Form OGC-1a

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

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
DRILL [XX] DEEPEN [ ] PLUG BACK [ ]

b. Type of Well
Oil Well [ ] Gas Well [XX] Other Single Zone [ ] Multiple Zone [ ]

2. Name of Operator
Wexpro Company

3. Address of Operator
P. O. Box 458, Rock Springs, WY 82902

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface
SE¼ NW¼, 1957' FNL, 2149' FWL
At proposed prod. zone

5. Lease Designation and Serial No.
ML-11004

6. If Indian, Allottee or Tribe Name
--

7. Unit Agreement Name
Island

8. Farm or Lease Name
Unit

9. Well No.
18

10. Field and Pool, or Wildcat
~~Island~~ NATURAL BUTTES

11. Sec., T., R., M., or Blk. and Survey or Area
2-10S-19E

12. County or Parrish
Uintah

13. State
Utah

14. Distance in miles and direction from nearest town or post office*
36 miles Southwest of Ouray, Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)
1957'

16. No. of acres in lease
640

17. No. of acres assigned to this well
NA

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.
2828'

19. Proposed depth
6800' Chapita Wells

20. Rotary or cable tools
Rotary

21. Elevations (Show whether DF, RT, GR, etc.)
GR 5005' as graded

22. Approx. date work will start*
Upon approval.

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4";	9-5/8";	36#;	300';	165 sx Reg. Type G w/5% Dowell D43A or 3% CaCl & ¼# flocele/sx
7-7/8";	5-1/2";	17#;	6500';	Amt to be determined of 50-50 Pozmix w/8% gel, 0.2% Halad-24, 10% salt, 5 pounds gilsonite/sx and 1/4# flocele/sx, cement will be brought up to a point 300' above the Birds Nest Aquifer.

See attached drilling plan.

RECEIVED
JUN 27 1984
DIVISION OF OIL GAS & MINING

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 10/28/84
BY: John R. Baza

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
Signed Pat Brotherton Title Drilling Engineer Date June 20, 1984

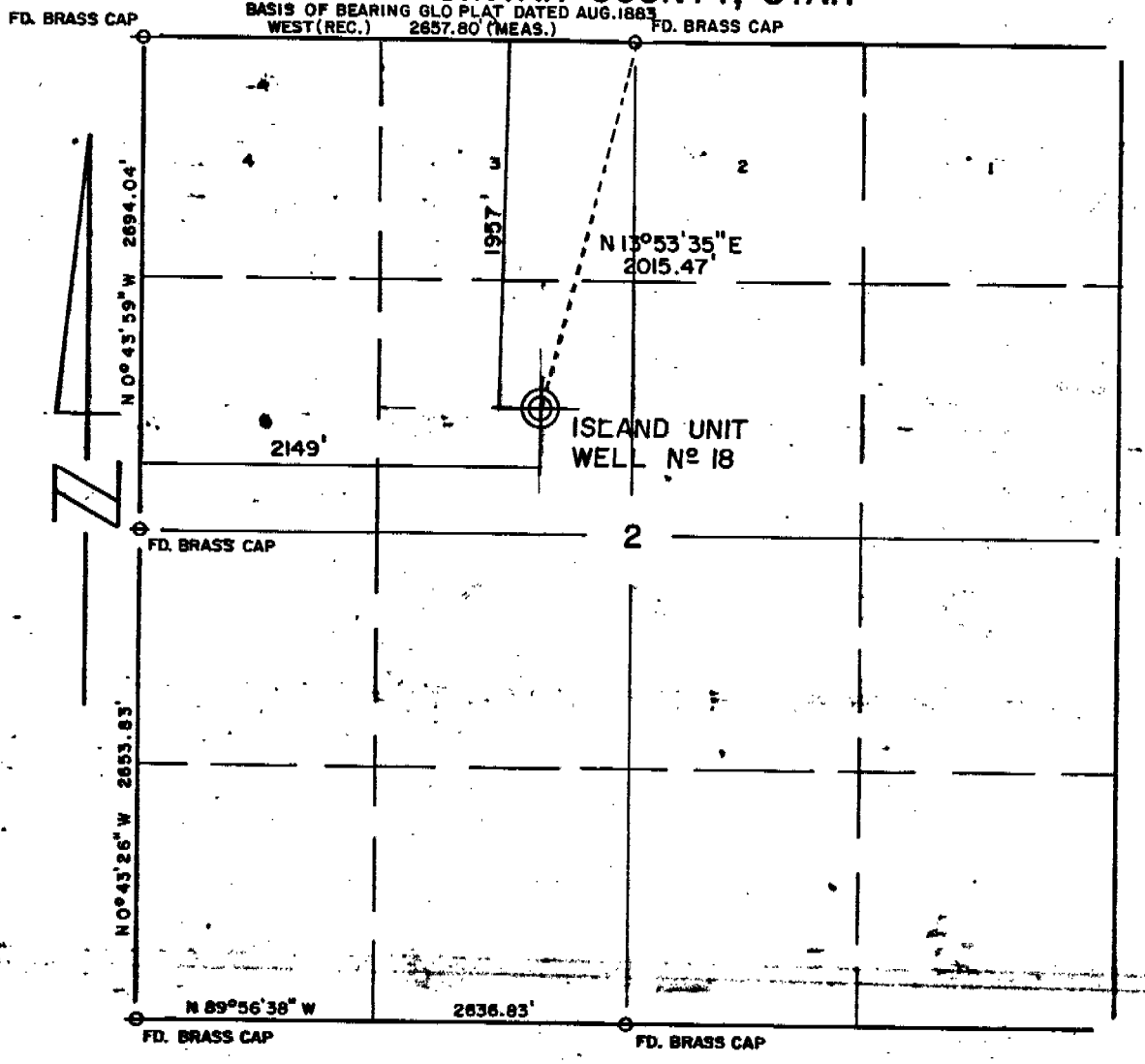
(This space for Federal or State office use)

Permit No. ..... Approval Date .....

Approved by ..... Title ..... Date .....
Conditions of approval, if any:

*See Instructions On Reverse Side

T.10S., R.19E.
S.L.B.&M.
UINTAH COUNTY, UTAH



LOCATION PLAN

SCALE 1" = 1000'

0 500' 1000' 2000'

LEGEND

- SURFACE OWNER BOUNDARY
- MINERAL LEASE BOUNDARY
- ⊕ WELL LOCATION
- ⊕ FD. BRASS CAP
- ⊕ FD. STONE

NOTE: FOR SURFACE INFORMATION (ROADS, TOPO, DRAINAGE, ETC.) SEE AREA MAP.

REGISTERED LAND SURVEYOR No. 6389 LARRY G. BODYFELT STATE OF UTAH

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

Larry G. Bodyfelt 5/29/84

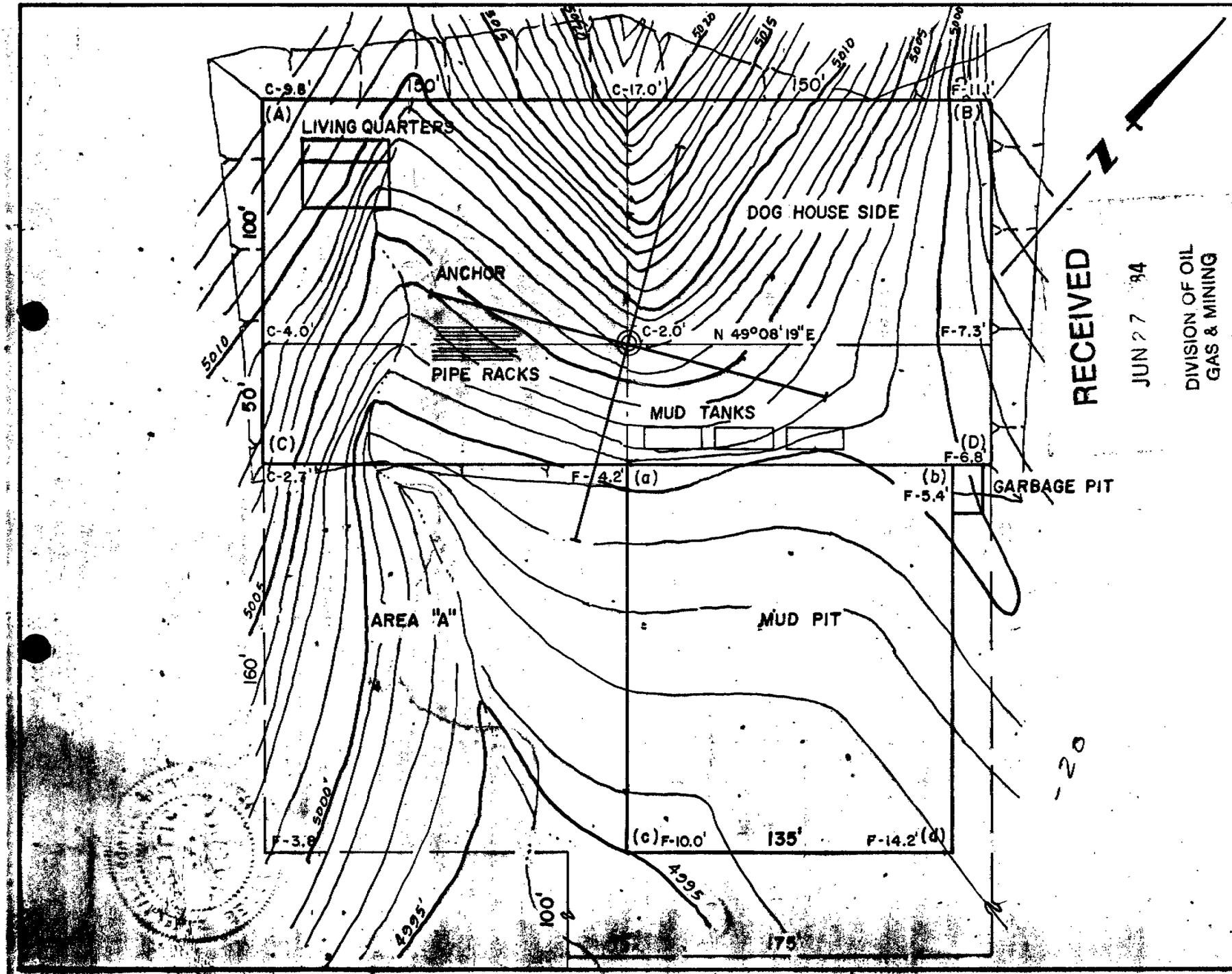
LARRY G. BODYFELT UTAH REG. L.S. Nº 6389

ENGINEERING RECORD

SURVEYED: N.P.R. 5/16/84	FIELD: ISLAND
BASIS OF BEARING: GLO PLAT (DATED AUGUST 1883)	
SURFACE OWNER: U.S. GOVERNMENT	
MINERAL LEASE: M.L.-11004	
LOCATION: SE1/4NW1/4, SEC. 2, T.10S., R.19E., S.L.B.&M. 1957' FNL 2149' FWL	
COUNTY: UINTAH	STATE: UTAH
ELEVATION AS GRADED: 5005	

CERTIFIED WELL LOCATION PLAT FOR ISLAND UNIT WELL Nº 18

DRAWN: CRW 5/24/84	SCALE: 1" = 1000'
CHECKED: JRB	DRWG. NO. M-22475
APPROVED: JRB	



RECEIVED
JUN 27 '84
DIVISION OF OIL
GAS & MINING

AT SITES WHERE TOPSOIL IS PRESENT SAME IS TO BE REMOVED AND STORED ON THE ADJACENT LAND FOR RESTORATION AT THE SITE WHEN REQUIRED. 2050 CU. YDS. OR THE TOP 6" OF TOPSOIL IS TO BE STOCKPILED.

MUD & GARBAGE PITS ARE TO BE UNLINED & FENCED

AREA "A" SHOULD BE LEVELED TO STACK DRILL PIPE, SET "FRAC" TANKS, TESTING SEPARATOR AND OTHER EQUIPMENT.

GARBAGE PIT IS 12' X 20' X 10' DEEP AND COVERED TO CONTAIN GARBAGE.

REFERENCE POINTS ARE SET AT 150' NORTH, 200' SOUTH, 200' EAST AND 200' WEST.

AREA FOR LOCATION IS 2.54 ACRES.

REFERENCE DRAWINGS ARE:

M 22475	M 22477
M-22474	M 12205

DEADMAN ANCHORS ARE AT 120' SPACING (MIN.)

CUTS AND FILLS ARE AT 2:1 UNLESS OTHERWISE NOTED.

CONTOURS ARE AT 1' INTERVALS.

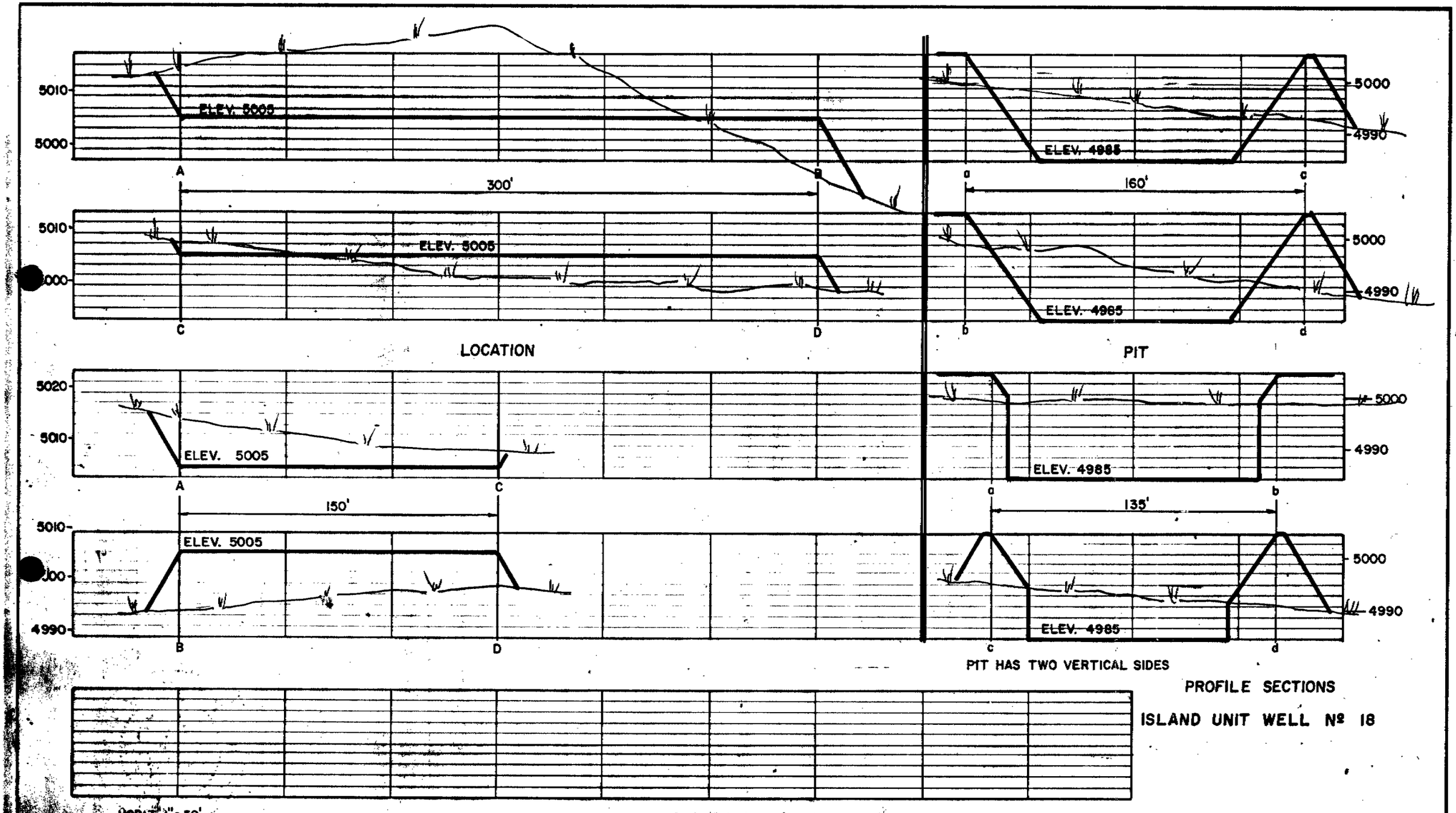
ISLAND UNIT WELL Nº 18

BAR SCALE 1" = 50'

0 10' 20' 30' 40' 50' 100' 150'

M-22476

5/29/84 CRW


5010
5000
ELEV. 5005
A
B
300'
C
D
LOCATION
5000
4990
ELEV. 4985
a
c
160'
b
d
PIT
5020
5010
ELEV. 5005
150'
4990
PIT HAS TWO VERTICAL SIDES
PROFILE SECTIONS
ISLAND UNIT WELL Nº 18
SCALE HORIZ. 1" = 50'
VERT. 1" = 20'
MUD PIT IS UNLINED, CUTS & FILLS ARE AT 2:1 UNLESS NOTED,
SYMBOL FOR NATURAL GROUND.
5/29/84 C.R.W.
M-22477

AFFIDAVIT OF SURFACE INSPECTION

STATE OF WYOMING)
) ss.
COUNTY OF SWEETWATER)

The undersigned, Nick P. Roich of Rock Springs, Wyoming, of lawful age, being by me first duly sworn, deposes and says:

On the 22 day of May, 19 84, the undersigned made a careful and detailed physical inspection of the following described lands situated in Uinta County, State of Utah, to ascertain whether there were any mining claims or discovery monuments located upon said lands, and also to determine the existence of improvements and visible easements for highway, railroad, roads, telephone, electric, ditches, canals, or pipelines:

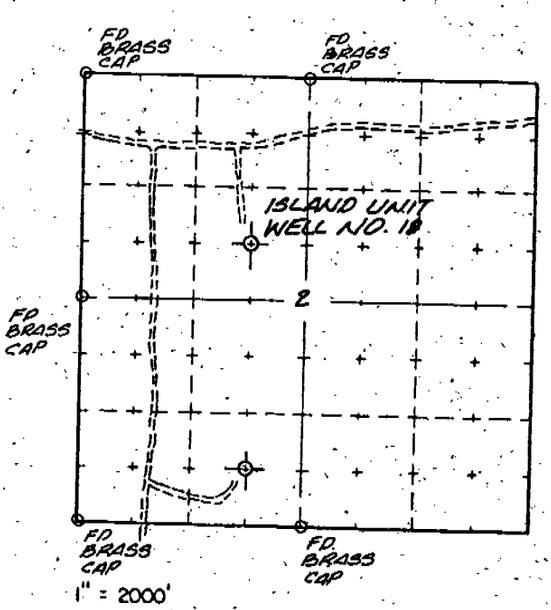
Township 10S Range 19E Section 2
Well Location SE NW Footage Location 1957 FNL 2149 FWL
Well Name Island Unit No. 18.

*In the above detailed search covering said lands (no) evidence of mining claims, location notices, corner monuments was found on the above described lands. The subject inspection (~~xxxx~~) (did not) find excavations, pits, shafts, tunnels, cross-cuts, drifts, prospect holes, wells, (~~xxx~~) (nor any) other evidence of (present) or (past) mining or drilling activity of any kind. Said search (~~xxx~~) (did not) find evidence which would suggest the marking of any boundaries of mining claim or claims. In addition (no) evidence was found that anyone was working or had ever worked, placed on production or developed said lands or any portions thereof for oil, gas or other locatable minerals.

Examination of said lands (~~xxxx~~) (did not) disclose rights-of-way and easements on, across, within and over the subject description.

If any of the above are noted, please indicate type and the approximate location on the plat below.

*If any of the above are not found, mark the same out.



Notes

See road survey.

Further affiant saith not.

Nick P Roich

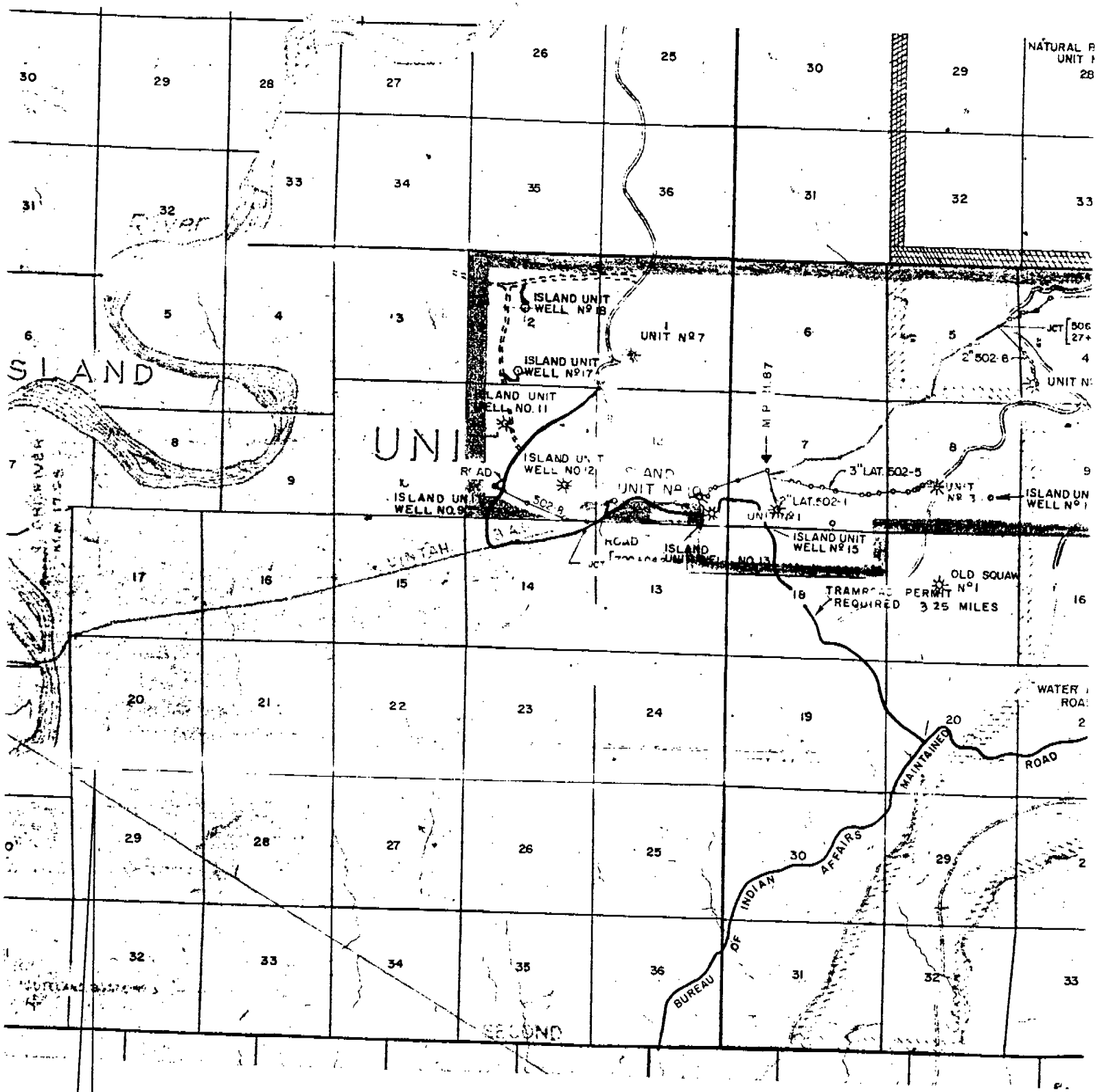
The foregoing instrument was acknowledged before me this 30th day of May.

Witness my hand and official seal.

My Commission Expires:
June 29, 1987

Betty Jo Smith
Notary Public

SEC 2, T. 19 E., R. 10 S.,
SALT LAKE BASE & MERIDIAN
UINTAH CO., UTAH



AREA MAP

ISLAND UNIT WELL NO. 17
ISLAND UNIT WELL NO. 18

R.C. PARKER 5.29.84 M-22475

Drilling Plan
Celsius Energy Company
Island Unit Well No. 18
Island Field

1 & 2. SURFACE ELEVATION, ESTIMATED TOPS AND WATER, OIL, GAS OR MINERAL BEARING FORMATIONS:

Uintah	-	Surface
Green River	-	1,490
Birds Nest Aquifer	-	2,390, oil or gas
Wasatch Tongue	-	4,660, oil or gas
Green River Tongue	-	4,965, oil or gas
Wasatch	-	5,115, gas
Chapita Wells	-	5,895, objective, gas
Total Depth	-	6,800

3. PRESSURE CONTROL EQUIPMENT: (See attached diagram) Operator's minimum specifications for pressure control equipment requires an 11-inch 3000 psi double gate hydraulically operated blowout preventer and an 11-inch 3000 psi annular preventer. Surface casing and all preventer rams will be pressure tested to 1000 psi for 15 minutes using rig pump and mud. NOTE: Surface casing will be pressure tested to minimum of 1000 psi; or one psi per foot; or 70 percent of the internal yield of the casing, whichever is applicable. BOP's will be checked daily as to mechanical operating condition and will be tested by rig equipment after each string of casing is run. All ram type preventers will have hand wheels which will be operative at the time the preventers are installed.

4. CASING PROGRAM:

Footage	Size	Grade	Wt.	Condition	Thread	Cement
300	9-5/8	K-55	36	New	8 rd ST&C	165 sx Regular Type G with 5% Dowell D43A or 3% CaCl & ¼# flocele/sx
6500	5-1/2	K-55	17	New	8 rd LT&C	Amt to be determined, 50-50 Pozmix w/8% gel, 0.2% Halad-24, 10% salt, 5 pounds gilsonite/sx and ¼# flocele/sx, cement will be brought up to a point 300' above the Birds Nest Aquifer.

AUXILIARY EQUIPMENT:

a) Manually operated kelly cock
b) No floats at bit
c) Monitoring of mud system will be visual
d) Full opening floor valve manually operated

5. MUD PROGRAM: Water base mud from surface casing to total depth.

Sufficient mud materials to maintain mud properties, control lost circulation and to contain blowout will be available at the wellsite.

6. LOGGING: DIL-SFL-GR - from surface casing to total depth
BHC-Sonic w/Caliper - from surface casing to total depth
CNL-FDC-GR over zones of interest

TESTING: No drill stem tests are anticipated.

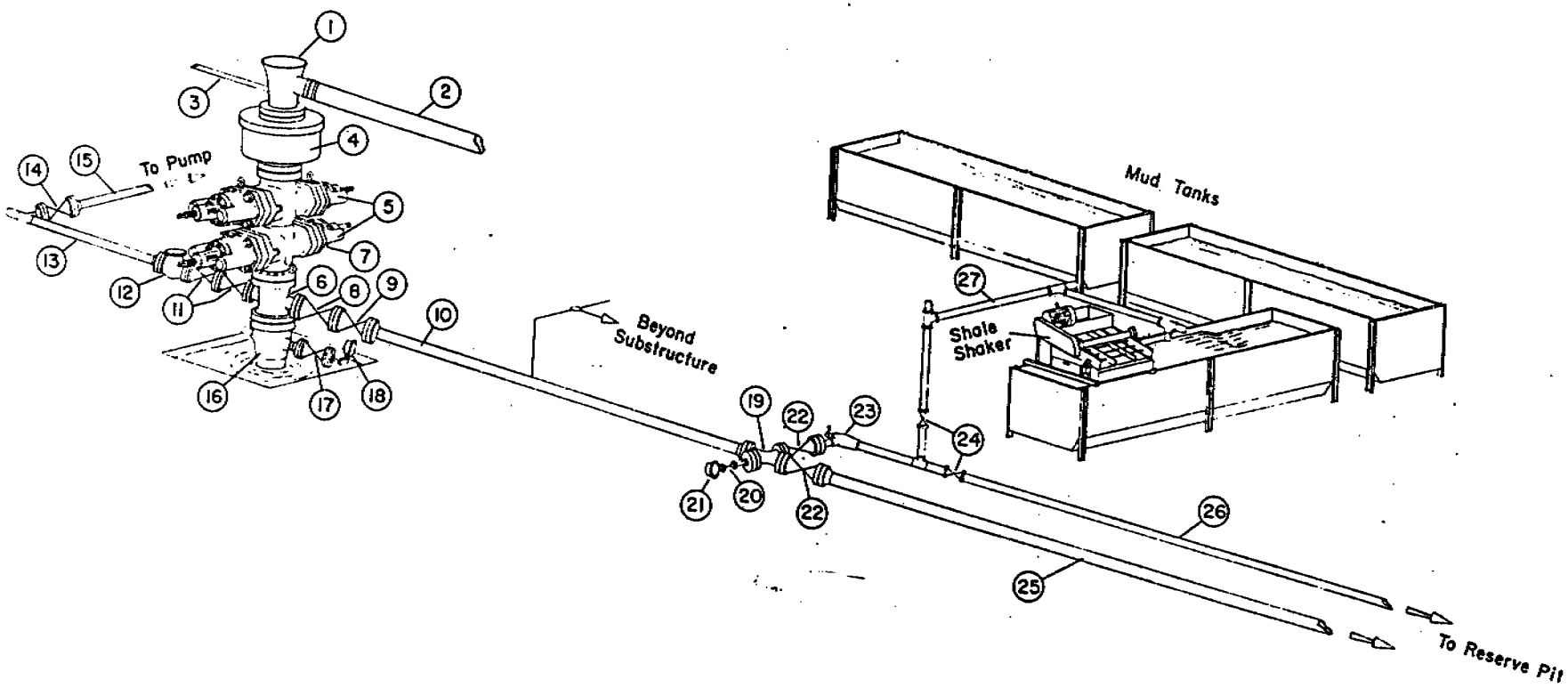
CORING: No coring is anticipated.

