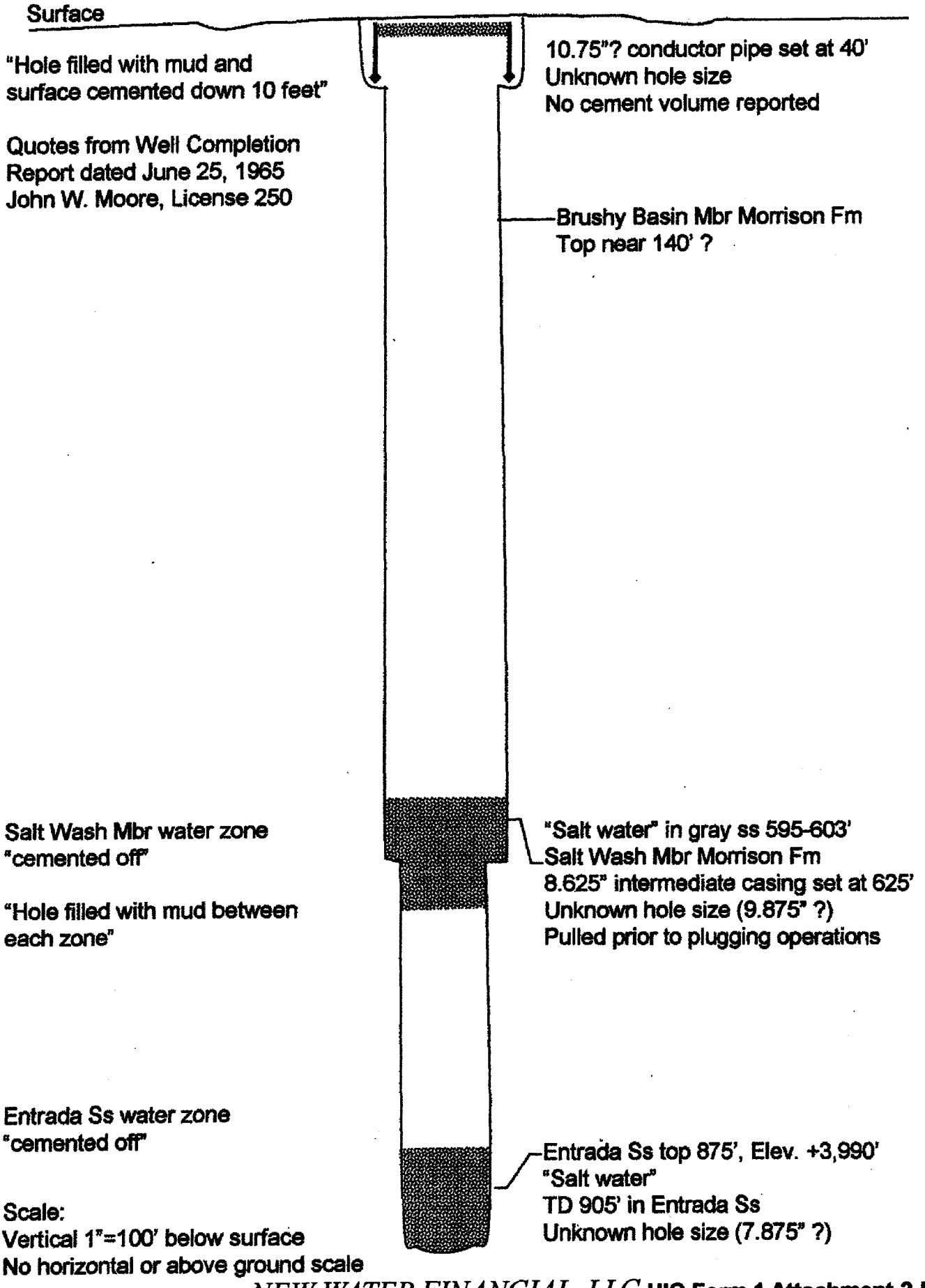


FIGURE 1. Principal structural features of the map area. Form contours (dashed) have a 200-meter interval. Datum is top of Chinle Formation.
Excerpt from Utah Geologic Survey Geologic Map 180 (2001) Geologic map of the Moab and eastern part of the San Rafael Desert 30' x 60' quadrangles

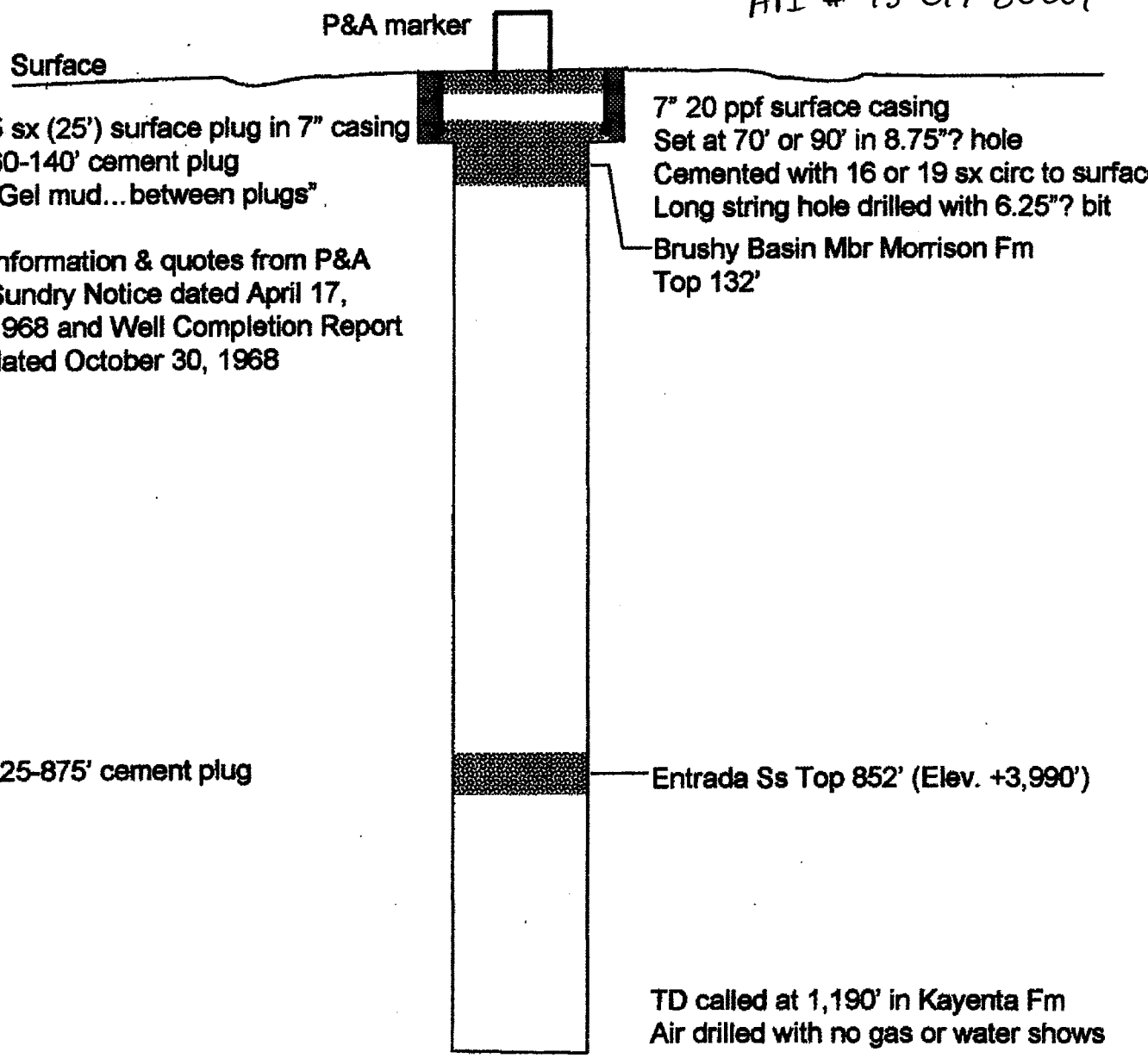
UIC Form 1 Attachment 2-D

UIC Form 1 Attachment 2-E-1: Schematic Diagram of Elizondo Water Well, P&A 6-25-65
NWNE (60' FNL & 2,180' FEL) Section 10, T19S, R25E, SLM
Harley Dome, Greater Cisco Field, Grand County, Utah



UIC Form 1 Attachment 2-E-2: Schematic Diagram of Lansdale Government 5, P&A 3-68
NENW (330' FNL & 1,650' FWL) Section 10, T19S, R25E, SLM
Harley Dome, Greater Cisco Field, Grand County, Utah

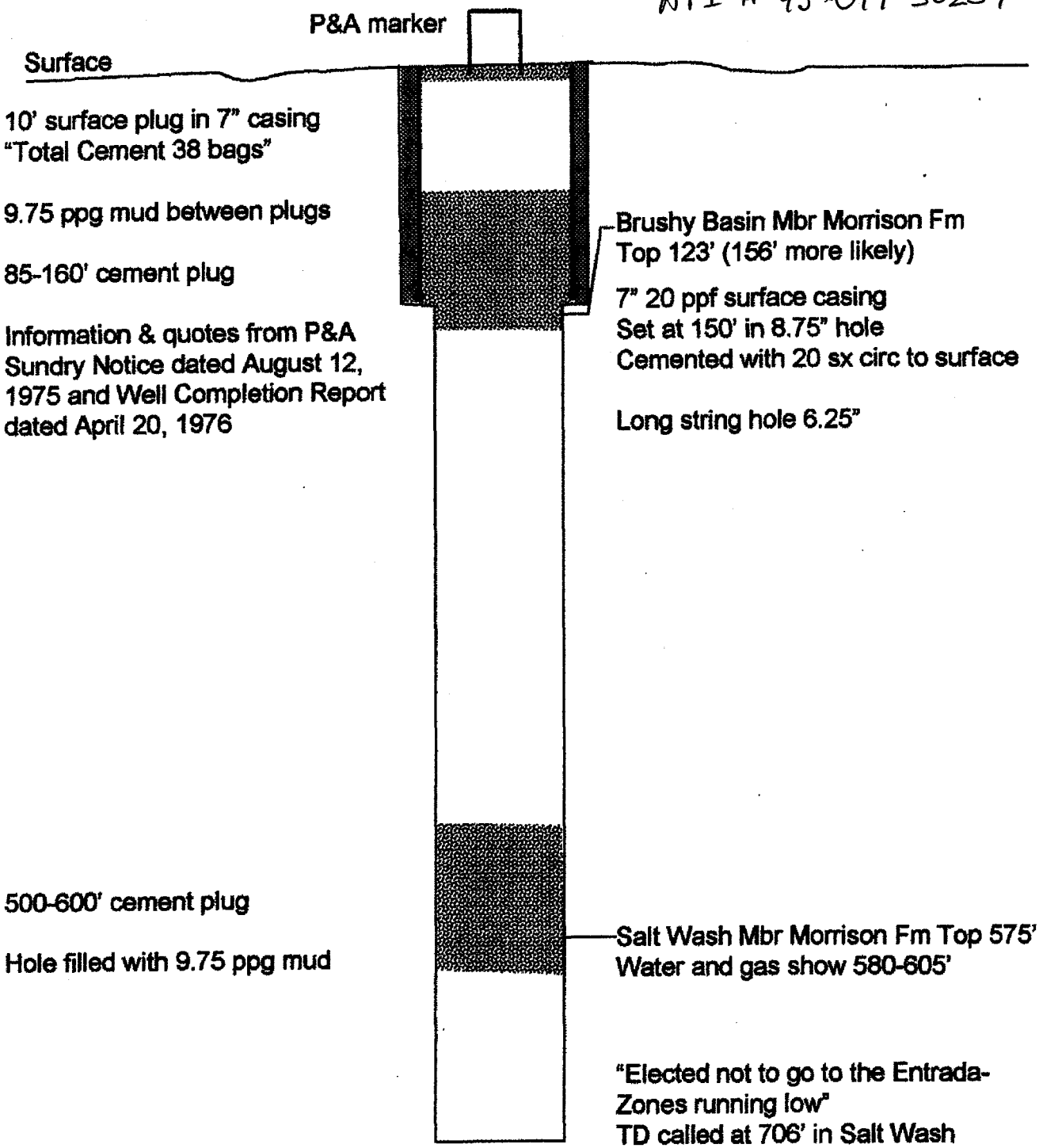
API # 43-019-30004



Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

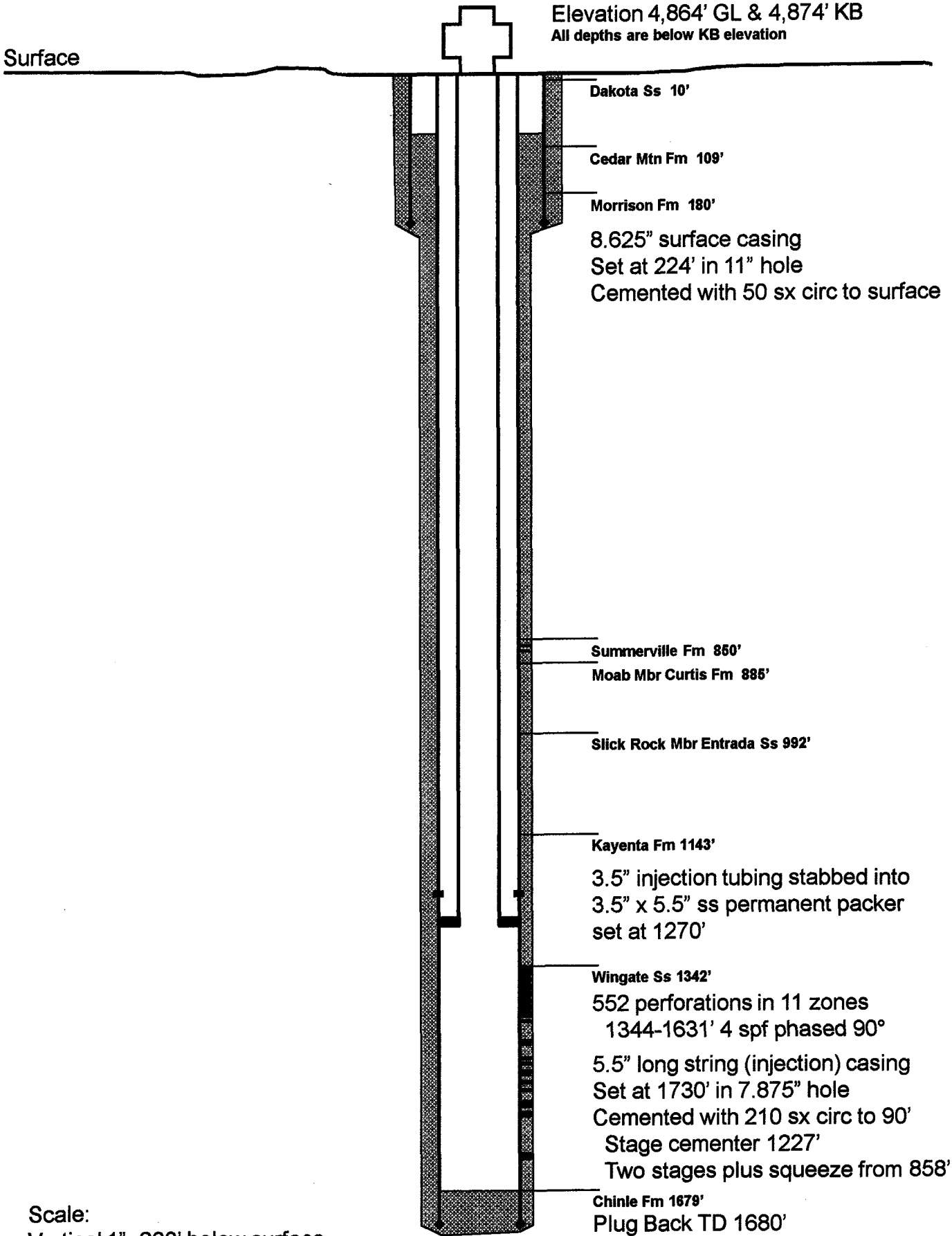
UIC Form 1 Attachment 2-E-3: Schematic Diagram of Lansdale Government 10-31-A, P&A 8-75
NESW (2,140' FSL & 1,980' FWL) Section 10, T19S, R25E, SLM
Harley Dome, Greater Cisco Field, Grand County, Utah

API # 43-019-30254



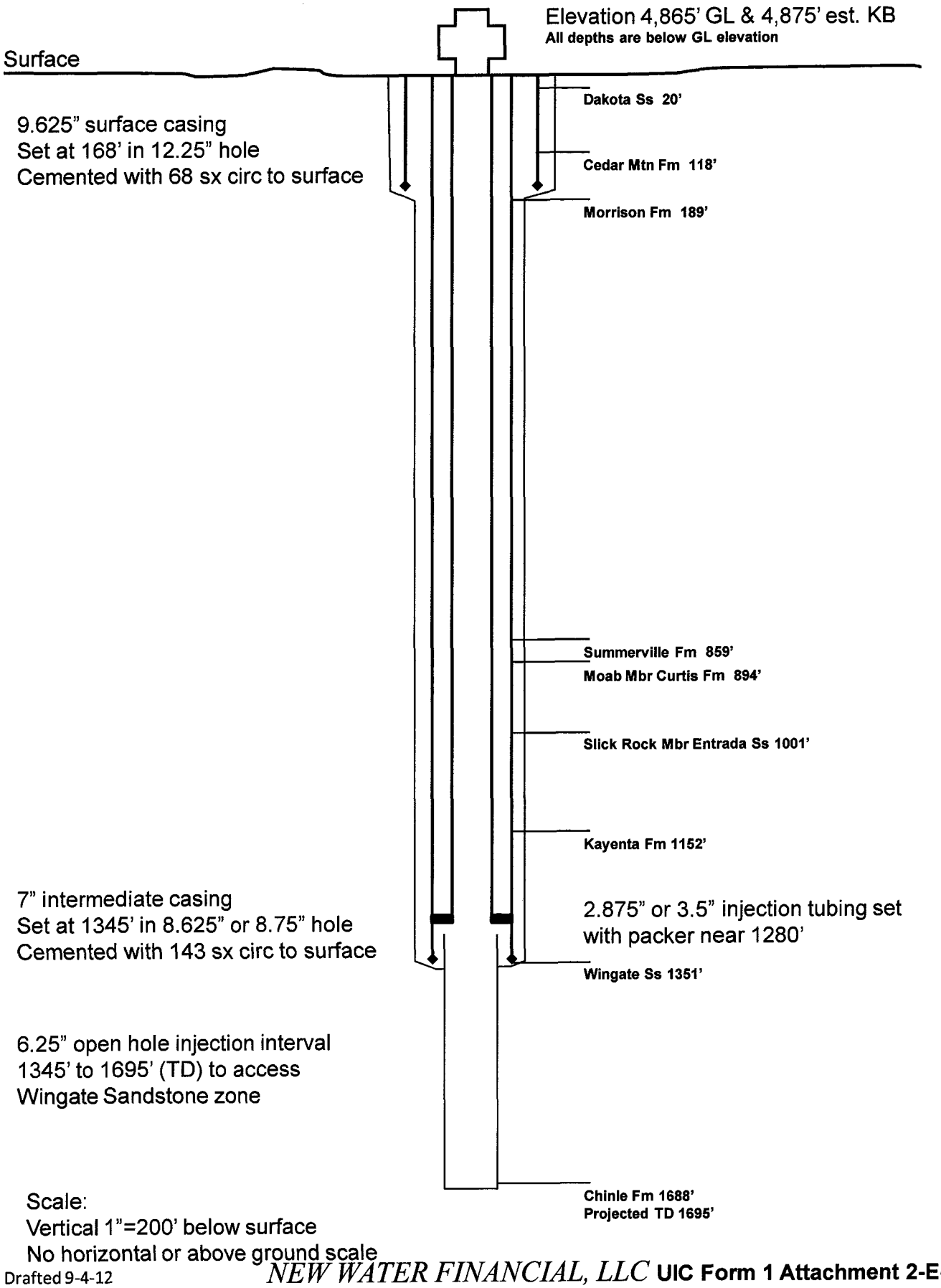
Scale:
Vertical 1"=100' below surface
No horizontal or above ground scale

UIC Form 1 Attachment 2-E-4: Schematic Diagram of Harley Dome 1, Completed 7-13-10
NWNE (600.5' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-31622)
Harley Dome, Greater Cisco Field, Grand County, Utah



Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

UIC Form 1 Attachment 2-E-5: Schematic Diagram of Proposed Harley Dome 1-X SWD
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-50023)
Harley Dome, Greater Cisco Field, Grand County, Utah



UIC Form 1 Attachment 3: Rule R649-5 Compliance Narrative & Checklist
Application for Conversion of a New Well for Class II Injection:
Harley Dome 1-X SWD (API No. 43-019-50023)
NWNE (501' FNL and 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah
Replacement Well at Location 100' due North for Harley Dome 1 (API No. 43-019-31622)
Compiled and Submitted by David L. Allin for New Water Financial, LLC
July 24, 2012

R649-5-1 This application is for a Class II injection well and is not subject to R649-5-1 Requirements for Injection of Fluids into Reservoirs.

☼ ☼ ☼

R649-5-2 Submissions to satisfy requirements for Class II injection wells:

R649-5-2.1 New Water Financial, LLC ("Applicant" or "NWF") shall complete, equip, operate and maintain the Class II produced water disposal injection well proposed herein in a manner that will prevent pollution and damage to any USDW, or other resources and will confine injected fluids to the interval approved.

R649-5-2.2 This application for the Harley Dome 1-X SWD ("HD 1-X SWD" or "proposed well") includes a properly completed UIC Form 1 and Attachments 1 through 5 including this compliance narrative for Rule R649-5 identified as UIC Form 1 Attachment 3. The HD 1-X SWD is intended to be a replacement well of improved completion design for the Harley Dome 1 ("HD 1") which was approved for Class II injection by issuance of Underground Injection Control ("UIC") Permit Cause No. UIC-358.1 on January 20, 2011.

R649-5-2.2.1 UIC Form 1 Attachment 1 is a plat showing the location of HD 1-X SWD, HD 1, all abandoned wells within a one-half mile radius of the proposed well and the surface owner and the operator of any lands or producing leases, respectively, within a one-half mile radius of the proposed well.

R649-5-2.2.2 UIC Form 1 Attachment 2-A (2-A-1 through 2-A-4) is composed of segments of the open-hole logs recorded in the HD 1 which is the nearest well that was drilled and logged through the proposed injection zone and confining layers. The proposed well will intersect the same geologic formations with nearly identical thicknesses as the HD 1 or "twin well." The Applicant will provide the Utah Division of Oil, Gas and Mining ("DOGM") with copies of mechanical logs including cement bond, natural gamma ray and casing collar locator data planned to be acquired in the proposed well after reaching the projected TD of the final open-hole segment of the well. UIC Form 1 Attachment 2-B is a presentation of the relationship of the proposed injection formation, Wingate Sandstone, and the enclosing confining formations, Kayenta Formation above and Chinle Formation below and all of the younger formations beneath the surface of the Harley Dome site and a wider area of Grand County including the populated areas near the community of Moab. UIC Form 1 Attachment 2-B further identifies the Navajo Sandstone, Kayenta Formation and Wingate Sandstone aka Glen Canyon Group as the approved injection interval currently in use in the Drunkards Wash Unit ("D W Unit") near the communities of Price and Wellington in Carbon County.

R649-5-2.2.3 Applicant will provide the DOGM with a copy of the cement bond log planned to be acquired in the proposed well after the intermediate casing string is set and cemented and the proposed injection zone interval has been drilled to the proposed TD.

R649-5-2.2.4 It is noted that a copy of the logs acquired in the twin well are on file with the DOGM, but that copy is not annotated with all of the water quality and well completion information presented by UIC Form 1 Attachment 2-A. A copy of the logs planned to be acquired in the HD 1-X SWD will be provided to DOGM when they become available as stated above.

R649-5-2.2.5 Two strings of casing are planned to be run to complete the construction of the HD 1-X SWD and will differ substantially from the construction design of the HD 1 to enhance leakoff performance and overall injectivity. Surface casing consisting of 168' of 9.625", 32.30 ppf, H-40 grade, 8 rd ST&C casing will be set in 12.25" diameter hole with a cement float shoe on bottom. The surface casing string will be cemented by pump and plug from the float shoe to the surface with 68 sacks (including 50% excess) of Class A cement mixed to yield 1.18 cubic ft/sack with 15.6 lbs/gallon slurry weight and total of 14.3 barrels of slurry. Intermediate casing consisting of 1,345' of 7.0", 20.00 ppf, J-55 grade, 8 rd ST&C casing will be set in 8.75" (or possibly 8.625") diameter hole (previously prepared by circulation with gel-polymer mud) with a cement float shoe on bottom. The intermediate casing string will be cemented by pump and plug from the float shoe to the surface with 143 sacks (including 10% excess) of Class G cement mixed with 4% bentonite, 2.8 lbs/sack gilsonite and 0.25 lbs/sack cellophane flakes to yield 1.56 cubic ft/sack with 14.6 lbs/gallon slurry weight and total of 39.6 barrels of slurry.

The 9.625" surface casing will be filled with water and pressure tested to 200 psi with no more than 5% pressure loss over 15 minutes prior to drilling through the casing shoe. The 7.0" intermediate casing will be filled with water or gel mud and pressure tested to 300 psi with no more than 5% pressure loss over 15 minutes. Following the final casing pressure test, the well will be continued through the 7.0" intermediate casing shoe with a 6.25" bit to intersect the entire proposed Wingate Sandstone injection interval and a few feet into the subjacent Chinle Formation (to establish its top) near a projected TD of 1695'.

R649-5-2.2.6 The fluid to be used for injection will be RCRA-exempt produced water from oil and gas wells with densities typically ranging from 1.005 to 1.020 but possibly as high as 1.230. Water for injection will continue to be solicited for disposal by injection at the Harley Dome facility from oil and gas fields in the Uinta Basin, Paradox Basin, San Rafael Swell and Book Cliffs including the local Greater Cisco Field in Utah and fields in the Piceance Basin in western Colorado. It is expected that more produced water will be available for injection than the injection well will be capable of accepting within approved operating limits. Depending upon the determination of maximum allowable injection pressure ("MAIP") by a step-rate injection ("SRI") test, it is estimated that the fluid injection rate could reach 10,000 barrels per day.

R649-5-2.2.7 The Applicant submits UIC Form 1 Attachment 4 in subparts to satisfy the requirements for laboratory analyses of:

R649-5-2.2.7.1 *The fluid proposed to be injected.* A selection of analyses of produced water from wells in a variety of fields and pools in the San Rafael Swell, Uinta, Paradox and Piceance basins known to require disposal services at the time of preparation of this application appear in UIC Form 1 Attachment 4-A (4-A-1 through 4-A-15).

R649-5-2.2.7.2 *The fluid in the Wingate Sandstone into which fluid is proposed to be injected.* A representative sample of Wingate Sandstone formation water was collected at 15:25 May 21, 2010 while drilling the HD 1 circulating with air/foam from 1705-15' in the uppermost Chinle Formation. At that point the entire Wingate interval was contributing water to the circulated returns at rates of up to 60 barrels per hour. The report from the laboratory analysis of the Wingate Sandstone water sample from the HD 1 is presented in UIC Form 1 Attachment 4-B.

R649-5-2.2.7.3 *The compatibility of the fluids.* Stewart Environmental Consultants, Inc. produced a report for the DOGM dated December 6, 2010 on the results of mixing typically available commingled injectate with two samples of Wingate Sandstone water from the HD 1. One sample was collected during drilling operations on May 21, 2010 as described above and the other from post-completion air-lift production testing on June 10, 2010. Operational management to minimize possible formation of precipitates and clay mineral hydration and migration will be necessarily proactive. The water compatibility testing report is appended to this narrative in its entirety as UIC Form 1 Attachment 4-C (4-C-1 through 4-C-14).

R649-5-2.2.8 The proposed average injection pressure is expected to be 350 psi and the MAIP should be near 360 psi as determined for the HD 1 by SRI testing on July 13, 2010. The final MAIP will be a condition of the proposed permit based upon SRI testing of the HD 1-X SWD after completion for injection with tubing and packer in place.

R649-5-2.2.9 Evidence and data to support a finding that the proposed injection well will not initiate fractures through the overlying strata or a confining interval that could enable the injected fluid or formation fluid to enter any fresh water strata are presented below. The July 13, 2010 SRI test established that the frac gradient for the Wingate Ss as completed with 552 perforations through casing was 0.73 psi/ft from the 400 psi breakdown pressure measured at the surface. There is no known data for fracture initiation and extension pressure derived exclusively from the Kayenta Formation upper confining zone, however, its frac gradient is judged to be substantially higher than that of the Wingate Sandstone.

Outcrop examination reveals that the Kayenta Formation is well cemented with silica cement versus a greater component of calcite cement present in the Wingate Sandstone. Despite the presence of very similar framework grains, the matrix of the Kayenta Formation contains more clay minerals overall plus actual shale layers in comparison with the Wingate Sandstone. These attributes were measured by the open-hole logs recorded in the HD 1. Refer to UIC Form 1 Attachment 2-A-2 to verify the presence of layers with relatively high gamma radiation levels and corresponding separation of the neutron porosity and density porosity curves that identify shale layers and the generally low density porosity and high resistivity values throughout the Kayenta intersection (1143-1342') which are indicative of high impedance and tensile strength. The drilling, completion and operation of the HD 1-X SWD will not initiate fractures that will breach the Kayenta Formation.

No formations qualify for designation as an Underground Source of Drinking Water ("USDW") in the subsurface of the Harley Dome site within the area of influence of the proposed well. The Dakota Sandstone has not yielded water to wells drilled at Harley Dome but is known to contain oil, gas and brine water in downdip wells in the Greater Cisco Field. Commingled water from Morrison Formation members and the Summerville Formation collected from the HD 1 after overnight seepage at 09:15 on May 20, 2010 when the contemporary TD was 890' contained 30,740 ppm total dissolved solids ("TDS"). See UIC Form 1 Attachment 4-D-1. A water sample representative of the commingled contents of the Slick Rock Member of Entrada Sandstone and overlying Moab Member of Curtis Formation ("Entrada aquifer") collected at 12:40 on May 20, 2010 while the HD 1 was being drilled at 1140' contained 26,060 ppm TDS. See UIC Form 1 Attachment 4-D-2. Another sample collected at 11:22 on May 20, 2010 while the HD 1 was being drilled at 1000' in the upper part of the Entrada aquifer that could be more representative of the contents of the Moab Member of Curtis Formation contained 36,136 ppm TDS. No attachment was made of the laboratory report from this sample because the water flow rate was relatively low at a few barrels per hour and included seepage from porous zones in the overlying Morrison Formation.

The contents of the Pre-Cambrian granite is unknown, but is not considered an aquifer in the subsurface of Grand County. The proposed well will be isolated from that rock by the Chinle Formation which is the subjacent confining zone for the Wingate Sandstone proposed injection layer. The operation of the HD 1-X SWD will not pose a threat to any strata that contain fresh water.

R649-5-2.2.10, 10.1, 10.2 and 10.3 The appropriate geological data on the injection interval with the confining beds clearly labeled appears on UIC Form 1 Attachment 2-B. Additional rock properties within those intervals can be inferred from the HD 1 open-hole log responses recorded on UIC Form 1 Attachment 2-A. That information is supplemented below with a discussion of the nearby USDW's including their geologic formation names, lithologic descriptions, thicknesses, depths, water quality and lateral extent and an examination of information relative to geologic structure and its effect on the conveyance and storage of injected fluids.

This discussion of the geology, hydrology and exploration history of the proposed injection site relied upon several references published by the Utah Geological Survey ("UGS") and the United States Geological Survey ("USGS"). Specifically, the most important were the Geologic Map of the Harley Dome Quadrangle by Grant C. Willis, UGS Map 157 (1994), Petroleum Geology of the Harley Dome Field by Roger L. Bon, UGS Oil and Gas Field Study 21 (1999), Geologic Map of the Agate Quadrangle by Grant C. Willis, Hellmut H. Doelling and Michael L. Ross, UGS Map 168 (1996), Geologic Map of the Westwater 30' x 60' Quadrangle by J. L. Gualtieri, USGS Map I-1765 (1988), Geologic Map of the Moab and Eastern Part of the San Rafael Desert 30' x 60' Quadrangles by Hellmut H. Doelling, UGS Map 180 (2001) and A summary of the Ground-Water Resources and Geohydrology of Grand

County, Utah by Chris Eisinger and Mike Lowe, UGS Circular 99 (May 1999). Table 1 in the latter publication is a particularly good hydrology reference for Grand County, Utah including the Harley Dome locality. In addition, the internet-hosted records of the United States Bureau of Land Management ("BLM"), the DOGM and Utah School and Institutional Trust lands Administration ("SITLA") and Utah Division of Water Rights ("DWR") provided information about mineral ownership and wells.

The proposed well will intersect formations from the Cretaceous and Jurassic geologic age periods and is planned to reach TD in the uppermost part of the Chinle Formation of Triassic age. Refer to UIC Form 1 Attachment 2-B for a depiction of the stratigraphic column (rock layers) beneath Harley dome and their lateral equivalents to the southwest in the Moab, Utah area. The proposed well site is referred to herein as "Harley Dome" although it is actually situated on the axis of the Bryson Wash Syncline which separates the southern plunge of the Harley Dome Anticline to the west and the Axis of the Bitter Creek Anticline to the east. Although not presented as an attachment to this UIC application, UGS map 157 and Oil and Gas Field Study 21 cited above present a detailed picture of the local structural geology and stratigraphy. The host syncline, two adjacent anticlines and HD 1-X SWD site within the existing Harley Dome produced water disposal facility site are labeled on UIC Form 1 Attachment 2-D. This attachment depicts the local and regional structural setting in the form of a structural contour map drawn on the top of the Chinle Formation which is the base of the proposed injection zone (formation) and top of the lower confining zone. Red, wire frame block arrows in the upper right on UIC Form 1 Attachment 2-D depict the movement of ground-water in the proposed injection formation (Wingate Sandstone) and the superjacent Entrada aquifer (combined Moab Member of Curtis Formation and Slick Rock Member of Entrada Sandstone) down dip generally to the northwest in the plunge of the Uncompahgre Uplift into the Uinta Basin and away from the recharge areas on the upland parts of the Uncompahgre Plateau. The fluid movement within the area of review in the proposed injection formation will be radial from the proposed well bore with a glacially slow northward shift of the injectate down the axis of the Bryson Wash Syncline.

The Wingate Sandstone, Kayenta Formation, Entrada aquifer and porous sandstone layers within the members of the Morrison Formation are known to be saturated with brine water or "wet" under the Applicant's property at Harley Dome and the area of review from wells drilled on and adjacent to the tracts in question. The most complete information available about the subsurface of the property was derived from the drilling, completion and testing of the HD 1 which was constructed during 2010 at a location 100' to the south of the proposed well. The geological, geophysical and water quality data from the HD 1 appears on most of the attachments to this application. The HD 1 well encountered no shows of inert gas or hydrocarbons and proved that no USDW's are present in the subsurface of the Applicant's property at Harley Dome.

The other wells drilled previously within the area of review did not produce any information that conflicted with the conclusions derived from the HD 1. Refer to UIC Form 1 Attachment 1 for a map perspective of the well locations. A well was drilled for water on the Applicant's property during 1965 which was plugged and abandoned at 905' after finding water too salty to be useful in the Morrison Formation members and the Entrada aquifer. The top of the Entrada aquifer (herein and elsewhere in this narrative including the Moab Member of Curtis Formation) was intersected at 875' and elevation +3,990'. A well drilled for oil and gas during March of 1968 just west of the Applicant's property in NENW Section 10, T19S, R25E reached TD of 1190' presumably in the Kayenta formation without finding any traces of oil or gas although it was drilled with air. The top of the Entrada aquifer was intersected at 852' or elevation of +3,990' in this well known as the Lansdale Government 5 ("L G 5") and although no influx of water was reported upon drilling the well with air, it is assumed the primary constituent of the pore space was brine water. The L G 5 well was plugged and abandoned as a dry hole immediately after drilling was completed.

A fourth well situated at the southern margin of the area of review was one of two wells drilled by Arlyne Lansdale during the summer of 1975 which was the last deep drilling activity in the vicinity until the construction of the HD 1. The well was designated the Lansdale Government 10-31-A ("L G 10-31-A") and was located in NESW Section 10, T19S, R25E offsetting the southwest corner of the Applicant's property at a distance of slightly more than one-half mile from the HD 1-X SWD site proposal. A show of flammable gas was reported from a layer in the Morrison Formation from the interval 580' to 605'. TD was called at 706' without drilling out of the Morrison

Formation because the Entrada aquifer at that location would have been intersected at an elevation below the known non-flammable gas/water contact in the Harley Dome Anticline. The geological consultant working on the well for Ms. Lansdale had originally concluded that her well had reached the Summerville Formation at 625', but it must have become apparent that the Summerville Formation was not going to be reached until at least 837' putting he Entrada aquifer near 872' (+3,957') and beyond the southern plunge of the Harley Dome Anticline. The L G 10-31-A was not logged and was plugged and abandoned immediately following cessation of the drilling operation. If reached, the elevation of the top of the Entrada aquifer in the L G 10-31-A would have been at least 38' and possibly up to 53' below the non-flammable gas/water contact present in the crest of the anticline to the north.

There was a gas cap in the Entrada aquifer composed of 84% to 86% nitrogen, 7% to 8% methane and 6% to 7% helium in the "attic" of the Harley Dome Anticline that was discovered originally in 1925 under SENE Section 4, T19S, R25E by a well named the Federal 1 ("F 1"). The original shut-in pressure of this non-flammable gas reservoir was reported to be 155 psi. Due to concerns for the conservation of the strategic gas, helium, the F 1 and a confirmation well known as the Federal 2 were plugged and abandoned during 1944 presumably to insure that the helium would not leak off. Harley Dome was designated Helium Reserve No. 2. The most recent pressure measurement of this non-flammable gas reservoir in the Entrada aquifer was reported in 1993 from another well drilled during the late 1960's by Ms. Lansdale. The current height of the non-flammable gas cap is unknown, but there is ample data to estimate its original height and areal extent. The crest area of the anticline also forms a topographic hill of similar dimensions on a dip slope surface in the upper part of the Dakota Sandstone recognizable in UIC Form 1 Attachment 1 on which the probable footprint of the non-flammable gas reservoir is plotted and labeled. This reservoir is centered 1.2 miles northwest of the proposed site of the HD 1-X SWD. A significant review of information not normally required to be submitted with a UIC permit application was included with the HD 1 UIC permit application to address possible concerns from the oil, gas and helium owner (BLM), its oil and gas lessees and its possible future helium lessees in the crest of the Harley Dome Anticline. The Applicant's property is situated in its entirety within the water leg of the Entrada aquifer non-flammable gas reservoir as proven by the intervening wells.

Some notes on the area of influence and capacity of the proposed HD 1-X SWD are important to consider here. The proposed well will interfere with the HD 1 due to its proximity (100'), so it is proposed that the HD 1 be used as a monitor well to quantify the interference. If the HD 1 and HD 1-X SWD are alternately used as injectors and monitor wells it will be possible to establish the extent of reversal of flow due to the influence of injection within the Wingate Sandstone aquifer and extrapolate that data to predict the boundaries of the injection pressure influence and the injectate plume itself. In the mean time, the capacity of the Wingate Sandstone injection zone in a circular 40 acre tract beneath the HD 1 or the proposed well can be estimated from summing the net volume of porosity measured by the HD 1 open-hole logs. The minimum inventory of reservoir quality rock in the 337' gross interval of the Wingate Sandstone in the HD 1 can be estimated in simple form as 43' of at least 20% density porosity rock, 48' of at least 16% density porosity rock and 130' of at least 10% density porosity rock for a total of 221' of net reservoir quality rock. The capacity of these porosity categories in 40 acres is at least 9,086, 170 barrels. The 40 acres under consideration is about 8% of the 502 acres encompassed by the one-half mile radius area of review. If the capacity of 20% of the area of review or about 100 acres is considered, the Wingate Sandstone will have a minimum capacity of 22,715,425 barrels. If the proposed well is operated at an average injection rate of 5,000 barrels per day, day in and day out, it would take over 12 years to displace the resident formation brine.

The USGS published hydraulic conductivity measurements derived from drill-stem tests performed in wells throughout the region of the upper Colorado River basin in Water-Resources Investigation Report 86-4170. The nearest Wingate Sandstone data point in that compilation to Harley Dome is 0.0003 feet per day from a well in Section 12, T21S, R18E, 42 miles west-southwest of the HD 1-X SWD site. The natural recharge of the Wingate Ss from limited areas where it is submerged in the Colorado River or its alluvial gravel in combination with recharge from upland areas of the Uncompahgre Plateau where the intervening Wingate Sandstone is not breached by the river gorge make for a spotty potentiometric surface that involves values consistently less than a normal hydrostatic pressure gradient. Ground-water is moving through the Wingate Sandstone aquifer under natural

conditions at a very slow rate that is governed by the minimal head or pressure differences from point to point, the massive cross-sectional area of the formation that is many miles in width and a gross height of 337' locally and a hydraulic conductivity value that may be only slightly more robust than the downdip value reported by the USGS. The brine now present in the Wingate Sandstone aquifer and any injectate added to that fluid will move about 2' over the 12 year period estimated in the previous paragraph that will elapse while the fluid in 100 acres is displaced. This means that the injectate will stay in place beneath the Applicant's property with a slight shift predicted to the north down the axis of the Bryson Wash Syncline.

The HD 1-X SWD will be spudded at the surface in the lower few feet of the Tununk Member of Mancos Shale of upper Cretaceous age. Most of the Tununk Member and the rest of the Mancos Shale section have been removed from the vicinity of Harley Dome and all of the terrain to the east due to the presence of the Uncompahgre Uplift and erosion effects of the Colorado River and its tributaries largely during Quaternary time, the most recent 1.6 million years. The Tununk Member is composed of medium-gray to dark-gray, brownish-gray, or black mudstone, siltstone and shale with 0.5" to 2" thick layers of white to light-gray bentonite. The Tununk Member was deposited in a muddy, shallow marine environment that was periodically showered with unusually high volumes of volcanic ash that formed the discrete bentonite beds. The resulting rock is saline, self-sealing and virtually impermeable, and although it can store water, it will not yield water to wells unless it contains open fractures in communication between the bentonite layers. The Tununk Member and the rest of the Mancos Shale are considered a regional confining unit of vast areal extent and a lean but proven petroleum source rock. The Tununk Member is not an USDW due to the relict salinity of the ancient sea water which is well above the 10,000 ppm TDS arbitrary limit defining USDW's and the upper limit of "moderately saline water."

At about 20' depth, the next formation that will be encountered in the proposed well will be the upper Cretaceous Dakota Sandstone. The Dakota Sandstone is composed of three units that are collectively expected to be about 98' in thickness. The upper layer is composed of pale-yellowish-orange to yellowish-gray, fine-grained to medium-grained sandstone that can contain quartzite cobbles. The middle unit contains medium-gray to dark-gray carbonaceous shale and mudstone with inter-layered lenses of black coal and fine-grained to medium-grained, thin-bedded to thick-bedded, cross-bedded, channel sandstone deposits. The lower layer is composed of sandstone similar to the upper unit. The Dakota Sandstone was deposited on a coastal plain near an ancient, marine shoreline by rivers flowing through brackish swamps. In some places the uppermost sandstone in the upper unit was a marine beach deposit, near-shore barrier island or sand shoal. While the Dakota Sandstone is present throughout the region where not eroded, its porous sandstone layers are lenticular and do not form a blanket-type hydraulic unit.

The Dakota Sandstone is unconfined at Harley Dome and has been drained of its connate (original) marine brine and coastal plain brackish water due to erosion down in the upper member over most of the immediate section (10) excepting the N2NE and through all three members within one mile of the proposed injection site in a lengthy, northerly trending outcrop band related to the adjacent Bitter Creek Anticline. The sandstone layers within the Dakota Sandstone can contain water at and near Harley Dome, but there is insufficient water recharge net of evapotranspiration and recharge area due to the proximity of the outcrop band to make it an effective or exploitable aquifer. Where the Dakota Sandstone is buried to depths where it is confined a few hundred feet from the surface within three to four miles to the west and north of Harley Dome it contains natural gas, oil and brine water. The resistivity of the water ("Rw") in the Dakota Sandstone where it is confined in the Greater Cisco Field, is typically about 0.25 Ω-m (at 75° F) with salinity of approximately 25,000 ppm. The Dakota Sandstone is not utilized as an aquifer in Grand County and does not qualify as an USDW except in limited areas near its outcrop band where its water production capacity is insufficient to be used reliably as a year-round source of water.

The HD 1-X SWD will intersect the Early Cretaceous Cedar Mountain Formation below 118' and traverse about 71' of the formation. The Cedar Mountain Formation contains pale-green mudstone and pale-greenish-gray, thin-bedded to medium-bedded sandstone with local channel deposits of medium-grained to coarse-grained sandstone more common in the lower part. The formation is continental or non-marine in origin with a significant fraction of volcanic ash that is the source of potentially problematic, fresh-water sensitive clay minerals. The HD 1-X SWD well construction plan calls for setting the surface casing string through the upper part of the Cedar

Mountain Formation to avoid wellbore stability problems. The channel sandstone deposits are lenticular, compartmentalized and poorly connected from a hydraulic standpoint which renders the formation more of a confining layer than an aquifer except in limited localities where it contains unusually thick beds of sandstone. The Cedar Mountain Formation and its equivalent south of the Colorado River known as the Burro Canyon Formation are present throughout the region except where eroded locally on structural uplifts such as the Uncompahgre Plateau. Similar to the overlying Dakota Sandstone, the porous parts of the Cedar Mountain contain natural gas, oil and brackish water. The resistivity of Cedar Mountain Formation water encountered in oil and gas wells in the Greater Cisco Field at depths greater than a few hundred feet is usually slightly more resistive than Dakota Formation water: 0.30 Ω-m (at 75° F) with salinity up to 20,000 ppm. The Cedar Mountain Formation is not utilized as an aquifer in Grand County, and like the Dakota Sandstone will yield fresh water only in areas near its outcrop band from discontinuous sandstone deposits making it a limited USDW.

The Brushy Basin Member of Morrison formation is the youngest Jurassic rock layer, and will be encountered below 189'. It is composed of variegated, red, maroon, light-green, gray and white shale and mudstone interbedded with varying amounts of argillaceous (clay-rich) gray sandstone, conglomeratic grit, thin lenses of limestone and nodular limestone (paleosol layers). The formation is 371' in thickness in the HD 1, present throughout a multi-state area and continental in origin. It is rich in volcanic ash which is the source of the clay minerals throughout the member. The mudstone layers are less sensitive to fresh water than those in the overlying Cedar Mountain Formation but have similar self-sealing, plastic properties that limit the vertical extent and propagation of open fractures. The sandstone layers present in the Brushy Basin Member are lenticular, poorly connected and in the Greater Cisco Field can contain natural gas, oil and brackish water. Porous sandstone pods within the Brushy Basin Member within the field contain water with Rw of about 0.35 Ω-m (at 75° F) or salinity level around 17,000 ppm. As a whole, the Brushy Basin Member is an effective regional confining unit and does not qualify as a USDW.

The Salt Wash Member of Morrison Formation will be intersected below 560' in the HD 1-X SWD. The member will be 275' thick and is composed of continental, interbedded sandstone and mudstone with lesser volcanic ash in comparison with the overlying Brushy Basin Member. Like the Brushy Basin Member, the Salt Wash Member is present throughout a multi-state area. The sandstone is light to yellow gray, medium-grained to coarse-grained, cross bedded in lenticular beds as much as 20' thick. The mudstone is generally red with less common green horizons. The sandstone layers in the Salt Wash Member contain brackish water throughout and natural gas in axial structural positions in the Greater Cisco Field similar to Harley Dome. Natural gas was reported from one of the fourteen oil and gas test wells and the deep water test well that were drilled within two miles of the proposed injection well site. The Rw typical of the Salt Wash Member in the Greater Cisco Field is near 0.40 Ω-m (at 75° F) indicating a salinity concentration of around 15,000 ppm. The Salt Wash Member is not utilized as an aquifer in Grand County and does not qualify as an USDW.

The lowermost member of the Morrison formation is the Tidwell. It will be reached in the HD 1-X SWD near 835'. The Tidwell Member is composed of lavender and brown continental mudstone containing nodular, gray, hard limestone horizons and local large concretions of white chalcedony and quartz and in total will be 24' in thickness. The Tidwell Member is moderately permeable and yields water to springs in places in its outcrop belt but is not currently used as an aquifer in Grand County. Oil and gas well logs recorded in the Greater Cisco Field do not indicate that the Rw in the Tidwell is significantly different from that in the Salt Wash Member but the member contains no sandstone layers that are thick enough to provide reliable log analysis points. At any distance greater than a mile from its outcrop or deeper than a few hundred feet, the water quality is not likely to qualify the member as an USDW. The mudrock layers of the three members of the Morrison Formation are confining layers and act as a backup to a secondary confining layer in the proposed well which is the Summerville Formation.

Beneath a regional unconformity known as the J-5, the HD 1-X SWD will intersect the Summerville Formation near 859'. The formation will be 35' in thickness. It was deposited on a large, marine tidal flat and is composed of gray, tan and brown sandstone, mostly fine grained, thin bedded with increasing claystone in the lower part. The formation is present through much of eastern Utah and as a whole has very low permeability. It is a regional confining unit, and since it is not known to yield water, the quality of the fluid in the formation is

unknown. The Summerville Formation is the caprock for the non-flammable gas reservoir in the attic of Harley Dome and a secondary confining unit for the proposed injection zone in the HD 1-X SWD. The formation does not qualify as an USDW.

The water sample collected from the HD 1 well at 09:15 May 20, 2010 was composed of overnight fill from all porous zones open below the surface casing at 224' in the upper part of the Brushy Basin Member of Morrison Formation through 890' near the base of the Summerville Formation. The analysis of that water sample indicated 30,740 ppm TDS. A copy of that analysis is attached to this narrative as UIC Form 1 Attachment 4-D-1.

The HD 1-X SWD will intersect the top of the Moab Member of Curtis Formation or the upper part of the Entrada aquifer near 894'. In combination with the subjacent Slick Rock Member of Entrada Sandstone which should be intersected near 1152', the Entrada aquifer is 258' thick. These formations are composed of similar light-brown or buff, light-reddish brown or salmon-colored pinkish-orange sandstone that is chiefly very fine-grained to fine-grained, rounded to well-rounded, moderately well-sorted sub-arkosic arenite. The formations are calcareous, poorly cemented with some horizontal bedding especially in the Moab Member of Curtis Formation. The Slick Rock Member of Entrada Sandstone (below the regional J-3 unconformity) is commonly known for its large-scale eolian cross-bedding. Both of the formations that comprise the Entrada aquifer were deposited in a coastal sand dune, beach and barrier island complex that covered parts of Utah, Wyoming, Colorado and New Mexico. The ancient coastal dune fields of the Entrada aquifer were periodically flooded with brackish water from behind the beach and seawater from the ocean side during storm events. The entire Entrada aquifer layer was buried under the marine sediments of the Summerville formation and its lateral equivalents prior to the onset of deposition of the continental Morrison Formation.

The Entrada aquifer is a regional blanket layer that locally discharges water to the Colorado River from an outcrop band located five to six miles southeast of Harley Dome that is recharged in updip areas on the Uncompahgre Plateau. This regional aquifer appears to host slightly dynamic water conditions that recharge partly from the Colorado River and the outcrop belt 5.5 miles south of Harley Dome in Section 1, T20S, R25E. The outcrop band in the northwest wall of the river gorge is plumbed into continuous northwesterly dip into the Uinta Basin and recharges the formation with water that is moving slowly downdip. The water movement is illustrated by UIC Form 1 Attachments 2-C and 2-D and involves both discharge and recharge due to the deep incision of the stratigraphic section by the Colorado River in Ruby and Westwater canyons across the Uncompahgre Uplift.

UIC Form 1 Attachment 2-C, a map of southern Uintah County and northern Grand County, depicts oil and gas well or test well locations that reported equivalent fresh water head and salinity data from the Entrada aquifer. This study of the Entrada aquifer is the analog for the conditions likely to exist in the subjacent Wingate Sandstone aquifer where the population of data points is less dense. Most of the fresh water head values that are cited on the map are below normal for their depth. The areas of subnormal formation pressure within the Entrada aquifer set up a ground-water flow regime in the Danish Flat Syncline which plunges into the Uinta Basin from a point four miles southwest of Harley Dome that is recharged by the Colorado River. Refer also to UIC Form 1 Attachment 2-D.

The modern hydrodynamic ground-water flow regime in the Entrada aquifer is a weak relic of more robust hydrodynamic conditions that prevailed during the melt-water crests at the conclusions of the Pleistocene glaciation events. The Pleistocene pulses of extreme hydrodynamic flow diluted and flushed the native fluid constituents of the Entrada aquifer (brine, oil and gas) down dip. These events left less saline water in the Entrada aquifer in Cisco Dome (T20S, R21E), tilted the oil/water contact of the remaining oil reserve in that structure and removed all of the natural gas. At Harley Dome, if oil was ever present in the Entrada aquifer, it was removed entirely and the gas phase was enriched in nitrogen. Similar nitrogen enrichment plus carbon dioxide enrichment and removal of any pre-existing oil reserves also occurred downdip from Harley Dome in the Bar-X Field structure (T16S, R25E), 15 miles north of Harley Dome.

As mentioned above, UIC Form 1 Attachment 2-C also illustrates that the salinity of the water in the Entrada aquifer increases downdip, northward, but remains under 10,000 ppm TDS is some updip areas. The

Entrada aquifer is exposed to submersion by the Colorado River across outcrop bands in Ruby Canyon near Loma, Colorado and downriver nearer Harley Dome in Section 1, T20S, R25E where the river intersects the Entrada aquifer outcrop band for the second time 5.5 miles south of the proposed well and two miles upriver from the Westwater BLM Ranger Station. Near the BLM Ranger Station, the Entrada aquifer outcrops at the level of the Colorado River for a three mile stretch down to the entrance of Westwater Canyon where Pre-Cambrian granite is exposed. Between Loma, Colorado and the Westwater, Utah areas the Entrada aquifer outcrop band is continuously exposed in the canyon walls on both sides of the river. Downriver from Westwater Canyon, the Entrada aquifer is submerged in the Colorado River again near Cisco Landing (boat ramp) and again above Dewey Bridge. Presumably, the water quality in the Entrada aquifer along its outcrop band at river level where it is not filled with air is about the same as the river water.

The water quality in the Entrada aquifer is deteriorated at short distances from the outcrop band due to the dissolution of chemicals in the aquifer itself and the lack of robust fresh water recharge. Harley Dome is a structurally elevated area where the residence time of the fluid in the Entrada aquifer has been relatively long and has not been influenced by significant recharge since the Colorado River cut its gorge across the Uncompahgre Uplift and breached the aquifer along a traverse measured in miles. A water sample representative of the commingled contents of the Moab Member of Curtis formation and the Slick Rock Member of Entrada Sandstone, aka Entrada aquifer, collected at 12:40 on May 20, 2010 while the HD 1 was being drilled at 1140' contained 26,060 ppm TDS. See UIC Form 1 Attachment 4-D-2.

The next deeper formation that will be encountered in the HD 1-X SWD will be the Kayenta Formation, and it should be intersected near 1152'. Note that the regional unconformity known as the J-2 rests on the top of the Kayenta in the vicinity of Harley Dome and that the Carmel Formation and the Navajo Sandstone formations are absent. UIC Form 1 Attachment 2-B illustrates this stratigraphic relationship across Grand County in cross section view, and UIC Form 1 Attachment 2-D contains a dashed line illustrating the northeastward pinchout and absence of the Navajo Sandstone in map view. The Navajo Sandstone is an important part of a fresh water aquifer in southern Grand County, and it will not be affected in any way by the current or planned operations at Harley Dome. The Kayenta Formation is 199' thick in the subsurface and is composed of grayish-red-purple, pale-reddish-brown sandstone, intraformational conglomerate, and siltstone interbedded with bluish-white to very light gray sandstone. This formation with heterogeneous sedimentary features was deposited on top of the Wingate Sandstone by relatively high-energy rivers on an alluvial plain producing moderately-sorted to well-sorted feldspathic to lithic arenite along with thinly laminated mudstone. The Kayenta Formation was deposited over a multi-state area. It has relatively low permeability due to silica cementation and alteration of the feldspar-rich framework grains to clay minerals and generally acts as a barrier to water movement. The Kayenta Formation water appears to be more saline than in the overlying Entrada aquifer, but Rw analysis of the HD 1 well logs appearing in UIC form 1 Attachment 4-D is difficult due to the lack of porous zones. The Kayenta Formation is the upper confining zone to the proposed Wingate Sandstone injection zone, and it separates formation fluid of substantially different salinity and overall chemical composition in the overlying Entrada aquifer from the subjacent Wingate Sandstone. The Kayenta Formation is not an USDW.

The proposed injection zone in the HD 1-X SWD, the Wingate Sandstone, will be intersected at 1351'. This formation will be 337' thick in the subsurface of Harley Dome. Like the formations that comprise the Entrada aquifer, the Wingate Sandstone is a preserved deposit of sand dunes, except that it is of a larger scale both laterally and vertically and was less influenced by proximity to a marine shoreline. The formation is composed of grayish-orange-pink and light brown quartz sandstone which is very fine-grained to fine-grained, with rounded grains that are well-sorted, frosted, calcareous, and well-cemented in horizontal bedding to large-scale, eolian cross-bedding. Interbedded ripple-laminated sandstone and thinly laminated siltstone occur at the base. The Wingate Sandstone is a regional aquifer, but has fairly low permeability except where fractured. The Bryson Wash Syncline location selected for injection should provide some minor fracturing that will improve the performance of this proposed injection zone since it is not self-sealing. As is the case with the Entrada aquifer, the Wingate Sandstone is assumed to be transmitting water slowly northward from its outcrop band on the northwest rim of Westwater Canyon and the points at each end of that canyon where the Colorado River intersects the Wingate Sandstone outcrop band. The Wingate Sandstone at Harley Dome was eliminated as an USDW by the analysis of a

water sample of the commingled fluid produced from the Wingate Sandstone section from the HD 1. A water sample was collected at 15:25 on May 21, 2010 from the HD 1 while it was producing water at rates as high as 60 barrels per hour with the entire Wingate Sandstone section exposed from a contemporary TD of 1720'. The water sample was analyzed the following day and found to contain 52,763 ppm TDS. This sample is judged to be the most representative sample of the native Wingate Sandstone formation contents at Harley Dome. A copy of the water sample analysis is attached as UIC Form 1 Attachment 4-B.

The ground-water in the Wingate Sandstone northwest of Harley Dome should be under slightly hydrodynamic flow conditions as mapped in the analogous overlying Entrada aquifer. UIC Form 1 Attachment 2-D presents a structure contour map drawn on the top of the Chinle Formation that is the lower confining layer for the Wingate Sandstone injection zone. The map contains red, wire frame block arrows depicting ground-water flow in two important watersheds. In the southern area of the map, the Glen Canyon Group (Navajo Sandstone, Kayenta Formation and Wingate Sandstone) aquifer that underlies Moab, Utah and adjacent Spanish Valley is illustrated conducting fresh ground-water from its recharge area in the La Sal Mountains to its discharge area in the valley fill sediments down gradient where wells serve the needs of the local population. Similarly, at Harley Dome, the Entrada aquifer and Wingate Sandstone aquifer conduct ground-water from the Uncompahgre Plateau down the northwest plunge of the Uncompahgre Uplift where fresh water is discharged into the Colorado River. From that point, due to recharge from the river or a through a ribbon of continuous aquifer rock, some water continues down gradient toward a lower pressure regime in the Danish Flat Syncline at the edge of the Uinta Basin beneath the Book Cliffs and moves northward. It is known that the Wingate Sandstone is not currently utilized as an aquifer in the vicinity of Harley Dome, and very few wells have penetrated the formation within a 20 mile radius except the Federal 2 ("F 2") and Lansdale Government 13 ("L G 13") wells situated a few hundred feet apart on the crest of the Harley Dome Anticline. Refer to UIC Form 1 Attachment 1 for the location of those wells.

The formation that will be reached at 1688' just above the projected TD of the HD 1-X SWD near 1695' will be the Triassic Chinle Formation. The Chinle Formation is known to be about 135' in thickness at Harley Dome from the open-hole logs of the L G 13. The formation will be penetrated just far enough to recognize it in cuttings from the drilling operation. The Chinle Formation is composed of reddish-brown, grayish-red, pale-brown and pale-red siltstone, sandstone, mudstone, limestone and pebble conglomerate and sparse pale-green limestone and mudstone, but predominantly siltstone and fine-grained sandstone. The siltstone is calcareous, indurated, and structureless to horizontally laminated. The formation rests unconformably on Pre-Cambrian granite and metamorphic rock. The Chinle Formation has very low permeability, it is a regional confining unit and it is not an USDW.

R649-5-2.2.11 A concurrent review was made of the files of all of the wells mapped and labeled within the area of UIC Form 1 Attachment 1 as part of the research for this application. The file review and an earlier field inspection conducted on April 27, 2009 were combined to verify the current status of the wells and their mechanical condition. Four wells are located within or near a one-half mile radius of the HD 1-X SWD proposed injection well. Three of these four wells were plugged and abandoned immediately following drilling operations and no mechanical logs were recorded. The fourth well is the HD 1 located 100' south of the proposed location for the HD 1-X SWD. The HD 1 is currently being used for Class II water disposal under UIC Permit Cause No. UIC-358.1 issued January 20, 2011. UIC Form 1 Attachment 2-E (2-E-1 through 2-E-4) is a summary of the mechanical condition of each of the three abandoned wells and the HD 1 in schematic diagram form. Additional notes about these wells that evaluate assurances that the wells cannot provide conduits for fluid migration follow below.

A well was drilled on the Applicant's property in search of a fresh water supply when it was owned by Emmett Elizondo during 1965 at a location reported to be about 440' north of the HD 1-X SWD location. Note that no evidence was found of this well or a related drilling operation in the area of the reported location where it is plotted on UIC Form 1 Attachment 1. It is more likely that this well was actually located near Mr. Elizondo's gas station and café in the area southeast of former US Highways 6 & 50 at a point in the vicinity of 1,200' FNL and 2,000' FEL Section 10, T19S, R25E. The well was drilled under Application Number 36199 as labeled on UIC Form 1 Attachment 1 and has been referred to herein as the Elizondo well. The Report of Well Driller issued following abandonment lacked some specific information on the construction and abandonment details such as bit sizes and

the volume of cement used for the plugging operations, but the locations of three key cement plugs were given. See UIC Form 1 Attachment 2-E-1 for a graphic presentation. John W. Moore, the driller, based in Cisco, Utah at the time had significant experience in the current area of the Greater Cisco Field using his cable tool rig to perform contract drilling and completion services for oil and gas exploration operators such as Raphael Pumpelly and U-Tex Oil Company most notably in the area of Pumpelly's 1962 oil and gas discovery designated Agate Field in Section 8, T20S, R24E, ten miles southwest of Harley Dome. Moore's estimated level of competence in handling gas-bearing zones in the Greater Cisco Field with his equipment is relied upon to infer that his report that he "cemented off" the Entrada aquifer (Moab Member of Curtis Formation) water zone from 875' to 905' at TD, the Salt Wash Member of Morrison Formation water zone encountered from 595' to 603' plus "surface cemented down 10 feet" in a hole filled with drilling mud adequately insure that fluid will not migrate between formations in the old well bore. The Elizondo well was drilled 30' into the Entrada aquifer at a point 228' above the top of the 199' thick Kayenta Formation confining zone over the proposed Wingate Sandstone injection zone. The injectate from the proposed injection operation and/or current injection operations at Harley Dome will not find a conduit to shallower formations via this well.

One of the wells drilled to delineate the non-flammable gas cap in the Entrada aquifer within the attic of the Harley Dome Anticline known as the L G 5, discussed previously, lies 1,490' west-northwest of the site of the HD 1-X SWD and within the area of review. This well was drilled to 1190' TD through the Entrada aquifer and an estimated 80' into the 199' thick Kayenta Formation confining layer. See UIC Form 1 Attachment 2-E-2. Conflicting information about the length of the surface casing and volume of cement used on that string appears in the reports from this well, but it is a matter of whether two or three joints of casing were set and cemented to the surface. The volume of abandonment cement was not reported except for the surface plug, but plugs were balanced in gel mud at important points in the well over the top of the Entrada aquifer at 852' with a plug from 825' to 875' and over the top of the Brushy Basin Member of Morrison Formation at 132' and surface casing shoe at either 70' or 90' from 60' to 140'. A surface plug reported to be composed of 5 sacks of cement would have filled at least 25' of the 7" surface casing depending upon how much water was used to mix the slurry. This configuration insures that fluid will not migrate between formations in the well bore. The L G 5 did not breach the Kayenta Formation confining zone and will not provide a conduit for injectate to reach shallower formations.

The third abandoned well is the L G 10-31-A and it lies slightly more than one-half mile south-southwest of the proposed well. This well was drilled in 1975 as previously discussed and was abandoned at TD 706' before drilling out of the Salt Wash Member of Morrison Formation. Cement plugs composed of a total of 38 sacks were balanced in 9.75 ppg mud across the top of the Salt Wash Member of Morrison Formation at 575' from 500' to 600', over the top of the Brushy Basin Member of Morrison Formation at 156' and across the surface casing shoe at 150' from 85' to 160' and in the upper 10' of the 7" surface casing. See UIC Form 1 Attachment 2-E-3. Fluid will not migrate between the formations in the well. The TD of the L G 10-31-A is above the Entrada aquifer and far above the Kayenta Formation confining zone and will not provide a conduit for injectate to reach shallower formations.

The final well within the area of review is the HD 1. This well is cased through the Wingate Sandstone injection zone with 5.5" casing which is cemented back up into the surface casing which is itself cemented to the surface. The well is completed with a permanent packer and tubing and is a currently operating Class II injection well. The HD 1 has undergone and passed mechanical integrity test ("MIT") procedures on July 13, 2010 and April 15, 2012. These tests were witnessed by a DOGM Petroleum Specialist, and the MIT charts were added to the DOGM HD 1 file. The configuration of the well is illustrated by UIC Form 1 Attachment 2-E-4. It is proposed herein that the HD 1 remain equipped for periodic use in both injection and monitoring functions.

R649-5-2.2.12 An affidavit certifying that a copy of the application has been provided to all operators, owners, surface owners and known interested parties within a one-half mile radius of the proposed HD 1-X SWD injection well is appended hereto as UIC Form 1 Attachment 5.

R649-5-2.2.13 NWF has inherited obligations with its recent acquisition of the HD 1 well, its UIC permit and underlying property which include periodic visual inspections of the Wingate Sandstone outcrop band near the

Colorado River. These inspection efforts are to discover any evidence of flow reversal from the Wingate Sandstone toward the river. Grand County performs its own periodic inspection of the same outcrops as a backup.

Slight changes in the quality of the water flowing in the Colorado River through Westwater Canyon can be monitored in real time by accessing the on-line records of USGS National Water Information System: Web Interface. The data from live monitoring stations both upstream and downstream from Westwater Canyon can be compared with the data from the monitoring station designated USGS 09163500 Colorado River near Colorado-Utah State Line nearest Harley Dome to determine water quality variations that could be attributed to reversal of flow in the Wingate Sandstone toward the river. This resource provides data for discharge, gage height, water temperature and specific conductivity corrected to 25° C, and it can be accessed at any time by using the following internet address:

http://waterdata.usgs.gov/co/nwis/uv?site_no=09163500.

NWF has proposed herein to continue to maintain the HD 1 well for periodic injection and monitoring of the interference with the proposed well to allow precise prediction of the areas of pressure influence and the displacement of the Wingate Sandstone native brine water by injectate with time.

The Applicant is prepared to provide any other information that the Board or DOGM may determine is necessary to adequately review this application.

R649-5-2.3 This application is not within a recovery project area.

R649-5-2.4 This application is not subject to the requirements of R649-5-4 because the proposed injection interval cannot be classified as an USDW.

R649-5-2.5 In addition to adhering to the requirements under R649-5 Underground Injection Control of Recovery Operations and Class II Injection Wells as recited herein, the Applicant already has or will comply with the requirements of R649-3-1 Bonding, R649-3-4 Permitting of Wells to be Drilled, R649-3-24 Plugging and Abandonment of Wells, R649-3-32 Reporting of Undesirable Events R649-8-1 General Report Forms and R649-10 Administrative Procedures.

☼ ☼ ☼

R649-5-3 The Applicant is aware of the noticing and approval requirements of R 649-5-3 including the 15 day response period allowed following publication of the notice of application for written objections to DOGM and that any such objections will require that the application be set for notice and hearing by the board.

☼ ☼ ☼

R649-5-4 An aquifer exemption request is not necessary for this application.

☼ ☼ ☼

R649-5-5 Testing and monitoring of the proposed HD 1-X SWD well:

R649-5-5.1 Before operating the HD 1-X SWD for injection, the casing-tubing annulus shall be tested to a pressure not less than the maximum authorized injection pressure, or to a pressure of 300 psi, whichever is greater.

R649-5-5.2 The HD 1-X SWD will be a new well constructed specifically for Class II injection purposes subject to compliance with R649-5-5.1.

R649-5-5.3 In order to demonstrate continuing mechanical integrity after commencement of injection operations, the HD 1-X SWD shall be pressure tested or monitored as follows:

R649-5-5.3.1 *Pressure Testing.* The HD 1-X SWD casing-tubing annulus above the packer shall be pressure tested not less than once each five years to a pressure equal to the maximum authorized injection pressure or to a pressure of 1,000 psi, whichever is lesser, provided that no test pressure shall be less than 300 psi. A report documenting the test results shall be submitted to DOGM.

R649-5-5.3.2 *Monitoring.* If approved by the director, and in lieu of the pressure testing requirement, the operator, NWF, may monitor the pressure of the casing-tubing annulus monthly during actual operations and report the results to DOGM.

R649-5-5.3.3 It is herewith acknowledged that other test procedures or devices such as tracer surveys, temperature logs or noise logs may be required by DOGM on a case-by-case basis.

R649-5-5.3.4 The operator, NWF, shall sample and analyze the fluids injected in the HD 1-X SWD well at sufficiently frequent time intervals to yield data representative of fluid characteristics, and no less frequently than every year.

R649-5-5.3.5 The operator, NWF, shall submit a copy of the fluid analysis to DOGM with the Annual Fluid Injection Report, UIC Form 4.

R649-5-6 The Applicant is aware that the duration of approval of authorization shall be valid for the life of the well subject to revocation by the board for just cause, a substantial change of conditions in the injection well operation, discovery of substantial changes to the information provided herein or an USDW is threatened.

R649-5-7 The proposed well is not within the boundaries of a unit or cooperative development or operation.