7. ABNORMAL PRESSURE AND TEMPERATURE: No abnormal pressures are anticipated, a BHT of 150° F. is expected.

8. ANTICIPATED STARTING DATE: Upon approval.

DURATION OF OPERATION: 15 Days.

CELSIUS/WEXPRO
3000 psi BLOWOUT PREVENTION EQUIPMENT



STANDARD STACK REQUIREMENTS

Nº	ITEM	NOMINAL	ID	TYPE	FURNISHED BY	
					OPER.	CONTR.
1	Drilling Nipple (Rotating Head when air drilling)					
2	Flowline					
3	Fill up Line (eliminated for air drilling)	2"				
4	Annular Preventer			Hydril Cameron Shaffer		
5	Two Single or One dual Hydril oper rams.			U.ORC; F.LWS; R.F		
6	Drilling spool with 3" and 2" outlets			Forged		
7	As Alternate to (6) Run & Kill and Choke lines from outlets in this ram					
8	Gate Valve		3-1/8			
9	Valve-hydraulically operated (Gate)		3-1/8			
10	Choke Line	3"				
11	Gate Valves		2-1/16			
12	Check Valve		2-1/16			
13	Kill Line	2"				
14	Gate Valve		2-1/16			
15	Kill Line to Pumps	2"				
16	Casing Head					
17	Valve Gate ___ Plug ___		1-13/16			
18	Compound Pressure Cage					
	Wear Bushing					

STANDARD CHOKE AND KILL REQUIREMENTS

Nº	ITEM	NOMINAL	ID	TYPE	FURNISHED BY	
					OPER.	CONTR.
19	Cross 3" X 3" 3" X 2"					
20	Gate Valve		1-13/16			
21	Compound Pressure Gage					
22	Gate Valves		3-1/8			
23	Choke Cam H-2 or equilivent	3"	2"			
24	Gate Valves		3-1/8"			
25	Line	3"				
26	Line	3"				
27	Line	3"				

OPERATOR Wexpro Co. DATE 6-28-84

WELL NAME Island Unit #18

SEC SE NW 2 T 10S R 19E COUNTY Uintah

43-047-31502	State
API NUMBER	TYPE OF LEASE

POSTING CHECK OFF:

☐ INDEX	☐ HL	☐
☐ NID	☐ PI	☐
☐ MAP	☐	☐

PROCESSING COMMENTS:

Unit Well

Need water permit

APPROVAL LETTER:

SPACING: ☑ A-3 Island (UNIT) ☐ c-3-a _____ (CAUSE NO. & DATE)

☐ c-3-b ☐ c-3-c

SPECIAL LANGUAGE:

1- Water

- [x] RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.
- [x] AUTHENTICATE LEASE AND OPERATOR INFORMATION
- [x] VERIFY ADEQUATE AND PROPER BONDING
- [x] AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.
- [ ] APPLY SPACING CONSIDERATION
  - [ ] ORDER _____
  - [x] UNIT Island
  - [ ] c-3-b
  - [ ] c-3-c
- [x] CHECK DISTANCE TO NEAREST WELL.
- [ ] CHECK OUTSTANDING OR OVERDUE REPORTS FOR OPERATOR'S OTHER WELLS.
- [x] IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER
- [x] IF IN OIL SHALE DESIGNATED AREA, SPECIAL APPROVAL LANGUAGE.

June 28, 1984

Wexpro Company
P O. Box 458
Rock Springs, Wyoming 82902

RE: Well No. Island Unit #18
SENW Sec. 2, T. 10S, R. 19E
1957' FNL, 2149' FWL
Uintah County, Utah

Gentlemen:

Approval to drill the above referenced gas well is hereby granted in accordance with Section 40-6-18, Utah Code Annotated, as amended 1983; and predicated on Rule A-3, General Rules and Regulations and Rules of Practice and Procedure, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.

2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.

3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 533-5771, (Home) 298-7695 or R. J. Firth, Associate Director, (Home) 571-6068.

4. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-047-31502.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

RJF/as
cc: State Lands
Branch of Fluid Minerals

Form OGC-1a

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

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work: DRILL [XX] DEEPEN [ ] PLUG BACK [ ]

b. Type of Well: Oil Well [ ] Gas Well [XX] Other Single Zone [ ] Multiple Zone [ ]

2. Name of Operator: Wexpro Company

3. Address of Operator: P. O. Box 458, Rock Springs, WY 82902

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: SE¼ NW¼, 1957' FNL, 2149' FWL
At proposed prod. zone

5. Lease Designation and Serial No.: ML-11004

6. If Indian, Allottee or Tribe Name: --

7. Unit Agreement Name: Island

8. Farm or Lease Name: Unit

9. Well No.: 18

10. Field and Pool, or Wildcat: Island

11. Sec., T., R., M., or Blk. and Survey or Area: 2-10S-19E

12. County or Parrish: Uintah

13. State: Utah

14. Distance in miles and direction from nearest town or post office*: 36 miles Southwest of Ouray, Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any): 1957'

16. No. of acres in lease: 640

17. No. of acres assigned to this well: NA

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.: 2828'

19. Proposed depth: 6800'

20. Rotary or cable tools: Rotary

21. Elevations (Show whether DF, RT, GR, etc.): GR 5005' as graded

22. Approx. date work will start*: Upon approval.

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4";	9-5/8";	36#;	300';	165 sx Reg. Type G w/5% Dowell D43A or 3% CaCl & ¼# flocele/sx
7-7/8";	5-1/2";	17#;	6500';	Amt to be determined of 50-50 Pozmix w/8% gel, 0.2% Halad-24, 10% salt, 5 pounds gilsonite/sx and 1/4# flocele/sx, cement will be brought up to a point 300' above the Birds Nest Aquifer.

See attached drilling plan.

RECEIVED
JUL 10 1984
DIVISION OF OIL
GAS & MINING

JUN 1984
RECEIVED
Vernal, Utah

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed: Pat Brotherton Title: Drilling Engineer Date: June 20, 1984

(This space for Federal or State office use)

Permit No. Approval Date: 07-09-84

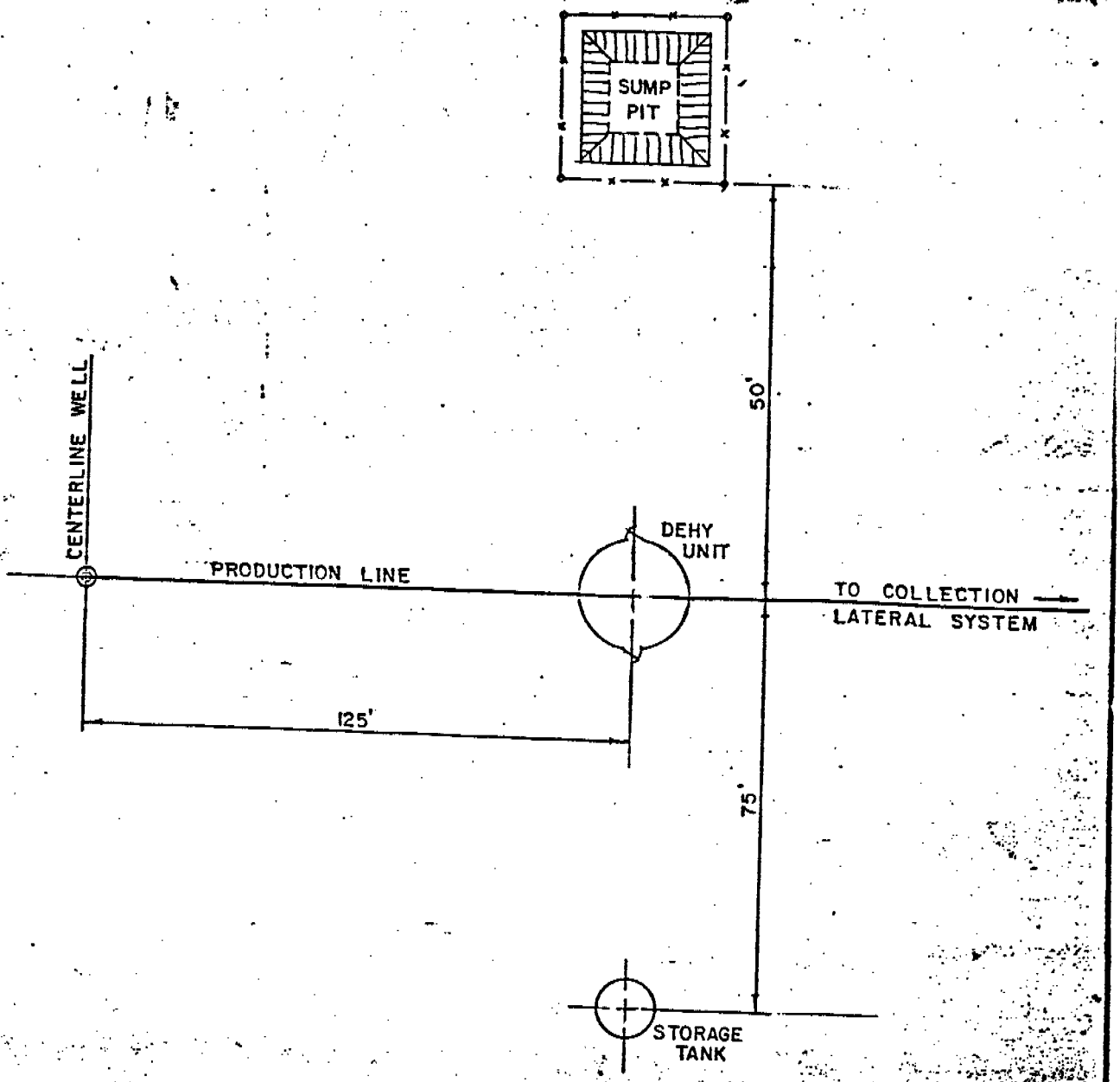
Approved by: Don Alvord Title: ASSOCIATE DISTRICT MANAGER Date:

Conditions of approval, if any: Highly Recommended, prior to drilling out surface casing shoe, the Ram-Type Preventers should be pressure tested to 2400 psi, & Annular-Type Preventer be tested to 1500 psi.

*See Instructions On Reverse Side

APPROVED FOR UNIT PURPOSES ONLY

State OG&M
UT-080-4-M-221



REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYPICAL PRODUCTION FACILITIES LAYOUT FOR ISLAND UNIT WELL NO. 18

DRAWN:

CHECKED:

APPROVED:

SCALE: NONE

DRWG. NO. M-12205

Water OK
#49-1297

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-047-31502

NAME OF COMPANY: WEXPRO

WELL NAME: ISLAND UNIT #18

SECTION SENW 2 TOWNSHIP 10S RANGE 19E COUNTY Uintah

DRILLING CONTRACTOR All Western

RIG #

SPUDDED: DATE 8-13-84

TIME 9:00 AM

HOW Dry Hole Digger

DRILLING WILL COMMENCE

REPORTED BY Kathy

TELEPHONE # 307-382-9791

DATE 8-14-84 SIGNED AS

Form OGCC-1 b

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED

AUG 2 1 1984

DIVISION OF OIL GAS & MINING

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Wexpro Company

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, WY 82902

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

7. UNIT AGREEMENT NAME: Island

8. FARM OR LEASE NAME: Unit

9. WELL NO.: 18

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.: 43-047-31502

15. ELEVATIONS (Show whether DF, RT, GR, etc.): GR 5005'

12. COUNTY OR PARISH: Uintah

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplemental History			XX
(Other)	☐			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

SPUDDED 9:00 A.M. 8-13-84.

Depth 334', waiting on rotary tools.

18. I hereby certify that the foregoing is true and correct

SIGNED A. J. Mauer TITLE Drilling Superintendent DATE 8-15-84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGC-1b

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

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
SEP 4 1984
DIVISION OF OIL, GAS & MINING

1. OIL WELL ☐ GAS WELL ☒ OTHER

7. UNIT AGREEMENT NAME: Island

2. NAME OF OPERATOR: Wexpro Company

8. FARM OR LEASE NAME: Unit

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, WY 82902

9. WELL NO.: 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface

SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005' KB 5020.50'	Uintah	Utah

16. Check Appropnate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplemental History			XX
(Other)	☐			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 334', waiting on rotary tools.

Landed 9-5/8-inch O.D., 36-pound, K-55, 8 round thread, ST&C casing at 326.79 feet KBM or 15.50 feet below KB. Pumped 20 barrels of gelled water ahead of cement. Cemented casing using 175 sacks Regular cement treated with 2% CaCl. Returned 22 barrels slurry to surface. Cement in place at 2:45 P.M., 8-14-84.

18. I hereby certify that the foregoing is true and correct

SIGNED A. J. Mauer TITLE Drilling Superintendent DATE August 28, 1984

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGCC-1 b

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
SEP 21 1984
DIVISION OF OIL GAS & MINING

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Wexpro Company

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, WY 82902

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: ---

7. UNIT AGREEMENT NAME: Island

8. FARM OR LEASE NAME: Unit

9. WELL NO.: 18

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005' KB 5020.5'	Uintah	Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplemental History			XX
(Other)	☐			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Total depth of 6800' reached 9-9-84, rig released 9-11-84 at 11:00 A.M., waiting on completion tools.

18. I hereby certify that the foregoing is true and correct

SIGNED A. J. Maser TITLE Drilling Superintendent DATE 9-14-84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGCC-1 b

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: ←

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
SEP 24 1984
DIVISION OF OIL GAS & MINING

1. OIL WELL ☐ GAS WELL ☒ OTHER

7. UNIT AGREEMENT NAME: Island

2. NAME OF OPERATOR: Wexpro Company

8. FARM OR LEASE NAME: Unit

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, WY 82902

9. WELL NO.: 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005' KB 5020.5'	Uintah	Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary History			XX
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Waiting on completion tools.

Landed 5-1/2-inch O.D., 17-pound, K-55, 8 round thread, LT&C casing at 6799.77 feet KBM or 15.50 feet below KB in a National 11-inch 3000 psi casing flange with 96,000 pounds casing weight on slips. Cemented with 375 sacks Dowell Hilift cement treated with 3% D-44. Followed with 480 sacks Dowell 10-D RFC cement treated with 5 pound per sack D-42. Good returns until flush returned to surface then lost returns. Bumped plug with 158 barrels water and 300 psi. Held okay. Float equipment held okay. Cement in place at 4:00 A.M., 9-11-84.

18. I hereby certify that the foregoing is true and correct

SIGNED A. J. Maser TITLE Drilling Superintendent DATE 9-18-84.

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGC-1b

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

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Wexpro Company

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, WY 82902

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --

7. UNIT AGREEMENT NAME: Island

8. FARM OR LEASE NAME: Unit

9. WELL NO.: 18

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005' KB 5020.5'	Uintah	Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplemental History			X
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

TD 6800' reached 9-9-84, in the process of completing well.

RECEIVED
OCT 30 1984
DIVISION OF OIL
GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED C. E. Martin TITLE Asst. Drilling Supt. DATE 10-26-84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGC-1b

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Wexpro Company

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, WY 82902

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

7. UNIT AGREEMENT NAME: Island

8. FARM OR LEASE NAME: Unit

9. WELL NO.: 18

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005' KB 5020.5'	Uintah	Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplemental History			☒
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

TD 6800' reached 9-9-84, in the process of completing well.

RECEIVED
NOV 16 1984
DIVISION OF OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED Lee Martin TITLE Asst. Drilling Supt. DATE 11-12-84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGC-3

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

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

56 64 01

6

7

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR: Wexpro Company

3. ADDRESS OF OPERATOR: P. O. box 458, Rock Springs, WY 82902

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: SE NW, 1957' FNL, 2149' FWL
At top prod. interval reported below
At total depth

RECEIVED
DEC 24 1984
DIVISION OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --

7. UNIT AGREEMENT NAME: Island

8. FARM OR LEASE NAME: Unit

9. WELL NO.: 18

10. FIELD AND POOL, OR WILDCAT: ~~Island~~ Natural Buttes

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.: 43-047-31502 DATE ISSUED: 6-[illegible]-84

12. COUNTY OR PARISH: Uintah

13. STATE: Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
8-14-84	9-9-84	12-6-84	GR 5005' KB 5020.5'	5020.5'

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
6800'	6787'	One	→	0-6787'	--

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
6509-6734',
6337-6372', 5998'-6030' - Wasatch

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: CSNG, DSN/DEN, TMD, ACB, CALS

27. WAS WELL CORED: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8	36	326.79	12-1/4	175 sx Reg. Class G	-
5-1/2	17	6799.77	7-7/8	375 sx Hi-Lift & 480 sx 10-D RFC	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-3/8"	5909	--

31. PERFORATION RECORD (Interval, size and number)
6509-6734' - 18 0.38-inch holes
6337-6372' - 2 holes per foot
5998-6030' - 2 holes per foot

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5998-6030'	74,000 gal gel, 156,000# 20-40
6337-6372'	74,430 gal gel, 159,000# 20-40
6509-6734'	180,000 gal gel, 350,000# 20-40 sand

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
12-6-84	Flowing	Shut-in

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
12-6-84	7½	18/64	→	--	794	--	--

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
1650	1725	→	--	2670	--	--

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): Vented

TEST WITNESSED BY: R. Christofferson

35. LIST OF ATTACHMENTS

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

SIGNED [signature] TITLE Director, Petroleum Eng. DATE 12-13-84

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
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	BOTTOM	DESCRIPTION, CONTENTS, ETC.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
Uintah	Surface	
Green River	1,311	
Birds Nest Aq.	2,174	
Wasatch Tongue	4,335	
G.R. Tongue	4,824	
Wasatch	5.121	
Chapita Wells Zone	5,779	

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
VERNAL DISTRICT OFFICE
170 South 500 East
Vernal, Utah 84078

RECEIVED
JUN 04 1986

DIVISION OF
OIL, GAS & MINING

IN REPLY
REFER TO:

3162.51
Oil and Gas Leases
ML-11004
(U-8020)

June 2, 1986

Jennifer Head
Regulatory Affairs Administrator
Wexpro Company
P.O. Box 458
Rock Springs, Wyoming 82901

Re: NTL-2B Approval for Pits
at Island Unit Wells in
Sec. 2, T. 10 S., R. 19 E.
Uintah County, Utah

Dear Jennifer:

Recently we received your requests to dispose of produced water into unlined pits at the following locations:

Island Unit No. 17 in SE¼SW¼ Sec. 2, T.10S., R.19E. On lease ML-11004 (State Lease, BLM Surface)
Island Unit No. 18 in SE¼NW¼ Sec. 2, T.10S., R.19E. On lease ML-11004 (State Lease, BLM Surface)

We have a tentative agreement with the Utah Division of Oil, Gas and Mining that the State has NTL-2B primary jurisdiction over State Mineral Leases, such as ML-11004. The Division of Oil, Gas and Mining is in the process of acquiring jurisdiction over most of the smaller NTL-2B pits from the Division of Water Pollution Control.

We are requesting that you contact the State of Utah, Division of Oil, Gas and Mining with regard to an NTL-2B approval for these two wells and for Well No. 26 you are currently in the process of completing. You may contact John Baza of their office at (801) 538-5340 regarding questions related to applying for these approvals from them.

Sincerely,

Paul M. Andrews

Paul M. Andrews
Area Manager
Bookcliffs Resource Area

cc: State of Utah, Division of Oil, Gas and Mining

Form OGC-1b

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

071403

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

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Wexpro Company

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, Wyoming 82902

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SW NW, 1957' FNL, 2149' FWL

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --

7. UNIT AGREEMENT NAME: Island

8. FARM OR LEASE NAME: Unit

9. WELL NO.: 18

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005' KB 5020.50'	Uintah	Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			☐
(Other) Test			XXX	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Wexpro Company intends to put Island Unit Well No. 18 on a sixty-day production test to evaluate a recent increase in water production. The well was drilled and completed in 1984 in three Wasatch intervals from 5998 feet to 6734 feet. The well first produced in December of 1985. After two weeks of production, the well started producing water and has continued to do so until the well was shut-in in March 1980 due to the cost of water disposal.

We request permission to dispose of produced water in four existing drilling reserve pits, namely Island Unit Wells No. 25, 26, 27 and 28 in Section 11, 10S-19E, Lease No. U-4481, Section 2-10S-19E, Lease No. ML-11004, Section 9-10S-20E, Lease No. U-013768, and Section 6-10S-20E, Lease No. U-4482 respectively, during a sixty-day test period so we can economically evaluate the need for a disposal facility within the unit. Anticipated production is 30 BWPD and volume will be closely monitored.

Verbal permission was granted by Gary Krueckeberg on June 16, 1986.

RECEIVED
JUN 18 1986
DIVISION OF OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED Thomas A. Dan TITLE Director, Petroleum Eng. DATE June 16, 1986

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse

Form OGC-1b

SUBMIT IN TRIPLICATE* (other instructions on reverse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --

7. UNIT AGREEMENT NAME: Island

2. NAME OF OPERATOR: Wexpro Company

8. FARM OR LEASE NAME: Unit

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, Wyoming 82902

9. WELL NO.: 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.: 43-047-31502

15. ELEVATIONS (Show whether DF, RT, GR, etc.): GR 5005'

12. COUNTY OR PARISH: Uintah

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Approval of Disposal Pits			XXX
(Other)	☐			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Wexpro Company requests permission to dispose of produced water into two unlined disposal pits located on the wellsite of the above captioned well. Pit No. 1 which is 12'X12'X4' will receive no more than five barrels of water per day on a monthly basis. Pit No. 2 which is a submerged barrel 3'X6' will receive no more than a trace of water per day. The producing formation of the above captioned well is the Wasatch formation. Both pits are fully contained on the well location and no new surface disturbance was created. Pit No. 1 is fenced and bermed.

Please see attached schematic for further reference.

18. I hereby certify that the foregoing is true and correct

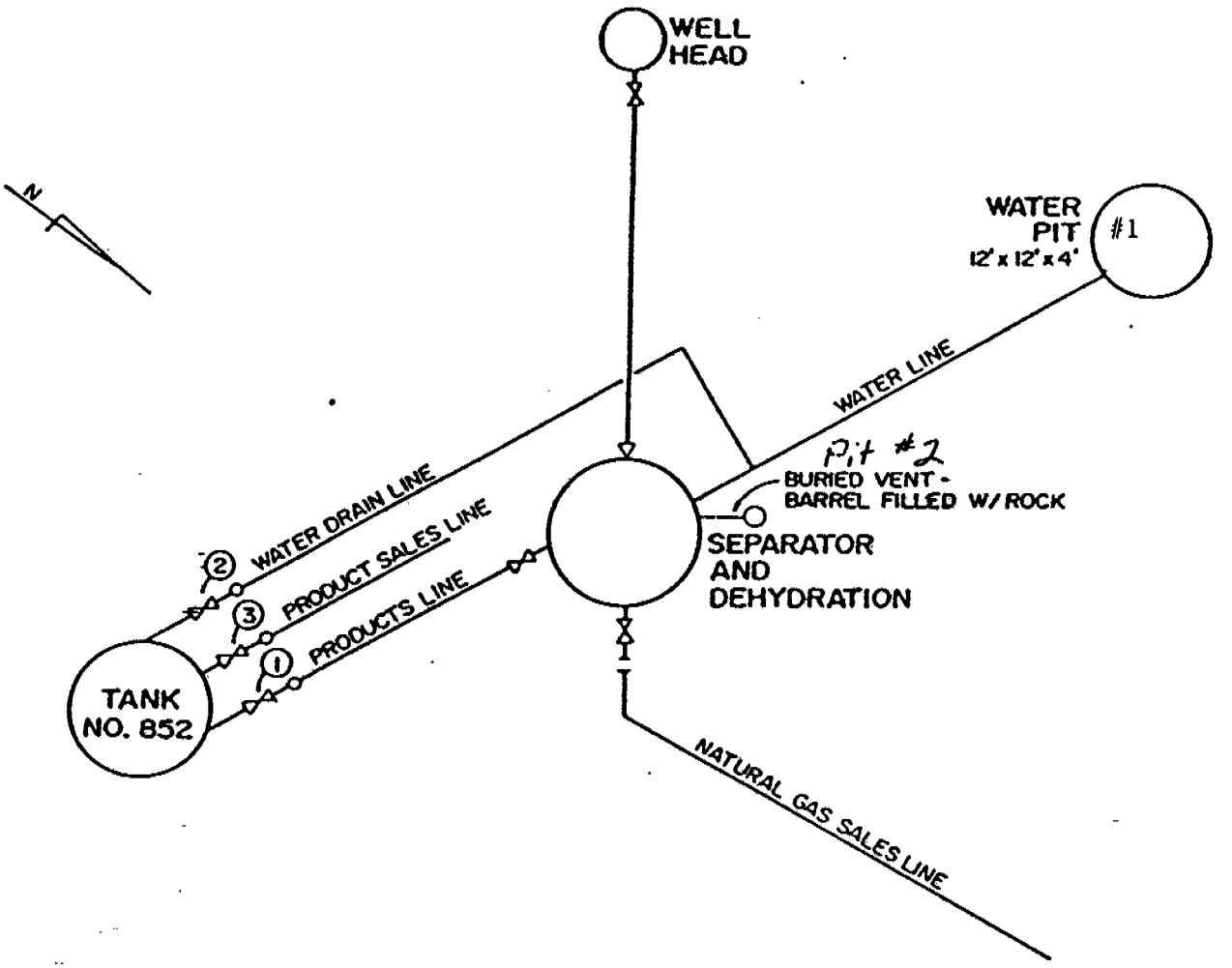
SIGNED H.K. Clegan TITLE District Manager DATE June 26, 1986

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side



LEGEND

- GAS METER
- CHOKE
- VALVE
- SEAL
- INTERMITTENT WATER VAPOR LINE

VALVE NO.	PROD.	SALES	VALVE NO.	PROD.	SALES
1	OPEN	CLOSED			
2	CLOSED	CLOSED			
3	CLOSED	OPEN			

Rev. 10/5/05

OPERATOR: WEXPRO

LEASE NO.: ML - 11004 TYPE: FEDERAL

NAME: ISLAND UNIT NO. 18

SEC. SE NW SEC. 2 T. 10S R. 19E

COUNTY: UINTAH

STATE: UTAH

INITIAL PRODUCTION:

SITE SECURITY DIAGRAM

ISLAND UNIT WELL NO. 18

DRAWN: SCALE:

CHECKED:

DRWG. M-24705

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

July 10, 1986

Wexpro Company
P.O. Box 458
Rock Springs, Wyoming 82902

Gentlemen:

RE: Sundry Notices Requesting Approval For Water Disposal

The Division of Oil, Gas and Mining recently received several Sundry Notices requesting approval to dispose of produced water in existing reserve pits in the Island Unit located in Uintah County, Utah. Copies of the referenced Sundry Notices are included for your information.

The Division staff has determined that these Sundry Notices cannot be approved, based on recent inspections and discovered problems at the reserve pits. The specific problems are leaking of the existing reserve pits which have potential to pollute ground and surface water systems. Ms. Carol Kubly, the Division inspector based in Vernal, has advised your field personnel of the problems and is currently coordinating cleanup efforts; however, because of these existing problems the proposed operation cannot be approved as stated.

The submitted Sundry Notices will be maintained in our well files for information purposes. If the existing problems should be resolved or an alternative fluid disposal method is proposed, we request that you resubmit Sundry Notices for approval to proceed with such operations. Please contact this office if any additional information is necessary.

Sincerely,

John R. Baza
Petroleum Engineer

sb
cc: D. R. Nielson
R. J. Firth
Well File
0297T-3

Form OGC-1b

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

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

071714

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --

7. UNIT AGREEMENT NAME: Island

2. NAME OF OPERATOR: Wexpro Company

8. FARM OR LEASE NAME: Unit

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, Wyoming 82902

9. WELL NO.: 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.: 43-047-31502

15. ELEVATIONS (Show whether DF, RT, GR, etc.): GR 5005'

12. COUNTY OR PARISH: Uintah

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Approval of Disposal Pits			XXX
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Wexpro Company requests permission to dispose of produced water into two unlined disposal pits located on the wellsite of the above captioned well. Pit No. 1 which is 12'X12'X4' will receive no more than five barrels of water per day on a monthly basis. Pit No. 2 which is a submerged barrel 3'X6' will receive no more than a trace of water per day. The producing formation of the above captioned well is the Wasatch formation. Both pits are fully contained on the well location and no new surface disturbance was created. Pit No. 1 is fenced and bermed.

Please see attached schematic for further reference.