Attachment 4-A-1: Water Analysis of Typical Injectate Source in the Greater Altamont-Bluebell Field. Green River-Wasatch Fms Commingled. NESW 21-1N-1W, USM, API No. 43-013-30707. Northern Uinta Basin, Duchesne County, UT

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (435) 722-5066
Fax (435) 722-5727

WATER ANALYSIS REPORT

Company: Flying J Address: _____ Date: 1/15/01

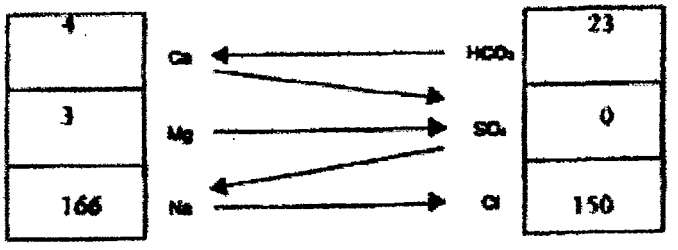
Source: H Martin 1-21Z1 Date Sampled: 1/15/01 Analysis No. _____

Tgr - Tw

	Analysis		mg/l(ppm)			*Meq/l	
1. PH	8.0						
2. H_2S (Qualitative)	1.0						
3. Specific Gravity	1.010						
4. Dissolved Solids			10,634				
5. Alkalinity ($CaCO_3$)		CO_3	0		÷ 30	0	CO_3
6. Bicarbonate (HCO_3)		HCO_3	1,400		÷ 61	23	HCO_3
7. Hydroxyl (OH)		OH	0		÷ 17	0	OH
8. Chlorides (Cl)		Cl	5,300		÷ 35.5	150	Cl
9. Sulfates (SO_4)		SO_4	0		÷ 48	0	SO_4
10. Calcium (Ca)		Ca	80		÷ 20	4	Ca
11. Magnesium (Mg)		MG	36		÷ 12.2	3	Mg
12. Total Hardness ($CaCO_3$)			350				
13. Total Iron (Fe)			3.2				
14. Manganese			0.1				
15. Phosphate Residuals			46				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION



Compound	Equiv. Wt.	X	Meq/l	=	Mg/l
$Ca(HCO_3)_2$	81.04		4		243
$CaSO_4$	68.07				
$CaCl_2$	55.50				
$Mg(HCO_3)_2$	73.17		3		220
$MgSO_4$	60.19				
$MgCl_2$	47.62				
$NaHCO_3$	84.00		16		1,344
Na_2SO_4	71.03				
NaCl	58.46		150		8,769

Saturation Values	Distilled Water 20°C
$CaCO_3$	13 Mg/l
$CaSO_4 \cdot 2H_2O$	2,090 Mg/l
$MgCO_3$	103 Mg/l

Attachment 4-A-2: Water Analysis of Typical Injectate Source in the Greater Altamont-Bluebell Field. Green River-Wasatch Fms Commingled. SENW 23-1S-1E, USM, API No. 43-047-30279. Uinta Basin, Uintah County, UT

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WATER ANALYSIS REPORT

Company: Flying J Address: _____ Date: 1/11/01

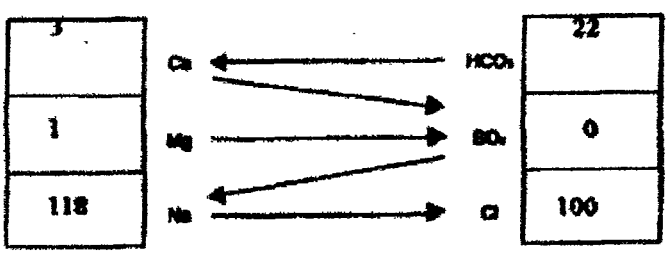
Source: Hackford 1-23AIE Date Sampled: _____ Analysis No. _____

Tgr-Tw

	Analysis		mg/l(ppm)		*Meq/l	
1. PH	8.9					
2. H_2S (Qualitative)	0.5					
3. Specific Gravity	1.009					
4. Dissolved Solids			7,683			
5. Alkalinity ($CaCO_3$)		CO_3	0	÷ 30	0	CO_3
6. Bicarbonate (HCO_3)		HCO_3	1,342	÷ 61	22	HCO_3
7. Hydroxyl (OH)		OH	0	÷ 17	0	OH
8. Chlorides (Cl)		Cl	3,540	÷ 35.5	100	Cl
9. Sulfates (SO_4)		SO_4	15	÷ 48	0	SO_4
10. Calcium (Ca)		Ca	60	÷ 20	3	Ca
11. Magnesium (Mg)		Mg	12	÷ 12.2	1	Mg
12. Total Hardness ($CaCO_3$)			200			
13. Total Iron (Fe)			4.1			
14. Manganese			0.1			
15. Phosphate Residuals			21			

*Mill equivalents per liter

PROBABLE MINERAL COMPOSITION



Compound	Equiv. Wt.	X	Meq/l	=	Mg/l
$Ca(HCO_3)_2$	81.04		3		243
$CaSO_4$	68.07				
$CaCl_2$	55.50				
$Mg(HCO_3)_2$	73.17		1		73
$MgSO_4$	60.19				
$MgCl_2$	47.62				
$NaHCO_3$	84.00		18		1,512
Na_2SO_4	71.03				
NaCl	58.46		100		5,846

Saturation Values	Distilled Water 20°C
$CaCO_3$	13 Mg/l
$CaSO_4 \cdot 2H_2O$	2,090 Mg/l
$MgCO_3$	103 Mg/l

Attachment 4-A-3: Water Analysis of Typical Injectate Source in the Greater Altamont-Bluebell Field. Green River-Wasatch Fms Commingled. NESW 21-2S-1W, USM, API No. 43-013-30621. Uinta Basin, Duchesne County, UT

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P.O. Box 217
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Fax (435) 722-6727

WATER ANALYSIS REPORT

Company Elvisz I Address _____ Date 1/25/01

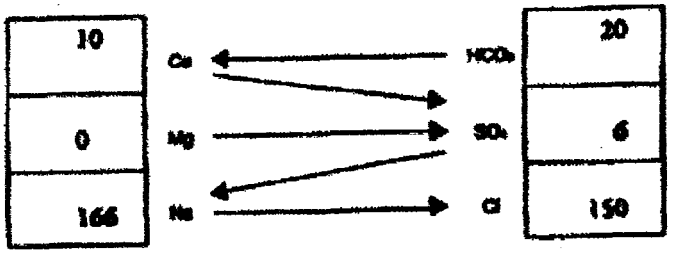
Source Powell 1-21B1 Date Sampled _____ Analysis No. _____

Tgr - Tw

	Analysis		mg/l(ppm)			*Meq/l
1. PH	8.7					
2. H_2S (Qualitative)	2.5					
3. Specific Gravity	1.010					
4. Dissolved Solids			10,838			
5. Alkalinity ($CaCO_3$)		CO_3	0	÷ 30	0	CO_3
6. Bicarbonate (HCO_3)		HCO_3	1,220	÷ 61	20	HCO_3
7. Hydroxyl (OH)		OH	0	÷ 17	0	OH
8. Chlorides (Cl)		Cl	5,300	÷ 35.5	150	Cl
9. Sulfates (SO_4)		SO_4	300	÷ 48	6	SO_4
10. Calcium (Ca)		Ca	200	÷ 20	10	Ca
11. Magnesium (Mg)		MG	0	÷ 12.2	0	Mg
12. Total Hardness ($CaCO_3$)			500			
13. Total Iron (Fe)			1.0			
14. Manganese			0.1			
15. Phosphate Residuals			30			

*Mill equivalents per liter

PROBABLE MINERAL COMPOSITION



Compound	Equiv. Wt.	X	Meq/l	=	Mg/l
$Ca(HCO_3)_2$	81.04		10		810
$CaSO_4$	68.07				
$CaCl_2$	55.50				
$Mg(HCO_3)_2$	73.17				
$MgSO_4$	60.19				
$MgCl_2$	47.62				
$NaHCO_3$	84.00		10		840
Na_2SO_4	71.03		6		426
NaCl	58.46		150		8,769

Saturation Values	Distilled Water 20°C
$CaCO_3$	13 Mg/l
$CaSO_4 \cdot 2H_2O$	2,090 Mg/l
$MgCO_3$	103 Mg/l

Attachment 4-A-4: Water Analysis of Typical Injectate Source in the Greater Natural Buttes Field. Wasatch-Mesaverde Fms Commingled. SWSW 25-9S-21E, SLM, API No. 43-047-31745. Uinta Basin, Uintah County, UT

GRAND JUNCTION LABORATORIES

[illegible] NORTH AVENUE • PHONE [illegible] • GRAND JUNCTION, COLORADO [illegible]

ANALYTICAL REPORT

Received from: Coastal Oil and Gas, Dave Dillon
Vernal, UT 84078

Customer No. _____ Laboratory No. 2743 Sample water

Date Received 9/5/91 Date Reported 9/24/91

Lab number	2743	
Sample ID	NB 99 NBU 099 E	SWSW 25-9S-21E
Tw-Kmv		43-047-31745
Sodium(Na)	6580 mg/l	
Calcium(Ca)	144 mg/l	
Magnesium(Mg)	60 mg/l	
Potassium(K)	524 mg/l	
Chloride(Cl)	9900 mg/l	
Sulfate(SO4)	455 mg/l	
Phenol. Alkalinity(CaCO3)	0 mg/l	
Total Alkalinity(CaCO3)	736 mg/l	
Dissolved Solids	19000 mg/l	
Specific Gravity	1.015	
pH	7.5	
Conductivity@25 deg. C	26400 umhos/cm	
Resistivity@25C	0.379 ohm-m	
Bicarbonate	891 mg/l	
Carbonate	0 mg/l	
Total Iron(Fe)	0.16 mg/l	
Petroleum Hydrocarbons	3.12 mg/l	Lab Dir.: Brian S. Bauer

Attachment 4-A-5: Water Analysis of Typical Injectate Source in the Greater Natural Buttes Field. Wasatch-Mesaverde Fms Commingled. SESE 26-9S-22E, SLM, API No. 43-047-32002. Uinta Basin, Uintah County, UT

DOWELL SCHLUMBERGER INCORPORATED

SESE 26-9S-22E 43-047-32002

LABORATORY LOCATION: Vernal, Utah

API WATER ANALYSIS REPORT FORM

DATE: 8-16-91

LAB NO. 1503-00458

Company: Enron Oil and Gas		Sample No.: 1	Date Sampled: 8-14-91
Field: Chapita Wells	Legal Description: Sec. 26, T9S, R22E	County or Parish: Uintah	State: Utah
Lease or Unit: Chapita Wells	Well: 301-26	Depth: 16000'	Formation: Wasatch
Water, S/D			
Type of Water (Produced, Supply, etc.): Produced	Sampling Point: Well head		Sampled By: JG

DISSOLVED SOLIDS

CATIONS	mg/L	mg/L
Sodium, Na (calc.)	6325	272
Calcium, Ca	940	47
Magnesium, Mg	132	11
Barium, Ba	—	—

ANIONS	mg/L	mg/L
Chloride, Cl	8600	241
Sulfate, SO_4	4000	80
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	549	9

Total Dissolved Solids (calc.): 20546

Iron, Fe (total): 3mg/l

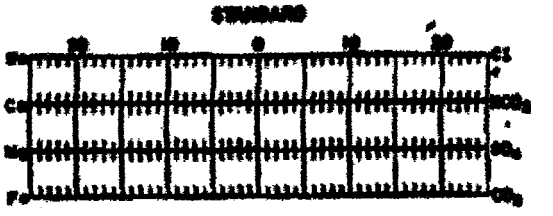
Sulfide, as HeS: —

OTHER PROPERTIES

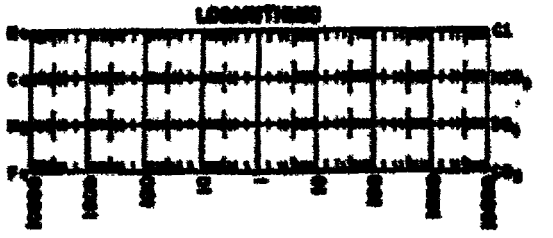
pH	7.0
Specific Gravity, 60/60 F.	1.010
Resistivity (ohm-meters) ____ F.	

WATER PATTERNS — mg/L

STANDARD



LOGARITHMIC



REMARKS & RECOMMENDATIONS:

Attachment 4-A-6: Water Analysis of Typical Injectate Source in the Greater Natural Buttes Field. Wasatch-Mesaverde Fms Commingled. SENW 14-10S-22E, SLM, API No. 43-047-30491. Uinta Basin, Uintah County, UT

SMITH ENERGY SERVICES
A DIVISION OF ALLIED PRODUCTS CORPORATION

1435 South 1200 East
Vernal, Utah 84078
Phone (801) 789-9590

COMPANY: Coastal Oil & Gas

REPORT DATE: 8/31/91

ADDRESS:

COUNTY: Uintah

FIELD: Natural Buttes

ATTENTION:

FORMATION: Tw - Kmv

DATE SAMPLED:

LEASE:

WELL: CIGE 43

SENW 14-10S-22E
43-047-30491

WATER ANALYSIS

SPECIFIC GRAVITY:	1.020	pH:	7.0
CHLORIDE:	11,000 ppm	CALCIUM:	600 ppm
BICARBONATE:	1,100 ppm	MAGNESIUM:	100 ppm
SULFIDE:	n/a	TOTAL IRON:	0 ppm
SULFATE:	900 ppm	SODIUM:	400 ppm
TOTAL HARDNESS: (AS CaCO3)	1000 ppm	TOTAL DISSOLVED SOLIDS:	14,225 ppm
RESISTIVITY:	n/a	OHM METERS @:	
POTASSIUM:	125 ppm		

SAMPLE SOURCE: pit water

REMARKS:

SMITH REPRESENTATIVE: Mike Hill

Attachment 4-A-7: Water Analysis of Typical Injectate Source in the Seep Ridge Field.
Cedar Mountain Fm. SENW 2-14S-22E, SLM, API No. 43-047-37336.
Southern Uinta Basin, Uintah County, UT

HALLIBURTON

1085 E. Main/ Vernal, Utah 84078 / Telephone: 435-789-2550 Lab Ext. 552 / Fax: 435-781-7576

WATER ANALYSIS

Date Tested:	June 28, 2006	Project #	V06-W191_192
Date Received:	June 27, 2006		

Company:	Summit Operating	Lower Cedar Mtn.
Lease/ Well #:	Seep Ridge Unit 6-2	Perf's. @ 9625-43'

Sample 6-27-06 Formation/ Date:		Morning	Evening
Specific Gravity		1.022	1.021
Temperature	°F	72.6	72.3
pH		5.53	5.62
Resistivity	Ω*m	0.309	0.312 .11 @ 210°F
Iron	mg/L	1200	1500
Potassium	mg/L	3250	3250
Chlorides	mg/L	16965	15625
Calcium	mg/L	4235	3935
Magnesium	mg/L	830	850
Sulfates	mg/L	200	315
Carbonates	mg/L	0	0
Bicarbonates	mg/L	285	305
Sodium (calculated)	mg/L	2860	2360
TDS	mg/L	29825	28135
Comments:			

Respectfully Submitted By:

Lori Vian

Lab Technician

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NOTICE: This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use

Attachment 4-A-8: Water Analysis of Typical Injectate Source in the Seep Ridge Field.
Slickrock Mbr Entrada Ss. SWSW 24-13S-22E, SLM, API No. 43-047-36730.
Southern Uinta Basin, Uintah County, UT

HALLIBURTON

1085 E. Main/ Vernal, Utah 84078 / Telephone: 435-789-2550 Lab Ext. 552 / Fax: 435-781-7576

WATER ANALYSIS

Date Tested	Mar. 27, 2006	Project #:	V06-W081 092
Date Received:	Mar. 26, 2006		

Company:	Summit Operating		
Lease/ Well #:	Seep Ridge U. # 7	Entrada 11052-52'	11091-64

Sample Formation/ Date:		1st sample	~~3-26-06~~ 1-31-06 Unmarked sample
Specific Gravity		1.056	1.054
Temperature	°F	74.3	73.2
pH		5.53	5.09
Resistivity	Ω*m	0.095	0.095
Iron	mg/L	500	250
Potassium	mg/L	3000	3500
Chlorides	mg/L	47615	47420
Calcium	mg/L	1135	1175
Magnesium	mg/L	95	95
Sulfates	mg/L	125	190
Carbonates	mg/L	0	0
Bicarbonates	mg/L	390	155
Sodium (calculated)	mg/L	26640	27295
TDS	mg/L	81500	80070
Comments:			

Respectfully Submitted By,

Lori Vian

Lab Technician

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Attachment 4-A-9: Water Analysis of Typical Injectate Source in the Drunkards Wash Unit (CBM). Ferron Ss Mbr Mancos Sh. Sample of mixed production water from storage at injection well site. SESW 31-14S-10E, SLM, API No. 43-047-30440. San Rafael Swell, Carbon County, UT

UNICHEM

A Division of BJ Services

P.O. Box 217
Roosevelt, Utah 84066

Office (801) 722-5096
Fax (801) 722-5727

WATER ANALYSIS REPORT
RIVER GAS

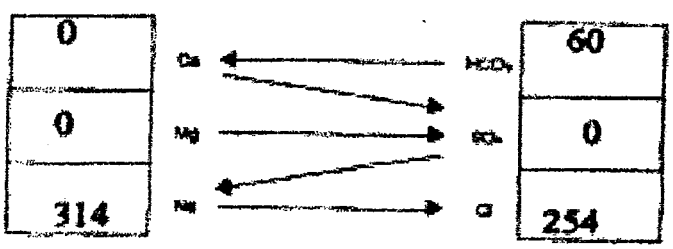
COMPANY D-1 PG 31-01-01 ADDRESS DATE 01-30-96

SOURCE RGC WATER SAMPLES DATE SAMPLED 01-22-96 ANALYSIS NO.

	Analysis	Mg/Liter			Meq/l
1. PH	8.6				
2. H_2S (Qualitative)	0				
3. Specific Gravity	1.007				
4. Dissolved Solids		19,889			
5. Suspended Solids					
6. Anaerobic Bacterial Count	CFU				
7. Methyl Orange Alkalinity ($CaCO_3$)					
8. Bicarbonate (HCO_3)	HCO_3	3,660	÷61	60	HCO_3
9. Chlorides (Cl)	Cl	9,000	÷35.5	254	Cl
10. Sulfates (SO_4)	SO_4	0	÷48	0	SO_4
11. Calcium (Ca)	Ca	2	÷20	0	Ca
12. Magnesium (Mg)	Mg	0	÷12.2	0	Mg
13. Total Hardness ($CaCO_3$)		5			
14. Total Iron (Fe)		0.6			
15. Barium (Qualitative)					
16. Phosphate Residuals					

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION



Compound	Equiv. Wt.	X	Meq/l	=	Mg/L
$Ca(HCO_3)_2$	81.04				
$CaSO_4$	68.07				
$CaCl_2$	55.50				
$Mg(HCO_3)_2$	73.17				
$MgSO_4$	60.19				
$MgCl_2$	47.62				
$NaHCO_3$	84.00		60		5,040
Na_2SO_4	71.03				
NaCl	58.46		254		14,849

Saturation Values	Distilled Water 20°C
$CaCO_3$	13 Mg/l
$CaSO_4 \cdot 2H_2O$	2,090 Mg/l
$MgCO_3$	103 Mg/l

REMARKS RESISTIVITY = .56 OHMS/CM @ 70°F

(Resistivity would indicate equivalent NaCl salinity of 11,000 ppm-D.L. Allin, May 2009)

Attachment 4-A-10: Water Analysis of Typical Injectate Source in the Kane Springs Unit. Cane Creek zone Paradox Fm. Sample of possibly mixed production water that would include: NWSE 10-25S-18E, SLM, API No. 43-019-31331. Northern Paradox Basin, Grand County, UT

Champion Technologies

2000 SOUTH 1500 EAST
VERNAL, UTAH 84078

Production water

Water Analysis Report

Telephone (435) 789-4387

Customer :	Aviara Energy Corp.	Date Sampled :	21-Dec-00
		Date Reported :	08-Jan-01
Address :		Date Received :	02-Jan-01
City :	Moab		
State :	UT Postal Code :	Field :	Kane Springs Unit
		Lease :	Kane Springs Unit
Attention :	Mark Swisher	Location :	Commingled Water
cc1 :	Charlie Harrison	Sample Point :	wellhead
cc2 :			
cc3 :		Salesman :	Clay Bingham
Comments :		Analyst :	Karen Hawkins Allen

CATIONS			ANIONS		
Calcium :	10,200	mg/l	Chloride :	138,000	mg/l
Magnesium :	287	mg/l	Carbonate :	0	mg/l
Barium :	0	mg/l	Bicarbonate :	148	mg/l
Strontium :	0	mg/l	Sulfate :	280	mg/l
Iron :	85.0	mg/l			
Sodium :	77478	mg/l			

pH (field) :	6.20		Specific Gravity :	1.2300	grams/ml
Temperature :	88	degrees F	Total Dissolved Solids :	226,458	ppm
Ionic Strength :	3.90		CO2 in Water :	97	mg/l
			CO2 in Gas :	0.03	mole %
Resistivity :		ohm/meters	H2S in Water :	75.0	mg/l
Ammonia :		ppm	Dissolved Oxygen :		ppm

SI calculations based on Tomson-Oddo equation

Calcite (CaCO3) SI :	-0.38	Calcite PTB :	N/A
Calcite (CaCO3) SI @ 100 F :	-0.01	Calcite PTB @ 100 F :	N/A
Calcite (CaCO3) SI @ 120 F :	0.20	Calcite PTB @ 120 F :	17.0
Calcite (CaCO3) SI @ 140 F :	0.42	Calcite PTB @ 140 F :	32.1
Calcite (CaCO3) SI @ 160 F :	0.66	Calcite PTB @ 160 F :	43.9
Gypsum (CaSO4) SI :	-0.62	Gypsum PTB :	N/A
Barite (BaSO4) SI :	N/A	Barite PTB :	N/A
Celestite (SrSO4) SI :	N/A	Celestite PTB :	N/A

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Champion Technologies, Inc.
Vernal District Technical Servic

Attachment 4-A-11: Water Analysis of Typical Injectate Source in the Rulison Field. Mesaverde Group. SENE 8-7S-94W, 6th PM, API No. 05-045-05059, 12-28-76. Southern Piceance Basin, Garfield County, CO

Analyte	Results	Units	Type Sample
BA	78	MG/L	PRD
CA	232	MG/L	PRD
CL	13494	MG/L	PRD
FE	7.8	MG/L	PRD
H2S	ND	MG/L	PRD
HARD, TOTAL AS CACO3	640	MG/L	PRD
HCO3	1190	MG/L	PRD
MG	15	MG/L	PRD
Na + K	8879	MG/L	PRD
PH	7.9	su	PRD
RESISTIVITY	0.311	OHM/M@77F	PRD
SOLIDS, TOTAL CALC	23888	MG/L	PRD
SpGrav	1.0174	NA	PRD
Sulfate	ND	MG/L	PRD

Attachment 4-A-12: Water Analysis of Typical Injectate Source in the Timberline Field. Williams Fork Fm (Kmv). SESW 8-6S-91W, 6th PM, API No. 05-045-06355, 9-11-96. Eastern Piceance Basin, Garfield County, CO

Analyte	Results	Units	Type Sample
CA	381	MG/L	PRD
CL	3960	MG/L	PRD
COND	1.01	uS/cm	PRD
FE	0	MG/L	PRD
Hard	1030	MG/L	PRD
HCO3	616	MG/L	PRD
MG	19	MG/L	PRD
NA	3141	MG/L	PRD
RESISTIVITY	0.495	OHM-M@75F	PRD
Sulfate	0	MG/L	PRD
TDS	8747	MG/L	PRD

Attachment 4-A-13: Water Analysis of Typical Injectate Source in the Soldier Canyon Field.
Dakota Ss. NWSW 30-5S-100W, 6th PM, API No. 05-045-06092, 8-16-78.
Western Piceance Basin, Garfield County, CO

Analyte	Results	Units	Type Sample
CA	3930	MG/L	PRD
CL	34449	MG/L	PRD
HCO3	310	MG/L	PRD
MG	480	MG/L	PRD
NA, CALC	17549	MG/L	PRD
PH	5.9	su	PRD
RESISTIVITY	0.18	OHM-M@60F	PRD
SpGrav	1.045	NA	PRD
Sulfate	979	MG/L	PRD
TDS, CALC	57697	MG/L	PRD

Attachment 4-A-14: Water Analysis of Typical Injectate Source in the Mamm Creek Field. Mesaverde Group. CSW 34-6S-93W, 6th PM, API No. 05-045-06377, 11-11-81. Piceance Basin, Garfield County, CO

Analyte	Results	Units	Type Sample
CA	34	MG/L	DST
CL	530	MG/L	DST
CO3	36	MG/L	DST
HCO3	280	MG/L	DST
K	6	MG/L	DST
MG	1	MG/L	DST
NA	738	MG/L	DST
NITRATE	149	MG/L	DST
PH, LAB	8.4	su	DST
Resistivity	3.5	OHM-M@68F	DST
Sulfate	640	MG/L	DST
TDS	2123	MG/L	DST

Attachment 4-A-15: Water Analysis of Typical Injectate Source in the Grand Valley Field.
Williams Fork & Cameo Fms. SENW 20-6S-96W, 6th PM, API No. 05-045-06578, 3-10-91.
Piceance Basin, Garfield County, CO

Analyte	Results	Units	Type Sample
Ca	103	mg/L	
CL	7036	mg/L	
FE	0	mg/L	
HARD, AS CACO3	476	mg/L	
HCO3	1691	mg/L	
K	0	mg/L	
MG	53	mg/L	
NA	4976	mg/L	
NACL	11582	ppm	
RESISTIVITY	0.48	OHM-M	
SPGRAV	1.01	NA	
Sulfate	10	mg/L	
TDS	14179	mg/L	

UIC Form 1 Attachment 4-B: Analysis of Harley Dome 1-X SWD Proposed Injection Zone Water (Wingate Sandstone) NWNE 10-19S-25E, SLM, Harley Dome 1 API No. 43-019-31622, 5-21-10 Uinta Basin, Grand County, UT

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1	Temperature	71 °F
Location	TAC 1720	pH	7.6
Specific Gravity	1.012	Color	Orange
Corrected SG	1.014 at 60°F	Turbidity	None
TDS (calculated)	52763 ppm	Resistivity	0.38 Ω·m

Sample Chemical Characteristics

Anions			Cations		
Chloride	32600	mg/L	Total Iron	0.2	mg/L
Sulfate	360	mg/L	Ferrous Iron	0.6	mg/L
Bicarbonate	290	mg/L	Potassium	510	mg/L
Carbonate	0	mg/L	Calcium	1600	mg/L
Hydroxide		mg/L	Magnesium	1400	mg/L
			Sodium (calculated)	16635	mg/L

General Comments

W181; TAC 1720 Contains foamer 15:25 5-21-10

(Collected by David L. Allin while drilling Chinle Fm [Trc] at 1720' with foam at 15:25 May 21, 2010)

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

STEWART ENVIRONMENTAL CONSULTANTS, INC.

ACEC MEMBER

December 6, 2010

Mr. Chris Kierst, Senior Petroleum Specialist
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84116

Subject: Water Compatibility Report – Westwater Farms LLC – Harley Dome Number 1
Project No.: 4422.001(10)

Dear Mr. Kierst:

This letter report details the water compatibility modeling completed for mixing produced water from the Westwater Farms injection treatment system with Wingate Ss formation water with emphasis on solubility. The models were built using existing analytical results for each water and the chemical speciation and solubility modeling program Visual MINTEQ, version 2.53; details about the program and model methodology are below.

The following table summarizes the model results:

Westwater Injection Well Chemistry
Table 1: Summary Table

Component	W181 & Injectate Water Mixed	W201 & Injectate Water Mixed
	Mass Precipitated (lb/1000 bbl)	
Ba+2	4.52	9.26
Ca+2	15.44	26.95
CO3-2	23.72	20.59
H4SiO4	0.92	0.20
Mg+2	9.72	0
SO4-2	3.16	6.48
Total =	**57.48**	**63.49**
	Solids	
	$BaSO_4$ (Barite) = 7.77% of solids	$BaSO_4$ (Barite) = 9.09% of solids
	$Mg_3(Si_2O_5)(OH)_4$ (Chrysotile) = 1.14% of solids	$CaCO_3$ (Calcite) = 90.62% of solids
	$CaMg(CO_3)_2$ (Dolomite [ordered]) = 91.09% of solids	SiO_2 (Quartz) = 0.29% of solids
	8.91% (5.12 lb/1000 bbl) of solids insoluble in acid treatment	**9.38% (5.96 lb/1000 bbl) of solids insoluble in acid treatment**

3801 AUTOMATION WAY, SUITE 200 | FORT COLLINS, COLORADO 80525 | 970.226.5500 | 970.226.4946 | STEWARTENV.COM
CONSULTING ENGINEERS AND SCIENTISTS

We have had multiple discussions regarding our scaling issues with Mr. John Ruggeri, Product Manager for Flow Assurance at Baker Petrolite in Houston, Texas. He is recommending that we also add an antiscalant to control our precipitation issues within the formation; however, Baker Petrolite is performing some additional testing in order to identify the best antiscalant product for our application.

The modeling software used in this effort was Visual MINTEQ ver. 2.53. The original program, MINTEQA2 ver 4.0, was written in Fortran 77 and released in 1999 by CEAM, US EPA. It has now been entirely rewritten in Visual Basic, with version 2.53 of Visual MINTEQ compiled in Visual Basic 6.0 on October 24, 2007 by Mr. Jon Petter Gustafsson, KTH, Dept. of Land and Water Resources Engineering, Stockholm, Sweden. The aim of the program is to simulate equilibria and speciation of inorganic solutes in natural waters.

There were three water samples evaluated in this exercise: Westwater injectate water, Wingate Ss formation water sample W181, and Wingate Ss formation water sample W201. Analytical data for injectate water was derived from data that was developed as part of Stewart Environmental's pilot testing program, which took place at the Westwater, Utah site from July 26 to September 10, 2010 (please see Attachment 1). Formation water samples W181 and W201 were drawn from the Wingate Ss formation by Mr. David Allin, Westwater's hydrogeologist, on May 20 and June 10, 2010 respectively. Sample W201 was drawn while UDOGM inspector Mr. Bart Kettle was present at the site on June 10, 2010, and thus is of interest to UDOGM. However, Mr. Allin feels that sample W201 was contaminated by water lost during long string cementing operations, and he feels that sample W181 is much more representative of the Wingate Ss formation water. Thus, both formation water samples were included in this modeling exercise. Both formation water samples were tested by Halliburton on May 22 and June 10, 2010 respectively (please see Attachment 2). Stewart Environmental conducted additional testing on sample W181 for barium, silica, and strontium on August 27, 2010 (please Attachment 3).

To calibrate the solubility models, the data for each water was entered into the program without any mixing (please see Attachment 4). Any solids that precipitated in this step were removed from the water accordingly, because solids will be removed from the injectate by Westwater's pre-injection filtration processes and from the formation water by the formation itself, and because precipitated solids are not directly available for aqueous equilibria reactions.

Next, two mixtures were modeled using results from the first step: injectate water with sample W181 and injectate water with sample W201 (please see Attachment 5). The mixtures were created using a 50 percent/50 percent mix of injectate and formation water, which simulates the injectate/formation water interface and is a conservative estimate of the interface interaction. The speciation of components is listed in a table of saturation indices (please see Attachment 6); note that any compound that shows a saturation index value of zero has begun precipitating out of the water.

It is important to note that these models do not account for the use of an appropriate antiscalant chemical, nor do they account for acid treatments performed on the injection well. Model files (compatible with Visual MINTEQ ver. 2.53) are available for review upon request.

Conclusion:

Based on the chemical modeling and discussions with Baker Petrolite, we will be adding an antiscalant to control precipitation in the well bore. This will likely be a phosphate scale inhibitor and we will also add a biocide to prevent

any future microbiological growth within the formation. The exact products will be determined by Baker Petrolite as well as the proper dosing of these chemicals.

Sincerely,

STEWART ENVIRONMENTAL CONSULTANTS, INC.

David R. Stewart, PhD, PE
President and CEO

Enc.

4422.001(10)\Westewater Chemical Compatibility 06dec10.ltr

Representative Chemistry of Injected Water After Oil Removal

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Inorganics																
Ammonia as N	ppm		10.3		11.4		14.7		12		12		11.4		8.8	11.49
Heterotrophic, Plate Count	MPN/mL				1											1.00
Solids/Total Dissolved (TDS)	ppm		14404		7098		12544		13628		13610		13914		13600	12714.00
Sulfate	ppm		0.657		25.4		17.2	<	5		3.2		3.3		4.5	8.47
Metals																
Aluminum	ppm		0.0916	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	0.44
Aluminum, dissolved	ppm	<	0.05	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	0.44
Arsenic	ppm	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.20
Arsenic, dissolved	ppm	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.20
Barium	ppm		46.3		32.8		42.9		48.9		45		40.5		36.3	41.39
Barium, dissolved	ppm		42.1		29.4		36.1		40.2		42		40.3		31.5	37.97
Boron	ppm		10.1		12.6		13.7		14.2		12.9		11.9		13.04	12.63
Boron, dissolved	ppm		9.69		11.3		11.5		12.4		12		11.8		11.8	11.80
Cadmium	ppm	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	0.03
Cadmium dissolved	ppm	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	0.03
Calcium	ppm		143		150		180		202		151		141		153	160.00
Calcium, dissolved	ppm		132		134		164		172		137		137		133	144.14
Chromium	ppm		0.0089	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Chromium, dissolved	ppm	<	0.005	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Copper	ppm		0.0102	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Copper, dissolved	ppm	<	0.005	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Iron	ppm		7.67		12.1		4		23.9		8.13		8.23		6.32	10.05
Iron, dissolved	ppm		5.14		6.56		3		15.9		5.72		5.43		1.24	6.14
Lead	ppm	<	0.02	<	0.2	<	0.2	<	0.2	<	0.2	<	0.02	<	0.2	0.16
Lead, dissolved	ppm	<	0.02	<	0.2	<	0.2	<	0.2	<	0.2	<	0.02	<	0.2	0.16
Magnesium	ppm		16.2		20.7		22.8		23.9		18		16.5		19.2	19.61
Magnesium, dissolved	ppm		15.2		18.5		19.4		20.9		16.5		16.3		16.9	17.67
Manganese	ppm		0.514		0.607		0.633		0.648		0.389		0.378		0.52	0.53
Manganese, dissolved	ppm		0.479		0.506		0.538		0.588		.3.61		0.36		0.435	0.48
Nickel	ppm	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.05
Nickel, dissolved	ppm	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.05
Potassium	ppm		40.1		38.2		83		86.5		57		51.5		43.3	57.09
Potassium, dissolved	ppm		37.4		35.4		70		76.2		53		51		38.5	51.84
Selenium	ppm	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.20
Selenium, dissolved	ppm	<	0.02	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.17
Silica	ppm		46.8		52.2		58.7		70.7		53		58.6		60.4	58.83
Silica, dissolved	ppm		43.6		48.1		54.1		61.8		64.5		64.4		51.4	55.41
Sodium	ppm		4500		3790		3990		4070		4530		4000		4200	4154.29
Sodium, dissolved	ppm		4140		3430		3370		3590		4210		4060		3740	3791.43
Strontium	ppm		32.7		25.7		24.3		25.3		29.1		26.8		26.8	27.24
Strontium, dissolved	ppm		30		23		20.8		22.5		27.3		26.7		23.5	24.53
Zinc	ppm		0.066		0.068		0.058		0.062	<	0.05	<	0.05		0.114	0.07
Zinc, dissolved	ppm		0.13		0.141		0.204	<	0.05		0.176	<	0.05		0.107	0.12
Organics																
Oil and Grease	ppm		9		11		16		8							11.00
Total Organic Carbon	ppm		240		190		210		190		270		260		240	226.67

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1	Temperature	71 °F
Location	TAC 1720	pH	7.6
Specific Gravity	1.012	Color	Orange
Corrected SG	1.014 at 60°F	Turbidity	None
TDS (calculated)	52763 ppm	Resistivity	0.38 Ω·m

Sample Chemical Characteristics

Anions			Cations		
Chloride	32600	mg/L	Total Iron	0.2	mg/L
Sulfate	360	mg/L	Ferrous Iron	0.6	mg/L
Bicarbonate	290	mg/L	Potassium	510	mg/L
Carbonate	0	mg/L	Calcium	1600	mg/L
Hydroxide		mg/L	Magnesium	1400	mg/L
			Sodium (calculated)	16635	mg/L

General Comments

W181; TAC 1720 Contains foamer 15:25 5-21-10

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farms LLC	Date Received	June 10, 2010
Reported To	Engineers David Allin	Date Tested	June 10, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	Harley Dome 1	Temperature	64 °F
Location	JW Perfs 1344-1631'	pH	7.8
Specific Gravity	1.013	Color	Clear
Corrected SG	1.013 at 60°F	Turbidity	None
TDS (calculated)	34378 ppm	Resistivity	0.36 Ω·m

Sample Chemical Characteristics

Anions	Chloride	20600 mg/L	Cations	Total Iron	3.0 mg/L
	Sulfate	580 mg/L		Ferrous Iron	0.6 mg/L
	Bicarbonate	400 mg/L		Potassium	0 mg/L
	Carbonate	0 mg/L		Calcium	1780 mg/L
	Hydroxide	mg/L		Magnesium	330 mg/L
				Sodium (calculated)	11114 mg/L

General Comments

W201; 6-10-10 14:40

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

UIC Form 1 Attachment 4-C-7: Water Compatibility Report
Originally Submitted for Harley Dome 1 UIC Permit Application

Client: **Produced Water Development**

Laboratory Report

Attn: SEC Engineering Department

Laboratory ID: S10-391505 Sample Name: Harley Dome # 1

Sampled: 6/10/2010 12:40 PM Date Received: 8/27/2010 Matrix: Water Grab Batch No: 10707

Project # 5001-010 BG 001

Analyte	Result	Units	MRL	Method	Date	Analyst	Sent Out	Laboratory
Digest/Total Prep Batch	74	Dig #	0	SM 3030 F	8/31/2010	VJF	☐	
Barium	0.232	ppm	0.002	EPA 200.7	9/1/2010	MAG	☐	
Silica	14.7	ppm	0.1	EPA 200.7	9/1/2010	MAG	☐	
Strontium	50.4	ppm	0.001	EPA 200.7	9/1/2010	MAG	☐	

Results Approved by: M. Glavanovich

Michael Glavanovich, Laboratory Manager Date Reported: 12/3/2010

Stewart Environmental Consultants, LLC
3801 Automation Way, Suite 200
Fort Collins, CO 80525

Westwater Injection Well Chemistry
Formation Water W201 Only: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ca+2	0.038294	85.83	0.006322	14.17
Cl-1	0.58105	100	0	0
CO3-2	0.00022425	3.426	0.006322	96.574
Fe+2	0.000010744	100	0	0
H+1	0.00021399	100	0	0
Mg+2	0.013574	100	0	0
Na+1	0.48343	100	0	0
SO4-2	0.0060378	100	0	0

Formation Water W181 Only: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	1.9004E-06	100	0	0
Ca+2	0.037733	94.443	0.0022202	5.557
Cl-1	0.91953	100	0	0
CO3-2	0.00030433	6.414	0.0044403	93.586
Fe+2	0.000010744	100	0	0
H+1	0.00029557	100	0	0
K+1	0.013043	100	0	0
Mg+2	0.055397	96.147	0.0022202	3.853
Na+1	0.72358	100	0	0
SO4-2	0.0037476	100	0	0

Injectate Water Only: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	0.00019395	71.28	0.000078145	28.72
Ca+2	0.00087575	24.351	0.0027206	75.649
Cl-1	0.18334	100	0	0
CO3-2	0.0084924	73.382	0.0030805	26.618
Fe+2	6.6611E-06	6.059	0.00010328	93.941
H+1	0.0086582	100	0	0
H3BO3	0.0010638	100	0	0
H4SiO4	0.00010925	11.844	0.00081318	88.156
K+1	0.0013206	100	0	0
Mg+2	0.00059402	81.731	0.00013278	18.269
Mn+2	3.2487E-06	37.182	5.4885E-06	62.818
Na+1	0.16492	100	0	0
NH4+1	0.00067466	100	0	0
SO4-2	0.000010028	11.373	0.000078145	88.627
Sr+2	0.00016503	58.235	0.00011835	41.765
Zn+2	1.8357E-06	100	0	0

Westwater Injection Well Chemistry
Injection Water & Formation Water W181 Mixed 50/50: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	0.000004107	4.194	0.000093825	95.806
Ca+2	0.018197	94.303	0.0010993	5.697
Cl-1	0.55143	100	0	0
CO3-2	0.00035778	13.996	0.0021986	86.004
Fe+2	8.6844E-06	100	0	0
H+1	0.00025059	100	0	0
H3BO3	0.0010638	100	0	0
H4SiO4	0.000081787	74.867	0.000027456	25.133
K+1	0.0071817	100	0	0
Mg+2	0.054232	97.94	0.0011405	2.06
Mn+2	3.2764E-06	100	0	0
Na+1	0.44425	100	0	0
NH4+1	0.00067466	100	0	0
SO4-2	0.001786	95.006	0.000093825	4.994
Sr+2	0.00016503	100	0	0
Zn+2	1.8357E-06	100	0	0

Westwater Injection Well Chemistry
Injection Water & Formation Water W201 Mixed 50/50: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	1.5732E-06	0.811	0.0001924	99.189
Ca+2	0.017567	90.159	0.0019174	9.841
Cl-1	0.3822	100	0	0
CO3-2	0.00061176	24.188	0.0019174	75.812
Fe+2	8.7739E-06	100	0	0
H+1	0.00053664	100	0	0
H3BO3	0.0010638	100	0	0
H4SiO4	0.00010323	94.491	6.0181E-06	5.509
K+1	0.00066032	100	0	0
Mg+2	0.0070837	100	0	0
Mn+2	3.2764E-06	100	0	0
Na+1	0.32417	100	0	0
NH4+1	0.00067466	100	0	0
SO4-2	0.0028315	93.637	0.0001924	6.363
Sr+2	0.00016503	100	0	0
Zn+2	1.8357E-06	100	0	0

Westwater Injection Well Chemistry
Injection Water & Formation Water W181 Mixed 50/50: Saturation Indices

Mineral	log IAP	Sat. Index	Stoichiometry							
Anhydrite	-5.825	-1.447	1	Ca+2	1	SO4-2				
Aragonite	-8.506	-0.141	1	Ca+2	1	CO3-2				
Artinite	3.469	-5.824	-2	H+1	2	Mg+2	1	CO3-2	5	H2O
Ba(OH)2:8H2O	8.679	-15.577	1	Ba+2	10	H2O	-2	H+1		
Barite	-9.921	0	1	Ba+2	1	SO4-2				
Blanchite	-9.942	-8.175	1	Zn+2	1	SO4-2	6	H2O		
Brucite	12.405	-4.404	1	Mg+2	2	H2O	-2	H+1		
CaCO3xH2O	-8.512	-1.33	1	Ca+2	1	CO3-2	1	H2O		
Calcite	-8.506	0	1	Ca+2	1	CO3-2				
Celestite	-7.921	-1.306	1	Sr+2	1	SO4-2				
Chalcedony	-3.943	-0.443	1	H4SiO4	-2	H2O				
Chrysotile	29.336	-2.365	3	Mg+2	2	H4SiO4	1	H2O	-6	H+1
Cristobalite	-3.943	-0.644	1	H4SiO4	-2	H2O				
Dolomite (disordered)	-17.426	-0.768	1	Ca+2	1	Mg+2	2	CO3-2		
Dolomite (ordered)	-17.426	-0.235	1	Ca+2	1	Mg+2	2	CO3-2		
Epsomite	-6.277	-4.18	1	Mg+2	1	SO4-2	7	H2O		
Fe(OH)2 (am)	9.526	-3.73	1	Fe+2	2	H2O	-2	H+1		
Fe(OH)2 (c)	9.526	-3.364	1	Fe+2	-2	H+1	2	H2O		
Goslarite	-9.947	-7.972	1	Zn+2	1	SO4-2	7	H2O		
Greenalite	20.698	-0.112	-6	H+1	3	Fe+2	2	H4SiO4	1	H2O
Gypsum	-5.836	-1.229	1	Ca+2	1	SO4-2	2	H2O		
Halite	-1.307	-2.866	1	Na+1	1	Cl-1				
Huntite	-35.265	-5.022	3	Mg+2	1	Ca+2	4	CO3-2		
Hydromagnesite	-23.295	-13.972	5	Mg+2	4	CO3-2	-2	H+1	6	H2O
Hydrozincite	1.027	-7.07	5	Zn+2	2	CO3-2	-6	H+1	6	H2O
KCl	-4.04	-4.94	1	K+1	1	Cl-1				
Lime	12.824	-19.381	-2	H+1	1	Ca+2	1	H2O		
Magnesite	-8.92	-1.511	1	Mg+2	1	CO3-2				
Melanterite	-9.156	-7	1	Fe+2	1	SO4-2	7	H2O		
Mg(OH)2 (active)	12.405	-6.389	1	Mg+2	2	H2O	-2	H+1		
Mg2(OH)3Cl:4H2O	16.554	-9.446	2	Mg+2	1	Cl-1	-3	H+1	7	H2O
MgCO3:5H2O	-8.947	-4.407	1	Mg+2	1	CO3-2	5	H2O		
Mirabilite	-4.843	-3.931	2	Na+1	1	SO4-2	10	H2O		
MnCl2:4H2O	-7.415	-10.103	1	Mn+2	2	Cl-1	4	H2O		
MnCO3 (am)	-12.248	-1.748	1	Mn+2	1	CO3-2				
MnSO4	-9.567	-11.985	1	Mn+2	1	SO4-2				
Natron	-7.524	-8.381	2	Na+1	1	CO3-2	10	H2O		
Nesquehonite	-8.936	-4.204	1	Mg+2	1	CO3-2	3	H2O		
Periclase	12.411	-8.788	-2	H+1	1	Mg+2	1	H2O		
Portlandite	12.819	-9.557	1	Ca+2	2	H2O	-2	H+1		
Pyrochroite	9.077	-5.87	1	Mn+2	2	H2O	-2	H+1		
Quartz	-3.943	0	1	H4SiO4	-2	H2O				
Rhodochrosite	-12.248	-1.244	1	Mn+2	1	CO3-2				
Sepiolite	12.974	-2.496	2	Mg+2	3	H4SiO4	-4	H+1	-0.5	H2O
Sepiolite (A)	12.974	-5.806	-0.5	H2O	2	Mg+2	3	H4SiO4	-4	H+1
Siderite	-11.799	-1.19	1	Fe+2	1	CO3-2				
SiO2 (am,gel)	-3.943	-1.269	1	H4SiO4	-2	H2O				
SiO2 (am,ppt)	-3.943	-1.242	1	H4SiO4	-2	H2O				

Smithsonite	-12.59	-1.68	1	Zn+2	1	CO3-2				
Strontianite	-10.602	-1.33	1	Sr+2	1	CO3-2				
Thenardite	-4.788	-5.086	2	Na+1	1	SO4-2				
Thermonatrite	-7.474	-8.085	2	Na+1	1	CO3-2	1	H2O		
Vaterite	-8.506	-0.555	1	Ca+2	1	CO3-2				
Witherite	-12.602	-4.037	1	Ba+2	1	CO3-2				
Zincite	8.741	-2.261	1	Zn+2	1	H2O	-2	H+1		
Zincosite	-9.909	-13.628	1	Zn+2	1	SO4-2				
Zn(BO2)2	2.831	-5.469	-2	H2O	-2	H+1	1	Zn+2	2	H3BO3
Zn(OH)2 (am)	8.735	-3.52	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (beta)	8.735	-2.807	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (delta)	8.735	-3.109	1	Zn+2	-2	H+1	2	H2O		
Zn(OH)2 (epsilon)	8.735	-2.598	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (gamma)	8.735	-2.79	1	Zn+2	2	H2O	-2	H+1		
Zn2(OH)2SO4	-1.173	-8.673	-2	H+1	2	Zn+2	2	H2O	1	SO4-2
Zn2(OH)3Cl	9.236	-5.955	2	Zn+2	3	H2O	-3	H+1	1	Cl-1
Zn3O(SO4)2	-11.076	-29.332	-2	H+1	3	Zn+2	2	SO4-2	1	H2O
Zn4(OH)6SO4	16.298	-12.102	-6	H+1	4	Zn+2	6	H2O	1	SO4-2
Zn5(OH)8Cl2	27.207	-11.293	-8	H+1	5	Zn+2	8	H2O	2	Cl-1
ZnCl2	-7.734	-14.6	1	Zn+2	2	Cl-1				
ZnCO3	-12.59	-1.79	1	Zn+2	1	CO3-2				
ZnCO3:1H2O	-12.595	-2.335	1	Zn+2	1	CO3-2	1	H2O		
ZnSO4:1H2O	-9.914	-9.164	1	Zn+2	1	SO4-2	1	H2O		

Westwater Injection Well Chemistry
Injection Water & Formation Water W201 Mixed 50/50: Saturation Indices

Mineral	log IAP	Sat. Index	Stoichiometry							
Anhydrite	-5.825	-1.447	1	Ca+2	1	SO4-2				
Aragonite	-8.506	-0.141	1	Ca+2	1	CO3-2				
Artinite	3.469	-5.824	-2	H+1	2	Mg+2	1	CO3-2	5	H2O
Ba(OH)2:8H2O	8.679	-15.577	1	Ba+2	10	H2O	-2	H+1		
Barite	-9.921	0	1	Ba+2	1	SO4-2				
Bianchite	-9.942	-8.175	1	Zn+2	1	SO4-2	6	H2O		
Brucite	12.405	-4.404	1	Mg+2	2	H2O	-2	H+1		
CaCO3xH2O	-8.512	-1.33	1	Ca+2	1	CO3-2	1	H2O		
Calcite	-8.506	0	1	Ca+2	1	CO3-2				
Celestite	-7.921	-1.306	1	Sr+2	1	SO4-2				
Chalcedony	-3.943	-0.443	1	H4SiO4	-2	H2O				
Chrysotile	29.336	-2.365	3	Mg+2	2	H4SiO4	1	H2O	-6	H+1
Cristobalite	-3.943	-0.644	1	H4SiO4	-2	H2O				
Dolomite (disordered)	-17.426	-0.768	1	Ca+2	1	Mg+2	2	CO3-2		
Dolomite (ordered)	-17.426	-0.235	1	Ca+2	1	Mg+2	2	CO3-2		
Epsomite	-6.277	-4.18	1	Mg+2	1	SO4-2	7	H2O		
Fe(OH)2 (am)	9.526	-3.73	1	Fe+2	2	H2O	-2	H+1		
Fe(OH)2 (c)	9.526	-3.364	1	Fe+2	-2	H+1	2	H2O		
Goslarite	-9.947	-7.972	1	Zn+2	1	SO4-2	7	H2O		
Greenalite	20.698	-0.112	-6	H+1	3	Fe+2	2	H4SiO4	1	H2O
Gypsum	-5.836	-1.229	1	Ca+2	1	SO4-2	2	H2O		
Halite	-1.307	-2.866	1	Na+1	1	Cl-1				
Huntite	-35.265	-5.022	3	Mg+2	1	Ca+2	4	CO3-2		
Hydromagnesite	-23.295	-13.972	5	Mg+2	4	CO3-2	-2	H+1	6	H2O
Hydrozincite	1.027	-7.07	5	Zn+2	2	CO3-2	-6	H+1	6	H2O
KCl	-4.04	-4.94	1	K+1	1	Cl-1				
Lime	12.824	-19.381	-2	H+1	1	Ca+2	1	H2O		
Magnesite	-8.92	-1.511	1	Mg+2	1	CO3-2				
Melanterite	-9.156	-7	1	Fe+2	1	SO4-2	7	H2O		
Mg(OH)2 (active)	12.405	-6.389	1	Mg+2	2	H2O	-2	H+1		
Mg2(OH)3Cl:4H2O	16.554	-9.446	2	Mg+2	1	Cl-1	-3	H+1	7	H2O
MgCO3:5H2O	-8.947	-4.407	1	Mg+2	1	CO3-2	5	H2O		
Mirabilite	-4.843	-3.931	2	Na+1	1	SO4-2	10	H2O		
MnCl2:4H2O	-7.415	-10.103	1	Mn+2	2	Cl-1	4	H2O		
MnCO3 (am)	-12.248	-1.748	1	Mn+2	1	CO3-2				
MnSO4	-9.567	-11.985	1	Mn+2	1	SO4-2				
Natron	-7.524	-6.381	2	Na+1	1	CO3-2	10	H2O		
Nesquehonite	-8.936	-4.204	1	Mg+2	1	CO3-2	3	H2O		
Periclase	12.411	-8.788	-2	H+1	1	Mg+2	1	H2O		
Portlandite	12.819	-9.557	1	Ca+2	2	H2O	-2	H+1		
Pyrochroite	9.077	-5.87	1	Mn+2	2	H2O	-2	H+1		
Quartz	-3.943	0	1	H4SiO4	-2	H2O				
Rhodochrosite	-12.248	-1.244	1	Mn+2	1	CO3-2				
Sepiolite	12.974	-2.496	2	Mg+2	3	H4SiO4	-4	H+1	-0.5	H2O
Sepiolite (A)	12.974	-5.806	-0.5	H2O	2	Mg+2	3	H4SiO4	-4	H+1
Siderite	-11.799	-1.19	1	Fe+2	1	CO3-2				
SiO2 (am,gel)	-3.943	-1.269	1	H4SiO4	-2	H2O				
SiO2 (am,ppt)	-3.943	-1.242	1	H4SiO4	-2	H2O				

Smithsonite	-12.59	-1.68	1	Zn+2	1	CO3-2				
Strontianite	-10.602	-1.33	1	Sr+2	1	CO3-2				
Thenardite	-4.788	-5.086	2	Na+1	1	SO4-2				
Thermonatrite	-7.474	-8.085	2	Na+1	1	CO3-2	1	H2O		
Vaterite	-8.506	-0.555	1	Ca+2	1	CO3-2				
Witherite	-12.602	-4.037	1	Ba+2	1	CO3-2				
Zincite	8.741	-2.261	1	Zn+2	1	H2O	-2	H+1		
Zincosite	-9.909	-13.628	1	Zn+2	1	SO4-2				
Zn(BO2)2	2.831	-5.459	-2	H2O	-2	H+1	1	Zn+2	2	H3BO3
Zn(OH)2 (am)	8.735	-3.52	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (beta)	8.735	-2.807	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (delta)	8.735	-3.109	1	Zn+2	-2	H+1	2	H2O		
Zn(OH)2 (epsilon)	8.735	-2.598	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (gamma)	8.735	-2.79	1	Zn+2	2	H2O	-2	H+1		
Zn2(OH)2SO4	-1.173	-8.673	-2	H+1	2	Zn+2	2	H2O	1	SO4-2
Zn2(OH)3Cl	9.236	-5.955	2	Zn+2	3	H2O	-3	H+1	1	Cl-1
Zn3O(SO4)2	-11.076	-29.332	-2	H+1	3	Zn+2	2	SO4-2	1	H2O
Zn4(OH)6SO4	16.298	-12.102	-6	H+1	4	Zn+2	6	H2O	1	SO4-2
Zn5(OH)8Cl2	27.207	-11.293	-8	H+1	5	Zn+2	8	H2O	2	Cl-1
ZnCl2	-7.734	-14.6	1	Zn+2	2	Cl-1				
ZnCO3	-12.59	-1.79	1	Zn+2	1	CO3-2				
ZnCO3:1H2O	-12.595	-2.335	1	Zn+2	1	CO3-2	1	H2O		
ZnSO4:1H2O	-9.914	-9.164	1	Zn+2	1	SO4-2	1	H2O		

UIC Form 1 Attachment 4-D-1: Analysis of Water from Commingled Morrison & Summerville Formations. NWNE 10-19S-25E, SLM, Harley Dome 1 API No. 43-019-31622, 5-20-10 Uinta Basin, Grand County, UT

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1	Temperature	70 °F
Location	JsJm	pH	7.6
Specific Gravity	1.011	Color	Cloudy White
Corrected SG	1.013 at 60°F	Turbidity	Severe
TDS (calculated)	30740 ppm	Resistivity	0.42 Ω·m

Sample Chemical Characteristics

Anions	Chloride	19000 mg/L	Cations	Total Iron	2.8	mg/L
	Sulfate	400 mg/L		Ferrous Iron	1.8	mg/L
	Bicarbonate	390 mg/L		Potassium	55	mg/L
	Carbonate	0 mg/L		Calcium	1000	mg/L
	Hydroxide	mg/L		Magnesium	1400	mg/L
				Sodium (calculated)	8828	mg/L

General Comments

W177; 5-20-10, 9:15 Overnight fill

(Collected by David L. Allin from bottoms up from 890' at 09:15 May 20, 2010)

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

UIC Form 1 Attachment 4-D-2: Analysis of Water from Entrada Sandstone
NWNE 10-19S-25E, SLM, Harley Dome 1 API No. 43-019-31622, 5-20-10
Uinta Basin, Grand County, UT

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1	Temperature	70 °F
Location	Lwr Jes	pH	7.4
Specific Gravity	1.010	Color	Cloudy Pink
Corrected SG	1.012 at 60°F	Turbidity	Severe
TDS (calculated)	26060 ppm	Resistivity	0.44 Ω·m

Sample Chemical Characteristics

Anions	Chloride	16600	mg/L	Cations	Total Iron	1.4 mg/L
	Sulfate	280	mg/L		Ferrous Iron	1.0 mg/L
	Bicarbonate	280	mg/L		Potassium	387 mg/L
	Carbonate	0	mg/L		Calcium	900 mg/L
	Hydroxide		mg/L		Magnesium	2100 mg/L
					Sodium (calculated)	5771 mg/L

General Comments

W176; 5-20-10, 12:40 1140'

(Collected by David L. Allin while drilling to 1140' at 12:40 May 20, 2010)

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

UIC Form 1 Attachment 5: Affidavit of Mailing
Application for Conversion of a New Well for Class II Injection:
Harley Dome 1-X SWD (API No. 43-019-50023)
NWNE (501' FNL and 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah
Proposed by New Water Financial, LLC

AFFIDAVIT

State of Colorado)
:ss
County of Mesa)

David L. Allin, being duly sworn upon his oath, deposes and states:

1. I am of the age of majority;
2. I am engaged by New Water Financial, LLC as its Agent to file an application for an Underground Injection Control Permit to construct and operate the proposed Harley Dome 1-X SWD Class II injection well on behalf of itself and Harley Dome 1, LLC;
3. I provided a copy of the Harley Dome 1-X SWD Underground Injection Control permit application by First Class United States Mail to the parties that were identified from public records as owners, operators and/or surface owners as defined by Utah Administrative Code Rule R649-1, Oil and Gas Definitions, within a one-half mile radius of the proposed Harley Dome 1-X SWD well site. A list of those parties and other interested parties is attached hereto as Exhibit "A"; and
4. The matters herein are true of my own knowledge.

Dated this 25th day of July, 2012.

David L. Allin

Subscribed, sworn and acknowledged to and by David L. Allin before me this 25th day of July, 2012.

Notary Public

JASON W WILLIAMS
NOTARY PUBLIC
STATE OF COLORADO

MY COMMISSION EXPIRES 11-12-2012

Exhibit "A":

List of
Owners, Operators, Surface Owners and Interested Parties within a One-Half Mile Radius of
Harley Dome 1-X SWD (API No. 43-019-50023)
NWNE (501' FNL and 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah
Proposed by New Water Financial, LLC

New Water Financial, LLC 1716 East Lincoln Avenue, Suite 1 Fort Collins, CO 80524	Surface owner and Applicant
Westwater Farms, LLC P.O. Box 324 Cisco, UT 84515	Surface owner
Enterprise Mid-America Pipeline c/o Enterprise Products Partners, L.P. P.O. Box 4324 Houston, TX 77210-4324	Surface owner
U.S. Bureau of Land Management Moab Field Office 82 East Dogwood Moab, UT 84532	Surface and mineral/OG owner
Utah Trust Lands Administration 675 East 500 South, Suite 500 Salt Lake City, UT 84102-2818	Surface and mineral/OG owner
Utah Division Federal Highway Administration 2520 West 4700 South, Suite 9-A Salt Lake City, UT 84129	ROW owner I-70
Grand County Road Department 125 East Center Moab, UT 84532	ROW owner old Highway 6-50
Shiprock Helium, LLC P.O. Box 51166 Amarillo, TX 79159	Operator BLM O&G UTU-70176
Rockies Standard Oil Co., LLC 1411 East 840 North Orem, UT 84097-5846	Operator BLM O&G UTU-82618 & UTU-82619
Flatirons Resources, LLC 303 East 17th Avenue, Suite 940 Denver, CO 80203-1262	Operator BLM O&G UTU-87659

Retamco Operating Inc.
Attn: Joe Glennon
One South Broadway Avenue, Suite 2
P.O. Box 790
Red Lodge, MT 59068-0790

Operator Utah SITLA O&G ML-49255

Living Rivers
P.O. Box 466
Moab, UT 84532

Interested party

Allin Proprietary/David L. Allin-Consultant
AAPG Certified Petroleum Geologist 2934 ☼ Utah Licensed Professional Geologist 5526699
475 Seasons Drive, Grand Junction, CO, USA 81507-8749
Telephone: 970-254-3114 E-mail: allinpro@bresnan.net

RECEIVED
JUL 31 2012
DIV OF OIL, GAS & MINING

COPY
DOGM

July 25, 2012

Interested Party

Re: Underground Injection Control Permit Application for a New Class II Injection Well
Harley Dome 1-X SWD (API No. 43-019-50023)
NWNE (501' FNL and 2,139' FEL) Section 10, T19S, R25E, SLM
Grand County, Utah

Ladies and Gentlemen:

A complete copy of the Underground Injection Control Permit application for a proposed new Class II injection well is provided to you herewith in accordance with Utah Administrative Code Rule R649-5-2.2.12 because you have been identified as an owner, operator, and/or surface owner within a one-half mile radius of the proposed injection well site. This injection well is proposed to be constructed at the location referenced above as soon as an Application for Permit to Drill is approved by the Utah Division of Oil, Gas and Mining. The newly constructed well is proposed to be converted for use as a Class II injection well upon approval of an Underground Injection Control Permit by the Utah Division of Oil, Gas and Mining and any other permits that may be required by other regulatory agencies.

If you have comments or concerns regarding this proposed project, you must direct them in writing to the Utah Division of Oil, Gas and Mining:

State of Utah
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-5801

The applicant and property owner, New Water Financial, LLC, can be contacted at:

New Water Financial, LLC
1716 East Lincoln Avenue, Suite 1
Fort Collins, CO 80524

I can answer general questions about this application and can be reached at the contact points given in the letterhead above.

Sincerely yours,

David L. Allin
Permit Agent for New Water Financial, LLC

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 22

STEWART ENVIRONMENTAL CONSULTANTS, LLC
ENGINEERING FOR LIFE

ACEC MEMBER

July 31, 2012

Mr. Brad Hill
Utah Division of Oil, Gas, and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Subject: Ruby Canyon Water Monitoring Survey—Wingate Sandstone
Harley Dome Well #1 Injection Monitoring
Project No.: 4464.007

Dear Mr. Hill:

In accordance with the monitoring plan outlined in our October 4, 2010 letter and subsequent conversations with the U.S. Fish and Wildlife Service (USFWS), Stewart Environmental Consultants, LLC performed the regularly scheduled water monitoring survey of the Wingate Sandstone. The survey was conducted on June 20, 2012 along the applicable reach of the Colorado River at Ruby Canyon (river miles 132 to 137), as depicted on Figure 1. USFWS concerns are cited in their September 15, 2010 letter and center on the possibility, albeit remote, that injection into the Wingate Sandstone via the Harley Dome Well #1 will promote seepage of liquids into the Colorado River, flowing east to west approximately six miles southeast of the well site.

In their letter, USFWS recognized that injection will occur into the Wingate Sandstone at a depth of approximately 1,750 feet and that the formation dips to the northeast, away from the Colorado River. However, the letter states that *"Despite this low probability of seepage, we wish to make you aware of the importance of the nearby Westwater Canyon of the Colorado River for recovery of endangered fish species."* As the letter states, the canyon is designated critical habitat for four endangered fish species: Colorado pikeminnow (Ptychocheilus lucius), razorback sucker (Xyrauchen texanus), humpback chub (Gila cypha), and bonytail (Gila elegans). The headwaters of Westwater Canyon begin at river mile 125, approximately six linear miles southwest (downstream) of the survey area (see Figure 1).

We observed the outcrop of the Wingate Sandstone in Ruby Canyon from river miles 132 to 137 as an upgradient monitoring point to Westwater Canyon, searching for the presence or absence of seeps, springs, or other water features. This reach of the river is the closest outcrop of the formation to the well site and would be the first point of seepage, if seepage were to occur.

At the time of the current survey, the area was experiencing drought conditions and previously flooded areas, such as McDonald Creek Canyon, were dry. This is unlike 2011 when there was record flooding and water from the Colorado River progressed a distance of approximately 250 to 300 yards into the mouth of the canyon. Currently, the entire canyon, including the mouth, is dry with minimal evidence of the presence of water except for small eroded drainages, sand and silt deposits, and established flora typical of near-riparian habitat associated with periodic episodes of flooding from the river.

There are signs of limited surface water flow throughout the survey area. These signs include desert varnish staining the canyon walls, erosional features (from both wind and water) cut into the rock, side canyons (both large and

small), and collection of sediment in dry washes at the base of the side canyons and in dry stream beds along the bench tops. Thus far only one spring has been found. "Spring A" is located at the contact of the Wingate Sandstone and the Kayenta Formation in a remote side canyon on the upgradient end of the survey area near river mile 137 (see Figure 1). The spring is situated midway along the reach of the side canyon and, as discussed below, has very low flow. Erosion of the side canyon and deposition of sediment in the dry wash at its base is attributed to flash flood surface flows rather than Spring A or meteoric waters higher up the Kayenta Formation. When the spring was found, detailed observation of the rock formations in the immediate area was conducted and no other springs were discovered.

At Spring A water flows from the cliff face as six to eight individual drips. Currently, the fastest drip flows at approximately 0.0015 gpm. In a previous survey, water was observed to flow as thin braids with the largest one flowing at a rate of up to 0.025 gpm. Collectively, the drips (and braids) of water drain to a 3' x 6' x 2' concrete catch basin buried in the cliff face. The history and purpose of a catch basin in such a remote location is unknown but it appears to be very old and is presumed to be associated with railroad construction in the late 1800s. It has not been used in years and is now completely filled with sediment. This is significant in that it shows the spring to be historic and clearly not a result of recent injections at the Harley Dome Well #1.

It is too early in the course of the injection process for water from the Harley Dome Well #1 to have reached the spring; however, because we found no other seeps, springs, hanging gardens, or signs of groundwater emanating from the Wingate Sandstone, we recommend that Spring A be carefully monitored in the future to track trends in water flow and quality.

The water monitoring survey was intended to document current conditions and compare the information to baseline data. Stewart Environmental plans to observe the Wingate Sandstone approximately every six months for a period of three years. The latest survey marks the fourth of six monitoring events. Future observations will be compared to information from previous events and if we do not observe additional seeps or springs that are the result of the injection well activity, we will then begin monitoring the formation on a yearly basis. This schedule may be altered if injection activities escalate or other site conditions warrant a change.

We will supply additional information as it is obtained. Please contact us if you have questions or need more information.

Sincerely,

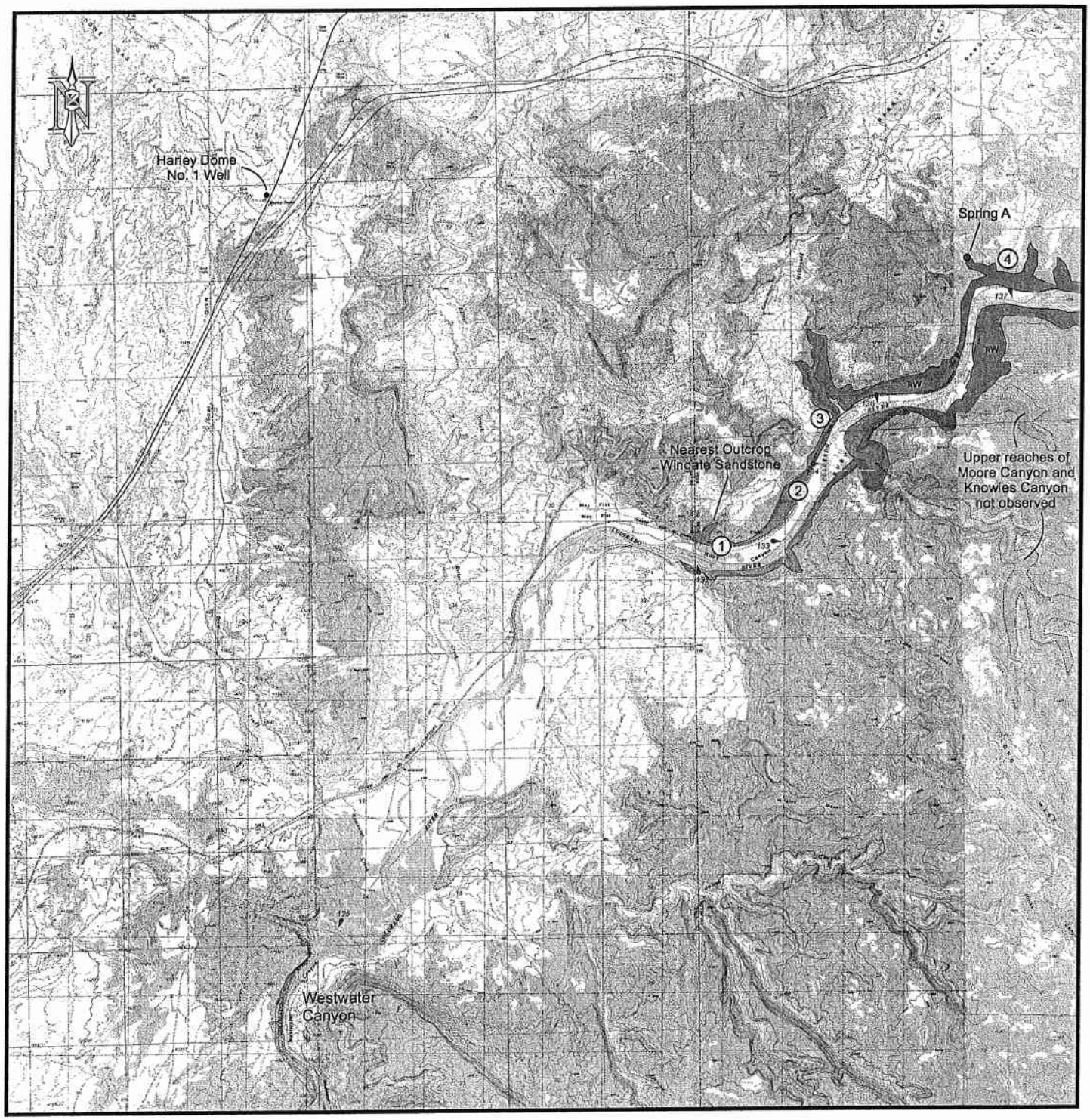
STEWART ENVIRONMENTAL CONSULTANTS, LLC

Paul A. Stone, PG
Senior Geologist

Enc.

cc: Mr. Larry Crist, U.S. Fish and Wildlife Service
Ms. Jana Mohrman, U.S. Fish and Wildlife Service
Mr. Eric Jones, U.S. Bureau of Land Management

4464.007\westwater wingate monitoring 31jul12.ltr



SOURCE:
USGS TOPOGRAPHIC MAPS:
Harley Dome, Bitter Creek Well, Ruby Canyon, Agate, Westwater, and Sieber Canyon
USGS GEOLOGIC MAP:
Westwater 30'x60' Geologic Quad Map I-1765

LEGEND

- Wingate Sandstone
- 137 River Mileage
- (2) Observation Location

0 2 4
SCALE IN MILES

CONTOUR INTERVAL 40 FEET

STEWART ENVIRONMENTAL CONSULTANTS, LLC ENGINEERING FOR LIFE	PROJECT WestWater Farms Production Water Recycling Facility Westwater, Utah	FIGURE 1 WINGATE SANDSTONE WATER MONITORING SURVEY
PROJECT NUMBER 4464.007 / DATE July 2012		

wp files\4464.007\figure 1-wingate ss water survey location.cdr

FILED

AUG 0 8 2012

SECRETARY, BOARD OF OIL, GAS & MINING

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**REQUEST FOR AGENCY ACTION** **Docket No. 2012-**028 **Cause No.** 279-01

NEW WATER FINANCIAL, LLC, by and through its undersigned attorneys, petitions the Board of Oil, Gas and Mining for an order approving the Harley Dome #1-X SWD Well as a Class II injection well and authorizing the underground injection of produced water for purposes of water disposal, and shows as follows:

1. New Water Financial, LLC ("**New Water**") is a Colorado limited liability company in good standing, having its principal place of business in Fort Collins, Colorado. New Water is qualified to and is doing business in Utah.

2. The Board of Oil, Gas and Mining (the "**Board**") has jurisdiction of the parties and subject matter of this Request for Agency Action, pursuant to Section 40-6-5(5)(a) of the Utah Code and Rules R649-5-1 and R649-5-3(4) of the Utah Administrative Code ("**U.A.C.**").

PROCEDURAL MATTERS

3. Pursuant to the Findings of Fact, Conclusions of Law, and Order issued on January 13, 2011, by the Board in Cause No. UIC-358.1, the Board approved the Harley Dome #1 SWD Well (the "**Harley Dome #1**") as a Class II injection well and authorized the underground

injection of produced water into that well for purposes of water disposal. The Harley Dome #1 is located in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East, S.L.M., Grand County, Utah.

4. Westwater Farms, LLC ("**Westwater**") owned the real property upon which the Harley Dome #1 is located, and on May 26, 2009, filed the original application seeking administrative approval of the Harley Dome #1 as a UIC Class II well. Following publication of notice of Westwater's application, the Division of Oil, Gas and Mining (the "**Division**") received objections to the application and Westwater's application was converted from an informal adjudicative proceeding to a formal proceeding. The matter was heard by the Board on December 8, 2010.

5. Westwater has transferred all of its ownership interests in the Harley Dome #1, including the approved UIC permit and the real property upon which the well is located, to Harley Dome 1, LLC. Harley Dome 1, LLC is a Utah limited liability company in good standing, having its principal place of business in Fort Collins, Colorado. Harley Dome 1, LLC is qualified to and is doing business in Utah.

6. New Water is Harley Dome 1, LLC's agent for all purposes of this Cause.

7. Based on the substantial public interest in Grand County and the objections that were filed in the previous proceeding for the Harley Dome #1 and the distinct likelihood that similar objections will be filed in this Cause, pursuant to Rule R649-5-3(4), U.A.C., New Water is concurrently filing with its Request for Agency Action a motion in this Cause for the Division to convert this informal adjudicative proceeding to a formal adjudicative proceeding in accordance with Rule R649-10-1(2), U.A.C. The purpose of this Request for Agency Action is to set this matter for hearing by the Board at the Board's regularly scheduled hearing on September 26, 2012.

UNDERGROUND INJECTION OF WATER

8. The proposed Harley Dome #1-X SWD Well (the "**Subject Well**") is to be located one hundred feet north of the existing Harley Dome #1 in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East, S.L.M., Grand County, Utah (the "**Subject Lands**").

9. New Water seeks approval of the Subject Well as a Class II underground injection well and the authorization of operations for the underground injection of produced water into the Wingate Sandstone for water disposal purposes.

10. The existing Harley Dome #1 has not performed as expected for injection purposes. The Subject Well is intended as a replacement well for the Harley Dome #1 and will incorporate an improved completion design. New Water proposes that the existing Harley Dome #1 remain equipped for use for periodic injection and monitoring purposes.

11. The Application for Permit to Drill ("**APD**") for the Subject Well was filed with the Division on June 7, 2012. The APD currently is under review, and has not yet been approved. When the APD is approved, the Subject Well will be drilled as a conventional well and completed as an injection well in accordance with the approved APD.

12. New Water will operate the Subject Well and the proposed injection operations.

13. The formation to be approved by the Board for water injection disposal operations is the Wingate Sandstone. In the vicinity of the Subject Lands, the Wingate Sandstone is an aeolian sandstone deposit approximately 337 feet thick. The proposed stratigraphic interval in the Wingate Sandstone to be used for injection purposes is expected to be from 1,351 feet to 1,688 feet in the Subject Well.

14. The Kayenta Formation, which overlies the proposed injection interval, will act as the hydrologic boundary (confining layer) above the injection interval, and the Chinle Formation, which underlies the injection interval, will act as the hydrologic boundary below that interval.

15. In the vicinity of the Subject Well, the Wingate Sandstone dips to the north. Although the Wingate Sandstone outcrops near Westwater Canyon approximately 5.5 miles south and 800 vertical feet up dip from the Subject Well, the proposed injection operations in the Subject Well will not result in causing any discharge of any underground fluids at the surface outcrop and into the Colorado River.

16. The injection interval in the Wingate Sandstone is not currently, nor is it ever expected to be, an underground source of drinking water ("**USDW**"). The Dakota, Cedar Mountain, Morrison, Summerville, Entrada, Kayenta, and Chinle Formations in the vicinity of the Subject Well also are not USDW.

17. The following wells have been drilled and/or completed within a one-half mile radius of the Subject Well:

a. Elizondo Water Well situated in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East. The well was plugged and abandoned in June 1965.

b. Lansdale Government #5 Well situated in the NE¼NW¼ of Section 10, Township 19 South, Range 25 East. The well was plugged and abandoned in March 1968.

c. Lansdale Government #10-31-A Well situated in the NE¼SW¼ of Section 10, Township 19 South, Range 25 East. The well was plugged and abandoned in August 1975.

d. Harley Dome #1 SWD well situated in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East. The well was drilled, completed, and permitted as a UIC Class II injection well in 2010-2011. The well has undergone and passed well integrity test procedures on July 13, 2010, and on April 15, 2012.

18. With the exception of the Harley Dome #1, all of the wells drilled within a one-half mile radius of the Subject Well were plugged and abandoned immediately following drilling operations and no mechanical logs were run.

19. The water to be used as the injection medium for the proposed water injection operations will come from oil and gas producing wells in the Uintah Basin, Paradox Basin, the San Rafael Swell and Book Cliff areas, including the Greater Cisco Field in Utah, and sources in the Piceance Basin in western Colorado. New Water seeks authority to inject up to 10,000 barrels of produced water per day at an average injection pressure of 350 psi with a maximum injection pressure of 360 psi. The proposed maximum pressure is based on the results of step-rate injection tests run in the Harley Dome #1 on July 13, 2010, following installation of the final injection mechanical equipment. The final maximum injection pressure for the injection operations in the Subject Well will be set as a condition of the permit based on a step-rate test performed in the Subject Well after completion for injection with tubing and packer in place.

20. Copies of various electrical or radioactive logs that were run in the Harley Dome #1 well prior to the installation of casing and after casing was set and cemented have been filed with the Division and may be examined at the offices of the Division. Copies of such logs, including the cement bond log, acquired in the Subject Well after reaching the projected total depth of the final open-hole segment of the well also will be filed with the Division and made available for inspection.

OWNERSHIP

21. Harley Dome 1, LLC owns fee simple title to the Subject Lands.

22. The minerals in the lands embraced within the Subject Lands and within a one-half mile radius of the Subject Well are subject to United States of America Oil and Gas Leases Nos. UTU-70176, UTU-82619, and UTU-87659; and Utah State Mineral Lease No. ML-49255. Shiprock Helium, LLC owns the leasehold rights under UTU-70176. Rockies Standard Oil Co. LLC owns the leasehold rights under UTU-82619. Flatirons Resources LLC owns the leasehold rights under UTU-87659. Retamco Operating, Inc. owns the leasehold rights under ML-49255. The federal oil and gas leases are administered by the United States Department of the Interior, Bureau of Land Management ("**BLM**"), and the Utah State minerals are administered by the Utah School and Institutional Trust Lands Administration ("**SITLA**").

23. Besides Harley Dome 1, LLC, the surface owners within a one-half mile radius of the Subject Well include the United States of America, State of Utah, Westwater Farms LLC, and Mid-America Pipeline Co. Grand County and the Federal Highway Administration own the surface rights to old highway 6 & 50 and Interstate 70, respectively. The subject federal public lands are administered by the BLM, and the Utah State lands are administered by SITLA.

24. Plats showing the area involved and identifying all wells, including the proposed injection well, and all surface owners and operators within a one-half mile radius of the proposed Subject Well are attached hereto as Exhibit "A" and made a part hereof.

25. The names and addresses of all operators and owners as defined in Section 40-6-2 of the Utah Code, and of all surface owners within a one-half mile radius of the proposed Subject Well are set forth in Exhibit "B" attached hereto and made a part hereof.

26. The Affidavit required by Rules R649-5-1(2.9) and R649-5-2(2.12), U.A.C., is attached hereto as Exhibit "C" and made a part hereof.

WHEREFORE, New Water respectfully requests the Board to:

A. Set this matter for hearing at the regularly scheduled meeting of the Board to be held on September 26, 2012, to consider New Water's Application.

B. Give notice of this Request for Agency Action and the hearing as provided by the laws of the State of Utah and regulations issued pursuant thereto. The names and addresses of the parties interested in this matter are set forth in Exhibit "B" to this Request for Agency Action.

C. Conduct a hearing at which New Water and all interested parties may be allowed to present evidence regarding New Water's Application.

D. To make its findings that:

(1) The Harley Dome #1-X SWD Well as proposed is suitable for approval as a Class II injection well;

(2) The proposed underground operations will not endanger any drinking water sources; and

(3) Good cause appears to authorize underground water disposal operations for produced water utilizing the Harley Dome #1-X SWD Well as proposed.

E. Enter its order approving the Harley Dome #1-X SWD Well as a Class II injection well and authorizing the underground injection of produced water into the Wingate Sandstone beneath the Subject Lands for disposal purposes.

F. Provide such other relief as may be just and proper under the circumstances.

Dated this 8th day of August, 2012.

VAN COTT, BAGLEY, CORNWALL & McCARTHY

By _____

Thomas W. Clawson
Attorneys for New Water Financial, LLC
36 South State Street, Suite 1900
Salt Lake City, Utah 84111
Telephone: (801) 532-3333

Petitioner's Address:

NEW WATER FINANCIAL, LLC
c/o Mitch Burroughs
1716 East Lincoln Avenue, Suite #1
Fort Collins, CO 80524

EXHIBIT "A"

UIC FORM 1

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR INJECTION WELL

Name of Operator	Utah Account Number	Well Name and Number
New Water Financial LLC	N 3840	Harley Dome 1-X SWD
Address of Operator	**Phone Number**	**API Number**
1716 E Lincoln Ave #1 CITY Fort Collins STATE CO ZIP 80524	(970) 484-4100	4301950023
Location of Well		**Field or Unit Name**
Footage: 501' FNL and 2,139' FEL County: Grand		Greater Cisco
QQ, Section, Township, Range: NWNE 10 19S 25E State: UTAH		**Lease Designation and Number** UTU-82619

Is this application for expansion of an existing project?	Yes ☑	No ☐

Will the proposed well be used for:			
	Enhanced Recovery?	Yes ☐	No ☑
	Disposal?	Yes ☑	No ☐
	Storage?	Yes ☐	No ☑

Is this application for a new well to be drilled?	Yes ☑	No ☐

If this application is for an existing well, has a casing test been performed?	Yes ☐	No ☐
Date of test: _____		

Proposed injection interval: from 1,351 to 1,688

Proposed maximum injection: rate 10,000 bpd pressure 360 psig

Proposed injection zone contains oil ☐, gas ☐, and / or fresh water ☐ within ½ mile of the well.

List of attachments: Att. 1: Plat showing wells & ownership. Att. 2: Annotated well log excerpts & geologic data. Att. 3: R649-5-2 compliant submissions including casing plan, casing test plan, operating limits & zonal confinement data, geologic data on the proposed injection interval & confining layers & position of nearest USDW's. Att. 4: Water analyses. Att. 5: Affidavit certifying

ATTACH ADDITIONAL INFORMATION AS REQUIRED BY CURRENT UTAH OIL AND GAS CONSERVATION GENERAL RULES

that copies of this application were mailed to operators, owners and interested parties within one-half mile radius of the proposed injection well.

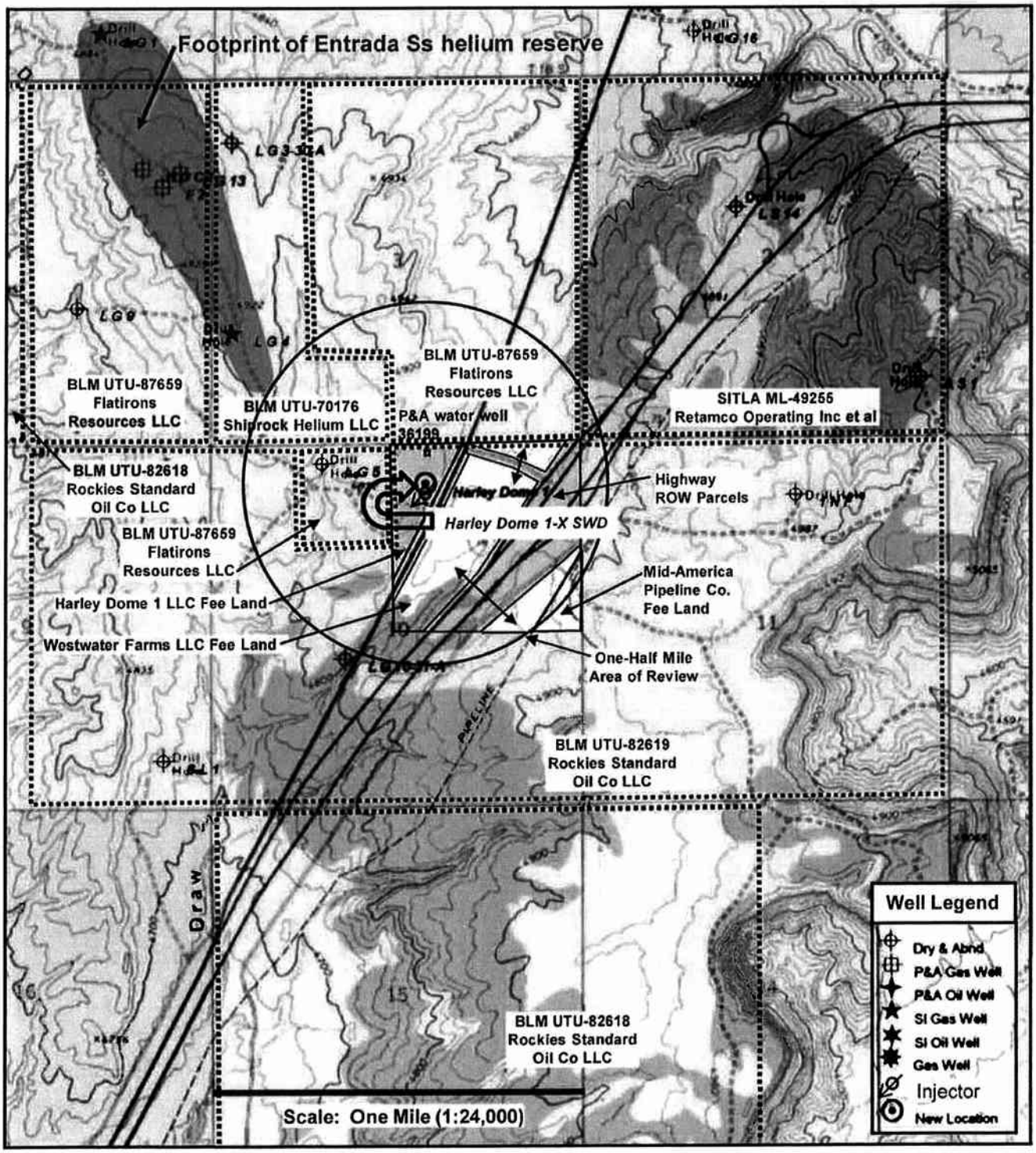
I hereby certify that this report is true and complete to the best of my knowledge.

Name (Please Print) David L. Allin (970) 254-3114 Title Consultant allinpro@bresnan.net

Signature D L Allin Date 7/16/2012

(5/2002)

UIC Form 1 Attachment 1: Plat showing location of proposed Harley Dome 1-X SWD injection well in NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah, all abandoned or active wells, surface owners and O&G lessees and/or operators in the area and particularly within a one- half mile radius area of review for this application submitted by New Water Financial, LLC. Revised July 11, 2012



U.S. managed by BLM | Utah managed by SITLA | U.S./Utah/County ROW's | Private

BLM or SITLA O&G Lease

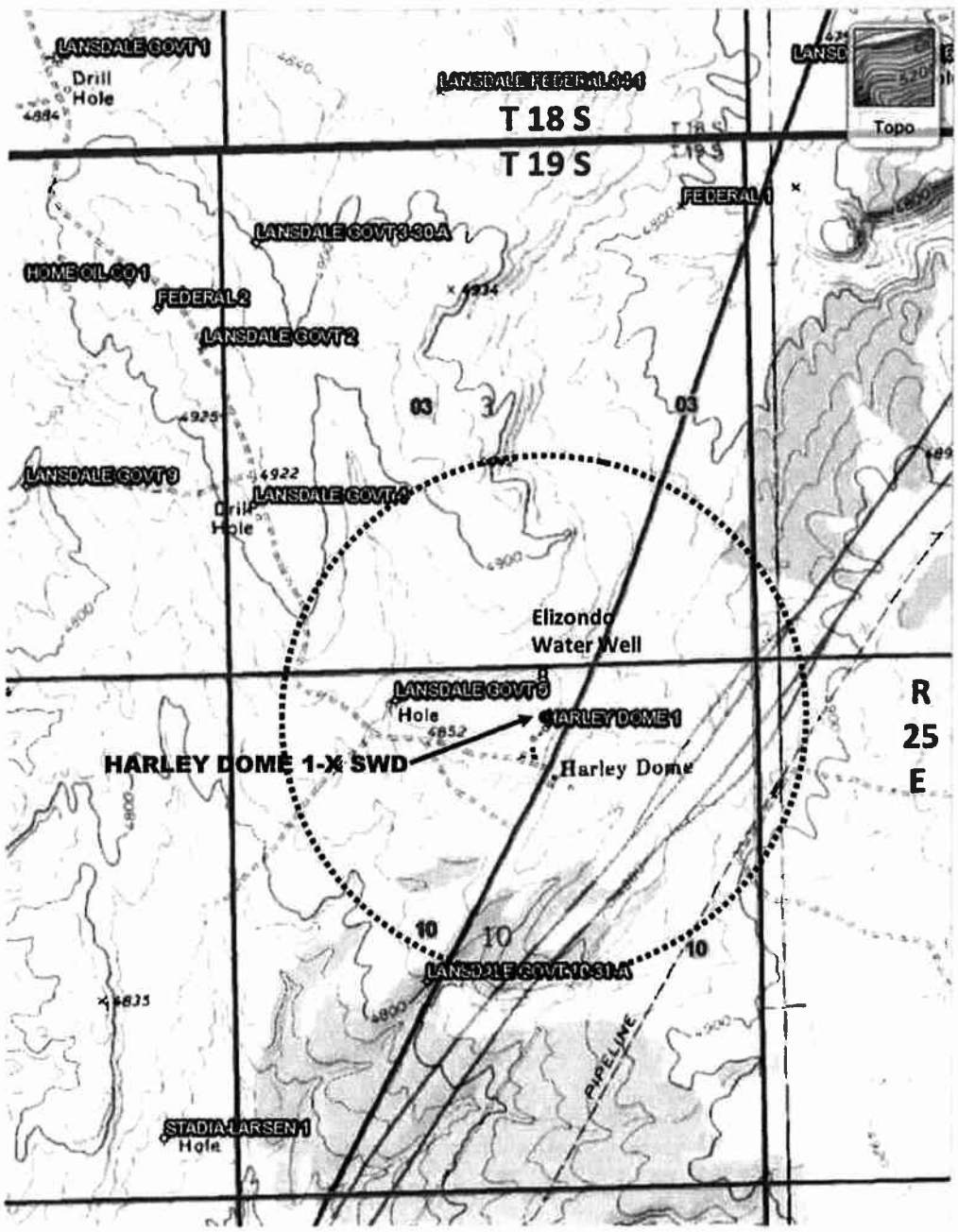
NEW WATER FINANCIAL, LLC **UIC Form 1 Attachment 1**

Wells Within Harley Dome 1-X SWD One-Half Mile Radius Area of Review

Plat Showing Location of Proposed Harley Dome 1-X SWD Class II Injection Well
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah
Abandoned or Active Wells are Designated by Name and Utah DOGM Symbol
Submitted by New Water Financial, LLC.

Revised August 7, 2012

One-half Mile Area of Review Centered on Harley Dome 1-X SWD Proposed Location



Layers | Info | Legend

OilGasMining

Wells

- × <all other values>
- APD - Aproved Permit
- DRL - Spudded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Drilling Operations Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

Wells Labels - Name

- o **HARLEY DOME 1-X SWD**

EXHIBIT "B"

NAMES AND ADDRESSES OF OWNERS, OPERATORS, AND SURFACE OWNERS WITHIN A ONE-HALF MILE RADIUS OF THE PROPOSED HARLEY DOME #1-X SWD WELL, GRAND COUNTY, UTAH.

Steven F. Alder
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Michael S. Johnson
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Grand County
Road Department
125 East Center
Moab, UT 84532

United States Bureau of Land Management
Moab Field Office
82 East Dogwood
Moab, UT 84532

Utah Division Federal Highway Administration
2520 West 4700 South, Suite 9-A
Salt Lake City, UT 84129

Enterprise Mid-America Pipeline
c/o Enterprise Products Partners, L.P.
P.O. Box 4324
Houston, TX 77210-4324

Utah School and Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818

Flatirons Resources, LLC
303 East 17th Avenue, Suite 940
Denver, CO 80203-1262

Rockies Standard Oil Co., LLC
1411 East 840 North
Orem, UT 84097-5846

Shiprock Helium, LLC
P.O. Box 51166
Amarillo, TX 79159

Retamco Operating, Inc.
Attn: Joe Glennon
One South Broadway Avenue, Suite 2
P.O. Box 790
Red Lodge, MT 59068-0790

Living Rivers
Attn: John Weisheit
P.O. Box 466
Moab, UT 84532
(john@livingrivers.org)

Bill Love
2871 East Bench Road
Moab, UT 84532

United States Fish and Wildlife Service
Attn: Larry Crist
Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119

WestWater Farms, LLC
P.O. Box 324
Cisco, UT 84515

Jacque M. Ramos
J. Ramos Law Firm PLLC
2709 South Chadwick Street
Salt Lake City, UT 84106
(jramos@jramoslawfirm.com)

Patrick A. Shea
Patrick A. Shea P.C.
252 South 1300 East, Suite A
Salt Lake City, UT 84102
(pas@patrickashea.com)

EXHIBIT "C"

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**AFFIDAVIT OF THOMAS W. CLAWSON** **Docket No. 2012-**028 **Cause No.** 279-01

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

THOMAS W. CLAWSON, having been duly sworn, deposes and says that:

1. He is a resident of Salt Lake County and over the age of 21 years.

2. He is an attorney licensed to practice law before the Utah Supreme Court and all inferior courts of the State of Utah.

3. He is familiar with the statutes, rules, and regulations of the Board of Oil, Gas and Mining pertaining to injection of fluids into underground formations for water disposal purposes.

4. He has caused the Request for Agency Action in this Cause, including the UIC Form 1, to be provided to all operators, owners, and surface owners within a one-half mile radius of the proposed Harley Dome #1-X SWD Well as required by Rules R641-104-135, R649-5-1(1), and R649-5-2(2.12), U.A.C., by mailing copies thereof, properly addressed, with

postage prepaid. The names and addresses of the owners so served are set forth in Exhibit "C" to the Request for Agency Action in this Cause.

Dated this 8th day of August, 2012.

Thomas W. Clawson

STATE OF UTAH)
ss.
COUNTY OF SALT LAKE)

SUBSCRIBED AND SWORN to before me this 8th day of August, 2012.

NOTARY PUBLIC

4833-5720-3216, v. 1

FILED

OCT 18 2012

SECRETARY, BOARD OF OIL, GAS & MINING

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**STIPULATION** **Docket No. 2012-28** **Cause No. 279-01**

NEW WATER FINANCIAL, LLC is the Petitioner in the above-entitled Cause. On or about September 10, 2012, **LIVING RIVERS** filed an objection to New Water Financial, LLC's application for approval of the Harley Dome 1-X SWD Well as a Class II injection well ("**Objection**"). The hearing in this Cause has been continued to the Board of Oil, Gas and Mining's (the "**Board**") October 24, 2012 regularly scheduled hearing. New Water Financial, LLC ("**New Water**") and Living Rivers ("**LR**") have reached an agreement regarding the issues raised by New Water's Request for Agency Action filed in this Cause ("**Request**") and LR's Objection. Accordingly, New Water and LR (a "**Party**" or together, the "**Parties**"), by and through their undersigned attorneys, hereby enter into the following Stipulation.

1. LR agrees to withdraw its Objection to the Request before the Board's October 24, 2012 hearing, and, in exchange, if the Board approves New Water's Request, New Water agrees to drill a well to monitor the approved injection operations (the "**Monitoring Well**") at a location to be agreed to by the Parties after consultation with and between their respective experts.

2. New Water shall allow LR timely access to the hydrologic data obtained from the Harley Dome 1-X SWD Well (the "**Subject Well**") and the Monitoring Well in a manner to be determined by agreement between the Parties after consultation with and between their respective experts, and LR agrees to protect the confidentiality of such information to the extent that the information is not normally available to the public.

3. The Parties agree that the purpose of the Monitoring Well is to provide a means to monitor and evaluate the effect, if any, of the approved injection operations on the hydraulic gradient in the Wingate Sandstone between the Subject Well and the Colorado River. In that regard, the Parties agree to establish, through their respective experts, a reasonable methodology using the conditions in the Monitoring Well that will evaluate the effect of the injection operations on the hydraulic gradient in the Wingate Sandstone as well as establishing a threshold measurement above which it would appear that such injection operations could threaten the Colorado River. Both Parties agree that if the gradient at the position of the Monitoring Well is less than 0.001 ft/ft sloping away from the Colorado River, either Party may petition the Board for a hearing, including an emergency hearing, regarding the status of New Water's Application

4. The Board may include as conditions of approval the following provisions (or substantial equivalents) in its order approving the Request:

(a) A monitoring well shall be drilled at a location and to a depth to be agreed to by the Parties. If the Parties cannot reach such an agreement within 90 days after sustained injection operations in the Subject Well have commenced, either Party may petition the Board to set a public hearing regarding such monitoring well.

(b) If a monitoring well is not drilled within one year after this order is issued and the Parties have not agreed in writing to an extension, either Party may petition the Board

to set a public hearing regarding such monitoring well and the injection operations in the Subject Well shall be shut in, if possible, or reduced to the extent possible without damaging the Subject Well pending the outcome of the hearing.

(c) If the hydraulic data obtained from the Subject Well and the monitoring well indicate that the approved injection operations may significantly affect the hydraulic gradient in the Wingate Sandstone between the Subject Well and the Colorado River at the position of the monitoring well because the gradient at that position is less than 0.001 ft/ft sloping away from the Colorado River and the Parties cannot agree how to modify the injection operations in a manner consistent with this Order and the Division of Oil, Gas and Mining's supervision of the operations to eliminate the impact to the hydraulic gradient, either Party may petition the Board to set a public hearing regarding the approved injection operations and the injection operations in the Subject Well shall be shut in, if possible, or reduced to the extent possible without damaging the Subject Well pending the outcome of the public hearing.

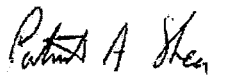
Dated this 18th day of October, 2012.

VAN COTT, BAGLEY, CORNWALL & McCARTHY

By _____
Thomas W. Clawson
Attorneys for Petitioner
36 South State Street, Suite 1900
Salt Lake City, Utah 84111
Telephone: (801) 532-3333

Dated this 18th day of October, 2012.

PATRICK A. SHEA, P.C.



By_____

Patrick A. Shea
Attorneys for Living Rivers
252 South 1300 East, Suite A
Salt Lake City, Utah 84102
Telephone: (801) 671-9902

4842-3084-5713, v. 1

CERTIFICATE OF MAILING

I hereby certify that on this 18th day of October, 2012, I caused a true and correct copy of the foregoing Stipulation to be served via U.S. Mail, properly addressed with postage prepaid, upon each of the following:

Steven F. Alder
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Michael S. Johnson
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Grand County
Road Department
125 East Center
Moab, UT 84532

United States Bureau of Land Management
Moab Field Office
82 East Dogwood
Moab, UT 84532

Utah Division Federal Highway Administration
2520 West 4700 South, Suite 9-A
Salt Lake City, UT 84129

Enterprise Mid-America Pipeline
c/o Enterprise Products Partners, L.P.
P.O. Box 4324
Houston, TX 77210-4324

Utah School and Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818

Flatirons Resources, LLC
303 East 17th Avenue, Suite 940
Denver, CO 80203-1262

Rockies Standard Oil Co., LLC
1411 East 840 North
Orem, UT 84097-5846

Shiprock Helium, LLC
P.O. Box 51166
Amarillo, TX 79159

Retamco Operating, Inc.
Attn: Joe Glennon
One South Broadway Avenue, Suite 2
P.O. Box 790
Red Lodge, MT 59068-0790

Living Rivers
Attn: John Weisheit
P.O. Box 466
Moab, UT 84532
(john@livingrivers.org)

Bill Love
2871 East Bench Road
Moab, UT 84532

United States Fish and Wildlife Service
Attn: Larry Crist
Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119

WestWater Farms, LLC
P.O. Box 324
Cisco, UT 84515

Patrick A. Shea
Patrick A. Shea P.C.
252 South 1300 East, Suite A
Salt Lake City, UT 84102
(pas@patrickashea.com)

Jacque M. Ramos
J. Ramos Law Firm PLLC
2709 South Chadwick Street
Salt Lake City, UT 84106
(jramos@jramoslawfirm.com)

4842-3084-5713, v. 1

FILED

SEP 10 2012

SECRETARY, BOARD OF OIL, GAS & MINING

Patrick A. Shea
Utah State Bar No. 2929
PATRICK A. SHEA, P.C
215 South State Street, Suite 200
Salt Lake City, Utah 84111
Telephone: (801) 671-9902 / 305-4184
Facsimile: (801) 305-4181
Attorneys for Living Rivers

Jacque M. Ramos
Utah State Bar No. 10720
J. Ramos Law Firm P.L.L.C.
2709 South Chadwick Street
Salt Lake, City, Utah 84106
Telephone: 801-521-2442
Facsimile: (801)-582-0834
Email: jramos@jramoslawfirm.com

BEFORE THE BOARD OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	**LIVING RIVERS' OBJECTION TO GRANTING THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL** **Docket No. 2012-28** **Cause No. 279-01**

Living Rivers ("LR"), by and through counsel, respectfully submits its Objection to Granting the Application of New Water Financial, LLC for Administrative Approval of the Harley Dome 1-X SWD Well Located in Section 10, Township 19 South, Range 25 East, S.L.M. Grand County, Utah, as a Class II Injection Well. Based on the information obtained by LR and opinions of Dr. D. Kip Solomon, approval of the application should be denied and/or delayed until the new injection well is installed and tested, and plans for additional monitoring and/or data collection are in place.

Living Rivers is a 501(c)(3) Utah not-for-profit corporation dedicated to protecting rivers in general, but the Colorado River in particular Based on New Water Financial, LLC's application, LR sought the expert opinion of D. Kip Solomon, Ph.D., PG to review the hydrogeological aspects of injecting produced water into the Wingate Formation in the vicinity of Harley Dome *See*, September 9, 2012 Expert Report of D. Kip Solomon, Ph.D., P.G., *attached hereto* as **Exhibit A** and incorporated herein by this reference[1] Dr. Solomon's September 9, 2012 incorporates data, analysis, and opinions previously contained in his February 20, 2011 Expert Report presented in Docket No 2010-029, Cause No. UIC-358 due to its similarity and relevancy to the current application by New Water Financial, LLC. Overall, LR and Dr Solomon are concerned at the certain negative impact of reversing the groundwater flow and discharge of natural formation water into the Colorado River that will arise from New Water Financial LLC's proposed use of the underground injection well **Exhibit A**.

As the Board is aware, Utah regulations specifically require that, "[i]njection wells shall be completed, equipped, operated, and maintained in a manner that *will prevent pollution and damage* to any USDW (United States Drinking Water), *or other resources* and will confine injected fluids to the interval approved" Utah Oil and Gas Conservation Rule R649-5-2(1)(emphasis added) To ensure the integrity of the well and *to eliminate, prevent, or reduce the possible pollution or contamination, other test procedures or devices* may be required by the division. Utah Oil and Gas Conservation Rule R649-5-5(3 3). Preventing the likely pollution and damage to the Colorado River arising from the injected fluids are grounds for LR seeking the Board's denial or stay of New Water Financial, LLC's application for the injection well.

---

[1] Dr. Solomon's report is intended to outline the safety and health issues presented with New Water Financial, LLC's application for a Class II Underground Injection Well Dr. Solomon will be presenting evidence and testimony concerning his report and findings to the Board at the scheduled hearing set for September 26, 2012

First, it is important to note that a glaring deficiency in New Water Financial LLC's application is that it seeks approval without the new injection well being in place and tested with a location less than six 6 miles from the Colorado River **Exhibit A**, pp 1, 4.

Second, the primary concern that this Board should consider is the likely probability that pressure build up around the well will cause a reversal in the direction of natural groundwater flow and eventual discharge of the formation water into the Colorado River The natural groundwater in the vicinity is known to be briny, "[a]nd if water of this salinity were forced into the Colorado River it would have a negative impact on [this essential] public resource " **Exhibit A**, p 1 As detailed in his report, Dr. Solomon has found based upon his simulations that a "[c]ontinuous injection of 10,000 barrels/day will result in a reversal of the direction of groundwater flow" and that "[e]ven if the injection rate is mechanically limited to be no greater than 350 psi, and the permeability as low as 20 milidarcy" will still create a distinct "[p]ossibility to reverse the direction of groundwater flow and cause natural formation water to discharge into the Colorado River " **Exhibit A** at p. 4

The Board of Oil, Gas and Mining is specifically mandated to ensure that injection wells are completed, equipped, operated, and maintained in a manner that will prevent pollution and damage to any USDW, or other resources and will confine injected fluids to the interval approved. Utah Oil and Gas Conservation Rule R649-5-2(1) LR's written objection, Dr Kip Solomon's expert report, and testimony to be presented at the September 26, 2012 hearing, offers or will offer substantial evidence and data supporting a finding that the proposed injection well may cause formation fluid to enter the Colorado River prohibiting this Board to grant New Water Financial, LLC's application and/or staying its determination until proper data collection is compiled and additional monitoring measures are in place as outlined by Dr Solomon

Additional information and measures shall include a quantitative analysis to assure that the Colorado River will not be impacted by the proposed operation, an extensive site characterization program that provides site specific data needed to predict the performance of the system, monitoring systems in place to assure that injection is not causing a reversal of groundwater flow, and monitoring of the potentiometric surface at a point between the injection well and River.

Respectfully submitted this 10th day of September 2012.

Patrick A. Shea
Counsel for Living Rivers

Jacque M. Ramos
Counsel for Living Rivers

MAILING CERTIFICATE

I hereby certify that I mailed a true and correct copy of the foregoing **SUPPLEMENT TO REQUEST FOR RECONSIDERATION AND IN THE ALTERNATIVE REQUEST FOR A STAY OF THE ORDER ISSUED ON JANUARY 13, 2011**, postage prepaid, this 22nd day of February 2011 to the following:

Steven F Alder
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, Utah 84116

Michael S Johnson
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, Utah 84116

Grand County
Road Department
125 East Center
Moab, Utah 84532

United States Bureau of Land Management
Moab Field Office
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PO Box 4324
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Utah School and Institutional Trust Lands
Administration
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Flatirons Resources, LLC
303 East 17th Avenue, Suite 940
Denver, CO 80203-1262

Rockies Standard Oil Co , LLC
1411East 840 North
Orem, Utah 84097-5846

Shiprock Helium, LLC
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Amarillo, TX 79159

Retamco Operating, Inc
Attn: Joe Glennon
One South Broadway Avenue, Suite 2
PO Box 790
Red Lodge, MT 59068-0790

Bill Love
2871 East Bench Road
Moab, Utah 84532

United States Fish and Wildlife Service
Attn: Larry Crist
Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, Utah 84119

Thomas W Clawson
Vancott, Bagley, Cornwall & McCarthy, P C.
36 South State Street, Suite 1900
Salt Lake City, Utah 84111-1478

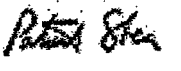


Exhibit A

CONFIDENTIAL ATTORNEY WORK PRODUCT PRIVILEGE

D. Kip Solomon, Ph.D, PG
2355 East 900 South
Salt Lake City, UT 84108

September 9, 2012

Patrick A. Shea
252 South 1300 East, Suite A
Salt Lake City, Utah 84102

Dear Mr. Shea:

I have reviewed the application by New Water Financial LLC for a class II injection well that would be located approximately 100 feet north of the existing Harley Dome #1 well. This application is similar to the application by Westwater Farms for which I previously prepared a letter report dated February 20, 2011. For reference I am attaching a copy of that letter report, as its findings are pertinent to the application by New Water Financial LLC. I also offer additional comments as outlined below.

The proposed injection would be into the Wingate Sandstone less than 6 miles from the Colorado River. The Wingate Sandstone dips to the northwest and intersects the land surface near the Colorado River. Thus, there are no hydrologic barriers between the injection well and the Colorado River. Currently, the potentiometric surface slopes slightly away from the Colorado River (approximately 0.0017 ft/ft) indicating that natural groundwater flow in the Wingate Sandstone is also moving away from the River. The natural velocity of groundwater flow is on the order of 0.2 to 1.3 ft/year suggesting that the water near the injection zone is very old. When injection begins, groundwater flow will be radially outward from the well with some of the injected fluid moving towards the Colorado River. Due to the distance and the proposed injection rate, my primary concern does not pertain to the migration of the injected brine to the Colorado River, but rather that the pressure build up around the well will cause a reversal in the direction of natural groundwater flow. Natural groundwater, at least in the vicinity of the injection well, is briny, and if water of this salinity were forced into the Colorado River it would have a negative impact on a public resource. Salinity reduction has been the focus of a large federal project throughout the entire Colorado River Basin. My report dated February 20, 2011 documents a quantitative evaluation of the possibility that the proposed injection operation would result in a reversal of the natural direction of groundwater flow and the discharge of natural formation water into the Colorado River. Only a limited amount of data is available and as a result my analysis considered a range of possible conditions. This is the scientifically proper way to perform a quantitative evaluation with uncertainty in parameter values. The range of values utilized is not arbitrary but rather is consistent with test results reported from other locations within the Wingate Sandstone. My results indicate that if a continuous injection of 4.5 barrels per minutes is sustained over time, a reversal in the direction of groundwater flow will occur. Even if the injection rate is lowered in order to stay below the hydraulic fracturing pressure, a reversal in groundwater flow will still occur if the injection is sustained. The simulated timing of

this reversal ranges from approximately 1 to 25 years depending on the specific parameter values utilized. The application by New Water Financial LLC requests an even larger injection rate of approximately 6.9 barrels/min that could potentially be divided between both the existing and a new injection well. Although I have not specifically simulated this injection rate at its precise proposed location (100 feet north of the existing well), the higher injection rate would result in a reversal in a shorter period of time.

In the text below I provide additional insight and clarification regarding my concerns. I want to emphasize that my simulations assume a continuous injection operation, as this is what is being requested in the application. Of course, if the injection is intermittent then my concerns are lessened and vanish at some de minimis injection rate.

- My analysis of the pressuring testing performed on the Harley's Dome #1 well resulted in a permeability that is similar to the value of 20 millidarcy reported by David K. Dillon. All geologic formations are heterogeneous with respect to permeability and it would be highly coincidental that this single value is representative of the bulk permeability of the Wingate Sandstone between the injection well and the Colorado River. Moreover, the permeability near the new undrilled well (Harley's Dome #1-X SWD) is unknown but could easily be a factor of 2 to 7 higher than 20 millidarcy. An objective and quantitative analysis of the impact of the injection system on the regional flow field needs to include a range of possible values, as I have done in my report. If such an assessment showed, even when using values near the extremes of what has been measured at other locations, that no negative impacts are expected, then it might be reasonable to proceed with only minimal monitoring. However, in the case of the New Water LLC application, the negative impact of reversing the natural direction of groundwater flow is a very real possibility. As such, either (1) an extensive site characterization program should be undertaken that would provide the site-specific data needed to predict the performance of the system, or (2) a monitoring system should be in place that will assure that the injection is not causing a reversal of groundwater flow near the Colorado River. A quantitative analysis, as opposed to bold qualitative claims, is needed to assure that a natural resource will not be impacted by the proposed operation.

- It is important to recognize that the pores of the Wingate Sandstone are already filled with liquid. Nevertheless, it is possible to inject additional liquid under pressure into the formation because (1) the liquid itself compresses and (2) the formation is not rigid and will deform slightly to accommodate the additional fluid. As such, the compressibility of the formation is a key factor for evaluating the hydraulic response of the system. If the formation were completely rigid, the induced pressure from the injection would spread out radially away from the injection point at a very rapid rate and would be detectable many miles away. The more compressible the system, the greater the storage capacity, and therefore the radius of influence of the well will be smaller. In spite of the importance of

this parameter, I have been unable to locate even an estimate of its value in the New Water Financial LLC application.

- The use of the Harley Dome #1 well to monitor fluid pressures during testing of the new Harley Dome 1-X SWD well is useful and will lead to a better definition of the hydraulic properties of the Wingate Sandstone. However, the Harley Dome #1 well will not be useful as a monitoring well in the context referred to in my February 20, 2011 report because it is too close to the injection well. The potentiometric surface near the Harley Dome #1 will be sloping toward the Colorado River after only a short period of time after the injection begins (unless the injection rate is vastly lower than 6.9 barrels/min.) The idea behind the suggested monitoring well in my February 20, 2011 report is to assure that the potentiometric surface at a distance of 1 mile or more from the injection well remains sloping away from the Colorado River. In less than 2 days and with an injection rate of only 2 barrel/min, the simulated potentiometric surface 100 feet from the injection well is greater than the elevation of the Colorado River, but the potentiometric surface remains below the River elevation at a greater distance. Thus, a monitoring well at a greater distance (e.g. 1 mile) from the injection well is needed.

- Because the new injection well does not currently exist, it is only possible to bracket the range of injection rates that will be possible and still stay below the hydraulic fracturing pressure limit. Blanchard (1990) reports transmissivity values ranging from 40 to 150 ft^2/day and this is approximately equal to a permeability ranging from 42 to 156 millidarcy. If the permeability near the new injection well is near the upper range of these values, it will be possible to continuously inject 10,000 barrels/day as requested, and my analysis shows that this would reverse the flow direction more than 5 miles away in a time period ranging from days to 10 years, depending on the bulk hydraulic diffusivity of the Wingate Sandstone. If the only distal monitoring is observations of discharge where the Wingate outcrops at the Colorado River, it could take up to 10 years to realize this was happening. Even if the injection were then to stop immediately, it would be many years before the system would return to a pre-injection pressure and cessation of fluid discharge. This underscores the importance of monitoring the potentiometric surface at a point between the injection well and the River so that a flow reversal can be recognized sooner.

- I am aware that some hydraulic head data are available from the wells located north of injection site that are completed in the Entrada Sandstone. I am further aware that these values have been interpreted by David L. Allin to indicate that the potentiometric surface associated with the Wingate Sandstone slopes more steeply to the north than it does to the south. However, the Entrada Sandstone overlies and is separated from the Wingate Sandstone by the Kayenta Formation. The application by New Water LLC claims the Kayenta will function as the required confining layer for the injection operation. As such, the hydraulic head in a formation above the confining layer is not representative of the Wingate

Sandstone and cannot be used to assess the slope of the potentiometric surface north of the injection site.

Summary

Although the application by New Water LLC is similar to the previously approved application by Westwater Farms, the New Water application seeks approval without the new injection well being in place and tested. As such, an objective and quantitative evaluation of the performance of this system can only be completed by using hydraulic properties obtained from other locations in the Wingate Sandstone. My analysis indicates that it may be possible to inject the requested 10,000 barrels/day of brine if the local permeability near the new well is near the upper range of values obtained from other Wingate locations. Furthermore, my simulations indicate that a continuous injection of 10,000 barrels/day will result in a reversal of the direction of groundwater flow. My simulations further indicate that even if the injection rate is mechanically limited to be no greater than 350 psi, and the permeability is as low as 20 millidarcy, it is still possible to reverse the direction of groundwater flow and cause natural formation water to discharge into the Colorado River. In my opinion, approval of this application should be delayed until the new injection well is installed and tested, and plans for additional monitoring and/or data collection are in place.

Respectfully Submitted,

D. Kip Solomon

REGISTERED PROFESSIONAL GEOLOGIST
D. KIP
SOLOMON
NO. 5555493-2250
STATE OF UTAH

CONFIDENTIAL ATTORNEY WORK PRODUCT PRIVILEGE

D. Kip Solomon, Ph.D, PG
2355 East 900 South
Salt Lake City, UT 84108

February 20, 2011

Patrick A. Shea
252 South 1300 East, Suite A
Salt Lake City, Utah 84102

Dear Pat:

I have reviewed the hydrogeological aspects of the application from Westwater Farms to inject produced water into the Wingate Formation in the vicinity of Harley Dome. I have also reviewed supporting materials including the hydraulic stimulation report, the water quality report, structural contour maps, etc.

In order to evaluate the potential impact of this injection well on the hydrogeology of the Glen Canyon Group Aquifer, I have simulated the pressure field that would develop radially outward from the well. I have utilized the Theis Equation that is commonly used for evaluating aquifer tests that involve an extraction well and 1 or more observation wells. To use the Theis Equation in forward mode, estimates of the following parameters are needed: aquifer transmissivity (T), aquifer storativity (S), and injection rate (Q). The transmissivity was calculated using a permeability of 20 millidarcies (David K. Dillon, letter report dated July 20, 2010), a fluid density of 1033 kg/m^3, an aquifer thickness of 334 ft, and a fluid viscosity of 9.86×10^{-4} kg/m/s (appropriate for water at 70 °F), to be 19 ft^2/day. The aquifer storativity (S) is a function of the compressibility of the formation, the porosity, and compressibility of water. While the supporting material provides a porosity estimate, and the compressibility of water can be assumed to be about 4.5×10^{-10} Pa^{-1}, I can find no site-specific estimates of the compressibility of the Wingate Formation (which I judge to be a major deficiency in the supporting data). The storativity for the Navajo Sandstone (which is also an aeolian sandstone) was reported by Heilweil et al. (2000) to range from 0.0025 to 0.0007. After adjusting this for the lesser thickness of the Wingate (334 ft versus approximately 1000 feet) yields estimates of 0.0008 to 0.0002 for the Wingate. In the absence of a site-specific value for S, I have assumed a value of 0.001 as this is also considered to be the upper limit for a confined aquifer (Lohman, 1979.) The injection rate was set to 4.5 barrels per minute (David K. Dillon report dated July 20, 2010) which is approximately 36,400 ft^3/day.

TheTheis Equation assumes the aquifer is perfectly confined above and below, and is of infinite lateral extent. The geometric details of the actual aquifer could be incorporated into a standard numerical model such as MODFLOW or SEAWAT.

The outward propagation of pressure from the injection well is controlled by the ratio of the transmissivity to storativity (T/S), which is known as the hydraulic diffusivity. When the hydraulic diffusivity is large (because T is large and/or S is small) the pressure mound

will be spread out over a larger lateral extent than compared to a smaller hydraulic diffusivity. The figure below shows the simulated pressure distribution for a transmissvity of 19 ft^2/day and a storativity of 0.001. This transmissivity is derived from a permeability of 20 millidarcies, consistent with the value reported by David K. Dillon (letter report dated July 20, 2010. It is important to point out that this simulation produced a pressure at the injection well that exceeds the 360 psi limit recommended by David K. Dillon. The simulation agrees relatively well with hydraulic stimulation test conducted by BJ Services after an injection of about 1 hour (i.e. the time at which the stimulation test reached an injection of 5 bpm), but suggests that a prolonged injection at 4.5 barrels per minute will exceed the recommended pressure limit. Nevertheless, an injection rate of 4.5 barrels per minute was utilized in the simulation because this is the value recommended by David K. Dillon, and it would be possible to inject at this rate if the permeability is somewhat higher than 20 millidarcies and/or if multiple injection wells were utilized.

As shown below, the simulated pressure rise at a distance of 5 miles after 5 years of injecting 4.5 barrels per minute would about 0.08 psi, which is equivalent to a rise in the potentiometric surface of about 0.18 feet.

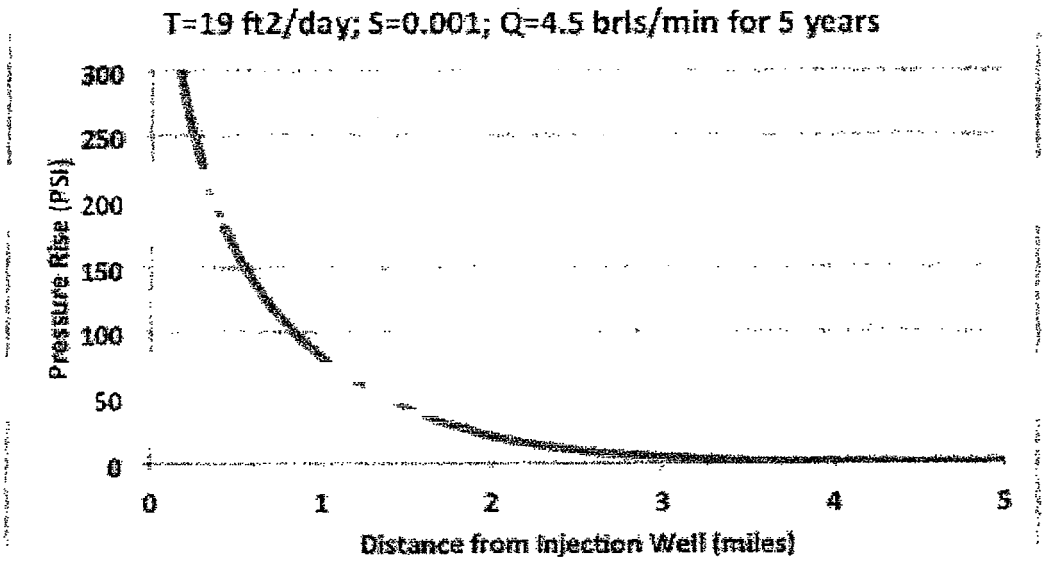


Figure 1. Simulation of pressure mounding that results from injecting 4.5 barrels per minutes for 5 years. This simulation utilizes a transmissivity of 19 ft^2/day (which is derived from a permeability of 20 millidarcies), and a storativity of 0.001. These values are considered to be the best available estimates, although no site-specific values for storativity have been presented.

Because the hydraulic properties of the Wingate in the vicinity of the injection well have uncertainty associated with them (only a single measurement of permeability is available

and no measurements of storativity), I have also simulated the pressure distribution using more extreme, but still realistic values. For example, aquifer testing of the Navajo Sandstone in the vicinity of St. George Utah resulted in transmissivities that ranged from 100 to 19,000 ft^2/day. Figure 2 below shows the simulated pressure distribution after injecting 4.5 barrels per minute for 5 years using a transmissvity of 100 ft^2/day and a storativity of 0.0005. In this case the pressure at the injection wells stays below the recommended limit of 360 psi. The pressure rise at a distance of 5 miles is 7.9 psi which is equivalent to a rise in the potentiometric surface of about 18 feet.

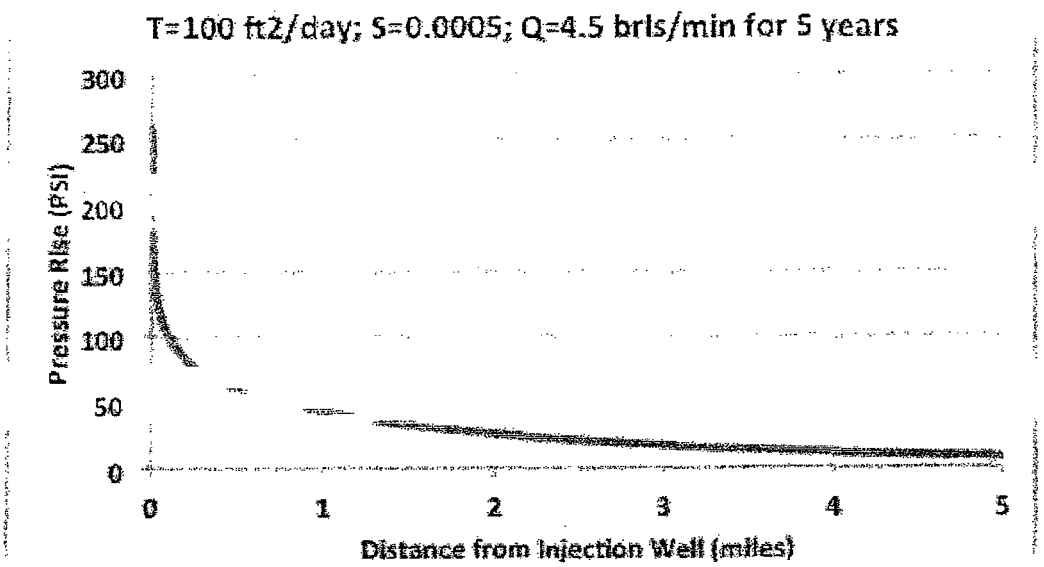


Figure 2. Simulation of pressure mounding that results from injecting 4.5 barrels per minutes for 5 years. This simulation utilizes a transmissivity of 100 ft^2/day (derived from a permeability of 104 millidarcies), and a storativity of 0.0005. These values are considered to be realistic, but result in a hydraulic diffusivity that is higher than the best available estimate.

While the simulation presented above does not take into account the geometric details of the aquifer, it does provide the basis for evaluating the potential impact of the injection operation on the regional hydrogeology. It is important to understand that although the Windgate outcrops near the Colorado River (approximately five miles away) at an elevation that is higher (800 feet according to David L. Allin) than at the proposed injection site, it is not necessary to raise the pressure head 5 miles away by that same amount (i.e. 800 feet) in order affect regional groundwater flow near the Colorado River. The elevation of the Colorado River at a point nearest to Harley Dome is 4323' (Rebuttal Exhibit 3; notes by David L. Allin December 1, 2010). The static water level in the Wingate at the injection well is 4275' (Rebuttal Exhibit 3; notes by David L. Allin December 1, 2010). In order to reverse the northward direction of groundwater flow to southward (towards the Colorado River) it is only necessary to raise the water level in the

injection well to greater than 4323 (i.e. 48 feet.) Figure 3 is a cross section that starts at the injection well and terminates at the Colorado River (at the point labeled "Nearest outcrop 5.8 miles Jw 4350' near river level"; Rebuttal Exhibit 3; notes by David L. Allin December 1, 2010). The redline is an estimate of the current potentiometric surface that connects the two known water levels; the Colorado River at 4325' and the injection well at 4275'. Superimposed on this cross section is the simulated potentiometric surface after 5 years of injecting 4.5 barrels per min. Figure 4 is similar to Figure 3, except it utilized the larger hydraulic diffusivity value discussed previously. In both Figure 3 and Figure 4, the slope of the simulated potentiometric surface is towards the river for most of the cross section as a result of the injection. When the higher hydraulic diffusivity value is utilized, Figure 4 illustrates that existing Wingate Formation fluid would begin discharging into the Colorado River. The environmental impact of such discharge is not known as it depends on both the rate of discharge and the quality of the Wingate Formation water near the river. Nevertheless, this analysis illustrate my concern that the buildup of fluid pressure as a result of an injection could reverse the regional hydraulic gradient and cause existing Wingate Formation water to discharge into the Colorado River. It is important to note that I am not particularly concerned about the actual migration of injected fluid a distance of over 5 miles as this transit time is likely to be far greater than the life of the injection well. Rather, my concern is over the propagation of fluid pressure that might reverse what currently appears to be northward moving regional groundwater flow.

Recommendations:

1. A three dimensional numerical model of groundwater flow should be developed to further refine the possibility of reversing the direction of groundwater flow near the Colorado River. The model should account for the geometry of the aquifer and should consider the variations in fluid density that likely exist between the Colorado River and formation water at the injection well. The model should also be capable of simulating solute transport so that potential salt loading to the Colorado River can be assessed.
2. A monitoring well should be installed that penetrates the Wingate Formation and is located approximately 1 mile to the southeast of the injection well (between the Colorado River and the injection well.) This well can be used to obtain an estimate of the transmissivity and storativity of the aquifer that is integrated over a reasonably large scale. Aquifer parameters obtained from this well could be used to update the numerical model.
3. A shallow monitoring well should be installed into the Wingate Formation approximately 0.25 miles northwest of the "Nearest outcrop 5.8 miles [of] Jw 4350' near [Colorado] river level" noted on the structural contour map prepared by David L. Allin, December 1, 2010. This well will help define the direction of groundwater flow in the Wingate, along with the quality of water in the Wingate near the Colorado River.
4. Monitoring wells in the Wingate Formation at distances of approximately 1 and 5 miles from the injection well, could be used to establish a limit on the pressure

build up from the injection well. For example, as long as the hydraulic head 1 mile from the injection well is lower than the head near the Colorado River, then it is unlikely that Wingate Formation water will discharge into the River. The simplified simulation presented in this report suggest that this will be the case for an injection rate less than about 11,300 ft^3/day (1.4 barrels per min) after 5 years, but not for larger injection rates. It would be reasonable to keep the head at 1 mile at least 10 feet lower than the Colorado River; however, I recommend that an exact criterion be established using a three-dimensional flow and transport model. The end goal is to prevent Wingate Formation water from discharging into the Colorado River as a result of the injection operation.

5. The hydraulic head in fluid bearing zones above the Wingate should be monitored during injection in order to evaluate the extent to which the Wingate Aquifer is completely confined. Ideally such monitoring wells would be as close a possible to the injection well and be finished in the Kayenta Formation. However, existing wells in the area may be a cost-effective alternative to installing new monitoring wells above the Wingate Formation.

References

Heilweil, V. M., G. W. Freethey, B. J. Stolp, C. D. Wilkowske, and D. E. Wilberg, Geohydrology and numerical simulation of ground-water flow in the central Virgin River Basin of Iron and Washington Counties, Utah, State of Utah Department of Natural Resources, Technical Publication No. 116, 2000.

Lohman, S. W., Ground-water hydraulics: U. S. Geological Survey Professional Paper 708, 70 p., 1979.

Respectfully Submitted,

D. Kip Solomon

REGISTERED PROFESSIONAL GEOLOGIST
D. KIP
SOLOMON
NO. 5555493-2250
STATE OF UTAH

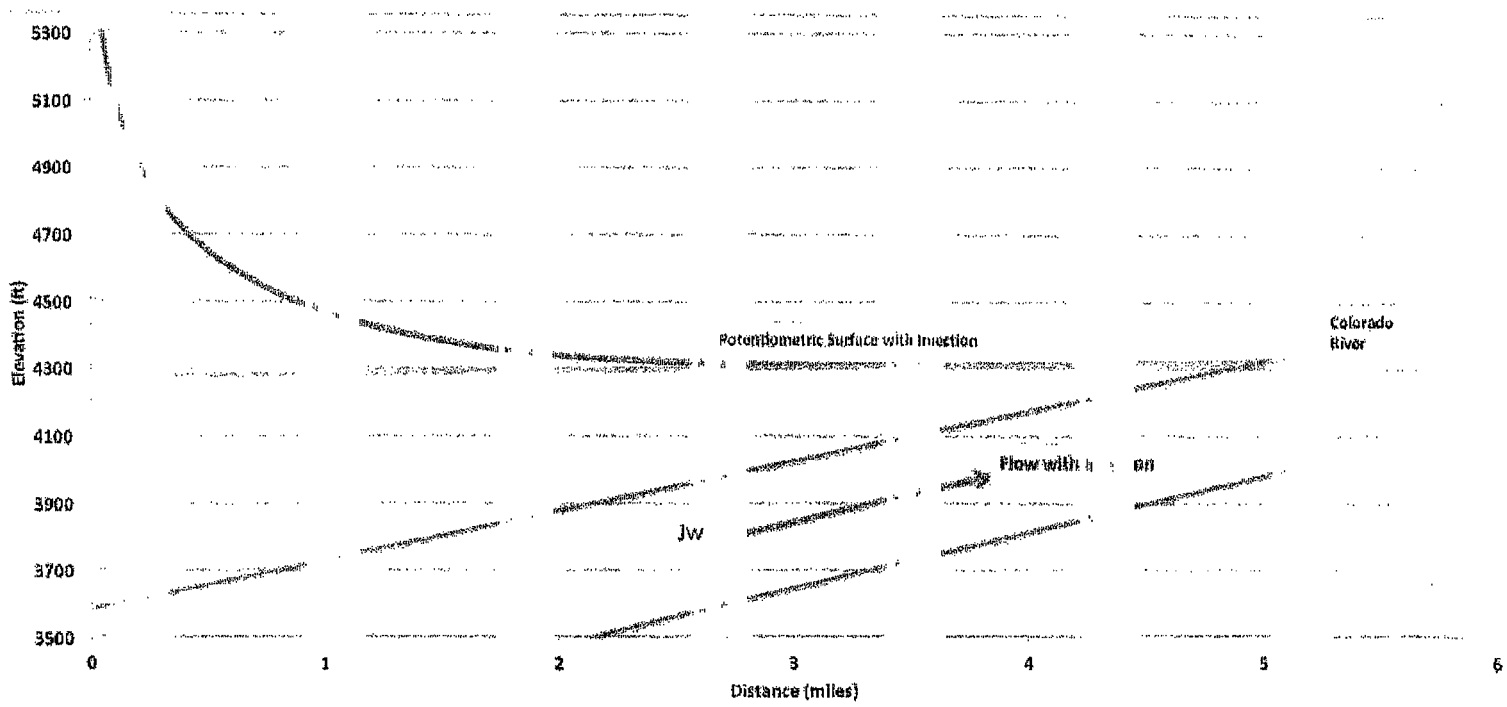


Figure 3. Cross section that extends from the injection well (distance = 0) to the Colorado River. The red lines shows the existing potentiometric surface that was estimated using the two known water levels (4275 at the injection well and 4323 at the Colorado River.) The blue line is the simulated potentiometric surface for pumping 4.5 barrels per minute for 5 years with a transmissivity of 19 ft^2/day and a storativity of 0.001. Also shown are the upper and lower contacts of the Wingate Formation (Jw). The simulated potentiometric surface slopes towards the Colorado River over most of the cross section and indicates that the injection could reverse the direction of regional groundwater flow.

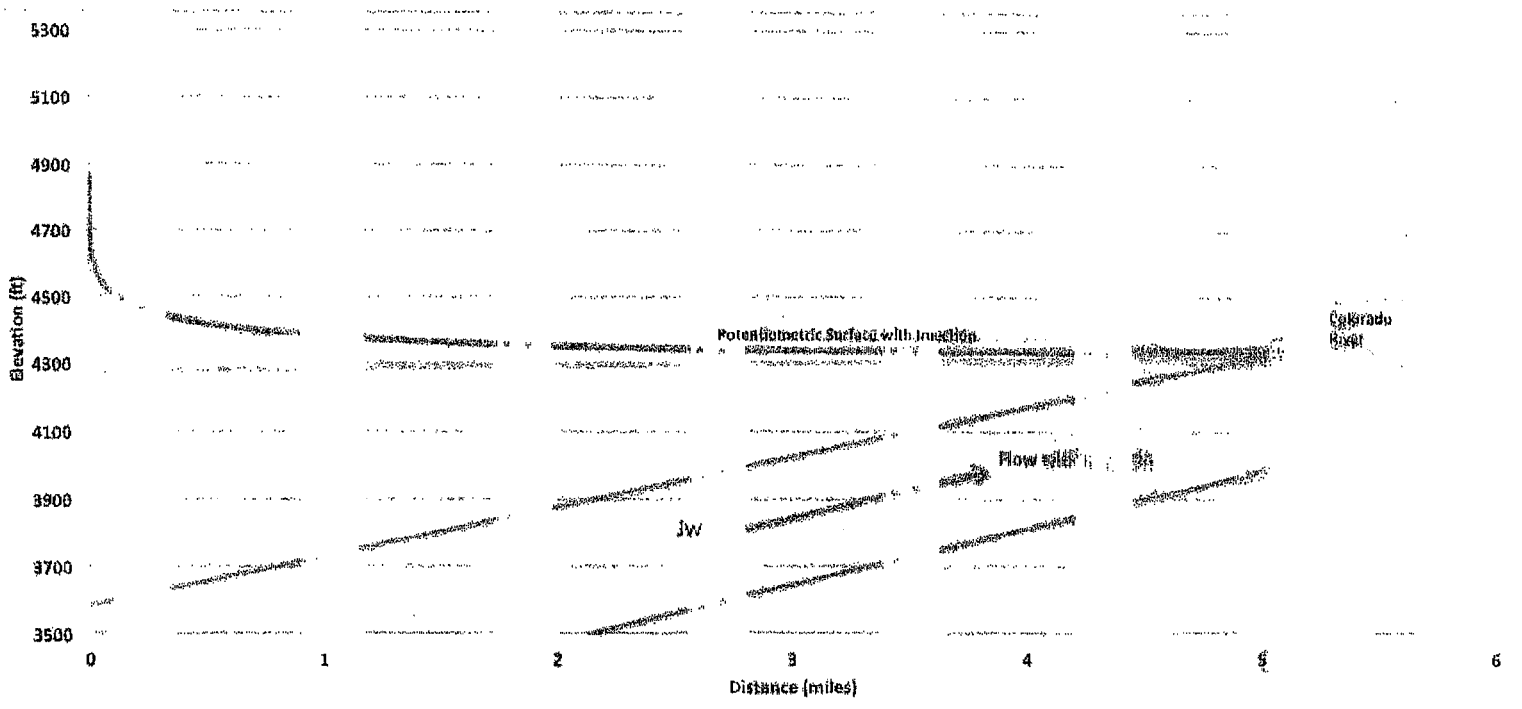


Figure 4. Cross section that extends from the injection well (distance = 0) to the Colorado River. The red lines shows the existing potentiometric surface that was estimated using the two known water levels (4275 at the injection well and 4323 at the Colorado River.) The blue line is the simulated potentiometric surface for pumping 4.5 barrels per minute for 5 years with a transmissivity of 100 ft^2/day and a storativity of 0.0005. Also shown are the upper and lower contacts of the Wingate Formation (Jw). The simulated potentiometric surface slopes towards the Colorado River over all of the cross section and indicates that the injection could reverse the direction of regional groundwater flow. My concern is that this would in turn cause Wingate Formation fluid to discharge into the Colorado River.

STEWART ENVIRONMENTAL CONSULTANTS, LLC
ENGINEERING FOR LIFE

ACEC MEMBER

July 31, 2012

Mr. Brad Hill
Utah Division of Oil, Gas, and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Subject: Ruby Canyon Water Monitoring Survey—Wingate Sandstone
Harley Dome Well #1 Injection Monitoring
Project No.: 4464.007

Dear Mr. Hill:

In accordance with the monitoring plan outlined in our October 4, 2010 letter and subsequent conversations with the U.S. Fish and Wildlife Service (USFWS), Stewart Environmental Consultants, LLC performed the regularly scheduled water monitoring survey of the Wingate Sandstone. The survey was conducted on June 20, 2012 along the applicable reach of the Colorado River at Ruby Canyon (river miles 132 to 137), as depicted on Figure 1. USFWS concerns are cited in their September 15, 2010 letter and center on the possibility, albeit remote, that injection into the Wingate Sandstone via the Harley Dome Well #1 will promote seepage of liquids into the Colorado River, flowing east to west approximately six miles southeast of the well site.

In their letter, USFWS recognized that injection will occur into the Wingate Sandstone at a depth of approximately 1,750 feet and that the formation dips to the northeast, away from the Colorado River. However, the letter states that *"Despite this low probability of seepage, we wish to make you aware of the importance of the nearby Westwater Canyon of the Colorado River for recovery of endangered fish species."* As the letter states, the canyon is designated critical habitat for four endangered fish species: Colorado pikeminnow (Ptychocheilus lucius), razorback sucker (Xyrauchen texanus), humpback chub (Gila cypha), and bonytail (Gila elegans). The headwaters of Westwater Canyon begin at river mile 125, approximately six linear miles southwest (downstream) of the survey area (see Figure 1).

We observed the outcrop of the Wingate Sandstone in Ruby Canyon from river miles 132 to 137 as an upgradient monitoring point to Westwater Canyon, searching for the presence or absence of seeps, springs, or other water features. This reach of the river is the closest outcrop of the formation to the well site and would be the first point of seepage, if seepage were to occur.

At the time of the current survey, the area was experiencing drought conditions and previously flooded areas, such as McDonald Creek Canyon, were dry. This is unlike 2011 when there was record flooding and water from the Colorado River progressed a distance of approximately 250 to 300 yards into the mouth of the canyon. Currently, the entire canyon, including the mouth, is dry with minimal evidence of the presence of water except for small eroded drainages, sand and silt deposits, and established flora typical of near-riparian habitat associated with periodic episodes of flooding from the river.

There are signs of limited surface water flow throughout the survey area. These signs include desert varnish staining the canyon walls, erosional features (from both wind and water) cut into the rock, side canyons (both large and

small), and collection of sediment in dry washes at the base of the side canyons and in dry stream beds along the bench tops. Thus far only one spring has been found. "Spring A" is located at the contact of the Wingate Sandstone and the Kayenta Formation in a remote side canyon on the upgradient end of the survey area near river mile 137 (see Figure 1). The spring is situated midway along the reach of the side canyon and, as discussed below, has very low flow. Erosion of the side canyon and deposition of sediment in the dry wash at its base is attributed to flash flood surface flows rather than Spring A or meteoric waters higher up the Kayenta Formation. When the spring was found, detailed observation of the rock formations in the immediate area was conducted and no other springs were discovered.

At Spring A water flows from the cliff face as six to eight individual drips. Currently, the fastest drip flows at approximately 0.0015 gpm. In a previous survey, water was observed to flow as thin braids with the largest one flowing at a rate of up to 0.025 gpm. Collectively, the drips (and braids) of water drain to a 3' x 6' x 2' concrete catch basin buried in the cliff face. The history and purpose of a catch basin in such a remote location is unknown but it appears to be very old and is presumed to be associated with railroad construction in the late 1800s. It has not been used in years and is now completely filled with sediment. This is significant in that it shows the spring to be historic and clearly not a result of recent injections at the Harley Dome Well #1.

It is too early in the course of the injection process for water from the Harley Dome Well #1 to have reached the spring; however, because we found no other seeps, springs, hanging gardens, or signs of groundwater emanating from the Wingate Sandstone, we recommend that Spring A be carefully monitored in the future to track trends in water flow and quality.

The water monitoring survey was intended to document current conditions and compare the information to baseline data. Stewart Environmental plans to observe the Wingate Sandstone approximately every six months for a period of three years. The latest survey marks the fourth of six monitoring events. Future observations will be compared to information from previous events and if we do not observe additional seeps or springs that are the result of the injection well activity, we will then begin monitoring the formation on a yearly basis. This schedule may be altered if injection activities escalate or other site conditions warrant a change.

We will supply additional information as it is obtained. Please contact us if you have questions or need more information.

Sincerely,

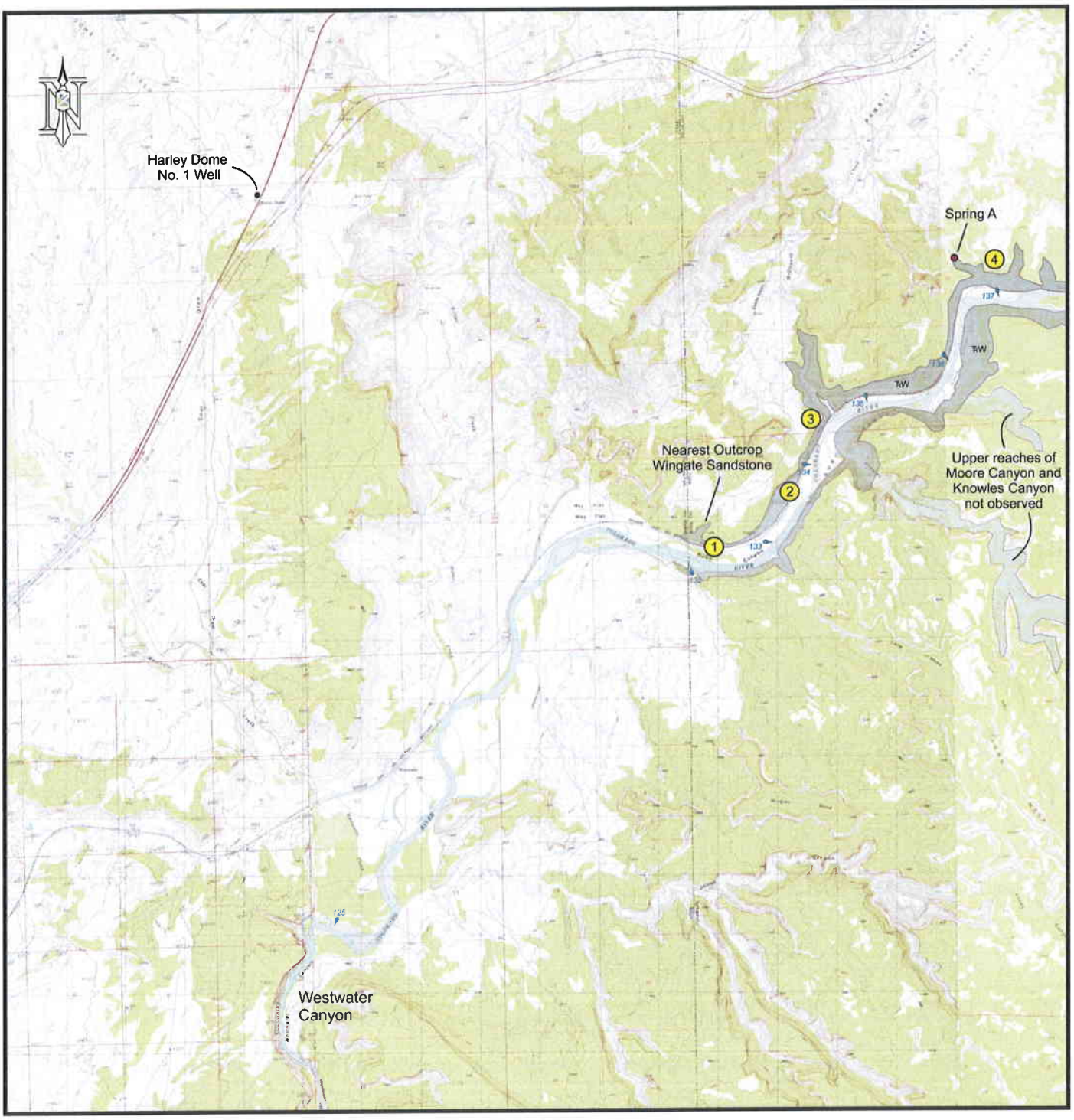
STEWART ENVIRONMENTAL CONSULTANTS, LLC

Paul A. Stone, PG
Senior Geologist

Enc.

cc: Mr. Larry Crist, U.S. Fish and Wildlife Service
Ms. Jana Mohrman, U.S. Fish and Wildlife Service
Mr. Eric Jones, U.S. Bureau of Land Management

4464.007\westwater wingate monitoring 31jul12.ltr



SOURCE:

USGS TOPOGRAPHIC MAPS:
Harley Dome, Bitter Creek Well, Ruby Canyon, Agate, Westwater, and Sieber Canyon
USGS GEOLOGIC MAP:
Westwater 30'x60' Geologic Quad Map I-1765

LEGEND

- RW — Wingate Sandstone
- 137 — River Mileage
- 2 — Observation Location

0 2 4
SCALE IN MILES

CONTOUR INTERVAL 40 FEET

STEWART ENVIRONMENTAL CONSULTANTS, LLC ENGINEERING FOR LIFE		PROJECT WestWater Farms Production Water Recycling Facility Westwater, Utah	FIGURE 1 WINGATE SANDSTONE WATER MONITORING SURVEY
PROJECT NUMBER 4464.007	DATE July 2012		

wp files\4464.007\figure 1-wingate ss water survey location.cdr

August 24, 2012
Certified Mail 7011 0110 0001 3568 2714

Jeff Dyke
Westwater Farms, LLC
1089 Genesee Rd
Golden, CO 80401

SUBJECT: Bond 8429377347 Issued by Wells Fargo Bank, N.A, for Westwater Farms, LLC as Principal

Dear Mr. Dyke:

On July 24, 2012, the Division of Oil, Gas and Mining (Division) received your written request to release the disposal facility reclamation bond number 8429377347, in the amount of $10,000.

According to Division records, Westwater Farms, LLC. has no pending operations, or any existing responsibilities to reclaim or restore disposal facility sites associated with operations on state and fee lands within the state. Therefore, effective the date of this letter, the Division is releasing the bond to you.

Please have Wells Fargo Bank, N.A. release the Division's name and hold on the account and provide proof of such release to Rachel Medina.

If there are any questions regarding this matter, please feel free to contact Rachel Medina at (801) 538-5260.

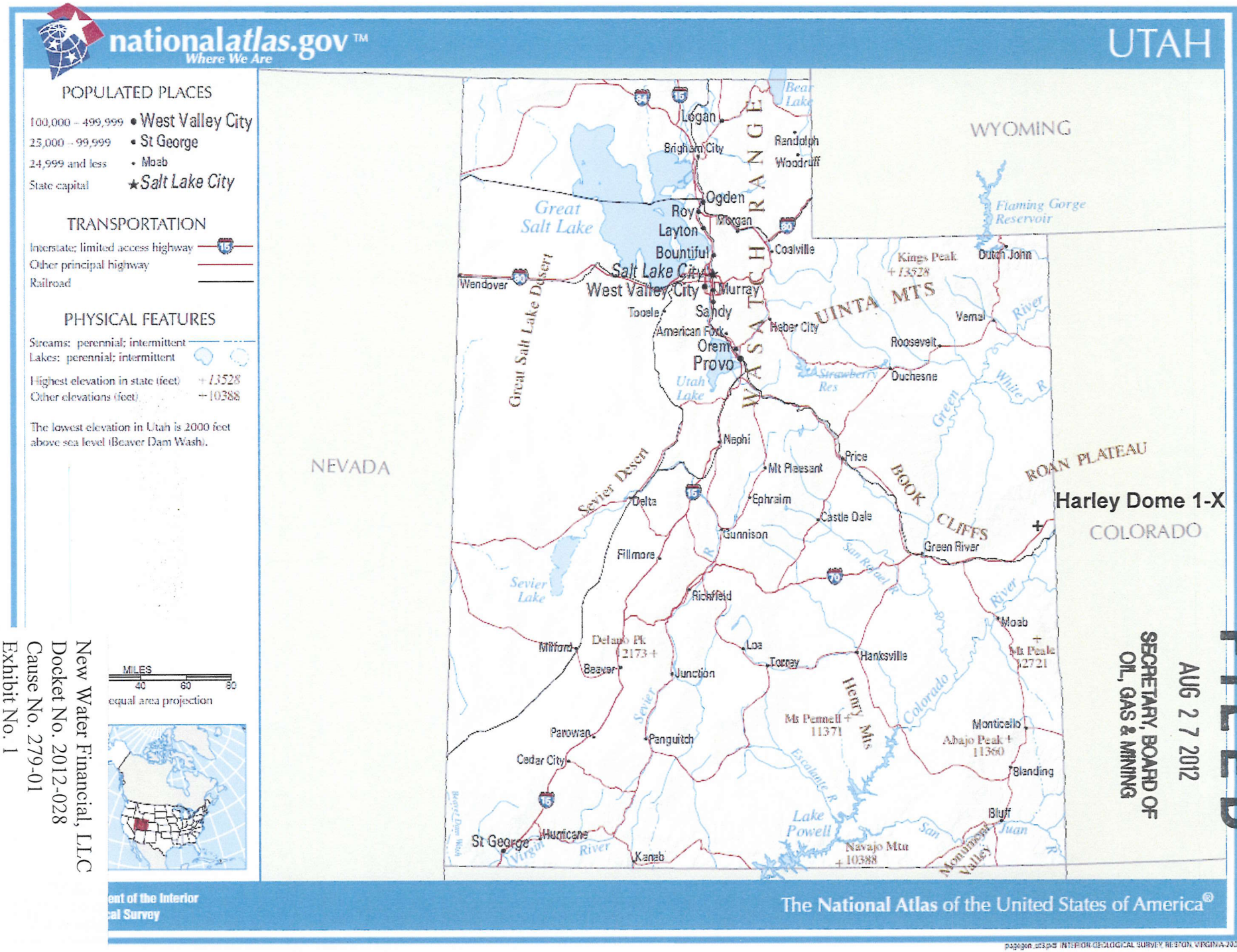
Sincerely,

John R. Baza
Director

JRB/jr/rt/rm

cc: Chris Federman, Wells Fargo Bank, N.A.
Mitch Burroughs, New Water Financial, LLC.
Mark Reinbold via email
Bond File

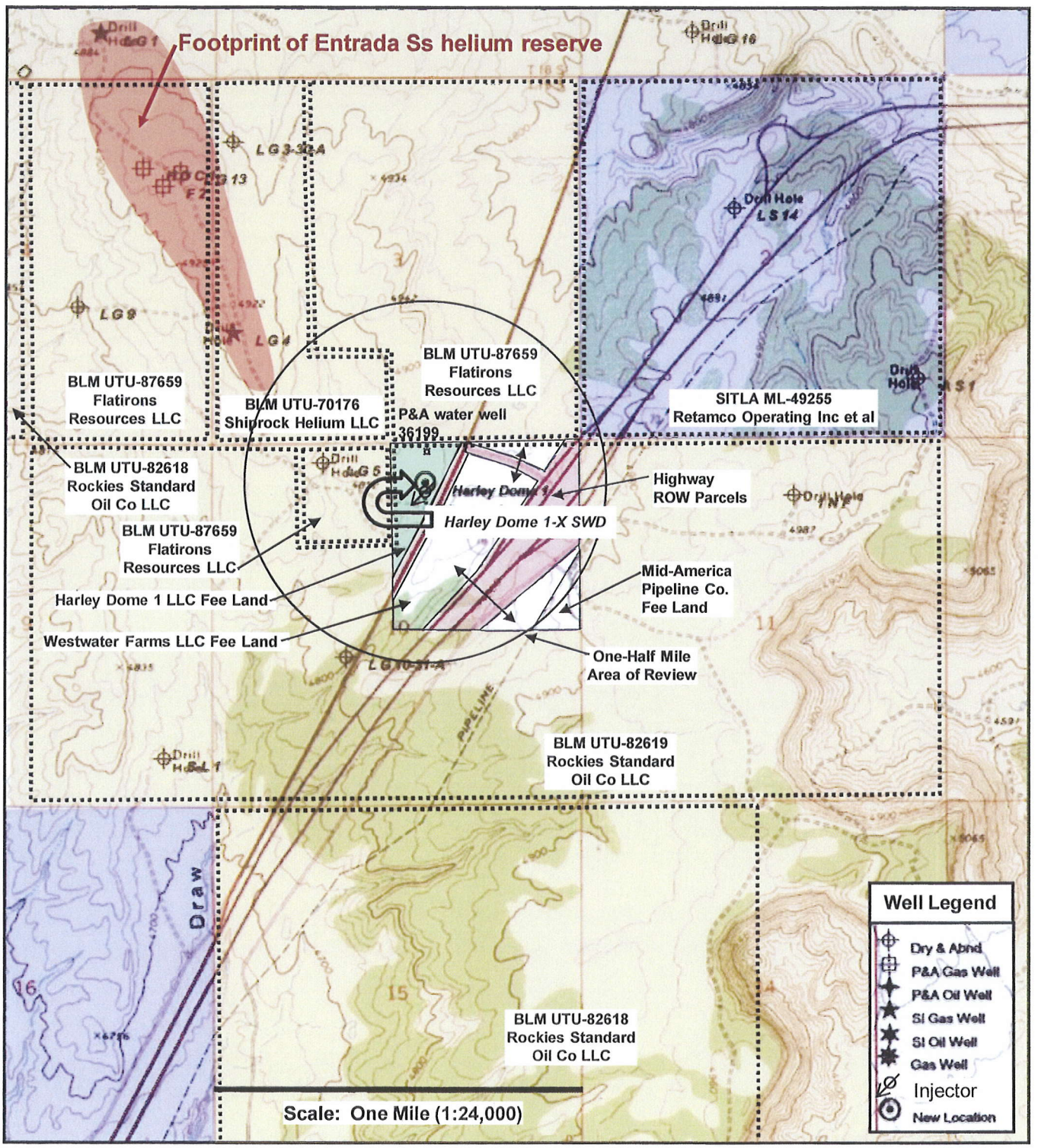
Location of New Water Financial, LLC Proposed Harley Dome 1-X Injection Well near I-70 Exit 227 in Eastern Grand County, Utah



New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 1

FILED
AUG 2 7 2012
SECRETARY, BOARD OF
OIL, GAS & MINING

UIC Form 1 Attachment 1: Plat showing location of proposed Harley Dome 1-X SWD injection well in NWNE (501' fnl & 2,139' fel) Section 10, T19S, R25E, SLM, Grand County, Utah, all abandoned or active wells, surface owners and O&G lessees and/or operators in the area and particularly within a one- half mile radius area of review for this application submitted by New Water Financial, LLC. Revised July 11, 2012



U.S. managed by BLM | Utah managed by SITLA | U.S./Utah/County ROW's | Private

BLM or SITLA O&G Lease

NEW WATER FINANCIAL, LL

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 2

GARY R. HERBERT
Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: Harley Dome 1-X SWD
API Well Number: 43019500230000
Lease Number: UTU-82619
Surface Owner: FEE (PRIVATE)
Approval Date: 8/8/2012

Issued to:
NEW WATER FINANCIAL LLC, 1716 East Lincoln Ave Ste 1, Fort Collins, CO 80524

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 102-16 (B). The expected producing formation or pool is the CHINLE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Cement volume for the 7" production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to surface as indicated in the submitted drilling plan.