No action - Health Dept

RECEIVED
JUL 11 1986
DIVISION OF OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

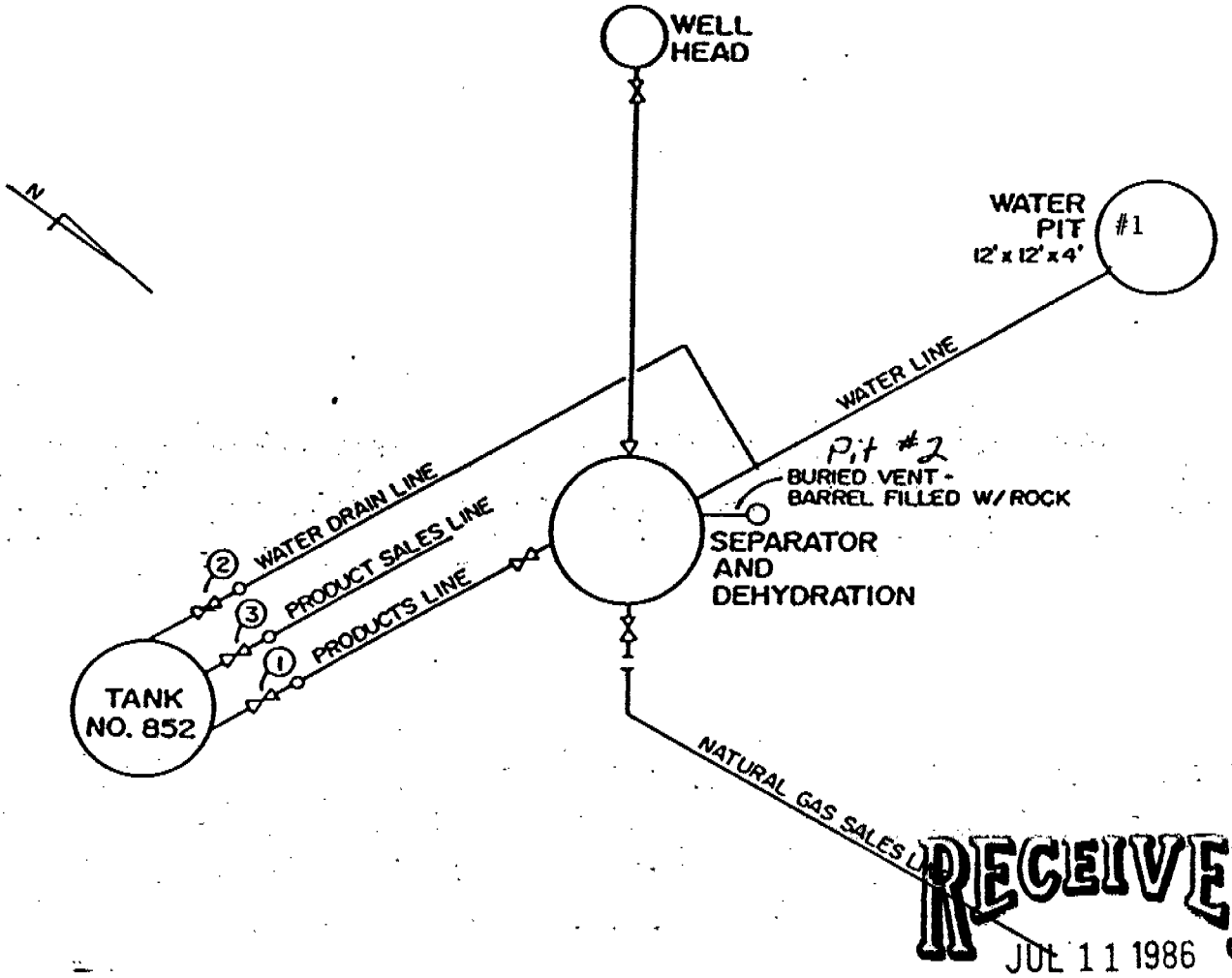
SIGNED H.K. Logan TITLE District Manager DATE June 26, 1986

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side



RECEIVED
JUL 11 1986
DIVISION OF
OIL, GAS & MINING

LEGEND

- GAS METER
- CHOKE
- VALVE
- SEAL
- INTERMITTENT WATER VAPOR LINE

VALVE NO.	PROD.	SALES	VALVE NO.	PROD.	SALES
1	OPEN	CLOSED			
2	CLOSED	CLOSED			
3	CLOSED	OPEN			

Rev. 10/5/85

OPERATOR: WEXPRO
LEASE NO.: ML - 11004 TYPE: FEDERAL
NAME: ISLAND UNIT NO. 18
SEC. SE NW SEC. 2 T. 10S R. 19E
COUNTY: UINTAH
STATE: UTAH
INITIAL PRODUCTION:

SITE SECURITY DIAGRAM

ISLAND UNIT WELL NO. 18

DRAWN: SCALE:
CHECKED: DRWG. M-24705

WEXPRO COMPANY

625 CONNECTICUT AVENUE • P.O. BOX 1129 • ROCK SPRINGS, WYOMING 82901 • (307) 362-5611

December 9, 1986

RECEIVED
DEC 12 1986
DIVISION OF
OIL, GAS & MINING

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
Salt Lake City, Utah 84180

Gentlemen:

Please advise of the status of the attached sundry notices which were mailed to you in June, 1986 regarding approval of disposal pits on Island Unit Wells No. 17 and 18.

Sincerely,

Cathy J. Flansburg

Cathy J. Flansburg
Regulatory Affairs Technician

CJF
Attachments

122410

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

December 19, 1986

Ms. Cathy J. Flansburg
Wexpro Company
P.O. Box 1129
Rock Springs, WY 82901

Dear Ms. Flansburg:

RE: Request for Approval of Disposal Pits 4304731602
Sec. 2 T. 10S R. 19E

In response to your recent letter dated December 9, 1986, your original sundry notices requesting approval to dispose of produced water into unlined pits at Island Unit Wells No. 17 and 18 were received in this office on July 11, 1986. The regulations and approval authority for surface disposal of produced water currently exist with the Bureau of Water Pollution Control (BWPC), Utah Division of Environmental Health. Upon receipt of your sundry notices, they were copied for our well records, but the originals were forwarded to the BWPC for consideration. It is suggested that you contact the BWPC regarding any administrative action which may have been taken.

It is anticipated that the produced water surface disposal authority will soon be transferred to this Division; however, for the time being, you must handle all matters of this type with the BWPC. I apologize for any confusion this may have caused.

Sincerely,

John R. Baza
Petroleum Engineer

cc: D.R. Nielson
R.J. Firth
Well files
0258T-64

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
VERNAL DISTRICT OFFICE
170 SOUTH 500 EAST
VERNAL, UTAH 84078

031813

IN REPLY REFER TO:
3162.32
UT08581
Oil and Gas
ML-11004,
U-013768,
U-4482,
U-4484

RECEIVED
FEB 22 1988
DIVISION OF
OIL, GAS & MINING

COPY

Ms. Cathy J. Flansberg
Coordinator Regulatory Affairs
Wexpro Company
625 Connecticut Avenue
P.O. Box 458
Rock Springs, Wyoming 82902

Re: Request for NTL-2B Application Status
Island Unit Wells ~~17~~, ~~18~~, ~~26~~, and ~~29~~
in Sec. 2, T.10S., R.19E;
Wells ~~19~~, ~~22~~, and ~~32~~
in Sec. 8 and 9 T.10S., R.20E;
Well ~~30~~ in Sec. 12, T.10S., R.19E.
Uintah County, Utah

Dear Ms. Flansberg:

We have reviewed the status of your applications for NTL-2B water disposal facilities for the above wells as you requested in your letter of January 12, 1988. The pit at the Island Unit Well No. 22 was approved in a letter to your office dated August 8, 1986. The pit at Well No. 19 was recently inspected and found to be adequate. It is approved subject to the guidelines and requirements provided for in Section V, NTL-2B.

Requests for unlined water disposal pits at Island Unit Wells No. 20 and No. 32 were denied in a letter to your office dated March 13, 1987. This letter indicated that pits at these two locations should be lined. Please notify this office when these pits have been lined and what lining material was used. We will then inspect the pits for NTL-2B approval as soon as schedules permit.

The Island Unit Wells No. 17, 18, 26, and 29 all on Lease ML-11004 are under the jurisdiction of the State of Utah, Division of Oil, Gas, and Mining for NTL-2B approval. You should contact the State of Utah, Division of Oil, Gas, and Mining regarding your applications for NTL-2B approval for these wells.

N1070

#22	43-047-31632-SGW/WSTC	
#19	43-047-31633-SGW/WSTC	
#17	43-047-31503-SGW/WSTC	
#29	43-047-31752-SGW/WSTC	
#30	43-047-31749-SGW/WSTC	
#26	43-047-31701-SGW/WSTC	
#18	43-047-31502-SGW/WSTC	10S 19E 2
#32	43-047-31751-SGW/WSTC	

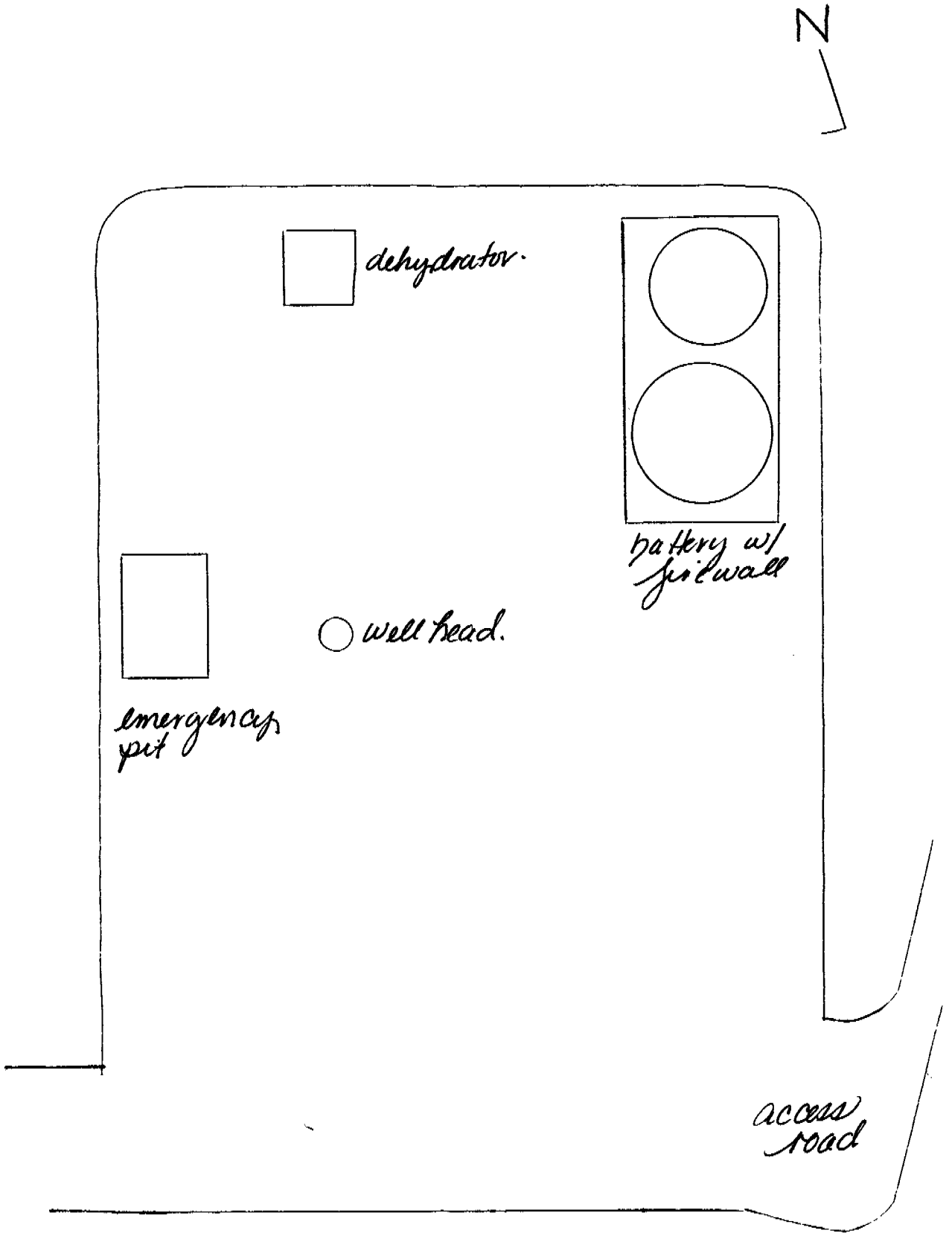
If you have questions on the above please contact Keith Chapman or Jim Piani at (801) 789-1362.

Sincerely,

Karl J Wright
For Paul M. Andrews
Area Manager
Bookcliffs Resource Area

cc: Jim Baza
State of Utah
Division of Oil, Gas, and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Island Unit #18[redacted] | Sec 2, 10 So, 19E | [redacted]bly 7 June 88



42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE
NATIONAL

Form OGC-1b

SUBMIT IN TRIPLICATE* (other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

7. UNIT AGREEMENT NAME: Island

2. NAME OF OPERATOR: Wexpro Company

8. FARM OR LEASE NAME: Unit

3. ADDRESS OF OPERATOR: P. O. Box 458, Rock Springs, Wyoming 82902

9. WELL NO.: 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT: Island

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

RECEIVED
JAN 26 1989
DIVISION OF OIL, GAS & MINING

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005'	Uintah	Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			☐
(Other) Install Equipment	☒			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

The above captioned well is loaded and will not produce against line pressure. Wexpro Company intends to install a plunger-lift system in the well and appropriate separation equipment. In doing so, additional trenches will be created to bury dump lines, vent lines and fuel gas lines. It is estimated that one trench will be approximately 175 feet long and the second will be 75 feet long. All surface disturbances will be on location. The blow down line will be 75 feet long.

Attached is an anticipated site security drawing. When the work is complete, a revised drawing will be sent to reflect the actual changes.

18. I hereby certify that the foregoing is true and correct

SIGNED H. R. Logan TITLE District Manager DATE 1/23/89

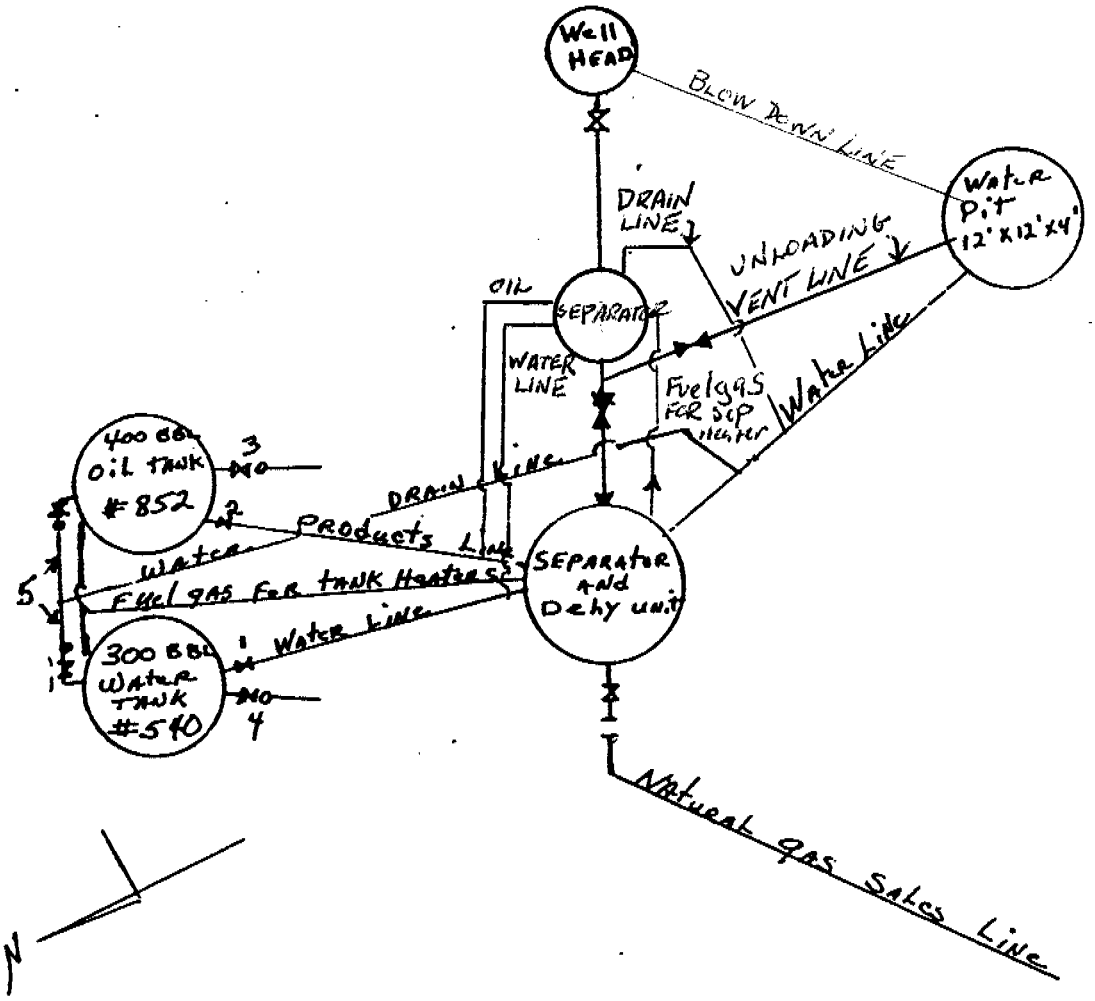
(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 2-2-89
BY: John R. Baza

*See Instructions on Reverse Side



LEGEND

- GAS METER
- CHOKE
- VALVE
- SEAL
- ------ INTERMITTENT WATER VAPOR LINE

VALVE NO.	PROD.	SALES	VALVE NO.	PROD.	SALES
1	Closed	Open			
2	Open	Closed			
3	Closed	Open			
4	Open	Closed			
5	Closed	Closed			

Revised 07-28-88

OPERATOR: Wexpro Company

LEASE NO.: ML-11004 TYPE: Federal

NAME: Island Unit #18

SEC. SE NW Sec. 2 T. 10S R. 19E

COUNTY: Uintah

STATE: Utah

INITIAL PRODUCTION:

SITE SECURITY DIAGRAM

Island Unit Well No. 18

DRAWN:	SCALE:
CHECKED:	DRWG. NO.
APPROVED:	

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

5. LEASE DESIGNATION AND SERIAL NO.: SEE ATTACHED SHEET

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA

7. IF UNIT OR CA, AGREEMENT DESIGNATION: ISLAND

1. TYPE OF WELL: [ ] OIL WELL [X] GAS WELL [ ] OTHER

8. WELL NAME AND NO.: SEE ATTACHED SHEET

2. NAME OF OPERATOR: WEXPRO COMPANY

9. API WELL NO.: SEE ATTACHED SHEEET

3. ADDRESS AND TELEPHONE NO.: P. O. BOX 458, ROCK SPRINGS, WY 82902 (307) 382-9791

10. FIELD AND POOL, OR EXPLORATORY AREA: ISLAND

4. LOCATION OF WELL (FOOTAGE, SEC., T., R., M., OR SURVEY DESCRIPTION)

SEE ATTACHED SHEET

43-047-31502

11. COUNTY OR PARISH, STATE: UINTAH COUNTY, UTAH

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change in Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other Produced Water Disposal	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Wexpro Company is required as a Condition of Approval on Sundry Notices approving installation of blowdown tanks on Island Unit Wells No. 21, 25, 26, 27 and 30, to notify the BLM of the name and location of the facility to be used to dispose of produced water. Please note that all excess produced water is hauled by tank truck over Unit, Tribal, County and State roads to the Ace Disposal Pit which is approved by the State of Utah. Attached is a list of all wells in the Island Unit. Produced water from any of these wells may be hauled to the Ace Pit.

RECEIVED
OCT 13 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct

Signed G T Nimmo Title G. T. Nimmo, Operations Manager Date October 9, 1998

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any:

Title 18 U.S. C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

WELL NAME and FIELD	API NUMBER	TYPE WELL	LEGAL DESCRIPTION	COUNTY, STATE	UNIT CA PA NUMBER	LEASE NUMBER	PRODUCING FORMATION	BWPD	NTL-2B (CRITERIA)	PIT SIZE	NTL-2B SUBMITTED	NTL-2B APPROVED	SITE-SECRTY REVISED
ISLAND UNIT					891006935A								
UNIT NO. 3	4304715643	WG	NE SW 8-10S-20E	UINTAH, UT		U-4486	WASATCH	TRACE	4	24X25X4	6-18-84	7-27-84	04-27-95
UNIT NO. 9	4304730468	WG	C SW 11-10S-19E	UINTAH, UT		U-4481	WASATCH	0.02	4	18X12X4	4-22-80	5-9-80	8-10-90
								TRACE	4	BARREL	5-13-86	6-4-86	
UNIT NO. 11	4304731241	WG	SE NW 11-10S-19E	UINTAH, UT		U-4481	WASATCH	0.02	4	16X20X6	6-18-84	7-27-84	8-10-90
								TRACE	4	BARREL	5-13-86	6-4-86	
UNIT NO. 12	4304731242	WG	NE SE 11-10S-19E	UINTAH, UT		U-4481	WASATCH	4.00	4	16X20X5	6-18-84	7-27-84	8-10-90
								TRACE	4	BARREL	5-13-86	6-4-86	
UNIT NO. 13	4304731239	WG	SE SE 12-10S-19E	UINTAH, UT		U-4484	WASATCH	4.50	4	16X19X8	6-18-84	7-27-84	12-1-87
								TRACE	4	BARREL	5-13-86	6-4-86	
UNIT NO. 14	4304731331	WG	NE SE 8-10S-20E	UINTAH, UT		U-4486	WASATCH	TRACE	4	BARREL	5-13-86	6-4-86	05-27-98
UNIT NO. 15	4304731330	WG	SW SE 7-10S-20E	UINTAH, UT		U-4482	WASATCH	0.57	4	12X12X4	6-18-84	7-27-84	8-10-90
								TRACE	4	BARREL	5-13-86	6-4-86	
UNIT NO. 16	4304731505	CIO	NE SW 11-10S-18E	UINTAH, UT		U-013818	GREEN RIVER	1.00	4	24X24X8	3-13-85	8-20-87	3-3-89
								0.25	4	8X10X3	3-13-85	8-20-87	
UNIT NO. 17	4304731503	WG	SE SW 2-10S-19E	UINTAH, UT		ML-11004	WASATCH	EMRG		12X12X6	6-26-86**	NO ST. RESP.	8-20-90
UNIT NO. 18	4304731502	WG	SE NW 2-10S-19E	UINTAH, UT		ML-11004	WASATCH	EMRG		12X12X4	6-26-86**	NO ST. RESP.	07-14-98
UNIT NO. 19	4304731633	WG	SE SW 9-10S-20E	UINTAH, UT		U-013768	WASATCH	EMRG		10X10X6	5-8-86	8-8-86	7-28-88
								TRACE	4	7X28X4	7-14-86	8-8-86	
								TRACE	4	BARREL	7-14-86	8-8-86	
UNIT NO. 20	4304731629	WG	SW NW 7-10S-20E	UINTAH, UT		U-4482	WASATCH	3.50	4	14X12X6	1-20-86	2-10-86	1-20-86
								TRACE	4	9X8X3	1-20-86	2-10-86	
								TRACE	4	BARREL	1-20-86	2-10-86	
UNIT NO. 21	4304731628	WG	NW NW 12-10S-19E	UINTAH, UT		U-4484	WASATCH	EMRG		12X12X6	5-8-86	6-4-86	7-28-88
								TRACE	4	11X11X3	5-8-86	6-4-86	
								TRACE	4	BARREL	5-8-86	6-4-86	
UNIT NO. 22	4304731632	WG	SE SE 9-10S-20E	UINTAH, UT		U-013768	WASATCH	TRACE	4	13X6X5	7-15-86	8-8-86	05-27-98
								TRACE	4	BARRELL	8-22-88	9-15-88	
UNIT NO. 23	4304731631	WG	NE NE 9-10S-20E	UINTAH, UT		U-013768	WASATCH	3.70	4	16X9X5	7-14-86	8-8-86	1-20-86
								TRACE	4	6X9X4	7-14-86	8-8-86	
								TRACE	4	BARREL	7-14-86	8-8-86	
UNIT NO. 24	4304731630	WG	SW NW 8-10S-20E	UINTAH, UT		U-4482	WASATCH	1.50	4	11X8X7	1-20-86	2-10-86	1-20-86
								TRACE	4	BARREL	1-20-86	2-10-86	
UNIT NO. 25	4304731702	WG	NW NE 11-10S-19E	UINTAH, UT		U-4481	WASATCH	TRACE	4	BARREL	1-5-87	4-28-87	8-22-88
								5.00	4	21X23X5	1-5-87	4-28-87	
UNIT NO. 26	4304731701	WG	SE SE 2-10S-19E	UINTAH, UT		ML-11004	WASATCH	TRACE	4	BARREL	1-5-87**	NO ST. RESP.	8-22-88
								5.00	4	24X26X5	1-5-87**	NO ST. RESP.	
UNIT NO. 27	4304731703	WG	NE NW 9-10S-20E	UINTAH, UT		U-013768	WASATCH	TRACE	4	BARREL	1-5-87	4-28-87	8-22-88
								5.00	4	15X21X10	11-9-88	12-21-88	
UNIT NO. 29	4304731752	WG	SE NE 2-10S-19E	UINTAH, UT		ML-11004	WASATCH	TRACE	4	BARREL	2-27-87	3-13-87	07-14-98
								5.00	4	16X16X6	2-17-87	3-13-87	
UNIT NO. 30	4304731749	WG	NW NE 12-10S-19E	UINTAH, UT		U-4484	WASATCH	TRACE	4	BARREL	2-27-87	3-13-87	12-1-87
								5.00	4	16X16X6	11-9-88	12-21-88	
UNIT NO. 32	4304731751	WG	SW NE 8-10S-20E	UINTAH, UT		U-4482	WASATCH	TRACE	4	BARREL	2-27-87	3-13-87	10-07-91
								5.00	4	16X16X6	11-9-88	12-21-88	
UNIT NO. 34	4304732962	WG	NE SE 8-10S-20E	UINTAH, UT		U-4486	WASATCH						05-27-98
UNIT NO. 35	4304732963	WG	NE SE 8-10S-20E	UINTAH, UT		U-013768	WASATCH						05-27-98
UNIT NO. 36	4304732964	WG	SE SE 9-10S-20E	UINTAH, UT		14-20-462-391	WASATCH						05-27-98
UNIT NO. 37	4304732966	WG	NW NW 8-10S-20E	UINTAH, UT		U-4483	WASATCH			NO PIT			05-15-98
UNIT NO. 38	4304733107	WG	SE SE 12-10S-19E	UINTAH, UT		U-4484	WASATCH			NO PIT			
UNIT NO. 39	4304732967	WG	NW NW 8-10S-20E	UINTAH, UT		U-4481	WASATCH			NO PIT			05-15-98
UNIT NO. 41	4304732968	WG	NW NW 8-10S-20E	UINTAH, UT		U-4483	WASATCH			NO PIT			05-15-98
UNIT NO. 43	4304732965	WG	SE SE 9-10S-20E	UINTAH, UT		U-013768	WASATCH						05-27-98
UNIT NO. 44	4304732959	WG	SW SE 7-10S-20E	UINTAH, UT		U-4483	WASATCH						05-27-98
UNIT NO. 45	4304732960	WG	SW SE 7-10S-20E	UINTAH, UT		U-4483	WASATCH						05-27-98
UNIT NO. 46	4304732961	WG	SW SE 7-10S-20E	UINTAH, UT		U-4482	WASATCH						05-27-98
UNIT NO. 50	4304733108	WG	SE SE 12-10S-19E	UINTAH, UT		U-4482	WASATCH			NO PIT			
UNIT NO. 51	4304733109	WG	SE SE 12-10S-19E	UINTAH, UT		U-4484	WASATCH			NO PIT			
UNIT NO. 52	4304733110	WG	SE SE 12-10S-19E	UINTAH, UT		U-4484	WASATCH			NO PIT			
UNIT NO. 53	4304733111	WG	NE SE 11-10S-19E	UINTAH, UT		U-4481	WASATCH			NO PIT			
UNIT NO. 54	4304733112	WG	NE SE 11-10S-19E	UINTAH, UT		U-4481	WASATCH			NO PIT			
UNIT NO. 55	4304733113	WG	NE SE 11-10S-19E	UINTAH, UT		U-4481	WASATCH			NO PIT			

WEXPRO REGULATORY AFFAIRS WELL LIST UPDATE

10/9/98

WELL NAME and FIELD	API NUMBER	TYPE WELL	LEGAL DESCRIPTION	COUNTY, STATE	UNIT CA PA NUMBER	LEASE NUMBER	PRODUCING FORMATION	BWPD	NTL-2B (CRITERIA)	PIT SIZE	NTL-2B SUBMITTED	NTL-2B APPROVED	SITE-SECRTY REVISED
UNIT NO. 56	4304733114	WG	NE SE 11-10S-19E	UINTAH, UT		U-4481	WASATCH			NO PIT			

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

5. LEASE DESIGNATION AND SERIAL NO.: SEE BELOW

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. IF UNIT OR CA, AGREEMENT DESIGNATION: ISLAND

1. TYPE OF WELL: [ ] OIL WELL [X] GAS WELL [ ] OTHER

8. WELL NAME AND NO.: ISLAND UNIT WELLS

2. NAME OF OPERATOR: WEXPRO COMPANY

9. API WELL NO.: SEE BELOW

3. ADDRESS AND TELEPHONE NO.: P. O. BOX 458, ROCK SPRINGS, WY 82902 (307) 382-9791

10. FIELD AND POOL, OR EXPLORATORY AREA: ISLAND

4. LOCATION OF WELL (FOOTAGE, SEC., T., R., M., OR SURVEY DESCRIPTION)

SEE BELOW

43-047-31502

11. COUNTY OR PARISH, STATE: UINTAH COUNTY, UTAH

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change in Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other ELECTRONIC MEASUREMENT	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

On all wells in the Island Unit, with the exception of Island No. 23, Wexpro intends to install EGM to replace the current gas chart meters. A Fisher ROC model 364/MCU will be installed with the following Rosemount transducers, 3051CG3M52A1AT1, 3051CD2M52A1AT1 and 0444LM1U1A2E5.

See attached for the list of wells to be included in the project.

RECEIVED
SEP 20 1999
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct

Signed G. T. Nimmo Title G. T. Nimmo, Operations Manager Date September 16, 1999

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S. C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

WELL NAME	PAD NO.	API NUMBER	LEGAL DESCRIPTION	COUNTY, STATE	UNIT CA PA NUMBER	LEASE NUMBER
ISLAND UNIT				Unit Number	891006935A	
UNIT NO. 3		4304715643	NE SW 8-10S-20E	UINTAH, UT		U-4486
UNIT NO. 9		4304730488	C SW 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 10	8	4304730725	SW SW 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 11		4304731241	SE NW 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 12	6	4304731242	NE SE 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 13	5	4304731239	SE SE 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 14	3	4304731331	NE SE 8-10S-20E	UINTAH, UT		U-4486
UNIT NO. 15		4304731330	SW SE 7-10S-20E	UINTAH, UT		U-4482
UNIT NO. 16		4304731505	NE SW 11-10S-18E	UINTAH, UT		U-013818
UNIT NO. 17		4304731503	SE SW 2-10S-19E	UINTAH, UT		ML-11004
UNIT NO. 18		4304731502	SE NW 2-10S-19E	UINTAH, UT		ML-11004
UNIT NO. 19		4304731633	SE SW 9-10S-20E	UINTAH, UT		U-013768
UNIT NO. 20	7	4304731629	SW NW 7-10S-20E	UINTAH, UT		U-4482
UNIT NO. 21		4304731628	NW NW 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 22	4	4304731632	SE SE 9-10S-20E	UINTAH, UT		U-013768
UNIT NO. 24		4304731630	SW NW 8-10S-20E	UINTAH, UT		U-4482
UNIT NO. 25		4304731702	NW NE 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 26		4304731701	SE SE 2-10S-19E	UINTAH, UT		ML-11004
UNIT NO. 27		4304731703	NE NW 9-10S-20E	UINTAH, UT		U-013768
UNIT NO. 29		4304731752	SE NE 2-10S-19E	UINTAH, UT		ML-11004
UNIT NO. 30		4304731749	NW NE 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 32		4304731751	SW NE 8-10S-20E	UINTAH, UT		U-4482
UNIT NO. 34	3	4304732962	NE SE 8-10S-20E	UINTAH, UT		U-4486
UNIT NO. 35	3	4304732963	NE SE 8-10S-20E	UINTAH, UT		U-013768
UNIT NO. 36	4	4304732964	SE SE 9-10S-20E	UINTAH, UT		14-20-462-391
UNIT NO. 37	1	4304732966	NW NW 8-10S-20E	UINTAH, UT		U-4483
UNIT NO. 38	5	4304733107	SE SE 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 39	1	4304732967	NW NW 8-10S-20E	UINTAH, UT		U-4481
UNIT NO. 41	1	4304732968	NW NW 8-10S-20E	UINTAH, UT		U-4483
UNIT NO. 43	4	4304732965	SE SE 9-10S-20E	UINTAH, UT		U-013768
UNIT NO. 44	2	4304732959	SW SE 7-10S-20E	UINTAH, UT		U-4483
UNIT NO. 45	2	4304732960	SW SE 7-10S-20E	UINTAH, UT		U-4483
UNIT NO. 46	2	4304732961	SW SE 7-10S-20E	UINTAH, UT		U-4482
UNIT NO. 50	5	4304733108	SE SE 12-10S-19E	UINTAH, UT		U-4482
UNIT NO. 51	5	4304733109	SE SE 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 52	5	4304733110	SE SE 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 53	6	4304733111	NE SE 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 54	6	4304733112	NE SE 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 55	6	4304733113	NE SE 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 56	6	4304733114	NE SE 11-10S-19E	UINTAH, UT		U-4481
UNIT NO. 64	7	4304733304	SW NW 7-10S-20E	UINTAH, UT		U-4482
UNIT NO. 65	7	4304733305	SW NW 7-10S-20E	UINTAH, UT		U-4482
UNIT NO. 66	7	4304733306	SW NW 7-10S-20E	UINTAH, UT		U-4482
UNIT NO. 67	8	4304733307	SW SW 12-10S-19E	UINTAH, UT		U-4484
UNIT NO. 68	8	4304733308	SW SW 12-10S-19E	UINTAH, UT		U-4484

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

CONDITIONS OF APPROVAL TO PLUG AND ABANDON WELL

Well Name and Number:	Island Unit 18
API Number:	43-047-31502
Operator:	Wexpro Company
Type of Approval Requested:	Plug and abandon well
Reference Document:	Sundry notice dated January 19, 2001, received by DOGM on January 26, 2001

Approval Conditions:

1. As discussed, with Chris Bilby, set a 200' balanced plug across the Birdnest Aquifer from ±2100' to 2300' inside the 5-1/2' casing.

2. Notify the Division at least 24 hours prior to conducting abandonment operations. Please call David Hackford at 435-722-3417.

3. All other requirements for notice and reporting in the Oil and Gas Conservation General Rules shall apply.

R. Allen McKee
Petroleum Engineer

February 7, 2001
Date

Wellbore Diagram

API Well No: 43-047-31502-00-00 **Permit No:** **Well Name/No:** ISLAND UNIT 18

Company Name: WEXPRO COMPANY

Location: Sec: 2 T: 10S R: 19E Spot: SENW

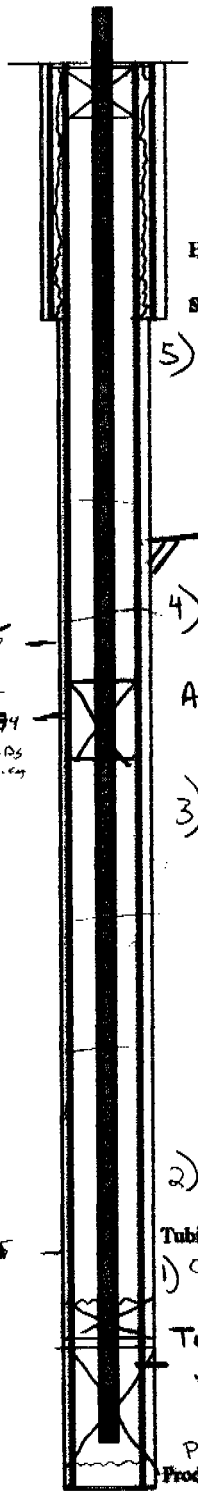
Coordinates: X: 4425928 Y: 606600

Field Name: NATURAL BUTTES

County Name: UINTAH

String Information

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)
HOL1	327	12.25		
SURF	327	9.625	36	327
HOL2	6800	7.875		
PROD	6800	5.5	17	6800
T1	5909	2.375		



TOC SFC

6) 50' @ SFC (5½) = 1.16 bbl

5½ x 9⅞ ANN .2691 ft³ = .0479 bbl/ft

$\frac{8.921^2 - 5.5^2}{183.35}$

Hole: 12.25 in. @ 327 ft.

Surface: 9.625 in. @ 327 ft.

5) 75 SX IN ANNULUS 15.5 bbls / .0479 = 324 ft ∴ ENTIRE ANNULUS VOLUME.

Cement Information

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
PROD	6800		LT	375
PROD	6800		UK	480
SURF	327	0	G	175

TOC ± 900'

4) Disp tbg = $\frac{5909}{14.75 \times 42}$ = 9.53 bbl

∴ HOLE FULL OF MUD.

ADD BALANCE PLUG - 5 bbls, 2100 - 2315' ≈ 215' ACROSS FROM BIRDSNEST

BIRD TGR 2454 BIRDS NEST

3) 136 bbls 9.0 ppg POZ ±5862' of MUD

Perforation Information

Top (ft sub)	Bottom (ft sub)	Shts/Ft	No Shts	Dt Squeeze
6509	6734			
6337	6372			
5998	6030			

Formation Information

Formation	Depth	Formation	Depth
UNTA	0		
GRRV	1311		
WSTC	5121		

2) 60' ON TOP OF CICR (5865') 1.39 bbls

Tubing: 2.375 in. @ 5909 ft.

5925 NS

1) CICR @ 5925' SQUEEZE 100 SX (20 bbl)

TOP PERF 5998 (WASATCH)

5½ 17 #/1 CAP .1305 ft³/ft .0232

PBTD: 6789 6789 - 5925 = 864' x .0232 (CAP) = 20.04 bbl

Production: 5.5 in. @ 6800 ft.

TD: 6800 TVD:

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Form OGC-1b

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug-back to a different reservoir. Use "APPLICATION FOR PERMIT--" for such proposals.)

1. OIL WELL [ ] GAS WELL [X] OTHER

7. UNIT AGREEMENT NAME: Island

2. NAME OF OPERATOR: Wexpro Company

8. FARM OR LEASE NAME: Unit

3. ADDRESS OF OPERATOR: P. O. BOX 458, ROCK SPRINGS, WY 82902
PHONE NUMBER: (307) 382-9791

9. WELL NO.: 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements* See also space 17 below.)
At surface
SE NW, ~~1057~~ 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT: Island - Wasatch

11. SEC., T.,R.,M., OR BLK. AND SURVEY OR AREA: 2-10S-19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	GR 5005' RKB 5020.50'	Uintah	Utah

16. **Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[X]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			[ ]
(Other)			[ ]				

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Wexpro Company intends to plug and abandon this well according to the following procedure. This work is anticipated to begin on or about February 19, 2001.

1) MIRU a contract workover rig. Blow the well down and reverse the hole with fresh water.
2) ND the wellhead and NU a 7-1/16", 5M BOP. POOH standing back.
3) Round trip a casing scraper to 5,960' and reverse bottoms up to clean hole. POOH and LD scraper.
4) RIH and set a cement retainer at 5,925.
5) Mix and spot 110 sacks (22 bbls) of Class G cement.
6) Sting into the retainer and squeeze the perfs using 100 sacks (20 bbls) below the retainer.
7) Sting out of the retainer and pull two joints of tubing leaving a 60' cement plug on top of the retainer.
8) Reverse out remaining cement.
9) Reverse the hole full (136 bbls) of 9ppg Poz/gel slurry. POOH laying down tubing and stinger.
10) Top off the 5-1/2" casing with about 10 bbls of 9ppg Poz/gel spacer.
11) Establish an injection rate into the 5-1/2 by 9-5/8 annulus.
12) Pump 75 sacks (15.5 bbls) into the suface casing annulus.
13) ND the BOP and cutoff the 11", 3M casing spool.
14) Mix and place a 50' cement plug in the surface of the 5-1/2" casing.
15) Top off the surface casing to bring cement to surface.
16) Install a regulation dry hole marker.

COPY SENT TO OPERATOR
Date: 02-07-01
Initials: ER

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 2/7/01
BY: [signature]
JAN 24 2001
DIVISION OF OIL, GAS AND MINING

Note: Location reclamation will be completed at a later date as soon as weather permits.

A wellbore status drawing is attached for information.

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Operations Manager DATE 01/19/01

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:
Attached

*See Instructions On Reverse Side

Drawn by GB 9-21-84

Unit Well No. 18
Island Field
SE NW Sec. 2, T. 10 S., R. 19 E.
Uintah County, Utah

Schematic-Not drawn to scale
Drilled by Wexpro Company September 1984

	Net
1 NSCo. 10" 3000 psi regular duty casing flange	1.58
8 jts. 9-5/8" O.D., 36#, K-55, 8 rd thrd, ST&C casing	308.58
1 Halco guide shoe	1.13
	311.29

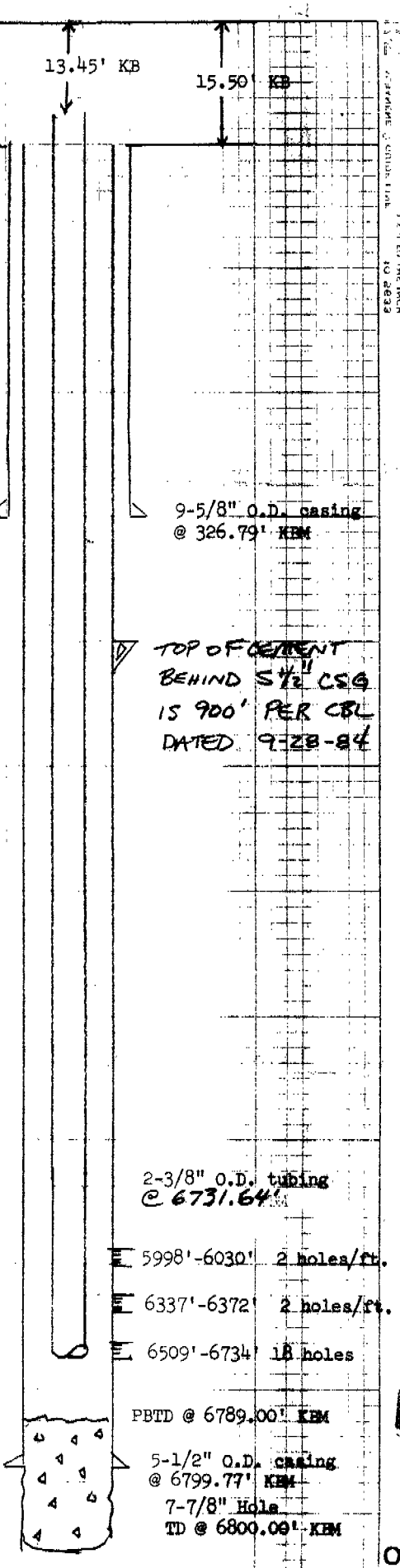
The above casing is landed at 326.79' KBM or 15.50' below KB. Pumped 20 barrels of gelled water ahead of cement. Cemented casing using 175 sacks regular cement treated with 2% CaCl. Returned 22 barrels cement slurry to surface. Cement in place @ 2:45 P.M., 8-14-84.

5-1/2" O.D. Production Casing

	Net
1 pc. 5-1/2" O.D., 17#, K-55, 8 rd thrd, LT&C casing	25.60
163 jts. 5-1/2" O.D., 17#, K-55, 8 rd thrd, LT&C casing	6,727.64
1 Dowell float collar	2.25
1 jt. 5-1/2" O.D., 17#, K-55, 8 rd thrd, LT&C casing	26.58
1 Dowell float shoe	2.20
	6,784.27

.0232 B/F

The above casing is landed @ 6799.77' KBM or 15.50' below KB in a National 11" 3000 psi casing flange with 96,000 pounds casing weight on slips. Cemented with 375 sacks Dowell Hilift cement treated with 3% D-44. Followed with 480 sacks Dowell 10D RFC cement treated with 5 pounds per sack D-42. Good returns until flush returned to surface then lost returns. Bumped plug with 158 barrels water & 3000 psi. Held okay. Float equipment held okay. Cement in place @ 4:00 A.M., 9-11-84.



See attachment for details of 2-3/8" O.D. tubing

RECEIVED
JAN 26 2001
DIVISION OF
OIL, GAS AND MINING

Form OGC-1b

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT-" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER
2. NAME OF OPERATOR
3. ADDRESS OF OPERATOR
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface
   SE NW, 1957' FNL, 2149' FWL

5. LEASE DESIGNATION AND SERIAL NO: ML-11004
6. IF INDIAN, ALOTTEE OR TRIBE NAME: ____
7. UNIT AGREEMENT NAME: ISLAND UNIT
8. FARM OR LEASE NAME: ISLAND UNIT
9. WELL NO.: ISLAND UNIT WELL NO. 18
10. FIELD AND POOL, OR WILDCAT: ISLAND
11. SEC.T.R.W. OR BLK AND SURVEY OR AREA: 2 - 10S - 19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF,RT,GR,etc.)	12. COUNTY OR PARISH	13. STATE
43-047-31502	5005' GR	UINTAH	UTAH

16.

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON *	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) RESUME PRODUCTION			☒
(Other)	☐			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Production was resumed on the above subject well at noon on April 20, 2001, after being shut-in due to economics and mechanical problems.

Please consider the faxed sundry as initial notification. The original and copies will be mailed.

18. I hereby certify that the foregoing is true and correct

SIGNED _____ TITLE Operations Manager DATE April 20, 2001

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

* See Instructions on Reverse Side

Form OGC-1b

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.
ML-11004

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT-" for such proposals.)

6. IF INDIAN, ALOTTEE OR TRIBE NAME
———

1. OIL WELL [ ] GAS WELL [X] OTHER

7. UNIT AGREEMENT NAME
ISLAND UNIT

2. NAME OF OPERATOR

8. FARM OR LEASE NAME
ISLAND UNIT

3. ADDRESS OF OPERATOR

9. WELL NO.
ISLAND UNIT WELL NO. 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT
ISLAND

11. SEC.T.R.W. OR BLX AND SURVEY OR AREA
2 - 10S - 19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF,RT,GR,etc.)	12. COUNTY OR PARISH	18. STATE
43-047-31502	5005' GR	UINTAH	UTAH

16.

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON *	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) RESUME PRODUCTION			[X]
(Other)	[ ]		[ ]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Production was resumed on the above subject well at noon on April 20, 2001, after being shut-in due to economics and mechanical problems.

Please consider the faxed sundry as initial notification. The original and copies will be mailed.

RECEIVED
APR 23 2001
DIVISION OF
OIL, GAS AND MINING

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Operations Manager DATE April 20, 2001

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

* See Instructions on Reverse Side

Form OGC-1b

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.
ML-11004

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT-" for such proposals.)

6. IF INDIAN, ALOTTEE OR TRIBE NAME
---

1. OIL WELL [ ] GAS WELL [X] OTHER

7. UNIT AGREEMENT NAME
ISLAND UNIT

2. NAME OF OPERATOR
WEXPRO COMPANY

8. FARM OR LEASE NAME
ISLAND UNIT

3. ADDRESS OF OPERATOR
P.O. BOX 458, ROCK SPRINGS, WY 82902

9. WELL NO.
ISLAND UNIT WELL NO. 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT
ISLAND

11. SEC.T.R.W. OR BLX AND SURVEY OR AREA
2 - 10S - 19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF,RT,GR,etc.)	12. COUNTY OR PARISH	18. STATE
43-047-31502	5005' GR	UINTAH	UTAH

16.

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON *	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]
(Other) INSTALL PRODUCTION FACITILIES	[X]		[ ]

SUBSEQUENT REPORT OF:

WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOTING OR ACIDIZING	[ ]	ABANDONMENT	[ ]
(Other)			[ ]

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Wexpro Company intends to install production facililties on the above location as shown on the attached diagram.
All activites will be on the existing location and there will be no additional disturbance.

RECEIVED
JAN 06 2003
DIV. OF OIL, GAS & MINING

Accepted by the
Utah Division of
Oil, Gas and Mining
Date: 1/24/03
By: [signature]

COPY SENT TO OPERATOR
Date: 1-27-03
Initials: CHD

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Operations Manager DATE January 3, 2003

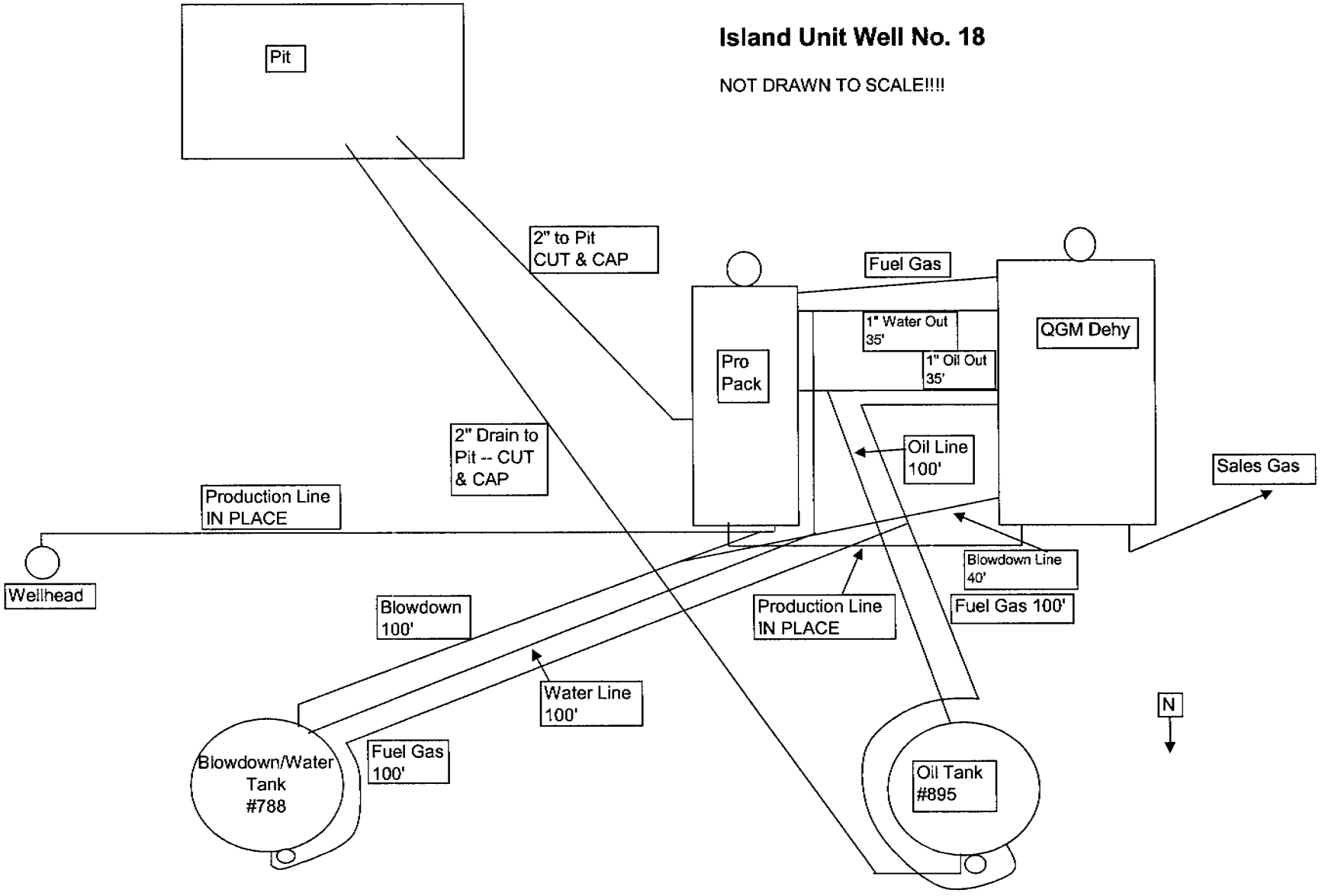
(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

* See Instructions on Reverse Side

Island Unit Well No. 18

NOT DRAWN TO SCALE!!!!



Form OGC-1b

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.
ML-11004

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT-" for such proposals.)

6. IF INDIAN, ALOTTEE OR TRIBE NAME
—

OIL WELL ☐ GAS WELL ☒ OTHER

7. UNIT AGREEMENT NAME
ISLAND UNIT

NAME OF OPERATOR
WEXPRO COMPANY

8. FARM OR LEASE NAME
ISLAND UNIT

ADDRESS OF OPERATOR
P.O. BOX 458, ROCK SPRINGS, WY 82902

9. WELL NO.
ISLAND UNIT WELL NO. 18

LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT
ISLAND

11. SEC.T.R.W. OR BLK AND SURVEY OR AREA
2 - 10S - 19E

PERMIT NO.	15. ELEVATIONS (Show whether DF,RT,GR,etc.)	12. COUNTY OR PARISH	18. STATE
43-047-31502	5005' GR	UINTAH	UTAH

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON *	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Resume Production			☒
(Other)	☐			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

The above referenced well was brought on, after being off over 90 days, on February 7, 2003 at 9:00 am.

Please consider the faxed copy as initial notification. Original and copies to follow via mail.

RECEIVED
FEB 07 2003
DIV. OF OIL, GAS & MINING

I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Operations Manager DATE January 3, 2003

This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

* See Instructions on Reverse Side

Form OGC-1b

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.
ML-11004

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT-" for such proposals.)

6. IF INDIAN, ALOTTEE OR TRIBE NAME
---

1. OIL WELL [ ] GAS WELL [X] OTHER

7. UNIT AGREEMENT NAME
ISLAND UNIT

2. NAME OF OPERATOR
WEXPRO COMPANY

8. FARM OR LEASE NAME
ISLAND UNIT

3. ADDRESS OF OPERATOR
P.O. BOX 458, ROCK SPRINGS, WY 82902

9. WELL NO.
ISLAND UNIT WELL NO. 18

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
SE NW, 1957' FNL, 2149' FWL

10. FIELD AND POOL, OR WILDCAT
ISLAND

11. SEC.T.R.W. OR BLX AND SURVEY OR AREA
2 - 10S - 19E

14. PERMIT NO.	15. ELEVATIONS (Show whether DF,RT,GR,etc.)	12. COUNTY OR PARISH	18. STATE
43-047-31502	5005' GR	UINTAH	UTAH

16.

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON *	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Resume Production			[X]
(Other)	[ ]		[ ]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

The above referenced well was brought on, after being off over 90 days, on February 7, 2003 at 9:00 am.

Please consider the faxed copy as initial notification. Original and copies to follow via mail.

RECEIVED
FEB 1 1 2003
DIV. OF OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED _____ TITLE Operations Manager DATE January 3, 2003

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

* See Instructions on Reverse Side

Form 3160- 5
(September 2001)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004- 0135
Expires: January 31,2004

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

RECEIVED
DEC 09 2004
DIV. OF OIL, GAS & MINING

5. Lease Serial No.: ML-11004
6. If Indian, Allottee, or Tribe Name: ----------
7. If Unit or CA. Agreement Designation: ISLAND UNIT
8. Well Name and No.: ISLAND UNIT NO. 18
9. API Well No.: 43-047-31502-00-00
10. Field and Pool, or Exploratory Area: ISLAND
11. County or Parish, State: UINTAH, UTAH

1. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other
2. Name of Operator: WEXPRO COMPANY
3a. Address: P.O. BOX 458, ROCK SPRINGS, WY 82902
3b. Phone No. *(include area code)*: (307) 382-9791
4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*: SE NW 2-10S-19E

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☒ Production (Start/ Resume)	☐ Water Shut-off
	☐ Altering Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☒ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

The above well resumed production on 12/06/04, after being shut in over 90 days.

Please consider the faxed copy as initial notification. The original sundry and copies will be mailed.

14. I hereby certify that the foregoing is true and correct.
Name *(Printed/ Typed)*: C.T. NIMMO
Title: OPERATIONS MANAGER
Signature: C.T. Nimmo
Date: December 7, 2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by | Title | Date

Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. | Office

Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

Form 3160- 5
(August, 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004- 0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other Instructions on page 2.*

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
Wexpro Company

3a. Address
P.O. Box 458
Rock Springs, WY 82902

3b. Phone No. *(include area code)*
307.382.9791

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
1957' FNL, 2149' FWL SE NW 2-10S-19E

5. Lease Serial No.
ML 11004

6. If Indian, Allottee, or Tribe Name
N/A

7. If Unit or CA. Agreement Name and/or No.
UTU063026X Island Unit

8. Well Name and No.
Island Unit 18

9. API Well No.
43-047-31502

10. Field and Pool, or Exploratory Area
Wasatch

11. County or Parish, State
Uintah Utah

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☒ Production (Start/ Resume)	☐ Water Shut-off
	☐ Altering Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☒ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

The above well resumed production, after being off for more than 90 days, on October 19, 2007 at 10:45 A.M.

14. I hereby certify that the foregoing is true and correct.

Name *(Printed/ Typed)*
G.T. Nimmo

Title
Operations Manager

Signature

Date
October 22, 2007

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitiousor fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

RECEIVED
OCT 25 2007
DIV. OF OIL, GAS & MINING

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

FORM 9

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.

5. LEASE DESIGNATION AND SERIAL NUMBER:	ML-11004
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	N/A
7. UNIT or CA AGREEMENT NAME:	Island Unit UTU063026X
1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER	8. WELL NAME and NUMBER: Island Unit Well No. 18
2. NAME OF OPERATOR: Wexpro Company	9. API NUMBER: 4304731502
3. ADDRESS OF OPERATOR: P.O. Box 458 CITY Rock Springs STATE WY ZIP 82902 / PHONE NUMBER: (307) 382-9791	10. FIELD AND POOL, OR WILDCAT: Island

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1957' FNL 2149' FWL — COUNTY: Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 2 10S 19E — 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: 4/24/2008	☐ 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
	☐ 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.

Water produced from the above well will be disposed of in a water / blow down tank as previously approved. Excess water production will be hauled to the following State of Utah approved disposal sites:

R N Industries Inc Sec. 4-2S-2W - Bluebell
LaPoint Recycle & Storage Sec. 12-5S-19E - LaPoint
Dalbo, Inc Sec. 02-6S-20E - Vernal

All excess produced water will be hauled by tank truck over Unit, Tribal, County and State roads.

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

NAME (PLEASE PRINT) G.T. Nimmo — TITLE Operations Manager

SIGNATURE G.T. Nimmo — DATE 4/24/2008

(This space for State use only)

RECEIVED
APR 28 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

Form 3160- 5
(August, 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004- 0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other Instructions on page 2.*

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
Wexpro Company

3a. Address
P.O. Box 458
Rock Springs, WY 82902

3b. Phone No. *(include area code)*
307.382.9791

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
1957' FNL, 2149' FWL SE NW 2-10S-19E

5. Lease Serial No.
ML 11004

6. If Indian, Allottee, or Tribe Name
N/A

7. If Unit or CA. Agreement Name and/or No.
UTU063026X Island Unit

8. Well Name and No.
Island Unit 18

9. API Well No.
43-047-31502

10. Field and Pool, or Exploratory Area
Wasatch

11. County or Parish, State
Uintah Utah

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☒ Production (Start/ Resume)	☐ Water Shut-off
	☐ Altering Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☒ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

The above well resumed production, after being off for more than 90 days, on June 26, 2008 at 9:30 A.M.

14. I hereby certify that the foregoing is true and correct.
Name *(Printed/ Typed)* G.T. Nimmo — Title Operations Manager
Signature — Date June 30, 2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by — Title — Date

Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Office

Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitiousor fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

RECEIVED
JUL 03 2008
DIV. OF OIL, GAS & MINING

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

FORM 9

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.