Surface casing shall be cemented to the surface.

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - 801-538-5284
  (please leave a voicemail message if not available)

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 3

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

February 21, 2012

Notice to Oil and Gas Operators

Re: Hydraulic Fracturing/FracFocus.org

Although the process of hydraulic fracturing has been a commonly used method for obtaining production from oil and gas wells for many years in Utah and worldwide, this process has become an increasingly controversial issue with the public. Currently there are no conclusive studies that show examples of ground water contamination or public health issues resulting from hydraulic fracturing. However, there is still a great amount of public debate concerning the subject. The Division of Oil, Gas and Mining believes that in order to address some of the public anxiety concerning the process of hydraulic fracturing, it would be beneficial to the petroleum industry in Utah to voluntarily report the chemical content of hydraulic fracturing fluids to the website FracFocus (http://fracfocus.org).

FracFocus is the national hydraulic fracturing chemical registry website. This website is a joint project of the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission. The website is both educational and informative and an excellent resource for those seeking information on hydraulic fracturing.

After a hydraulic fracture stimulation is performed, the Division would ask the operator to post on the FracFocus Chemical Disclosure Registry the following stimulation detail:

> Fracture date, state, county, API number, operator name, well name, location, production type, true vertical depth, total water volume, and hydraulic fracturing fluid composition as follows:
>
> (1) Trade name
> (2) Supplier
> (3) Purpose
> (4) Ingredients
> (5) Chemical abstract number
> (6) Maximum ingredient concentration in additive
> (7) Maximum ingredient concentration in hydraulic fracturing fluid

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR OIL, GAS & MINING

On this website, the public can search for information about the chemicals used in the hydraulic fracturing of oil and gas wells by specific well and location. If you are not familiar with the FracFocus website, the Division encourages you to visit the website to acquaint yourself with the information that is being reported. Other oil and gas producing states have made similar requests or established regulatory requirements concerning hydraulic fracturing and the use of the FracFocus website. The Division strongly believes that through the openness of this request that it will promote the public's trust of the petroleum industry. This will continue to enhance a strong community support for the development of oil and gas, educate the public, and alleviate some of the so-called "mysteries" surrounding hydraulic fracturing. If you have any questions about this request for the voluntary efforts of Utah's petroleum industry, please direct them to John Rogers, Associate Director of Oil and Gas at 801-538-5349, by email at johnrogers@utah.gov.

Sincerely,

John R. Baza
Director

JRB/jcr/js
N:\O&G Reviewed Docs\ChronFile

FORM 3

AMENDED REPORT ☑

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
Harley Dome 1-X SWD

2. TYPE OF WORK
DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
GREATER CISCO

4. TYPE OF WELL
Water Disposal Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME

6. NAME OF OPERATOR
NEW WATER FINANCIAL LLC

7. OPERATOR PHONE
970 567-1414

8. ADDRESS OF OPERATOR
1716 East Lincoln Ave Ste 1, Fort Collins, CO, 80524

9. OPERATOR E-MAIL
mitch@newwaterfinancial.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU-82619

11. MINERAL OWNERSHIP
FEDERAL ◉ INDIAN ○ STATE ○ FEE ○

12. SURFACE OWNERSHIP
FEDERAL ○ INDIAN ○ STATE ○ FEE ◉

13. NAME OF SURFACE OWNER (if box 12 = 'fee')
New Water Financial, LLC

14. SURFACE OWNER PHONE (if box 12 = 'fee')
970-484-4100

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')
1716 E Lincoln Ave, Fort Collins, CO 80524

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')
Mitch@newwaterfinancial.com

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ○ (Submit Commingling Application) NO ◉

19. SLANT
VERTICAL ◉ DIRECTIONAL ○ HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	501 FNL 2139 FEL	NWNE	10	19.0 S	25.0 E	S
Top of Uppermost Producing Zone	501 FNL 2139 FEL	NWNE	10	19.0 S	25.0 E	S
At Total Depth	501 FNL 2139 FEL	NWNE	10	19.0 S	25.0 E	S

21. COUNTY
GRAND

22. DISTANCE TO NEAREST LEASE LINE (Feet)
501

23. NUMBER OF ACRES IN DRILLING UNIT
40

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
100

26. PROPOSED DEPTH
MD: 1695 TVD: 1695

27. ELEVATION - GROUND LEVEL
4864

28. BOND NUMBER
UTU-DOGM

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
Private water company

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
SURF	12.25	9.625	0 - 168	32.3	H-40 ST&C	8.3	Class A	68	1.18	15.6
I1	8.75	7	0 - 1345	20.0	J-55 ST&C	8.6	Class G	143	1.56	14.6
Open	6.25	0	0 - 0	0.0	No Pipe Used	8.6	No Used	0	0.0	0.0

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

- ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☑ COMPLETE DRILLING PLAN
- ☑ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ☐ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ☑ TOPOGRAPHICAL MAP

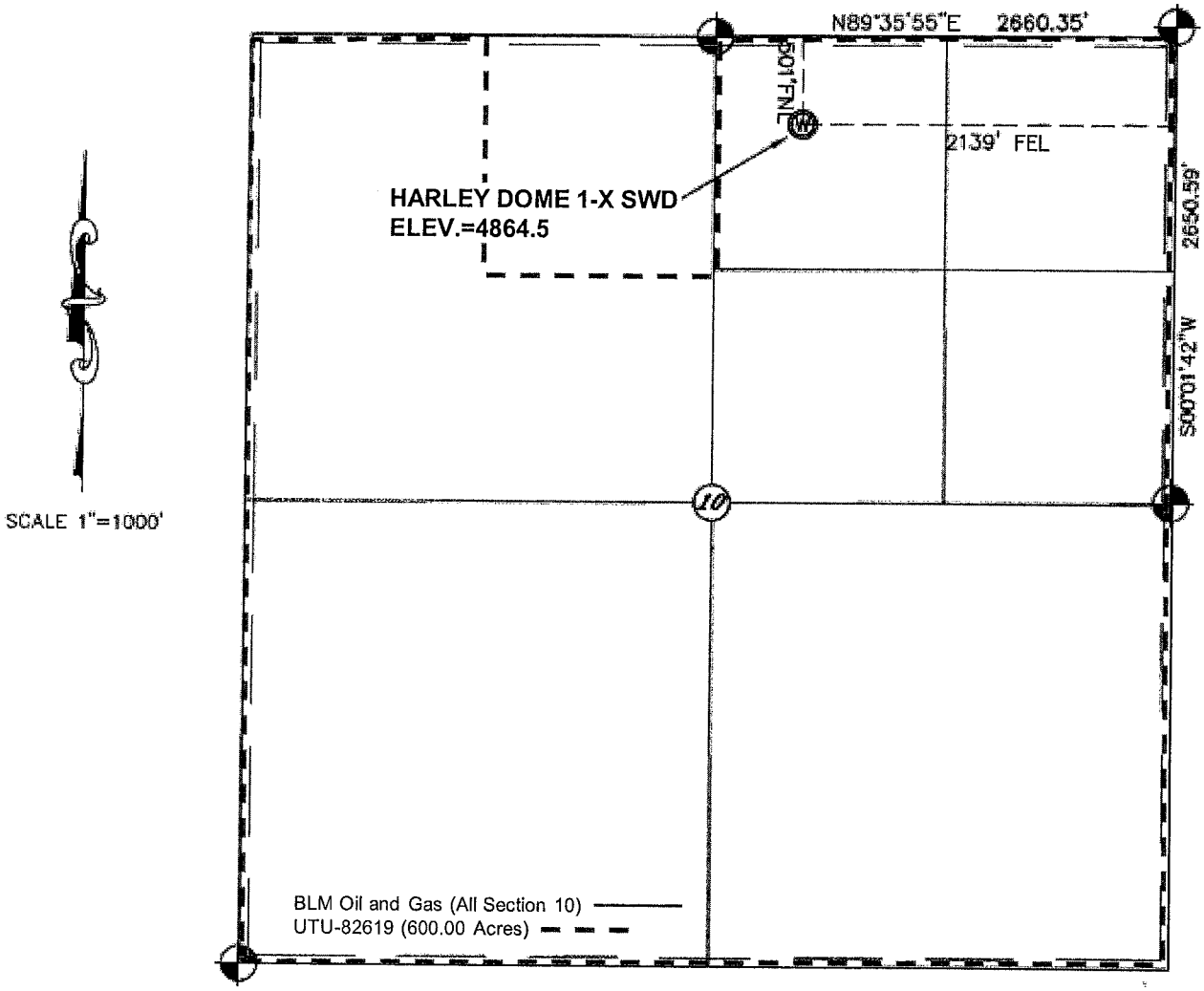
NAME David L. Allin	TITLE Utah PG	PHONE 970 254-3114
SIGNATURE	DATE 06/07/2012	EMAIL allinpro@bresnan.net

API NUMBER ASSIGNED
43019500230000

APPROVAL

Permit Manager

WELL LOCATION PLAT IN SECTION 10, T 19 S, R 25 E, SLM 501' FNL & 2139' FEL



ELEVATIONS BASED ON 4863.5 AT THE NORTH 1/4 CORNER SECTION 10 (FROM GPS OBSERVATION)

LEGEND

FOUND GOVERNMENT MONUMENT

SET SPIKE WITH LATH AT PROPOSED WELL LOCATION

REGISTERED LAND SURVEYOR No. 171004 TIMOTHY M. KEOGH STATE OF UTAH

TIMOTHY M. KEOGH

MAY 18, 2012

DATE

KEOGH LAND SURVEYING

45 EAST CENTER STREET MOAB, UTAH, 84532

A WELL LOCATION SURVEY FOR

HARLEY DOME 1-X SWD

WITHIN SECTION 10, T 19 S, R 25 E, SLM, GRAND COUNTY, UTAH

PREPARED FOR

NEW WATER FINANCIAL, LLC

DATE: 5-18-12	DRAWN BY: TMK	CHECKED BY: TMK
SCALE: 1"=1000'	F.B.# 141	HARLEYDOME.DWG

Application for Permit to Drill
Statement of Basis
Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
6202	43019500230000	LOCKED	WD	P	No

Operator	NEW WATER FINANCIAL LLC	**Surface Owner-APD**	New Water Financial, LLC
Well Name	Harley Dome 1-X SWD	**Unit**	
Field	GREATER CISCO	**Type of Work**	DRILL
Location	NWNE 10 19S 25E S 501 FNL 2139 FEL GPS Coord (UTM) 661190E 4337836N		

Geologic Statement of Basis

Good quality groundwater is likely to be found in the bedrock at this location. Poorly permeable soil is formed from the Mancos Shale which overlies the Cretaceous Dakota Sandstone. The Mesozoic sandstones below the Mancos Shale are very likely to contain usable groundwater. The well is likely to penetrate as many as four locally recognized aquifers. The proposed casing and cementing program should adequately isolate any zones of fresh water that may be encountered. No underground water rights have been filed within a mile radius of the proposed well site.

Ammon McDonald **APD Evaluator**	6/28/2012 **Date / Time**

Surface Statement of Basis

Presite surface evaluation completed on June 19, 2012. In attendance: Bart Kettle-Division of Oil, Gas and Mining (DOGM), Lee Shenton-Grand County, Mitch Burroughs-New Water Financial LLC, David Allin-Project Consultant, Tim Hagin-Westwater Farms LLC, Mike Marquez-Westwater Farms, Terry Leach-Propetco Drilling. Invited and choosing not to attend: Eric Jones-Moab BLM and Melanie Hunter-Moab BLM

As proposed the project falls within a previously disturbed site for the Westwater Farms LLC E&P waste water treatment facility. A surface use agreement between New Water Financial LLC and Westwater Farms LLC is being prepared for submission at the time of presite evaluation.

Drilling activities are expected to generate formation waters with chloride concentrations up 50,000 ppm TDS. As such pit used to contain formation water and cuttings should be lined with a 12 mil liner. Pit shall be reclaimed within 6 months following completion of drilling. Pit shall not be used for the storage of produced fluids, outside E&P waste or secondary containment for the proposed waste water treatment facility.

Soils observed at proposed project site are prone to dusty conditions when disturbed. Frequent fresh water applications may be required to prevent break up of road surface and powdering of soils in periods of hot dry conditions.

Drilling activities will be visible from both I-70 and Grand County Road 193, as such it is reasonable to expect scrutiny form the general public. Operations should be maintained in a workmen like manner.

Bart Kettle	6/19/2012
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 12 mils shall be properly installed and maintained in the reserve pit.
Surface	Fresh water shall be applied to access road and well pad as needed to control dust and erosion of disturbed soils.

FILED

AUG 0 8 2012

SECRETARY, BOARD OF OIL, GAS & MINING

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**REQUEST FOR AGENCY ACTION** **Docket No. 2012-**028 **Cause No.** 279-01

NEW WATER FINANCIAL, LLC, by and through its undersigned attorneys, petitions the Board of Oil, Gas and Mining for an order approving the Harley Dome #1-X SWD Well as a Class II injection well and authorizing the underground injection of produced water for purposes of water disposal, and shows as follows:

1. New Water Financial, LLC ("**New Water**") is a Colorado limited liability company in good standing, having its principal place of business in Fort Collins, Colorado. New Water is qualified to and is doing business in Utah.

2. The Board of Oil, Gas and Mining (the "**Board**") has jurisdiction of the parties and subject matter of this Request for Agency Action, pursuant to Section 40-6-5(5)(a) of the Utah Code and Rules R649-5-1 and R649-5-3(4) of the Utah Administrative Code ("**U.A.C.**").

PROCEDURAL MATTERS

3. Pursuant to the Findings of Fact, Conclusions of Law, and Order issued on January 13, 2011, by the Board in Cause No. UIC-358.1, the Board approved the Harley Dome #1 SWD Well (the "**Harley Dome #1**") as a Class II injection well and authorized the underground

injection of produced water into that well for purposes of water disposal. The Harley Dome #1 is located in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East, S.L.M., Grand County, Utah.

4. Westwater Farms, LLC ("**Westwater**") owned the real property upon which the Harley Dome #1 is located, and on May 26, 2009, filed the original application seeking administrative approval of the Harley Dome #1 as a UIC Class II well. Following publication of notice of Westwater's application, the Division of Oil, Gas and Mining (the "**Division**") received objections to the application and Westwater's application was converted from an informal adjudicative proceeding to a formal proceeding. The matter was heard by the Board on December 8, 2010.

5. Westwater has transferred all of its ownership interests in the Harley Dome #1, including the approved UIC permit and the real property upon which the well is located, to Harley Dome 1, LLC. Harley Dome 1, LLC is a Utah limited liability company in good standing, having its principal place of business in Fort Collins, Colorado. Harley Dome 1, LLC is qualified to and is doing business in Utah.

6. New Water is Harley Dome 1, LLC's agent for all purposes of this Cause.

7. Based on the substantial public interest in Grand County and the objections that were filed in the previous proceeding for the Harley Dome #1 and the distinct likelihood that similar objections will be filed in this Cause, pursuant to Rule R649-5-3(4), U.A.C., New Water is concurrently filing with its Request for Agency Action a motion in this Cause for the Division to convert this informal adjudicative proceeding to a formal adjudicative proceeding in accordance with Rule R649-10-1(2), U.A.C. The purpose of this Request for Agency Action is to set this matter for hearing by the Board at the Board's regularly scheduled hearing on September 26, 2012.

UNDERGROUND INJECTION OF WATER

8. The proposed Harley Dome #1-X SWD Well (the "**Subject Well**") is to be located one hundred feet north of the existing Harley Dome #1 in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East, S.L.M., Grand County, Utah (the "**Subject Lands**").

9. New Water seeks approval of the Subject Well as a Class II underground injection well and the authorization of operations for the underground injection of produced water into the Wingate Sandstone for water disposal purposes.

10. The existing Harley Dome #1 has not performed as expected for injection purposes. The Subject Well is intended as a replacement well for the Harley Dome #1 and will incorporate an improved completion design. New Water proposes that the existing Harley Dome #1 remain equipped for use for periodic injection and monitoring purposes.

11. The Application for Permit to Drill ("**APD**") for the Subject Well was filed with the Division on June 7, 2012. The APD currently is under review, and has not yet been approved. When the APD is approved, the Subject Well will be drilled as a conventional well and completed as an injection well in accordance with the approved APD.

12. New Water will operate the Subject Well and the proposed injection operations.

13. The formation to be approved by the Board for water injection disposal operations is the Wingate Sandstone. In the vicinity of the Subject Lands, the Wingate Sandstone is an aeolian sandstone deposit approximately 337 feet thick. The proposed stratigraphic interval in the Wingate Sandstone to be used for injection purposes is expected to be from 1,351 feet to 1,688 feet in the Subject Well.

14. The Kayenta Formation, which overlies the proposed injection interval, will act as the hydrologic boundary (confining layer) above the injection interval, and the Chinle Formation, which underlies the injection interval, will act as the hydrologic boundary below that interval.

15. In the vicinity of the Subject Well, the Wingate Sandstone dips to the north. Although the Wingate Sandstone outcrops near Westwater Canyon approximately 5.5 miles south and 800 vertical feet up dip from the Subject Well, the proposed injection operations in the Subject Well will not result in causing any discharge of any underground fluids at the surface outcrop and into the Colorado River.

16. The injection interval in the Wingate Sandstone is not currently, nor is it ever expected to be, an underground source of drinking water ("**USDW**"). The Dakota, Cedar Mountain, Morrison, Summerville, Entrada, Kayenta, and Chinle Formations in the vicinity of the Subject Well also are not USDW.

17. The following wells have been drilled and/or completed within a one-half mile radius of the Subject Well:

a. Elizondo Water Well situated in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East. The well was plugged and abandoned in June 1965.

b. Lansdale Government #5 Well situated in the NE¼NW¼ of Section 10, Township 19 South, Range 25 East. The well was plugged and abandoned in March 1968.

c. Lansdale Government #10-31-A Well situated in the NE¼SW¼ of Section 10, Township 19 South, Range 25 East. The well was plugged and abandoned in August 1975.

d. Harley Dome #1 SWD well situated in the NW¼NE¼ of Section 10, Township 19 South, Range 25 East. The well was drilled, completed, and permitted as a UIC Class II injection well in 2010-2011. The well has undergone and passed well integrity test procedures on July 13, 2010, and on April 15, 2012.

18. With the exception of the Harley Dome #1, all of the wells drilled within a one-half mile radius of the Subject Well were plugged and abandoned immediately following drilling operations and no mechanical logs were run.

19. The water to be used as the injection medium for the proposed water injection operations will come from oil and gas producing wells in the Uintah Basin, Paradox Basin, the San Rafael Swell and Book Cliff areas, including the Greater Cisco Field in Utah, and sources in the Piceance Basin in western Colorado. New Water seeks authority to inject up to 10,000 barrels of produced water per day at an average injection pressure of 350 psi with a maximum injection pressure of 360 psi. The proposed maximum pressure is based on the results of step-rate injection tests run in the Harley Dome #1 on July 13, 2010, following installation of the final injection mechanical equipment. The final maximum injection pressure for the injection operations in the Subject Well will be set as a condition of the permit based on a step-rate test performed in the Subject Well after completion for injection with tubing and packer in place.

20. Copies of various electrical or radioactive logs that were run in the Harley Dome #1 well prior to the installation of casing and after casing was set and cemented have been filed with the Division and may be examined at the offices of the Division. Copies of such logs, including the cement bond log, acquired in the Subject Well after reaching the projected total depth of the final open-hole segment of the well also will be filed with the Division and made available for inspection.

OWNERSHIP

21. Harley Dome 1, LLC owns fee simple title to the Subject Lands.

22. The minerals in the lands embraced within the Subject Lands and within a one-half mile radius of the Subject Well are subject to United States of America Oil and Gas Leases Nos. UTU-70176, UTU-82619, and UTU-87659; and Utah State Mineral Lease No. ML-49255. Shiprock Helium, LLC owns the leasehold rights under UTU-70176. Rockies Standard Oil Co. LLC owns the leasehold rights under UTU-82619. Flatirons Resources LLC owns the leasehold rights under UTU-87659. Retamco Operating, Inc. owns the leasehold rights under ML-49255. The federal oil and gas leases are administered by the United States Department of the Interior, Bureau of Land Management ("**BLM**"), and the Utah State minerals are administered by the Utah School and Institutional Trust Lands Administration ("**SITLA**").

23. Besides Harley Dome 1, LLC, the surface owners within a one-half mile radius of the Subject Well include the United States of America, State of Utah, Westwater Farms LLC, and Mid-America Pipeline Co. Grand County and the Federal Highway Administration own the surface rights to old highway 6 & 50 and Interstate 70, respectively. The subject federal public lands are administered by the BLM, and the Utah State lands are administered by SITLA.

24. Plats showing the area involved and identifying all wells, including the proposed injection well, and all surface owners and operators within a one-half mile radius of the proposed Subject Well are attached hereto as Exhibit "A" and made a part hereof.

25. The names and addresses of all operators and owners as defined in Section 40-6-2 of the Utah Code, and of all surface owners within a one-half mile radius of the proposed Subject Well are set forth in Exhibit "B" attached hereto and made a part hereof.

26. The Affidavit required by Rules R649-5-1(2.9) and R649-5-2(2.12), U.A.C., is attached hereto as Exhibit "C" and made a part hereof.

WHEREFORE, New Water respectfully requests the Board to:

A. Set this matter for hearing at the regularly scheduled meeting of the Board to be held on September 26, 2012, to consider New Water's Application.

B. Give notice of this Request for Agency Action and the hearing as provided by the laws of the State of Utah and regulations issued pursuant thereto. The names and addresses of the parties interested in this matter are set forth in Exhibit "B" to this Request for Agency Action.

C. Conduct a hearing at which New Water and all interested parties may be allowed to present evidence regarding New Water's Application.

D. To make its findings that:

(1) The Harley Dome #1-X SWD Well as proposed is suitable for approval as a Class II injection well;

(2) The proposed underground operations will not endanger any drinking water sources; and

(3) Good cause appears to authorize underground water disposal operations for produced water utilizing the Harley Dome #1-X SWD Well as proposed.

E. Enter its order approving the Harley Dome #1-X SWD Well as a Class II injection well and authorizing the underground injection of produced water into the Wingate Sandstone beneath the Subject Lands for disposal purposes.

F. Provide such other relief as may be just and proper under the circumstances.

Dated this 8th day of August, 2012.

VAN COTT, BAGLEY, CORNWALL & McCARTHY

By _____

Thomas W. Clawson
Attorneys for New Water Financial, LLC
36 South State Street, Suite 1900
Salt Lake City, Utah 84111
Telephone: (801) 532-3333

Petitioner's Address:

NEW WATER FINANCIAL, LLC
c/o Mitch Burroughs
1716 East Lincoln Avenue, Suite #1
Fort Collins, CO 80524

EXHIBIT "A"

UIC FORM 1

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR INJECTION WELL

Name of Operator New Water Financial LLC	Utah Account Number N 3840	Well Name and Number Harley Dome 1-X SWD
Address of Operator 1716 E Lincoln Ave #1 CITY Fort Collins STATE CO ZIP 80524	Phone Number (970) 484-4100	API Number 4301950023
Location of Well Footage: 501' FNL and 2,139' FEL County: Grand QQ, Section, Township, Range: NWNE 10 19S 25E State: UTAH		Field or Unit Name Greater Cisco Lease Designation and Number UTU-82619

Is this application for expansion of an existing project?	Yes ☑	No ☐
Will the proposed well be used for: Enhanced Recovery?	Yes ☐	No ☑
Disposal?	Yes ☑	No ☐
Storage?	Yes ☐	No ☑
Is this application for a new well to be drilled?	Yes ☑	No ☐
If this application is for an existing well, has a casing test been performed?	Yes ☐	No ☐
Date of test: _____		

Proposed injection interval: from 1,351 to 1,688

Proposed maximum injection: rate 10,000 bpd pressure 360 psig

Proposed injection zone contains oil ☐, gas ☐, and / or fresh water ☐ within ½ mile of the well.

List of attachments: Att. 1: Plat showing wells & ownership. Att. 2: Annotated well log excerpts & geologic data. Att. 3: R649-5-2 compliant submissions including casing plan, casing test plan, operating limits & zonal confinement data, geologic data on the proposed injection interval & confining layers & position of nearest USDW's. Att. 4: Water analyses. Att. 5: Affidavit certifying

ATTACH ADDITIONAL INFORMATION AS REQUIRED BY CURRENT UTAH OIL AND GAS CONSERVATION GENERAL RULES

that copies of this application were mailed to operators, owners and interested parties within one-half mile radius of the proposed injection well.

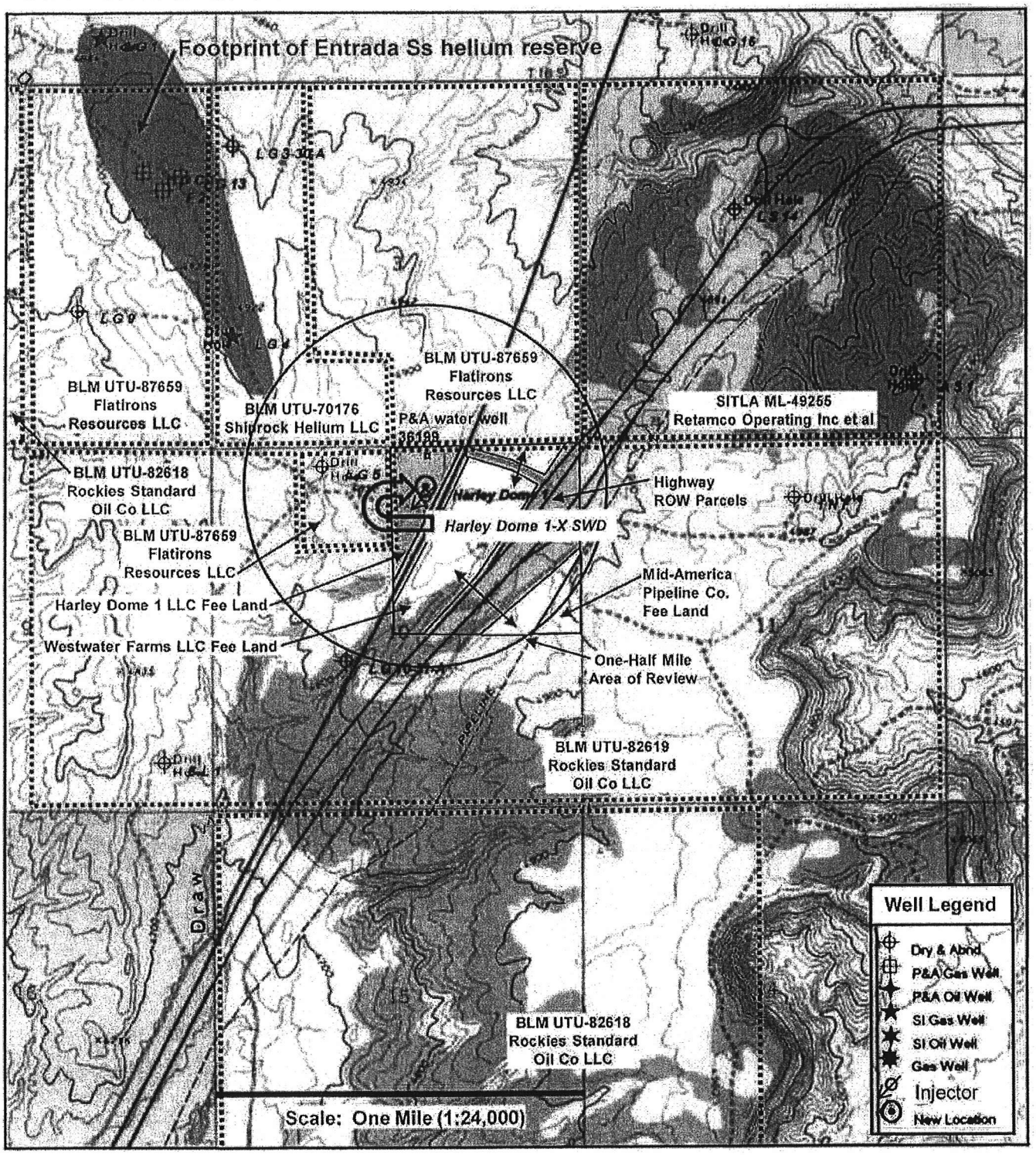
I hereby certify that this report is true and complete to the best of my knowledge.

Name (Please Print) David L. Allin (970) 254-3114 Title Consultant allinpro@bresnan.net

Signature D L Allin Date 7/16/2012

(5/2002)

UIC Form 1 Attachment 1: Plat showing location of proposed Harley Dome 1-X SWD injection well in NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah, all abandoned or active wells, surface owners and O&G lessees and/or operators in the area and particularly within a one- half mile radius area of review for this application submitted by New Water Financial, LLC. Revised July 11, 2012



U.S. managed by BLM | Utah managed by SITLA | U.S./Utah/County ROW's | Private

BLM or SITLA O&G Lease

NEW WATER FINANCIAL, LLC **UIC Form 1 Attachment 1**

Wells Within Harley Dome 1-X SWD One-Half Mile Radius Area of Review

Plat Showing Location of Proposed Harley Dome 1-X SWD Class II Injection Well
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah
Abandoned or Active Wells are Designated by Name and Utah DOGM Symbol
Submitted by New Water Financial, LLC.

Revised August 7, 2012

One-half Mile Area of Review Centered on Harley Dome 1-X SWD Proposed Location

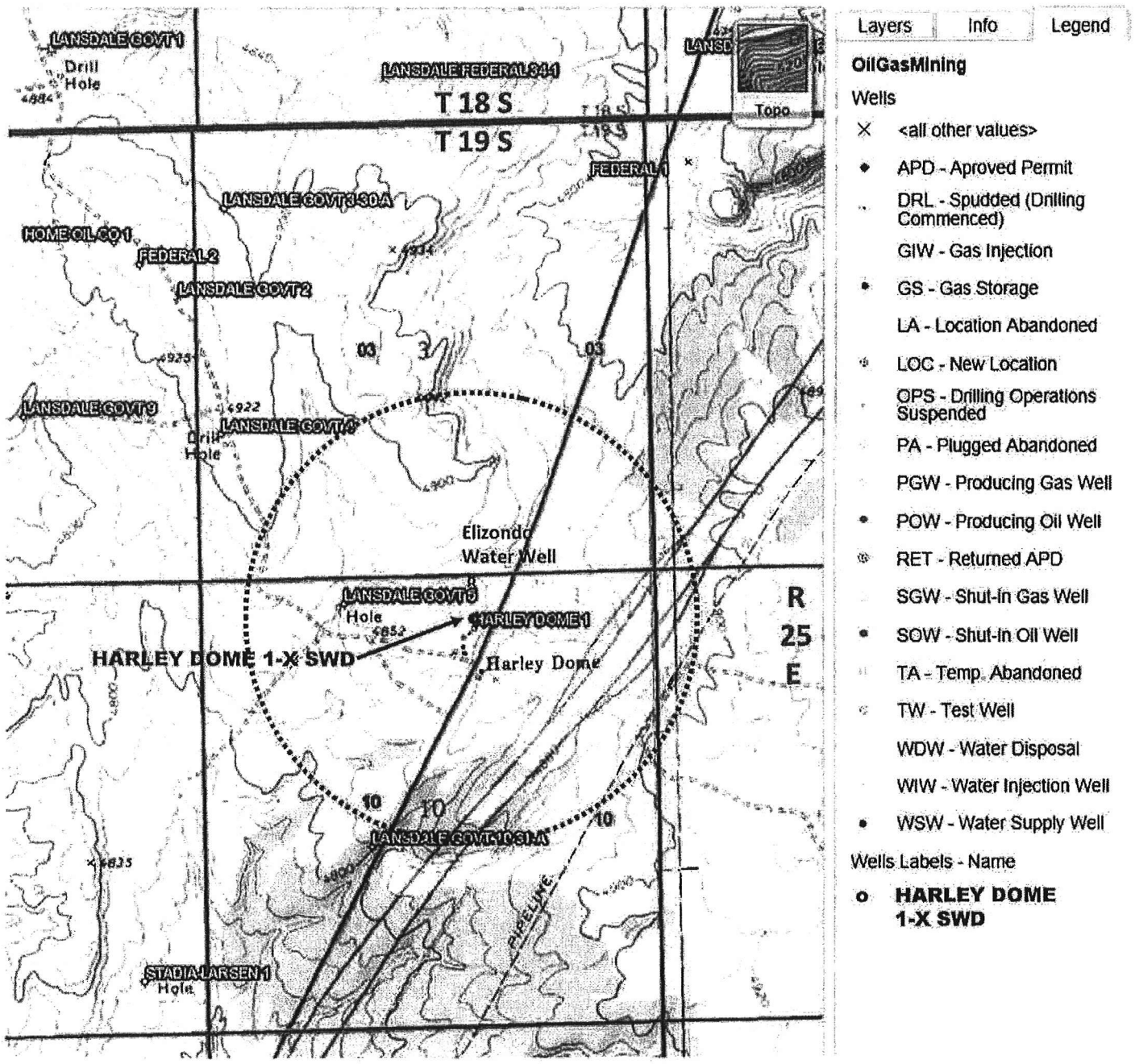


EXHIBIT "B"

NAMES AND ADDRESSES OF OWNERS, OPERATORS, AND SURFACE OWNERS WITHIN A ONE-HALF MILE RADIUS OF THE PROPOSED HARLEY DOME #1-X SWD WELL, GRAND COUNTY, UTAH.

Steven F. Alder
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Michael S. Johnson
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Grand County
Road Department
125 East Center
Moab, UT 84532

United States Bureau of Land Management
Moab Field Office
82 East Dogwood
Moab, UT 84532

Utah Division Federal Highway Administration
2520 West 4700 South, Suite 9-A
Salt Lake City, UT 84129

Enterprise Mid-America Pipeline
c/o Enterprise Products Partners, L.P.
P.O. Box 4324
Houston, TX 77210-4324

Utah School and Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818

Flatirons Resources, LLC
303 East 17th Avenue, Suite 940
Denver, CO 80203-1262

Rockies Standard Oil Co., LLC
1411 East 840 North
Orem, UT 84097-5846

Shiprock Helium, LLC
P.O. Box 51166
Amarillo, TX 79159

Retamco Operating, Inc.
Attn: Joe Glennon
One South Broadway Avenue, Suite 2
P.O. Box 790
Red Lodge, MT 59068-0790

Living Rivers
Attn: John Weisheit
P.O. Box 466
Moab, UT 84532
(john@livingrivers.org)

Bill Love
2871 East Bench Road
Moab, UT 84532

United States Fish and Wildlife Service
Attn: Larry Crist
Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119

WestWater Farms, LLC
P.O. Box 324
Cisco, UT 84515

Jacque M. Ramos
J. Ramos Law Firm PLLC
2709 South Chadwick Street
Salt Lake City, UT 84106
(jramos@jramoslawfirm.com)

Patrick A. Shea
Patrick A. Shea P.C.
252 South 1300 East, Suite A
Salt Lake City, UT 84102
(pas@patrickashea.com)

EXHIBIT "C"

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**AFFIDAVIT OF THOMAS W. CLAWSON** **Docket No. 2012-028** **Cause No. 279-01**

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

THOMAS W. CLAWSON, having been duly sworn, deposes and says that:

1. He is a resident of Salt Lake County and over the age of 21 years.

2. He is an attorney licensed to practice law before the Utah Supreme Court and all inferior courts of the State of Utah.

3. He is familiar with the statutes, rules, and regulations of the Board of Oil, Gas and Mining pertaining to injection of fluids into underground formations for water disposal purposes.

4. He has caused the Request for Agency Action in this Cause, including the UIC Form 1, to be provided to all operators, owners, and surface owners within a one-half mile radius of the proposed Harley Dome #1-X SWD Well as required by Rules R641-104-135, R649-5-1(1), and R649-5-2(2.12), U.A.C., by mailing copies thereof, properly addressed, with

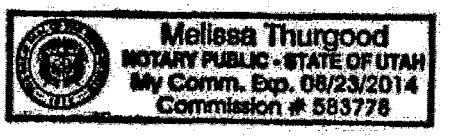
postage prepaid. The names and addresses of the owners so served are set forth in Exhibit "C" to the Request for Agency Action in this Cause.

Dated this 8th day of August, 2012.

Thomas W. Clawson

STATE OF UTAH)
ss.
COUNTY OF SALT LAKE)

SUBSCRIBED AND SWORN to before me this 8th day of August, 2012.



NOTARY PUBLIC

4833-5720-3216, v. 1

UIC Form 1 Attachment 5: Affidavit of Mailing
Application for Conversion of a New Well for Class II Injection:
Harley Dome 1-X SWD (API No. 43-019-50023)
NWNE (501' FNL and 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah
Proposed by New Water Financial, LLC

AFFIDAVIT

State of Colorado)
:ss
County of Mesa)

David L. Allin, being duly sworn upon his oath, deposes and states:

1. I am of the age of majority;
2. I am engaged by New Water Financial, LLC as its Agent to file an application for an Underground Injection Control Permit to construct and operate the proposed Harley Dome 1-X SWD Class II injection well on behalf of itself and Harley Dome 1, LLC;
3. I provided a copy of the Harley Dome 1-X SWD Underground Injection Control permit application by First Class United States Mail to the parties that were identified from public records as owners, operators and/or surface owners as defined by Utah Administrative Code Rule R649-1, Oil and Gas Definitions, within a one-half mile radius of the proposed Harley Dome 1-X SWD well site. A list of those parties and other interested parties is attached hereto as Exhibit "A"; and
4. The matters herein are true of my own knowledge.

Dated this 25th day of July, 2012.

David L. Allin

Subscribed, sworn and acknowledged to and by David L. Allin before me this 25th day of July, 2012.

Notary Public

JASON W WILLIAMS
NOTARY PUBLIC
STATE OF COLORADO

MY COMMISSION EXPIRES 11-12-2012

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 5

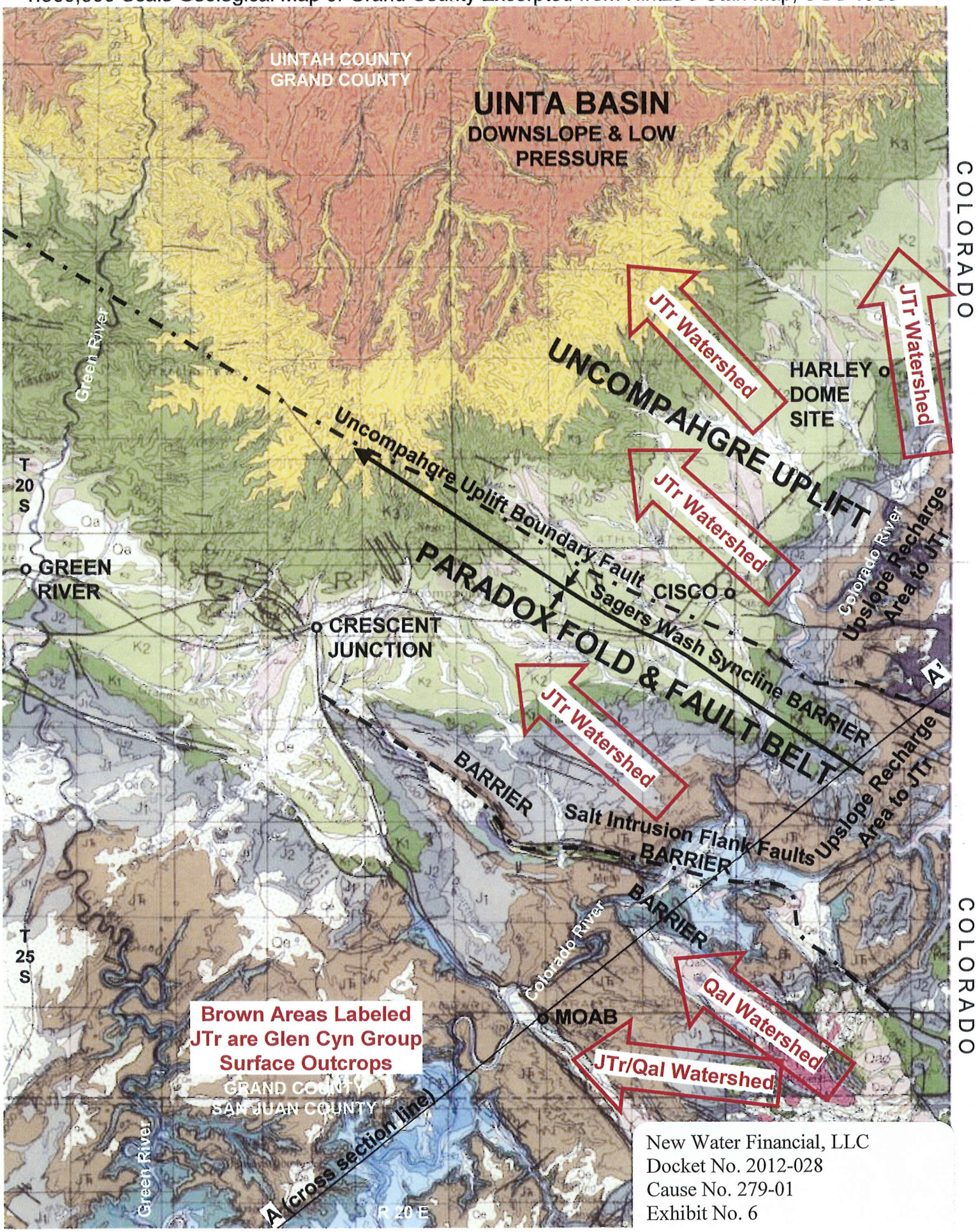
Exhibit "A":

List of
Owners, Operators, Surface Owners and Interested Parties within a One-Half Mile Radius of
Harley Dome 1-X SWD (API No. 43-019-50023)
NWNE (501' FNL and 2,139' FEL) Section 10, T19S, R25E, SLM, Grand County, Utah
Proposed by New Water Financial, LLC

New Water Financial, LLC 1716 East Lincoln Avenue, Suite 1 Fort Collins, CO 80524	Surface owner and Applicant
Westwater Farms, LLC P.O. Box 324 Cisco, UT 84515	Surface owner
Enterprise Mid-America Pipeline c/o Enterprise Products Partners, L.P. P.O. Box 4324 Houston, TX 77210-4324	Surface owner
U.S. Bureau of Land Management Moab Field Office 82 East Dogwood Moab, UT 84532	Surface and mineral/OG owner
Utah Trust Lands Administration 675 East 500 South, Suite 500 Salt Lake City, UT 84102-2818	Surface and mineral/OG owner
Utah Division Federal Highway Administration 2520 West 4700 South, Suite 9-A Salt Lake City, UT 84129	ROW owner I-70
Grand County Road Department 125 East Center Moab, UT 84532	ROW owner old Highway 6-50
Shiprock Helium, LLC P.O. Box 51166 Amarillo, TX 79159	Operator BLM O&G UTU-70176
Rockies Standard Oil Co., LLC 1411 East 840 North Orem, UT 84097-5846	Operator BLM O&G UTU-82618 & UTU-82619
Flatirons Resources, LLC 303 East 17th Avenue, Suite 940 Denver, CO 80203-1262	Operator BLM O&G UTU-87659

Retamco Operating Inc. Attn: Joe Glennon One South Broadway Avenue, Suite 2 P.O. Box 790 Red Lodge, MT 59068-0790	Operator Utah SITLA O&G ML-49255
Living Rivers P.O. Box 466 Moab, UT 84532	Interested party

Geologic setting and features of proposed injection well site versus Moab/Spanish Valley area on 1:500,000 Scale Geological Map of Grand County Excerpted from Hintze's Utah Map, UGS 1980

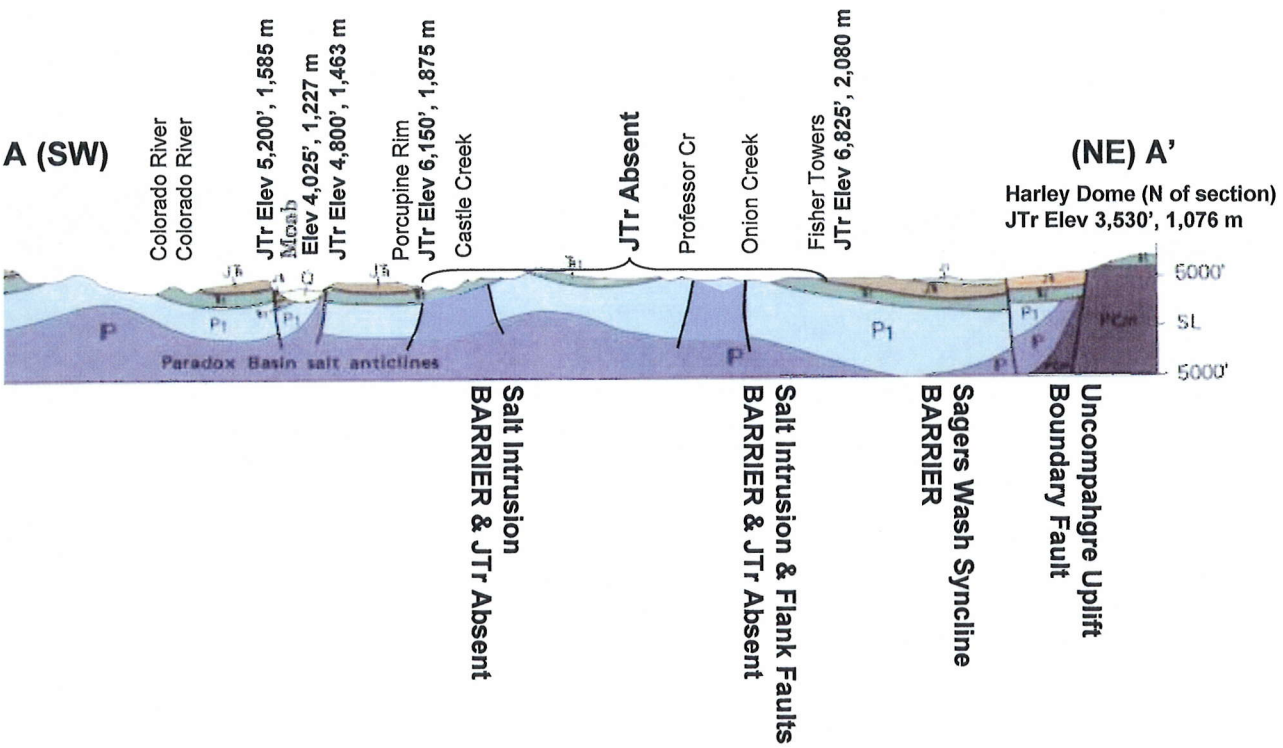


New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 6

Cross section **A-A'** was drawn on a northeasterly route through Moab generally parallel to the Colorado River and on into the area on the Uncompahgre Uplift south of Harley Dome. The water in the subsurface within the JTr (Glen Canyon Group) aquifer moves northwesterly from upland and upslope recharge areas on the Uncompahgre Plateau (Uplift) down slope to areas of lower subsurface elevation and abnormally low subsurface pressure in the Uinta Basin. The red arrows on the map indicate the northwesterly subsurface water flow directions within the JTr and associated Qal (Quaternary alluvium) aquifers. These arrows line up going out of the line of section and away from the viewer of cross section **A-A'**. Outcrops of the JTr layer of interest are colored brown on the geologic map and the layer is colored brown in the cross section below. The Glen Canyon Group is labeled in the Grand County stratigraphic columns figure on the left column and those zones are correlated in that figure with the two layers present at Harley Dome in the right column.

The alignment of the water flow within the JTr aquifer is governed by the elevation of the layer from place to place and whether or not it is laterally continuous. The JTr layer has been eroded from large areas between Harley Dome and Moab along the Colorado River and its tributary streams between Fisher Towers and Porcupine Rim. The removal of the JTr layer occurred relatively recently within the last 100,000 years as floods of melt water from the periodic glacial retreats allowed the Colorado River to cut down into the rock layers to become superposed almost at right angles to the geologic "grain" of eastern Grand County. That grain was created by the northwest-southeast orientation of the Uncompahgre Uplift, its SW boundary fault, a major syncline in the footwall of that fault known as the Sagers Wash Syncline and a series of salt-cored anticlines parallel to the uplift and the footwall syncline. These structural elements are major barriers to subsurface water flow. The geologic formations including the JTr layer were all tilted northwesterly when the large granite intrusion was emplaced to form the core of the La Sal Mountains east of Moab about 23 million years ago.

Cross section **A-A'** has been labeled with topographic and geologic features and the elevations of the top of the JTr layer where present. If water is injected into this layer at Harley Dome it would enter the top of the aquifer at 3,530' or 1,076 meters and will never exceed that elevation. It can move laterally near the same elevation, but ultimately the lower formation pressure in the Uinta Basin will cause all injected water to move north and northwesterly from Harley Dome and all upland, natural recharge points in the county. There is no possibility that water in the JTr aquifer layer at this elevation will reach the outcrop belt along the Colorado River because the outcrop at its lowest point occurs at an elevation of 4,593' or 1,400 meters. The area of influence of the proposed injection well is 40 miles northeast of Moab and its separate and unique La Sal/Glen Canyon Group (JTr) watershed.

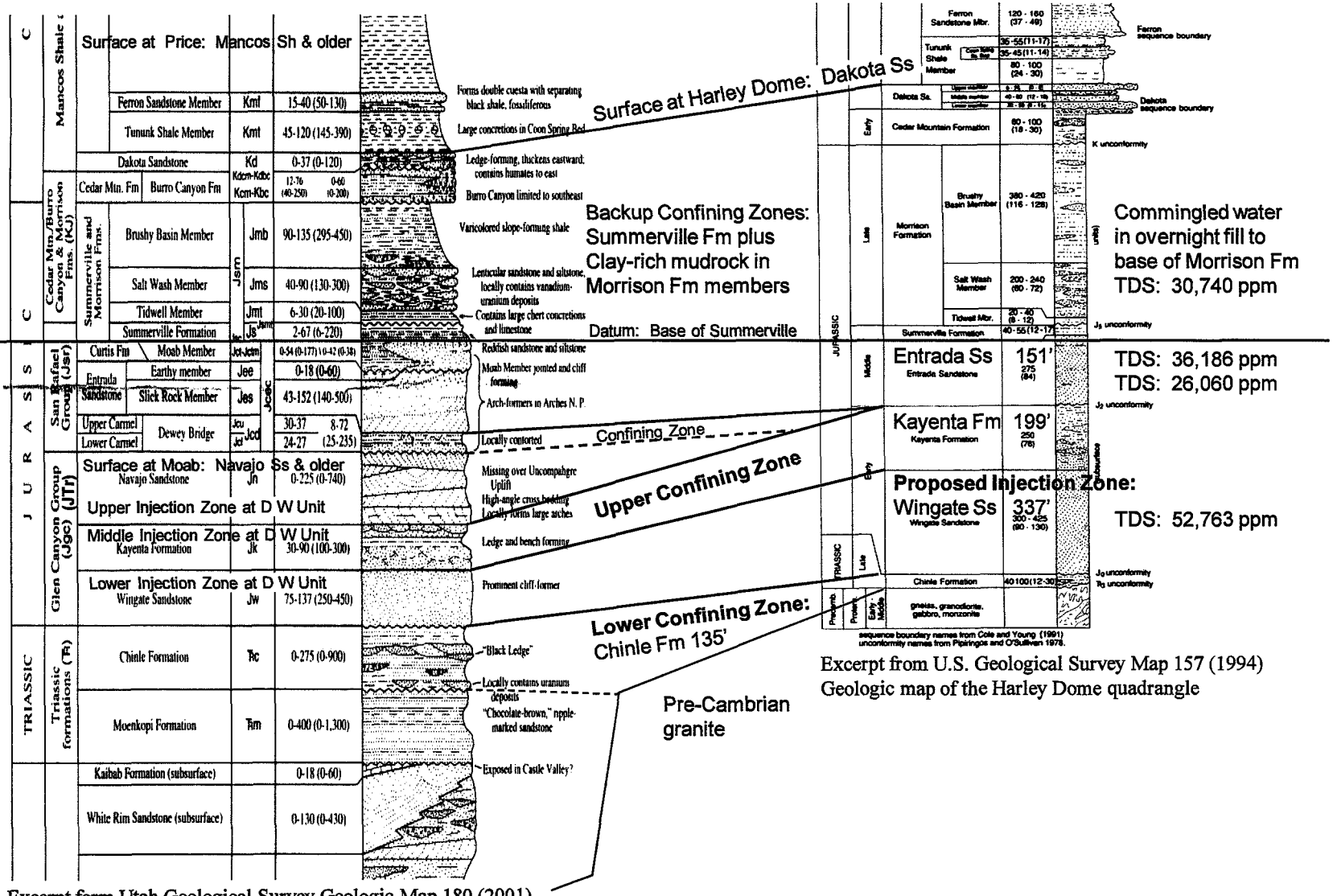


UIC Form 1 Attachment 2-B: Correlation of Stratigraphic Columns in Grand County, Utah

Revised 7-16-12

Southwest
Southern Grand County including Arches NP and Moab

Northeast
Harley Dome, Eastern Grand County
Thickness & Water Quality Data from Harley Dome 1



Excerpt form Utah Geological Survey Geologic Map 180 (2001)
Geologic Map of the Moab and eastern part of the San Rafael Desert 30' x 60' quadrangles

Excerpt from U.S. Geological Survey Map 157 (1994)
Geologic map of the Harley Dome quadrangle

NEW WATER FINANCIAL, LLC

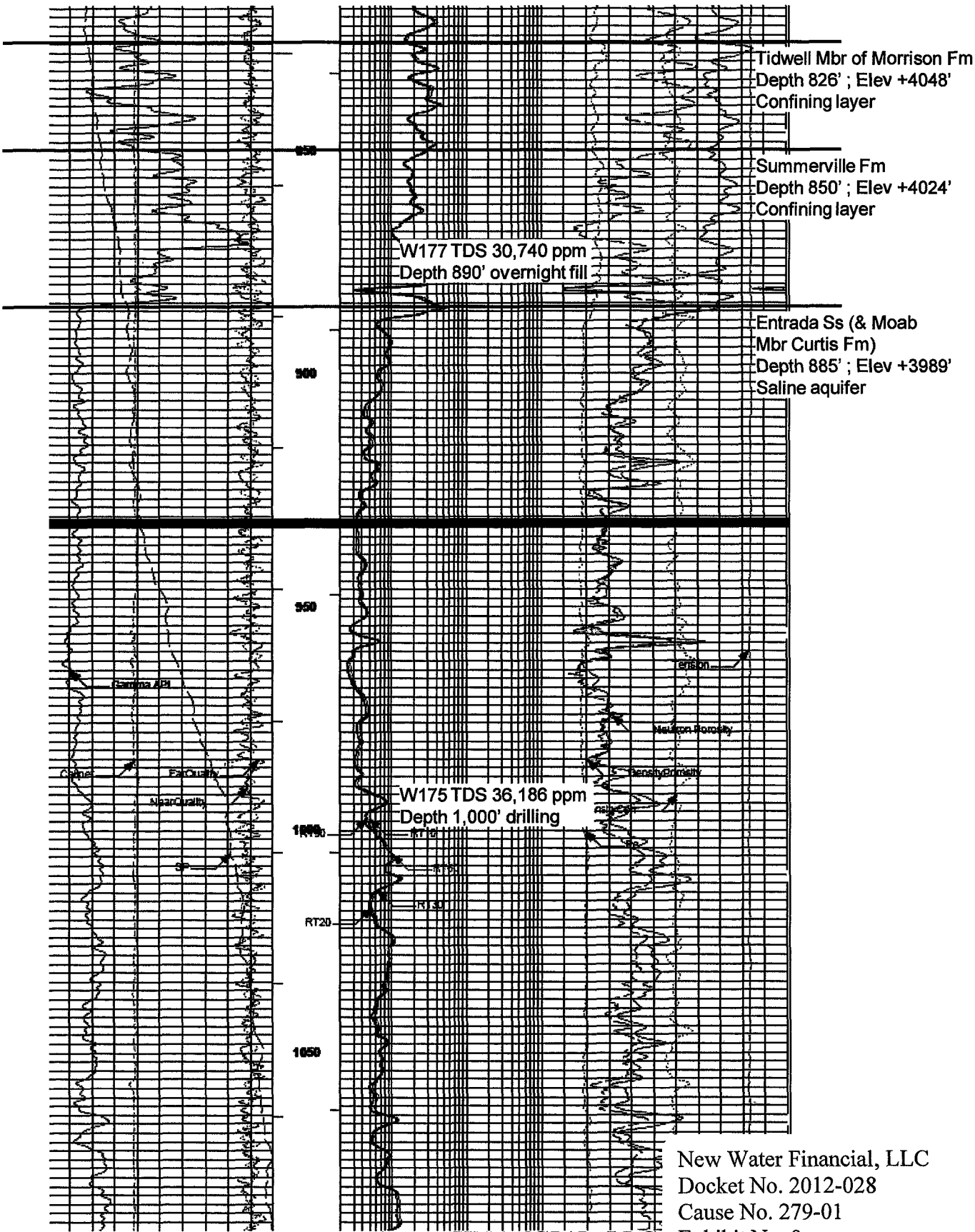
New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 7

UIC Form 1 Attachment 2-B

UIC Form 1 Attachment 2-A-1: HD 1 Triple 5-22-10, Water Quality & Completion (1 of 4)

NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

0	Gamma API	200	2	RT90 (Ohm-m)	2K 30	Neutron Porosity	-10
4"	Caliper	14"	2	RT10 (Ohm-m)	2K 30	Density Porosity	-10



New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 8

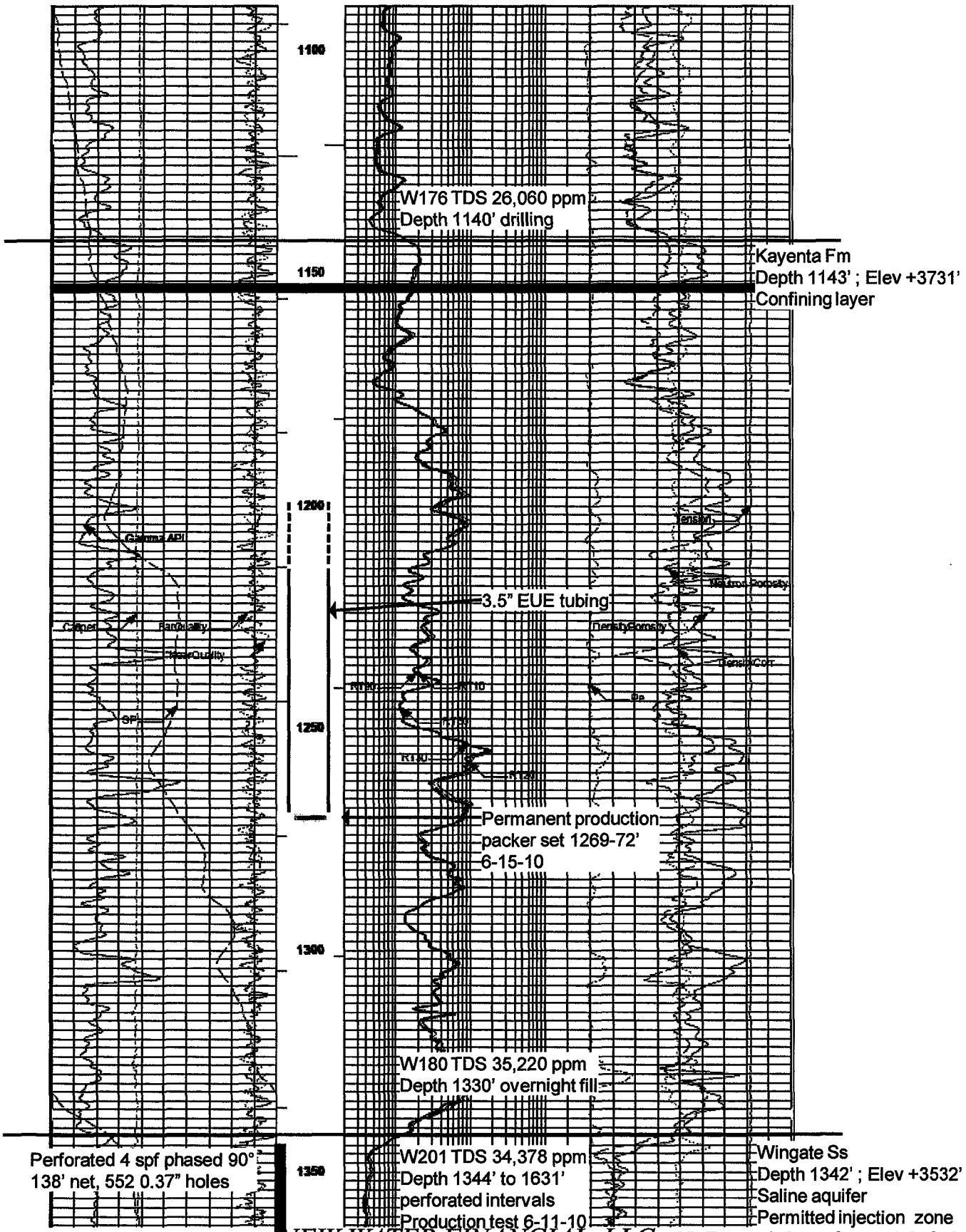
Revised 7-12-12

NEW WATER FINANCIAL, LLC

UIC Form 1 Attachment 2-A-2: HD 1 Triple 5-22-10, Water Quality & Completion (2 of 4)

NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

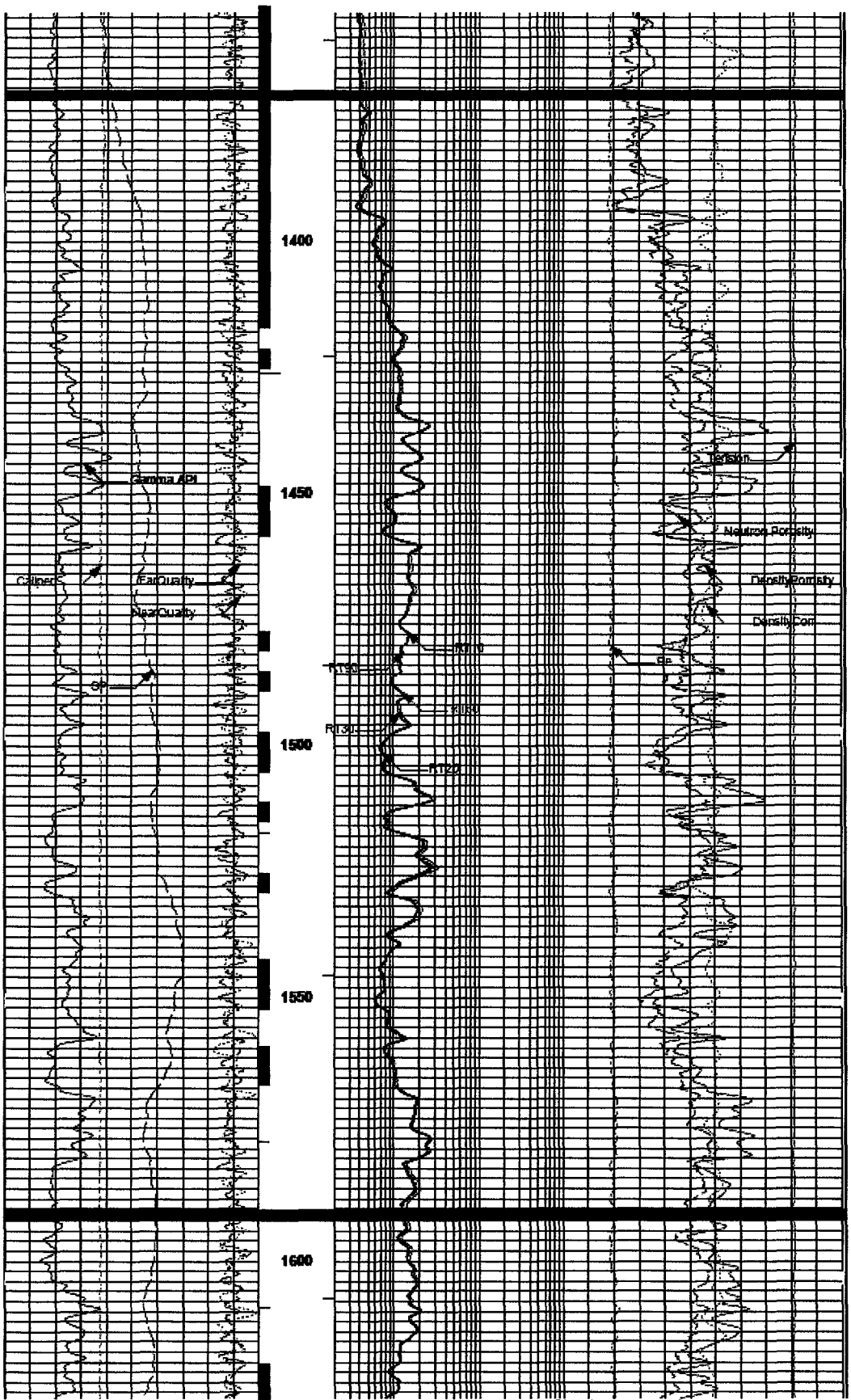
0	Gamma API	200	2	RT90 (Ohm-m)	2K 30	Neutron Porosity	-10
4"	Caliper	14"	2	RT10 (Ohm-m)	2K 30	Density Porosity	-10



UIC Form 1 Attachment 2-A-3: HD 1 Triple 5-22-10, Water Quality & Completion (3 of 4)

NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

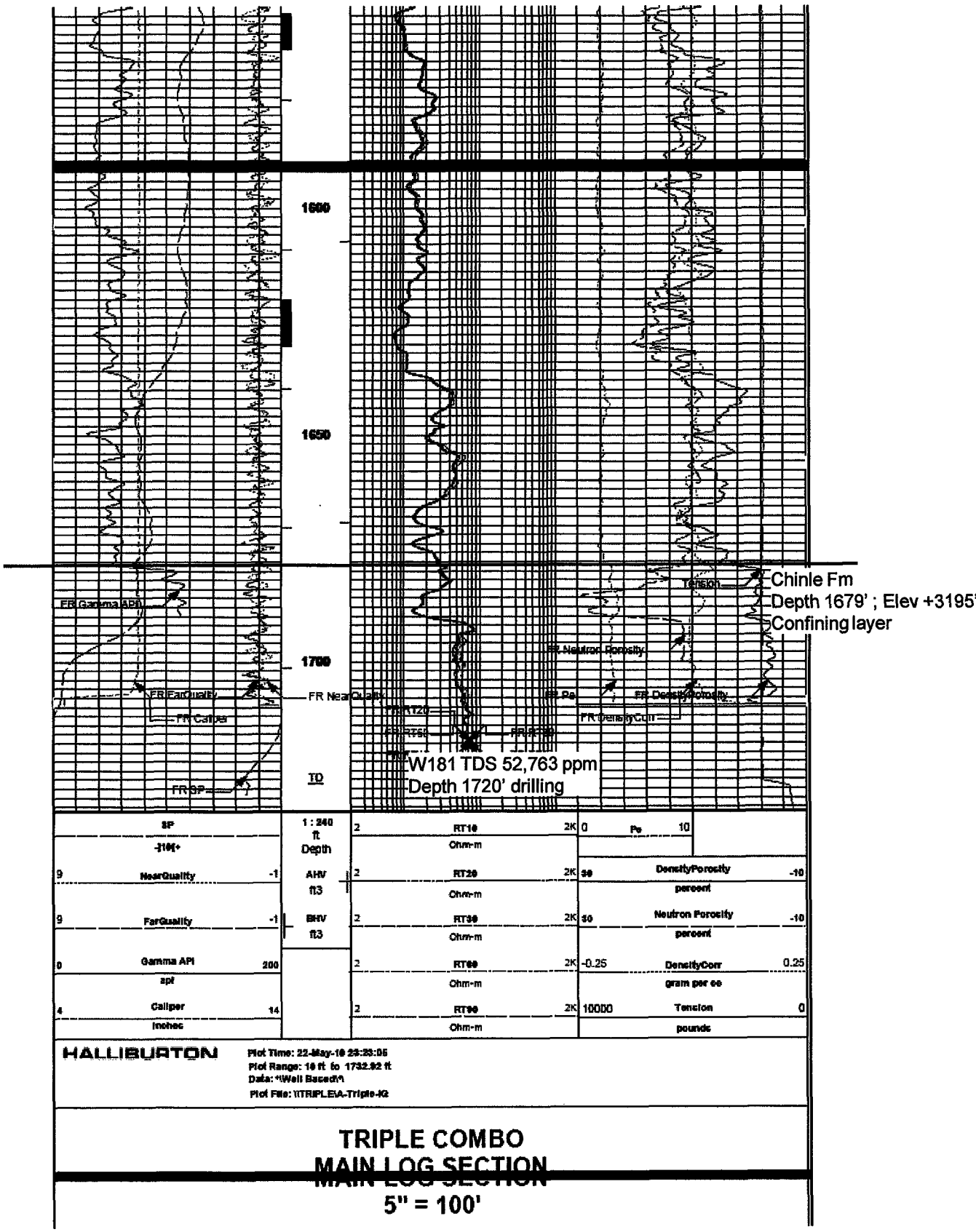
0	Gamma API	200	2	RT90 (Ohm-m)	2K 30	Neutron Porosity	-10
4"	Caliper	14"	2	RT10 (Ohm-m)	2K 30	Density Porosity	-10



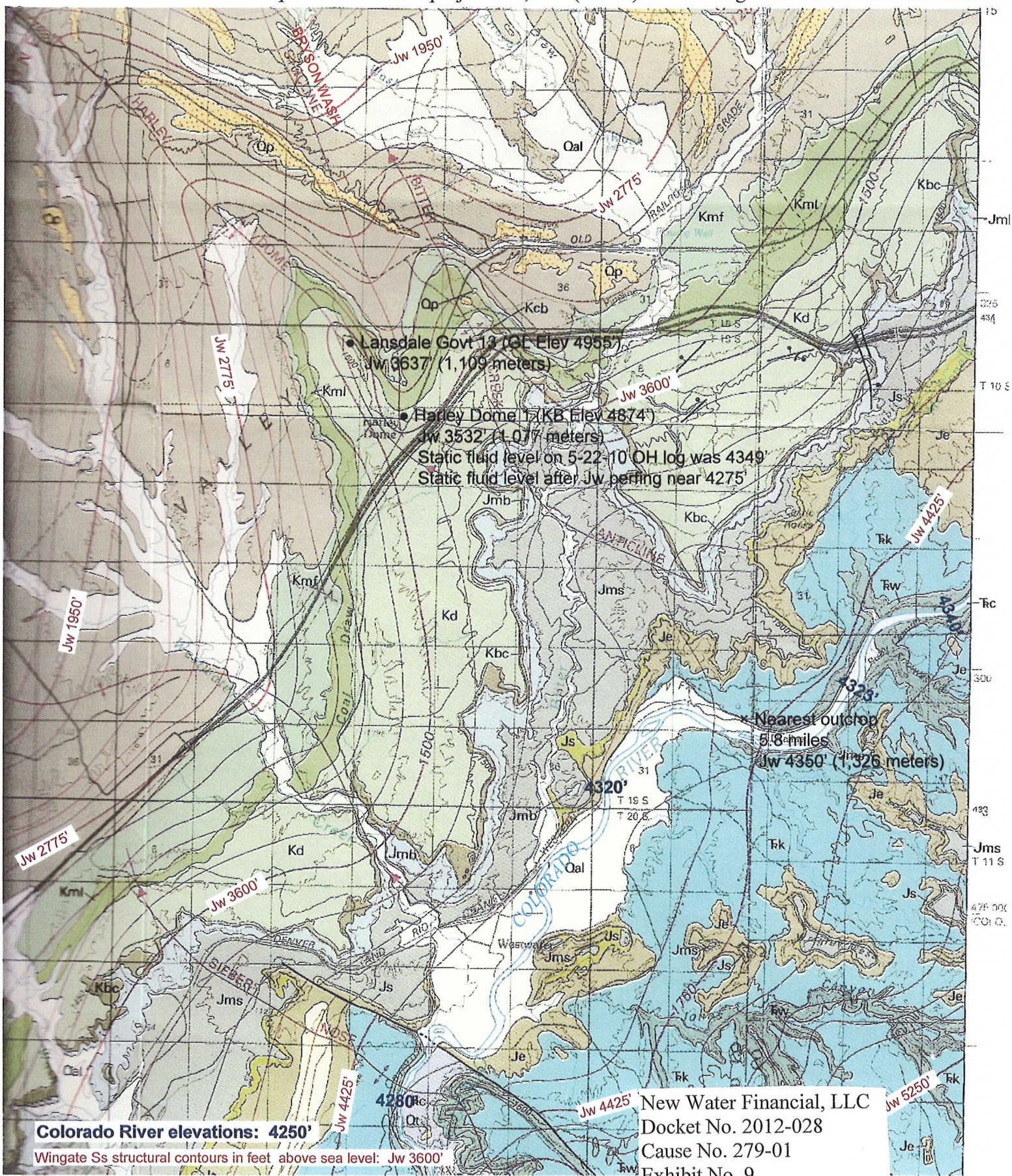
UIC Form 1 Attachment 2-A-4: HD 1 Triple 5-22-10, Water Quality & Completion (4 of 4)

NWNE (600.5' FNL and 2,139' FEL Section 10, T19S, R25E, SLM, Grand Co., UT (99.5' due south of proposed Harley Dome 1-X SWD)

0	Gamma API	200	2	RT90 (Ohm-m)	2K 30	Neutron Porosity	-10
4"	Caliper	14"	2	RT10 (Ohm-m)	2K 30	Density Porosity	-10

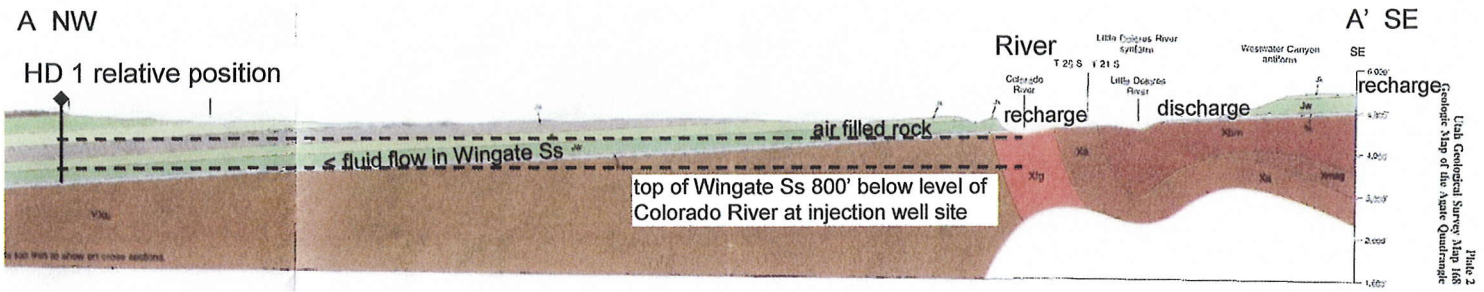


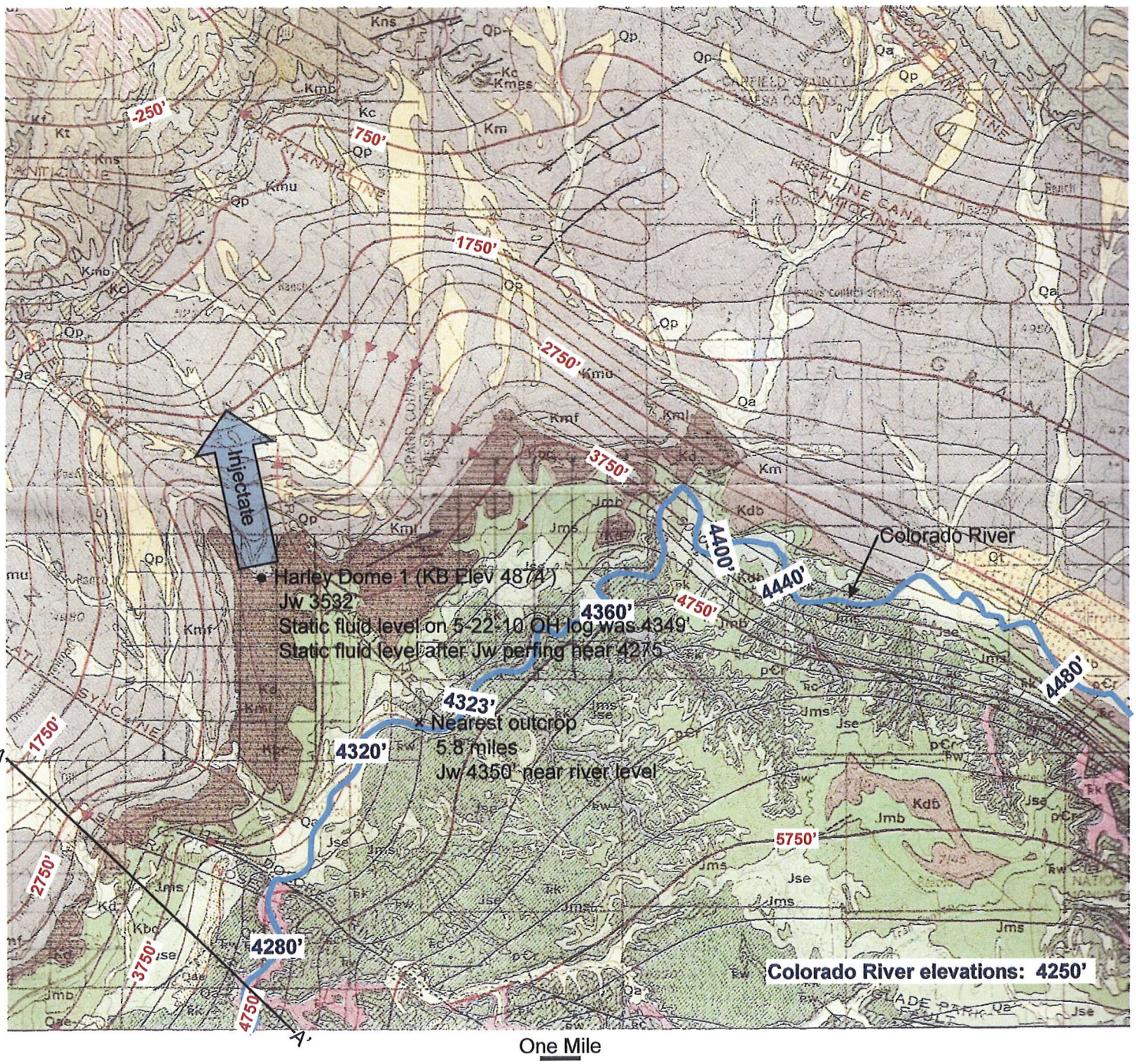
Relative Elevations of the Top of the Wingate Sandstone and Distance to Nearest Outcrop
Harley Dome Anticline, Harley Dome 1 UIC Permit Site (Bryson Wash Syncline) and Westwater Canyon Area
Westwater 30' x 60' Geologic Quad Map, USGS Map I-1765 (1988), Scale 1:100,000 w/notes by David L. Allin
Structure contours drawn on top of Dakota Ss & projected 1,148' (350 m) above Wingate Ss where Dakota is absent