5. LEASE DESIGNATION AND SERIAL NUMBER:	ML 11004
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	N/A
7. UNIT or CA AGREEMENT NAME:	UTU63026B
1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER	8. WELL NAME and NUMBER: ISLAND UNIT 18
2. NAME OF OPERATOR: WEXPRO COMPANY	9. API NUMBER: 4304731502
3. ADDRESS OF OPERATOR: P.O. BOX 458 CITY ROCK SPRINGS STATE WY ZIP 82902 / PHONE NUMBER: (307) 922-5600	10. FIELD AND POOL, OR WILDCAT: WASATCH

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1957' FNL, 2149' FWL, COUNTY: UINTAH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 2 10S 19E 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: 6/15/2009	☐ 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
	☐ COMMINGLE PRODUCING FORMATIONS	☑ RECLAMATION OF WELL SITE	☑ OTHER: CLOSE PIT
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

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

Wexpro intends to reclaim the existing culvert pit area now that soils have been tested and the TPH levels are less than 10,000 mg/kg as shown on the attached soil analysis.

Wexpro intends to reclaim the existing pit area and seed this fall with the following seed mixture at a drill rate of:

Shadscale (Atriplex confertifolia), 3lbs/acre, pure live seed.
Galleta Grass (Hilaria jamesii), 3lbs/acre, pure live seed.
Forage kochia (Kochia prostra), 3lbs/acre, pure live seed.
Hycrest Crested Wheatgrass (Agropyron cristayum/Agropyron desertorum hybrid), 3lbs/acre, pure live seed.

Approved by the Utah Division of Oil, Gas and Mining
Date: 5/19/09
By: Dan Jarvis

COPY SENT TO OPERATOR
Date: 5.19.2009
Initials: KS

NAME (PLEASE PRINT) G.T. Nimmo TITLE Operations Manager

SIGNATURE G.T. Nimmo DATE 050709

(This space for State use only)

Condition: Seed mixture shall be verified by SITLA

RECEIVED
MAY 13 2009
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

Wexpro
Paul Jibson
PO Box 458
Rock Springs, WY. 82902

Report Date: 5/6/09
Request Number: RS-10861
Date Received: 05/01/09
Sample Matrix: Soil
Project: Island Pits

REPORT OF ANALYSIS

Lab Number	E1221		
Sample Analysis	Island 19 04/30/09	Analysis Date	Method
Total Petroleum Hydrocarbons (mg/kg)	3940	5/5/2009	EPA 418.1

Lab Number	E1222		
Sample Analysis	Island 9 04/30/09	Analysis Date	Method
Total Petroleum Hydrocarbons (mg/kg)	2480	5/5/2009	EPA 418.1

Lab Number	E1223		
Sample Analysis	Island 11 04/30/09	Analysis Date	Method
Total Petroleum Hydrocarbons (mg/kg)	2760	5/5/2009	EPA 418.1

Lab Number	E1224		
Sample Analysis	Island 18 04/30/09	Analysis Date	Method
Total Petroleum Hydrocarbons (mg/kg)	150	5/5/2009	EPA 418.1

Lori McCain

Digitally signed by Lori McCain
DN: cn=Lori McCain, o=W.A.L., ou=Branch Manager, email=walrspgs@aol.com, c=US
Date: 2009.05.06 11:10:47 -05'00'

Lori McCain
Branch Manager

WYOMING ANALYTICAL LABORATORIES, INC.
1660 Harrison St. Laramie, WY 82070
Wallaramie@wal-lab.com
(307) 742-7995
Fax: (307) 721-8956

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
ISLAND UNIT 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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: 2/4/2019	☐ 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: Site Security Diagram

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
In accordance with 43 CFR 3173.11, Site Security Regulations, submitted herewith is a site facilities diagram for the above captioned facility. The site facility diagram is part of the Island Unit Plan. The Site Security Plan may be reviewed at the Wexpro Company, Vernal Field Office, Monday through Friday 8:00 am to 4:00 pm. Soap injection at well head was added to diagram.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
February 13, 2019

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Stephanie Shuttlesworth	307 352-7557	Operations Support Rep
SIGNATURE		**DATE**
N/A		2/4/2019

Page 1 of 3

Facility Owner/Operator Name: Wexpro Company

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X

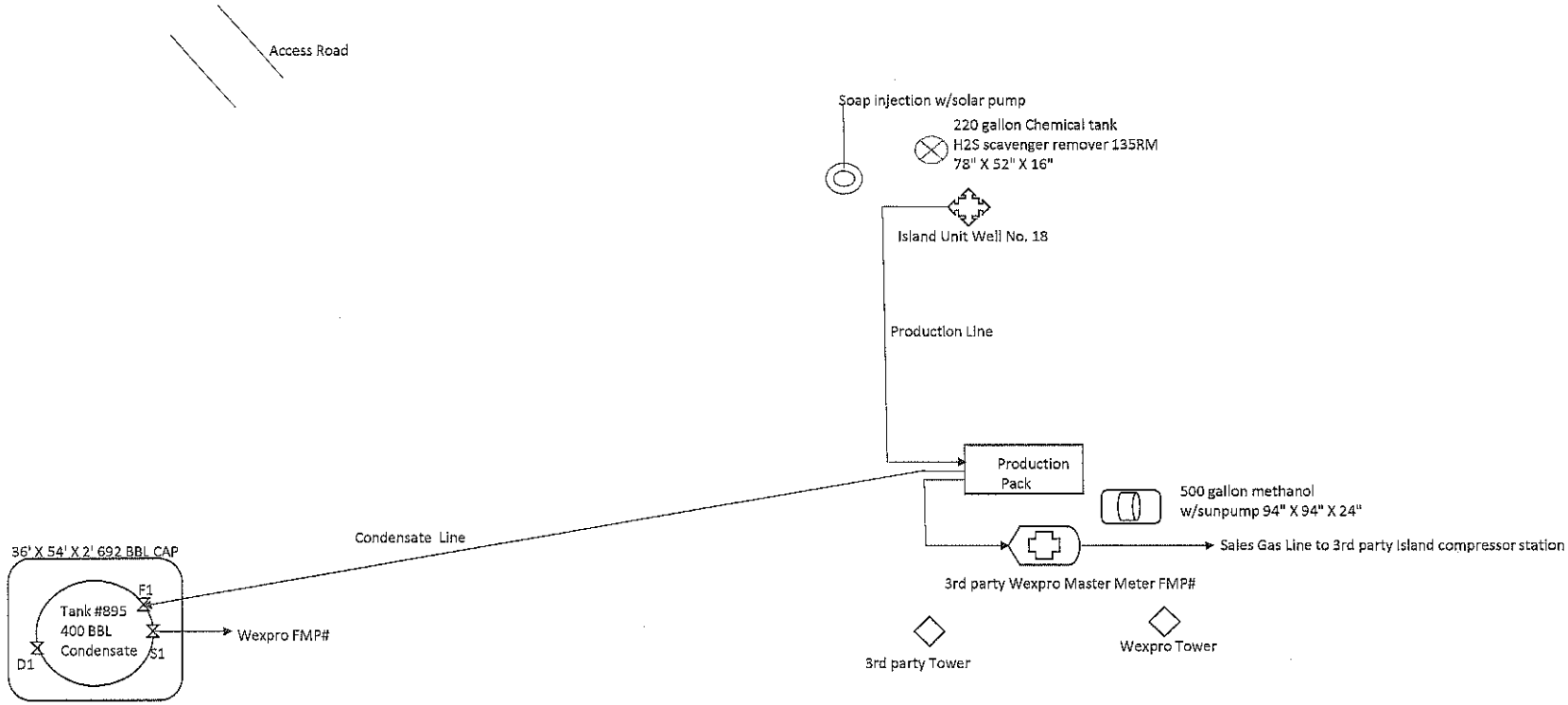
Uintah, UT

I-C

Island Unint Well No. 18

Direction Of flow

North



See attachment (Page 2)
For valve positioning
Production, sales, and draining phases

Last Revised: 12/20/2018

I-C

Facility Owner/Operator Name: Wexpro Company **Island Unint Well No. 18**

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

Diagram #

S1 & S2 are a sales valve
D1 & D2 are a drain valve
F1 is a fill valve

Valve Positioning in the Production Phase

Production into T#895
S1 and D1 are sealed closed
F1 is sealed open

Valve Positioning in the Sales Phase

Production into T#895
F1 and D1 are sealed closed
S1 is sealed open

Valve Positioning in the Drain Phase

Production into T#895
F1 and S1 are sealed closed
D1 is sealed open

I-C

Facility Owner/Operator Name: Wexpro Company **Island Unint Well No. 18**

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

Gas Analysis BTU:	1133.94	BTU/ft^3			Well/Pad Total:	4.37	MCF/DAY												
Gas Analysis Date:	4/27/2016																		
Production Unit with Line Heater																			
Manufacturer:	NTC																		
Serial Number:	T-6187501-01																		
Rating:	500000	BTU/HR																	
Hours/Day:	12	HRS																	
Months/Year:	6	MO																	
	500000	BTU/HR	÷	1133.94	BTU/ft^3	X	12	HRS/DAY	X	30.4375	DAY/MO	X	6	MO/YR	÷	1000	MCF/SCF	=	966.3 MCF/YR
																			2.65 MCF/DAY
Condensate Tank Burner																			
Tank Number:	895																		
Serial Number:	N/A																		
Rating:	325000	BTU/HR																	
Hours/Day:	12	HRS																	
Months/Year:	6	MO																	
	325000	BTU/HR	÷	1133.94	BTU/ft^3	X	12	HRS/DAY	X	30.4375	DAY/MO	X	6	MO/YR	÷	1000	MCF/SCF	=	628.1 MCF/YR
																			1.72 MCF/DAY
																			0.00 MCF/DAY

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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: 5/29/2019	☐ 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: BLM Variance

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

Wexpro Company requests a variance from the prescribed Portable Gas Chromatograph (PGC) standard within BLM 43 CFR 3175. See attachments for detailed information.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 12, 2019

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Tammy Fredrickson	307 352-7514	Senior Permit Agent
SIGNATURE		**DATE**
N/A		5/29/2019

RECEIVED: May. 29, 2019

Wexpro Company requests a variance from the prescribed Portable Gas Chromatograph (PGC) standard within Onshore Order

Subpart 3175 Measurement of Gas

We request a variance for the following two items in the Gas sampling section of the document.

3175.113 Spot samples, general requirements

(d) Spot sampling using portable gas chromatographs.

A variance allowing the use of the attached Portable Gas Chromatography SOP, utilized by many companies in the industry, to ensure accurate sampling, sample validation, and PGC verifications are performed and documented.

3175.120 Gas analysis report requirements

(13) The ambient air temperature at the time of sampling

(14) Whether or not heat trace or any other method of heating was used

(18) The un-normalized mole percents of the components tested, including a summation of those mole percents; When submitting a PGC gas analysis report the report will provide the "Total Un-normalized Mole %" vs. the component un-normalized percents as detailed in 3175.120.

RECEIVED: May. 29, 2019

Portable Gas Chromatography Standard Operating Procedures

This SOP contains the following sections:

2.0 Portable GC Checklist
3.0 Attaching the Helium Carrier Gas
4.0 Start-Up
5.0 Shut-Down
6.0 In the Field Sample Analysis
7.0 Calibration and Validation
8.0 Calibration Gas Standard Specification and Validation
9.0 Sampling System Validation
10.0 Miscellaneous

2.0 Portable GC Checklist

2.1 Daily Responsibilities:

1. Ensure Helium carrier gas is of adequate pressure for model of gas chromatograph and the regulator is functioning properly. (No lower than 200 psig cylinder pressure). (Refer to Section 3.0 Attaching the Helium Carrier Gas).
2. Purge the sample hose with sample gas, standard gas, or UHP Helium prior to analyzing the first samples of the day and prior to analyzing the first sample at each location (between 16 and 20 psig for a minimum of 2 minutes). A multi-port valve at the sample / calibration gas inlets of the chromatograph will allow for purging the sample line without detaching it from the instrument, thus reducing the potential for ambient infiltration.
3. Ensure the sampling system is heated to a minimum of 30° F above hydrocarbon dewpoint of the gas being sampled.
4. Keep a cap or plug on the sampling end of the heated line and the filter/regulator assembly when they are not in use to ensure foreign objects do not enter the system.
5. Do not lie anything on top of the heated hose while being stored. Keep it loose, coiled, and free from chafing. Do not kink the hose which will break the heat tape and pinch the sample tubing within.
6. Discard the first run of the day.
7. Check the un-normalized totals (should be between 97.0% and 103.0%) and verify the heating value, specific gravity, and individual mole% concentrations with historical data prior to accepting and processing any and all analyses into the measurement accounting system and/or entering values into the meter (refer to Section 6.0 In the Field Sample Analysis).
8. When analyzing high H_2S wells, it is recommended that the sample system be purged with UHP Helium in-between locations (this will help clear the system of H_2S contamination).

Sundry Number: 96328 API Well Number: 43047315020000

3.0 Attaching the Helium Carrier Gas

Note:
It is recommended that Helium carrier gas cylinders be mounted inside the cab of the vehicle due to the extreme temperature fluctuations the cylinder may be exposed to during the winter and summer months. Super cooling and super heating can cause a wide range of chromatographic issues and irregularities. The chromatograph should always be OFF when carrier gas is not flowing (full Shut-Down and Start-Up procedures should be followed when installing a new carrier gas bottle).

1. Verify the carrier gas being used is Ultra High Purity (UHP) Helium. UHP is defined as 99.999% pure.
2. Ensure any regulators and tubing being used for carrier gas are clean and dedicated. Never use regulators or tubing that has been used for any other purpose.
   a. A 2um in-line filter should be installed between the chromatograph and carrier gas tubing to ensure no particulate enters the instrument. Contaminants and/or particulate in the carrier gas can cause chromatographic issues and potentially damage the instrument.
   b. A moisture trap can also be installed between the chromatograph and carrier gas tubing to ensure no moisture enters the instrument. Moisture vapor in the carrier gas can cause chromatographic issues and potentially degrade the columns.
3. Check the Helium carrier gas bottle for proper operating pressures. The cylinder pressure should be above a minimum of 200 psig.
4. Prior to attaching the carrier gas tubing to the chromatograph, the regulator and tubing should be purged. With the tubing disconnected from the instrument, open the Helium cylinder and increase (clockwise) the pressure to approximately 5 psig. Allow the Helium to bleed into the atmosphere for approximately 60 seconds.
5. With the Helium still flowing at approximately 5 psig, connect the carrier gas tubing to the inlet port of the instrument. Tighten the fitting but do not use a liquid leak detector to test for leaks on the GC.
6. Very slowly increase (clockwise) the regulator pressure setting from 5 psig to the manufacturer recommended setting. This process should take an average of 1-2 minutes to perform. Check the regulated pressure setting daily. As it bounces down the road in the vehicle, the setting can change.
   a. Each Helium carrier gas cylinder regulator shall be designed for the proper pressure range. UHP Helium cylinders typically have 2200 to 2600 psig when new. Portable gas chromatographs typically require between 55 and 95 psig. The delivery side of the regulator should have a max setting of no more than 300 psig. Regulators with higher settings are not as accurate at 95 psig and below. Delivering too much pressure can severely damage the instrument.
7. In order to avoid the build up of potentially hazardous Helium concentrations within the cab of the vehicle, the carrier gas cylinder valve should be closed when the GC is to remain unused for an extended period of time, such as nights and weekends.
8. Validation of Helium carrier gas is to be performed prior to new cylinder attachment to the GC.

5.0 Shut-Down

1. When finished for the day, the power switch of the chromatograph can simply be turned off and software can be closed.
2. If the chromatograph is enclosed in a vehicle, the carrier gas should be turned off to reduce the potential for hazardous level build up.

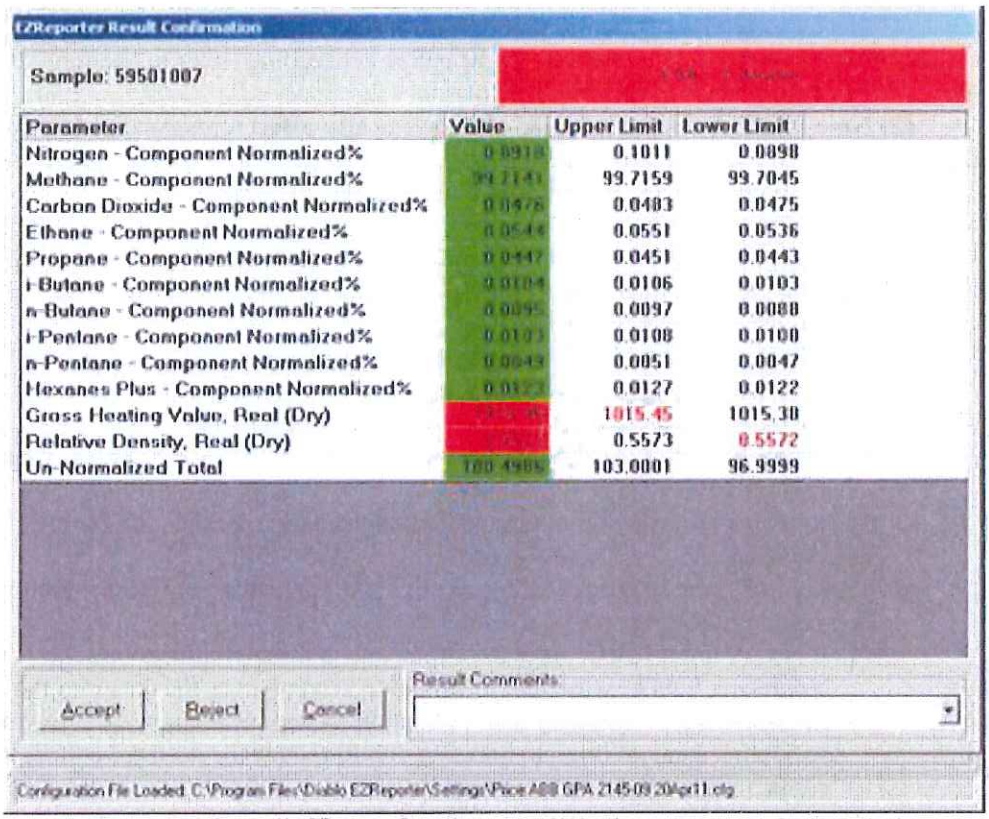
6.0 In the Field Sample Analysis

Note - Never analyze a sample stream which is not flowing. A sample stream should flow a minimum of 2 hours prior to sample analysis. If that is impossible (such as in plunger lift applications), allow as much time as practicable prior to sample analysis.

1. Vent the location sample point to ensure there are no standing liquids built up in the probe or valve.
2. Once the sampling point is free and clear of liquids, attach the filter/regulator assembly.
   a. The following picture is an example filter/regulator assembly.
   b. The assembly should be heated and/or insulated in a manner which ensures it is maintained at least 30° F above hydrocarbon dewpoint of the gas stream being analyzed.
      i. Heat should be maintained on the system when traveling between sampling locations.
   c. The filter/regulator assembly should be stored in a location which minimizes the opportunity for damage.

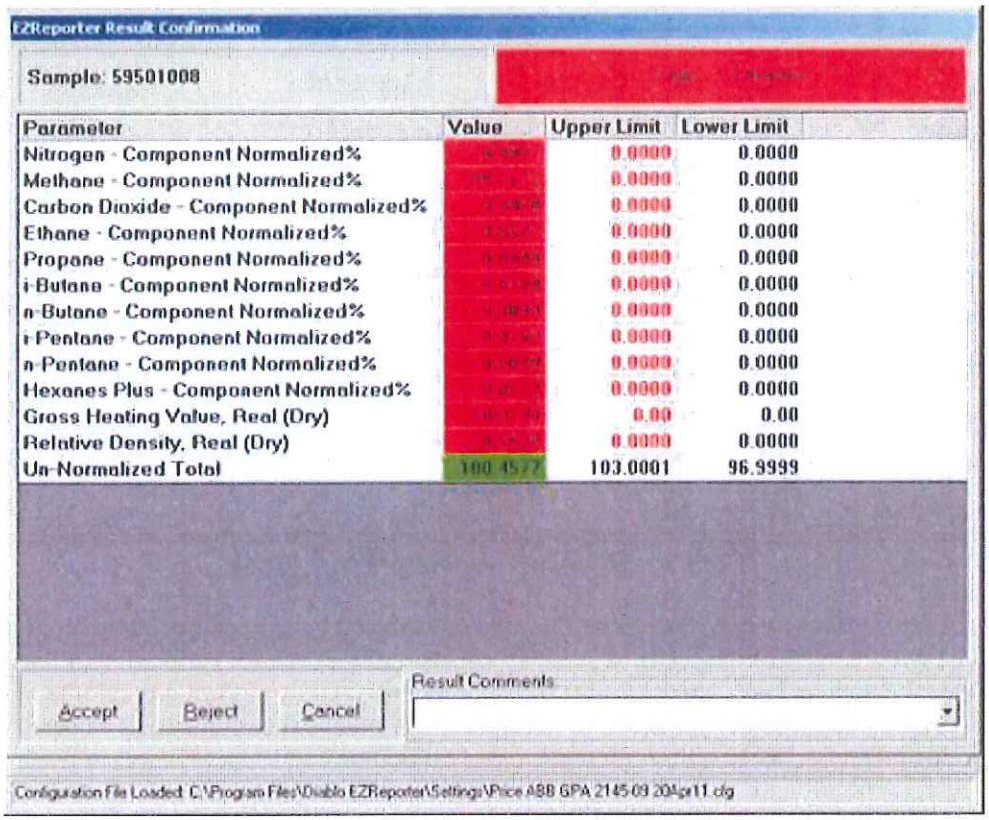
a. Ensure the location identification number transferred correctly into the 'Sample Name' field.
   i. The location identification number will need to be identical to that used in the historical database to accurately compare the data.
b. Enter all relevant data. This may include, but is not limited to, the following:
   i. Meter Name
   ii. Sample Date
   iii. Laboratory
   iv. Atmospheric Pressure
   v. Analyzer Type
   vi. Analyzer Make and Model
   vii. Last Verification/Calibration Date
   viii. Sampling Flow Rate
   ix. Ambient Temperature
   x. Sampling System Heat Tracing
   xi. Type of Sample (Spot or Composite)
   xii. Sampling Method
   xiii. Company Collecting Sample
   xiv. Hexanes Plus Split Ratio (if applicable)
   xv. Water Vapor Concentration (lbs/MMscf)
   xvi. Injection Date
   xvii. Report Date
c. If H_2S concentrations are collected by an analyzer or colorimetric tubes, enter the concentration in parts per million by volume (ppmv) into the appropriate 'H_2S' field.
d. If water vapor concentrations are collected by an analyzer, enter the concentration in pounds per million cubic feet (lbs/mmcf) into the 'Water Vapor' field.

10. Process the sample results through the historical data verification software system.
    a. The historical data verification software will verify the sample's individual component concentrations, gross heating value, and relative density against historical results for that sample location. Any results which fall within the preset acceptance windows (typically two sigma) will be highlighted green. Any results which fall outside the preset acceptance windows will be highlighted red. It will also validate the un-normalized total is between 97.0% and 103.0%
       i. The following is an example verification window with passing results.



Example Historical Data Verification Window – Parameter Failure

a. If any results which fall outside the preset acceptance parameters, the following Steps should be followed:
   i. Individual parameter failures, with the exception of un-normalized totals, do not automatically indicate a bad sample. Failures indicate a potential issue and further evaluation and investigation should be performed to verify if the sample is good or bad.
      (1) If sample has high Nitrogen, turn the sample valve at the chromatograph to vent and vent sample gas through the sampling system again. Return to Step 6.
         (a) If Nitrogen concentrations do not decrease to expected levels, inspect the sampling system for leaks. Repair or replace as necessary.
      (2) If C6+ concentrations are high, it may be an indication of a contaminated sampling system.
         (a) Re-analyze the sample to verify concentration. Return to Step 6.
            (i) If C6+ concentrations remain higher than the acceptance limits, and it is due to contamination in the sampling system, clean the sampling system prior to performing any further analyses (Refer to Section 9.0 Sampling System Validation).
   ii. If the un-normalized totals are outside of the 97.0% to 103.0% acceptance window, return to Step 9.



Example Historical Data Verification Window – Not Enough History

(2) If the un-normalized totals are within the 97.0% to 103.0% acceptance criteria, enter "Not Enough History" into the comments field and accept the results.

7.0 Calibration and Validation

Note:

Validation, and if necessary calibration, of the portable GC shall be done on a weekly basis, unless no samples are to be analyzed during a given week.

The calibration and validation procedures within this document utilize the GPA 2261-13 acceptance criteria for repeatability and reproducibility (see Table 1). Acceptance can be determined through the use of spreadsheets or though built-in comparisons within the historical verification software system.

7.2 As-Found Verification:

Note: The As-Found validation procedures assume that an initial calibration has already been performed. If it has not, skip the As-Found verification and proceed to section 7.3 Calibration.

1. Turn the sample valve at the chromatograph to vent. Vent calibration gas through the sampling system for sufficient time to ensure a representative sample is delivered to the gas chromatograph.
2. Turn the sample valve at the chromatograph to the sample inlet.
3. Analyze the calibration standard in duplicate.
4. Evaluate the compound concentrations of the two analyses against one another using the GPA 2261-13 repeatability acceptance criteria.
   a. If the analyses do not pass the repeatability acceptance criteria, analyze a third sample and compare the second and third analyses.
      i. Note – Do not pick and choose analyses, only consecutive analyses should be compared for repeatability.
   b. If the second and third analyses do not pass the repeatability acceptance criteria, inspect the gas chromatograph, sampling system, and calibration standard for discrepancies.
   c. If an issue is found, repair as necessary and return to Step 1.
   d. In no issue is found, repeat Steps 1 through 4.
      i. If the problem persists, remove the gas chromatograph and sampling system from service until the issues are determined and resolved, and the instrument can pass for repeatability.
5. If the two analyses pass the repeatability acceptance criteria, evaluate the compound concentrations of the second analysis against the certified concentrations of the calibration standard using the GPA 2261-13 reproducibility acceptance criteria.
   a. If the analyses pass the reproducibility acceptance criteria, the gas chromatograph can be placed into service after completing Step 6.
   b. If the analyses do not pass the reproducibility acceptance criteria, repeat Steps 1 through 5.
   c. If the analyses still do not pass the reproducibility acceptance criteria, document as such and move on to instrument calibration.
6. Retain all documentation from the As-Found verification necessary to meet all contractual obligations, regulatory compliance, and company best practices.

Run	2	1	Average	Repeatability	Repeatability	Test	According to GPA 2261-13			
Compound	Mole %	Mole %	Mole %	Deviation	Limits		Standard MOLE %	Reproducibility Deviation	Reproducibility Limits	Test
Nitrogen	0.9570	0.9610	0.9590	0.0040	0.04	PASS	0.9690	0.0120	0.16	PASS
Methane	85.5090	85.5100	85.5095	0.0010	0.04	PASS	85.4200	0.0890	0.15	PASS
Carbon Dioxide	1.4480	1.4460	1.4470	0.0020	0.01	PASS	1.4710	0.0230	0.14	PASS
Ethane	5.8650	5.8630	5.8640	0.0020	0.03	PASS	5.9240	0.0590	0.06	PASS
Propane	2.9630	2.9650	2.9640	0.0020	0.01	PASS	2.9560	0.0070	0.05	PASS
Isobutane	0.7940	0.7940	0.7940	0.0000	0.01	PASS	0.7880	0.0060	0.02	PASS
n-Butane	0.7920	0.7900	0.7910	0.0020	0.02	PASS	0.7980	0.0060	0.03	PASS
Isopentane	0.5900	0.5910	0.5905	0.0010	0.01	PASS	0.5910	0.0010	0.03	PASS
n-Pentane	0.5890	0.5900	0.5895	0.0010	0.01	PASS	0.5910	0.0020	0.03	PASS
Hexanes+	0.4930	0.4900	0.4915	0.0030	0.02	PASS	0.4920	0.0010	0.04	PASS
TOTAL	100.0000	100.0000					100.0000			

Table 2: Example As-Found Verification

a. If the analyses pass the reproducibility acceptance criteria, the gas chromatograph can be placed into service.
b. If the analyses do not pass the reproducibility acceptance criteria, repeat Steps 1 through 5.
c. If the analyses still do not pass the reproducibility acceptance criteria, return to Step 1 of Calibration.
    i. If the problem persists, remove the gas chromatograph and sampling system from service until the issues are determined and resolved, and the instrument can pass for reproducibility.

5. Retain all documentation from the As-Left verification necessary to meet all contractual obligations, regulatory compliance, and company best practices.