New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 9

Relative Elevations of the Top of the Wingate Sandstone and Distance to Nearest Outcrop
Harley Dome Anticline, Harley Dome 1 UIC Permit Site (Bryson Wash Syncline) and Westwater Canyon Area
Map Base: Grand Junction 1° x 2° Geologic Quad Map, USGS Map I-736 (1973), Scale 1:250,000
Structure contours revised to represent top of Wingate Ss
Revisions by David L. Allin December 1, 2010

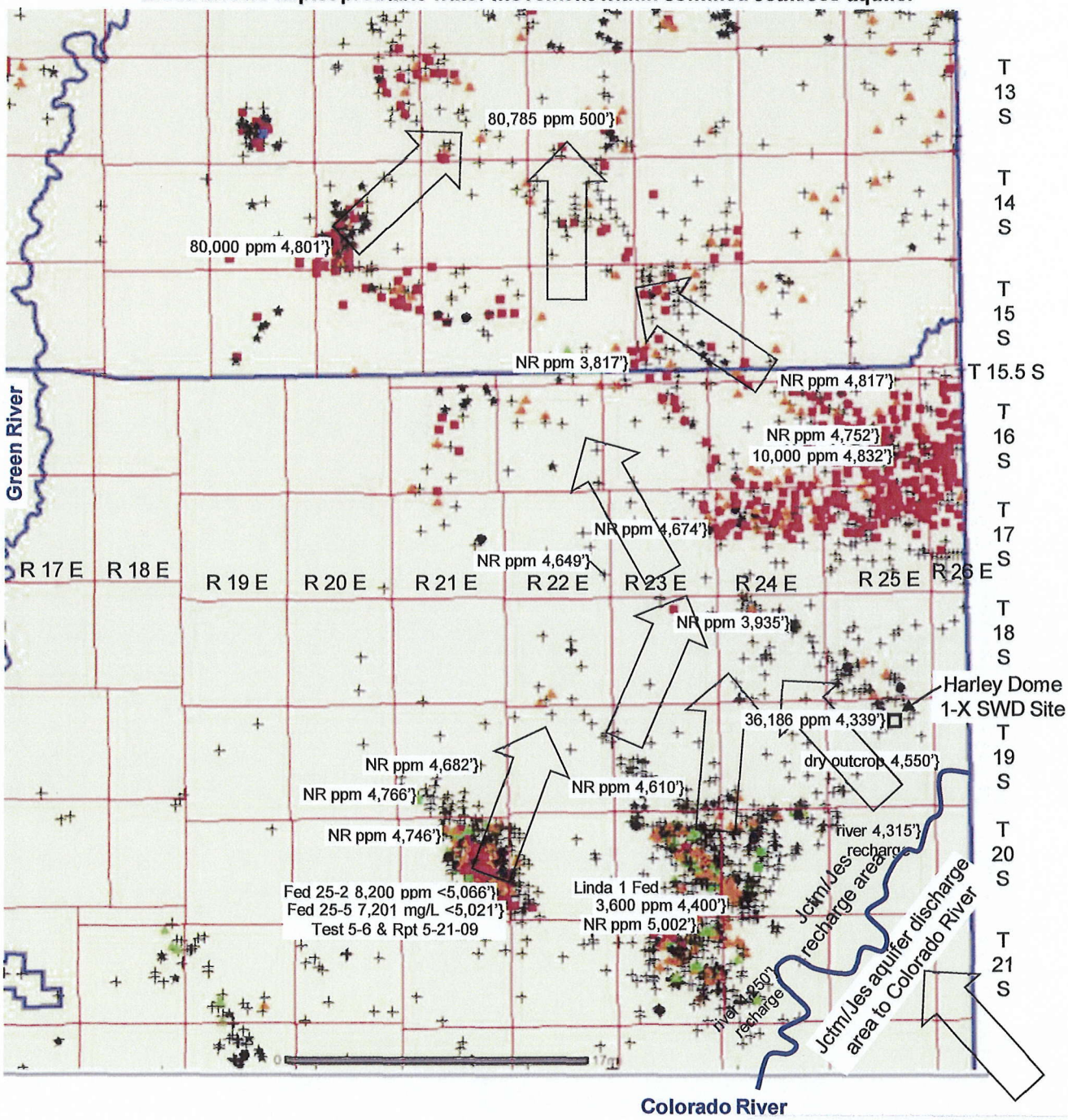




UIC Form 1 Attachment 2-C: Entrada Aquifer Regional Water Quality and Pressure Data Map

Salinity Information and Head (Potentiometric Surface) Values Reported from Wells
in Moab Member Curtis Formation (Jctm) and Slick Rock Member Entrada Sandstone (Jes)
in Southern Uintah County and Northern Grand County, Utah
Oil and Gas Well Map Base from Utah DOGM Web Site Map Server
Data from U.S. Geological Survey Open-File Report 87-397 and David L. Allin Files

The salinity data is followed by the "ppm" label and the head data is labeled "" for feet above sea level
Well data point is the symbol nearest the pointer of the bracket to the right of the data
Block arrows depict probable water movement within confined Jctm/Jes aquifer

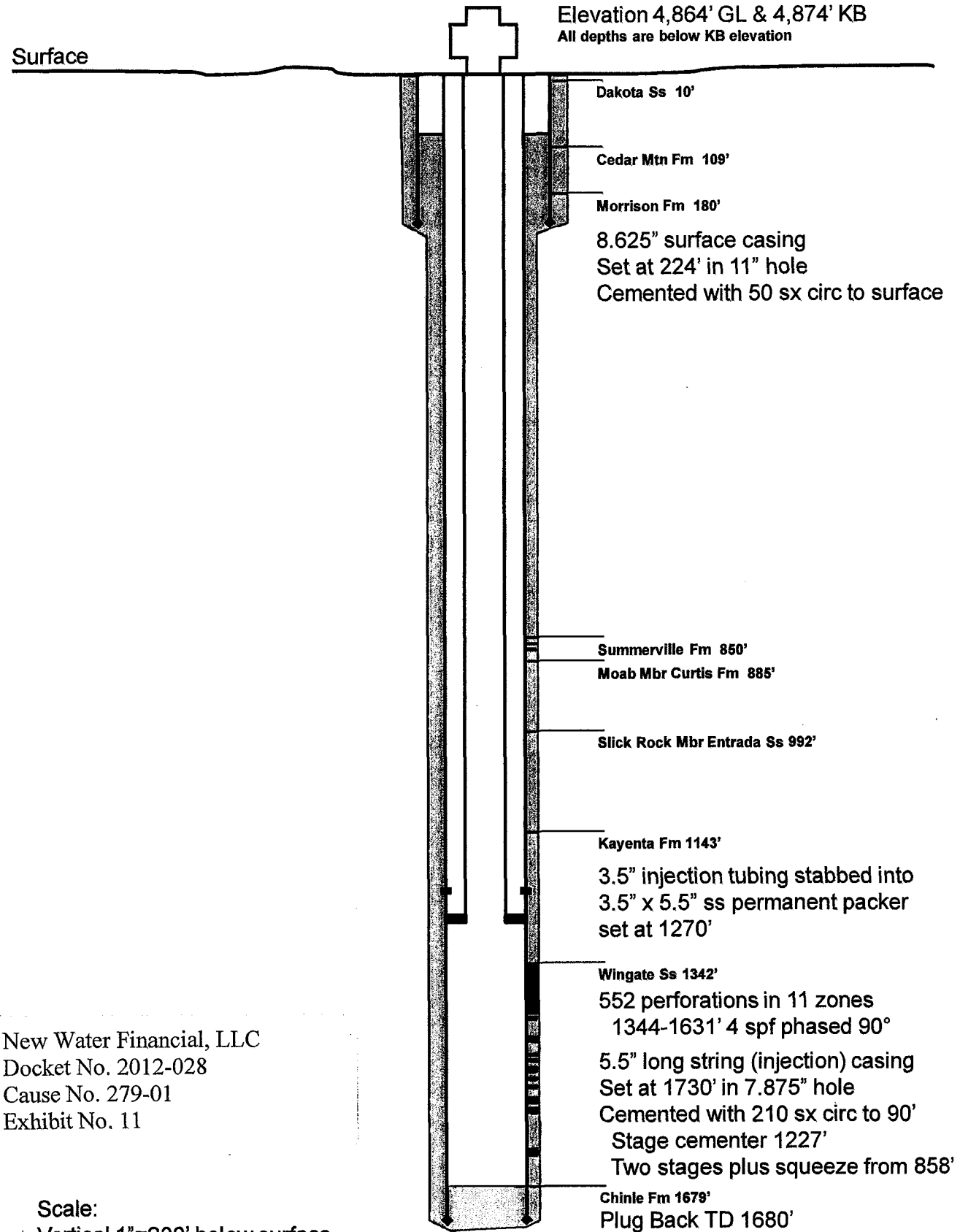


New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 10

Revised 7-12-12

NEW WATER FINANCIAL, LLC

UIC Form 1 Attachment 2-E-4: Schematic Diagram of Harley Dome 1, Completed 7-13-10
NWNE (600.5' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-31622)
Harley Dome, Greater Cisco Field, Grand County, Utah



New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 11

Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

UIC Form 1 Attachment 4-B: Analysis of Harley Dome 1-X SWD Proposed Injection Zone Water (Wingate Sandstone) NWNE 10-19S-25E, SLM, Harley Dome 1 API No. 43-019-31622, 5-21-10 Uinta Basin, Grand County, UT

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1		Temperature	71 °F
Location	TAC 1720		pH	7.6
Specific Gravity	1.012		Color	Orange
Corrected SG	1.014	at 60°F	Turbidity	None
TDS (calculated)	52763	ppm	Resistivity	0.38 Ω·m

Sample Chemical Characteristics

Anions	Chloride	32600	mg/L	Cations	Total Iron	0.2 mg/L
	Sulfate	360	mg/L		Ferrous Iron	0.6 mg/L
	Bicarbonate	290	mg/L		Potassium	510 mg/L
	Carbonate	0	mg/L		Calcium	1600 mg/L
	Hydroxide		mg/L		Magnesium	1400 mg/L
					Sodium (calculated)	16635 mg/L

General Comments

W181; TAC 1720 Contains foamer 15:25 5-21-10

(Collected by David L. Allin while drilling Chinle Fm [Trc] at 1720' with foam at 15:25 May 21, 2010)

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 12

Annotated & Appended 7-14-12 *NEW WATER FINANCIAL, LLC*

STEWART ENVIRONMENTAL CONSULTANTS, INC.

ACEC MEMBER

December 6, 2010

Mr. Chris Kierst, Senior Petroleum Specialist
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84116

Subject: Water Compatibility Report – Westwater Farms LLC – Harley Dome Number 1
Project No.: 4422.001(10)

Dear Mr. Kierst:

This letter report details the water compatibility modeling completed for mixing produced water from the Westwater Farms injection treatment system with Wingate Ss formation water with emphasis on solubility. The models were built using existing analytical results for each water and the chemical speciation and solubility modeling program Visual MINTEQ, version 2.53; details about the program and model methodology are below.

The following table summarizes the model results:

Westwater Injection Well Chemistry
Table 1: Summary Table

Component	W181 & Injectate Water Mixed	W201 & Injectate Water Mixed
	Mass Precipitated (lb/1000 bbl)	
Ba+2	4.52	9.26
Ca+2	15.44	26.95
CO3-2	23.72	20.59
H4SiO4	0.92	0.20
Mg+2	9.72	0
SO4-2	3.16	6.48
Total =	**57.48**	**63.49**
	Solids	
	$BaSO_4$ (Barite) = 7.77% of solids	$BaSO_4$ (Barite) = 9.09% of solids
	$Mg_3(Si_2O_5)(OH)_4$ (Chrysotile) = 1.14% of solids	$CaCO_3$ (Calcite) = 90.62% of solids
	$CaMg(CO_3)_2$ (Dolomite [ordered]) = 91.09% of solids	SiO_2 (Quartz) = 0.29% of solids
	8.91% (5.12 lb/1000 bbl) of solids insoluble in acid treatment	**9.38% (5.96 lb/1000 bbl) of solids insoluble in acid treatment**

3801 AUTOMATION WAY, SUITE 200 | FORT COLLINS, COLORADO 80525 | 970.226.5500 | 970.226.4946 | STEWARTENV.COM
CONSULTING ENGINEERS AND SCIENTISTS

We have had multiple discussions regarding our scaling issues with Mr. John Ruggeri, Product Manager for Flow Assurance at Baker Petrolite in Houston, Texas. He is recommending that we also add an antiscalant to control our precipitation issues within the formation; however, Baker Petrolite is performing some additional testing in order to identify the best antiscalant product for our application.

The modeling software used in this effort was Visual MINTEQ ver. 2.53. The original program, MINTEQA2 ver 4.0, was written in Fortran 77 and released in 1999 by CEAM, US EPA. It has now been entirely rewritten in Visual Basic, with version 2.53 of Visual MINTEQ compiled in Visual Basic 6.0 on October 24, 2007 by Mr. Jon Petter Gustafsson, KTH, Dept. of Land and Water Resources Engineering, Stockholm, Sweden. The aim of the program is to simulate equilibria and speciation of inorganic solutes in natural waters.

There were three water samples evaluated in this exercise: Westwater injectate water, Wingate Ss formation water sample W181, and Wingate Ss formation water sample W201. Analytical data for injectate water was derived from data that was developed as part of Stewart Environmental's pilot testing program, which took place at the Westwater, Utah site from July 26 to September 10, 2010 (please see Attachment 1). Formation water samples W181 and W201 were drawn from the Wingate Ss formation by Mr. David Allin, Westwater's hydrogeologist, on May 20 and June 10, 2010 respectively. Sample W201 was drawn while UDOGM inspector Mr. Bart Kettle was present at the site on June 10, 2010, and thus is of interest to UDOGM. However, Mr. Allin feels that sample W201 was contaminated by water lost during long string cementing operations, and he feels that sample W181 is much more representative of the Wingate Ss formation water. Thus, both formation water samples were included in this modeling exercise. Both formation water samples were tested by Halliburton on May 22 and June 10, 2010 respectively (please see Attachment 2). Stewart Environmental conducted additional testing on sample W181 for barium, silica, and strontium on August 27, 2010 (please Attachment 3).

To calibrate the solubility models, the data for each water was entered into the program without any mixing (please see Attachment 4). Any solids that precipitated in this step were removed from the water accordingly, because solids will be removed from the injectate by Westwater's pre-injection filtration processes and from the formation water by the formation itself, and because precipitated solids are not directly available for aqueous equilibria reactions.

Next, two mixtures were modeled using results from the first step: injectate water with sample W181 and injectate water with sample W201 (please see Attachment 5). The mixtures were created using a 50 percent/50 percent mix of injectate and formation water, which simulates the injectate/formation water interface and is a conservative estimate of the interface interaction. The speciation of components is listed in a table of saturation indices (please see Attachment 6); note that any compound that shows a saturation index value of zero has begun precipitating out of the water.

It is important to note that these models do not account for the use of an appropriate antiscalant chemical, nor do they account for acid treatments performed on the injection well. Model files (compatible with Visual MINTEQ ver. 2.53) are available for review upon request.

Conclusion:

Based on the chemical modeling and discussions with Baker Petrolite, we will be adding an antiscalant to control precipitation in the well bore. This will likely be a phosphate scale inhibitor and we will also add a biocide to prevent

any future microbiological growth within the formation. The exact products will be determined by Baker Petrolite as well as the proper dosing of these chemicals.

Sincerely,

STEWART ENVIRONMENTAL CONSULTANTS, INC.

David R. Stewart, PhD, PE
President and CEO

Enc.

4422.001(10)\Westewater Chemical Compatibility 06dec10.ltr

Representative Chemistry of Injected Water After Oil Removal

Parameter	Units		8/2/2010		8/18/2010		8/20/2010		8/25/2010		8/31/2010		9/2/2010		9/9/2010	Average
Inorganics																
Ammonia as N	ppm		10.3		11.4		14.7		12		12		11.4		8.6	11.49
Heterotrophic, Plate Count	MPN/mL				1											1.00
Solids/Total Dissolved (TDS)	ppm		14404		7098		12644		13628		13610		13914		13600	12714.00
Sulfate	ppm		0.657		25.4		17.2	<	5		3.2		3.3		4.5	8.47
Metals																
Aluminum	ppm		0.0916	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	0.44
Aluminum, dissolved	ppm	<	0.05	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	<	0.5	0.44
Arsenic	ppm	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.20
Arsenic, dissolved	ppm	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.20
Barium	ppm		46.3		32.8		42.9		45.9		45		40.5		36.3	41.39
Barium, dissolved	ppm		42.1		29.4		36.1		40.2		42		40.3		31.5	37.37
Boron	ppm		10.1		12.6		13.7		14.2		12.9		11.9		13.04	12.63
Boron, dissolved	ppm		9.69		11.3		11.5		12.4		12		11.8		11.8	11.50
Cadmium	ppm	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	0.03
Cadmium dissolved	ppm	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	0.03
Calcium	ppm		143		150		160		202		151		141		153	160.00
Calcium, dissolved	ppm		132		134		164		172		137		137		133	144.14
Chromium	ppm		0.0069	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Chromium, dissolved	ppm	<	0.005	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Copper	ppm		0.0102	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Copper, dissolved	ppm	<	0.005	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.04
Iron	ppm		7.67		12.1		4		23.9		8.13		8.23		6.32	10.05
Iron, dissolved	ppm		5.14		6.56		3		15.9		5.72		5.43		1.24	6.14
Lead	ppm	<	0.02	<	0.2	<	0.2	<	0.2	<	0.2	<	0.02	<	0.2	0.16
Lead, dissolved	ppm	<	0.02	<	0.2	<	0.2	<	0.2	<	0.2	<	0.02	<	0.2	0.16
Magnesium	ppm		16.2		20.7		22.8		23.9		18		16.5		19.2	19.61
Magnesium, dissolved	ppm		15.2		18.5		19.4		20.9		16.5		16.3		16.9	17.67
Manganese	ppm		0.514		0.607		0.633		0.648		0.389		0.378		0.52	0.53
Manganese, dissolved	ppm		0.479		0.508		0.538		0.566		3.61		0.36		0.435	0.46
Nickel	ppm	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.05
Nickel, dissovled	ppm	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	<	0.05	0.05
Potassium	ppm		40.1		38.2		83		86.5		67		51.5		43.3	57.09
Potassium, dissolved	ppm		37.4		35.4		70		76.2		53		51		38.5	51.64
Selenium	ppm	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.20
Selenium, dissolved	ppm	<	0.02	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	0.17
Silica	ppm		46.8		52.2		58.7		70.7		53		68.6		60.4	58.63
Silica, dissolved	ppm		43.6		48.1		54.1		61.8		64.5		64.4		51.4	55.41
Sodium	ppm		4500		3790		3990		4070		4530		4000		4200	4154.29
Sodium, dissolved	ppm		4140		3430		3370		3590		4210		4060		3740	3791.43
Strontium	ppm		32.7		25.7		24.3		26.3		29.1		26.8		26.8	27.24
Strontium, dissolved	ppm		30		23		20.8		22.5		27.3		26.7		23.5	24.83
Zinc	ppm		0.066		0.068		0.058		0.062	<	0.05	<	0.05		0.114	0.07
Zinc, dissolved	ppm		0.13		0.141		0.204	<	0.05		0.176	<	0.05		0.107	0.12
Organics																
Oil and Grease	ppm		9		11		16		8							11.00
Total Organic Carbon	ppm		240		190		210		190		270		260		240	228.57

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1	Temperature	71 °F
Location	TAC 1720	pH	7.6
Specific Gravity	1.012	Color	Orange
Corrected SG	1.014 at 60°F	Turbidity	None
TDS (calculated)	52763 ppm	Resistivity	0.38 Ω·m

Sample Chemical Characteristics

Anions	Chloride	32600 mg/L	**Cations**	Total Iron	0.2 mg/L
	Sulfate	360 mg/L		Ferrous Iron	0.6 mg/L
	Bicarbonate	290 mg/L		Potassium	510 mg/L
	Carbonate	0 mg/L		Calcium	1600 mg/L
	Hydroxide	mg/L		Magnesium	1400 mg/L
				Sodium (calculated)	16635 mg/L

General Comments

W181; TAC 1720 Contains foamer 15:25 5-21-10

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farms LLC	Date Received	June 10, 2010
Reported To	Engineers David Allin	Date Tested	June 10, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	Harley Dome 1	Temperature	64 °F
Location	JW Perfs 1344-1631'	pH	7.8
Specific Gravity	1.013	Color	Clear
Corrected SG	1.013 at 60°F	Turbidity	None
TDS (calculated)	34378 ppm	Resistivity	0.36 Ω·m

Sample Chemical Characteristics

Anions	Chloride	20600 mg/L	Cations	Total Iron	3.0 mg/L
	Sulfate	580 mg/L		Ferrous Iron	0.6 mg/L
	Bicarbonate	400 mg/L		Potassium	0 mg/L
	Carbonate	0 mg/L		Calcium	1780 mg/L
	Hydroxide	mg/L		Magnesium	330 mg/L
				Sodium (calculated)	11114 mg/L

General Comments

W201; 6-10-10 14:40

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

UIC Form 1 Attachment 4-C-7: Water Compatibility Report
Originally Submitted for Harley Dome 1 UIC Permit Application

Client: **Produced Water Development**

Laboratory Report

Attn: SEC Engineering Department

Laboratory ID: S102391505 Sample Name: Harley Dome # 1

Sampled: 6/10/2010 12:40 PM Date Received: 8/27/2010 Matrix: Water Grab Batch No: 10707

Project # 5001-010 BG 001

Analyte	Result	Units	MRL	Method	Date	Analyst	Sent Out	Laboratory
Digest/Total Prep. Batch	74	Dig #	0	SM 3030 F	8/31/2010	VJF	☐	
Barium	0.232	ppm	0.002	EPA 200.7	9/1/2010	MAG	☐	
Silica	14.7	ppm	0.1	EPA 200.7	9/1/2010	MAG	☐	
Strontium	50.4	ppm	0.001	EPA 200.7	9/1/2010	MAG	☐	

Results Approved by: M. Glavanovich

Michael Glavanovich, Laboratory Manager Date Reported: 12/3/2010

Stewart Environmental Consultants, LLC
3801 Automation Way, Suite 200
Fort Collins, CO 80525

Friday, December 03, 2010

Westwater Injection Well Chemistry
Formation Water W201 Only: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ca+2	0.038294	85.83	0.006322	14.17
Cl-1	0.58105	100	0	0
CO3-2	0.00022425	3.426	0.006322	96.574
Fe+2	0.000010744	100	0	0
H+1	0.00021399	100	0	0
Mg+2	0.013574	100	0	0
Na+1	0.48343	100	0	0
SO4-2	0.0060378	100	0	0

Formation Water W181 Only: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	1.9004E-06	100	0	0
Ca+2	0.037733	94.443	0.0022202	5.557
Cl-1	0.91953	100	0	0
CO3-2	0.00030433	6.414	0.0044403	93.586
Fe+2	0.000010744	100	0	0
H+1	0.00029557	100	0	0
K+1	0.013043	100	0	0
Mg+2	0.055397	96.147	0.0022202	3.853
Na+1	0.72358	100	0	0
SO4-2	0.0037476	100	0	0

Injectate Water Only: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	0.00019395	71.28	0.000078145	28.72
Ca+2	0.00087575	24.351	0.0027206	75.649
Cl-1	0.18334	100	0	0
CO3-2	0.0084924	73.382	0.0030805	26.618
Fe+2	6.6611E-06	6.059	0.00010328	93.941
H+1	0.0086582	100	0	0
H3BO3	0.0010638	100	0	0
H4SiO4	0.00010925	11.844	0.00081318	88.156
K+1	0.0013206	100	0	0
Mg+2	0.00059402	81.731	0.00013278	18.269
Mn+2	3.2487E-06	37.182	5.4885E-06	62.818
Na+1	0.16492	100	0	0
NH4+1	0.00067466	100	0	0
SO4-2	0.000010028	11.373	0.000078145	88.627
Sr+2	0.00016503	58.235	0.00011835	41.765
Zn+2	1.8357E-06	100	0	0

Westwater Injection Well Chemistry
Injection Water & Formation Water W181 Mixed 50/50: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	0.000004107	4.194	0.000093825	95.806
Ca+2	0.018197	94.303	0.0010993	5.697
Cl-1	0.55143	100	0	0
CO3-2	0.00035778	13.996	0.0021986	86.004
Fe+2	8.6844E-06	100	0	0
H+1	0.00025059	100	0	0
H3BO3	0.0010638	100	0	0
H4SiO4	0.000081787	74.867	0.000027456	25.133
K+1	0.0071817	100	0	0
Mg+2	0.054232	97.94	0.0011405	2.06
Mn+2	3.2764E-06	100	0	0
Na+1	0.44425	100	0	0
NH4+1	0.00067466	100	0	0
SO4-2	0.001785	95.006	0.000093825	4.994
Sr+2	0.00016503	100	0	0
Zn+2	1.8357E-06	100	0	0

Westwater Injection Well Chemistry
Injection Water & Formation Water W201 Mixed 50/50: Precipitated Solids

Component	Total dissolved (molal)	% dissolved	Total precipitated (molal)	% precipitated
Ba+2	1.5732E-06	0.811	0.0001924	99.189
Ca+2	0.017567	90.159	0.0019174	9.841
Cl-1	0.3822	100	0	0
CO3-2	0.00061176	24.188	0.0019174	75.812
Fe+2	8.7739E-06	100	0	0
H+1	0.00053664	100	0	0
H3BO3	0.0010638	100	0	0
H4SiO4	0.00010323	94.491	6.0181E-06	5.509
K+1	0.00066032	100	0	0
Mg+2	0.0070837	100	0	0
Mn+2	3.2764E-06	100	0	0
Na+1	0.32417	100	0	0
NH4+1	0.00067466	100	0	0
SO4-2	0.0028315	93.637	0.0001924	6.363
Sr+2	0.00016503	100	0	0
Zn+2	1.8357E-06	100	0	0

Westwater Injection Well Chemistry
Injection Water & Formation Water W181 Mixed 50/50: Saturation Indices

Mineral	log IAP	Sat. Index	Stoichiometry							
Anhydrite	-5.825	-1.447	1	Ca+2	1	SO4-2				
Aragonite	-8.506	-0.141	1	Ca+2	1	CO3-2				
Artinite	3.469	-5.824	-2	H+1	2	Mg+2	1	CO3-2	5	H2O
Ba(OH)2:8H2O	8.679	-15.577	1	Ba+2	10	H2O	-2	H+1		
Barite	-9.921	0	1	Ba+2	1	SO4-2				
Blanchite	-9.942	-8.175	1	Zn+2	1	SO4-2	6	H2O		
Brucite	12.405	-4.404	1	Mg+2	2	H2O	-2	H+1		
CaCO3xH2O	-8.512	-1.33	1	Ca+2	1	CO3-2	1	H2O		
Calcite	-8.506	0	1	Ca+2	1	CO3-2				
Celestite	-7.921	-1.306	1	Sr+2	1	SO4-2				
Chalcedony	-3.943	-0.443	1	H4SiO4	-2	H2O				
Chrysotile	29.336	-2.365	3	Mg+2	2	H4SiO4	1	H2O	-6	H+1
Cristobalite	-3.943	-0.644	1	H4SiO4	-2	H2O				
Dolomite (disordered)	-17.426	-0.768	1	Ca+2	1	Mg+2	2	CO3-2		
Dolomite (ordered)	-17.426	-0.235	1	Ca+2	1	Mg+2	2	CO3-2		
Epsomite	-6.277	-4.18	1	Mg+2	1	SO4-2	7	H2O		
Fe(OH)2 (am)	9.526	-3.73	1	Fe+2	2	H2O	-2	H+1		
Fe(OH)2 (c)	9.526	-3.364	1	Fe+2	-2	H+1	2	H2O		
Goslarite	-9.947	-7.972	1	Zn+2	1	SO4-2	7	H2O		
Greenalite	20.698	-0.112	-6	H+1	3	Fe+2	2	H4SiO4	1	H2O
Gypsum	-5.836	-1.229	1	Ca+2	1	SO4-2	2	H2O		
Halite	-1.307	-2.866	1	Na+1	1	Cl-1				
Huntite	-35.265	-5.022	3	Mg+2	1	Ca+2	4	CO3-2		
Hydromagnesite	-23.295	-13.972	5	Mg+2	4	CO3-2	-2	H+1	6	H2O
Hydrozincite	1.027	-7.07	5	Zn+2	2	CO3-2	-6	H+1	6	H2O
KCl	-4.04	-4.94	1	K+1	1	Cl-1				
Lime	12.824	-19.381	-2	H+1	1	Ca+2	1	H2O		
Magnesite	-8.92	-1.511	1	Mg+2	1	CO3-2				
Melanterite	-9.156	-7	1	Fe+2	1	SO4-2	7	H2O		
Mg(OH)2 (active)	12.405	-6.389	1	Mg+2	2	H2O	-2	H+1		
Mg2(OH)3Cl:4H2O	16.554	-9.446	2	Mg+2	1	Cl-1	-3	H+1	7	H2O
MgCO3:5H2O	-8.947	-4.407	1	Mg+2	1	CO3-2	5	H2O		
Mirabilite	-4.843	-3.931	2	Na+1	1	SO4-2	10	H2O		
MnCl2:4H2O	-7.415	-10.103	1	Mn+2	2	Cl-1	4	H2O		
MnCO3 (am)	-12.248	-1.748	1	Mn+2	1	CO3-2				
MnSO4	-9.567	-11.985	1	Mn+2	1	SO4-2				
Natron	-7.524	-6.381	2	Na+1	1	CO3-2	10	H2O		
Nesquehonite	-8.936	-4.204	1	Mg+2	1	CO3-2	3	H2O		
Periclase	12.411	-8.788	-2	H+1	1	Mg+2	1	H2O		
Portlandite	12.819	-9.557	1	Ca+2	2	H2O	-2	H+1		
Pyrochroite	9.077	-5.87	1	Mn+2	2	H2O	-2	H+1		
Quartz	-3.943	0	1	H4SiO4	-2	H2O				
Rhodochrosite	-12.248	-1.244	1	Mn+2	1	CO3-2				
Sepiolite	12.974	-2.496	2	Mg+2	3	H4SiO4	-4	H+1	-0.5	H2O
Sepiolite (A)	12.974	-5.806	-0.5	H2O	2	Mg+2	3	H4SiO4	-4	H+1
Siderite	-11.799	-1.19	1	Fe+2	1	CO3-2				
SiO2 (am,gel)	-3.943	-1.269	1	H4SiO4	-2	H2O				
SiO2 (am,ppt)	-3.943	-1.242	1	H4SiO4	-2	H2O				

Smithsonite	-12.59	-1.68	1	Zn+2	1	CO3-2				
Strontianite	-10.602	-1.33	1	Sr+2	1	CO3-2				
Thenardite	-4.788	-5.086	2	Na+1	1	SO4-2				
Thermonatrite	-7.474	-8.085	2	Na+1	1	CO3-2	1	H2O		
Vaterite	-8.506	-0.555	1	Ca+2	1	CO3-2				
Witherite	-12.602	-4.037	1	Ba+2	1	CO3-2				
Zincite	8.741	-2.261	1	Zn+2	1	H2O	-2	H+1		
Zincosite	-9.909	-13.628	1	Zn+2	1	SO4-2				
Zn(BO2)2	2.831	-5.459	-2	H2O	-2	H+1	1	Zn+2	2	H3BO3
Zn(OH)2 (am)	8.735	-3.52	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (beta)	8.735	-2.807	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (delta)	8.735	-3.109	1	Zn+2	-2	H+1	2	H2O		
Zn(OH)2 (epsilon)	8.735	-2.598	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (gamma)	8.735	-2.79	1	Zn+2	2	H2O	-2	H+1		
Zn2(OH)2SO4	-1.173	-8.673	-2	H+1	2	Zn+2	2	H2O	1	SO4-2
Zn2(OH)3Cl	9.236	-5.955	2	Zn+2	3	H2O	-3	H+1	1	Cl-1
Zn3O(SO4)2	-11.076	-29.332	-2	H+1	3	Zn+2	2	SO4-2	1	H2O
Zn4(OH)6SO4	16.298	-12.102	-6	H+1	4	Zn+2	6	H2O	1	SO4-2
Zn5(OH)8Cl2	27.207	-11.293	-8	H+1	5	Zn+2	8	H2O	2	Cl-1
ZnCl2	-7.734	-14.6	1	Zn+2	2	Cl-1				
ZnCO3	-12.59	-1.79	1	Zn+2	1	CO3-2				
ZnCO3:1H2O	-12.595	-2.335	1	Zn+2	1	CO3-2	1	H2O		
ZnSO4:1H2O	-9.914	-9.164	1	Zn+2	1	SO4-2	1	H2O		

Westwater Injection Well Chemistry
Injection Water & Formation Water W201 Mixed 50/50: Saturation Indices

Mineral	log IAP	Sat. Index	Stoichiometry							
Anhydrite	-5.825	-1.447	1	Ca+2	1	SO4-2				
Aragonite	-8.506	-0.141	1	Ca+2	1	CO3-2				
Artinite	3.469	-5.824	-2	H+1	2	Mg+2	1	CO3-2	5	H2O
Ba(OH)2:8H2O	8.679	-15.577	1	Ba+2	10	H2O	-2	H+1		
Barite	-9.921	0	1	Ba+2	1	SO4-2				
Blanchite	-9.942	-8.175	1	Zn+2	1	SO4-2	6	H2O		
Brucite	12.405	-4.404	1	Mg+2	2	H2O	-2	H+1		
CaCO3xH2O	-8.512	-1.33	1	Ca+2	1	CO3-2	1	H2O		
Calcite	-8.506	0	1	Ca+2	1	CO3-2				
Celestite	-7.921	-1.306	1	Sr+2	1	SO4-2				
Chalcedony	-3.943	-0.443	1	H4SiO4	-2	H2O				
Chrysotile	29.336	-2.365	3	Mg+2	2	H4SiO4	1	H2O	-6	H+1
Cristobalite	-3.943	-0.644	1	H4SiO4	-2	H2O				
Dolomite (disordered)	-17.426	-0.768	1	Ca+2	1	Mg+2	2	CO3-2		
Dolomite (ordered)	-17.426	-0.235	1	Ca+2	1	Mg+2	2	CO3-2		
Epsomite	-6.277	-4.18	1	Mg+2	1	SO4-2	7	H2O		
Fe(OH)2 (am)	9.526	-3.73	1	Fe+2	2	H2O	-2	H+1		
Fe(OH)2 (c)	9.526	-3.364	1	Fe+2	-2	H+1	2	H2O		
Goslarite	-9.947	-7.972	1	Zn+2	1	SO4-2	7	H2O		
Greenalite	20.698	-0.112	-6	H+1	3	Fe+2	2	H4SiO4	1	H2O
Gypsum	-5.836	-1.229	1	Ca+2	1	SO4-2	2	H2O		
Halite	-1.307	-2.866	1	Na+1	1	Cl-1				
Huntite	-35.265	-5.022	3	Mg+2	1	Ca+2	4	CO3-2		
Hydromagnesite	-23.295	-13.972	5	Mg+2	4	CO3-2	-2	H+1	6	H2O
Hydrozincite	1.027	-7.07	5	Zn+2	2	CO3-2	-6	H+1	6	H2O
KCl	-4.04	-4.94	1	K+1	1	Cl-1				
Lime	12.824	-19.381	-2	H+1	1	Ca+2	1	H2O		
Magnesite	-8.92	-1.511	1	Mg+2	1	CO3-2				
Melanterite	-9.156	-7	1	Fe+2	1	SO4-2	7	H2O		
Mg(OH)2 (active)	12.405	-6.389	1	Mg+2	2	H2O	-2	H+1		
Mg2(OH)3Cl:4H2O	16.554	-9.446	2	Mg+2	1	Cl-1	-3	H+1	7	H2O
MgCO3:5H2O	-8.947	-4.407	1	Mg+2	1	CO3-2	5	H2O		
Mirabilite	-4.843	-3.931	2	Na+1	1	SO4-2	10	H2O		
MnCl2:4H2O	-7.415	-10.103	1	Mn+2	2	Cl-1	4	H2O		
MnCO3 (am)	-12.248	-1.748	1	Mn+2	1	CO3-2				
MnSO4	-9.567	-11.985	1	Mn+2	1	SO4-2				
Natron	-7.524	-6.381	2	Na+1	1	CO3-2	10	H2O		
Nesquehonite	-8.936	-4.204	1	Mg+2	1	CO3-2	3	H2O		
Periclase	12.411	-8.788	-2	H+1	1	Mg+2	1	H2O		
Portlandite	12.819	-9.557	1	Ca+2	2	H2O	-2	H+1		
Pyrochroite	9.077	-5.87	1	Mn+2	2	H2O	-2	H+1		
Quartz	-3.943	0	1	H4SiO4	-2	H2O				
Rhodochrosite	-12.248	-1.244	1	Mn+2	1	CO3-2				
Sepiolite	12.974	-2.496	2	Mg+2	3	H4SiO4	-4	H+1	-0.5	H2O
Sepiolite (A)	12.974	-5.806	-0.5	H2O	2	Mg+2	3	H4SiO4	-4	H+1
Siderite	-11.799	-1.19	1	Fe+2	1	CO3-2				
SiO2 (am,gel)	-3.943	-1.269	1	H4SiO4	-2	H2O				
SiO2 (am,ppt)	-3.943	-1.242	1	H4SiO4	-2	H2O				

Smithsonite	-12.59	-1.68	1	Zn+2	1	CO3-2				
Strontianite	-10.602	-1.33	1	Sr+2	1	CO3-2				
Thenardite	-4.788	-5.086	2	Na+1	1	SO4-2				
Thermonatrite	-7.474	-8.085	2	Na+1	1	CO3-2	1	H2O		
Vaterite	-8.506	-0.555	1	Ca+2	1	CO3-2				
Witherite	-12.602	-4.037	1	Ba+2	1	CO3-2				
Zincite	8.741	-2.261	1	Zn+2	1	H2O	-2	H+1		
Zincosite	-9.909	-13.628	1	Zn+2	1	SO4-2				
Zn(BO2)2	2.831	-5.459	-2	H2O	-2	H+1	1	Zn+2	2	H3BO3
Zn(OH)2 (am)	8.735	-3.52	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (beta)	8.735	-2.807	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (delta)	8.735	-3.109	1	Zn+2	-2	H+1	2	H2O		
Zn(OH)2 (epsilon)	8.735	-2.598	1	Zn+2	2	H2O	-2	H+1		
Zn(OH)2 (gamma)	8.735	-2.79	1	Zn+2	2	H2O	-2	H+1		
Zn2(OH)2SO4	-1.173	-8.673	-2	H+1	2	Zn+2	2	H2O	1	SO4-2
Zn2(OH)3Cl	9.236	-5.955	2	Zn+2	3	H2O	-3	H+1	1	Cl-1
Zn3O(SO4)2	-11.076	-29.332	-2	H+1	3	Zn+2	2	SO4-2	1	H2O
Zn4(OH)6SO4	16.298	-12.102	-6	H+1	4	Zn+2	6	H2O	1	SO4-2
Zn5(OH)8Cl2	27.207	-11.293	-8	H+1	5	Zn+2	8	H2O	2	Cl-1
ZnCl2	-7.734	-14.6	1	Zn+2	2	Cl-1				
ZnCO3	-12.59	-1.79	1	Zn+2	1	CO3-2				
ZnCO3:1H2O	-12.595	-2.335	1	Zn+2	1	CO3-2	1	H2O		
ZnSO4:1H2O	-9.914	-9.164	1	Zn+2	1	SO4-2	1	H2O		

UIC Form 1 Attachment 4-D-1: Analysis of Water from Commingled Morrison & Summerville Formations. NWNE 10-19S-25E, SLM, Harley Dome 1 API No. 43-019-31622, 5-20-10 Uinta Basin, Grand County, UT

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1	Temperature	70 °F
Location	JsJm	pH	7.6
Specific Gravity	1.011	Color	Cloudy White
Corrected SG	1.013 at 60°F	Turbidity	Severe
TDS (calculated)	30740 ppm	Resistivity	0.42 Ω·m

Sample Chemical Characteristics

Anions			Cations		
Chloride	19000	mg/L	Total Iron	2.8	mg/L
Sulfate	400	mg/L	Ferrous Iron	1.8	mg/L
Bicarbonate	390	mg/L	Potassium	55	mg/L
Carbonate	0	mg/L	Calcium	1000	mg/L
Hydroxide		mg/L	Magnesium	1400	mg/L
			Sodium (calculated)	8828	mg/L

General Comments

W177; 5-20-10, 9:15 Overnight fill

(Collected by David L. Allin from bottoms up at 9:15 May 20, 2010)

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

UIC Form 1 Attachment 4-D-2: Analysis of Water from Entrada Sandstone
NWNE 10-19S-25E, SLM, Harley Dome 1 API No. 43-019-31622, 5-20-10
Uinta Basin, Grand County, UT

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	West Water Farm	Date Received	5-20/21-10
Reported To	Davis Allin	Date Tested	May 22, 2010
Reported By	Ann Ekx	Tested By	Ann Ekx

Sample Physical Characteristics

Well Name	HD1	Temperature	70 °F
Location	Lwr Jes	pH	7.4
Specific Gravity	1.010	Color	Cloudy Pink
Corrected SG	1.012 at 60°F	Turbidity	Severe
TDS (calculated)	26060 ppm	Resistivity	0.44 Ω·m

Sample Chemical Characteristics

Anions	Chloride	16600	mg/L	Cations	Total Iron	1.4 mg/L
	Sulfate	280	mg/L		Ferrous Iron	1.0 mg/L
	Bicarbonate	280	mg/L		Potassium	387 mg/L
	Carbonate	0	mg/L		Calcium	900 mg/L
	Hydroxide		mg/L		Magnesium	2100 mg/L
					Sodium (calculated)	5771 mg/L

General Comments

W176; 5-20-10, 12:40 1140'

(Collected by David L. Allin while drilling to 1140' at 12:40 May 20, 2010)

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

Notes by David L. Allin
7-17-2010

STIMULATION TREATMENT REPORT

Date 13-JUL-10 District Grand Junction F.Receipt 1001649220 Customer Westwater Farms
Lease Harley Dome #1 Well Name Harley Dome #1
Field Location
County Grand State Utah Stage No 1 Well API 43-019-31622

WELL DATA Well Type: OLD Well Class: DISPOSAL Depth TD/PB: 1360 Formation:

Geometry Type	Tubular Type	OD	Weight	ID	Grade	Top	Bottom
TUBULAR	CSG	5.5	15.5	4.95	J-55	0	1764
	TBG	3.5	9.3	2.99	J-55	0	1272

Perf Intervals Top	Bottom	SPF	Diameter
0	0	0	0
1344	1631	4	0.37"
552 holes			

Packer Type Packer Depth 1260 FT

TREATMENT DATA

Fluid Type	Fluid Desc	Pumped Volume(Gals)	Prop. Description	Volume Pumped(Lbs)
TREATMENT FLUID	Water	1000 bbls on hand 80	NO PROPPANT	

Total Prop Qty:

Previous Treatment Previous Production
Hole Loaded With Water Treat Via: Tubing ☒ ~~Casing~~ ☒ Anul. ☐ Tubing & Anul. ☐
Ball Sealers: In Stages Type
Auxiliary Materials

LIQUID PUMPED AND CAPACITIES IN BBLS.

Tubing Cap.	11.5
Casing Cap.	2.38
Annular Cap.	15.24
Open Hole Cap.	5
Fluid to Load	11.5
Pad Volume	80
Treating Fluid	80
Flush	0
Overflush	0
Fluid to Recover	0

PROCEDURE SUMMARY

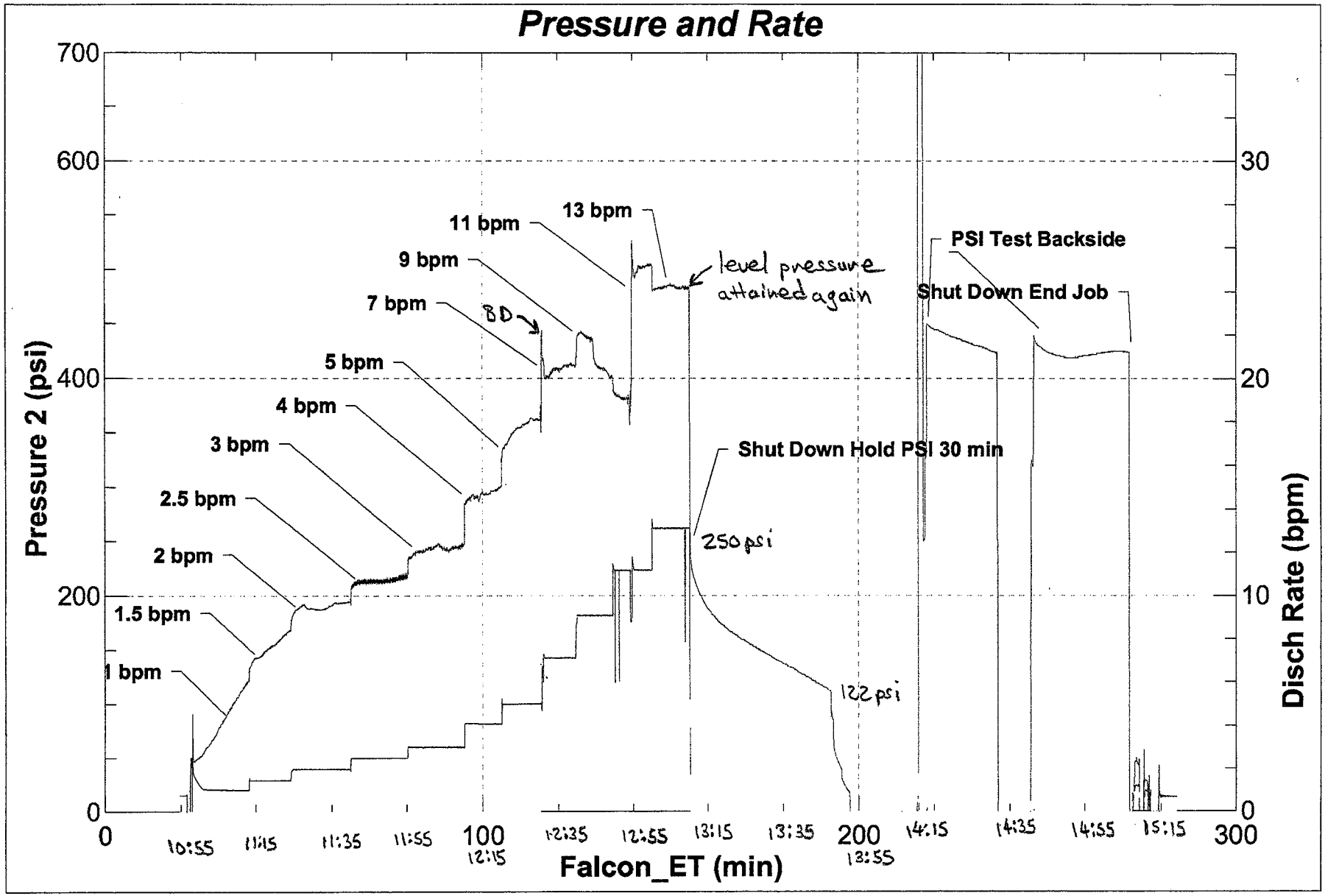
Time AM/PM	Treating Pressure-Psi STP	Annulus	Surface Slurry BBLS. Pumped Stage	Total		Slurry Rate BPM	Comments
10:32		Duration					start job
10:35	2600	(min)			?		pressure test lines
10:57	120	15	1	15	17	1	pump water
11:12	169	12	2	18	23	1.5	pump water
11:24	193	15	3	30	30	2	pump water
11:39	218	15	4	38	35	2.5	pump water
11:54	245	15	5	45	45	3	pump water
12:09	298	10	6	40	45	4	pump water
12:19	360	10	7	50	40	5	pump water
12:29	412	10	8	70	65	7	pump water
12:39	441	10	9	90	60	9	pump water
12:49	503	10	10	110	60	11	pump water
12:~~49~~ 59	504	11	11	143	80	13 ~~11~~	pump water
13:10	477				?		shut down hold pressure for 30min ISDP ± 250 psi
13:47	122			659			bleed off pressure
14:14	449						pressure up back side IMI First attempt
14:24							isolate pump truck , try to pressure again.
14:42	439						pressure test back again IMI OK
15:08							pressure held .
15:38							end job
16:00							post safety meeting
16:25							convoy safety meeting, depart location

Treating Pressure		Injection Rates		Shut In Pressures		Customer Rep.	Tom Warns
Minimum	70	Treating Fluid	11	ISDP ±250	122	BJ Rep.	JOSE E CARCAMO
Maximum	449 504	Flush	80	5 Min.	0	Job Number	1001649220
Average	360	Average	6	10 Min.	0	Rec. ID No.	
Operators Max. Pressure				15 Min.	0	Distribution	
504 / 477				Final 122 In 30 Min.			
				Flush Dens. lb./gal.	8.34		

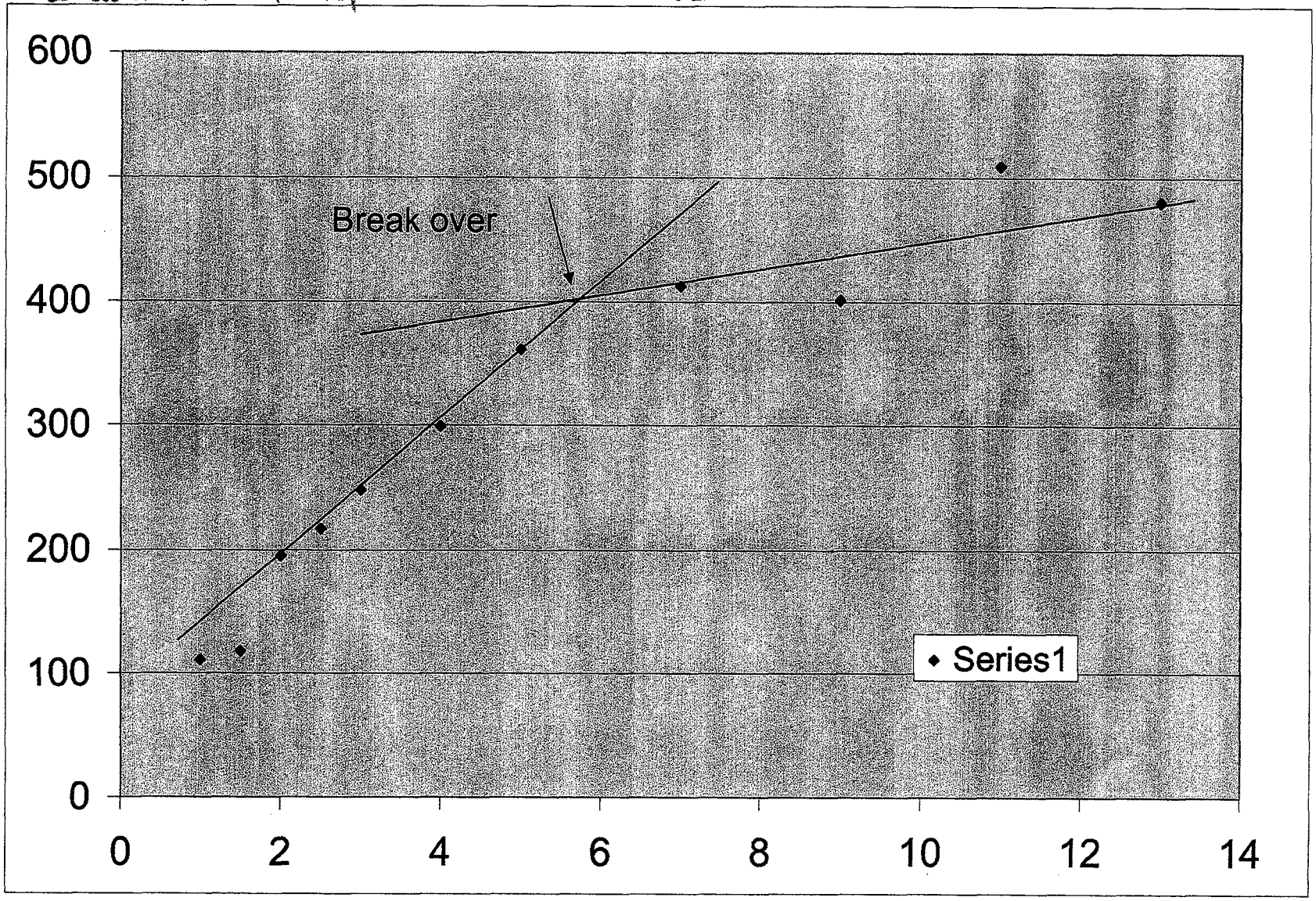
Report Printed on: July 14, 2010 3:12 PM

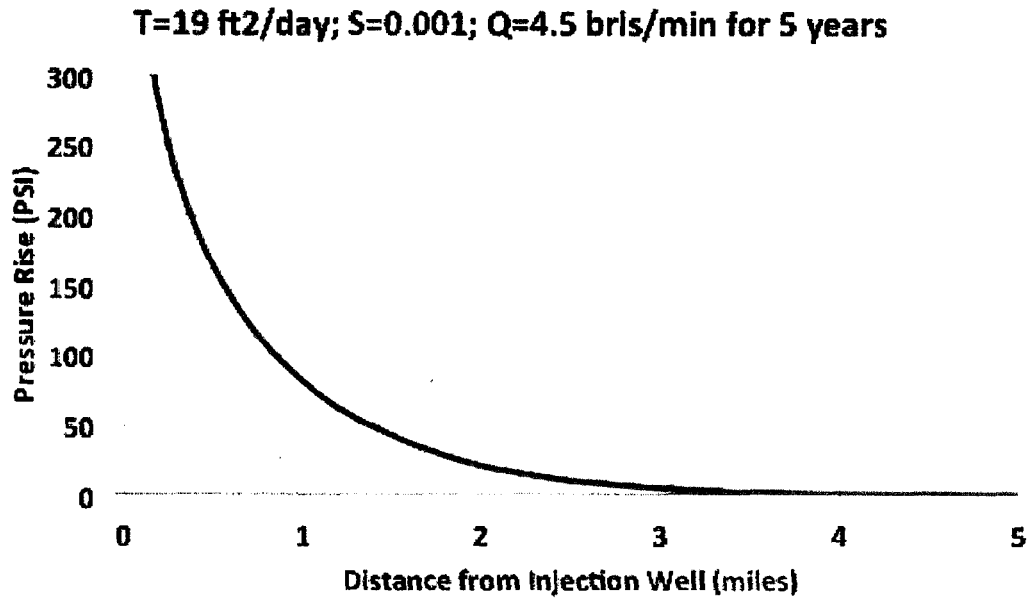
New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 13

BJ Services JobMaster Program Version 3.20
Job Number: 1001649220
Customer: WestWater
Well Name: Harley Dome #1



Westwater Farms Hawley Dome 1 43-019-31622





New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 14

Theis Equation

The analytic solution for the drawdown of non-steady flow in a confined aquifer.

$$\boxed{s(r,t)=\frac{Q}{4\pi T}W(u)}$$, where

s(r,t) = drawdown at distance *(r)* at time *(t)* after the start of pumping

T = Transmissivity of the aquifer [m^2/sec]

Q = pumping rate [L^3/T]

W(u) = Theis well function

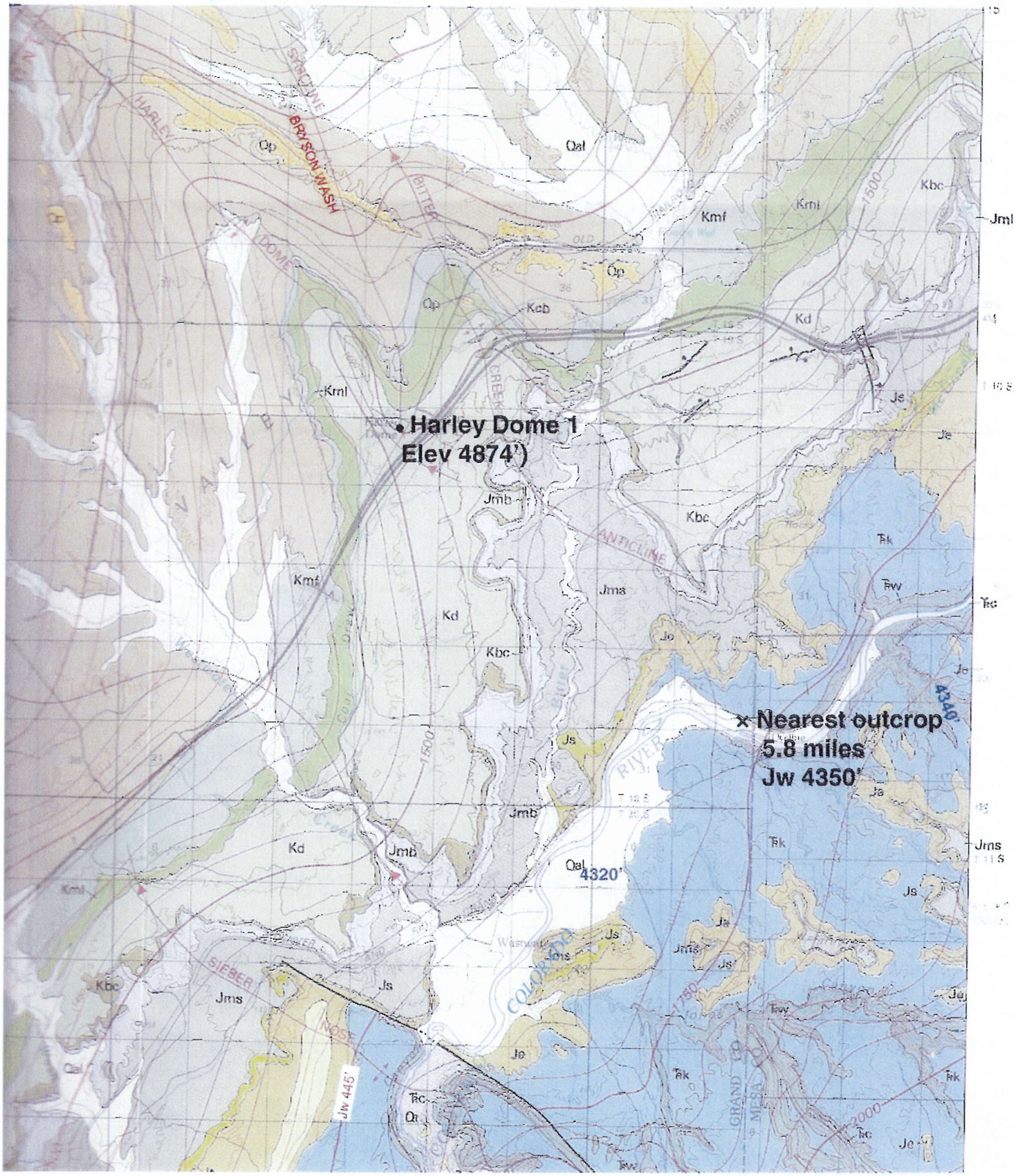
$$W(u) = \int_u^{\infty} \frac{e^{-y}}{y}\partial y = \tau - log_e u + u - \frac{u^2}{2\cdot 2!} + \frac{u^3}{3\cdot 3!}\cdots + (-1)^{n+1}\frac{u^n}{n\cdot n!}$$

$$u = \frac{r^2 S}{4Tt}$$

S = Storativity of the aquifer [unitless]

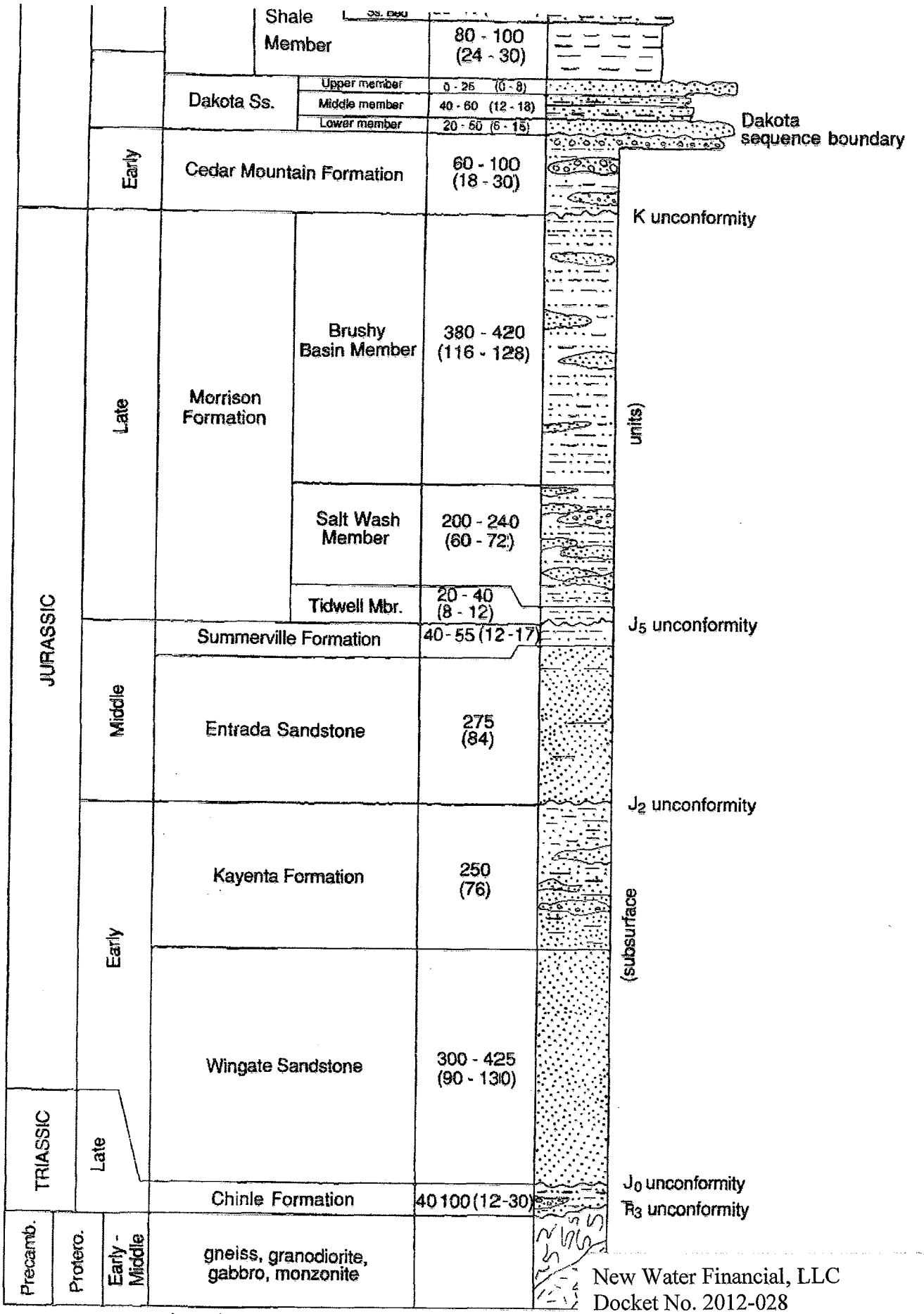
$\boldsymbol{\tau}$ = Euler's constant = 0.57721

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 15



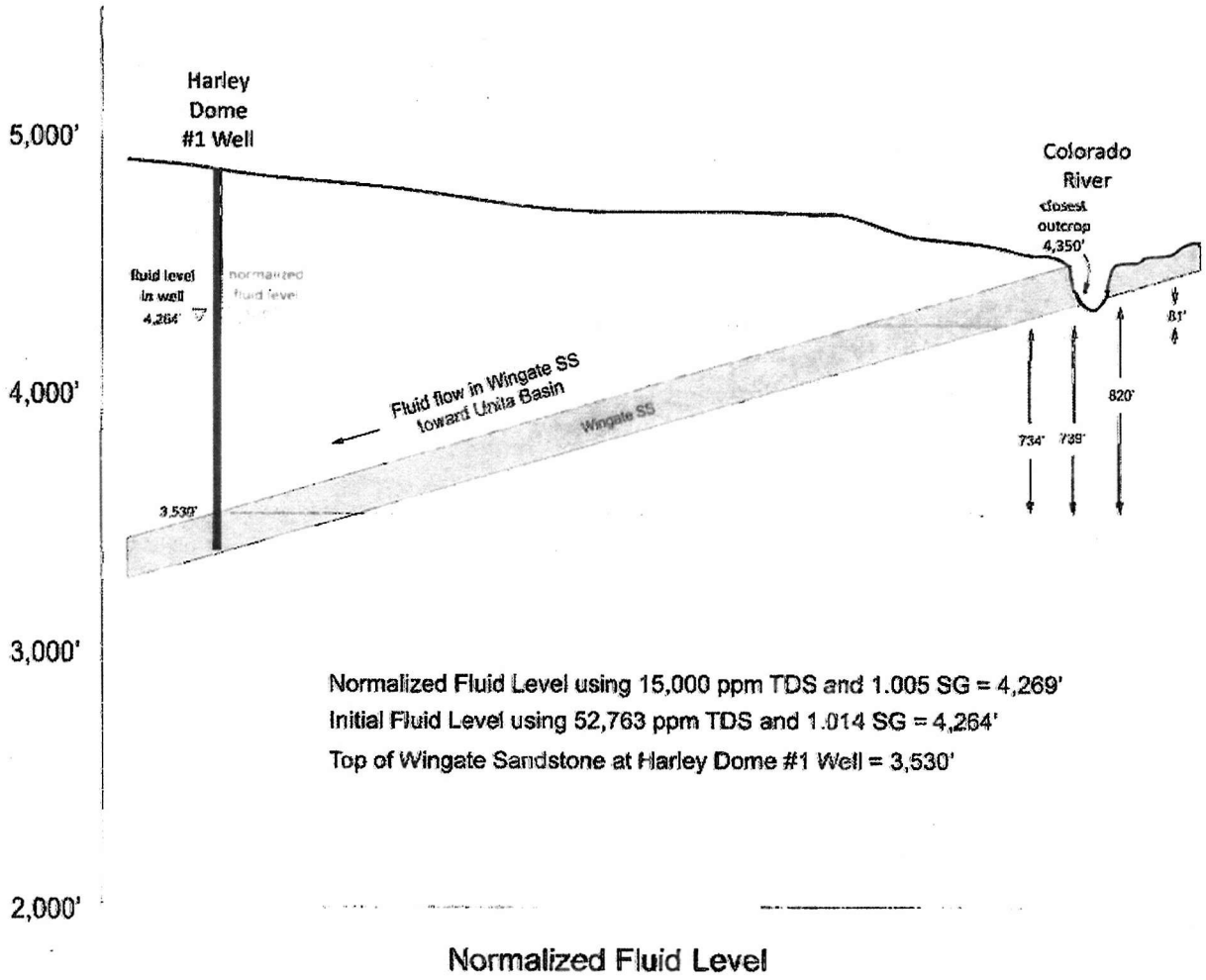
One Mile

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 16



sequence boundary names from Cole and Young (1991)
unconformity names from Pipiringos and O'Sullivan 1978.

New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 17



New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 18

From: "David L Allin" <allinpro@bresnan.net>
To: "Mark Reinbold" <markreinbold@utah.gov>
Date: 9/4/2012 4:25 PM
Subject: Schematic diagram HD 1-X SWD
Attachments: NWF HD 1-X SWD UIC Form 1 Att 2-E-5 proposed well diagram.pdf

Mark,

I believe that the attached diagram should help you visualize the construction plan for the new injection well at Harley Dome. I think that it is better than the one your team did to evaluate the APD casing and cement program, if I do say so myself. If you need anything else, let me know. Stop in at the Board hearing on September 26. We may use this as a last minute exhibit. Everything else is in the hopper for the Board.

Dave

David L. Allin, CPG, UPG

Consultant to New Water Financial

Vice President-Exploration Manager

Del-Rio Resources, Inc.

AAPG DPA Certified Petroleum Geologist 2934

Utah Professional Geologist DOPL 5526699

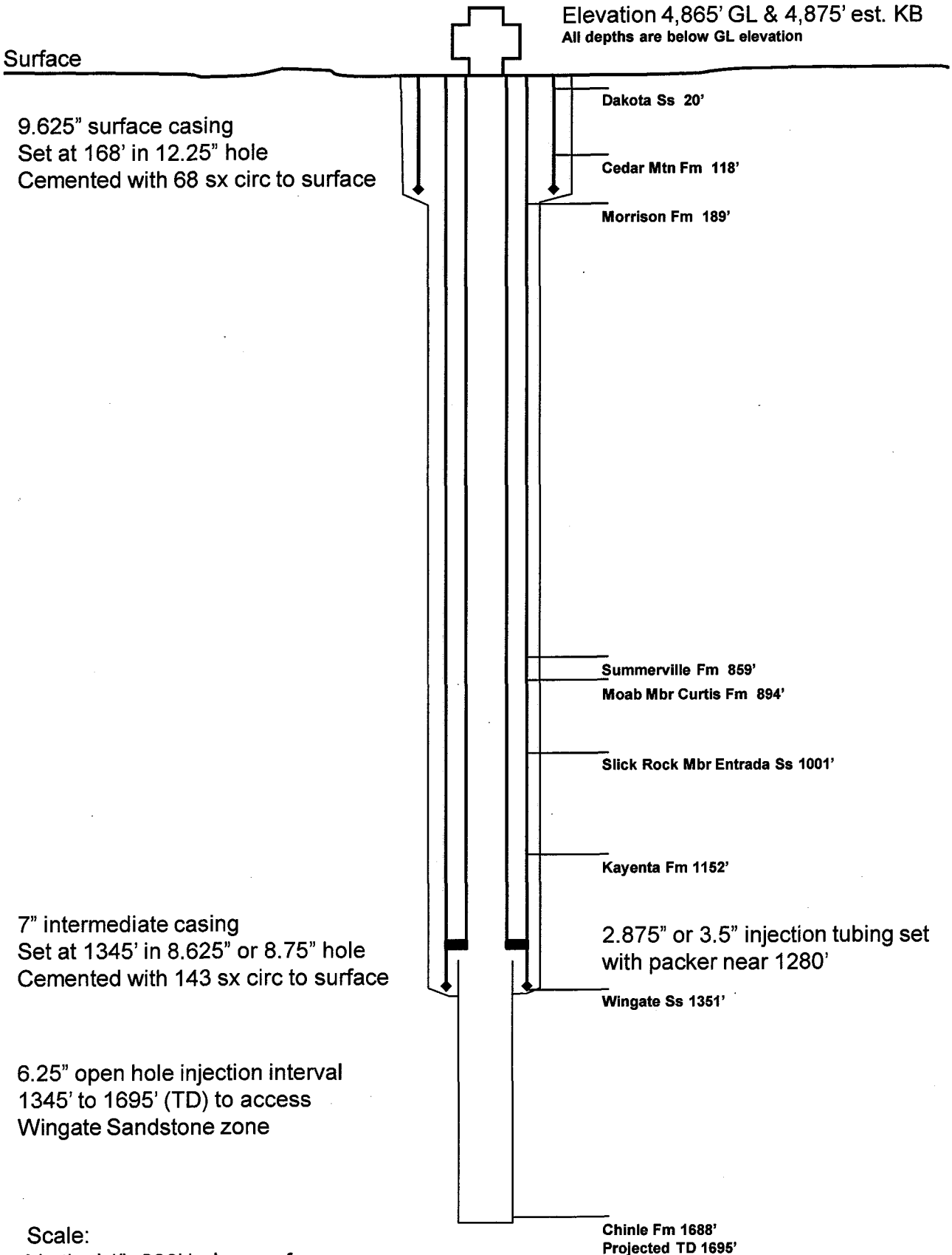
475 Seasons Drive

Grand Junction, CO 81507-8749

970-254-3114

allinpro@bresnan.net

UIC Form 1 Attachment 2-E-5: Schematic Diagram of Proposed Harley Dome 1-X SWD
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-50023)
Harley Dome, Greater Cisco Field, Grand County, Utah



Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

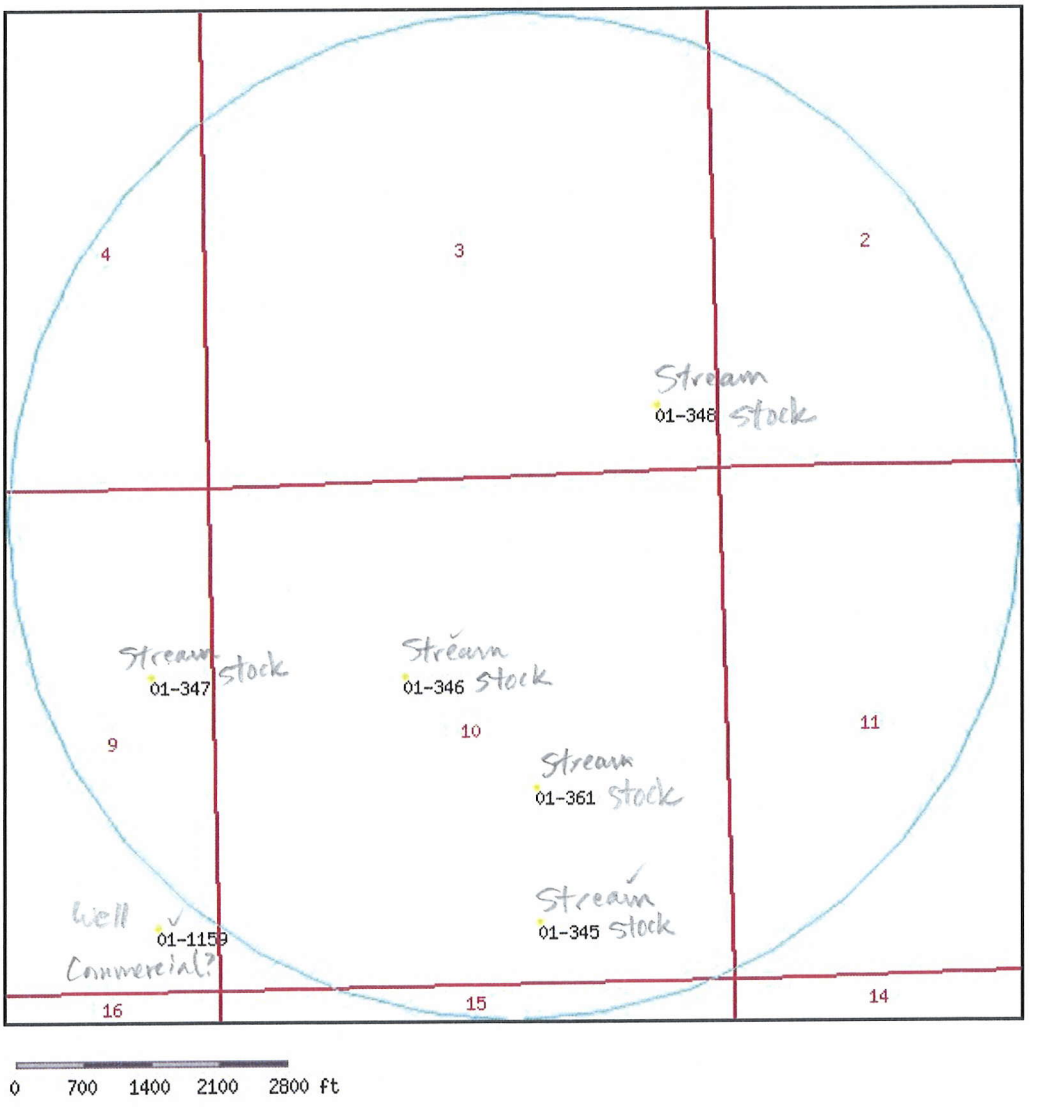
Search all of Utah.gov »

Utah Division of Water Rights

Output Listing

Version: 2009.05.06.00 Rundate: 09/04/2012 04:11 PM

Radius search of 5280 feet from a point S501 W2132 from the NE corner, section 10, Township 19S, Range 25E, SL b&m Criteria:wrtypes=W,C,E podtypes=S,U,D,Sp,P,R,T status=U,A,P usetypes=all



Water Rights

WR Number	Diversion Type/Location	Well Log	Status	Priority	Uses	CFS	ACFT	Owner Name
01-345	Point to Point N660 E660 S4 10 19S 25E SL		P	18790000	OS	0.000	0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT P.O. BOX 970

01-346	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	N660 E1980 W4 10 19S 25E SL				P.O. BOX 970
01-347	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	N660 W660 E4 09 19S 25E SL				P.O. BOX 970
01-348	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	N660 W660 SE 03 19S 25E SL				P.O. BOX 970
01-361	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	S660 W1980 E4 10 19S 25E SL				P.O. BOX 970
01-1159	Underground	A	20070613 O	0.000 49.100	USA BUREAU OF LAND MANAGEMENT
	N673 W642 SE 09 19S 25E SL				82 EAST DOGWOOD

utah gov | Online Services | Agency List | Business
Search
Utah Division of Water Rights
Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 09/04/2012

WATER RIGHT: **01-345** APPLICATION/CLAIM NO.: CERT. NO.:

OWNERSHIP

NAME: Moab District USA Bureau of Land Management
ADDR: P.O. Box 970
Moab UT 84532
INTEREST: 100%

DATES, ETC.

LAND OWNED BY APPLICANT? COUNTY TAX ID#:
FILED: |PRIORITY: 00/00/1879|PUB BEGAN: |PUB ENDED: |NEWSPAPER:
ProtestEnd: |PROTESTED: [No]|HEARNG HLD: |SE ACTION: [ ]|ActionDate: |PROOF DUE:
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]
PD BOOK: [01-1]|MAP: [*]|PUB DATE:

***TYPE -- DOCUMENT -- STATUS**
Type of Right: Diligence Claim Source of Info: Decree Status:

LOCATION OF WATER RIGHT*(Points of Diversion: Click on Location to access PLAT Program.)*********MAP VIEWER***GOOGLE VIEW***

FLOW: SOURCE: Unnamed Stream
COUNTY: Grand COMMON DESCRIPTION:

POINT OF DIVERSION:
(1)Stockwatering directly on reservoir located at N 660 ft. E 660 ft. from S4 corner, Sec 10, T19S, R25E, SLBM.
COMMENT: Administratively updated by State Engineer.

USES OF WATER RIGHT****** *ELU -- Equivalent Livestock Unit (cow, horse, etc.)* ******** *EDU -- Equivalent Domestic Unit or 1 Family***

SUPPLEMENTAL GROUP NO.: **8.** Water Rights Appurtenant to the following use(s):
01-338(DIL),339(DIL),340(DIL),341(DIL),342(DIL)
343(DIL),344(DIL),**345(DIL)**,346(DIL),347(DIL)
348(DIL),349(DIL),358(DIL),359(DIL),361(DIL)
1026(DIL),1027(DIL)

STOCKWATER: Sole Supply: UNEVALUATED ELUs Group Total: 327.0000 Div Limit: PERIOD OF USE: 01/01 TO 12/31
Harley Dome Allotment

WILDLIFE: 44 deer, 45 antelope, 2 bighorn sheep PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

PLACE OF USE for STOCKWATERING

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 10 T 19S R 25E SLBM	* : : : *	* : : : *	* : : : *	* : : X: *

Storage from 01/01 to 12/31, inclusive, in Harley Dome Reservoir with a maximum capacity of 1.000 acre-feet, located in:

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
Height of Dam:				
Area Inundated:	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 10 T 19S R 25E SLBM	* : : : *	* : : : *	* : : : *	* : : X: *

Small Dam Required?: No

OTHER COMMENTS

* Map: T19S-R25E-SLBM
USA Bureau of Land Management Reference #426

Diversion any, each, or all claims; total yearly diversion under all claims mentioned 9.16 acre-feet.

E N D O F D A T A

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Utah Division of Water Rights

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 09/04/2012

WATER RIGHT: **01-346** APPLICATION/CLAIM NO.: CERT. NO.:

OWNERSHIP

NAME: Moab District USA Bureau of Land Management
ADDR: P.O. Box 970
Moab UT 84532
INTEREST: 100%

DATES, ETC.

LAND OWNED BY APPLICANT? COUNTY TAX ID#:
FILED: |PRIORITY: 00/00/1879|PUB BEGAN: |PUB ENDED: |NEWSPAPER:
ProtestEnd: |PROTESTED: [No]|HEARNG HLD: |SE ACTION: [ ]|ActionDate: |PROOF DUE:
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]
PD BOOK: [01-1]|MAP: [*_____]|PUB DATE:
***TYPE -- DOCUMENT -- STATUS**
Type of Right: Diligence Claim Source of Info: Decree Status:

LOCATION OF WATER RIGHT*(Points of Diversion: Click on Location to access PLAT Program.)*********MAP VIEWER***GOOGLE VIEW***

FLOW: SOURCE: Unnamed Stream
COUNTY: Grand COMMON DESCRIPTION:

POINT OF DIVERSION:
(1)Stockwatering directly on reservoir located at N 660 ft. E 1980 ft. from W4 corner, Sec 10, T19S, R25E, SLBM.
COMMENT: Administratively updated by State Engineer.

USES OF WATER RIGHT****** *ELU -- Equivalent Livestock Unit (cow, horse, etc.)* ******** *EDU -- Equivalent Domestic Unit or 1 Family***

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343(DIL),344(DIL),345(DIL),**346(DIL)**,347(DIL)
348(DIL),349(DIL),358(DIL),359(DIL),361(DIL)
1026(DIL),1027(DIL)

STOCKWATER: Sole Supply: UNEVALUATED ELUs Group Total: 327.0000 Div Limit: PERIOD OF USE: 01/01 TO 12/31
Harley Dome Allotment

WILDLIFE: 44 deer, 45 antelope, 2 bighorn sheep PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

PLACE OF USE for STOCKWATERING

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 10 T 19S R 25E SLBM	* : : : X*	* : : : *	* : : : *	* : : : *

Storage from 01/01 to 12/31, inclusive, in South Harley Dome Reservoir with a maximum capacity of 0.500 acre-feet, located in:

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
Height of Dam:				
Area Inundated:	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 10 T 19S R 25E SLBM	* : : : X*	* : : : *	* : : : *	* : : : *

Small Dam Required?: No

OTHER COMMENTS

* Map: T19S-R25E-SLBM
USA Bureau of Land Management Reference #427

Diversion any, each, or all claims; total yearly diversion under all claims mentioned 9.16 acre-feet.

E N D O F D A T A

Utah Division of Water Rights | 1594 West North Temple Suite 220, P.O. Box 146300, Salt Lake City, Utah 84114-6300 | 801-538-7240
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(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 09/04/2012

WATER RIGHT: **01-347** APPLICATION/CLAIM NO.: CERT. NO.:

OWNERSHIP

NAME: Moab District USA Bureau of Land Management
ADDR: P.O. Box 970
Moab UT 84532
INTEREST: 100%

DATES, ETC.

LAND OWNED BY APPLICANT? COUNTY TAX ID#:

FILED:	PRIORITY: 00/00/1879	PUB BEGAN:	PUB ENDED:	NEWSPAPER:	
ProtestEnd:	PROTESTED: [No]	HEARNG HLD:	SE ACTION: [ ]	ActionDate:	PROOF DUE:
EXTENSION:	ELEC/PROOF: [ ]	ELEC/PROOF:	CERT/WUC:	LAP, ETC:	LAPS LETTER:
RUSH LETTR:	RENOVATE:	RECON REQ:	TYPE: [ ]		
PD BOOK: [01-1]	MAP: [*]	PUB DATE:			

***TYPE -- DOCUMENT -- STATUS**

Type of Right: Diligence Claim Source of Info: Decree Status:

LOCATION OF WATER RIGHT*(Points of Diversion: Click on Location to access PLAT Program.)*********MAP VIEWER***GOOGLE VIEW***

FLOW: SOURCE: Unnamed Stream
COUNTY: Grand COMMON DESCRIPTION:

POINT OF DIVERSION:
(1)Stockwatering directly on reservoir located at N 660 ft. W 660 ft. from E4 corner, Sec 09, T19S, R25E, SLBM.
COMMENT: Administratively updated by State Engineer.

USES OF WATER RIGHT****** *ELU -- Equivalent Livestock Unit (cow, horse, etc.)* ******** *EDU -- Equivalent Domestic Unit or 1 Family***

SUPPLEMENTAL GROUP NO.: **8.** Water Rights Appurtenant to the following use(s):
01-338(DIL),339(DIL),340(DIL),341(DIL),342(DIL)
343(DIL),344(DIL),345(DIL),346(DIL),**347(DIL)**
348(DIL),349(DIL),358(DIL),359(DIL),361(DIL)
1026(DIL),1027(DIL)

STOCKWATER: Sole Supply: UNEVALUATED ELUs Group Total: 327.0000 Div Limit: PERIOD OF USE: 01/01 TO 12/31
Harley Dome Allotment

WILDLIFE: 44 deer, 45 antelope, 2 bighorn sheep PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

PLACE OF USE for STOCKWATERING

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 09 T 19S R 25E SLBM	* : : : *	* : : : X*	* : : : *	* : : : *

Storage from 01/01 to 12/31, inclusive, in Unnamed Reservoir with a maximum capacity of 0.200 acre-feet, located in:

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
Height of Dam:				
Area Inundated:	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 09 T 19S R 25E SLBM	* : : : *	* : : : X*	* : : : *	* : : : *

Small Dam Required?: No

OTHER COMMENTS

* Map: T19S-R25E-SLBM
USA Bureau of Land Management Reference #428

Diversion any, each, or all claims; total yearly diversion under all claims mentioned 9.16 acre-feet.

E N D O F D A T A

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(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 09/04/2012

WATER RIGHT: **01-348** APPLICATION/CLAIM NO.: CERT. NO.:

OWNERSHIP

NAME: Moab District USA Bureau of Land Management
ADDR: P.O. Box 970
Moab UT 84532
INTEREST: 100%

DATES, ETC.

LAND OWNED BY APPLICANT? COUNTY TAX ID#:

FILED:	PRIORITY: 00/00/1879	PUB BEGAN:	PUB ENDED:	NEWSPAPER:	
ProtestEnd:	PROTESTED: [No]	HEARNG HLD:	SE ACTION: [ ]	ActionDate:	PROOF DUE:
EXTENSION:	ELEC/PROOF: [ ]	ELEC/PROOF:	CERT/WUC:	LAP, ETC:	LAPS LETTER:
RUSH LETTR:	RENOVATE:	RECON REQ:	TYPE: [ ]		
PD BOOK: [01-1]	MAP: [*]	PUB DATE:			

***TYPE -- DOCUMENT -- STATUS**
Type of Right: Diligence Claim Source of Info: Decree Status:

LOCATION OF WATER RIGHT*(Points of Diversion: Click on Location to access PLAT Program.)*********MAP VIEWER***GOOGLE VIEW***

FLOW: SOURCE: Unnamed Stream
COUNTY: Grand COMMON DESCRIPTION:

POINT OF DIVERSION:
(1)Stockwatering directly on reservoir located at N 660 ft. W 660 ft. from SE corner, Sec 03, T19S, R25E, SLBM.
COMMENT: Administratively updated by State Engineer.

USES OF WATER RIGHT******** ***ELU -- Equivalent Livestock Unit (cow, horse, etc.) ******** EDU -- Equivalent Domestic Unit or 1 Family***

SUPPLEMENTAL GROUP NO.: 8. Water Rights Appurtenant to the following use(s):
01-338(DIL),339(DIL),340(DIL),341(DIL),342(DIL)
343(DIL),344(DIL),345(DIL),346(DIL),347(DIL)
348(DIL),349(DIL),358(DIL),359(DIL),361(DIL)
1026(DIL),1027(DIL)

STOCKWATER: Sole Supply: UNEVALUATED ELUs Group Total: 327.0000 Div Limit: PERIOD OF USE: 01/01 TO 12/31
Harley Dome Allotment

WILDLIFE: 44 deer, 45 antelope, 2 bighorn sheep PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

PLACE OF USE for STOCKWATERING

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 03 T 19S R 25E SLBM	* : : : *	* : : : *	* : : : *	* : : : X*

Storage from 01/01 to 12/31, inclusive, in Unnamed Reservoir with a maximum capacity of 1.000 acre-feet, located in:

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
Height of Dam:				
Area Inundated:	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 03 T 19S R 25E SLBM	* : : : *	* : : : *	* : : : *	* : : : X*

Small Dam Required?: No

OTHER COMMENTS

* Map: T19S-R25E-SLBM
USA Bureau of Land Management Reference #429

Diversion any, each, or all claims; total yearly diversion under all claims mentioned 9.16 acre-feet.

E N D O F D A T A

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(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 09/04/2012

WATER RIGHT: **01-361** APPLICATION/CLAIM NO.: CERT. NO.:

OWNERSHIP

NAME: Moab District USA Bureau of Land Management
ADDR: P.O. Box 970
Moab UT 84532
INTEREST: 100%

DATES, ETC.

LAND OWNED BY APPLICANT? COUNTY TAX ID#:
FILED: |PRIORITY: 00/00/1879|PUB BEGAN: |PUB ENDED: |NEWSPAPER:
ProtestEnd: |PROTESTED: [No]|HEARNG HLD: |SE ACTION: [ ]|ActionDate: |PROOF DUE:
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]
PD BOOK: [01-1]|MAP: [*]|PUB DATE:

TYPE -- DOCUMENT -- STATUS
Type of Right: Diligence Claim Source of Info: Decree Status:

LOCATION OF WATER RIGHT*(Points of Diversion: Click on Location to access PLAT Program.)** MAP VIEWER GOOGLE VIEW

FLOW: SOURCE: Unnamed Stream
COUNTY: Grand COMMON DESCRIPTION:

POINT OF DIVERSION:
(1)Stockwatering directly on reservoir located at S 660 ft. W 1980 ft. from E4 corner, Sec 10, T19S, R25E, SLBM.
COMMENT: Administratively updated by State Engineer.

USES OF WATER RIGHT *ELU -- Equivalent Livestock Unit (cow, horse, etc.)* *EDU -- Equivalent Domestic Unit or 1 Family*

SUPPLEMENTAL GROUP NO.: 8. Water Rights Appurtenant to the following use(s):
01-338(DIL),339(DIL),340(DIL),341(DIL),342(DIL)
343(DIL),344(DIL),345(DIL),346(DIL),347(DIL)
348(DIL),349(DIL),358(DIL),359(DIL),**361(DIL)**
1026(DIL),1027(DIL)

STOCKWATER: Sole Supply: UNEVALUATED ELUs Group Total: 327.0000 Div Limit: PERIOD OF USE: 01/01 TO 12/31
Harley Dome Allotment

WILDLIFE: 44 deer, 45 antelope, 2 bighorn sheep PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

PLACE OF USE for STOCKWATERING

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 10 T 19S R 25E SLBM	* : : : *	* : : : *	* : : : *	* X: : : *

Storage from 01/01 to 12/31, inclusive, in Unnamed Reservoir with a maximum capacity of 1.000 acre-feet, located in:

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
Height of Dam:				
Area Inundated:	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 10 T 19S R 25E SLBM	* : : : *	* : : : *	* : : : *	* X: : : *

Small Dam Required?: No

OTHER COMMENTS

* Map: T19S-R25E-SLBM
USA Bureau of Land Management Reference #443

Diversion any, each, or all claims; total yearly diversion under all claims mentioned 9.16 acre-feet.

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(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 09/04/2012

WATER RIGHT: **01-1159** APPLICATION/CLAIM NO.: **F77146** CERT. NO.:

OWNERSHIP

NAME: USA Bureau of Land Management
ADDR: 82 East Dogwood
Moab UT 84532
INTEREST: 100%

DATES, ETC.

LAND OWNED BY APPLICANT? Yes COUNTY TAX ID#:
FILED: 06/13/2007|PRIORITY: 06/13/2007|PUB BEGAN: 08/02/2007|PUB ENDED: 08/09/2007|NEWSPAPER: The Times-Independent
ProtestEnd:08/29/2007|PROTESTED: [No]|HEARNG HLD: |SE ACTION: [Approved]|ActionDate:10/12/2007|PROOF DUE: 10/31/2012
EXTENSION: |ELEC/PROOF:[ ]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: 10/31/2027|LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: [ ]
PD BOOK: [01-]|MAP: [ ]|PUB DATE:

***TYPE -- DOCUMENT -- STATUS**
Type of Right: Fixed-Time Application Source of Info: Application to Appropriate Status: Approved

LOCATION OF WATER RIGHT*(Points of Diversion: Click on Location to access PLAT Program.)*********MAP VIEWER***GOOGLE VIEW***

FLOW: 49.1 acre-feet SOURCE: Existing Underground Water Well
COUNTY: Grand COMMON DESCRIPTION: 1/2 Mile SW of Harley Dome

POINT OF DIVERSION -- UNDERGROUND: (Click Well ID# link for more well data.)
(1) N 673 ft W 642 ft from SE cor, Sec 09, T 19S, R 25E, SLBM
DIAMETER OF WELL: 16 ins. DEPTH: 3000 to ft. YEAR DRILLED: WELL LOG? No WELL ID#:

USES OF WATER RIGHT******** ***ELU -- Equivalent Livestock Unit (cow, horse, etc.) ******** EDU -- Equivalent Domestic Unit or 1 Family***

SUPPLEMENTAL GROUP NO.: **624564.**

COMMERCIAL: Organic Fertilizer Plant PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

###PLACE OF USE:	NORTH WEST QUARTER NW	NE	SW	SE	NORTH EAST QUARTER NW	NE	SW	SE	SOUTH WEST QUARTER NW	NE	SW	SE	SOUTH EAST NW	NE	GROUP
Sec 10 T 19S R 25E SLBM					X		X								
Sec 36 T 19S R 25E SLBM														X	

OTHER COMMENTS

Harley Dome Quad
Well is on BLM land, applicant has the minning claims.

SEGREGATION HISTORY

This Right as originally filed:

FLOW IN CFS	QUANTITY IN ACRE-FEET	IRRIGATED ACREAGE	STOCK (ELUs)	DOMESTIC (FAMILIES)	MUNICIPAL	MINING	POWER	OTHER
		WATER USES (ACRE-FEET)						
	49.1							

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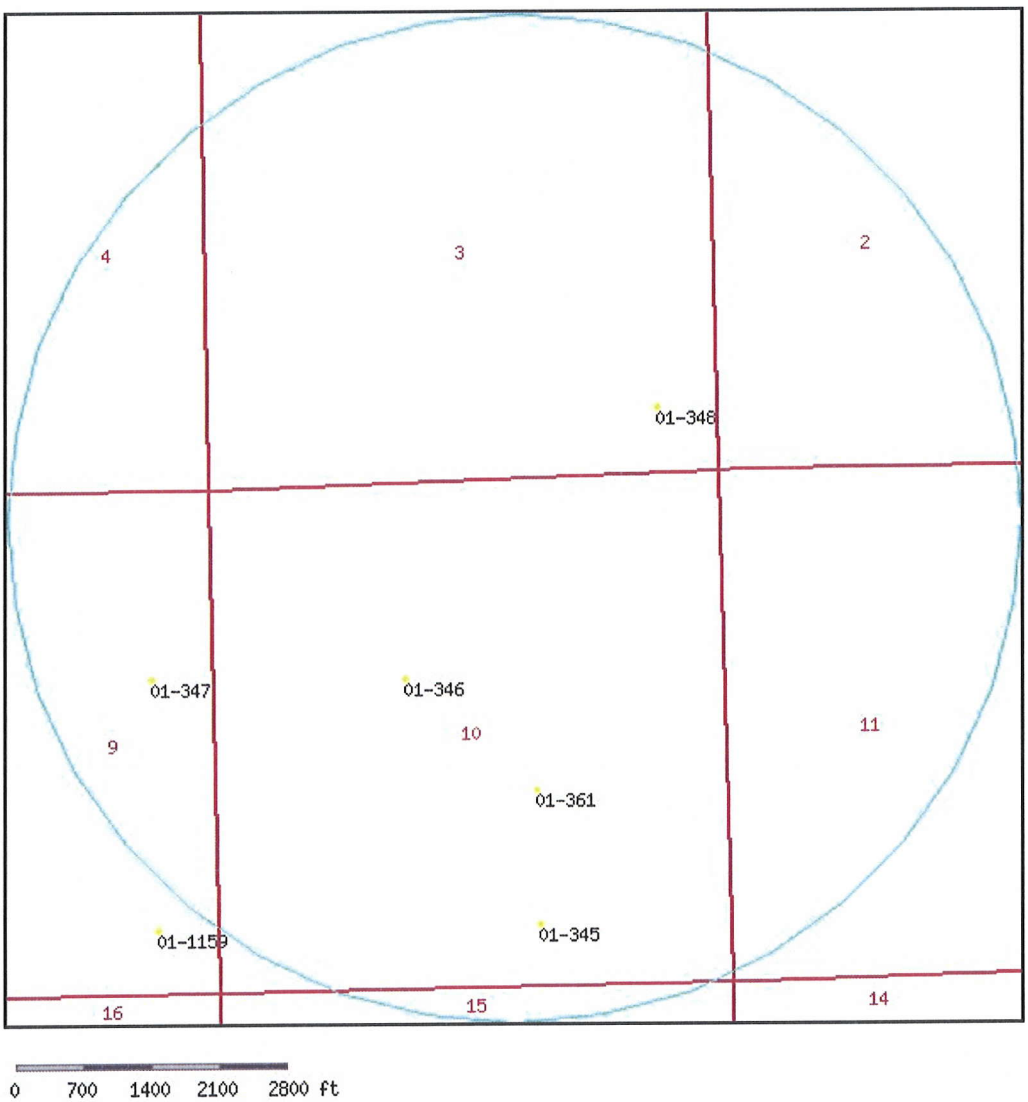
Output Listing

Version: 2009.05.06.00 Rundate: 09/04/2012 04:02 PM

Radius search of 5280 feet from a point S501 W2132 from the NE corner, section 10, Township 19S, Range 25E, SL b&m Criteria:wrtypes=W,C,E podtypes=S,U,D,Sp,P,R,T status=U,A,P usetypes=all



Water Rights

WR Number	Diversion Type/Location	Well Log	Status	Priority	Uses	CFS	ACFT	Owner Name
01-345	Point to Point N660 E660 S4 10 19S 25E SL		P	18790000	OS	0.000	0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT P.O. BOX 970

01-346	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	N660 E1980 W4 10 19S 25E SL				P.O. BOX 970
01-347	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	N660 W660 E4 09 19S 25E SL				P.O. BOX 970
01-348	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	N660 W660 SE 03 19S 25E SL				P.O. BOX 970
01-361	Point to Point	P	18790000 OS	0.000 0.000	MOAB DISTRICT USA BUREAU OF LAND MANAGEMENT
	S660 W1980 E4 10 19S 25E SL				P.O. BOX 970
01-1159	Underground	A	20070613 O	0.000 49.100	USA BUREAU OF LAND MANAGEMENT
	N673 W642 SE 09 19S 25E SL				82 EAST DOGWOOD

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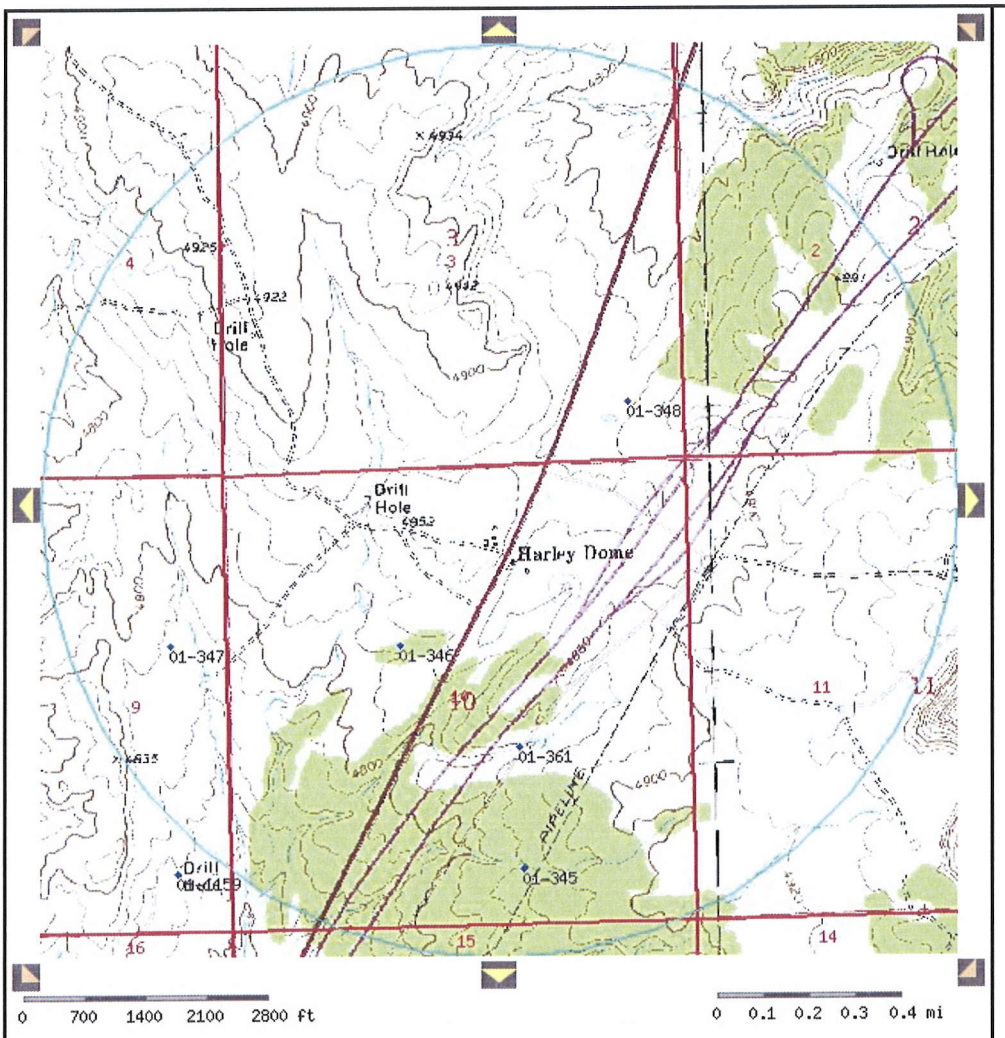
Utah Division of Water Rights



Zoom In Mode | Map Tools

Display	Layer Name
☐	Book Boundary
☐	Counties
☐	Water Quality
☐	County Parcels (As Available)
☐	County Parcel Labels
☐	National Historic Sites
☐	National Historic Sites Labels
☑	Public Land Survey System
☐	Rivers and Streams
☐	Roads
☐	Digitized Polygons
☐	Digitized Polygons Labels
☐	Water Right Areas

Topographic Maps | **Base Map**

Legend

- Location
- Search Boundary
- Townships
- Sections

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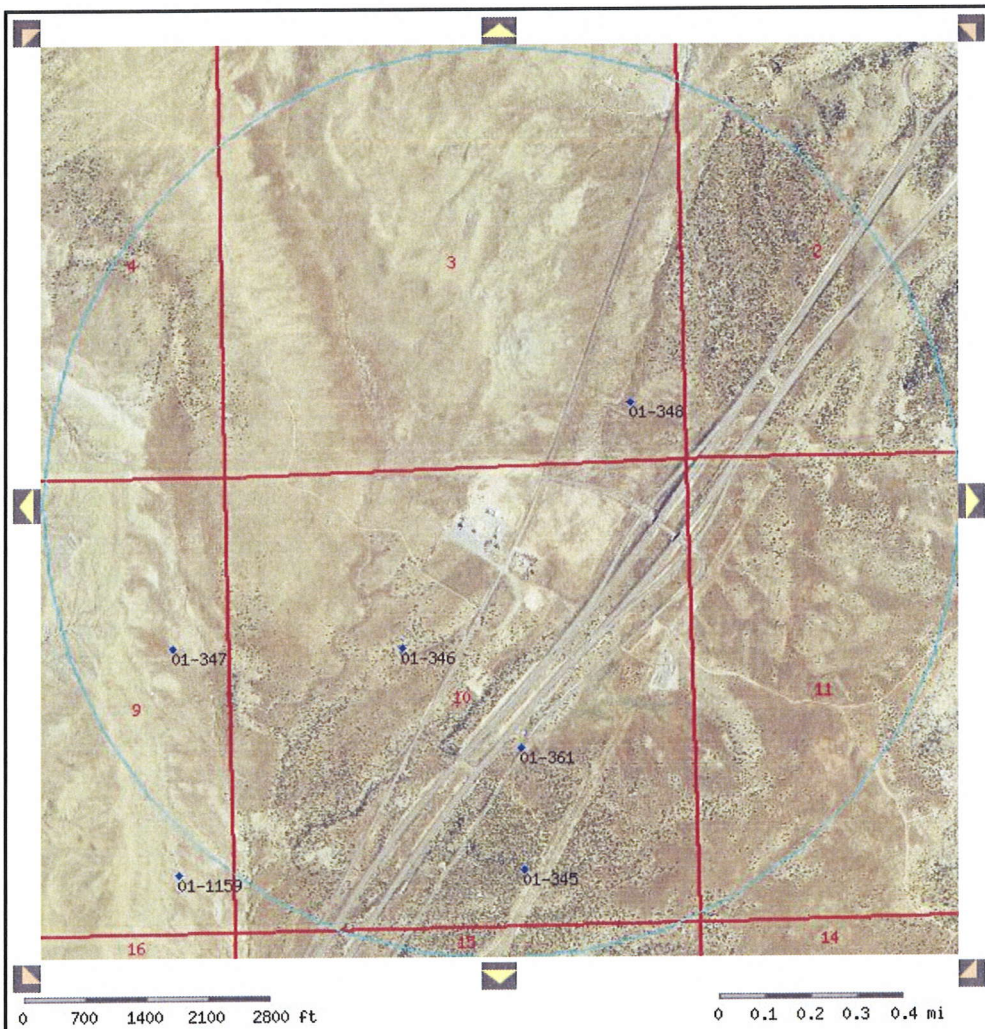
Utah Division of Water Rights



Zoom In Mode

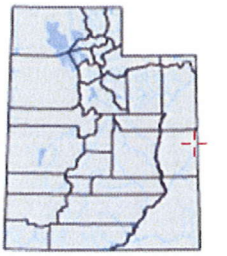
Map Tools

Display	Layer Name
☐	Book Boundary
☐	Counties
☐	Water Quality
☐	County Parcels (As Available)
☐	County Parcel Labels
☐	National Historic Sites
☐	National Historic Sites Labels
☑	Public Land Survey System
☐	Rivers and Streams
☐	Roads
☐	Digitized Polygons
☐	Digitized Polygons Labels
☐	Water Right Areas

Aerial Photographs **Base Map**

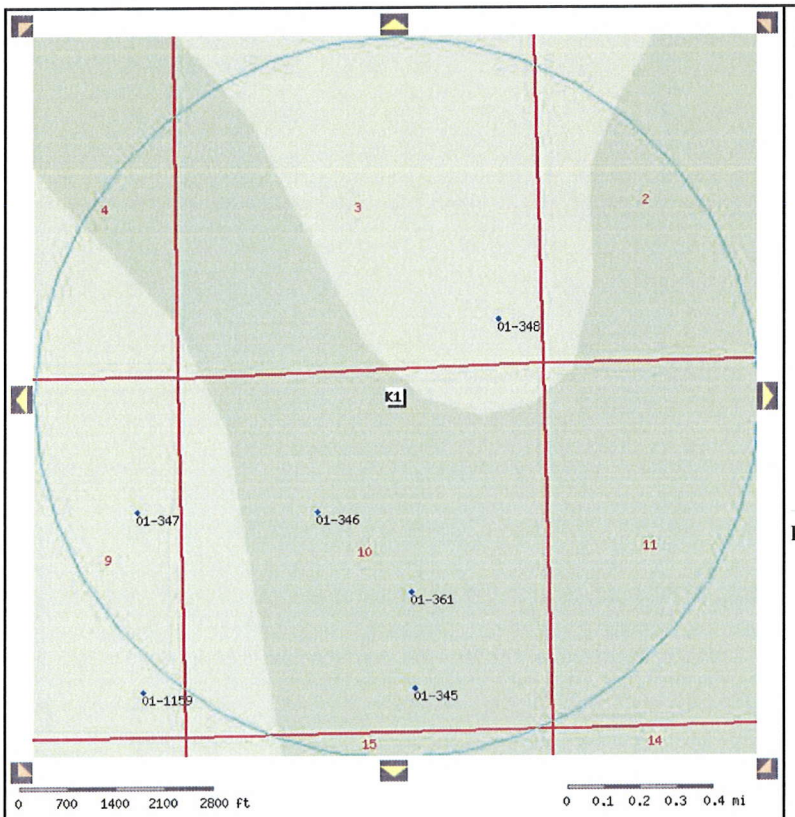
Legend

- Location
- Search Boundary
- Townships
- Sections



Search all of Utah.gov »

Utah Division of Water Rights



Zoom In Mode | Map Tools

Display	Layer Name
☐	Book Boundary
☐	Counties
☐	Water Quality
☐	County Parcels (As Available)
☐	County Parcel Labels
☐	National Historic Sites
☐	National Historic Sites Labels
☑	Public Land Survey System
☐	Rivers and Streams
☐	Roads
☐	Digitized Polygons
☐	Digitized Polygons Labels
☐	Water Right Areas

Geology | **Base Map**

Legend

- Location
- Search Boundary
- Townships
- Sections
- Faults
- water
- playa
- Qa-Quaternary Surficial Alluvium & Colluvium
- Qao-Quaternary Surficial Older Alluvium & Colluvium
- Qe-Quaternary Surficial Eolian Deposits
- Qg-Quaternary Surficial Glacial Deposits
- Ql-Quaternary Surficial Lake Bonneville Deposits
- Qm-Quaternary Surficial Marsh Deposits
- Qs-Quaternary Surficial Mud & Salt Flat Deposits
- Qls-Quaternary Surficial Landslide Deposits
- Qb-Quaternary Volcanic Rocks, Mostly Basalt
- Qr-Pliocene Volcanic Rocks, Rhyolite
- QT-Miocene-Pleistocene High-Level Alluvial Deposits
- T5-Miocene-Pleistocene Sevier River, Castle Valley Fms
- T4-Oligocene-Pliocene Valley-Filling Alluvial, Lacustrine
- T3-Eocene-Oligocene Duchesne River, Uinta, Bridger, Crazy Hollo
- T2-Eocene Green River, Fowkes
- T1-Cretaceous-Eocene Wasatch, Cotton, Claron, White Sage
- Tpb-Pliocene Volcanic Rocks-Mostly Basalt
- Tmb-Miocene Basalt, Rhyolite, Andesite, Tuffaceous
- Tpr-Pliocene Volcanic Rocks, Rhyolite
- Tmr-Miocene Volcanic Rocks, Rholite
- Tma-Miocene Volcanic Rocks, Andesite
- Tmv-Miocene Volcanic Rocks
- Tov-Oligocene Volcanic Rocks
- Tvu-Tertiary Volcanic Rocks, Tertiary
- Ti-Tertiary Intrusive Rocks
- TK-Paleocene-Cretaceous Evanston, Currant Creek, Canaan Peak
- K3-Cretaceous Mesaverde Group, Price River, Kaiparowits, Echo C
- K2-Cretaceous Indianola, Mancos, Frontier, Iron Springs
- K1-Cretaceous Dakota Cedar Mtn, Kelvin
- J2-Jurassic Morrison Fm
- J1-Jurassic Summerville, Entrada, Carmel Arapien, Twin Creeks
- Jg-Jurassic Navajo, Kayenta, Wingate, Moenave Fms
- Ji-Jurassic Intrusive Rocks
- Tr2-Triassic Chinle, Ankareh Fms
- Tr1-Triassic Moenkopi, Dinwoody, Woodside, Thaynes
- P2-Permian Kaibab, Toroweap, Park City
- P1-Permian Cedar Mesa, Diamond Creek, Arcturus
- PP-Penn-Permian Oquirrh Group, Wells, Weber, Ely, Callville
- P-Pennsylvanian Morgan, Round Valley, Honaker Trail, Paradox
- M3-Mississippian Chainman, Manning Canyon, Doughnut
- M2-Mississippian Great Blue, Humbug, Deseret
- M1-Mississippian Redwall, Madison, Garrison, Lodgepole
- D-Devonian Formations
- S-Silurian Laketown, Bluebell Dolomite
- O-Ordovician Fish Haven
- C3-Upper Cambrian Fms
- C2-Middle Cambrian Fms
- C1-Cambrian
- PCs-Proterozoic Sedimentary & Metasedimentary Fms
- PCm-Precambrian Metamorphic Rocks
- PCi-Precambrian Intrusive Rocks

UIC INJECTION PERMIT ANALYSIS FORM
WELL NAME: Harley Dome 1-X SWD (43-019-50023)

R649-5-2. Requirements For Class II Injection Wells Including Water Disposal, Storage And Enhanced Recovery Wells.	**Completed Items, Needed Items, & Comments**
1. Injection wells shall be completed, equipped, operated, and maintained in a manner that will prevent pollution and damage to any USDW, or other resources and will confine injected fluids to the interval approved.	1. OK
2. The application for an injection well shall include a properly completed UIC Form 1 and the following:	2. OK
2.1. A plat showing the location of the injection well, all abandoned or active wells within a one-half mile radius of the proposed well, and the surface owner and the operator of any lands or producing leases, respectively, within a one-half mile radius of the proposed injection well.	2.1 OK
2.2. Copies of electrical or radioactive logs, including gamma ray logs, for the proposed well run prior to the installation of casing and indicating resistivity, spontaneous potential, caliper, and porosity.	2.2 OK
2.3. A copy of a cement bond or comparable log run for the proposed injection well after casing was set and cemented.	2.3 OK
2.4. Copies of logs already on file with the division should be referenced, but need not be refiled.	2.4 OK
2.5. A description of the casing or proposed casing program of the injection well and of the proposed method for testing the casing before use of the well.	2.5 OK, casing and cement program presented, pressure testing will be conducted.
2.6. A statement as to the type of fluid to be used for injection, its source, and estimated amounts to be injected daily.	2.6 OK, RCRA-exempt produced water from eastern UT and western CO, as much as 10,000 bpd.
2.7. Standard laboratory analyses of (1) the fluid to be injected, (2) the fluid in the formation into which the fluid is being injected, and (3) the compatibility of the fluids.	2.7 OK, analyses done for HD 1 SWD. Samples will be taken from HD 1-X.
2.8. The proposed average and maximum injection pressures.	2.8 OK, average about 350 psi, maximum about 360 psi based on SRT for HD 1.
2.9. Evidence and data to support a finding that the proposed injection well will not initiate fractures through the overlying strata or a confining interval that could enable the injected fluid or formation fluid to enter the fresh water strata.	2.9 OK, SRT done for HD 1on 7/13/2010. A new SRT will be done for HD 1-X. Kayenta Fm overlying the Wingate Ss serves as upper confining zone.
2.10. Appropriate geological data on the injection interval and confining beds, and nearby Underground Sources of Drinking Water, including the geologic name, lithologic description, thickness, depth, water quality, and lateral extent; also information relative to geologic structure near the proposed well which may effect the conveyance and/or storage of the injected fluids.	2.10 OK, thorough discussion. There are no good USDW's in the vicinity of Harley Dome. Groundwater flow in aquifers is generally away from the Colorado River.
2.11. A review of the mechanical condition of each well within a one-half mile radius of the proposed injection well to assure that no conduit exists that could enable fluids to migrate up or down the wellbore and enter improper intervals.	2.11 Only two others wells in 0.5 mile radius AOR. One is the HD 1 SWD. The other was a dry hole with TD in Kayenta Fm , P&A 3/1968. Also, a water well with TD in Entrada, P&A in 1965..
2.12. An affidavit certifying that a copy of the application has been provided to all operators, owners and surface owners within a one-half mile radius of the proposed injection well.	2.12 OK
2.13. Any other additional information that the board or division may determine is necessary to adequately review the application.	2.13 OK

OTHER COMMENTS AND OBSERVATIONS: Status of informational submission as of 9/6/2012.

Reviewed by: Mark Reinbold Date: 9/6/2012

DIVISION OF OIL, GAS AND MINING
UNDERGROUND INJECTION CONTROL PROGRAM

PERMIT
STATEMENT OF BASIS

Applicant: New Water Financial LLC **Well:** Harley Dome 1-X SWD

Location: T19S, R25E, S10, Grand County, Utah **API:** 43-019-50023

Ownership Issues:

The proposed well is located on private surface owned by the operator, but the minerals are owned by the Federal government. The operator's agent has provided the Division an Affidavit of Mailing specifying that a copy of the application for a Class II Injection Well permit was sent to all operators, owners and surface owners within a half-mile of the proposed injection well.

Well Integrity:

Description of the Casings and Cement:

CASING PROGRAM

String Type	Hole Size	Depth	Feet	Casing Diameter	Weight	Grade	Connection Type
Surface	12.25"	168'	?	9.625"	32.3#	H-40	?
Intermediate	8.75"	1,345'	?	7.5 "	20.0#	J-55	?
Open hole	6.25"	1,695'	?	none	-	-	

CEMENT PROGRAM

String Type	DV Depth	Stage Lead/Tail	Cement Bottom	Cement Top	Number Sacks	Cement Type	Cement Yield	Cement Weight PPG
Surface	-	-	168'	Surface	68	Class A	1.18	15.6
Intermediate	1,345'	Lead	1,345"	Surface	143	Class G	1.56	14.6

Ground Water Protection:

The operator, New Water Financial, LLC, proposes to inject a regional composite produced water mixture through perforations into the Wingate Sandstone for the purpose of salt water disposal. The Harley Dome 1-X SWD (HD 1-X SWD) well is intended to be a replacement well of improved completion design for the Harley Dome 1 (HD 1) well, which was approved for Class II injection by issuance of Underground Injection Control (UIC) Permit Cause No. UIC-358.1 on January 20, 2011. The proposed well will intersect the same

geologic formations, with nearly identical thicknesses, as the HD 1 or "twin well." The Applicant will provide the Utah Division of Oil, Gas and Mining (DOGM) with copies of mechanical logs, including cement bond, natural gamma ray, and casing collar locator data, which are planned to be acquired in the proposed well after reaching the projected TD of the final open-hole segment of the well. The proposed injection zone spans an interval between 1,351 feet and 1,688 feet of depth in open hole in the Wingate Sandstone.

The injection fluid at the Harley Dome facility will be RCRA-exempt produced water solicited from oil and gas wells in the Uinta Basin, Paradox Basin, San Rafael Swell, Book Cliffs, and Greater Cisco Field in Utah, as well as fields in the Piceance Basin in western Colorado. Depending upon determination of the maximum allowable injection pressure (MAIP) in the HD 1-X SWD by a Step Rate Test (SRT), it is estimated that fluid injection rate could reach as much as 10,000 barrels per day. The proposed average injection pressure is expected to be 350 psi, and the MAIP should be near 360 psi, as determined by an SRT which was run on the HD 1 well on 7/13/2010. This same test indicated a frac gradient in the Wingate Sandstone of 0.73 psi/ft.

Injectate water is expected to have densities ranging from 1.005 to 1.020, but possibly as high as 1.230. In the application for the HD 1 SWD, the DOGM elected to accept analyses of produced waters from sundry regional field wells as representative of the waters to be injected into the well. No newer water analyses have been submitted with the application for the HD 1-X SWD. The previous water samples should be valid for the current application. These were tested for TDS, and the results ranged from about 7,000 to about 15,000 mg/L, a value that is generally greater than what is considered to be moderately saline (10,000 mg/L). Two different connate water samples were taken from the Wingate Sandstone in the HD 1 on different dates. The TDS values ranged from about 34,000 (approximating seawater) to about 53,000 mg/L. According to the current UIC application, the higher TDS value is more representative of the native Wingate Sandstone in the vicinity of Harley Dome. In either case, these connate waters are found to be of very low quality, despite being relatively shallow, a circumstance that is not without precedent in Grand County. It is unlikely that a good quality ground water resource is to be found in the Wingate Sandstone in this area.

The operator asks permission to inject at a UIC Form 1 Maximum Allowable Surface Injection Pressure of 360 psig. This injection pressure is supported by frac stimulation pressures, in lieu of Step Rate Test results, which indicate a breakdown pressure at about 400#.

The primary upper confining layer is the Kayenta Formation, which directly overlies the Wingate Sandstone. The Kayenta is anticipated to be 199 feet thick in the HD 1-X SWD well. The formation contains more clay minerals and shale layers than does the Wingate, and it is well cemented with silica cement. The drilling, completion, and operation of the HD 1-X SWD should not initiate fractures which would breach the Kayenta Formation. However, the siltstones and shales of the Summerville Formation and the Morrison Formation, which overlie the Entrada Sandstone, serve as backup confining zones. The lower primary confining

layer is the Chinle Formation, which directly underlies the Wingate Sandstone and rests directly on the Precambrian basement rock.

In this area, the sandstones of the Glen Canyon Group are not considered Underground Sources of Drinking Water (USDW); a water source containing less than 10,000 mg/l, total dissolved solids).

Based on a search of the Utah Division of Water Rights data base, there are no subsurface water rights filed within a one mile radius of the HD 1 or HD 1-X. There are five surface water rights identified in the area. All are owned by the Bureau of Land Management (BLM) and consist of small streams used for stock watering purposes.

In 1965 an exploratory water well was drilled on the applicant's property about 500 feet north of the proposed HD 1-X location. The well reached a depth of 905 feet in the Entrada Sandstone. Water samples in both the Entrada aquifer and the Morrison Formation were found too salty to be useful. The well was subsequently plugged and abandoned.

Oil/Gas & Other Mineral Resources Protection:

At the time of this writing, there is no current oil or gas production within several miles of the proposed HD 1-X SWD. Aside from HD 1, only one other well has been drilled within the 0.5 mile radius AOR. That well was the Lansdale Government 5 (43-019-30004), located about 0.3 mile WNW of the proposed HD 1-X SWD. The Government 5 well was dry and was P&A in 1968 at a TD of 1190 feet. Another dry hole, the Lansdale 10-31-A (43-019-30254), was drilled in 1975 slightly outside the AOR, about 0.6 mile SSW of HD 1-X. It was subsequently P&A at a TD of 706 feet. The Lansdale Government 4 (43-019-30003), located about 0.7 mile NW of HD 1-X was drilled in 1968 to a TD of 972 feet in the Entrada Sandstone. It is currently listed as a temporarily abandoned gas well. In the Harley Dome area there are two shut-in gas wells completed in the Morrison Formation, both in the late 1960's. They are located 1.5 miles NNW and 2.5 miles north of the HD 1-X SWD, respectively. Finally, there is a shut-in gas well, located 3.5 miles NNW of the HD 1-X SWD. It was drilled in 1983 and completed in the Dakota Sandstone. Otherwise, there are numerous dry holes in the Harley Dome area.

The BLM indicates that there is natural gas and helium resource in the Entrada Sandstone in the area. BLM initially posted a protest to the HD 1 injection project based on perceived possible threats to these resources, as well as proximity to the sundry recreational/scenic/environmental resources in the Westwater Canyon area of the Colorado River drainage. After consulting with the Operator and additional study of the project and local geology, BLM withdrew its protest.

Bonding:

New Water Financial, LLC, has posted a $15.000.00 CD (Wells Fargo Bank, NA) plugging

bond # 7530210090, filed with this Division.

Actions Taken and Further Approvals Needed:

On August 28, 2012, DOGM issued a Notice of Hearing (Docket No. 2012-028, Cause No. 279-01) for a hearing at the September 26, 2012 meeting of the Board of Oil, Gas and Mining, regarding the issue of the proposed Harley Dome #1-X SWD well. Subsequently, the Notice of Hearing was published in the Salt Lake Tribune and Deseret Morning News (September 2, 2012) and the Moab Times-Independent (September 6, 2012). The purpose of the hearing is for the Board to receive testimony and evidence regarding a Request for Agency Action that the Board issue an Order approving the Harley Dome #1-X SWD well as a Class II injection well; authorizing underground injection of produced water into the Wingate Sandstone in that well; and providing such other relief as may be just and equitable under the circumstances.

Public Notice of the application for the HD 1 SWD was issued August 18, 2010, and was subsequently published in the Salt Lake Tribune and the Moab Times-Independent. In addition, copies of the notice were provided to EPA Region 8, the BLM Moab Field Office, Grand County Planning, SITLA and the operator. The notice stated the proposed interval for injection to be selected zones in the Wingate Sandstone. Any future injection into strata other than that permitted will require administrative approval after appropriate sampling and testing.

Besides the BLM protest noted above, the noticing period for the proposed HD #1 SWD well attracted two other protests. One was from the Living Rivers environmental group and another was from Bill Love, a resident of Moab, Utah. There was also a letter (dated September 15, 2010) from the United States Fish and Wildlife Service (USFWS) seeking to advise about the existence of piscine Threatened and Endangered faunas found in the nearby portion of the Colorado River. USFWS requested a monitoring program for potential contamination of seeps and springs in the Wingate Sandstone outcrops along the Colorado River about six miles southeast, resulting from injection of produced water into the HD 1 SWD well. In a letter dated October 10, 2010, Stewart Environmental Consultants, LLC, while acknowledging only a remote possibility of contamination, agreed to conduct observations of the Wingate outcrops every six months for a period of three years. The most recent survey in the Ruby Canyon area (river miles 132-137) was conducted on June 20, 2012, and documented in a letter dated July 31, 2012, from geologist Paul A. Stone of Stewart Environmental to Brad Hill of DOGM. One spring was found in the area, but it was noted that it is too soon for any injection water to have reached the area, even in the very unlikely event that it could ever do so.

Based on the review of the Application and supporting documentation, along with the record of injection in the HD 1 SWD, it is concluded that New Water Financial, LLC should be granted a permit to drill and complete the HD 1-X SWD in the Wingate Sandstone. The

injection should not result in the diminution of water quality in the Wingate Sandstone at this location. Nor should the injection water have negative impacts on water quality in overlying formations in the area. There are no designated Underground Sources of Drinking Water (USDW) in the Harley Dome site within the area of influence of the proposed well. It is very unlikely that injected water will ever reach exposures of the Wingate Sandstone in the Westwater Canyon area, due to the distance of about six miles and the northwestward dip of the Wingate Sandstone, away from the river.

A properly designed and constructed injection well, combined with periodic mechanical integrity tests (MIT), poses no threat to fresh or useable groundwater supplies. Prior to final issuance of an injection permit by DOGM, the operator will be required to complete a successful initial MIT and a Step Rate Test (SRT) to determine the maximum allowable injection pressure (MAIP).

During drilling operations, a sample of the formation water will be collected from the proposed injection interval in the Wingate Sandstone. This sample will be analyzed and compared to proposed injection waters for compatibility.

Note: Applicable technical publications concerning water resources in the general vicinity of this project have been reviewed and taken into consideration during the permit review process.

Reviewer(s): Mark Reinbold Date: 9/11/2012

PATRICK A. SHEA

[redacted]

FILED

SEP 24 2012

SECRETARY, BOARD OF
OIL, GAS & MINING

September 24, 2012

Board of Oil Gas and Mining
1594 W North Temple, Ste 1210
PO Box 145801
Salt Lake City, UT 84114

Re: Docket No. 2012-28
Cause No. 279-01

This letter is to inform the Board that Living Rivers an interested party in the proceeding of In the Matter of the Application of the New Water Financial, LLC for Administrative Approval of the Harley Dome 1-X SWD well Located in Section 10, Township 19 South, Range 25 East, S.L.M. Grand County, Utah, As a Class II Injection Well, Docket Number 2012-28, Cause No. 279-01 has no objection to the Petitioners request to postpone the scheduled September 26th hearing to the October meeting of the Board.

Living Rivers and the Petitioner are in communication and are seeking to reach a mutually acceptable resolution. In that regard our respective experts are going to communicate to see if there is an acceptable site for the installation at the Petitioner's expense of a monitoring well.

In addition, we do intend to raise a request that Board require the petitioner to not reverse the hydraulic gradient (flow) near the Colorado River due to the injection process. Without this requirement, and even with the monitoring well in place, the consequences Living Rivers is concerned about – pollution of the Colorado River- could still occur. As part of the granting of the petitioners request to drill an injection well we would request that (1) there be a condition of the permit that there be no reversal of the hydraulic gradient from the monitoring-well site to the Colorado River, and (2) in the event that the data from the monitoring well shows that the gradient either has reversed, or is on a trend to reverse in the near future, the operation cease (or be altered??) until the hydraulic gradient can be restored to such that groundwater flow is away from the Colorado River.

We look forward to participating in the October hearing of the Board.

Sincerely,

Patrick A. Shea

Patrick A. Shea
Attorney for Living Rivers

Cc: John Weisheit
Prof. Kip Solomon

FILED

SEP 19 2012

SECRETARY, BOARD OF OIL, GAS & MINING

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**MOTION TO CONTINUE HEARING** **Docket No. 2012-28** **Cause No. 279-01**

NEW WATER FINANCIAL, LLC, Petitioner, by and through its undersigned attorneys, petitions the Board of Oil, Gas and Mining for an order continuing the hearing in this Cause from the Board's regularly scheduled September 26, 2012 hearing to the Board's October 24, 2012 regularly scheduled hearing. The continuance is required to allow Petitioner sufficient time to drill and complete the Harley Dome #1-X SWD Well, the Subject Well in this Cause. A proposed form of Order Continuing Hearing is attached hereto.

Dated this 19th day of September, 2012.

VAN COTT, BAGLEY, CORNWALL & McCARTHY

By _____

Thomas W. Clawson
Attorneys for Petitioner
36 South State Street, Suite 1900
Salt Lake City, Utah 84111
Telephone: (801) 532-3333

CERTIFICATE OF MAILING

I hereby certify that on this 19th day of September, 2012, I caused a true and correct copy of the foregoing Motion to Continue Hearing to be served via U.S. Mail, properly addressed with postage prepaid, upon each of the following:

Steven F. Alder
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Michael S. Johnson
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Grand County
Road Department
125 East Center
Moab, UT 84532

United States Bureau of Land Management
Moab Field Office
82 East Dogwood
Moab, UT 84532

Utah Division Federal Highway Administration
2520 West 4700 South, Suite 9-A
Salt Lake City, UT 84129

Enterprise Mid-America Pipeline
c/o Enterprise Products Partners, L.P.
P.O. Box 4324
Houston, TX 77210-4324

Utah School and Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818

Flatirons Resources, LLC
303 East 17th Avenue, Suite 940
Denver, CO 80203-1262

Rockies Standard Oil Co., LLC
1411 East 840 North
Orem, UT 84097-5846

Shiprock Helium, LLC
P.O. Box 51166
Amarillo, TX 79159

Retamco Operating, Inc.
Attn: Joe Glennon
One South Broadway Avenue, Suite 2
P.O. Box 790
Red Lodge, MT 59068-0790

Living Rivers
Attn: John Weisheit
P.O. Box 466
Moab, UT 84532
(john@livingrivers.org)

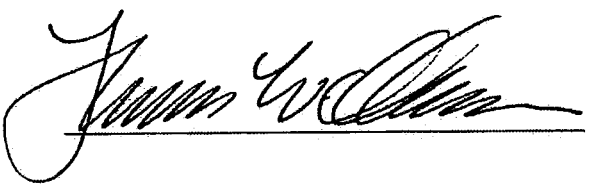
Bill Love
2871 East Bench Road
Moab, UT 84532

United States Fish and Wildlife Service
Attn: Larry Crist
Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119

WestWater Farms, LLC
P.O. Box 324
Cisco, UT 84515

Patrick A. Shea
Patrick A. Shea P.C.
252 South 1300 East, Suite A
Salt Lake City, UT 84102
(pas@patrickashea.com)

Jacque M. Ramos
J. Ramos Law Firm PLLC
2709 South Chadwick Street
Salt Lake City, UT 84106
(jramos@jramoslawfirm.com)



BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**ORDER CONTINUING HEARING** **Docket No. 2012-28** **Cause No. 279-01**

The Board of Oil, Gas and Mining (the "Board") having fully considered New Water Financial, LLC's (the "Petitioner") Motion to Continue Hearing (the "Motion") and the grounds and reasons provided therefore, and good cause appearing, hereby enters its Order granting the Motion as follows:

1. The hearing on Petitioner's Request for Agency Action in this Cause is continued from the Board's regularly scheduled September 26, 2012 hearing to the Board's October 24, 2012 regularly scheduled hearing.

For all purposes, the Chairman's signature on a faxed copy of this Order shall be deemed the equivalent of a signed original.

Issued this _____ day of September, 2012.

STATE OF UTAH
BOARD OF OIL, GAS AND MINING

_____
James T. Jensen, Chairman

4811-6892-3409, v. 1

BEFORE THE BOARD OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	**NOTICE OF HEARING** Docket No. 2012-028 Cause No. 279-01

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE FOLLOWING MATTER.

Notice is hereby given that the Board of Oil, Gas and Mining ("Board"), State of Utah, will conduct a hearing on WEDNESDAY, SEPTEMBER 26, 2012, at 9:00 AM, or as soon thereafter as possible, in the auditorium of the Department of Natural Resources, 1594 West North Temple, Salt Lake City, Utah.

The hearing will be conducted as a formal administrative adjudication in accordance with the rules of the Board as set forth in Utah Administrative Code R641 et seq. as provided for by Utah Code Ann. § 40-6-1 et seq. and Utah Code Ann. § 63G-4-101 through 601.

The purpose of the hearing will be for the Board to receive testimony and evidence regarding a Request for Agency Action that the Board enter an Order:

1. Approving the Harley Dome #1-X SWD Well as a Class II injection well; and

2. Authorizing the underground injection of produced water into the Wingate Sandstone beneath the lands located in Section 10, Township 19 South, Range 25 East, S.L.M., Grand County, Utah, for purposes of water disposal; and

3. Providing such other relief as may be just and equitable under the circumstances.

Objections to the Request for Agency Action must be filed with the Secretary of the Board at the address listed below no later than the 10th day of the month, or two weeks before the scheduled hearing, whichever is earlier. A party must file a timely written objection or other response in order to participate as a party at the Board hearing.

Natural persons may appear and represent themselves before the Board. All other representation by parties before the Board will be by attorneys licensed to practice law in the State of Utah, or attorneys licensed to practice law in another jurisdiction which meet the rules of the Utah State Bar for practicing law before the Utah Courts.

Persons interested in this matter may participate pursuant to the procedural rules of the Board. The Request for Agency Action, and any subsequent pleadings, may be inspected at the office of the undersigned.

Pursuant to the Americans with Disabilities Act, persons requiring auxiliary communicative aids and services to enable them to participate in this hearing should call Julie Ann Carter at (801) 538-5277, at least three working days prior to the hearing date.

DATED this 28th day of August, 2012.

STATE OF UTAH
BOARD OF OIL, GAS AND MINING
James T. Jensen, Chairman

Julie Ann Carter

/s/ Julie Ann Carter
Board Secretary
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84116
(801) 538-5277

CERTIFICATE OF SERVICE

I hereby certify that I caused a true and correct copy of the foregoing NOTICE OF HEARING for Docket No. 2012-028 Cause No. 279-01 to be mailed with postage prepaid, this 30th day of August, 2012, to the following:

Van Cott, Bagley, Cornwall & McCarthy
Thomas W. Clawson
Attorneys for New Water Financial, LLC
36 South State Street, Suite 1900
Salt Lake City, Utah 84111

New Water Financial, LLC
c/o Mitch Burroughs
1716 East Lincoln Avenue, Suite #1
Fort Collins, CO 80524

Michael S. Johnson
Assistant Attorneys General
Utah Board of Oil, Gas & Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116
[Via Email]

Steven F. Alder
Fred Donaldson
Assistant Attorneys General
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116
[Via Email]

Grand County
Road Department
125 East Center
Moab, UT 84532

United States Bureau of Land Management
Moab Field Office
82 East Dogwood
Moab, UT 84532

Federal Highway Administration
2520 West 4700 South, Suite 9-A
Salt Lake City, UT 84118-1847

Enterprise Mid-America Pipeline
c/o Enterprise Products Partners, L.P.
PO Box 4324
Houston, TX 77210-4324

Utah School and Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818

Flatirons Resources, LLC
303 East 17th Avenue, Suite 940
Denver, CO 80203-1262

Rockies Standard Oil Co., LLC
1411 East 840 North
Orem, UT 84097-5846

Shiprock Helium, LLC
P.O. Box 51166
Amarillo, TX 79159

Retamco Operating, Inc.
Attn: Joe Glennon
P.O. Box 790
Red Lodge, MT 59068-0790

Living Rivers
Attn: John Weisheit
P.O. Box 466
Moab, UT 84532
(john@livingrivers.org)

Bill Love
2871 East Bench Road
Moab, UT 84532

United States Fish and Wildlife Service
Attn: Larry Crist
Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119

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252 South 1300 East, Suite A
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(pas@patrickashea.com)

Jacque M. Ramos
J. Ramos Law Firm PLLC
2709 South Chadwick Street
Salt Lake City, UT 84106
(jramos@jramoslawfirm.com)

Julie Ann Carter

CERTIFICATE OF PUBLISHED NOTICE

I hereby certify that I caused a true and correct copy of the foregoing NOTICE OF HEARING for Docket No. 2012-028, Cause No. 279-01 to be PUBLISHED in the following newspapers on the following days:

September 2, 2012:
The Salt Lake Tribune and Deseret Morning News, newspapers of general circulation in Salt Lake City and County.

September 6, 2012:
Times-Independent, a newspaper of general circulation in Emery, Grand, and San Juan Counties.

Julie Ann Carter

HALLIBURTON

Rockies Lab Water Analysis Report | Tested By: Nathan Barnum
District: Grand Junction | Reported By: Nathan Barnum

Customer and Well Information

Company	New Water Financial LLC	Well/Sample Name	Harley Dome 1-X SWD
Report To	Jeff Himes	Date Received	10/4/2012
		Date Tested	10/5/2012

Sample Physical Characteristics

Sample 1 W454

Temperature	66.0	°F	Resistivity	0.7	Ω·m
Specific Gravity	1.008		Conductivity	25.7	mS/cm
pH	7.9		TDS	14600.0	mg/L
Turbity		FNU	Color (observation)	Clear	

Sample Chemical Characteristics

Anions			Cations		
Chloride	5163	mg/L	Total Iron	1.1	mg/L
Sulfate	30	mg/L	Ferrous Iron	0.3	mg/L
Carbonate	0	mg/L	Potassium	13	mg/L
Bicarbonate	250	mg/L	Calcium	210	mg/L
Hydroxide	0	mg/L	Magnesium	190	mg/L
			Sodium (calculated)	2848	mg/L

General Comments

Sample 1 - Bottoms up from overnight fill at TD 611' KB. Collected at 08:45 14-4-12.

David L. Allin Notes: Sample 1 was collected from two to three Bbls of formation water that seeped into the well overnight from cessation of operations at 16:25 10-3-12 until circulation was established again at 08:45 10-4-12. The water was commingled from the lower layers of the Cedar Mountain Formation below the surface casing shoe at 171', the Brushy Basin Member of Morrison Formation that was topped at 183' and the upper layers of the Salt Wash Member of Morrison Formation that was topped at 557'. The dilutive effects of circulating air injected with fresh water and surfactant while drilling which coated the borehole wall are included in this sample.

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HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Deba shafiee
Reported By: Deba shafiee

Customer and Well Information

Company	New Water Financial INC	Well/Sample Name	HD-1-X SWD
Report To	Frac Engineering	Date Received	10/6/2012
		Date Tested	10/7/2012

Sample Physical Characteristics

Sample 1	HD-1-X-SWD 1011' #2 9:27		Sample 2	HD-1-X-SWD #3 13:30 Retrn	
Temperature	68.7	°F	Temperature	68.9	°F
Specific Gravity	1.020		Specific Gravity	1.029	
pH	7.1		pH	7.6	
Turbity	106.0	FNU	Turbity	1041.0	FNU
Resistivity	0.3	Ω·m	Resistivity	0.5	Ω·m
Conductivity	33.0	mS/cm	Conductivity	64.0	mS/cm
TDS	18700.0	mg/L	TDS	17200.0	mg/L
Color (observation)	lite yellow		Color (observation)	lite Pink/Cloudy	

Sample Chemical Characteristics

Anions			Cations		
Chloride	14580	mg/L	Chloride	9447	mg/L
Sulfate	0	mg/L	Sulfate	230	mg/L
Carbonate	0	mg/L	Carbonate	0	mg/L
Bicarbonate	228	mg/L	Bicarbonate	176	mg/L
Hydroxide	0	mg/L	Hydroxide	0	mg/L
Total Iron	4.5	mg/L	Total Iron	0.5	mg/L
Ferrous Iron	0.4	mg/L	Ferrous Iron	0.1	mg/L
Potassium	47	mg/L	Potassium	84	mg/L
Calcium	1556	mg/L	Calcium	960	mg/L
Magnesium	344	mg/L	Magnesium	100	mg/L
Sodium (calculated)	7073	mg/L	Sodium (calculated)	4963	mg/L

General Comments

for sample labled #3 Turbidity was masured when the solids were stettled out.

David L. Allin Notes: Sample 2 was collected from bottoms-up circulation of overnight fill at interim TD 1011' with 123' of the Curtis/Entrada aquifer opened. Sample 3 of drilling returns from 1220' in the upper Kayenta Formation included full participation of the Curtis/Entrada aquifer and dilution from fresh water/surfactant injection into air circulation system.

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Jason Martinez
Reported By: Jason Martinez

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/8/2012
		Date Tested	10/8/2012

Sample Physical Characteristics

Sample 1	W465 Early Bottoms Up		Sample 2	W466 Late Bottoms Up	
Temperature	68.5	°F	Temperature	68.0	°F
Specific Gravity	1.015		Specific Gravity	1.022	
pH	7.1		pH	6.4	
Turbity	186.0	FNU	Turbity	299.0	FNU
Resistivity	0.3	Ω·m	Resistivity	0.3	Ω·m
Conductivity	3.9	mS/cm	Conductivity	3.9	mS/cm
TDS		mg/L	TDS		mg/L
Color (observation)	Yellow		Color (observation)	Yellow	

Sample Chemical Characteristics

Anions			Cations		
Chloride	9447	mg/L	Chloride	12948	mg/L
Sulfate	50	mg/L	Sulfate	40	mg/L
Carbonate	0	mg/L	Carbonate	0	mg/L
Bicarbonate	395	mg/L	Bicarbonate	915	mg/L
Hydroxide	0	mg/L	Hydroxide	0	mg/L
Total Iron	13.8	mg/L	Total Iron	26.7	mg/L
Ferrous Iron	0.9	mg/L	Ferrous Iron	14.9	mg/L
Potassium	46	mg/L	Potassium	205	mg/L
Calcium	1170	mg/L	Calcium	4225	mg/L
Magnesium	555	mg/L	Magnesium	1650	mg/L
Sodium (calculated)	3864	mg/L	Sodium (calculated)	646	mg/L

General Comments

Sample's TDS was above the measuring range of the lab TDS meter. TDS had to be calculated. W465 TDS= 15,481 W466 TDS= 20,424

David L. Allin Notes: Sample 1 (4) was collected at 13:55 on October 8, 2012 from early circulation of overnight fill using drilling mud from interim TD 1352' with 10' of the Wingate Sandstone open. The sample included commingled Curtis/Entrada water diluted with fresh water/surfactant injection from the air circulation system. Sample 2 (5) was taken at 14:15 to characterize late bottoms-up flowback of formation water from the top of the Wingate Sandstone aquifer which appeared to contain gray HD 1 injectate that slugged periodically possibly from April 15, 2012 acid That theory was verified by low pH and higher TDS level in Sample 2 (5) compared with Sample 1 (4).

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 368518	**Ship To #:** 2954756	**Quote #:**	**Sales Order #:** 9859661
Customer: NEW WATER FINANCIAL LLC		**Customer Rep:** Allin, Dave	
Well Name: Harley Dome	**Well #:** 1-X SWD		**API/UWI #:** 43-019-50002
Field:	**City (SAP):** THOMPSON	**County/Parish:** Grand	**State:** Utah
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Cement Production Casing			
Well Type: Development Well	**Job Type:** Cement Production Casing		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** CASTILLO, JAVIER	**MBU ID Emp #:** 513620	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
CASTILLO, FRANCISCO P	9.5	513620			513620	CHASTAIN, DERICK Allan	9.5	455848
MILLER II, MATTHEW Reginald	9.5	425164	WAI POLE, DARREN Livingston	9.5	485294			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10744549	90 mile	10951249	90 mile	10995027	90 mile	11223557	90 mile

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
10/9/2012	9.5	1						
TOTAL				*Total is the sum of each column separately*				

Job

Formation Name			
Formation Depth (MD)	*Top*	*SURFACE*	*Bottom* *1352*
Form Type		**BHST**	
Job depth MD	1352. ft	**Job Depth TVD**	1352. ft
Water Depth		**Wk Ht Above Floor**	3. ft
Perforation Depth (MD)	*From*	**To**	

Job Times

	Date	Time	Time Zone
Called Out	*10/9/2012*	*05:00*	MST
On Location	09 - Oct - 2012	09:00	MST
Job Started	09 - Oct - 2012	16:40	MST
Job Completed	31 - Oct - 2012	17:41	GMT
Departed Loc	09 - Oct - 2012	18:45	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe	7	1		1347	**Packer**					**Top Plug**	7	1	HES
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar	7	1		1305	**Retainer**					**SSR plug set**			
Insert Float										**Plug Container**	N/A		
Stage Tool										**Centralizers**	7	6	

Miscellaneous Materials

Gelling Agt		**Conc**	**Surfactant**	**Conc**	**Acid Type**	**Qty**	*Conc* *%*
Treatment Fld		**Conc**	*Inhibitor*	*Conc*	**Sand Type**	*Size*	*Qty*

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom

HALLIBURTON

Cementing Job Summary

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Water Spacer		10.00	bbl	.	.0	.0	1	
2	Lead Cement	VERSACEM (TM) SYSTEM (452010)	86.0	sacks	12.3	2.38	13.77	6	13.77
3	Tail Cement	HALCEM (TM) SYSTEM (452986)	110.0	sacks	15.6	1.17	5.0	5	5.0
	5 Gal	FRESH WATER							
4	Displacement		53.00	bbl	.	.0	.0	6	

Calculated Values		Pressures		Volumes					
Displacement	6BPM	Shut In: Instant		Lost Returns	NONE	Cement Slurry	59.5BBLS	Pad	
Top Of Cement	SURFACE	5 Min		Cement Returns	20BBLS	Actual Displacement	53	Treatment	
Frac Gradient		15 Min		Spacers	10BBLS	Load and Breakdown		Total Job	122

Rates

Circulating	RIG	Mixing	6	Displacement	6	Avg. Job	6

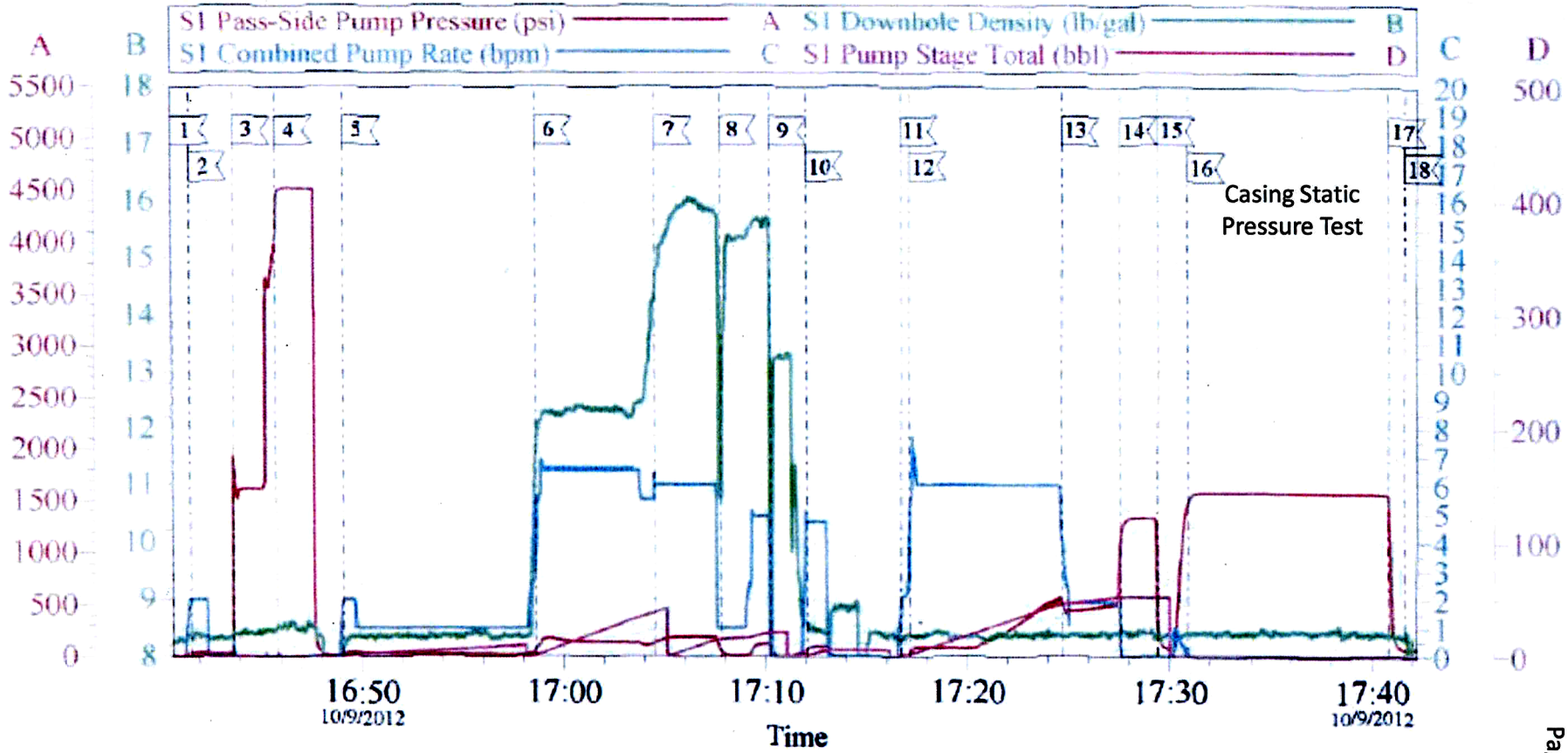
Cement Left In Pipe | Amount | 42 ft | Reason | Shoe Joint

Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID

The Information Stated Herein Is Correct	Customer Representative Signature

NEW WATER/HARLEY DOME 1-X

7" PRODUCTION



Local Event Log

1	START JOB	16:40:45	2	FILL LINES	16:41:35	3	5TH GEAR STALL-OUT	16:43:43
4	TEST LINES	16:45:48	5	SPACER	16:49:10	6	LEAD SLURRY	16:58:37
7	TAIL SLURRY	17:04:35	8	SLOWDOWN/AIR BUBBLE	17:07:47	9	SHUT DOWN	17:10:15
10	WASH PUMP	17:12:03	11	DROP PLUG	17:16:43	12	DISPLACEMENT	17:17:10
13	SLOW RATE	17:24:42	14	BUMP PLUG	17:27:34	15	CHECK FLOATS	17:29:25
16	TEST CASING	17:30:53	17	RELEASE PRESSURE	17:40:50	18	END JOB	17:41:37

Customer:	NEW WATER FINANCIAL LLC	Job Date:	09-Oct-2012	Sales Order #:	9859661
Well Description:	Harley Dome 1-X SWD	Job Type:	7" PRODUCTION	ADC Used:	YES
Company Rep:	TERRY LEACH	Cement Supervisor:	JAVIER CASTILLO	RED TIGER#11223557	DERICK CHASTAIN

OptiCem v6.4.10
09-Oct-12 18:11

HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Lucas Daniel
Reported By: Lucas Daniel

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/11/2012
		Date Tested	10/11/2012

Sample Physical Characteristics

Sample 1 W475 #7

Temperature	67.2	°F	Resistivity	0.3	Ω·m
Specific Gravity	1.114		Conductivity	45.9	mS/cm
pH	7.0		TDS		mg/L
Turbity	14.8	FNU	Color (observation)	Redish	

Sample Chemical Characteristics

Anions			Cations		
Chloride	10434	mg/L	Total Iron	1.2	mg/L
Sulfate	10	mg/L	Ferrous Iron	0.4	mg/L
Carbonate	0	mg/L	Potassium	93	mg/L
Bicarbonate	375	mg/L	Calcium	1935	mg/L
Hydroxide	0	mg/L	Magnesium	770	mg/L
			Sodium (calculated)	3181	mg/L

General Comments

0

David L. Allin Notes: Sample 1 (7) was collected at 14:28 on October 11, 2012 from returns while drilling at 1430' with 88' of Wingate Sandstone open beneath the 7" casing shoe. The sample included dilution from fresh water/surfactant injection into air circulation system. TDS was not reported but estimated to be in excess of 17,000 mg/L. Note that the SG reported is too high.