Run	2	1	Average	Repeatability	Repeatability	Test		According to GPA 2261-13		
Compound	Mole %	Mole %	Mole %	Deviation	Limits		Standard MOLE %	Reproducibility Deviation	Reproducibility Limits	Test
Nitrogen	0.9570	0.9610	0.9590	0.0040	0.04	PASS	0.9690	0.0120	0.16	PASS
Methane	85.5090	85.5100	85.5095	0.0010	0.04	PASS	85.4200	0.0890	0.15	PASS
Carbon Dioxide	1.4480	1.4460	1.4470	0.0020	0.01	PASS	1.4710	0.0230	0.14	PASS
Ethane	5.8650	5.8630	5.8640	0.0020	0.03	PASS	5.9240	0.0590	0.06	PASS
Propane	2.9630	2.9650	2.9640	0.0020	0.01	PASS	2.9560	0.0070	0.05	PASS
Isobutane	0.7940	0.7940	0.7940	0.0000	0.01	PASS	0.7880	0.0060	0.02	PASS
n-Butane	0.7920	0.7900	0.7910	0.0020	0.02	PASS	0.7980	0.0060	0.03	PASS
Isopentane	0.5900	0.5910	0.5905	0.0010	0.01	PASS	0.5910	0.0010	0.03	PASS
n-Pentane	0.5890	0.5900	0.5895	0.0010	0.01	PASS	0.5910	0.0020	0.03	PASS
Hexanes+	0.4930	0.4900	0.4915	0.0030	0.02	PASS	0.4920	0.0010	0.04	PASS
TOTAL	100.0000	100.0000					100.0000			

Table 3: Example As-Left Verification

8.0 Calibration Gas Standard Specifications and Validation

8.1 Calibration Gas Standard Specifications:

1. Calibrations shall be performed using a Certified Natural Gas Reference Standard.
2. Standards shall be verified and handled in accordance with GPA 2198.
3. Verify the new cylinders have no loss of pressure during transport and storage.
    a. Contact manufacturer for initial pressures.
    b. In the event of pressure loss, do not put the cylinder into use. Contact the manufacturer.
4. Calibration gas standard cylinders shall be heated to a minimum of 30° F above hydrocarbon dewpoint. They shall be heated a minimum of 24 hours prior to use and stored in a vertical position. NEVER PULL GAS FROM A COLD CYLINDER.
    a. The temperature should be monitored on a regular basis, and especially prior to pulling any gas from the cylinder for calibrations and validations.
    b. Approved heating devices should be used, such as heating blankets with hoods and pads, heating cabinets, etc. Make sure all electrical codes and classifications are followed. Ensure any and all applicable safety guidelines are followed.
5. Install a two-stage regulator to regulate the calibration gas to the manufacturer recommended pressure for the inlet of the GC being used.

Sundry Number: 96328 API Well Number: 43047315020000

b. If the analyses do not pass the reproducibility acceptance criteria, repeat Steps 1 through 5.
c. If the analyses still do not pass the reproducibility acceptance criteria, attempt verification of the calibration cylinder on a different gas chromatograph.
   i. If the cylinder does not pass the criteria on a second instrument, contact the calibration standard manufacturer.

11. Retain all documentation from the cylinder verification necessary to meet all contractual obligations, regulatory compliance, and company best practices.

9.0 Sampling System Validation

1. Attach the filter/regulator assembly to the regulator on the UHP Helium cylinder (it may require an adaptor fitting).
2. Set the regulator to the manufacturer recommended pressure for the sample inlet.
3. Attach the heated line to the filter/regulator. Ensure the entire sampling system is hot.
   a. Although the UHP Helium has no hydrocarbon dewpoint, the heat is necessary to ensure any residual hydrocarbons are liberated from the sampling system.
4. Turn the sample valve at the chromatograph to vent. Vent calibration gas through the sampling system for sufficient time to ensure ambient air and any gases are purged from the system.
5. Turn the sample valve at the chromatograph to sample input.
6. Perform several analyses until it is verified that the sampling system has no residual components.
   a. Continue analyses until the un-normalized concentrations for each component are non-detectable.
      i. If un-normalized Nitrogen concentrations remain detectable, there may be a leak in the sampling system (see note below).
         (1) Disconnect the sample system from the chromatograph (sample system includes heated sample hose and filter/regulator assembly).
         (2) Cap the end of the heated line and pressurize the system to 50 psig and check for leaks. Liquid leak detector may be used to check this part of the system.
         (3) Repair leaks as necessary.
         (4) Re-assemble the system and return to Step 1.

   Note:
   If using Helium of lesser quality than chromatographic Ultra High Purity (UHP) grade, 99.999% purity, trace amounts of Methane and/or Nitrogen may be present on the chromatogram. This will cause sampling system validations to not pass. In addition, the GC will be misstating Methane and/or Nitrogen concentrations on all field analyses and will fail Nitrogen concentration values during an audit.

   b. If the sampling system shows residual hydrocarbons after several analyses and purging, the sampling system will need to be cleaned.
      i. Replace the membrane element as necessary.
      ii. Use wet steam or an alcohol to clean the membrane filter body. Thoroughly dry all components before assembly and use, using Helium or Nitrogen.

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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: 5/29/2019	☐ 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: BLM Variance

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

Wexpro Company requests a variance from the prescribed Meter Tube Inspection standard within BLM 43 CFR, Subpart 3175, Measurement of Gas. Please see attachment for details.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 13, 2019

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Tammy Fredrickson	307 352-7514	Senior Permit Agent
SIGNATURE		**DATE**
N/A		5/29/2019

RECEIVED: May. 29, 2019

Wexpro Company requests a variance from the prescribed Meter Tube Inspection standard within BLM 43 CFR, Subpart 3175, Measurement of Gas.

We request a variance for the following item in the Detailed Meter Tube Inspection section of the document.

3175.80 Detailed Meter Tube Inspections

(6) (i) Detailed meter tube inspection. (1) Within 30 days of a basic inspection that indicates the presence of pitting, obstructions, or a buildup of foreign substances, the operator must:

(ii) For high- and very-high-volume FMP's, physically measure and inspect the meter tube to determine if the meter tube complies with API 14.3.2, Subsections 5.1 through 5.4 and API 14.3.2, Subsection 6.2...

The variance request is specifically for obstructions found in the meter run requiring a detailed inspection on high and very high volume FMP's. If during basic inspection the only issue observed is obstructions, debris or trash found within meter tube, then removal will be required and returned to service.

RECEIVED: May. 29, 2019

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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: 6/17/2019	☐ 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.

Water produced from this well will be disposed of in a water blow down tank as previously approved. Excess water production will be hauled to the following UDNR Oil, Gas, and Mining Division approved disposal facility located in Utah; LaPoint Recycle and Storage, Section 12, Township 5 South, Range 19 East. All excess produced water will be hauled by tank truck over Unit, Tribal, County and State roads.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 25, 2019

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Tammy Fredrickson	307 352-7514	Senior Permit Agent
SIGNATURE		**DATE**
N/A		6/17/2019

RECEIVED: Jun. 17, 2019

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

FORM 9

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.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML-11004

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: ISLAND

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: Island Unit 18

2. NAME OF OPERATOR: Wexpro Company

9. API NUMBER: 43047315020000

3. ADDRESS OF OPERATOR: 2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER: 801-324-2562

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY: UINTAH

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
☑ SUBSEQUENT REPORT Date of Work Completion: 12/17/2019	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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: Site Security Diagram

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

In accordance with 43 CFR 3173.11, Site Security Regulations, submitted herewith is a site facilities diagram for the above captioned facility. This site facility diagram is part of the Island Unit Plan. The Site Security Plan may be reviewed at the Wexpro Company, Vernal Field Office, Monday through Friday, 8:00 a.m. to 4:00 p.m. Removed soap injection tank from location. This is a state mineral well producing on federal land.

April 13, 2020
Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Stephanie Shuttlesworth	307 352-7557	Operations Support Rep
SIGNATURE N/A		**DATE** 12/19/2019

RECEIVED: Dec. 19, 2019

Page 1 of 3

Facility Owner/Operator Name: Wexpro Company

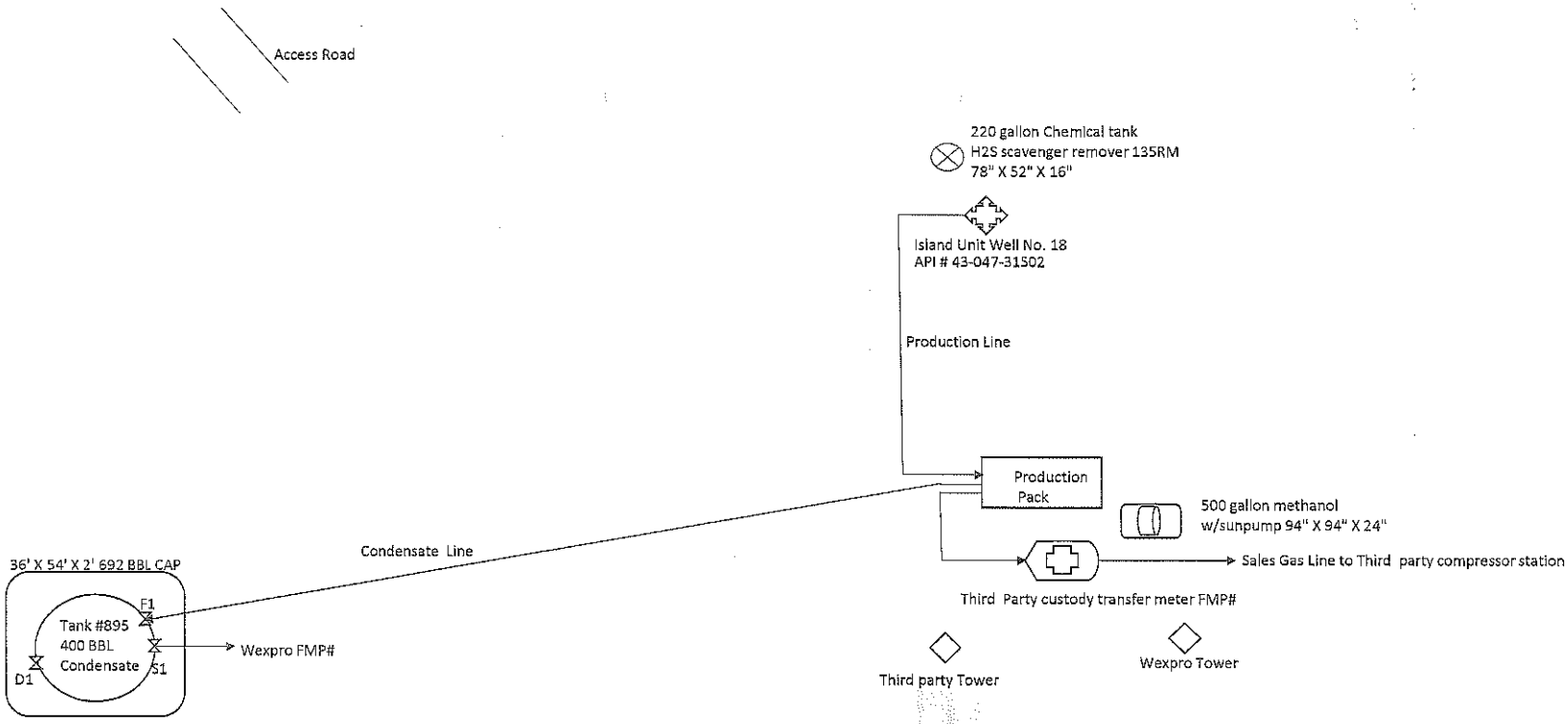
SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

I-C

Island Unint Well No. 18

Direction Of flow

North



See attachment (Page 2)
For valve positioning
Production, sales, and draining phases

Last Revised: 12/17/2019

I-C

Facility Owner/Operator Name: Wexpro Company **Island Unint Well No. 18**

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

Diagram #
S1 & S2 are a sales valve
D1 & D2 are a drain valve
F1 is a fill valve

Valve Positioning in the Production Phase

Production into T#895
S1 and D1 are sealed closed
F1 is sealed open

Valve Positioning in the Sales Phase

Production into T#895
F1 and D1 are sealed closed
S1 is sealed open

Valve Positioning in the Drain Phase

Production into T#895
F1 and S1 are sealed closed
D1 is sealed open

I-C

Facility Owner/Operator Name: Wexpro Company **Island Unint Well No. 18**

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

Gas Analysis BTU:	1133.94	BTU/ft^3			Well/Pad Total:	4.37	MCF/DAY												
Gas Analysis Date:	4/27/2016																		
Production Unit with Line Heater																			
Manufacturer:	NTC																		
Serial Number:	T-6187501-01																		
Rating:	500000	BTU/HR																	
Hours/Day:	12	HRS																	
Months/Year:	6	MO																	
	500000	BTU/HR	÷	1133.94	BTU/ft^3	X	12	HRS/DAY	X	30.4375	DAY/MO	X	6	MO/YR	÷	1000	MCF/SCF	=	966.8 MCF/YR 2.65 MCF/DAY
Condensate Tank Burner																			
Tank Number:	895																		
Serial Number:	N/A																		
Rating:	325000	BTU/HR																	
Hours/Day:	12	HRS																	
Months/Year:	6	MO																	
	325000	BTU/HR	÷	1133.94	BTU/ft^3	X	12	HRS/DAY	X	30.4375	DAY/MO	X	6	MO/YR	÷	1000	MCF/SCF	=	628.1 MCF/YR 1.72 MCF/DAY 0.00 MCF/DAY

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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: 4/30/2021	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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.

Wexpro Company requests approval to remove the 400 bbl tank on the above listed well pad, as it's no longer in use. The area will be reclaimed and seeded with the following seed mix (depending on species availability): INDIAN RICEGRASS 3 LBS/ACRE LIVE SEED SQUIRRELTAIL GRASS 3 LBS/ACRE LIVE SEED GALLETA GRASS 3 LBS/ACRE LIVE SEED WOOLLY LOCOWEED 0.25 LB/ACRE LIVE SEED SCARLET GLOBEMALLOW 0.25 LB/ACRE LIVE SEED BROOM SNAKEWEED 1 LB/ACRE LIVE SEED CASTLEVALLEY SALTBUSH 1 LB/ACRE LIVE SEED MAT SALTBUSH 2 LBS/ACRE LIVE SEED

Approved by the Utah Division of Oil, Gas and Mining

Date: August 27, 2021

By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
April Stegall	307 352-7561	Reclamation Agent
SIGNATURE		**DATE**
N/A		4/21/2021

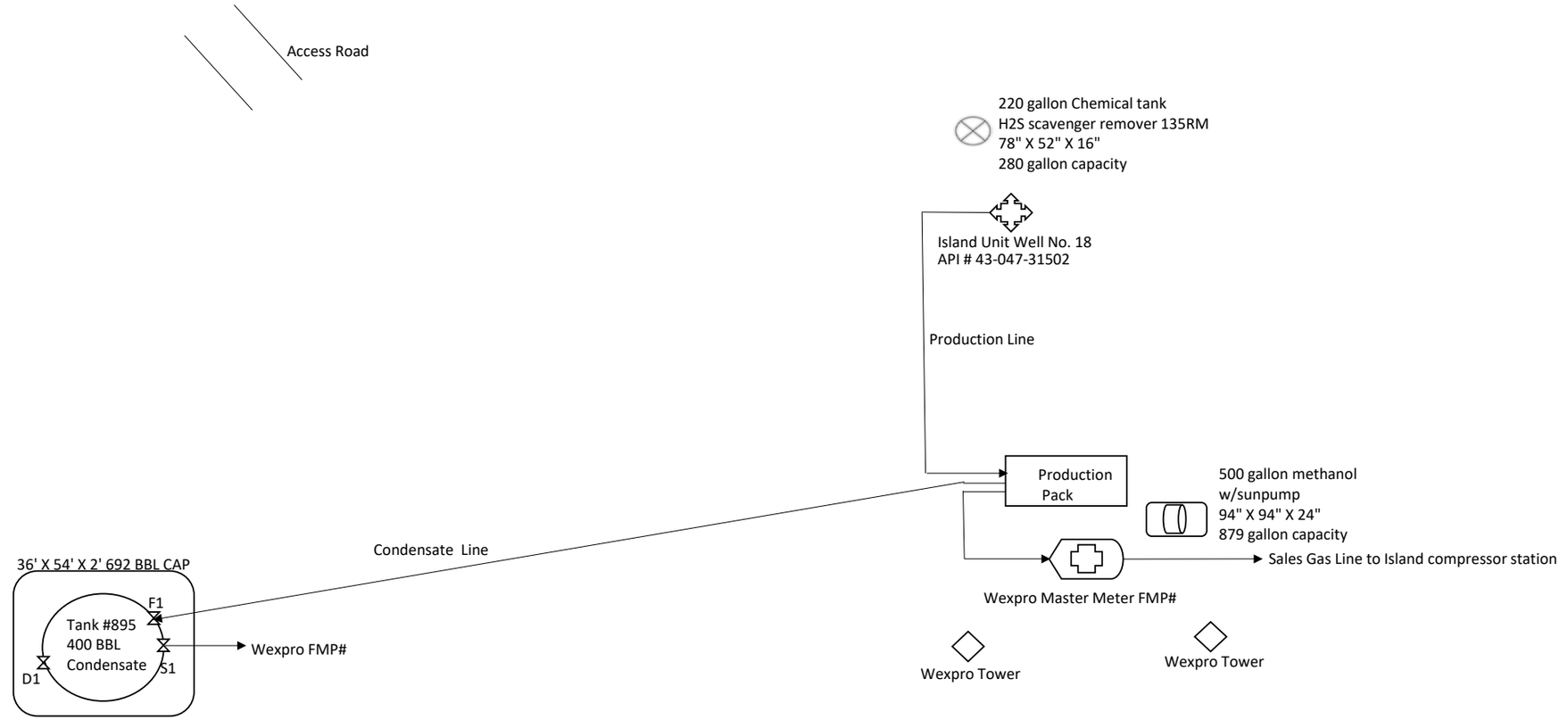
RECEIVED: Apr. 21, 2021

Facility Owner/Operator Name: Wexpro Company

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

I-C

Island Unint Well No. 18



See attachment (Page 2)
For valve positioning
Production, sales, and draining phases

Last Revised: 5/12/2020

RECEIVED: Apr. 21, 2021

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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: 8/5/2021	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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: Site Security Diagram

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
In accordance with 43 CFR 3173.11, Site Security Regulations, submitted herewith is a site facilities diagram for the above captioned facility. This site facility diagram is part of the Island Unit Plan. The Site Security Plan may be reviewed at the Wexpro Company, Vernal Field Office, Monday through Friday, 8:00 a.m. to 4:00 p.m. Tank# 895 was removed from location.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
(This is not an approval)
November 29, 2021

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Stephanie Shuttlesworth	307 352-7557	Operations Support Rep
SIGNATURE		**DATE**
N/A		11/23/2021

RECEIVED: Nov. 23, 2021

Facility Owner/Operator Name: Wexpro Company

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

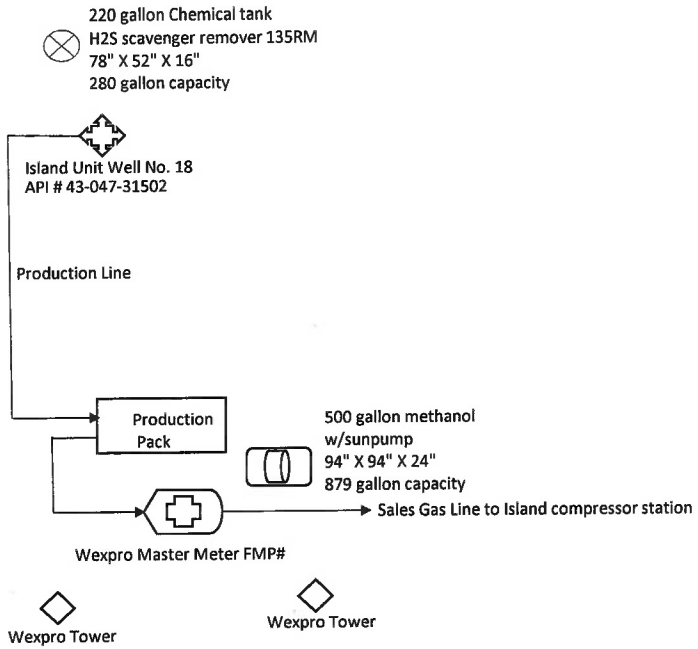
I-C

Island Unint Well No. 18

Direction Of flow

North

Access Road



See attachment (Page 2)
For valve positioning
Production, sales, and draining phases

Last Revised: 8/4/2021

Sundry Number: 113751 API Well Number: 43047315020000

I-C

Facility Owner/Operator Name: Wexpro Company **Island Unint Well No. 18**

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X

Uintah, UT

No tank on location

Sundry Number: 113751 API Well Number: 43047315020000

I-C

Facility Owner/Operator Name: Wexpro Company **Island Unint Well No. 18**

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

Gas Analysis BTU:	1133.94	BTU/ft^3	Well/Pad Total:	0.66	MCF/DAY
Gas Analysis Date:	4/27/2016				

Production Unit with Line Heater

Manufacturer:	NTC	
Serial Number:	T-6187501-01	
Rating:	125000	BTU/HR
Hours/Day:	12	HRS
Months/Year:	6	MO

125000	BTU/HR	÷	1133.94	BTU/ft^3	X	12	HRS/DAY	X	30.4375	DAY/MO	X	6	MO/YR	÷	1000	MCF/SCF	=	241.6	MCF/YR
																		0.66	MCF/DAY
																		0.00	MCF/DAY

Sundry Number: 113751 API Well Number: 43047315020000

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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 TRIBAL, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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
✓ SUBSEQUENT REPORT Date of Work Completion: 12/28/2021	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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: Site Security Diagram

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
In accordance with 43 CFR 3173.11, Site Security Regulations, submitted herewith is a site facilities diagram for the above captioned facility. This site facility diagram is part of the Island Unit Plan. The Site Security Plan may be reviewed at the Wexpro Company, Vernal Field Office, Monday through Friday, 8:00 a.m. to 4:00 p.m. Chemical tank was removed from location.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
(This is not an approval)
January 26, 2022

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Stephanie Barnette	307 352-7557	Operations Support Rep
SIGNATURE		**DATE**
N/A		1/20/2022

RECEIVED: Jan. 20, 2022

I-C

Facility Owner/Operator Name: Wexpro Company

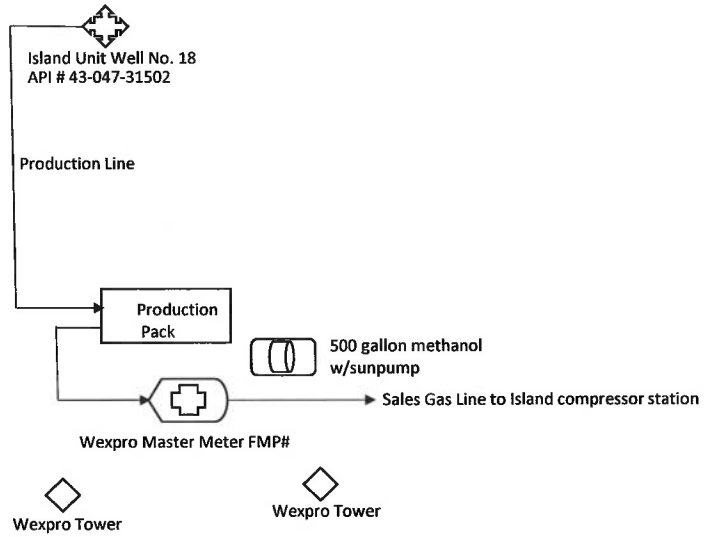
Island Unint Well No. 18

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

Direction Of flow

North

Access Road



See attachment (Page 2)
For valve positioning
Production, sales, and draining phases

Last Revised: 12/28/2021

Sundry Number: 114679 API Well Number: 43047315020000

I-C

Facility Owner/Operator Name: Wexpro Company

Island Unint Well No. 18

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

No tank on location

Sundry Number: 114679 API Well Number: 43047315020000

I-C

Facility Owner/Operator Name: Wexpro Company **Island Unint Well No. 18**

SE NW SEC. 2 T10S-R19E Lease #ML-11004 Unit Lease #UTU063026X
Uintah, UT

Gas Analysis BTU:	1133.94	BTU/ft^3	Well/Pad Total:	0.66	MCF/DAY
Gas Analysis Date:	4/27/2016				

Production Unit with Line Heater

Manufacturer:	NTC	
Serial Number:	T-6187501-01	
Rating:	125000	BTU/HR
Hours/Day:	12	HRS
Months/Year:	6	MO

	125000	BTU/HR	÷	1133.94	BTU/ft^3	X	12	HRS/DAY	X	30.4375	DAY/MO	X	6	MO/YR	÷	1000	MCF/SCF	=	241.6	MCF/YR
																			0.66	MCF/DAY
																			0.00	MCF/DAY

Sundry Number: 114679 API Well Number: 43047315020000

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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 TRIBAL, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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
✓ SUBSEQUENT REPORT Date of Work Completion: 5/11/2022	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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: Paint

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
The production equipment on the above listed well pad was painted desert brown.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
(This is not an approval)
May 19, 2022

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
April Stegall	307 352-7561	Reclamation Agent
SIGNATURE N/A		**DATE** 5/19/2022

RECEIVED: May. 19, 2022

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
ML-11004

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 TRIBAL, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:
ISLAND

1. TYPE OF WELL
Gas Well

8. WELL NAME and NUMBER:
Island Unit 18

2. NAME OF OPERATOR:
Wexpro Company

9. API NUMBER:
43047315020000

3. ADDRESS OF OPERATOR:
2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER:
801-324-2562

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY:
UINTAH

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: 10/1/2022	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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.
Wexpro requests approval to permanently abandon the producing Wasatch formation and perforate and perform water sampling on the Bird's Nest Aquifer. Although multiple disposal wells exists in the Greater Natural Buttes, little is known about the aquifer in the Island Unit. This work would be used to determine if the well would be a suitable SWD conversion candidate. See attached proposed procedure and proposed WBD for plugback and water sampling.

Approved by the Utah Division of Oil, Gas and Mining

Date: August 16, 2022

By: Dark Quist

Please Review Attached Conditions

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Tammy Fredrickson	307 352-7514	Senior Permit Agent
SIGNATURE		**DATE**
N/A		7/19/2022

RECEIVED: Jul. 19, 2022

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Sundry Conditions For Well Number 43047315020000

1. Notify the Division at least 24 hours prior to conducting abandonment operations. Please call Richard Powell at 435-790-6145.

2. All balanced plugs shall be tagged or as conditions warrant as deemed necessary by onsite Division representative.

3. All requirements in the Oil and Gas Conservation General Rule R649-3-24 shall apply.

4. If there are any changes to the procedure or the wellbore configuration, notify Dustin Doucet at 801-538-5281 (ofc) or 801-733-0983 (home) prior to continuing with the procedure.

5. All other requirements for notice and reporting in the Oil and Gas Conservation General Rules shall apply.

RECEIVED: Aug. 16, 2022

Wexpro Company
333 S. State St.
Salt Lake City, UT 84111
Tel (801) 324-5111
Fax (801) 324-2997

Island Unit 18

API: 43-047-31502

Permanently abandon the producing Wasatch formation. Pressure test casing and perforate the Bird's Nest Aquifer to perform water sampling for possible a SWD conversion.

- Set CICR at +/- 5,948' and pressure test casing to 1,500 psi for 15 minutes. Mix 146 sacks (approx. 30 bbls of slurry assuming a 1.15 ft^3/sk). Sting into retainer and pump 134 sacks below CICR. Place remaining 12 sacks on top of CICR for 100' cement plug.
- Spot 78 bbls of water with corrosion and biocide additives from 2,500'-5,848'.
- Place a 250' balanced cement plug from 2,250'-2,500' with 29 sacks (approx. 6 bbls of slurry assuming 1.15 ft^3/sk).
- Perforate the Bird's Nest Aquifer with 4 SPF.
    - 1,604'-1,625'
    - 1,640'-1,684'
    - 1,690'-1,708'
    - 1,784'-1,839'
    - 1,862'-1,891'
    - 1,897'-1,945'
- TIH with packer and set at +/- 1,574'. Swab fluid to obtain fluid samples from formation and monitor TDS until samples have stabilized. Send final sample for water analysis. If necessary, breakdown perforations using freshwater with minimal fluid possible.
    - NOTE: HCl acid and/or nitrogen may be used

RECEIVED: Jul. 19, 2022

Proposed Wellbore Diagram

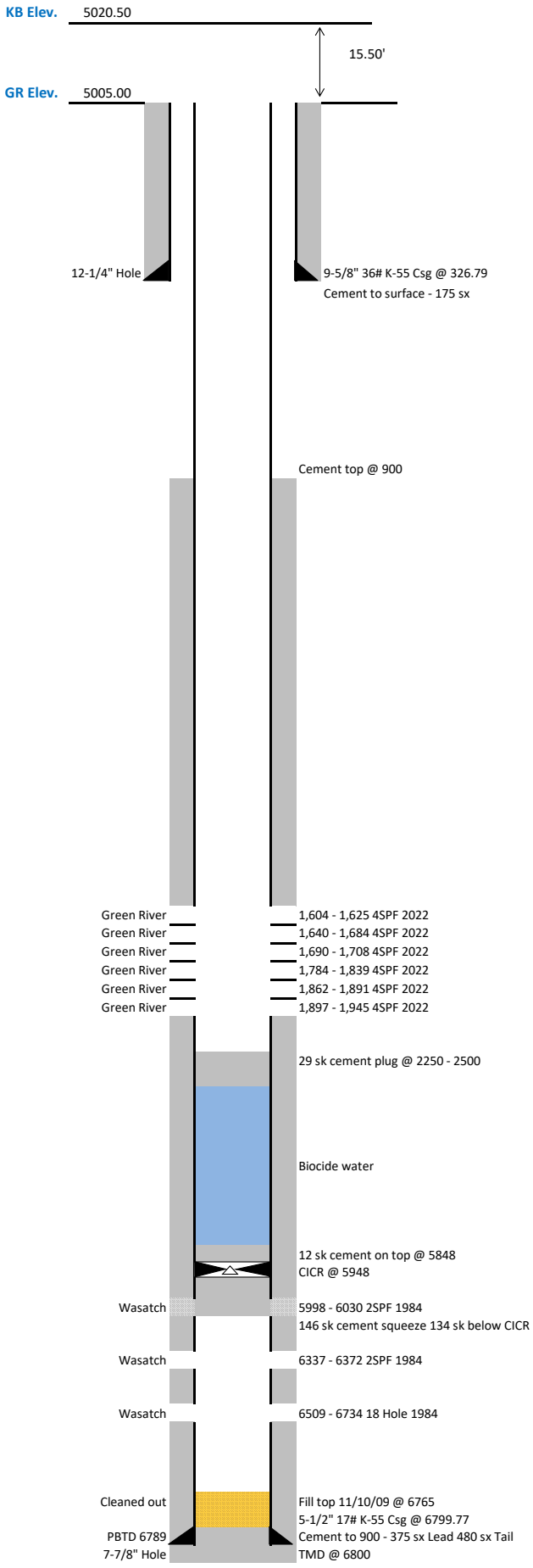
Wellbore Diagram

Well Name:	Island Unit 18
County, State	UINTAH, UT
Legal Description:	SE NW 2-10S-19E
API:	43-047-31502
SHL:	1957.00' FNL 2149.00' FWL
Updated By:	Jeff Bluemel
Date Updated:	7/18/2022
Reviewed By:	Lindsey Smith
Reviewed Date:	7/18/2022
Spud Date:	8/14/1984
TD Date:	9/9/1984
First Sales Date:	12/6/1984
Well TMD:	6,800
Orientation:	Vertical
Fill Top MD:	6,765
Plug Back MD:	6,789
Bridge Plug MD:	
Injection stages:	1

Latitude	39.978634
Longitude	-109.751326

As Of Recompletion	11/11/2009

All measurements are in KB & MD unless otherwise specified.