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Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Lucas Daniel
Reported By: Lucas Daniel

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/11/2012
		Date Tested	10/11/2012

Sample Physical Characteristics

Sample 1 W476 #8

Temperature	67.4	°F	Resistivity	0.3	Ω·m
Specific Gravity	1.113		Conductivity	62.0	mS/cm
pH	7.2		TDS		mg/L
Turbity	74.6	FNU	Color (observation)	Gray	

Sample Chemical Characteristics

Anions			Cations		
Chloride	12948	mg/L	Total Iron	3.9	mg/L
Sulfate	10	mg/L	Ferrous Iron	1.8	mg/L
Carbonate	0	mg/L	Potassium	99	mg/L
Bicarbonate	830	mg/L	Calcium	3035	mg/L
Hydroxide	0	mg/L	Magnesium	750	mg/L
			Sodium (calculated)	3752	mg/L

General Comments

0

David L. Allin Notes: Sample 1 (8) was collected at 14:55 on October 11, 2012 from returns while drilling at 1470' with 128' of Wingate Sandstone open beneath the 7" casing shoe. The sample included dilution from fresh water/surfactant injection into air circulation system. TDS was not reported but estimated to be in excess of 20,000 ppm. Note that the SG reported is too high.

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Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Lucas Daniel
Reported By: Lucas Daniel

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/11/2012
		Date Tested	10/11/2012

Sample Physical Characteristics

Sample 1 W477 #9

Temperature	66.5	°F	Resistivity	0.3	Ω·m
Specific Gravity	1.176		Conductivity	62.9	mS/cm
pH	7.3		TDS		mg/L
Turbity	37.0	FNU	Color (observation)	Yellowish	

Sample Chemical Characteristics

Anions			Cations		
Chloride	14730	mg/L	Total Iron	0.3	mg/L
Sulfate	10	mg/L	Ferrous Iron	0.3	mg/L
Carbonate	0	mg/L	Potassium	210	mg/L
Bicarbonate	760	mg/L	Calcium	2985	mg/L
Hydroxide	0	mg/L	Magnesium	660	mg/L
			Sodium (calculated)	5048	mg/L

General Comments

0

David L. Allin Notes: Sample 1 (9) was collected at 15:50 on October 11, 2012 from returns while drilling at 1544' with 202' of Wingate Sandstone open beneath the 7" casing shoe. The sample included dilution from fresh water/surfactant injection into air circulation system. TDS was not reported but estimated to be in excess of 25,000 ppm. Note that the SG reported is too high.

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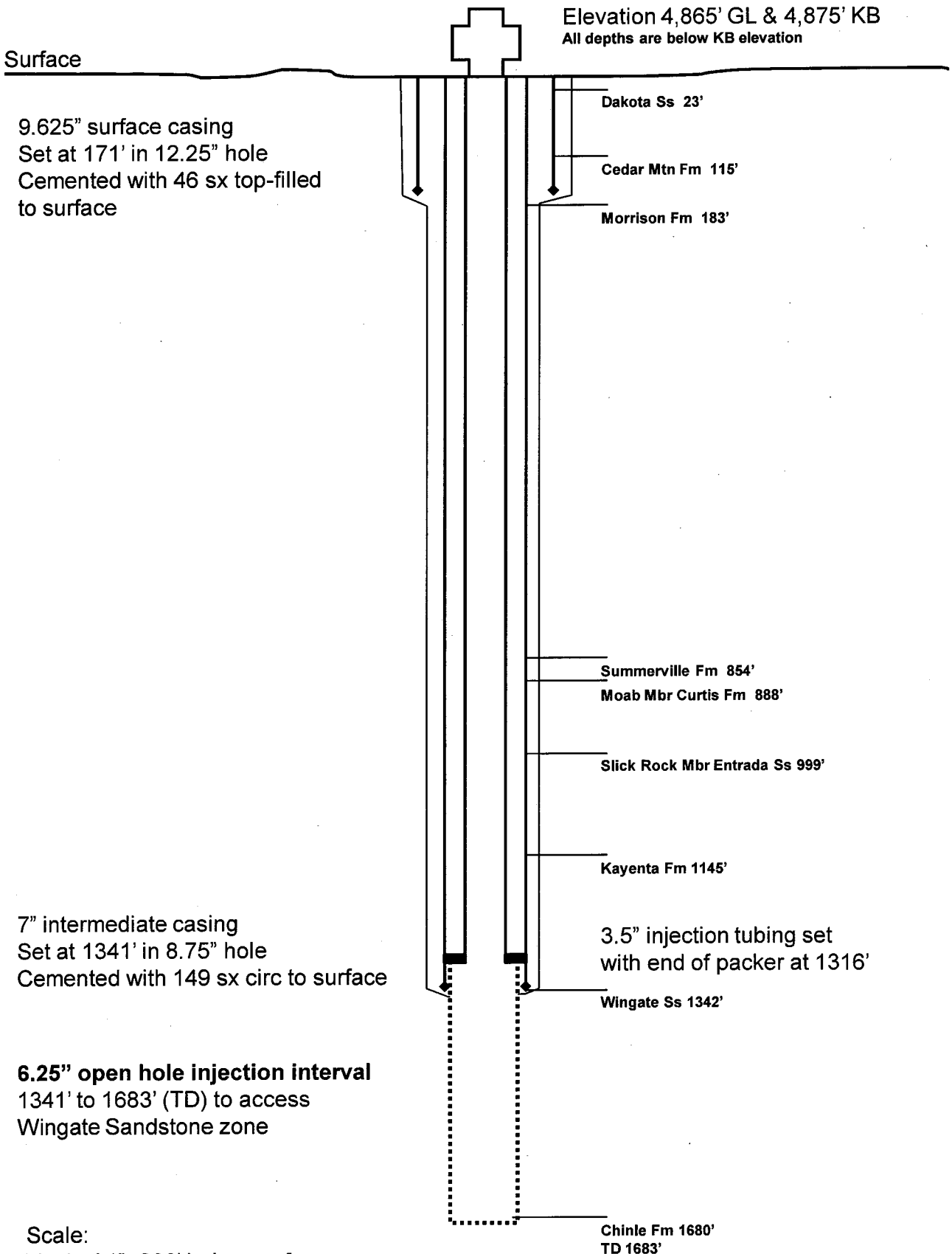
Schematic Diagram of Harley Dome 1-X SWD
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-50023)
Harley Dome, Greater Cisco Field, Grand County, Utah



Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

Drafted 10-20-12

NEW WATER FINANCIAL, LLC

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	New Water Financial	Date Received	October 10, 2012
Reported To	Jeff Himes	Date Tested	October 10, 2012
Reported By	Lucas Daniel	Tested By	Lucas Daniel

Sample Physical Characteristics

Well Name	HD 1-X SWD		Temperature	68	°F
Location			pH	6.2	
Specific Gravity	1.142		Color	Brownish	
Corrected SG	1.144	at 60°F	Turbidity	292 FNU	
TDS (calculated)	90429	ppm	Resistivity	0.05	Ω·m

Sample Chemical Characteristics

Anions	Chloride	63560	mg/L	Cations	Total Iron	67.0	mg/L
	Sulfate	820	mg/L		Ferrous Iron	50.0	mg/L
	Bicarbonate	230	mg/L		Potassium	620	mg/L
	Carbonate	0	mg/L		Calcium	7190	mg/L
	Hydroxide	0	mg/L		Magnesium	2560	mg/L
					Sodium (calculated)	28173	mg/L

General Comments

W470 Conductivity was over the measurable range, TDS was over the measurable range. Sample was taken 13:15 on 10/10/12.

David L. Allin Notes: Sample 6 was collected from a battery of 11 equalized 400 Bbls capacity tanks that contained filtered produced water accumulated for the step-rate test.

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 368518	**Ship To #:** 2954756	**Quote #:**	**Sales Order #:** 9898870
Customer: NEW WATER FINANCIAL LLC		**Customer Rep:** Allin, Dave	
Well Name: Harley Dome	**Well #:** 1-X SWD		**API/UWI #:** 43-019-50002
Field:	**City (SAP):** THOMPSON	**County/Parish:** Grand	**State:** Utah
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Miscellaneous Pumping Service			
Well Type: Disposal Well	**Job Type:** Miscellaneous Pumping Service		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** WYCKOFF, RYAN	**MBU ID Emp #:** 476117	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ANDERSON, ADAM S	10.5	456683	CHASTAIN, DERICK Allan	10.5	455848	LINN, PAUL Andrew	10.5	479143
WYCKOFF, RYAN Scott	10.5	476117						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10564022	90 mile	10616651C	90 mile	10951251	90 mile	11808827	90 mile

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
10/18/2012	10.5	8						
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name			
Formation Depth (MD)	**Top**	**Bottom**	
Form Type		**BHST**	
Job depth MD	1347. ft	**Job Depth TVD**	1347. ft
Water Depth		**Wk Ht Above Floor**	4. ft
Perforation Depth (MD)	*From*	**To**	

Job Times

	Date	Time	Time Zone
Called Out	18 - Oct - 2012	03:00	MST
On Location	18 - Oct - 2012	08:00	MST
Job Started	18 - Oct - 2012	10:10	MST
Job Completed	18 - Oct - 2012	18:11	GMT
Departed Loc	18 - Oct - 2012	19:20	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
7" Production Casing	Unknown		7.	6.456	20.		J-55	.	1347.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer	7	1		1318	Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		*Conc*	%
Treatment Fld		Conc		*Inhibitor*		Conc		Sand Type		*Size*		*Qty*	

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom

HALLIBURTON

Cementing Job Summary

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Brine Water		3,085.00	bbl	8.4	.0	.0	12.0	

Calculated Values		Pressures		Volumes					
Displacement		Shut In: Instant	393	Lost Returns		*Cement Slurry*	0	Pad	
Top Of Cement		5 Min	372	Cement Returns		Actual Displacement	0	Treatment	
Frac Gradient		15 Min	350	Spacers	3085	Load and Breakdown		Total Job	3085

Rates

Circulating		*Mixing*		*Displacement*		Avg. Job	

Cement Left In Pipe		Amount	*0 FT*	*Reason*	*Shoe Joint*										
Frac Ring # 1 @		*ID*		*Frac ring # 2 @*		*ID*		*Frac Ring # 3 @*		*ID*		*Frac Ring # 4 @*		*ID*	

The Information Stated Herein Is Correct	*Customer Representative Signature*

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 368518	**Ship To #:** 2954756	**Quote #:**	**Sales Order #:** 9898870
Customer: NEW WATER FINANCIAL LLC		**Customer Rep:** Allin, Dave	
Well Name: Harley Dome	**Well #:** 1-X SWD		**API/UWI #:** 43-019-50002
Field:	**City (SAP):** THOMPSON	**County/Parish:** Grand	**State:** Utah
Legal Description:			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Miscellaneous Pumping Service			**Ticket Amount:**
Well Type: Disposal Well	**Job Type:** Miscellaneous Pumping Service		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** WYCKOFF, RYAN		**MBU ID Emp #:** 476117

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl Stage	Volume bbl Total	Pressure psig Tubing	Pressure psig Casing	Comments
Call Out	10/18/2012 03:00							ELITE #4
Pre-Convoy Safety Meeting	10/18/2012 06:00							ALL HES EMPLOYEES
Arrive At Loc	10/18/2012 08:00							ARRIVE AT LOCATION AT 08:00, CO REP NOT ON LOCATION WAITED TO SPOT EQUIPMENT
Assessment Of Location Safety Meeting	10/18/2012 08:10							ALL HES EMPLOYEES
Pre-Rig Up Safety Meeting	10/18/2012 08:50							ALL HES EMPLOYEES
Rig-Up Equipment	10/18/2012 09:00							F-450 PICK UP, HT-400 PUMP (ELITE), BOOSTER PUMP
Pre-Job Safety Meeting	10/18/2012 10:00							ALL HES EMPLOYEES AND RIG CREW
Rig-Up Completed	10/18/2012 10:05							
Start Job	10/18/2012 10:10							CSG 7" 20 # TO 1352, OH 6 1/4" TO 1704, TB 3 1/2" TO 1352, PACKER AT 1352
Pressure Test	10/18/2012 10:12					2583.0		PRESSURE TEST PUMPS AND LINES TO 2500 PSI, TEST GOOD
Pump Spacer	10/18/2012 10:20		2	63.6		248.0		PUMP AT 2 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 10:51		3	94		314.0		PUMP AT 3 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 11:21		4	124		386.0		PUMP AT 4 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN

HALLIBURTON

Cementing Job Log

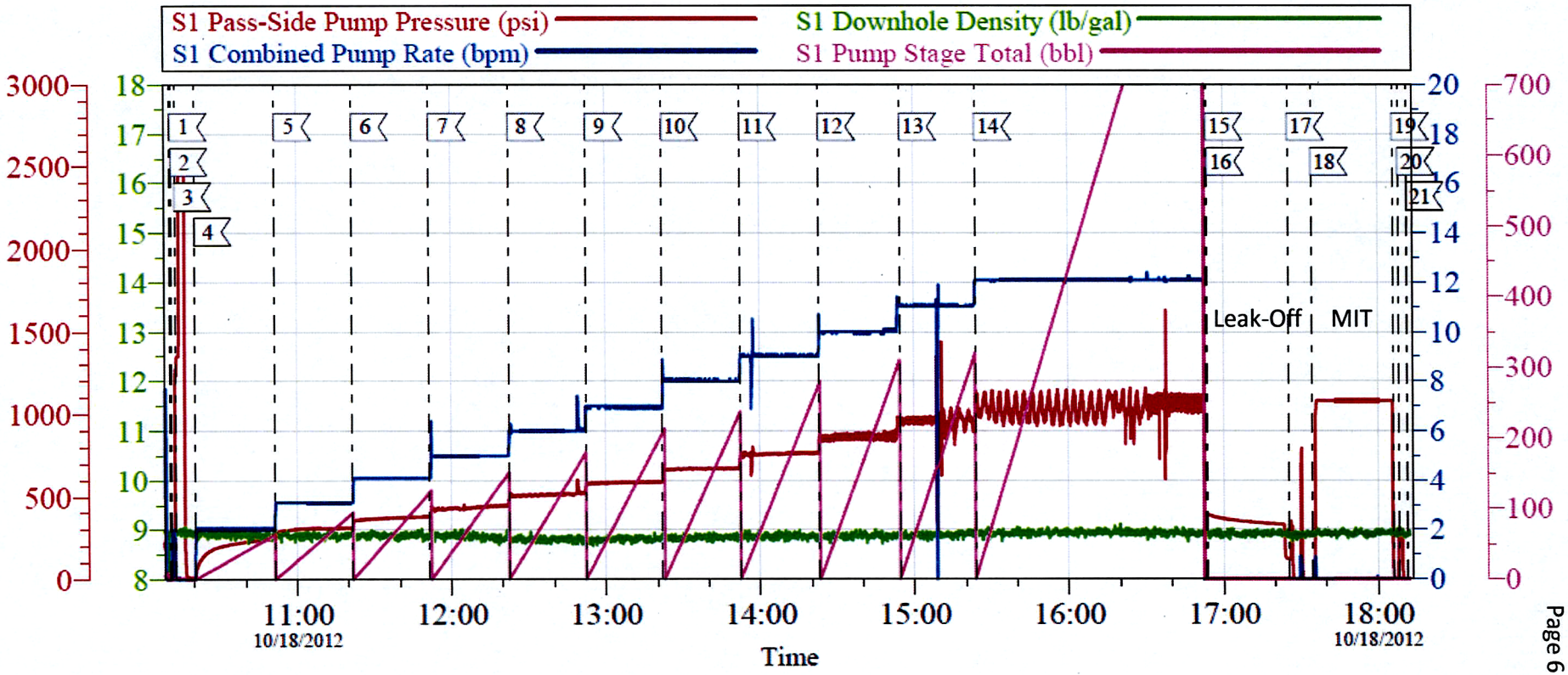
Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl Stage	Volume bbl Total	Pressure psig Tubing	Pressure psig Casing	Comments
Pump Spacer	10/18/2012 11:51		5	150		449.0		PUMP AT 5 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 12:22		6	178		520.0		PUMP AT 6 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 12:52		7	206		594.0		PUMP AT 7 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 13:22		8	234		675.0		PUMP AT 8 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 13:52		9	272		768.0		PUMP AT 9 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 14:23		10	297		883.0		PUMP AT 10 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 14:54		11	316		961.0		PUMP AT 11 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 15:23		12	1074.5		1145.0		PUMP AT 12 BBLS/MIN FOR 1.5 HOURS, NO BREAK DOWN
Shutdown	10/18/2012 16:53							
ISIP	10/18/2012 16:53					393.0		ESTABLISH ISIP, INSTANT 393 PSI, 5 MIN 372 PSI, 10 MIN 360 PSI, 20 MIN 343 PSI, 30 MIN 332 PSI
Pressure Up Annulus	10/18/2012 17:34		1	1		1080.0		PRESSURE TEST BACK SIDE TO 1000 PSI FOR 30 MIN, PRESSURE TEST GOOD
Release Annulus Pressure	10/18/2012 18:05							
Other	10/18/2012 18:08					299.0		RECONNECT TO TUBING AND CHART TUBING PRESSURE
End Job	10/18/2012 18:11							6 ADDITIONAL HOURS, NO DERICK CHARGE, 160 FT OF DISCHARGE HOSE USED, NO CIRCULATING IRON PACKAGE CHARGE
Pre-Rig Down Safety Meeting	10/18/2012 18:15							ALL HES EMPLOYEES

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pre-Convoy Safety Meeting	10/18/2012 19:15							ALL HES EMPLOYEES
Crew Leave Location	10/18/2012 19:20							THANK YOU FOR USING HALLIBURTON CEMENT RYAN WYCKOFF AND CREW

NEW WATER HARLEY DOME 1-X SWD
MISC PUMP



Local Event Log

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7	INCREASE RATE	11:51:38	8	INCREASE RATE	12:22:13	9	INCREASE RATE	12:52:32
10	INCREASE RATE	13:22:02	11	INCREASE RATE	13:52:21	12	INCREASE RATE	14:23:01
13	INCREASE RATE	14:54:33	14	INCREASE RATE	15:23:43	15	SHUTDOWN	16:53:32
16	ISIP	16:53:59	17	RELEASE PRESSURE	17:25:08	18	PRESSURE UP ANNULUS	17:34:17
19	RELEASE PRESSURE	18:05:53	20	CHECK TUBING PRESSURE	18:08:01	21	END JOB	18:11:26

Customer:	NEW WATER	Job Date:	18-Oct-2012	Sales Order #:	9898870
Well Description:	HARLEY DOME 1-X SWD	Job Type	MISC PUMP	ADC Used	YES
Company Rep	DAVID ALLIN	Cement Supervisor	RYAN WYCKOFF	Elite #4	ANDREW LINN

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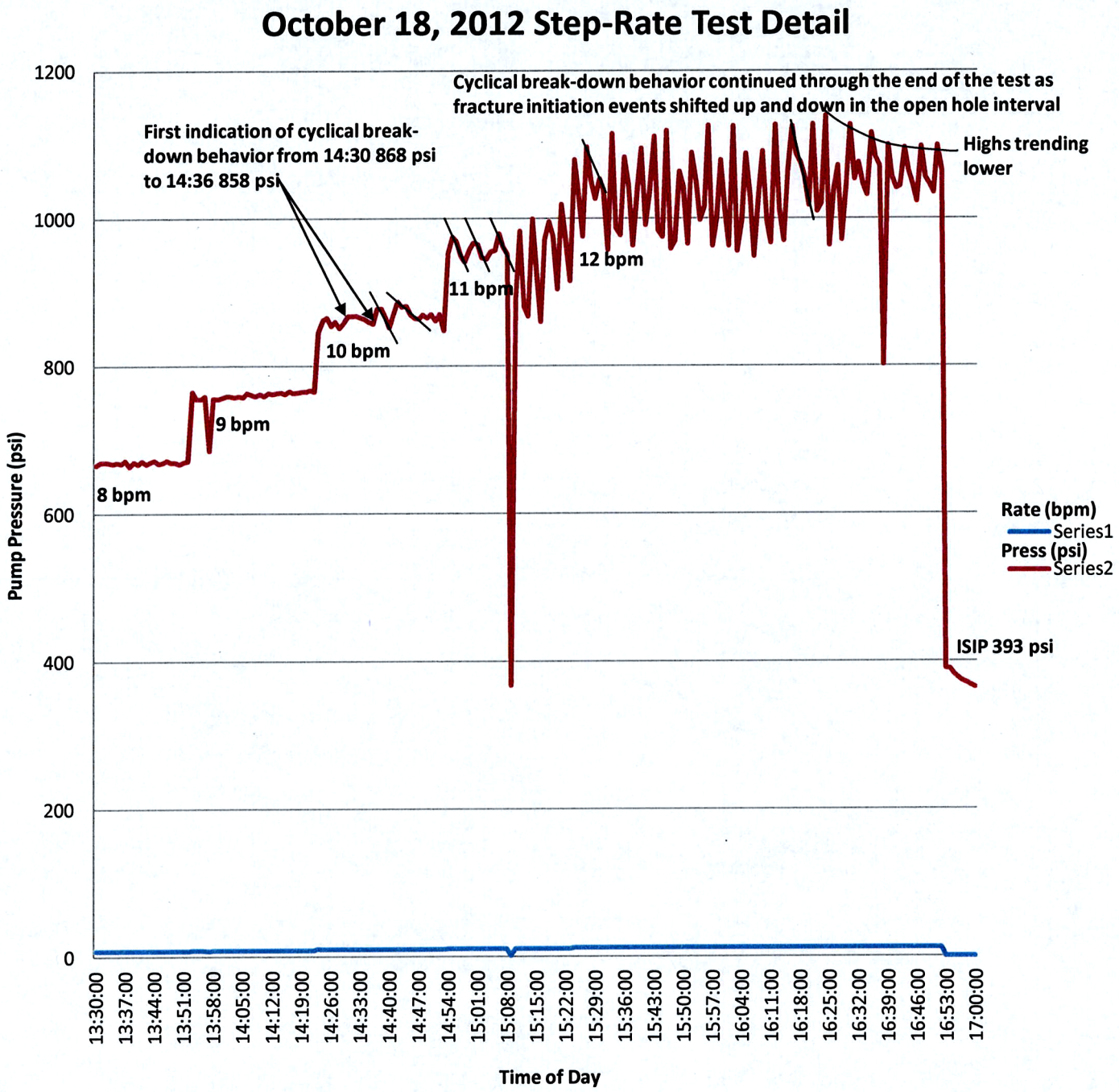
18-Oct-12 18:14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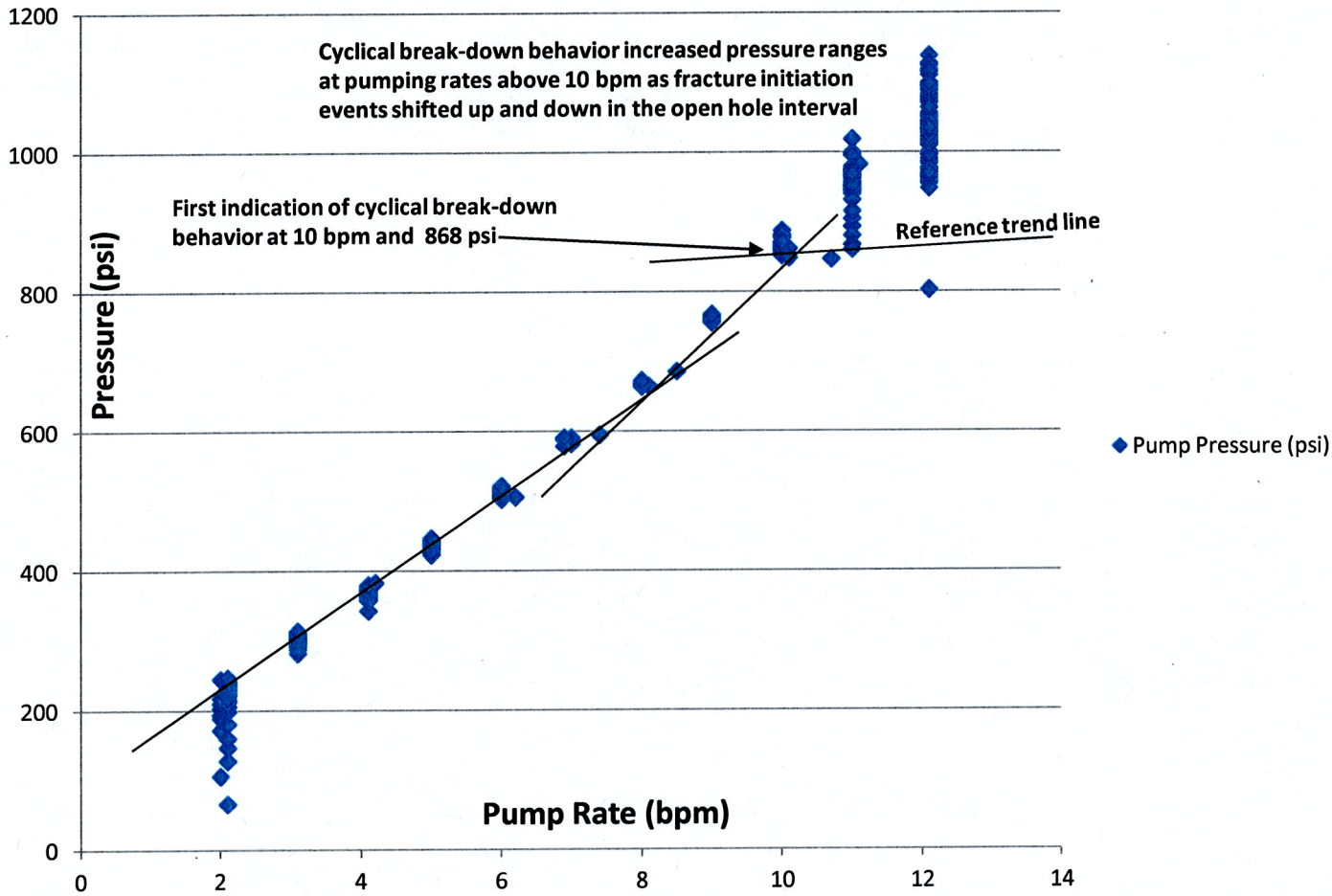
Highs trending lower
8 bpm
9 bpm
10 bpm
11 bpm
12 bpm
ISIP 393 psi
Rate (bpm)
Series1
Press (psi)
Series2
Pump Pressure (psi)
Time of Day
1200
1000
800
600
400
200
0
13:30:00
13:37:00
13:44:00
13:51:00
13:58:00
14:05:00
14:12:00
14:19:00
14:26:00
14:33:00
14:40:00
14:47:00
14:54:00
15:01:00
15:08:00
15:15:00
15:22:00
15:29:00
15:36:00
15:43:00
15:50:00
15:57:00
16:04:00
16:11:00
16:18:00
16:25:00
16:32:00
16:39:00
16:46:00
16:53:00
17:00:00

October 18, 2012 Step-Rate Test
Scatter Plot of Pump Pressure Versus Pump Rate



HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 368518	**Ship To #:** 2954756	**Quote #:**	**Sales Order #:** 9898870
Customer: NEW WATER FINANCIAL LLC		**Customer Rep:** Allin, Dave	
Well Name: Harley Dome	**Well #:** 1-X SWD		**API/UWI #:** 43-019-50002
Field:	**City (SAP):** THOMPSON	**County/Parish:** Grand	**State:** Utah
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Miscellaneous Pumping Service			
Well Type: Disposal Well	**Job Type:** Miscellaneous Pumping Service		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** WYCKOFF, RYAN	**MBU ID Emp #:** 476117	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ANDERSON, ADAM S	10.5	456683	CHASTAIN, DERICK Allan	10.5	455848	LINN, PAUL Andrew	10.5	479143
WYCKOFF, RYAN Scott	10.5	476117						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10564022	90 mile	10616651C	90 mile	10951251	90 mile	11808827	90 mile

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
10/18/2012	10.5	8						
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name			
Formation Depth (MD)	**Top**	**Bottom**	
Form Type		**BHST**	
Job depth MD	1347. ft	**Job Depth TVD**	1347. ft
Water Depth		**Wk Ht Above Floor**	4. ft
Perforation Depth (MD)	*From*	**To**	

Job Times

	Date	Time	Time Zone
Called Out	18 - Oct - 2012	03:00	MST
On Location	18 - Oct - 2012	08:00	MST
Job Started	18 - Oct - 2012	10:10	MST
Job Completed	18 - Oct - 2012	18:11	GMT
Departed Loc	18 - Oct - 2012	19:20	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
7" Production Casing	Unknown		7.	6.456	20.		J-55	.	1347.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer	7	1		1318	Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		*Conc*	%
Treatment Fld		Conc		*Inhibitor*		Conc		Sand Type		*Size*		*Qty*	

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom

HALLIBURTON

Cementing Job Summary

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Brine Water		3,085.00	bbl	8.4	.0	.0	12.0	

Calculated Values		Pressures		Volumes					
Displacement		Shut In: Instant	393	Lost Returns		*Cement Slurry*	0	Pad	
Top Of Cement		5 Min	372	Cement Returns		Actual Displacement	0	Treatment	
Frac Gradient		15 Min	350	Spacers	3085	Load and Breakdown		Total Job	3085

Rates

Circulating		*Mixing*		*Displacement*		Avg. Job	

Cement Left In Pipe		Amount	*0 FT*	*Reason*	*Shoe Joint*										
Frac Ring # 1 @		*ID*		*Frac ring # 2 @*		*ID*		*Frac Ring # 3 @*		*ID*		*Frac Ring # 4 @*		*ID*	

The Information Stated Herein Is Correct	*Customer Representative Signature*

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 368518	**Ship To #:** 2954756	**Quote #:**	**Sales Order #:** 9898870
Customer: NEW WATER FINANCIAL LLC		**Customer Rep:** Allin, Dave	
Well Name: Harley Dome	**Well #:** 1-X SWD		**API/UWI #:** 43-019-50002
Field:	**City (SAP):** THOMPSON	**County/Parish:** Grand	**State:** Utah
Legal Description:			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Miscellaneous Pumping Service			**Ticket Amount:**
Well Type: Disposal Well	**Job Type:** Miscellaneous Pumping Service		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** WYCKOFF, RYAN		**MBU ID Emp #:** 476117

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl Stage	Volume bbl Total	Pressure psig Tubing	Pressure psig Casing	Comments
Call Out	10/18/2012 03:00							ELITE #4
Pre-Convoy Safety Meeting	10/18/2012 06:00							ALL HES EMPLOYEES
Arrive At Loc	10/18/2012 08:00							ARRIVE AT LOCATION AT 08:00, CO REP NOT ON LOCATION WAITED TO SPOT EQUIPMENT
Assessment Of Location Safety Meeting	10/18/2012 08:10							ALL HES EMPLOYEES
Pre-Rig Up Safety Meeting	10/18/2012 08:50							ALL HES EMPLOYEES
Rig-Up Equipment	10/18/2012 09:00							F-450 PICK UP, HT-400 PUMP (ELITE), BOOSTER PUMP
Pre-Job Safety Meeting	10/18/2012 10:00							ALL HES EMPLOYEES AND RIG CREW
Rig-Up Completed	10/18/2012 10:05							
Start Job	10/18/2012 10:10							CSG 7" 20 # TO 1352, OH 6 1/4" TO 1704, TB 3 1/2" TO 1352, PACKER AT 1352
Pressure Test	10/18/2012 10:12					2583.0		PRESSURE TEST PUMPS AND LINES TO 2500 PSI, TEST GOOD
Pump Spacer	10/18/2012 10:20		2	63.6		248.0		PUMP AT 2 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 10:51		3	94		314.0		PUMP AT 3 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 11:21		4	124		386.0		PUMP AT 4 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl Stage	Volume bbl Total	Pressure psig Tubing	Pressure psig Casing	Comments
Pump Spacer	10/18/2012 11:51		5	150		449.0		PUMP AT 5 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 12:22		6	178		520.0		PUMP AT 6 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 12:52		7	206		594.0		PUMP AT 7 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 13:22		8	234		675.0		PUMP AT 8 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 13:52		9	272		768.0		PUMP AT 9 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 14:23		10	297		883.0		PUMP AT 10 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 14:54		11	316		961.0		PUMP AT 11 BBLS/ MIN FOR 30 MIN, NO BREAK DOWN
Pump Spacer	10/18/2012 15:23		12	1074.5		1145.0		PUMP AT 12 BBLS/MIN FOR 1.5 HOURS, NO BREAK DOWN
Shutdown	10/18/2012 16:53							
ISIP	10/18/2012 16:53					393.0		ESTABLISH ISIP, INSTANT 393 PSI, 5 MIN 372 PSI, 10 MIN 360 PSI, 20 MIN 343 PSI, 30 MIN 332 PSI
Pressure Up Annulus	10/18/2012 17:34		1	1		1080.0		PRESSURE TEST BACK SIDE TO 1000 PSI FOR 30 MIN, PRESSURE TEST GOOD
Release Annulus Pressure	10/18/2012 18:05							
Other	10/18/2012 18:08					299.0		RECONNECT TO TUBING AND CHART TUBING PRESSURE
End Job	10/18/2012 18:11							6 ADDITIONAL HOURS, NO DERICK CHARGE, 160 FT OF DISCHARGE HOSE USED, NO CIRCULATING IRON PACKAGE CHARGE
Pre-Rig Down Safety Meeting	10/18/2012 18:15							ALL HES EMPLOYEES

HALLIBURTON

Cementing Job Log

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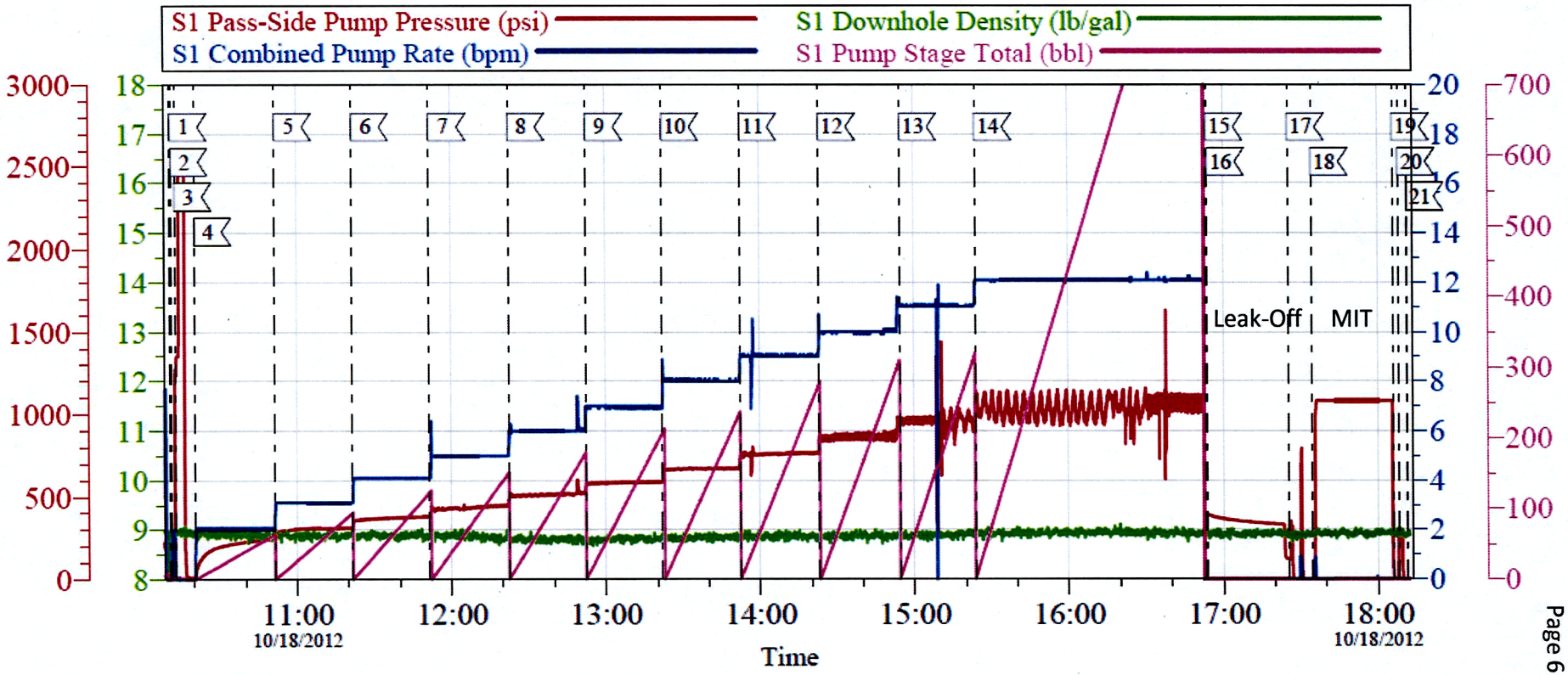
NEW WATER HARLEY DOME 1-X SWD
MISC PUMP



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Customer:	NEW WATER	Job Date:	18-Oct-2012	Sales Order #:	9898870
Well Description:	HARLEY DOME 1-X SWD	Job Type	MISC PUMP	ADC Used	YES
Company Rep	DAVID ALLIN	Cement Supervisor	RYAN WYCKOFF	Elite #4	ANDREW LINN

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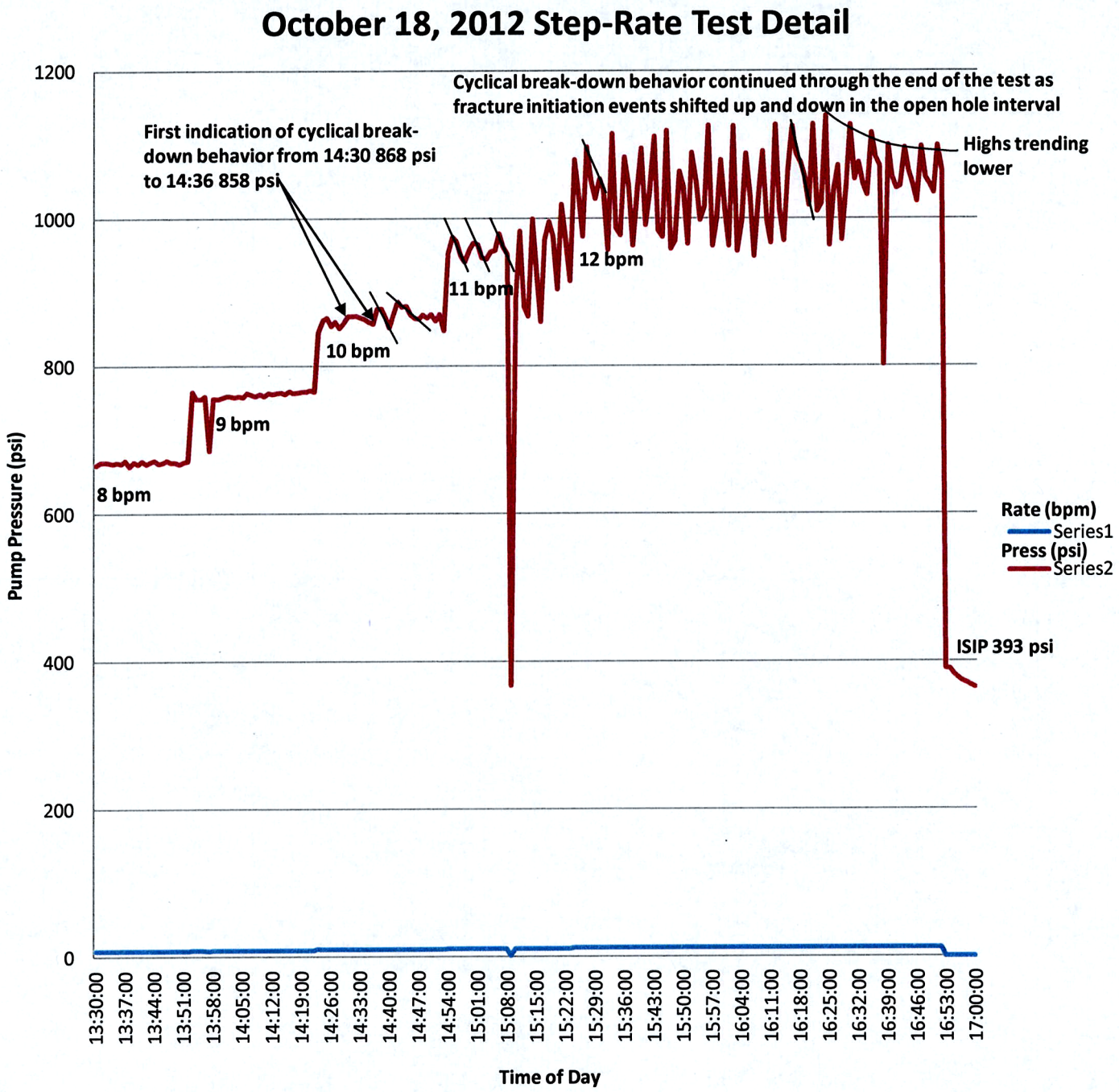
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9 bpm
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Rate (bpm)
Series1
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Pump Pressure (psi)
Time of Day
1200
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13:30:00
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14:05:00
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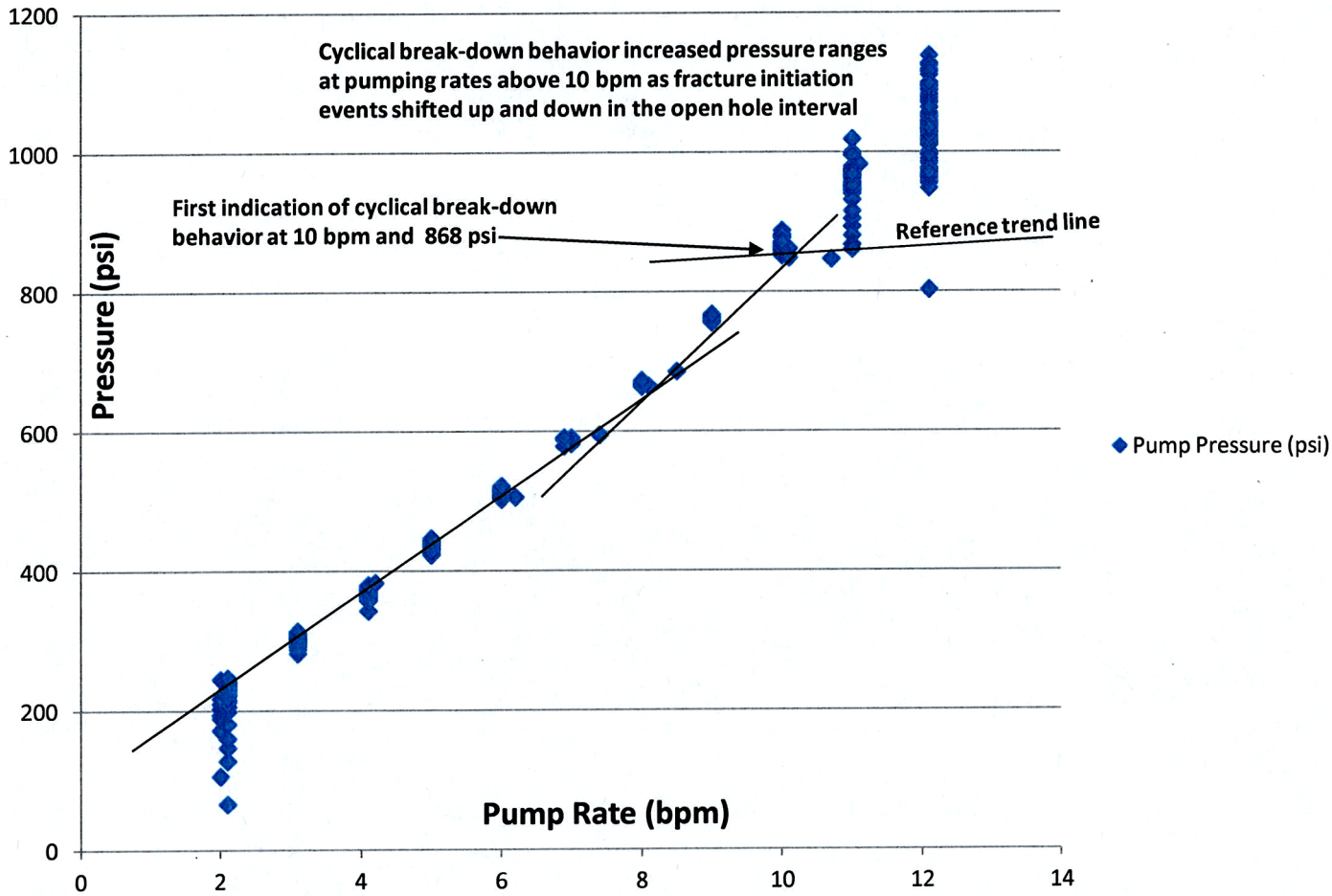
October 18, 2012 Step-Rate Test
Scatter Plot of Pump Pressure Versus Pump Rate



Request to Convert Harley Dome 1-X SWD to Class II under Pending UIC Permit Application
October 19, 2012

New Water Financial, LLC Harley Dome 1-X SWD, API No. 43-019-50023
NWNE Section 10, T19S, R25E, SLM, Grand County, Utah
Submitted by David L. Allin
Note: All depths recited herein and in attachments are below KB elevation 4,874'

This transmission is intended to insure that the DOGM staff has in hand all the information necessary to qualify the HD 1-X SWD for conversion to a Class II injection well to be operated by New Water Financial, LLC. The official request for conversion for injection use under a new UIC permit is made herewith. It is hoped that the DOGM staff will be able to consider the attached material prior to the Utah Oil, Gas and Mining Board hearing scheduled October 24, 2012 in Moab, Utah.

Drilling, well completion and required testing operations on the Harley Dome 1-X SWD (HD 1-X) were finished on October 18, 2012. Water samples from all porous zones capable of yielding water to the well were collected and analyzed while the well was being drilled and circulated with air injected with fresh water and surfactant to create foam. Representative water samples were obtained from the commingled lower Cedar Mountain Formation and Morrison Formation, commingled Moab Member of Curtis Formation and Entrada Sandstone and the Wingate Sandstone injection zone. The Dakota Sandstone did not produce enough water to allow sampling or interfere with surface casing cementing operations. No formations in the subsurface qualified for classification as USDW's. Copies of the laboratory reports on the water samples with explanatory comments are attached for review. The water sample reports include W470 for Sample 6 which was collected on October 10, 2012 to be representative of the fluid used for the step-rate test conducted on October 18, 2012.

The HD 1-X well was designed to improve upon the injectivity into the Wingate Sandstone injection interval currently approved and permitted for Class II produced water disposal operations in the Harley Dome 1 (HD 1) well that was completed during 2010. It is planned to utilize the HD 1 well for intermittent injection and monitoring of the injection zone to accurately measure the area of influence of the injection operation through time. The salient difference in the design of the two wells is that no attempt to set and cement casing through the Wingate Sandstone injection interval was made in the HD 1-X as approved by the Utah DOGM APD. When the 5.5" casing was cemented to TD in the HD 1 well it required two stages and a squeeze cementing operation to bring the cement top up into the surface casing. The first cement stage likely damaged the most porous and permeable layers in the injection zone and made the well susceptible to subsequent impairment by the introduction of fine solids and clay particle hydration and migration.

The construction of the HD 1-X included a 9.625" 36.0 ppf J-55 casing string set at 171' in 12.25" hole and cemented to the surface, a 7.0" 20.0 ppf J-55 casing string set at 1341' in 8.75" hole at the base of the Kayenta Formation (upper confining layer) and cemented to the surface and finally a 6.25" open-hole interval between the 7.0" casing shoe and TD in the Chinle Formation at 1683'. Note that the other formation tops were: Dakota Sandstone 23'; Cedar Mountain Formation 115'; Brushy Basin Member of Morrison Formation 183'; Salt Wash Member of Morrison Formation 557'; Tidwell Member of Morrison Formation 832'; Summerville Formation at 854'; Moab Member of Curtis Formation (commonly included with the Entrada Sandstone and acts as a single aquifer at Harley Dome) 888'; Slick Rock Member of Entrada Sandstone 999'; Kayenta Formation 1145'; Wingate Sandstone 1342'; and finally Chinle Formation (lower confining layer) 1680'.

FILED
OCT 24 2012
SECRETARY, BOARD OF
OIL, GAS & MINING

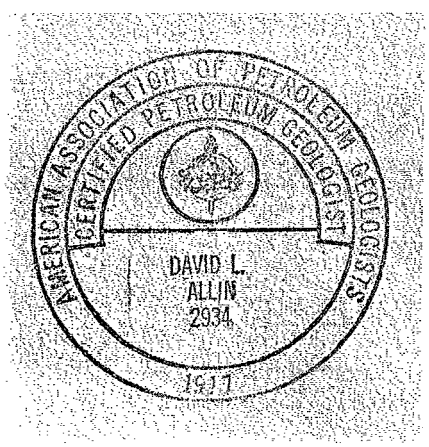
New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 19

The cement on the 7.0" casing string was circulated to the surface without significant loss of slurry in the hole on October 9, 2012. Refer to the attached copies of the Cementing Job Summary and the CBL/GR/CCL log recorded on October 12, 2012, the day after reaching TD for additional information. Note that the CBL recorded cement up to 45' where the lack of fluid inside the 7.0" casing precluded log response above that point. It should also be noted that the change in log response at 456' recorded the interface between the lead and tail cement and 7" free pipe TT response is less than 250 µsec.

The HD 1-X was equipped with a 7.0" retrievable packer set at 1316' on the end of 3.5" 9.3 ppf J-55 EUE tubing on October 17, 2012. See the schematic diagram of the final configuration of the well included with the attachments. The following day a cement pump was brought on site to conduct step-rate testing of the Wingate Sandstone open-hole injection interval drawing from a large inventory of filtered, produced water stored at the Harley Dome disposal facility. Pumping operations for the step-rate test began at 10:20 with a rate of 2 bpm and continued with even steps increased by 1 bpm for 30 minute intervals until a pumping rate of 12 bpm was achieved. The 12 bpm rate was continued for 90 minutes until 16:53 to evaluate the formation break-down response cycling among the layers available in the 342' open-hole interval. The ISIP was 393 psi which was a significant contrast to the 250 psi recorded in the HD 1 well when it was step-rate tested during 2010. Copies of the pumping report and charts from the step-rate test and mechanical integrity test witnessed by Mark Jones of Utah DOGM are attached along with some analytical charts that interpret the data.

The analysis of a representative sample of the water that was accumulated for the step-rate test indicated that it had SG 1.144 at 60° F. The column of this water to the top of the Wingate Ss injection interval in the open hole at 1342' produced a pressure at that point in the well of 666 psi from a pressure gradient of 0.496 psi/ft. Since the ISIP was 393 psi the fracture closure pressure was 1,059 psi. This would indicate a fracture gradient in excess of 0.789 psi/ft. A detail segment of the step-rate test data was interpreted and indicated that break-down response in the injection formation began at 14:30 about eight minutes into the 10 bpm step as the pressure reached 868 psi. The pressure declined to 858 psi at 14:36 before starting another cycle of pressure rise and fall that produced a saw-toothed pattern in the remainder of the pressure versus time chart. During the last 30 minutes of pumping at 12 bpm, the pressure cycles were achieving lower highs. A scatter plot of the surface pump pressure versus rate produced recognizable trend lines that verify the initiation of fractures in the open-hole interval at 868 psi. The open-hole injection zone configuration of the HD 1-X should qualify it for a substantially higher MAIP than the HD 1 well.

David L. Allin, CPG, UPG



HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Nathan Barnum
Reported By: Nathan Barnum

Customer and Well Information

Company	New Water Financial LLC	Well/Sample Name	Harley Dome 1-X SWD
Report To	Jeff Himes	Date Received	10/4/2012
		Date Tested	10/5/2012

Sample Physical Characteristics

Sample 1	W454				
Temperature	66.0	°F	Resistivity	0.7	Ω·m
Specific Gravity	1.008		Conductivity	25.7	mS/cm
pH	7.9		TDS	14600.0	mg/L
Turbity		FNU	Color (observation)	Clear	

Sample Chemical Characteristics

Anions			Cations		
Chloride	5163	mg/L	Total Iron	1.1	mg/L
Sulfate	30	mg/L	Ferrous Iron	0.3	mg/L
Carbonate	0	mg/L	Potassium	13	mg/L
Bicarbonate	250	mg/L	Calcium	210	mg/L
Hydroxide	0	mg/L	Magnesium	190	mg/L
			Sodium (calculated)	2848	mg/L

General Comments

Sample 1 - Bottoms up from overnight fill at TD 611' KB. Collected at 08:45 14-4-12.

David L. Allin Notes: Sample 1 was collected from two to three Bbls of formation water that seeped into the well overnight from cessation of operations at 16:25 10-3-12 until circulation was established again at 08:45 10-4-12. The water was commingled from the lower layers of the Cedar Mountain Formation below the surface casing shoe at 171', the Brushy Basin Member of Morrison Formation that was topped at 183' and the upper layers of the Salt Wash Member of Morrison Formation that was topped at 557'. The dilutive effects of circulating air injected with fresh water and surfactant while drilling which coated the borehole wall are included in this sample.

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New Water Financial, LLC
Docket No. 2012-028
Cause No. 279-01
Exhibit No. 23

HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Deba shafiee
Reported By: Deba shafiee

Customer and Well Information

Company	New Water Financial INC	Well/Sample Name	HD-1-X SWD
Report To	Frac Engineering	Date Received	10/6/2012
		Date Tested	10/7/2012

Sample Physical Characteristics

Sample 1	HD-1-X-SWD 1011' #2 9:27		Sample 2	HD-1-X-SWD #3 13:30 Retrn	
Temperature	68.7	°F	Temperature	68.9	°F
Specific Gravity	1.020		Specific Gravity	1.029	
pH	7.1		pH	7.6	
Turbity	106.0	FNU	Turbity	1041.0	FNU
Resistivity	0.3	Ω·m	Resistivity	0.5	Ω·m
Conductivity	33.0	mS/cm	Conductivity	64.0	mS/cm
TDS	18700.0	mg/L	TDS	17200.0	mg/L
Color (observation)	lite yellow		Color (observation)	lite Pink/Cloudy	

Sample Chemical Characteristics

Anions			Cations		
Chloride	14580	mg/L	Chloride	9447	mg/L
Sulfate	0	mg/L	Sulfate	230	mg/L
Carbonate	0	mg/L	Carbonate	0	mg/L
Bicarbonate	228	mg/L	Bicarbonate	176	mg/L
Hydroxide	0	mg/L	Hydroxide	0	mg/L
Total Iron	4.5	mg/L	Total Iron	0.5	mg/L
Ferrous Iron	0.4	mg/L	Ferrous Iron	0.1	mg/L
Potassium	47	mg/L	Potassium	84	mg/L
Calcium	1556	mg/L	Calcium	960	mg/L
Magnesium	344	mg/L	Magnesium	100	mg/L
Sodium (calculated)	7073	mg/L	Sodium (calculated)	4963	mg/L

General Comments

for sample labled #3 Turbidity was masured when the solids were stettled out.

David L. Allin Notes: Sample 2 was collected from bottoms-up circulation of overnight fill at interim TD 1011' with 123' of the Curtis/Entrada aquifer opened. Sample 3 of drilling returns from 1220' in the upper Kayenta Formation included full participation of the Curtis/Entrada aquifer and dilution from fresh water/surfactant injection into air circulation system.

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HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Jason Martinez
Reported By: Jason Martinez

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/8/2012
		Date Tested	10/8/2012

Sample Physical Characteristics

Sample 1	W465 Early Bottoms Up		Sample 2	W466 Late Bottoms Up	
Temperature	68.5	°F	Temperature	68.0	°F
Specific Gravity	1.015		Specific Gravity	1.022	
pH	7.1		pH	6.4	
Turbity	186.0	FNU	Turbity	299.0	FNU
Resistivity	0.3	Ω'm	Resistivity	0.3	Ω'm
Conductivity	3.9	mS/cm	Conductivity	3.9	mS/cm
TDS		mg/L	TDS		mg/L
Color (observation)	Yellow		Color (observation)	Yellow	

Sample Chemical Characteristics

Anions			Cations		
Chloride	9447	mg/L	Chloride	12948	mg/L
Sulfate	50	mg/L	Sulfate	40	mg/L
Carbonate	0	mg/L	Carbonate	0	mg/L
Bicarbonate	395	mg/L	Bicarbonate	915	mg/L
Hydroxide	0	mg/L	Hydroxide	0	mg/L
Total Iron	13.8	mg/L	Total Iron	26.7	mg/L
Ferrous Iron	0.9	mg/L	Ferrous Iron	14.9	mg/L
Potassium	46	mg/L	Potassium	205	mg/L
Calcium	1170	mg/L	Calcium	4225	mg/L
Magnesium	555	mg/L	Magnesium	1650	mg/L
Sodium (calculated)	3864	mg/L	Sodium (calculated)	646	mg/L

General Comments

Sample's TDS was above the measuring range of the lab TDS meter. TDS had to be calculated. W465 TDS= 15,481 W466 TDS= 20,424

David L. Allin Notes: Sample 1 (4) was collected at 13:55 on October 8, 2012 from early circulation of overnight fill using drilling mud from interim TD 1352' with 10' of the Wingate Sandstone open. The sample included commingled Curtis/Entrada water diluted with fresh water/surfactant injection from the air circulation system. Sample 2 (5) was taken at 14:15 to characterize late bottoms-up flowback of formation water from the top of the Wingate Sandstone aquifer which appeared to contain gray HD 1 injectate that slugged periodically possibly from April 15, 2012 acid That theory was verified by low pH and higher TDS level in Sample 2 (5) compared with Sample 1 (4).

HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Lucas Daniel
Reported By: Lucas Daniel

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/11/2012
		Date Tested	10/11/2012

Sample Physical Characteristics

Sample 1 W475 #7

Temperature	67.2	°F	Resistivity	0.3	Ω/m
Specific Gravity	1.114		Conductivity	45.9	mS/cm
pH	7.0		TDS		mg/L
Turbity	14.8	FNU	Color (observation)	Redish	

Sample Chemical Characteristics

Anions			Cations		
Chloride	10434	mg/L	Total Iron	1.2	mg/L
Sulfate	10	mg/L	Ferrous Iron	0.4	mg/L
Carbonate	0	mg/L	Potassium	93	mg/L
Bicarbonate	375	mg/L	Calcium	1935	mg/L
Hydroxide	0	mg/L	Magnesium	770	mg/L
			Sodium (calculated)	3181	mg/L

General Comments

0

David L. Allin Notes: Sample 1 (7) was collected at 14:28 on October 11, 2012 from returns while drilling at 1430' with 88' of Wingate Sandstone open beneath the 7" casing shoe. The sample included dilution from fresh water/surfactant injection into air circulation system. TDS was not reported but estimated to be in excess of 17,000 mg/L. Note that the SG reported is too high.

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HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Lucas Daniel
Reported By: Lucas Daniel

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/11/2012
		Date Tested	10/11/2012

Sample Physical Characteristics

Sample 1 W476 #8

Temperature	67.4	°F	Resistivity	0.3	Ω'm
Specific Gravity	1.113		Conductivity	62.0	mS/cm
pH	7.2		TDS		mg/L
Turbity	74.6	FNU	Color (observation)	Gray	

Sample Chemical Characteristics

Anions			Cations		
Chloride	12948	mg/L	Total Iron	3.9	mg/L
Sulfate	10	mg/L	Ferrous Iron	1.8	mg/L
Carbonate	0	mg/L	Potassium	99	mg/L
Bicarbonate	830	mg/L	Calcium	3035	mg/L
Hydroxide	0	mg/L	Magnesium	750	mg/L
			Sodium (calculated)	3752	mg/L

General Comments

0

David L. Allin Notes: Sample 1 (8) was collected at 14:55 on October 11, 2012 from returns while drilling at 1470' with 128' of Wingate Sandstone open beneath the 7" casing shoe. The sample included dilution from fresh water/surfactant injection into air circulation system. TDS was not reported but estimated to be in excess of 20,000 ppm. Note that the SG reported is too high.

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HALLIBURTON

Rockies Lab Water Analysis Report
District: Grand Junction

Tested By: Lucas Daniel
Reported By: Lucas Daniel

Customer and Well Information

Company	New Water Financial	Well/Sample Name	HD 1-X SWD
Report To	Jeff Himes	Date Received	10/11/2012
		Date Tested	10/11/2012

Sample Physical Characteristics

Sample 1 W477 #9

Temperature	66.5	°F	Resistivity	0.3	Ω'm
Specific Gravity	1.176		Conductivity	62.9	mS/cm
pH	7.3		TDS		mg/L
Turbity	37.0	FNU	Color (observation)	Yellowish	

Sample Chemical Characteristics

Anions			Cations		
Chloride	14730	mg/L	Total Iron	0.3	mg/L
Sulfate	10	mg/L	Ferrous Iron	0.3	mg/L
Carbonate	0	mg/L	Potassium	210	mg/L
Bicarbonate	760	mg/L	Calcium	2985	mg/L
Hydroxide	0	mg/L	Magnesium	660	mg/L
			Sodium (calculated)	5048	mg/L

General Comments

0

David L. Allin Notes: Sample 1 (9) was collected at 15:50 on October 11, 2012 from returns while drilling at 1544' with 202' of Wingate Sandstone open beneath the 7" casing shoe. The sample included dilution from fresh water/surfactant injection into air circulation system. TDS was not reported but estimated to be in excess of 25,000 ppm. Note that the SG reported is too high.

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Proposed

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES

STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF NEW WATER FINANCIAL, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1-X SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	)	**FINDINGS OF FACT, CONCLUSIONS OF LAW, AND REMAND ORDER** **Docket No. 2012-28** **Cause No. 279-01**

This Cause came on regularly for hearing before the Utah Board of Oil, Gas and Mining (the "Board") on Wednesday, October 24, 2012, at the hour of 9:00 a.m. in the Colorado Room of Red Cliffs Lodge, Mile Post 14 Highway 128, Moab, Utah. The following Board members were present and participated in the hearing: James T. Jensen, Chairman, Ruland J. Gill, Jr., Kelly L. Payne, Chris Hansen, and Carl Kendell. John R. Baza, Director, and John Rogers, Associate Director—Oil and Gas, were present for the Utah Division of Oil, Gas and Mining (the "Division"). The Board was represented by Michael S. Johnson, Assistant Attorney General.

The petitioner, New Water Financial, LLC ("New Water"), was represented by Thomas W. Clawson of Van Cott, Bagley, Cornwall & McCarthy. The Division was represented by Steven F. Adler, Assistant Attorney General. Respondent Living Rivers was represented by Patrick A. Shea. No other persons or parties appeared at or participated in the hearing.

At the hearing and based on the Stipulation between New Water and Living Rivers filed in this Cause, Living Rivers made an oral motion to withdraw its Objection to New Water's Request for Agency Action. Also at the hearing and based on the Stipulation and Living Rivers'

motion, New Water made an oral motion for the Board to remand this Cause to the Division for its administrative review and approval of New Water's Application for the Harley Dome #1-X SWD Well as a Class II injection well (the "Subject Well"). The Board granted both motions.

The Board, having fully considered New Water's and Living Rivers' motions, being fully advised, and good cause appearing, hereby makes the following findings of fact, conclusions of law, and order:

FINDINGS OF FACT

1. New Water filed its Request for Agency Action (the "Request") in this Cause on August 8, 2012. The Request was scheduled to be heard by the Board at its regularly scheduled September 26, 2012 hearing. Concurrently with the Request, New Water also filed its Motion to Convert Informal Adjudicative Proceeding (the "Motion to Convert").

2. The Presiding Officer in the informal adjudicative proceeding granted New Water's Motion to Convert by that certain Order Converting Informal Adjudicative Proceeding issued September 10, 2012.

3. Notices of the time, place, and purposes of the Board's regularly scheduled September 26, 2012 hearing were mailed to all interested parties by first-class mail, postage prepaid, and were duly published in the Salt Lake Tribune, Deseret News, and the Moab Times Independent pursuant to the requirements of Rules R641-106-100 and R649-5-3(2), Utah Administrative Code (U.A.C.). Copies of the Request were mailed or emailed by New Water to all interested parties pursuant to Rule R641-104-135, U.A.C.

4. On September 10, 2012, Living Rivers filed its Objection to Granting the Application of New Water Financial, LLC for the Administrative Approval of the Harley Dome 1-X SWD Well Located in Section 10, Township 19 South, Range 25 East, S.L.M., Grand County,

Utah, as a Class II Injection Well (the "Objection"). Living Rivers' Objection was the only response to the Request that was filed in this Cause.

5. On September 19, 2012, New Water filed a Motion to Continue Hearing (the "Motion to Continue"), which sought to continue the hearing in this Cause from the September 26, 2012 hearing to the Board's October 24, 2012 regularly scheduled hearing. The Motion to Continue was mailed to all of the interested parties. Living Rivers did not oppose the Motion to Continue. New Water's Motion to Continue was granted by the Board's Order Continuing Hearing issued on September 26, 2012, which also was mailed to all of the interested parties. Notice of the Board's October 24, 2012 hearing was duly published in the Salt Lake Tribune, Deseret News, and Moab Times Independent newspapers.

6. On October 18, 2012, New Water and Living Rivers filed their joint Stipulation, wherein those parties agreed that the Board could include in its order regarding the Subject Well certain conditions as specified in paragraph 4 of the Stipulation.

7. At the October 24, 2012 hearing, Living Rivers moved the Board for leave to withdraw its Objection based on the parties' Stipulation (the "Motion to Withdraw Objection") and New Water moved the Board to enter an order remanding this Cause to the Division for its administrative review and approval and that such an order should contain the conditional provisions agreed to by New Water and Living Rivers as stated in the Stipulation (the "Motion to Remand").

8. After deliberating, the Board voted to grant Living Rivers' Motion to Withdraw Objection and New Water's Motion to Remand.

CONCLUSIONS OF LAW

1. Due and regular notice of the time, place, and purposes of the Board's regularly scheduled September 26, 2012 and October 24, 2012 hearings was given to all interested

parties in the form and manner and within the time required by law and the rules and regulations of the Board. Due and regular notice of the filing of the Request was given to all interested parties in the form and manner required by law and the rules and regulations of the Board.

2. The Board has exclusive jurisdiction of the parties and subject matter of the Request, and has the power and authority to make and issue the order herein set forth pursuant to Sections 40-6-5(5)(a) and 63G-4-202(3) of the Utah Code Annotated and Rules R649-5-1 and R649-5-3(4), U.A.C.

3. Good cause appears to grant Living Rivers' Motion to Withdraw Objection and New Water's Motion to Remand.

ORDER

Based upon New Water's Request for Agency Action and Living Rivers' Motion to Withdraw Objection and New Water's Motion to Remand, both made at the Board's October 24, 2012 hearing, and the findings of fact and conclusions of law as stated above, it is therefore ordered that:

1. Living Rivers' Motion to Withdraw Objection and New Water's Motion to Remand are granted.

2. Living Rivers' Objection is hereby withdrawn and this Cause is hereby remanded to the Division for its administrative review and approval of New Water's Application for Administrative Approval of the Harley Dome 1-X SWD Well as a Class II injection well.

3. Pursuant to New Water's and Living Rivers' agreement as provided in paragraph 4 of the Stipulation, the Board hereby adopts herein the following provisions of the Stipulation:

(a) In the event that the Division approves New Water's UIC Application regarding the Subject Well, New Water shall drill a monitoring well to monitor the approved injection operations (the "Monitoring Well") at a location and to a depth to be agreed to by New Water and Living Rivers. If New Water and Living Rivers cannot reach such an agreement within 90 days after sustained injection operations in the Subject Well have commenced, either New Water or Living Rivers may petition the Board to set a public hearing regarding such Monitoring Well.

(b) If a Monitoring Well is not drilled within one year after this Order is issued and New Water and Living Rivers have not agreed in writing to an extension of time to drill such well, either New Water or Living Rivers may petition the Board to set a public hearing regarding such Monitoring Well, and the injection operations in the Subject Well shall be shut in, if possible, or reduced to the extent possible without damaging the Subject Well pending the outcome of the hearing.

(c) If the hydraulic data obtained from the Subject Well and the Monitoring Well indicate that the approved injection operations may significantly affect the hydraulic gradient in the Wingate Sandstone between the Subject Well and the Colorado River at the position of the Monitoring Well because the gradient at that position is less than 0.001 ft/ft sloping away from the Colorado River and New Water and Living Rivers cannot agree how to modify the injection operations in a manner consistent with this Order and the Division's supervision of the operations to eliminate the impact to the hydraulic gradient, either New Water or Living Rivers may petition the Board to set a public hearing regarding the approved injection operations, and the injection operations in the Subject Well shall be shut in, if possible, or reduced

to the extent possible without damaging the Subject Well pending the outcome of the public hearing.

4. This Findings of Fact, Conclusions of Law, and Remand Order ("Order") is based exclusively on the record in the adjudicative proceeding or on facts officially noted, and constitutes the signed written order stating the Board's decision and the reasons for the decision, all as required by the Utah Administrative Procedures Act, Utah Code Ann. § 63G-4-208 and U.A.C. Rule R641-109.

5. Notice re Right to Request Board Reconsideration: The Board hereby notifies all parties in interest that Utah Administrative Code Rule R641-110-100, which is part of a group of Board rules entitled, "Rehearing and Modification of Existing Orders," states:

> Any person affected by a final order or decision of the Board may file a petition for rehearing. Unless otherwise provided, a petition for rehearing must be filed no later than the 10th day of the month following the date of signing of the final order or decision for which the rehearing is sought. A copy of such petition will be served on each other party to the proceeding no later than the 15th day of that month.

Id. See Utah Administrative Code R641-110-200 for the required contents of a petition for rehearing. If the Board later denies a timely petition for rehearing, the party may still seek judicial review of the Order by perfecting a timely appeal with the Utah Supreme Court within 30 days thereafter.

6. The Board retains continuing jurisdiction over all the parties and over the subject matter of this Cause, except to the extent said jurisdiction may be divested by the filing of a timely appeal to seek judicial review of this Order by the Utah Supreme Court.

7. For all purposes, the Chairman's signature on a faxed copy of this Order shall be deemed the equivalent of a signed original.

DATED this _____ day of November, 2012.

STATE OF UTAH
BOARD OF OIL, GAS AND MINING

By_____
James T. Jensen, Chairman

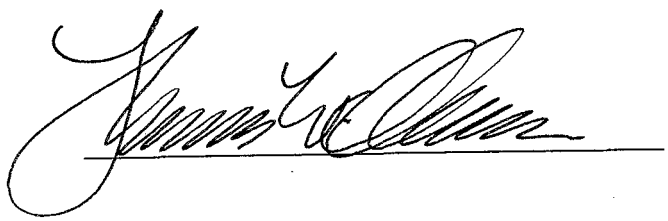
CERTIFICATE OF MAILING

I hereby certify that on this 30th day of October, 2012, I caused a true and correct copy of the foregoing Findings of Fact, Conclusions of Law, and Remand Order to be served via U.S. Mail, properly addressed with postage prepaid, upon each of the following:

Steven F. Alder
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Michael S. Johnson
Assistant Attorney General
Board of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Patrick A. Shea
Attorneys for Living Rivers
252 South 1300 East, Suite A
Salt Lake City, Utah 84102



4840-2783-5409, v. 1

Mark Reinbold - Fwd: Trans copy of HD 1-X SWD WCR & att

From: Brad Hill
To: Reinbold, Mark
Date: 10/29/2012 8:27 AM
Subject: Fwd: Trans copy of HD 1-X SWD WCR & att
Attachments: HD 1-X SWD WCR 2012-10-28.pdf; HD 1-X SWD WCR att 2012-10-28.pdf

>>> "David L Allin" <allinpro@bresnan.net> 10/28/2012 5:04 PM >>>
Brad,

I have filled out, signed and scanned a Form 8 WCR for the Harley Dome 1-X SWD that resulted in one of the two attached files. The other file contains some WCR attachments including a well diagram, the cement job report for the 7" casing and charts of the 7" casing test and final S-RT and MIT. Earlier today I filed a Sundry Notice on the ePermit system which contained the October status report of daily operations on the well through its completion ready for service. You already have the CBL and GR correlation log from this well that was recorded by RMWS on October 12, plus the UIC compliance submissions I transmitted last week, and that should round out the final submissions for this well. If you have any questions, comments or requirements to finish up the UIC permit please let me know. I am available any time. My client is very interested to see how the new well will perform as an injector.

Dave

David L. Allin, CPG, UPG
Consultant to New Water Financial
Vice President-Exploration Manager
Del-Rio Resources, Inc.
AAPG DPA Certified Petroleum Geologist 2934
Utah Professional Geologist DOPL 5526699
475 Seasons Drive
Grand Junction, CO 81507-8749
970-254-3114
allinpro@bresnan.net

From: "David L Allin" <allinpro@bresnan.net>
To: "Mark Reinbold" <markreinbold@utah.gov>
Date: 11/2/2012 3:05 PM
Subject: NWF HD 1-X SWD daily reports
Attachments: Form 9 HD 1-X SWD Oct Status Rpt filed 2012-10-28.pdf

Hi Mark,

Here is a copy of the file that I uploaded to the ePermit system last weekend for the October Status Report on the HD 1-X. The simplest synopsis of the 7" cement job other than the WCR is listed in the entry for October 9. If you have any other questions, give me a call.

Dave

David L. Allin, CPG, UPG

Consultant to New Water Financial

Vice President-Exploration Manager

Del-Rio Resources, Inc.

AAPG DPA Certified Petroleum Geologist 2934

Utah Professional Geologist DOPL 5526699

475 Seasons Drive

Grand Junction, CO 81507-8749

970-254-3114

allinpro@bresnan.net

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
HARLEY DOME 1-X SWD

2. NAME OF OPERATOR:
NEW WATER FINANCIAL LLC

9. API NUMBER:
43019500230000

3. ADDRESS OF OPERATOR:
1716 East Lincoln Ave Ste 1 , Fort Collins, CO, 80524

PHONE NUMBER:
970 567-1414 Ext

9. FIELD and POOL or WILDCAT:
GREATER CISCO

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0501 FNL 2139 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 10 Township: 19.0S Range: 25.0E Meridian: S

COUNTY:
GRAND

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 10/28/2012	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

October, 2012 and final status report. See attachment for daily details of operations.