RECEIVED: Jul. 19, 2022

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

FORM 9

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.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML-11004

6. IF TRIBAL, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: ISLAND

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: Island Unit 18

2. NAME OF OPERATOR: Wexpro Company

9. API NUMBER: 43047315020000

3. ADDRESS OF OPERATOR: 2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER: 801-324-2562

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY: UINTAH

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
✓ SUBSEQUENT REPORT Date of Work Completion: 10/10/2022	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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.

A CICR was set at 5,940' KBM (58' above the top perforation at 5,998'). Casing was pressure tested to 1,500 psi for 15 minutes with no pressure loss. The perfs in the Wasatch were squeezed with 135 sacks of Class G cement and 15 sacks were placed on top of the CICR (estimated TOC at 5,807'). A 30 sack cement plug was placed from 2,490' to 2,240' (wireline tagged at 2,205'). Cement operations were witnessed by Richard Powell with UDOGM and BLM was notified. The Bird's Nest Aquifer was perforated with 4SPF across the interval from 1,604'-1,945'. A total of 10 barrels of 4% KCl with biocide was pumped at 4 BPM to obtain fluid entry from the formation. Formation water samples were collected and sent to ChampionX for further analysis. 2-3/8" tubing was landed with a packer. The annulus was filled with packer fluid and tested to 500 psi for 15 min. Good test.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
(This is not an approval)
November 22, 2022

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Tammy Fredrickson	307 352-7514	Senior Permit Agent
SIGNATURE N/A		**DATE** 11/9/2022

RECEIVED: Nov. 09, 2022

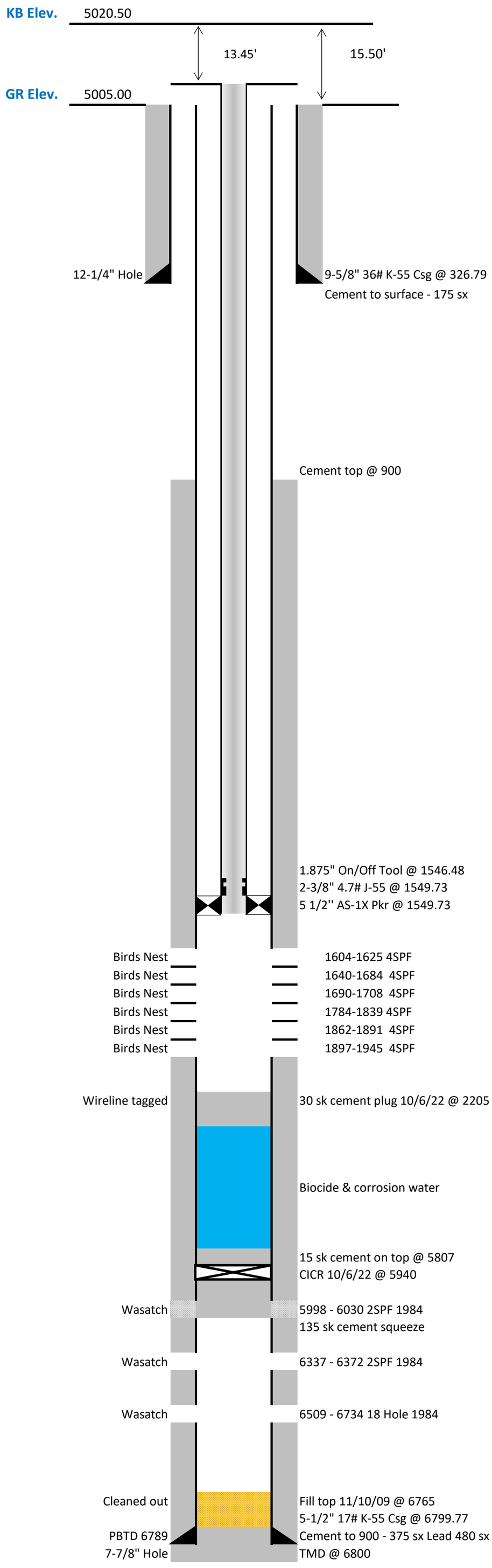
Wellbore Diagram

Well Name:	Island Unit 18
County, State	UINTAH, UT
Legal Description:	SE NW 2-10S-19E
API:	43-047-31502
SHL:	1957.00' FNL 2149.00' FWL
Updated By:	Jeff Bluemel
Date Updated:	11/7/2022
Reviewed By:	Lindsey Smith
Reviewed Date:	11/7/2022
Spud Date:	8/14/1984
TD Date:	9/9/1984
First Sales Date:	12/6/1984
Well TMD:	6,800
Orientation:	Vertical
Fill Top MD:	
Plug Back MD:	2,205 WLM
Bridge Plug MD:	
Injecting Frac Jobs:	1

Latitude	39.978634
Longitude	-109.751326

As Of Disposal Convert	10/10/2022

All measurements are in KB & MD unless otherwise specified.



RECEIVED: Nov. 09, 2022

Tubing Report

Well Name:	Island Unit 18	Date Landed:	10/10/2022
KB (above ground):	15.50	KB (above Tbg Spool):	13.45

Quantity	Description	O.D. (In.)	I.D. (In.)	Length (Ft.)	Top (Ft.)	Depth (Ft.)
	Tbg Spool Top (depth)			13.45		13.45
1	NSCo DP4-H1 Tubing Hanger	7.063	1.995	0.70	13.45	14.15
47	2-3/8" 4.7# J-55 8rd eue Tbg (no coupling on top jt)	3.063	1.995	1,532.33	14.15	1,546.48
1	5 1/2'' on/off tool w/ 1.875 X profile in seal nipple	4.500	1.875	3.25	1,546.48	1,549.73
1	5 1/2'' AS-1X Nickle coated packer	4.500	1.995	5.85	1,549.73	1,555.58
		Maximum	**Minimum**	**Total**		**Total**
Calculations		7.063	1.875	1,542.13		1,555.58

Packer Name				Date Landed:		
Quantity	Description	O.D. (In.)	I.D. (In.)	Length (Ft.)	Top (Ft.)	Depth (Ft.)
	Packer Setting Depth (enter in length)					
		Maximum	**Minimum**	**Total**		**Total**
Calculations						

Notes:

Tubing is landed in a 7-1/16" NSCo 3000 psig WP tubing spool which is located 2.05' above ground level. AS-1X pkr w/ On/Off tool w/ 1.875'' X profile in seal nipple. EOT @ 1555.58' KBM

Signed:	*Kerry Meznarich*	Date Signed:	10/10/2022

RECEIVED: Nov. 09, 2022

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

UIC FORM 1

5.LEASE DESIGNATION AND SERIAL NUMBER: ML-11004

APPLICATION FOR INJECTION WELL

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 TRIBAL, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: ISLAND

1. TYPE OF WELL: Gas Well

8. WELL NAME and NUMBER: Island Unit 18

2. NAME OF OPERATOR: Wexpro Company

9. API NUMBER: 43047315020

3. ADDRESS OF OPERATOR: 2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER: 801-324-2562

10. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. INJECTION INFORMATION

Approximate date work will start: **2023-08-15**

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: **2022-10-06**

Proposed injection interval: from 1604 to 1945

Proposed maximum injection: rate 2000.0 bpd pressure 2000.0 psig

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

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
Wexpro Company proposes converting the Island Unit 18 well to a saltwater disposal well.
Please see the attachments for more details.

Accepted by the Utah Division of Oil, Gas and Mining

Date: August 03, 2023

By: Richard Powell

Please Review Attached Conditions

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jan Crompton	307-352-7554	Sr. Permit Agent

SIGNATURE	DATE
N/A	7/25/2023

RECEIVED: Jul. 25, 2023

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Sundry Conditions For Well Number 43047315020

This proposed salt water injection well is in an area designated as Indian Country and as a result the Utah Division of Oil, Gas and Mining does not have jurisdiction to approve this UIC application. You will need to seek approval for this SWD through the US EPA.

RECEIVED: Aug. 03, 2023

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.

See attached plat maps.

RECEIVED: Jul. 25, 2023

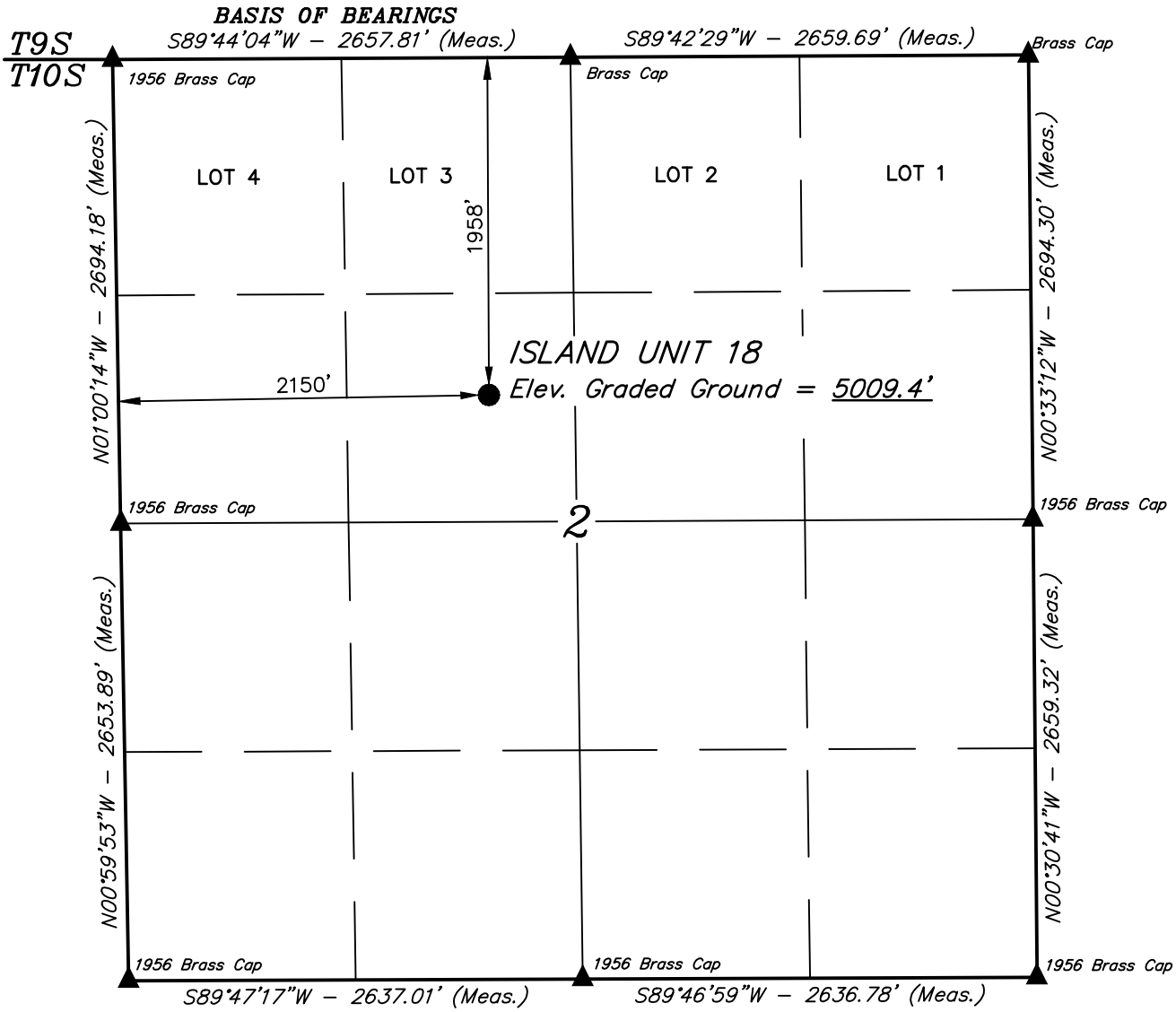
LEGEND:

● = EXISTING WELLHEAD.

▲ = SECTION CORNERS LOCATED.

T10S, R19E, S.L.B.&M.

NOTE:
- Distances referenced on plat to section lines are perpendicular.



NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 39°58'43.01" (39.978613°)
LONGITUDE = 109°45'08.17" (109.752270°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 39°58'43.13" (39.978648°)
LONGITUDE = 109°45'05.67" (109.751574°)
STATE PLANE NAD 83 (UT. CENTRAL)
N: 7165718.11' E: 2130139.50'
UTM, NAD 83 (ZONE 12, METERS)
Y: 4426128.86 X: 606540.56
UTM, NAD 27 (ZONE 12, METERS)
Y: 4425923.63 X: 606602.72

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BRANDON J. BOWTHORPE
REGISTERED LAND SURVEYOR
REGISTRATION NO. 6631032
STATE OF UTAH

REGISTERED LAND SURVEYOR No. 6631032 STATE OF UTAH 02-08-23

BASIS OF ELEVATION
OPUS SOLUTION GENERATED NAVD 88

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

N

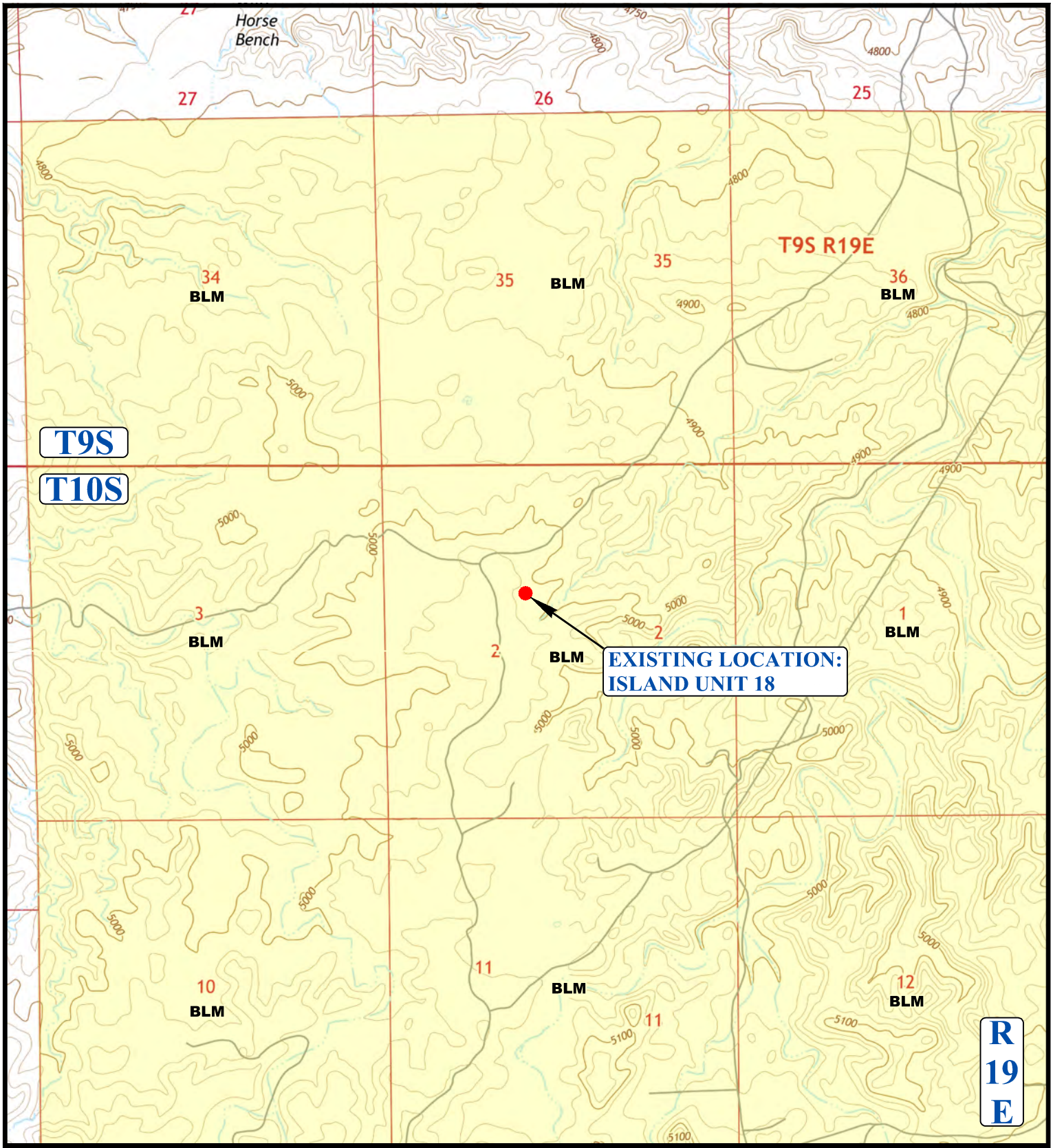
WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1" = 1000'

AS-DRILLED WELL LOCATION PLAT

RECEIVED: Jul. 25, 2023



NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000

SURFACE OWNERSHIP MAP

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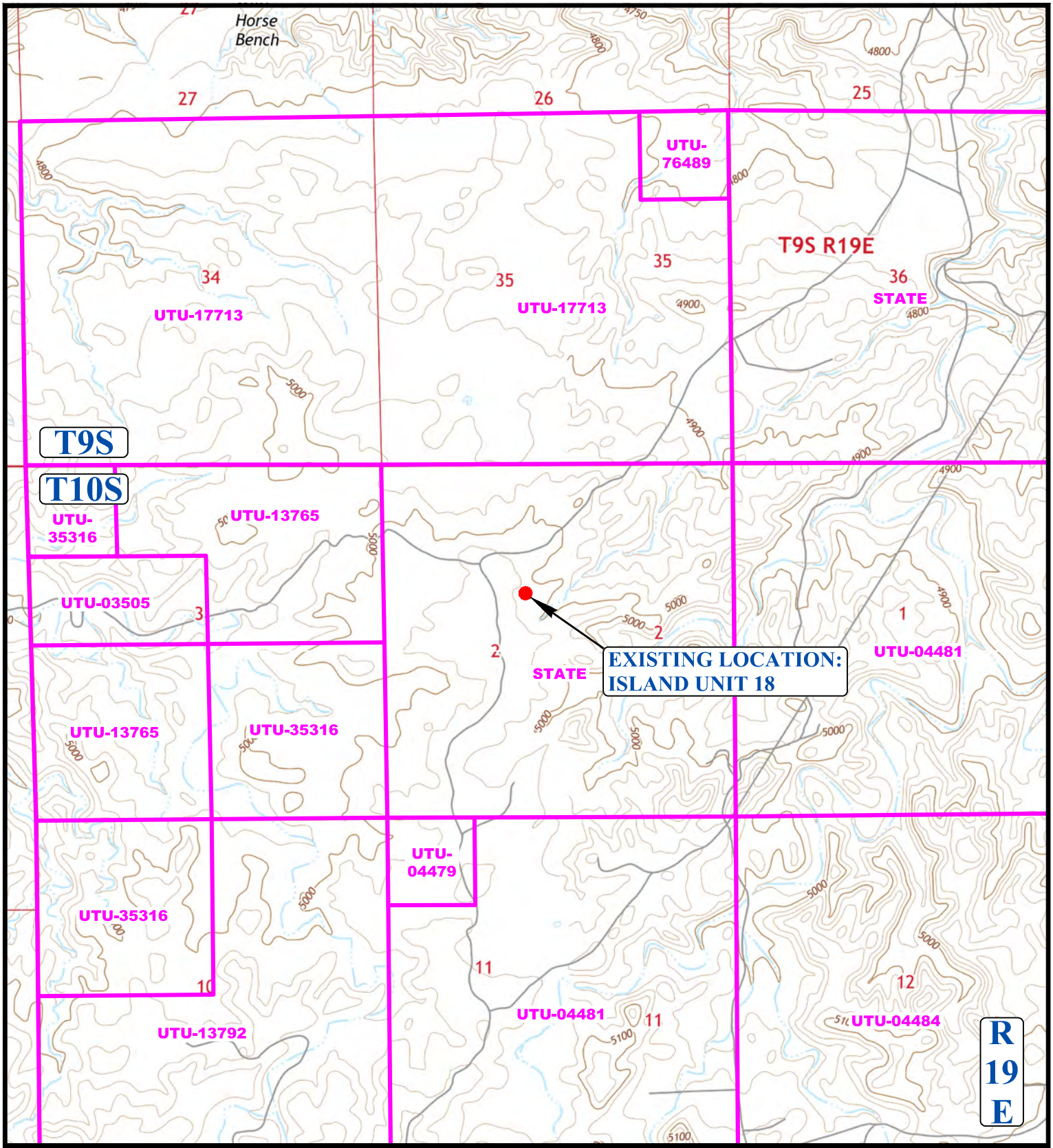

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000

MINERAL LEASE MAP

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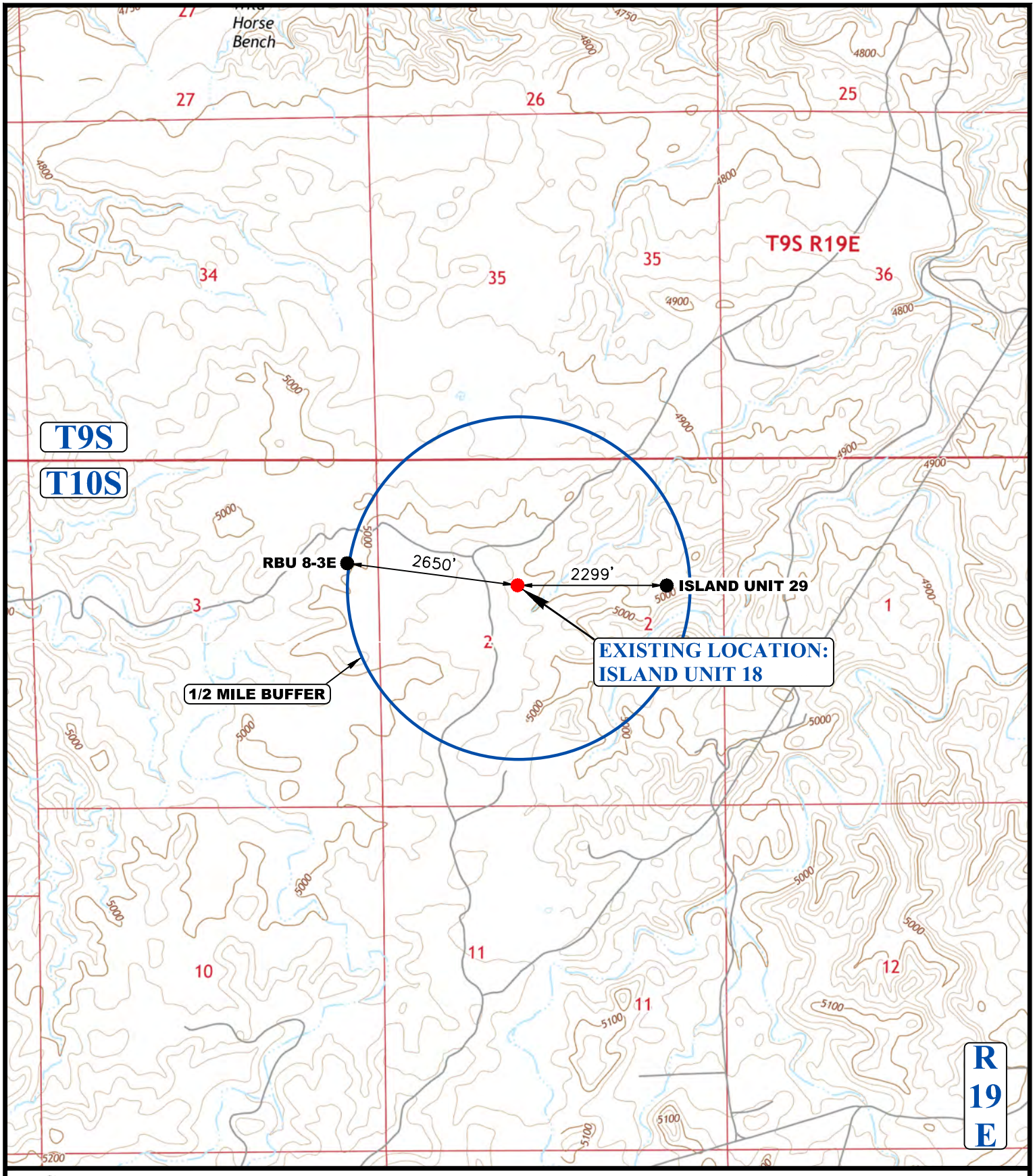

LEGEND:

● OIL/GAS WELLS

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000
WELL PROXIMITY MAP			TOPO C

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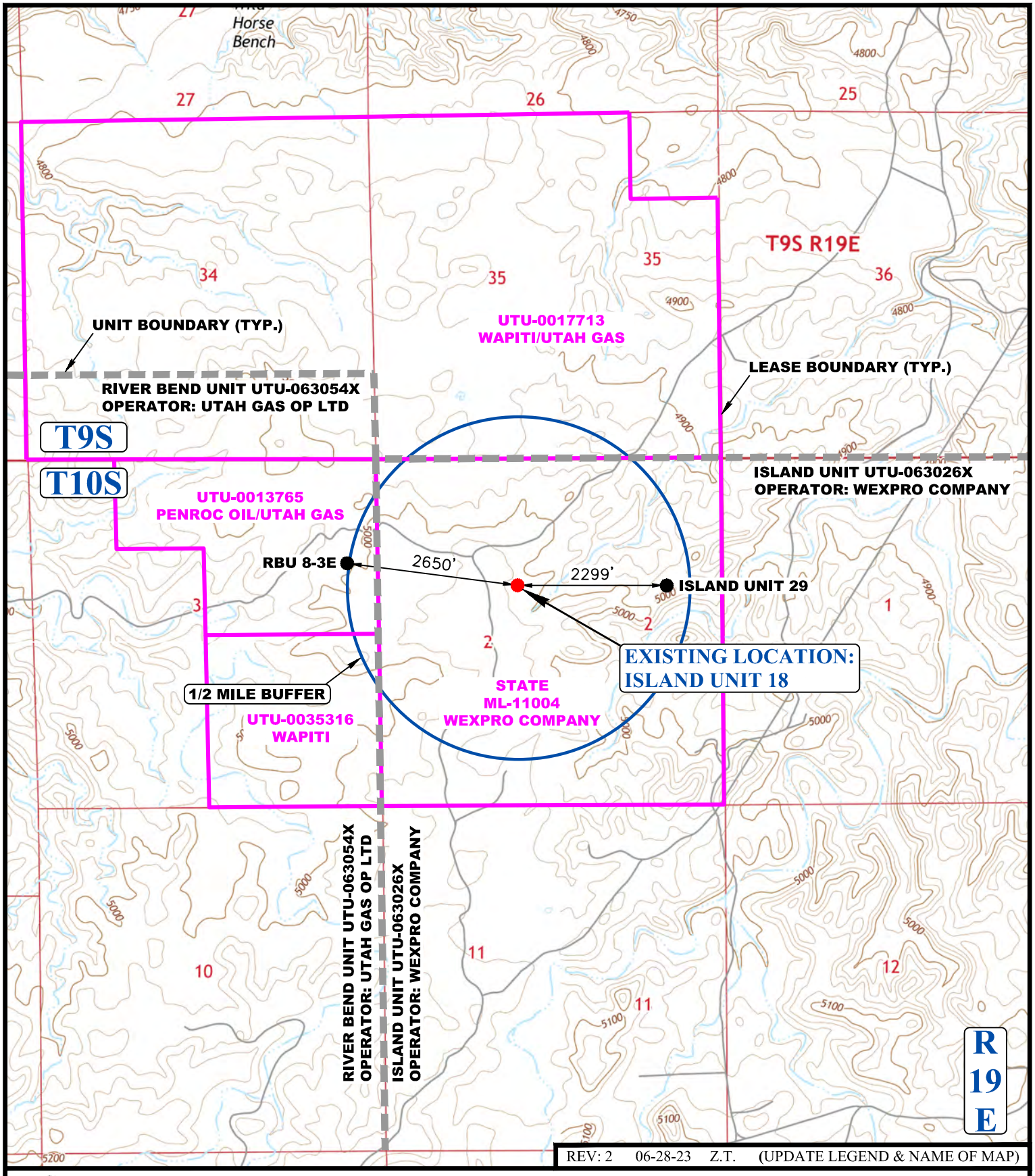

REV: 2 06-28-23 Z.T. (UPDATE LEGEND & NAME OF MAP)

LEGEND:

- OIL/GAS WELLS
- OIL & GAS LEASE

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000
UNIT AND LEASE OPERATOR MAP			TOPO C

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ISLAND UNIT 18 PAD

SUPPLEMENTAL OIL & GAS SPREADSHEET TO TOPO "C"

DATE: 02-08-23 Z.L.