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
David L. Allin	970 254-3114	Utah PG

SIGNATURE	DATE
N/A	10/28/2012

RECEIVED: Oct. 28, 2012

Attachment to Form 9 Dated October 28, 2012

Monthly Status Report of Operations Conducted during October, 2012
New Water Financial, LLC Harley Dome 1-X SWD, API No. 43-019-50023
NWNE Section 10, T19S, R25E, SLM, Grand County, Utah
Submitted by David L. Allin
Note: All depths recited are below KB elevation 4,874'

2012-10-01 Cement top on 9.625" csg held OK; 09:05 began csg pressure test with 180 psi air pressure; 09:15 ended csg pressure test with 180 psi air pressure; RU to drill through surface csg shoe; Dug blooie pit; 171' TD in Cedar Mountain Fm; SDFN

2012-10-02 08:30 lined blooie pit with two layers of 6 mil poly film; 12:00 tagged up on 9.625" float collar with 8.75" PDC bit on DC's and began circulation; 12:15 suspended operations to repair injection pump; 171' TD in Cedar Mountain Fm; SDFN

2012-10-03 08:45 began circulation; 08:57 began drilling float; 10:44 full 265' BHA in hole: 8.75" bit; Bit sub; 2 6.25" DC's; X-over; 5 4.75" DC's, 5 3.75" DC's and X-over (all DC's & DP 20' jts); 16:21 completed drilling for the day & POOH 1 std; 611' TD in Salt Wash Member of Morrison Fm; SDFN

2012-10-04 08:45 TIH 1 std, began circulation & unloaded hole; 08:47 collected Water Sample 1 from 2 to 3 bbl of overnight fill; **Water Analysis Report of Sample 1 (Halliburton W454 2012-10-05): Temp 66.0° F; SG 1.008; pH 7.9; Rw 0.7 Ω-m; Conductivity 25.7 mS/cm; TDS 14,600 mg/L; Chloride 5,163 mg/L; Sulfate 30 mg/L; Carbonate 0 mg/L; Bicarbonate 250 mg/L; Hydroxide 0 mg/L; Total Fe 1.1 mg/L; K 13 mg/L; Ca 210 mg/L; Mg 190 mg/L and Na 2,848 mg/L**; 09:01 began drilling continuation of 8.75" hole from 611'; 16:27 completed drilling for the day & POOH 10 stds; 1011' TD in Slick Rock Member of Entrada Ss; SDFN

2012-10-05 09:00 TIH 10 stds; 09:20 unloaded hole with 290 psi air pressure from 971' indicating the fluid level was near 315'; 09:27 collected Water Sample 2 from commingled bottoms-up circulation; **Water Analysis Report of Sample 2 (Halliburton W462-S1 2012-10-07): Temp 68.7° F; SG 1.020; pH 7.1; Rw 0.3 Ω-m; Conductivity 33.0 mS/cm; TDS 18,700 mg/L; Chloride 14,580 mg/L; Sulfate 0 mg/L; Carbonate 0 mg/L; Bicarbonate 228 mg/L; Hydroxide 0 mg/L; Total Fe 4.5 mg/L; K 47 mg/L; Ca 1,556 mg/L; Mg 344 mg/L and Na 7,073 mg/L**; 10:38 began drilling continuation of 8.75" hole from 1011' with 21' DP jt with string float; 13:30 collected Water Sample 3 from drilling returns from 1220' in the upper Kayenta Fm with all of the overlying Curtis/Entrada aquifer open and adding 2 to 3 bbl per hour to returns; **Water Analysis Report of Sample 3 (Halliburton W462-S2 2012-10-07): Temp 68.9° F; SG 1.029; pH 7.6; Rw 0.5 Ω-m; Conductivity 64.0 mS/cm; TDS 17,200 mg/L; Chloride 9,447 mg/L; Sulfate 230 mg/L; Carbonate 0 mg/L; Bicarbonate 176 mg/L; Hydroxide 0 mg/L; Total Fe 0.5 mg/L; K 84 mg/L; Ca 960 mg/L; Mg 100 mg/L and Na 4,963 mg/L**; 17:11 8.75" hole TD called at 1352' after show of gray water presumed to be Harley Dome 1 injectate in returns & POOH 21 stds; 1352' TD in top of Wingate Ss; SDFWE

2012-10-06 SDFWE

2012-10-07 SDFWE

2012-10-08 09:00 began mixing pure gel mud, RD blooie line & RU to circulate mud; 12:45 TIH 21 stds to circulate mud & condition hole to run casing; 13:41 began circulating mud & unload formation water from hole just above TD 1352'; 13:55 collected Water Sample 4 from early returns of displaced formation water fill-up from over the weekend; **Water**

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Analysis Report of Sample 4 (Halliburton W465 2012-10-08): Temp 68.5° F; SG 1.015; pH 7.1; Rw 0.3 Ω-m; Conductivity 3.9 (?) mS/cm; TDS 15,481 mg/L; Chloride 9,447 mg/L; Sulfate 50 mg/L; Carbonate 0 mg/L; Bicarbonate 395 mg/L; Hydroxide 0 mg/L; Total Fe 13.8 mg/L; K 46 mg/L; Ca 1,170 mg/L; Mg 555 mg/L and Na 3,864 mg/L; 14:15 collected Water Sample 5 from late returns of displaced formation water fill-up from over the weekend including gray water presumed to be Harley Dome 1 injectate; **Water Analysis Report of Sample 5 (Halliburton W466 2012-10-08): Temp 68.0° F; SG 1.022; pH 6.4; Rw 0.3 Ω-m; Conductivity 3.9 (?) mS/cm; TDS 20,424 mg/L; Chloride 12,948 mg/L; Sulfate 40 mg/L; Carbonate 0 mg/L; Bicarbonate 915 mg/L; Hydroxide 0 mg/L; Total Fe 26.7 mg/L; K 205 mg/L; Ca 4,225 mg/L; Mg 1,650 mg/L and Na 646 (?) mg/L**; 14:30 mud circulated around with no apparent loss; 15:00 RU to run 7" csg; Notified Bart Kettle-DOGM of csg cement & csg test schedule; 1352' TD in top of Wingate Ss; SDFN

2012-10-09 09:15 RU Weatherford csg crew & checked tools; 11:15 PU first jt of 7" csg; 15:00 landed 7" J-55, 20.0 ppf, 8 rd ST&C casing at 1342' with guide shoe on bottom & cement float collar on top of first jt & a total of 6 centralizers placed immediately above cmt guide shoe, over every other collar above & over second collar down from top; 15:15 RDMO Weatherford & MIRU Halliburton; 15:30 RU blooie line to direct returns to blooie pit; 16:49 began pumping spacer & got returns in less than 1 min indicating the hole had remained nearly full; 16:58 began pumping lead cmt; 17:04 began pumping tail cmt; 17:16 dropped top plug & began displacement; 17:27 bumped plug after circulating 20 bbl lead cmt to blooie pit witnessed by Bart Kettle; 17:41 successfully completed 10 min csg pressure test at 1,500 psi witnessed by Bart Kettle; Cement used for lead was Class H (Versacem™) slurry mixed with 86 sx to yield 2.38 cuft/sk & 12.3 lbs/gallon & total volume of 204.7 cuft or 36.5 bbl; Cement used for tail was Class G (Halcem™) slurry mixed with 110 sx to yield 1.17 cuft/sk & 15.8 lbs/gallon & total volume of 128.7 cuft or 22.9 bbl; Total cement job used 196 sx to yield 59.5 bbl displaced with 53.0 bbl of water; Net cement job used 39.5 bbl with under 2 bbl unaccounted for; No immediate fallback of cmt top; Samples of the slurries were collected & preserved; 17:50 RDMO Halliburton; 1342' TD in lower Kayenta Fm; WOC & SDFN

2012-10-10 Cut off 7" casing & RU rotating head to continue drilling with 6.25" PDC bit circulating air/foam; Collected Water Sample 6 of commingled, filtered injectate inventory of 4,000 bbl stored on site to be used for step-rate injection testing; **Water Analysis Report of Sample 6 (Halliburton W470 2012-10-10): Temp 68.0° F; SG 1.142; pH 6.2; Rw 0.05 Ω-m; TDS 90,429 mg/L; Chloride 63,560 mg/L; Sulfate 820 mg/L; Carbonate 0 mg/L; Bicarbonate 230 mg/L; Hydroxide 0 mg/L; Total Fe 67.0 mg/L; K 620 mg/L; Ca 7,190 mg/L; Mg 2,560 mg/L and Na 28,173 mg/L**; Notified Bart Kettle of schedule for sampling Wingate Ss injection zone water while drilling the following day; 1342' TD in lower Kayenta ; WOC & SDFN

2012-10-11 09:00 TIH with 6.25" PDC bit; 203' BHA in hole: 6.25" bit; Bit sub; 5 4.75" DC's, 5 3.75" DC's & X-over (all DC's & DP 20' jts); 09:58 unloaded displacement water from 7" csg; 12:33 began drilling through FC in 7"csg; 13:45 drilled through 7" csg guide shoe & began drilling 6.25" open hole injection segment of well; 14:28 collected Water Sample 7 from returns while drilling at 1430' with 88' of Wingate Ss open & yielding water at 10 bbl per hour; **Analysis Report of Sample 7 (Halliburton W475 2012-10-11): Temp 67.2° F; SG 1.114 (?); pH 7.0; Rw 0.3 Ω-m; Conductivity 45.9 mS/cm; TDS 13,500 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 10,434 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 375 mg/L; Hydroxide 0 mg/L; Total Fe 1.2 mg/L; K 93**

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	mg/L; Ca 1,935 mg/L; Mg 770 mg/L and Na 3,181 mg/L; 14:55 collected Water Sample 8 from returns while drilling at 1470' with 128' of Wingate Ss open & yielding water at 15 bbl per hour; **Analysis Report of Sample 8 (Halliburton W476 2012-10-11): Temp 67.4° F; SG 1.113 (?); pH 7.2; Rw 0.3 Ω-m; Conductivity 62.0 mS/cm; TDS 17,573 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 12,948 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 830 mg/L; Hydroxide 0 mg/L; Total Fe 3.9 mg/L; K 99 mg/L; Ca 3,035 mg/L; Mg 750 mg/L and Na 3,752 mg/L**; 15:50 collected Water Sample 9 from returns while drilling at 1544' with 202' of Wingate Ss open & yielding water at 20 bbl per hour; **Analysis Report of Sample 9 (Halliburton W477 2012-10-11): Temp 66.5° F; SG 1.176 (?); pH 7.3; Rw 0.3 Ω-m; Conductivity 62.9 mS/cm; TDS 19,145 mg/L (Est. by Halliburton lab technician 2012-10-22); Chloride 14,730 mg/L; Sulfate 10 mg/L; Carbonate 0 mg/L; Bicarbonate 760 mg/L; Hydroxide 0 mg/L; Total Fe 0.3 mg/L; K 210 mg/L; Ca 2,985 mg/L; Mg 660 mg/L and Na 5,048 mg/L**; Water sample collections witnessed by Bart Kettle; The water sample bottles were sealed with tape and accompanied by a chain of custody document; 17:50 6.25" hole & well TD called at 1684' after Chinle Fm was identified in drill cuttings; 18:00 conditioned hole & POOH 20 stds; 1684' TD in upper Chinle Fm; SI & SDFN
2012-10-12	08:00 Continued POOH laying down DP & DC's; 13:45 broke off bit & RU RMWS to log well; 14:15 GIH with wireline tool to record CBL/CCL/GR & found fluid level at 150'; 14:45 completed logging operation; Recorded GR for correlation from TD to the surface; CBL indicated good bond from 7" csg shoe at 1342' to 82' & poorer bond from 82' to 43' where lack of fluid in the csg ended the CBL log; The lead/tail cement interface was logged at 456'; The fluid level was raised by adding water while logging to record as close to the surface as possible; A top job to bring cement to the surface will be required due to fallback during curing process; 15:15 field prints of log completed; RDMO RMWS; 1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-13	1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-14	1684' TD in upper Chinle Fm; SI & SDFWE
2012-10-15	Removed drill rig from substructure & repositioned to run tbg; 1684' TD in upper Chinle Fm; SI & WOCT
2012-10-16	Notified Mark Jones of schedule for step-rate & mechanical integrity testing; 1684' TD in upper Chinle Fm; SI & WOCT
2012-10-17	10:00 PU first jt of 3.5" J-55 9.3 ppf EUE tbg & made up Guiberson G-1 3.5" x 7" packer on bottom with nothing below; 12:30 wellhead slips set with end of packer at 1316'; 1684' TD in upper Chinle Fm; SI
2012-10-18	09:00 MIRU Halliburton double cement pump unit and connected booster pump to tank battery with 4,000 bbl SG 1.142 filtered injectate available for step-rate test; 10:20 began pumping S-RT at 2 bpm & continued test with 1 bpm pump rate increases at 30 min intervals until a 12 bpm pump rate step began at 15:23 & was held until SD at 16:53; Subtle breakdown events were achieved during the 10 bpm rate at 868 psi; Total volume pumped 3,085 bbl; Maximum recorded pump pressure 1,145 psi; ISIP 393 psi, 5 min 372 psi, 10 min 360 psi, 20 min 343 psi & 30 min 332 psi; 17:34 began mechanical integrity test of 3.5" x 7" annulus, packer & wellhead with 1,080 psi; 18:08 MIT passed & chart of S-RT & MIT completed; All testing ops witnessed by Mark Jones; 18:15 RDMO Halliburton; 1684' TD in upper Chinle Fm; SI
2012-10-19	RDMO Propetroco Rig 1 & auxiliary equipment; 1684' TD in upper Chinle Fm; SI
2012-10-20	1684' TD in upper Chinle Fm; SI
2012-10-21	1684' TD in upper Chinle Fm; SI

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2012-10-22	1684' TD in upper Chinle Fm; SI
2012-10-23	1684' TD in upper Chinle Fm; SI
2012-10-24	1684' TD in upper Chinle Fm; SI
2012-10-25	1684' TD in upper Chinle Fm; SI
2012-10-26	13:00 inserted 1" PVC pipe into 7" x 9.625" annulus, connected to compressor & blew out fluid; Mixed 8 sx Portland cement with 5 gal water per sack to yield a 1.17 cuft/sk, 15.8 ppg Class A slurry; Removed PVC pipe, centered 7" csg & filled annulus with cmt to the surface; Total volume of 9.2 cuft enough to fill 56' of completely empty annular space & was sufficient to correct partial fallback of circulated cement to 82' (KB); 1684' TD in upper Chinle Fm; SI & final report; Waiting for authorization to begin Class II produced water injection operations under a pending UIC permit application.

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STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

11-5-2012 AMENDED REPORT ☒ (highlight changes) FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME:
8. WELL NAME and NUMBER: Harley Dome 1-X SWD
9. API NUMBER: 4301950023
10. FIELD AND POOL, OR WILDCAT: Greater Cisco
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWNE 10 19S 25E S
12. COUNTY: Grand
13. STATE: UTAH

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ OTHER Injection/Disposal

b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

2. NAME OF OPERATOR: New Water Financial, LLC

3. ADDRESS OF OPERATOR: 1716 E Lincoln Ave #1 CITY Fort Collins STATE CO ZIP 80524 PHONE NUMBER: (970) 567-1414

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: 501' FNL & 2,139' FEL
AT TOP PRODUCING INTERVAL REPORTED BELOW: 501' FNL & 2,139' FEL
AT TOTAL DEPTH: 501' FNL & 2,139' FEL

14. DATE SPUDDED: 9/25/2012
15. DATE T.D. REACHED: 10/11/2012
16. DATE COMPLETED: 10/26/2012 ABANDONED ☐ READY TO PRODUCE ☑
17. ELEVATIONS (DF, RKB, RT, GL): 4,864' GL & 4,874' KB

18. TOTAL DEPTH: MD 1,684 TVD 1,684
19. PLUG BACK T.D.: MD TVD
20. IF MULTIPLE COMPLETIONS, HOW MANY? *
21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
CBL/GR/CCL hand delivered to Bradley Hill 10/24/2012

23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☑ YES ☐ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
12.25"	9.625" J-55	36.0	0	171		A 46	10	Surface	
8.75"	7" J-55	20.0	0	~~1,342~~ → 1,341		G 196	60	82	
						A 8	2	Surface	
6.25"		Open hole		1,684					

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
3.5"	1,312	1,316						

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) Wingate Ss	1,342	1,680	1,342	1,680
(B)				
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL

29. ENCLOSED ATTACHMENTS:
☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☐ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☑ OTHER: Well diagram

30. WELL STATUS: Shut-in

(5/2000)

(CONTINUED ON BACK)

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL B (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.
Dakota Ss	40	50	Dry
	74	115	Dry
Cedar Mtn Fm	144	182	Brackish water
Morrison Fm	210	254	Brackish water
	263	274	Brackish water
	482	488	Brackish water
	557	573	Brackish water
	630	650	Brackish water
Curstis/Entrada	888	1,145	Brine water
Wingate Ss	1,342	1,680	Brine water

34. FORMATION (Log) MARKERS:

Name	Top (Measured Depth)
Dakota Ss	23
Cedar Mtn Fm	115
Morrison Fm	183
Summerville Fm	854
Moab Mbr Curtis Fm	888
Slick Rock Mbr Entrada Ss	999
Kayenta Fm	1,145
Wingate Ss	1,342
Chinle Fm	1,680

35. ADDITIONAL REMARKS (Include plugging procedure)

S-RT & MIT completed on October 18, 2012; Final work on well finished October 26, 2012; Waiting for issuance of UIC permit

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) David L. Allin TITLE Utah PG, Agent for New Water Financial, LLC

SIGNATURE D L Allin DATE 10/28/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

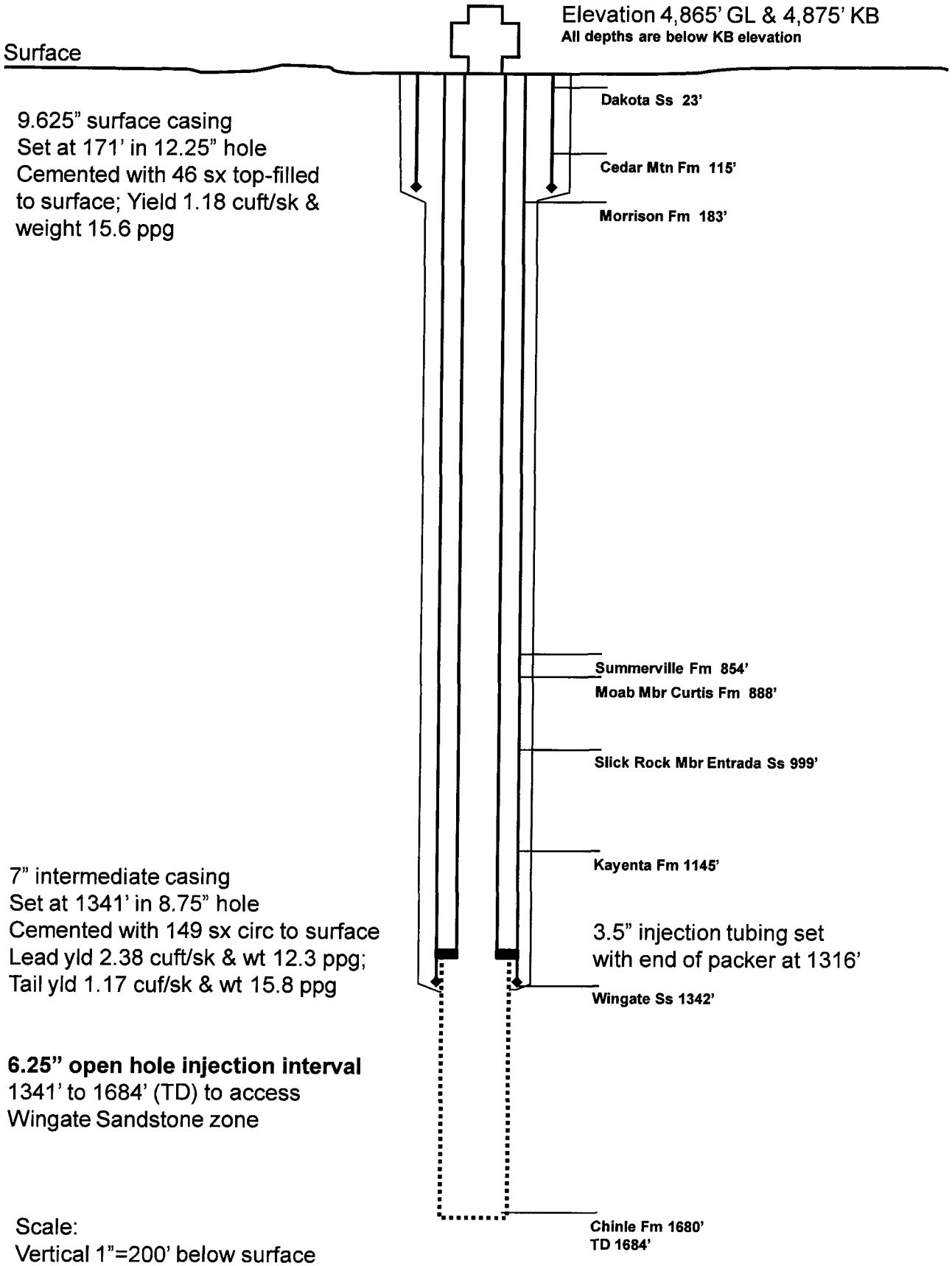
Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

(5/2000)

Schematic Diagram of Harley Dome 1-X SWD as Completed 10-26-12
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-50023)
Harley Dome, Greater Cisco Field, Grand County, Utah



Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

Drafted 10-20-12 & Revised 11-5-12

NEW WATER FINANCIAL, LLC

11/28/2012

HARLEY DOME 1, LLC

Dear Brad Hill and UDOGM Staff,

We are writing you this letter to first thank you for granting us the UIC permit for the Harley Dome #1-X SWD well and secondly to respectfully ask for the amendment of the First and Second stipulations on the aforementioned UIC permit. Since receiving the UIC permit on November 19, 2012 we have been injecting water under a pressure of 350 PSI. During this time we have found that little to no water can be injected and we are unable to sustain a viable business at under 1,000 barrels a day of injection.

We began further investigation of the exceptionally low injection volumes earlier this week. We have hired a water management company to consult as experts on our system and assess whether we could get better results from a positive displacement pump as well as many other techniques without changing the MAIP. Still, none of these techniques have allowed for an increase in daily injection volume.

Attached you will find the results from the step rate test conducted on Oct 18, 2012 by Halliburton. Based on the findings by our staff we feel the first two stipulations on the UIC permit should be amended and replaced by the following:

Do Not Exceed 9 bbls/min
Do not exceed 1000 psi bottom hole pressure

The step rate test shows that if we do not exceed these conditions we will stay well within the range of safe operating procedures.

Due to the substantial cost and effort being put into this project I respectfully ask for your prompt review and response.

Feel free to contact me with any questions or concerns.

Sincerely,

Mitch Burroughs
New Water Financial, LLC
mitch@newwaterfinancial.com
(970) 567-1414

11/27/2012

Water Injection Well BHP
Fanning, Incompressible Fluid
Tubing/Casing Configuration

Well: Hadley Dome 1-X
Field: _____
Date: _____

Conditions:

Fluid Viscosity =	0.60	cp
Fluid Density =	9.53	lbs/gal
Tubing ID =	2.995	in
Casing ID =	6.366	in
Tubing Depth-Measured =	1347	ft
Tubing Depth-True Vertical =	1347	ft
Reference Depth-Measured =	1347	ft
Reference Depth-True Vertical =	1347	ft
Pipe Roughness =	0.000650	in (0.00065 per Cullinder & Smith)

Results:

Injection Rate (BPM)	Surface Pressure (psia)	Injection Rate (BPD)	Friction Loss (psia)	Ref. Depth Pressure (psia)
0.00	0	-	0	666
2.00	220	2,880	11	876
3.00	300	4,320	23	943
4.00	380	5,760	39	1007
5.00	450	7,200	60	1056
6.00	510	8,640	85	1091
7.00	590	10,080	114	1142
8.00	660	11,520	148	1178
9.00	750	12,960	186	1230
10.00	860	14,400	228	1298
11.00	970	15,840	274	1362
12.00	1060	17,280	325	1401

11/27/2012

Water Injection Well BHP
Fanning, Incompressible Fluid
Tubing/Casing Configuration

Well: Harley Dome 1-X
Field: _____
Date: _____

Conditions:

Fluid Viscosity =	0.60	cp
Fluid Density =	8.51	lbs/gal
Tubing ID =	2.995	in
Casing ID =	6.366	in
Tubing Depth-Measured =	1347	ft
Tubing Depth-True Vertical =	1347	ft
Reference Depth-Measured =	1347	ft
Reference Depth-True Vertical =	1347	ft
Pipe Roughness =	0.000650	in (0.00065 per Cullinder & Smith)

Results:

Injection Rate (BPM)	Surface Pressure (psia)	Injection Rate (BPD)	Friction Loss (psia)	Ref. Depth Pressure (psia)
0.00	0	-	0	595
2.00	220	2,880	10	805
3.00	300	4,320	21	874
4.00	380	5,760	36	939
5.00	450	7,200	54	991
6.00	510	8,640	77	1028
7.00	590	10,080	103	1082
8.00	660	11,520	133	1122
9.00	750	12,960	167	1178
10.00	860	14,400	205	1250
11.00	970	15,840	246	1318
12.00	1060	17,280	292	1363

GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

UNDERGROUND INJECTION CONTROL PERMIT
(Amended)

Cause No. 279-01

Operator: New Water Financial LLC

Wells: Harley Dome #1-X SWD

Location: Section 10, Township19 South, Range 25East (SLBM)

County: Grand

API No.: 43-019-50023

Well Type: Salt Water Disposal Well

Stipulations of Permit Approval

1. Maximum Allowable Bottom Hole Pressure: 1000 psi.
2. Corresponding Injection Rate: Maximum 5 barrels/minute.
3. Monitor, based on surface pressure, density of injectate (no higher than 1.144 measured with a hydrometer and conductivity meter) and friction loss calculations.
4. Injection Interval: Open hole between 1,341' and 1,684' (TD) in the Wingate Sandstone of the Glen Canyon Group.
5. A Monthly Injection Report shall be filed as required by R649-8-3.
6. A pressure gauge shall be installed to measure pressure in the casing-tubing annulus. This pressure is to be monitored and reported on the Monthly Injection Report.

Approved by: John Rogers, Associate Director — 12/4/2012 Date

JR/MLR/js
cc: Bruce Suchomel, Environmental Protection Agency
Bureau of Land Management, Moab Field Office
Grand County Planning
SITLA
Del-Rio Resources, David L. Allin
Well File
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GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

November 14, 2012

New Water Financial LLC
1716 East Lincoln Avenue, Suite 1
Fort Collins, CO 80524

Subject: Application for Class II Injection Permit, Harley Dome #1-X SWD Well, Section 10, Township 19 South, Range 25 East, SLBM, Grand County, Utah, API Well # 43-019-50023

Gentlemen:

Pursuant to Utah Admin. Code R649-5-3-3, the Division of Oil, Gas and Mining (the "Division") issues its administrative approval for conversion of the referenced well to a Class II injection well. Accordingly, the following stipulations shall apply for full compliance with this approval:

1. Compliance with all applicable requirements for the operation, maintenance and reporting for Underground Injection Control ("UIC") Class II injection wells pursuant to Utah Admin. Code R649-1 et seq.

2. Conformance with all conditions and requirements of the complete application submitted by New Water Financial LLC.

3. A casing\tubing pressure test shall be conducted prior to commencing injection.

4. Pressure shall be monitored between the surface casing and the production casing on a regular basis. Any pressure changes observed shall be reported to the Division immediately.

5. The top of the injection interval shall be limited to a depth no higher than 1,341 feet in the Harley Dome #1-X SWD well.

A final approval to commence injection will be issued upon satisfactory completion of the listed stipulations. If you have any questions regarding this approval or the necessary requirements, please contact Mark Reinbold at 801-538-5333 or Brad Hill at 801-538-5315.

Sincerely,

John Rogers
Associate Director

JR/MLR/js
cc: Bruce Suchomel, Environmental Protection Agency
Bureau of Land Management, Moab
Grand County Planning
SITLA
Del-Rio Resources, David L. Allen
Well File
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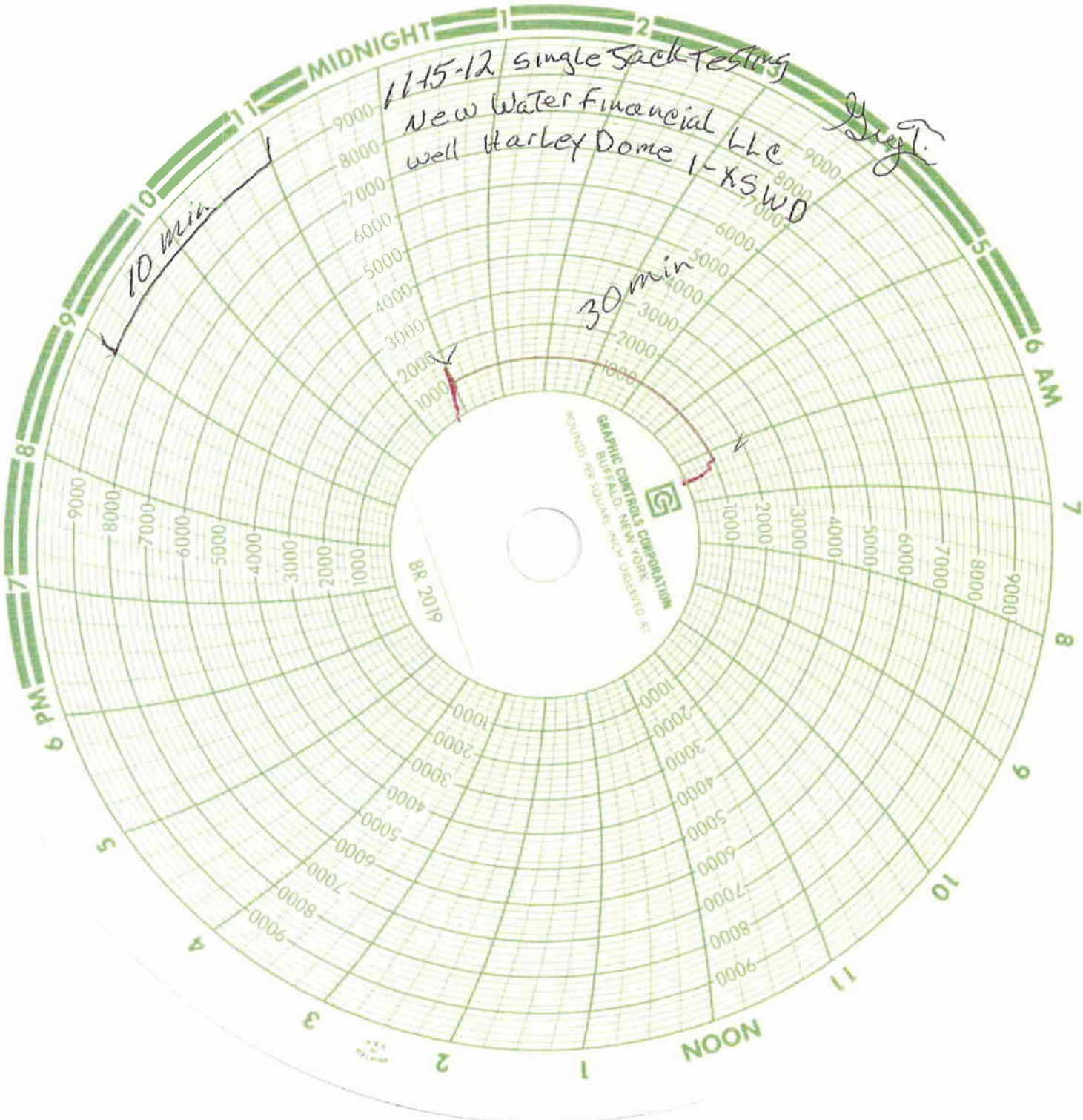
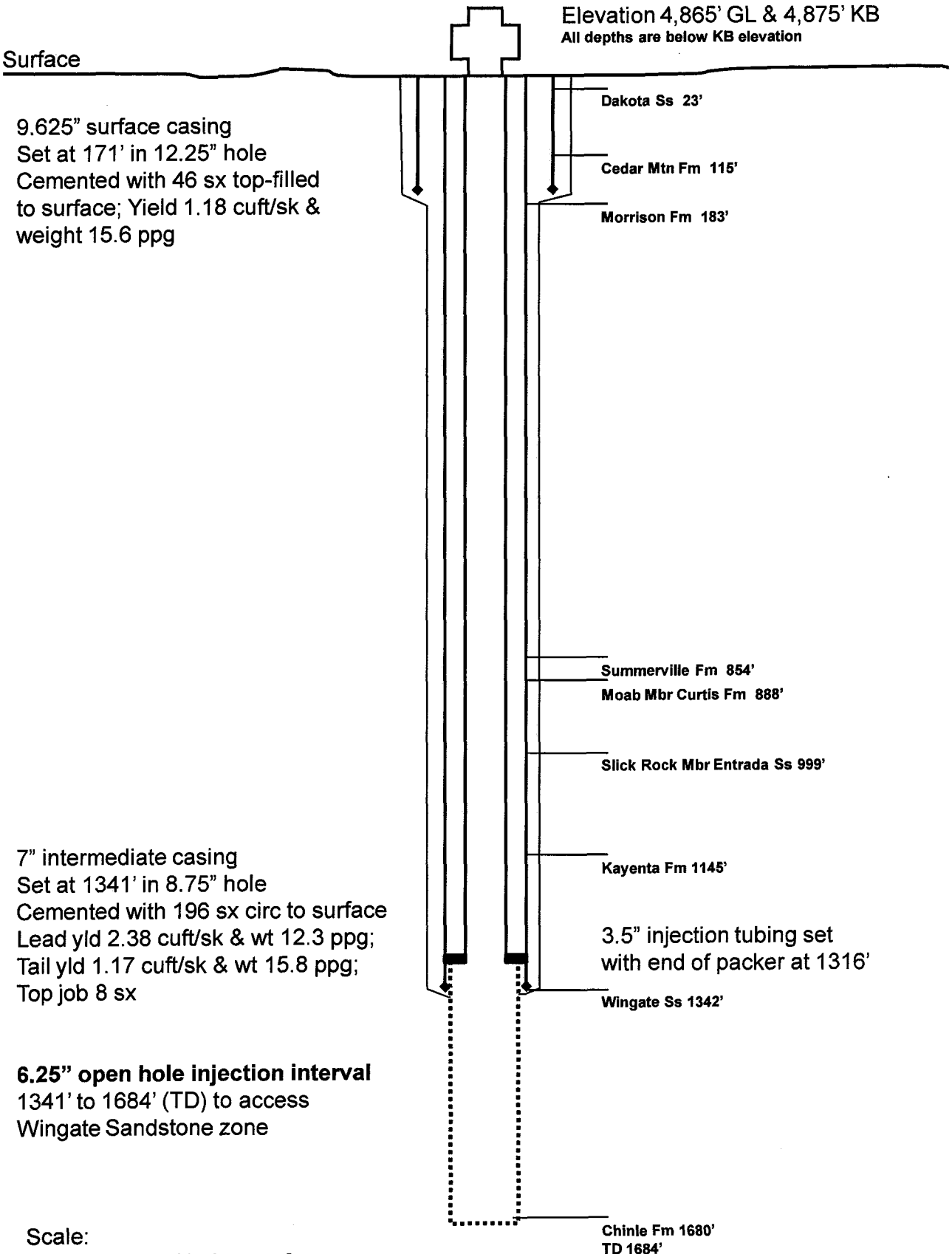

11-15-12 single Sack Testing
New Water Financial LLC
well Harley Dome 1-XSWD
10 min
30 min
MIDNIGHT
NOON
6 AM
6 PM
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
BR 2019

Schematic Diagram of Harley Dome 1-X SWD as Completed 10-26-12
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-50023)
Harley Dome, Greater Cisco Field, Grand County, Utah



Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

Drafted 10-20-12 & Revised 11-5-12

NEW WATER FINANCIAL, LLC

GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

UNDERGROUND INJECTION CONTROL PERMIT

Cause No. 279-01

Operator: New Water Financial LLC

Well: Harley Dome #1-X SWD

Location: Section 10, Township 19 South, Range 25East (SLBM)

County: Grand

API No.: 43-019-50023

Well Type: Salt Water Disposal Well

Stipulations of Permit Approval

1. Maximum Allowable Surface Pressure: 360 psi.
2. Corresponding Injection Rate: As limited by pressure.
3. Injection Interval: Open hole between 1,341' and 1,684' (TD) in the Wingate Sandstone of the Glen Canyon Group.
4. A Monthly Injection Report shall be filed as required by R649-8-3.
5. A pressure gauge shall be installed to measure pressure in the casing-tubing annulus. This pressure is to be monitored and reported on the Monthly Injection Report.

Approved by: _____ 11-19-2012
John Rogers
Associate Director
Date

JR/MLR/js
cc: Bruce Suchomel, Environmental Protection Agency
Bureau of Land Management, Moab Field Office
Grand County Planning
SITLA
Del-Rio Resources, David L. Allin
Well File
N:\O&G Reviewed Docs\ChronFile\UIC

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114 -5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR OIL, GAS & MINING

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-82619

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
HARLEY DOME 1-X SWD

2. NAME OF OPERATOR:
NEW WATER FINANCIAL LLC

9. API NUMBER:
43019500230000

3. ADDRESS OF OPERATOR:
1716 East Lincoln Ave Ste 1 , Fort Collins, CO, 80524

PHONE NUMBER:
970 567-1414 Ext

9. FIELD and POOL or WILDCAT:
GREATER CISCO

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0501 FNL 2139 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: NWNE Section: 10 Township: 19.0S Range: 25.0E Meridian: S

COUNTY:
GRAND

STATE:
UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ NOTICE OF INTENT
  Approximate date work will start:
- ✓ SUBSEQUENT REPORT
  Date of Work Completion:
  11/21/2012
- ☐ SPUD REPORT
  Date of Spud:
- ☐ DRILLING REPORT
  Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	✓ WATER DISPOSAL
☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The first day of commercial injection operations was November 21, 2012.

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
David L. Allin	970 254-3114	Utah PG
SIGNATURE		**DATE**
N/A		3/12/2013

RECEIVED: Mar. 12, 2013

DIVISION OF OIL, GAS AND MINING
UNDERGROUND INJECTION CONTROL PROGRAM

PERMIT
STATEMENT OF BASIS

Applicant: New Water Financial LLC **Well:** Harley Dome 1-X SWD

Location: T19S, R25E, S10, Grand County, Utah **API:** 43-019-50023

Ownership Issues:

The proposed well is located on private surface owned by the operator, but the minerals are owned by the Federal government. The operator's agent has provided the Division an Affidavit of Mailing specifying that a copy of the application for a Class II Injection Well permit was sent to all operators, owners and surface owners within a half-mile of the proposed injection well.

Well Integrity:

Description of the Casings and Cement (as completed). Depths measured from KB, 10' above ground level.

CASING PROGRAM

String Type	Hole Size	Depth KB	Feet	Casing Diameter	Weight	Grade	Connection Type
Surface	12.25"	171'	161'	9.625"	36.0#	J-55	STC
Intermediate	8.75"	1,341'	1333'	7.0 "	20.0#	J-55	LTC
Open hole	6.25"	1,684'	343'	none	-	-	-

CEMENT PROGRAM

String Type	DV Depth	Stage Lead/Tail	Cement Bottom	Cement Top	Number Sacks	Cement Type	Cement Yield	Cement Weight PPG
Surface	-	-	171'	Surface	46	Class A	1.18	15.6
Intermediate	1,341'	Lead Tail	1,341'	Surface	86 110 8	Class H (Versacem) Class G (Halcem) Class A	2.38 1.17 1.17	12.3 15.8 15.8

Ground Water Protection:

The operator, New Water Financial, LLC, proposes to inject a regional composite produced

water mixture into the Wingate Sandstone open hole interval for the purpose of salt water disposal. The Harley Dome 1-X SWD (HD 1-X SWD) well has been drilled to be a replacement well of improved completion design for the Harley Dome 1 (HD 1) well, which was approved for Class II injection by issuance of Underground Injection Control (UIC) Permit Cause No. UIC-358.1 on January 20, 2011. The new well intersects the same geologic formations, with nearly identical thicknesses, as the HD 1 or "twin well." The Applicant will provide the Utah Division of Oil, Gas and Mining (DOGM) with copies of mechanical logs, including cement bond, natural gamma ray, and casing collar locator data, which are planned to be acquired in the proposed well after reaching the projected TD of the final open-hole segment of the well. The proposed injection zone spans an interval between 1,342 feet and 1,684 feet of depth in open hole in the Wingate Sandstone.

The injection fluid at the Harley Dome facility will be RCRA-exempt produced water solicited from oil and gas wells in the Uinta Basin, Paradox Basin, San Rafael Swell, Book Cliffs, and Greater Cisco Field in Utah, as well as fields in the Piceance Basin in western Colorado. Depending upon determination of the maximum allowable injection pressure (MAIP) in the HD 1-X SWD by a Step Rate Test (SRT), it is estimated that fluid injection rate could reach as much as 10,000 barrels per day. The proposed average injection pressure is expected to be 350 psi. An SRT was run on the HD 1-X SWD well on 10/18/2012. The test results indicate a fracture gradient of about 0.79 psi/ft. The resulting minimum fracture pressure for the proposed injection interval is indicated to be about 868 psig. The Initial Shut-in Pressure (ISIP) indicates a fracture pressure of 400 psig. The SRT graph does not indicate a definitive break over. The SRT which was performed on the HD 1 well on 7/13/2010 indicated a break over at 400 psig. Since the break over for the HD 1 and the ISIP for the HD 1-X SWD are both about 400 psig, we believe that 400 psig represents a reasonably accurate value for fracture pressure at the surface. Therefore, allowing for a 10% safety factor, we will approve a surface injection pressure of 360 psig for the HD 1-X SWD well, the same as in the HD 1 well. The proposed MAIP on the UIC Form 1 is 360 psig.

Injectate water is expected to have densities ranging from 1.005 to 1.020, but possibly as high as 1.230. In the application for the HD 1 SWD, the DOGM elected to accept analyses of produced waters from sundry regional field wells as representative of the waters to be injected into the well. The previous water samples should be valid for the current application. These were tested for TDS, and the results ranged from about 7,000 to about 15,000 mg/L, a value that is generally greater than what is considered to be moderately saline (10,000 mg/L). Two different connate water samples were taken from the Wingate Sandstone in the HD 1 on different dates. The TDS values ranged from about 34,000 (approximating seawater) to about 53,000 mg/L. According to the current UIC application, the higher TDS value is more representative of the native Wingate Sandstone in the vicinity of Harley Dome. In either case, these connate waters are found to be of very low quality, despite being relatively shallow, a circumstance that is not without precedent in Grand County. It is unlikely that a good quality ground water resource is to be found in the Wingate Sandstone in this area. On 10/10/2012 composite Sample 6 was taken from a battery of eleven equalized 400 barrel capacity tanks which contained filtered produced water accumulated for the Step Rate Test. This sample is

considered representative of injectate water. The calculated TDS is 90,429 ppm; the corrected specific gravity is 1.144 at 60 degrees F; and the pH is 6.2. These parameters should be compatible with the connate water in the Wingate Sandstone.

The operator asks permission to inject at a UIC Form 1 Maximum Allowable Surface Injection Pressure of 360 psig. This injection pressure is supported by frac stimulation pressures, in lieu of Step Rate Test results, which indicate a breakdown pressure at about 400#.

The primary upper confining layer is the Kayenta Formation, which directly overlies the Wingate Sandstone. The Kayenta is anticipated to be 199 feet thick in the HD 1-X SWD well. The formation contains more clay minerals and shale layers than does the Wingate, and it is well cemented with silica cement. The drilling, completion, and operation of the HD 1-X SWD should not initiate fractures which would breach the Kayenta Formation. However, the siltstones and shales of the Summerville Formation and the Morrison Formation, which overlie the Entrada Sandstone, serve as backup confining zones. The lower primary confining layer is the Chinle Formation, which directly underlies the Wingate Sandstone and rests directly on the Precambrian basement rock.

In this area, the sandstones of the Glen Canyon Group are not considered Underground Sources of Drinking Water (USDW); a water source containing less than 10,000 mg/l, total dissolved solids).

Based on a search of the Utah Division of Water Rights data base, there are no subsurface water rights filed within a one mile radius of the HD 1 or HD 1-X. There are five surface water rights identified in the area. All are owned by the Bureau of Land Management (BLM) and consist of small streams used for stock watering purposes.

In 1965 an exploratory water well was drilled on the applicant's property about 500 feet north of the proposed HD 1-X location. The well reached a depth of 905 feet in the Entrada Sandstone. Water samples in both the Entrada aquifer and the Morrison Formation were found too salty to be useful. The well was subsequently plugged and abandoned.

Oil/Gas & Other Mineral Resources Protection:

At the time of this writing, there is no current oil or gas production within several miles of the proposed HD 1-X SWD. Aside from HD 1, only one other well has been drilled within the 0.5 mile radius AOR. That well was the Lansdale Government 5 (43-019-30004), located about 0.3 mile WNW of the proposed HD 1-X SWD. The Government 5 well was dry and was P&A at a TD of 1190 feet in 1968. Another dry hole, the Lansdale 10-31-A (43-019-30254), was drilled in 1975 slightly outside the AOR, about 0.6 mile SSW of HD 1-X. It was subsequently P&A at a TD of 706 feet. The Lansdale Government 4 (43-019-30003), located about 0.7 mile NW of HD 1-X was drilled in 1968 to a TD of 972 feet in the Entrada

Sandstone. It is currently listed as a temporarily abandoned gas well. In the Harley Dome area there are two shut-in gas wells completed in the Morrison Formation, both in the late 1960's. They are located 1.5 miles NNW and 2.5 miles north of the HD 1-X SWD, respectively. Finally, there is a shut-in gas well, located 3.5 miles NNW of the HD 1-X SWD. It was drilled in 1983 and completed in the Dakota Sandstone. Otherwise, there are numerous dry holes in the Harley Dome area.

The BLM notes an Entrada Sandstone natural gas and helium resource in the area. BLM originally posted a protest to the HD 1 injection project based on perceived possible threats to these resources, as well as proximity to the sundry recreational/scenic/environmental resources in the Westwater Canyon area of the Colorado River drainage. After consulting with the Operator and additional study of the project and local geology, BLM withdrew their protest.

Bonding:

New Water Financial, LLC, has posted a $15.000.00 CD (Wells Fargo Bank, NA) plugging bond # 7530210090, filed with this Division.

Actions Taken and Further Approvals Needed:

On August 28, 2012, DOGM issued a Notice of Hearing (Docket No. 2012-028, Cause No. 279-01) for a hearing at the September 26, 2012 meeting of the Board of Oil, Gas and Mining regarding the issue of the proposed Harley Dome #1-X SWD well. Subsequently, the Notice of Hearing was published in the Salt Lake Tribune and Deseret Morning News (September 2, 2012) and the Moab Times-Independent (September 6, 2012). The purpose of the hearing is for the Board to receive testimony and evidence regarding a Request for Agency Action that the Board issue an Order approving the Harley Dome #1-X SWD well as a Class II injection well; authorizing underground injection of produced water into the Wingate Sandstone in that well; and providing such other relief as may be just and equitable under the circumstances.

Public Notice of the application for the HD 1 SWD was issued August 18, 2010, and was subsequently published in the Salt Lake Tribune and the Moab Times-Independent. In addition, copies of the notice were provided to EPA Region 8, the BLM Moab Field Office, Grand County Planning, SITLA and the operator. The notice stated the proposed interval for injection to be selected zones in the Wingate Sandstone. Any future injection into strata other than that permitted will require administrative approval after appropriate sampling and testing.

Besides the BLM protest noted above, the noticing period for the proposed HD #1 SWD well attracted two other protests. One was from the Living Rivers environmental group and

another was from Bill Love, a resident from Moab, Utah. There was also a letter (dated September 15, 2010) from the United States Fish and Wildlife Service (USFWS) seeking to advise about the existence of piscine Threatened and Endangered faunas found in the nearby portion of the Colorado River. USFWS requested a monitoring program for potential contamination of seeps and springs in the Wingate Sandstone outcrops along the Colorado River about six miles southeast, resulting from injection of produced water into the HD 1 SWD well. In a letter dated October 10, 2010, Stewart Environmental Consultants, LLC, while acknowledging only a remote possibility of contamination, agreed to conduct observations of the Wingate outcrops every six months for a period of three years. The most recent survey in the Ruby Canyon area (river miles 132-137) was conducted on June 20, 2012, and documented in a letter dated July 31, 2012, from geologist Paul A. Stone of Stewart Environmental to Brad Hill of DOGM. One spring was found in the area, but it was noted that it is too soon for any injection water to have reached the area, even in the very unlikely event that it could ever do so.

Based on the review of the Application and supporting documentation, along with the record of injection in the HD 1 SWD, it is concluded that New Water Financial, LLC should be granted a permit to drill and complete the HD 1-X SWD in the Wingate Sandstone. The injection should not result in the diminution of water quality in the Wingate Sandstone at this location. Nor should the injection water have negative impacts on water quality in overlying formations in the area. There are no designated Underground Sources of Drinking Water (USDW) in the Harley Dome site within the area of influence of the proposed well. It is very unlikely that injected water will ever reach exposures of the Wingate Sandstone in the Westwater Canyon area, due to the distance of about six miles and the northwestward dip of the Wingate Sandstone, away from the river.

A properly designed and constructed injection well, combined with periodic mechanical integrity tests (MIT), poses no threat to fresh or useable groundwater supplies. Prior to final issuance of an injection permit by DOGM, the operator will be required to complete a successful initial MIT and a Step Rate Test (SRT) to determine the maximum allowable injection pressure (MAIP).

Update (03/13/2013): An SRT was conducted on 10/18/2012, and a successful MIT was completed 11/15/2012. An Injection Permit was issued 11/19/2012 by DOGM, with a Maximum Allowable Surface Pressure of 360 psi and an injection rate as limited by pressure. Commercial injection operations were initiated on 11/21/2012. Subsequently, on 11/28/2012, Mitch Burroughs of New Water Financial submitted a letter to DOGM requesting an amendment to the permit stipulations. As stated in the letter, given the stipulations, the well was unable to inject water at a commercially viable rate. The request was for a Maximum Allowable Bottom Hole Pressure of 1000 psi and a maximum injection rate of 9 barrels/minute. Based on a review by DOGM petroleum engineer, Dustin Doucet, the Injection Permit was amended on 12/04/2012 to allow the requested bottom hole pressure of 1000 psi, but the injection rate was limited to a maximum of 5 barrels/minute.

Note: Applicable technical publications concerning water resources in the general vicinity of this project have been reviewed and taken into consideration during the permit review process.

Reviewer(s): Mark Reinbold Date: 9/11/2012 (updated 3/13/2013)

STEWART ENVIRONMENTAL CONSULTANTS, LLC
ENGINEERING FOR LIFE

ACEC MEMBER

July 24, 2013

43 019 50023
Harley Dome 1-X SWD
19S 25E 10

Mr. Brad Hill
Utah Division of Oil, Gas, and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Subject: Ruby Canyon Water Monitoring Survey—Wingate Sandstone
Harley Dome Well #1 Injection Monitoring
Project No.: 4602.002

Dear Mr. Hill:

In accordance with the monitoring plan outlined in our October 4, 2010 letter and subsequent conversations with the U.S. Fish and Wildlife Service (USFWS), Stewart Environmental Consultants, LLC performed the regularly scheduled water monitoring survey of the Wingate Sandstone. The survey was conducted on June 23, 2013 along the applicable reach of the Colorado River at Ruby Canyon (river miles 132 to 137), as depicted on Figure 1. USFWS concerns are cited in their September 15, 2010 letter and center on the possibility, albeit remote, that injection into the Wingate Sandstone via the Harley Dome Well #1 will promote seepage of liquids into the Colorado River, flowing east to west approximately six miles southeast of the well site.

In their letter, USFWS recognized that injection will occur into the Wingate Sandstone at a depth of approximately 1,750 feet and that the formation dips to the northeast, away from the Colorado River. However, the letter states that *"Despite this low probability of seepage, we wish to make you aware of the importance of the nearby Westwater Canyon of the Colorado River for recovery of endangered fish species."* As the letter states, the canyon is designated critical habitat for four endangered fish species: Colorado pikeminnow (Ptychocheilus lucius), razorback sucker (Xyrauchen texanus), humpback chub (Gila cypha), and bonytail (Gila elegans). The headwaters of Westwater Canyon begin at river mile 125, approximately six linear miles southwest (downstream) of the survey area (see Figure 1).

We observed the outcrop of the Wingate Sandstone in Ruby Canyon from river miles 132 to 137 as an upgradient monitoring point to Westwater Canyon, searching for the presence or absence of seeps, springs, or other water features. This reach of the river is the closest outcrop of the formation to the injection well site and would be the first point of seepage, if seepage were to occur.

In 2012, all of Utah and Colorado (including the survey area) experienced extreme drought conditions and locations that were previously flooded in 2011, such as McDonald Creek Canyon, were dry. Dry conditions were observed during the current survey but river levels and exposed ground mass were closer to average. The area has received rainfall at a rate approximately 15 percent below average for the year. As observed in 2012, the entirety of McDonald Creek Canyon, including the mouth, is dry with minimal evidence of the presence of water except for small eroded drainages, sand and silt deposits, and established flora typical of near-riparian habitat associated with periodic episodes of flooding from the river.

There are signs of limited surface water flow throughout the survey area. These signs include desert varnish staining the canyon walls, erosional features (from both wind and water) cut into the rock, side canyons (both large and small), and collection of sediment in dry washes at the base of the side canyons and in dry stream beds along the bench tops. Thus far only one significant spring has been found. "Spring A" is located at the contact of the Wingate Sandstone and the Kayenta Formation in a remote side canyon on the upgradient end of the survey area near river mile 137 (see Figure 1). The spring is situated midway along the reach of the side canyon and, as discussed below, has very low flow. Erosion of the side canyon and deposition of sediment in the dry wash at its base is attributed to flash flood surface flows rather than flow from Spring A or meteoric waters emanating from higher elevations in the Kayenta Formation.

When the spring was first found, detailed observation of the rock formations in the immediate area was conducted and no other springs were discovered. During the most recent survey a second spring/seep with very low flow was discovered. The second spring/seep is located higher in the stratigraphic column, within beds of the Kayenta Formation, above the Wingate Sandstone, and is inconsequential to the purpose of the survey. Water seeps from the rock on the wall of the side canyon with no distinguished stream or drip.

At Spring A water flows from the cliff face as four to eight individual drips. The fastest drip flows at approximately 0.0010 gpm. In a previous survey, water was observed to flow as thin braids with the largest one flowing at a rate of up to 0.025 gpm. Collectively, the drips (and braids) of water drain to a 3' x 6' x 2' concrete catch basin which is now buried in the cliff face. The history and purpose of an old catch basin in such a remote location is unknown; but, according to long-time residents of the area, it is presumed to be associated with railroad construction in the late 1800s. It has not been used in years and is now completely filled with sediment. This is significant in that it shows that water has been flowing at the spring for an untold number of years and clearly not a result of recent injections at the Harley Dome Well #1. The property is currently owned by U.S. Bureau of Land Management (BLM). We've made contact with area residents familiar with the former landowner to discuss history and use of the spring, but thus far have not been able to secure an interview.

It is too early in the course of the injection process for water from the Harley Dome Well #1 to have reached the spring; however, because we found no other seeps, springs, hanging gardens, or signs of groundwater emanating from the Wingate Sandstone, we recommend that Spring A be carefully monitored in the future to track trends in water flow and quality.

The water monitoring survey is intended to document current conditions and compare the information to baseline data. Plans call for observation of the Wingate Sandstone in the area of interest approximately every six months for a period of three years. The latest survey marks the sixth of six monitoring events. We have not observed additional seeps or springs that are the result of the injection well activity; therefore, per the plan, future observations and monitoring will be conducted on a yearly basis. This schedule may be altered if injection activities escalate or other site conditions warrant a change.

We will report the results of future surveys as they are conducted. Please contact us if you have questions or need more information.

Sincerely,

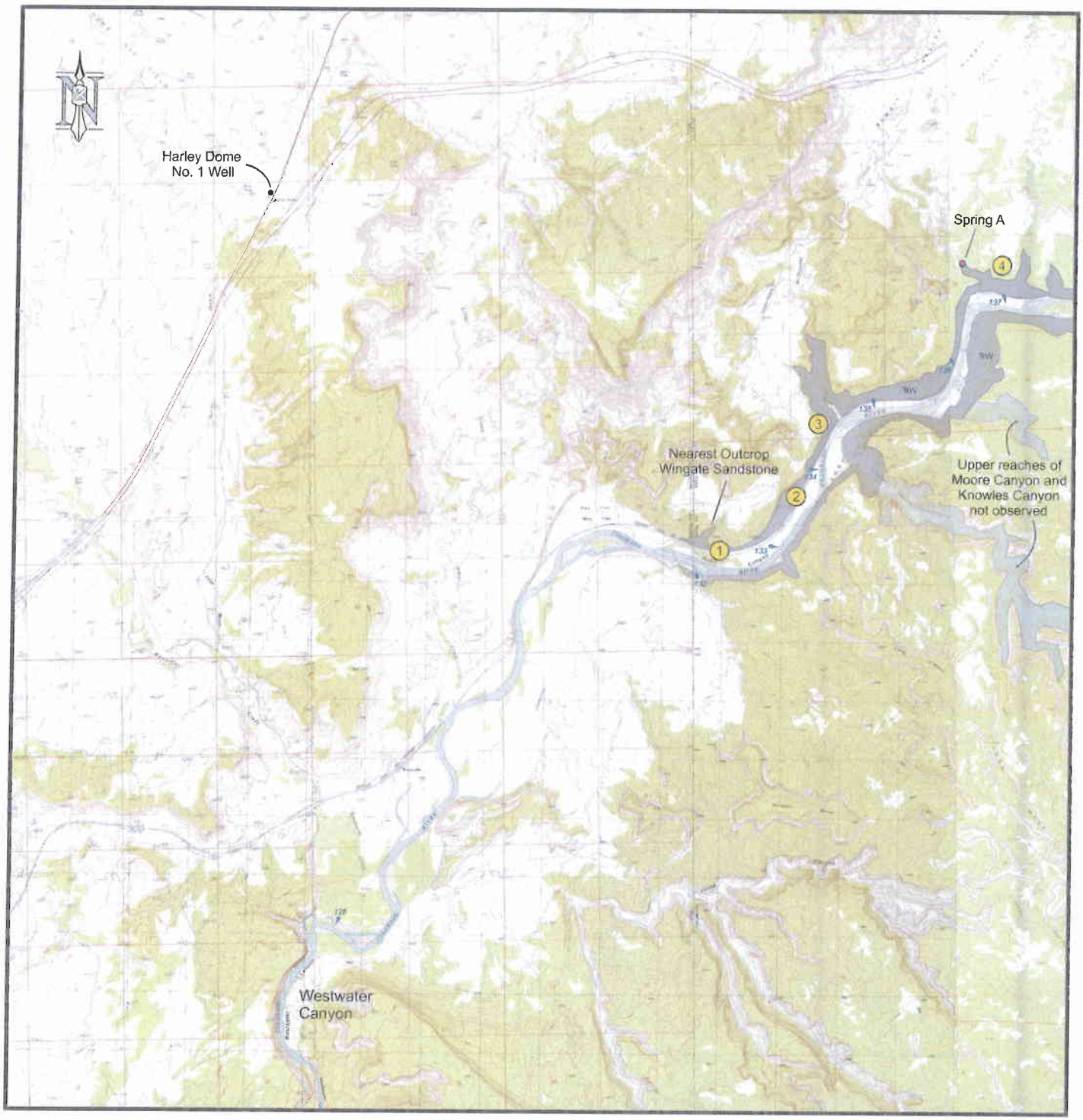
STEWART ENVIRONMENTAL CONSULTANTS, LLC

Paul A. Stone, PG
Senior Geologist

Enc.

cc: Mr. Larry Crist, U.S. Fish and Wildlife Service
Ms. Jana Mohrman, U.S. Fish and Wildlife Service
Mr. Eric Jones, U.S. Bureau of Land Management

4602.002\westwater wingate monitoring 24july13.ltr



SOURCE:

USGS TOPOGRAPHIC MAPS:
Harley Dome, Bitter Creek Well, Ruby Canyon, Agate, Westwater, and Sieber Canyon
USGS GEOLOGIC MAP:
Westwater 30'x60' Geologic Quad Map I-1765

LEGEND

- Wingate Sandstone
- River Mileage
- Observation Location

0 2 4
SCALE IN MILES

CONTOUR INTERVAL 40 FEET

STEWART ENVIRONMENTAL CONSULTANTS, LLC ENGINEERING FOR LIFE		PROJECT	
PROJECT NUMBER 4602.002	DATE July 2013	Harley Dome Produced Water Treatment Plant Westwater, Utah	FIGURE 1 WINGATE SANDSTONE WATER MONITORING SURVEY

wp files\4602.002\figure 1-wingate ss water survey location.cdr

STEWART ENVIRONMENTAL CONSULTANTS, LLC
ENGINEERING FOR LIFE

ACEC MEMBER

July 24, 2013

43 019 50023
Harley Dome 1-X SWD
19S 25E 10

Mr. Brad Hill
Utah Division of Oil, Gas, and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Subject: Ruby Canyon Water Monitoring Survey—Wingate Sandstone
Harley Dome Well #1 Injection Monitoring
Project No.: 4602.002

Dear Mr. Hill:

In accordance with the monitoring plan outlined in our October 4, 2010 letter and subsequent conversations with the U.S. Fish and Wildlife Service (USFWS), Stewart Environmental Consultants, LLC performed the regularly scheduled water monitoring survey of the Wingate Sandstone. The survey was conducted on June 23, 2013 along the applicable reach of the Colorado River at Ruby Canyon (river miles 132 to 137), as depicted on Figure 1. USFWS concerns are cited in their September 15, 2010 letter and center on the possibility, albeit remote, that injection into the Wingate Sandstone via the Harley Dome Well #1 will promote seepage of liquids into the Colorado River, flowing east to west approximately six miles southeast of the well site.

In their letter, USFWS recognized that injection will occur into the Wingate Sandstone at a depth of approximately 1,750 feet and that the formation dips to the northeast, away from the Colorado River. However, the letter states that *"Despite this low probability of seepage, we wish to make you aware of the importance of the nearby Westwater Canyon of the Colorado River for recovery of endangered fish species."* As the letter states, the canyon is designated critical habitat for four endangered fish species: Colorado pikeminnow (Ptychocheilus lucius), razorback sucker (Xyrauchen texanus), humpback chub (Gila cypha), and bonytail (Gila elegans). The headwaters of Westwater Canyon begin at river mile 125, approximately six linear miles southwest (downstream) of the survey area (see Figure 1).

We observed the outcrop of the Wingate Sandstone in Ruby Canyon from river miles 132 to 137 as an upgradient monitoring point to Westwater Canyon, searching for the presence or absence of seeps, springs, or other water features. This reach of the river is the closest outcrop of the formation to the injection well site and would be the first point of seepage, if seepage were to occur.

In 2012, all of Utah and Colorado (including the survey area) experienced extreme drought conditions and locations that were previously flooded in 2011, such as McDonald Creek Canyon, were dry. Dry conditions were observed during the current survey but river levels and exposed ground mass were closer to average. The area has received rainfall at a rate approximately 15 percent below average for the year. As observed in 2012, the entirety of McDonald Creek Canyon, including the mouth, is dry with minimal evidence of the presence of water except for small eroded drainages, sand and silt deposits, and established flora typical of near-riparian habitat associated with periodic episodes of flooding from the river.

There are signs of limited surface water flow throughout the survey area. These signs include desert varnish staining the canyon walls, erosional features (from both wind and water) cut into the rock, side canyons (both large and small), and collection of sediment in dry washes at the base of the side canyons and in dry stream beds along the bench tops. Thus far only one significant spring has been found. "Spring A" is located at the contact of the Wingate Sandstone and the Kayenta Formation in a remote side canyon on the upgradient end of the survey area near river mile 137 (see Figure 1). The spring is situated midway along the reach of the side canyon and, as discussed below, has very low flow. Erosion of the side canyon and deposition of sediment in the dry wash at its base is attributed to flash flood surface flows rather than flow from Spring A or meteoric waters emanating from higher elevations in the Kayenta Formation.

When the spring was first found, detailed observation of the rock formations in the immediate area was conducted and no other springs were discovered. During the most recent survey a second spring/seep with very low flow was discovered. The second spring/seep is located higher in the stratigraphic column, within beds of the Kayenta Formation, above the Wingate Sandstone, and is inconsequential to the purpose of the survey. Water seeps from the rock on the wall of the side canyon with no distinguished stream or drip.

At Spring A water flows from the cliff face as four to eight individual drips. The fastest drip flows at approximately 0.0010 gpm. In a previous survey, water was observed to flow as thin braids with the largest one flowing at a rate of up to 0.025 gpm. Collectively, the drips (and braids) of water drain to a 3' x 6' x 2' concrete catch basin which is now buried in the cliff face. The history and purpose of an old catch basin in such a remote location is unknown; but, according to long-time residents of the area, it is presumed to be associated with railroad construction in the late 1800s. It has not been used in years and is now completely filled with sediment. This is significant in that it shows that water has been flowing at the spring for an untold number of years and clearly not a result of recent injections at the Harley Dome Well #1. The property is currently owned by U.S. Bureau of Land Management (BLM). We've made contact with area residents familiar with the former landowner to discuss history and use of the spring, but thus far have not been able to secure an interview.

It is too early in the course of the injection process for water from the Harley Dome Well #1 to have reached the spring; however, because we found no other seeps, springs, hanging gardens, or signs of groundwater emanating from the Wingate Sandstone, we recommend that Spring A be carefully monitored in the future to track trends in water flow and quality.

The water monitoring survey is intended to document current conditions and compare the information to baseline data. Plans call for observation of the Wingate Sandstone in the area of interest approximately every six months for a period of three years. The latest survey marks the sixth of six monitoring events. We have not observed additional seeps or springs that are the result of the injection well activity; therefore, per the plan, future observations and monitoring will be conducted on a yearly basis. This schedule may be altered if injection activities escalate or other site conditions warrant a change.

We will report the results of future surveys as they are conducted. Please contact us if you have questions or need more information.

Sincerely,

STEWART ENVIRONMENTAL CONSULTANTS, LLC

Paul A. Stone, PG
Senior Geologist

Enc.

cc: Mr. Larry Crist, U.S. Fish and Wildlife Service
Ms. Jana Mohrman, U.S. Fish and Wildlife Service
Mr. Eric Jones, U.S. Bureau of Land Management

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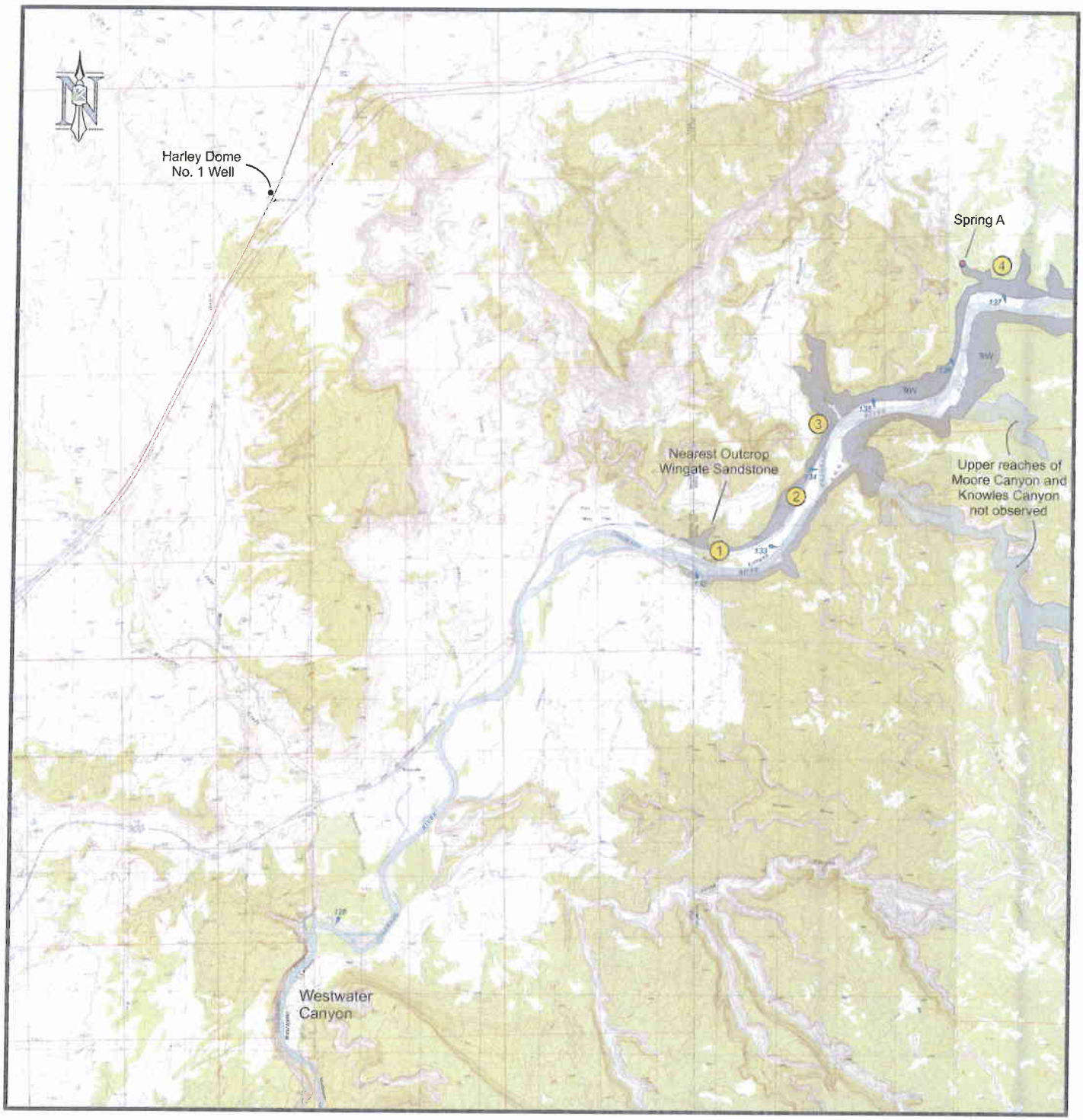

SOURCE:

USGS TOPOGRAPHIC MAPS:
Harley Dome, Bitter Creek Well, Ruby Canyon, Agate, Westwater, and Sieber Canyon
USGS GEOLOGIC MAP:
Westwater 30'x60' Geologic Quad Map I-1765

LEGEND

- Wingate Sandstone
- River Mileage
- Observation Location

0 2 4
SCALE IN MILES

CONTOUR INTERVAL 40 FEET

STEWART ENVIRONMENTAL CONSULTANTS, LLC ENGINEERING FOR LIFE		PROJECT	
PROJECT NUMBER 4602.002	DATE July 2013	Harley Dome Produced Water Treatment Plant Westwater, Utah	FIGURE 1 WINGATE SANDSTONE WATER MONITORING SURVEY

wp files\4602.002\figure 1-wingate ss water survey location.cdr

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-8219

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Water Disposal Well

8. WELL NAME and NUMBER: Harley Dome 1-x SWD

2. NAME OF OPERATOR: New Water Finacial LLC

9. API NUMBER: 4301950023

3. ADDRESS OF OPERATOR: 5807 W 20th St. CITY Greeley STATE CO ZIP 80634

PHONE NUMBER: (970) 216-8936

10. FIELD AND POOL, OR WILDCAT: Greater Cisco

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 0501 FNL 2139 FEL

COUNTY: Grand

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWNE 10 19S 25E S

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☑ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
9/23/2015	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

9/5-Propetroco, Inc-Pull tubing and packer
9/8-Propetroco, Inc.-Finished RIH w/ 43 joints of 3.5" J-55 9.3# tubning and new 7" Weatherford AS1-X packer at 1,316'
9/9-Pressure test annulus space to 300 psi. UDOGM Witness and approve.
9/10-Well back in service
9/12-Annulus pressure increase-suspect leak-shutdown well
9/18-pressure up well 405 psi and annulus space 305 psi to diagnose potential leaks.
9/19-9/22 blled off pressure
9/22-Propetroco, pull one section (31') tubing and reset packer at 1,285' w/ 42 joints of tubing.
9/22-6:00 pm Pressure annulus space to 600 psi
9/23-9:00 am Annulus space pressure 570 psi-contact UDOGM
9/23-2:00 pm UDOGM on site-pressure up annulus to 70% operational pressure (370 psi)-pressure test passed.
UDOGM gives temporary verbal approval to operate disposal pending submittal and review of this Sundry Report by October 6, 2015.
9/23-3:00 pm normal operation resumes.

RECEIVED
SEP 28 2015
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) Fred Porter TITLE Process Engineer

SIGNATURE DATE 9/23/15

(This space for State use only)

INSTRUCTIONS

This form shall be submitted by the operator to show the intention and/or completion of the following:

- miscellaneous work projects and actions for which other specific report forms do not exist;
- all other work and events as identified in section 11, Type of Action, or as required by the Utah Oil and Gas Conservation General Rules, including:
  - minor deepening of an existing well bore,
  - plugging back a well,
  - recompleting to a different producing formation within an existing well bore (intent only),
  - reperforating the current producing formation,
  - drilling a sidetrack to repair a well,
  - reporting monthly the status of each drilling well.

This form is not to be used for <u>proposals</u> to

- drill new wells,
- reenter previously plugged and abandoned wells,
- significantly deepen existing wells below their current bottom-hole depth,
- drill horizontal laterals from an existing well bore,
- drill hydrocarbon exploratory holes such as core samples and stratigraphic tests.

Use Form 3, Application for Permit to Drill (APD) for such proposals.

NOTICE OF INTENT - A notice of intention to do work on a well or to change plans previously approved shall be submitted in duplicate and must be received and approved by the division before the work is commenced. The operator is responsible for receipt of the notice by the division in ample time for proper consideration and action. In cases of emergency, the operator may obtain verbal approval to commence work. Within five days after receiving verbal approval, the operator shall submit a Sundry Notice describing the work and acknowledging the verbal approval.

SUBSEQUENT REPORT - A subsequent report shall be submitted to the division within 30 days of the completion of the outlined work. Specific details of the work performed should be provided, including dates, well depths, placement of plugs, etc.

WELL ABANDONMENT - Proposals to abandon a well and subsequent reports of abandonment should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, and method of parting of any casing, liner, or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection looking to approval of the abandonment.

In addition to any Sundry Notice forms submitted, **Form 8, Well Completion or Recompletion Report and Log** must be submitted to the division to report the <u>results</u> of the following operations:

- completing or plugging a new well,
- reentering a previously plugged and abandoned well,
- significantly deepening an existing well bore below the current bottom-hole depth,
- drilling horizontal laterals from an existing well bore,
- drilling hydrocarbon exploratory holes such as core samples and stratigraphic tests,
- recompleting to a different producing formation.

Send to:

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

Schematic Diagram of Harley Dome 1-X SWD as Completed 10-26-12
NWNE (501' FNL & 2,139' FEL) Section 10, T19S, R25E, SLM (API No. 43-019-50023)
Harley Dome, Greater Cisco Field, Grand County, Utah

Elevation 4,865' GL & 4,875' KB
All depths are below KB elevation

Surface

9.625" surface casing
Set at 171' in 12.25" hole
Cemented with 46 sx top-filled to surface; Yield 1.18 cuft/sk & weight 15.6 ppg

Dakota Ss 23'

Cedar Mtn Fm 115'

Morrison Fm 183'

Summerville Fm 854'

Moab Mbr Curtis Fm 888'

Slick Rock Mbr Entrada Ss 999'

Kayenta Fm 1145'

7" intermediate casing
Set at 1341' in 8.75" hole
Cemented with 196 sx circ to surface
Lead yld 2.38 cuft/sk & wt 12.3 ppg;
Tail yld 1.17 cuft/sk & wt 15.8 ppg;
Top job 8 sx

Reset 9/23/15

3.5" injection tubing set with end of packer at ~~1316'~~ 1285'

Wingate Ss 1342'

6.25" open hole injection interval
1341' to 1684' (TD) to access Wingate Sandstone zone

Chinle Fm 1680'
TD 1684'

Scale:
Vertical 1"=200' below surface
No horizontal or above ground scale

Drafted 10-20-12 & Revised 11-5-12

NEW WATER FINANCIAL, LLC