API	COMPANY	UNIT_LEASE	WN	QTR-QTR 1	QTR-QTR 2	FOOTAGE 1	FOOTAGE 2	STATUS	SECTION	TWP	TWP-DIR	RNG	RNG-DIR
4304731752	Wexpro Company	Island Unit	Island Unit 29	SE	NE	1944' FNL	843' FEL	Plugged & Abandoned	2	10	S	19	E
4304736609	Utah Gas Op Ltd	RBU	RBU 8-3E	SE	NE	1607' FNL	472' FEL	Producing	3	10	S	19	E

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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.

Prior to plug back operations of the Wasatch (5998'-6734') in October 2022, casing was pressure tested to 1500 psi for 15 minutes with no loss. After swab testing on the Bird's Nest Aquifer was concluded, a packer was set at 1550'. Casing was filled with packer fluid casing was tested for 15 minutes at 500 psi (good test). *Please refer to Sundry Number: 120208 for current wellbore configuration.*

Please see attached for proposed wellbore diagram.

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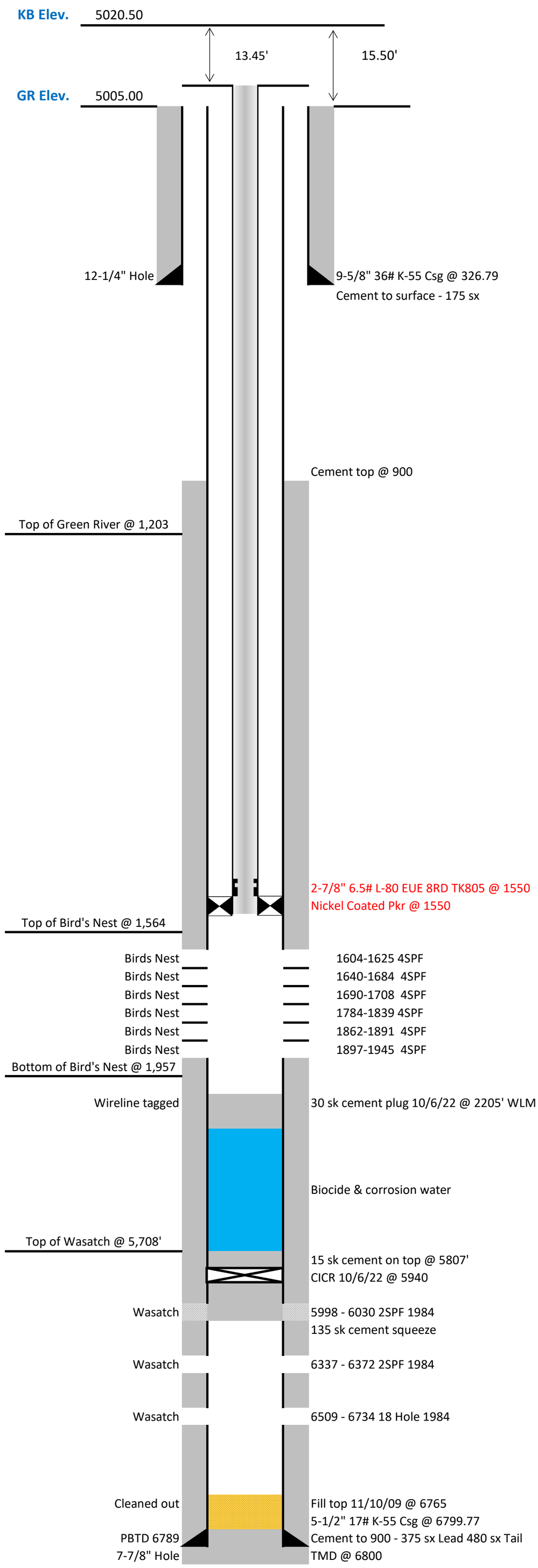
Proposed Wellbore Diagram

Well Name:	Island Unit 18
County, State	UINTAH, UT
Legal Description:	SE NW 2-10S-19E
API:	43-047-31502
SHL:	1957.00' FNL 2149.00' FWL
Updated By:	Jeff Bluemel
Date Updated:	11/7/2022
Reviewed By:	Lindsey Smith
Reviewed Date:	11/7/2022
Spud Date:	8/14/1984
TD Date:	9/9/1984
First Sales Date:	12/6/1984
Well TMD:	6,800
Orientation:	Vertical
Fill Top MD:	
Plug Back MD:	2,205 WLM
Bridge Plug MD:	
Injecting Frac Jobs:	1

Latitude	39.978634
Longitude	-109.751326

As Of Disposal Convert	10/10/2022

All measurements are in KB & MD unless otherwise specified.



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2.6. A statement as to the type of fluid to be used for injection, its source and estimated amounts to be injected daily.

The type of fluid to be used is produced water. The source of this fluid will be new wells drilled this year in the Mesaverde/Black Hawk formations. Water analysis on these new wells will be obtained after July 2023.

The estimated amounts to be injected daily will be determined upon completion of a Step-Rate Test.

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2.7. Standard laboratory analyses of:
2.7.1. The fluid to be injected,
2.7.2. The fluid in the formation into which the fluid is being injected, and
2.7.3. The compatibility of the fluids.

2.7.1 - Because the fluid to be injected will come from new wells which will be drilled in the Mesaverde/Black Hawk formation, see attached water analysis from Island Unit 86, which also produces from the Mesaverde/Black Hawk formation.

2.7.2 – See attached analysis for the Island Unit 18.

2.7.3 – See attached analyses for the Island Unit 86 and Island Unit 26.

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 86**	Collect Date:	**03/31/2023**
Formation Zone:		Sample Point:	**Separator**	Submit Date:	**04/06/2023**
Geographic Region:	**GNBU**	Customer ID:	**N/A**	Report Date:	**04/11/2023**
Geographic Location:	**Island Unit**	Latitude/Longitude:	**0.00, 0.00**	Sample ID:	**AV39710**
System Description:	**Production Well**	Account Rep:	**blane.cowan@championx.com**	Location Code:	**504282**

Field Analysis

Analysis	Result		Analysis Method
Dissolved H2S	**6.0**	mg/L	Titration
Pressure Surface	**160**	psi	
Temperature	**76**	° F	
pH of Water	**7.0**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.025**		Densitometer
Ionic Strength	**0.550**	mol/L	Calculation
Total Dissolved Solids	**29500**	mg/L	Calculation
ph (measured)	**7.04**		Meter
Total Inorganic Carbon (as HCO3)	**529**	mg/L	TOC
Bicarbonate - NDIR	**439**	mg/L	TOC
Carbonate - NDIR	**Not Detected**	mg/L	TOC
Dissolved CO2 - NDIR	**91.0**	mg/L	TOC

Cations - Analyzed By ICP

Iron	**6.04**	mg/L	Potassium	**476**	mg/L	Cobalt	**<0.050**	mg/L
Manganese	**2.90**	mg/L	Boron	**3.63**	mg/L	Chromium	**<0.050**	mg/L
Barium	**16.3**	mg/L	Lithium	**1.80**	mg/L	Silicon	**25.4**	mg/L
Strontium	**39.9**	mg/L	Copper	**<0.050**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**1290**	mg/L	Nickel	**<0.100**	mg/L	Molybdenum	**<0.050**	mg/L
Magnesium	**240**	mg/L	Zinc	**0.302**	mg/L	Phosphorus	**3.89**	mg/L
Sodium	**9810**	mg/L	Lead	**<0.200**	mg/L	Measured Sodium	**9810**	mg/L

Anions - Analyzed By IC*

Chloride	**16200**	mg/L	Bromide	**64.1**	mg/L	Sulfate	**920**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-1.1
Barite BaSO4 PTB	9.30	**Barite BaSO4 SI**	2.12
Calcite CaCO3 PTB	19.7	**Calcite CaCO3 SI**	0.080
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-0.30
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-0.74
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-0.65

Comments

Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45153**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**53662**	mg/L	Titration
P-Alkalinity (as CO3)	**36000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.126**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**172000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**30.6**	mg/L	Potassium	**343**	mg/L	Cobalt	**0.327**	mg/L
Manganese	**1.36**	mg/L	Boron	**358**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.273**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**18.8**	mg/L
Strontium	**0.227**	mg/L	Copper	**3.38**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.68**	mg/L	Nickel	**0.180**	mg/L	Molybdenum	**1.78**	mg/L
Magnesium	**3.89**	mg/L	Zinc	**39.9**	mg/L	Phosphorus	**35.9**	mg/L
Sodium	**54600**	mg/L	Lead	**2.59**	mg/L	Measured Sodium	**54600**	mg/L

Anions - Analyzed By IC

Chloride	**24400**	mg/L
Sulfate	**2450**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.3
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.37
Calcite CaCO3 PTB	3.20	**Calcite CaCO3 SI**	2.00
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.4
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.0
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.1

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45154**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**58504**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.134**		Densitometer
Ionic Strength	**2.05**	mol/L	Calculation
Total Dissolved Solids	**177000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**29.4**	mg/L	Potassium	**337**	mg/L	Cobalt	**0.191**	mg/L
Manganese	**1.84**	mg/L	Boron	**347**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.241**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**9.44**	mg/L
Strontium	**0.192**	mg/L	Copper	**3.22**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.03**	mg/L	Nickel	**0.226**	mg/L	Molybdenum	**1.85**	mg/L
Magnesium	**3.96**	mg/L	Zinc	**123**	mg/L	Phosphorus	**30.6**	mg/L
Sodium	**55000**	mg/L	Lead	**0.870**	mg/L	Measured Sodium	**55000**	mg/L

Anions - Analyzed By IC

Chloride	**23000**	mg/L
Sulfate	**2290**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.4
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.28
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.94
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.5
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.2
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.2

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45155**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**61132**	mg/L	Titration
P-Alkalinity (as CO3)	**67000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.19**	mol/L	Calculation
Total Dissolved Solids	**217000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**37.9**	mg/L	Potassium	**340**	mg/L	Cobalt	**0.265**	mg/L
Manganese	**2.01**	mg/L	Boron	**407**	mg/L	Chromium	**0.051**	mg/L
Barium	**0.320**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**12.1**	mg/L
Strontium	**0.210**	mg/L	Copper	**2.26**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.29**	mg/L	Nickel	**0.182**	mg/L	Molybdenum	**1.60**	mg/L
Magnesium	**3.92**	mg/L	Zinc	**79.9**	mg/L	Phosphorus	**32.9**	mg/L
Sodium	**57100**	mg/L	Lead	**1.47**	mg/L	Measured Sodium	**57100**	mg/L

Anions - Analyzed By IC

Chloride	**29000**	mg/L
Sulfate	**1580**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.5
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.22
Calcite CaCO3 PTB	2.80	**Calcite CaCO3 SI**	1.98
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.6
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.3
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.3

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45156**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**64146**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**181000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**33.3**	mg/L	Potassium	**279**	mg/L	Cobalt	**0.163**	mg/L
Manganese	**1.49**	mg/L	Boron	**350**	mg/L	Chromium	**<0.050**	mg/L
Barium	**0.268**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**14.1**	mg/L
Strontium	**0.162**	mg/L	Copper	**1.81**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.00**	mg/L	Nickel	**0.129**	mg/L	Molybdenum	**1.15**	mg/L
Magnesium	**2.92**	mg/L	Zinc	**76.7**	mg/L	Phosphorus	**29.3**	mg/L
Sodium	**47900**	mg/L	Lead	**1.41**	mg/L	Measured Sodium	**47900**	mg/L

Anions - Analyzed By IC

Chloride	**29900**	mg/L
Sulfate	**1480**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.6
Barite BaSO4 PTB	0.0	**Barite BaSO4 SI**	0.10
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.95
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.8
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.4
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.4

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 26**	Collect Date:	**04/06/2023**
Formation Zone:		Sample Point:	**Separator**	Submit Date:	**04/07/2023**
Geographic Region:	**GNBU**	Customer ID:	**N/A**	Report Date:	**04/11/2023**
Geographic Location:	**Island Unit**	Latitude/Longitude:	**0.00, 0.00**	Sample ID:	**AV39708**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**504280**

Field Analysis

Analysis	Result		Analysis Method
Dissolved H2S	**6.0**	mg/L	Titration
Pressure Surface	**160**	psi	
Temperature	**73**	° F	
pH of Water	**8.0**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.017**		Densitometer
Ionic Strength	**0.380**	mol/L	Calculation
Total Dissolved Solids	**21600**	mg/L	Calculation
ph (measured)	**8.05**		Meter
Total Inorganic Carbon (as HCO3)	**813**	mg/L	TOC
Bicarbonate - NDIR	**797**	mg/L	TOC
Carbonate - NDIR	**Not Detected**	mg/L	TOC
Dissolved CO2 - NDIR	**16.0**	mg/L	TOC

Cations - Analyzed By ICP

Iron	**9.53**	mg/L	Potassium	**133**	mg/L	Cobalt	**<0.050**	mg/L
Manganese	**0.453**	mg/L	Boron	**6.21**	mg/L	Chromium	**0.050**	mg/L
Barium	**1.86**	mg/L	Lithium	**1.64**	mg/L	Silicon	**31.4**	mg/L
Strontium	**23.1**	mg/L	Copper	**<0.050**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**482**	mg/L	Nickel	**<0.100**	mg/L	Molybdenum	**<0.050**	mg/L
Magnesium	**69.3**	mg/L	Zinc	**0.120**	mg/L	Phosphorus	**0.283**	mg/L
Sodium	**7450**	mg/L	Lead	**<0.200**	mg/L	Measured Sodium	**7450**	mg/L

Anions - Analyzed By IC*

Chloride	**12300**	mg/L	Bromide	**49.8**	mg/L	Sulfate	**293**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-1.9
Barite BaSO4 PTB	1.00	**Barite BaSO4 SI**	0.92
Calcite CaCO3 PTB	245	**Calcite CaCO3 SI**	1.05
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-0.86
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-1.5
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-1.4

Comments

Scaling predictions calculated using Oddo-Tomson model

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RECEIVED: Jul. 25, 2023

Pace Analytical®

ANALYTICAL REPORT

May 24, 2023

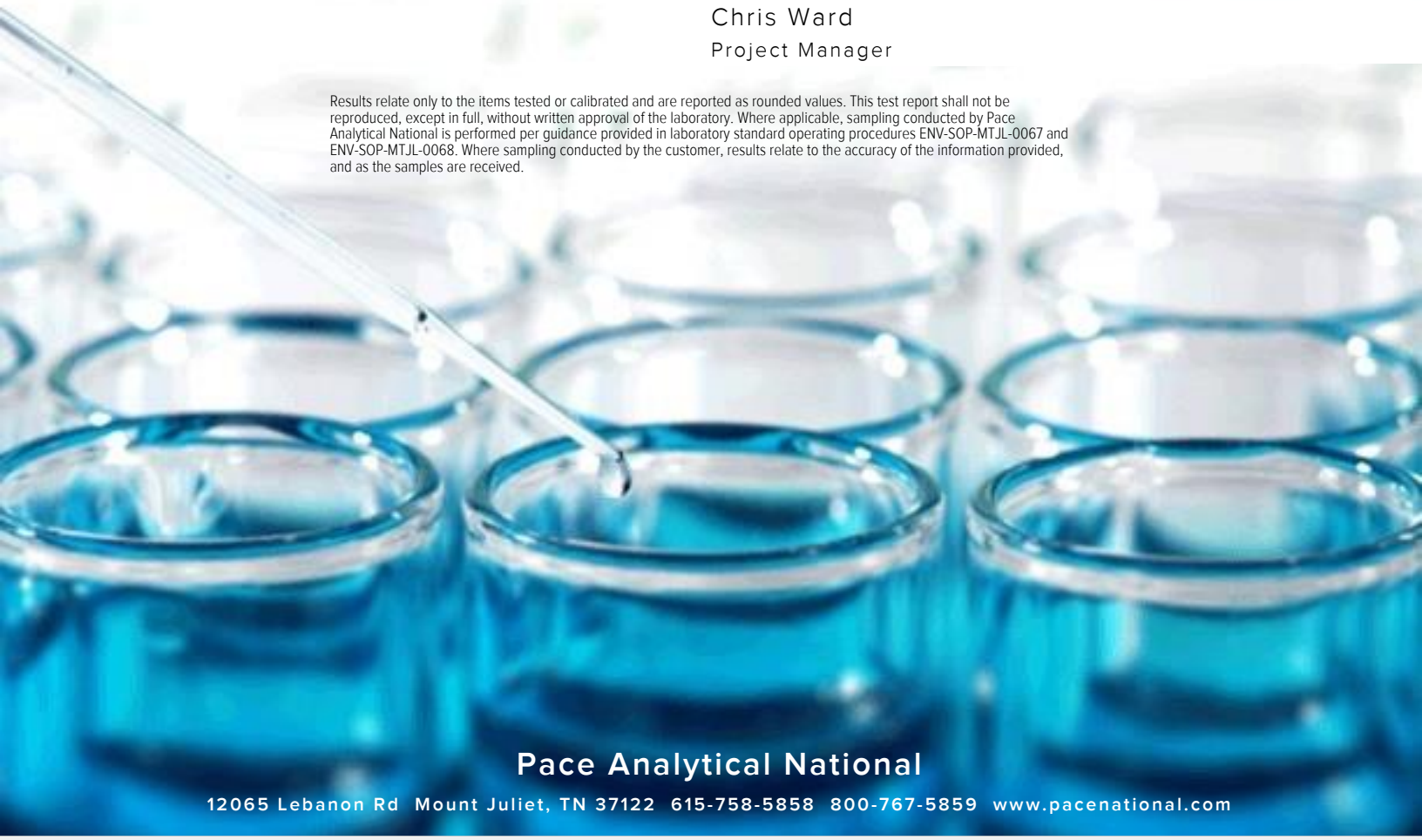
Dominion Energy

Sample Delivery Group:	L1617111
Samples Received:	05/17/2023
Project Number:	
Description:	Rock Springs, Wyoming
Report To:	Levi Arguello
	1140 West 200 South
	Salt Lake City, UT 84104

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

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Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

SAMPLE SUMMARY

WW-IW-PAD14-230515 L1617111-01 GW

Collected by | Collected date/time 05/15/23 10:45 | Received date/time 05/17/23 09:31

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2062824	1	05/19/23 10:52	05/19/23 11:40	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2062827	1	05/19/23 08:23	05/19/23 11:25	AS	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2062885	1	05/19/23 10:15	05/19/23 10:15	JAR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG2062885	1	05/19/23 10:15	05/19/23 10:15	JAR	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2062341	1	05/17/23 21:06	05/18/23 13:08	UNP	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2060740	5	05/17/23 16:18	05/17/23 23:40	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2062139	10	05/21/23 10:58	05/21/23 10:58	RTW	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2062592	1	05/19/23 11:10	05/19/23 11:10	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2062433	1	05/19/23 16:48	05/19/23 16:48	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	10	05/18/23 06:24	05/18/23 06:24	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	100	05/18/23 06:38	05/18/23 06:38	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2062586	1	05/19/23 14:32	05/20/23 14:39	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2062586	10	05/19/23 14:32	05/22/23 15:48	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2063760	500	05/20/23 22:31	05/20/23 22:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065632	10	05/24/23 09:12	05/24/23 09:12	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065754	100	05/24/23 11:22	05/24/23 11:22	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2063612	50	05/21/23 02:03	05/21/23 02:03	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2064345	500	05/22/23 13:41	05/22/23 13:41	KSD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2062096	25	05/18/23 16:22	05/20/23 04:15	MWS	Mt. Juliet, TN

WW-IW-PAD13-230515 L1617111-02 GW

Collected by | Collected date/time 05/15/23 11:15 | Received date/time 05/17/23 09:31

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2062824	1	05/19/23 10:52	05/19/23 11:40	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2062827	1	05/19/23 08:23	05/19/23 11:25	AS	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2062885	1	05/19/23 10:35	05/19/23 10:35	JAR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG2062885	1	05/19/23 10:35	05/19/23 10:35	JAR	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2062341	1	05/17/23 21:06	05/18/23 13:09	UNP	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2060740	2	05/17/23 16:18	05/17/23 23:41	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2062139	5	05/21/23 10:59	05/21/23 10:59	RTW	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2062592	1	05/19/23 11:10	05/19/23 11:10	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2062433	1	05/19/23 16:48	05/19/23 16:48	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	10	05/18/23 06:51	05/18/23 06:51	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	100	05/20/23 13:03	05/20/23 13:03	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2061885	1	05/18/23 08:03	05/18/23 13:14	SPL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2061885	5	05/18/23 08:03	05/18/23 16:04	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2063760	500	05/20/23 22:56	05/20/23 22:56	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065632	10	05/24/23 09:17	05/24/23 09:17	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065754	100	05/24/23 11:28	05/24/23 11:28	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2063612	250	05/21/23 02:23	05/21/23 02:23	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2064345	2500	05/22/23 14:02	05/22/23 14:02	KSD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2062096	250	05/18/23 16:22	05/20/23 05:37	MWS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Sample Delivery Group (SDG) Narrative

Sample quantity was not sufficient to complete analysis per recommended method guidelines for the following samples.

Lab Sample ID	Project Sample ID	Method
L1617111-02	WW-IW-PAD13-230515	2540 D-2015

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	31100		1000	1	05/19/2023 11:40	WG2062824

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	ND		2.50	1	05/19/2023 11:25	WG2062827

Wet Chemistry by Method 2320 B-2011/4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	1650		20.0	1	05/19/2023 10:15	WG2062885
Free Carbon Dioxide	ND	T8	20.0	1	05/19/2023 10:15	WG2062885
Alkalinity,Bicarbonate	1550		20.0	1	05/19/2023 10:15	WG2062885
Alkalinity,Carbonate	92.6		20.0	1	05/19/2023 10:15	WG2062885
Alkalinity,Hydroxide	ND		20.0	1	05/19/2023 10:15	WG2062885

Sample Narrative:

L1617111-01 WG2062885: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	1.04		0.100	1	05/18/2023 13:08	WG2062341

Wet Chemistry by Method 4500CN E-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.0250	5	05/17/2023 23:40	WG2060740

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Sulfide	6.63		0.500	10	05/21/2023 10:58	WG2062139

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.34	T8	1	05/19/2023 11:10	WG2062592

Sample Narrative:

L1617111-01 WG2062592: 8.34 at 19.9C

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	42100		10.0	1	05/19/2023 16:48	WG2062433

Sample Narrative:

L1617111-01 WG2062433: at 25C

WW-IW-PAD14-230515 SAMPLE RESULTS - 01

Collected date/time: 05/15/23 10:45 L1617111

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	136		10.0	10	05/18/2023 06:24	WG2061983
Chloride	16100		100	100	05/18/2023 06:38	WG2061983
Fluoride	ND		1.50	10	05/18/2023 06:24	WG2061983
Nitrate as (N)	ND	T8	1.00	10	05/18/2023 06:24	WG2061983
Nitrite as (N)	ND	T8	1.00	10	05/18/2023 06:24	WG2061983
Sulfate	413		50.0	10	05/18/2023 06:24	WG2061983

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	2.16		0.00500	1	05/20/2023 14:39	WG2062586
Boron	2.96		0.200	1	05/20/2023 14:39	WG2062586
Calcium	167		1.00	1	05/20/2023 14:39	WG2062586
Iron	4.82		0.100	1	05/20/2023 14:39	WG2062586
Magnesium	51.6		1.00	1	05/20/2023 14:39	WG2062586
Manganese	0.0747		0.0100	1	05/20/2023 14:39	WG2062586
Potassium	137		2.00	1	05/20/2023 14:39	WG2062586
Selenium	ND		0.0100	1	05/20/2023 14:39	WG2062586
Sodium	8050		30.0	10	05/22/2023 15:48	WG2062586
Strontium	18.8		0.100	10	05/22/2023 15:48	WG2062586

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	142		50.0	500	05/20/2023 22:31	WG2063760
(S) a,a,a-Trifluorotoluene(FID)	*95.0*		*78.0-120*		*05/20/2023 22:31*	WG2063760

Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methanol	7560		1000	100	05/24/2023 11:22	WG2065754
Ethanol	ND		100	10	05/24/2023 09:12	WG2065632

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	5.51		0.500	500	05/22/2023 13:41	WG2064345
Toluene	10.3		0.500	500	05/22/2023 13:41	WG2064345
Ethylbenzene	0.461		0.0500	50	05/21/2023 02:03	WG2063612
Xylenes, Total	7.60		0.150	50	05/21/2023 02:03	WG2063612
Naphthalene	ND		0.250	50	05/21/2023 02:03	WG2063612
(S) Toluene-d8	*106*		*80.0-120*		*05/21/2023 02:03*	WG2063612
(S) Toluene-d8	*115*		*80.0-120*		*05/22/2023 13:41*	WG2064345
(S) 4-Bromofluorobenzene	*123*		*77.0-126*		*05/21/2023 02:03*	WG2063612
(S) 4-Bromofluorobenzene	*97.6*		*77.0-126*		*05/22/2023 13:41*	WG2064345
(S) 1,2-Dichloroethane-d4	*100*		*70.0-130*		*05/21/2023 02:03*	WG2063612
(S) 1,2-Dichloroethane-d4	*123*		*70.0-130*		*05/22/2023 13:41*	WG2064345

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	211		2.50	25	05/20/2023 04:15	WG2062096
(S) o-Terphenyl	*0.000*	J7	*31.0-160*		*05/20/2023 04:15*	WG2062096

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	15000		400	1	05/19/2023 11:40	WG2062824

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	17.0		2.78	1	05/19/2023 11:25	WG2062827

Wet Chemistry by Method 2320 B-2011/4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	555		20.0	1	05/19/2023 10:35	WG2062885
Free Carbon Dioxide	92.2	B T8	20.0	1	05/19/2023 10:35	WG2062885
Alkalinity,Bicarbonate	555		20.0	1	05/19/2023 10:35	WG2062885
Alkalinity,Carbonate	ND		20.0	1	05/19/2023 10:35	WG2062885
Alkalinity,Hydroxide	ND		20.0	1	05/19/2023 10:35	WG2062885

Sample Narrative:

L1617111-02 WG2062885: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	0.215	B	0.100	1	05/18/2023 13:09	WG2062341

Wet Chemistry by Method 4500CN E-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.0100	2	05/17/2023 23:41	WG2060740

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Sulfide	1.13		0.250	5	05/21/2023 10:59	WG2062139

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.27	T8	1	05/19/2023 11:10	WG2062592

Sample Narrative:

L1617111-02 WG2062592: 7.27 at 20C

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	24200		10.0	1	05/19/2023 16:48	WG2062433

Sample Narrative:

L1617111-02 WG2062433: at 25C

WW-IW-PAD13-230515 SAMPLE RESULTS - 02

Collected date/time: 05/15/23 11:15 L1617111

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	38.8		10.0	10	05/18/2023 06:51	WG2061983
Chloride	8180		100	100	05/20/2023 13:03	WG2061983
Fluoride	ND		1.50	10	05/18/2023 06:51	WG2061983
Nitrate as (N)	ND	T8	1.00	10	05/18/2023 06:51	WG2061983
Nitrite as (N)	ND	T8	1.00	10	05/18/2023 06:51	WG2061983
Sulfate	302		50.0	10	05/18/2023 06:51	WG2061983

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	1.07		0.00500	1	05/18/2023 13:14	WG2061885
Boron	3.54		0.200	1	05/18/2023 13:14	WG2061885
Calcium	120		1.00	1	05/18/2023 13:14	WG2061885
Iron	18.6		0.100	1	05/18/2023 13:14	WG2061885
Magnesium	26.4		1.00	1	05/18/2023 13:14	WG2061885
Manganese	1.06		0.0100	1	05/18/2023 13:14	WG2061885
Potassium	35.7		2.00	1	05/18/2023 13:14	WG2061885
Selenium	ND		0.0100	1	05/18/2023 13:14	WG2061885
Sodium	4820		15.0	5	05/18/2023 16:04	WG2061885
Strontium	12.3		0.0100	1	05/18/2023 13:14	WG2061885

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	3520		50.0	500	05/20/2023 22:56	WG2063760
(S) a,a,a-Trifluorotoluene(FID)	*93.2*		*78.0-120*		*05/20/2023 22:56*	WG2063760

Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methanol	2090		1000	100	05/24/2023 11:28	WG2065754
Ethanol	ND		100	10	05/24/2023 09:17	WG2065632

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	25.0		0.250	250	05/21/2023 02:23	WG2063612
Toluene	68.2		2.50	2500	05/22/2023 14:02	WG2064345
Ethylbenzene	10.4		0.250	250	05/21/2023 02:23	WG2063612
Xylenes, Total	107		7.50	2500	05/22/2023 14:02	WG2064345
Naphthalene	2.91		1.25	250	05/21/2023 02:23	WG2063612
(S) Toluene-d8	*90.5*		*80.0-120*		*05/21/2023 02:23*	WG2063612
(S) Toluene-d8	*115*		*80.0-120*		*05/22/2023 14:02*	WG2064345
(S) 4-Bromofluorobenzene	*190*	J1	*77.0-126*		*05/21/2023 02:23*	WG2063612
(S) 4-Bromofluorobenzene	*99.2*		*77.0-126*		*05/22/2023 14:02*	WG2064345
(S) 1,2-Dichloroethane-d4	*95.8*		*70.0-130*		*05/21/2023 02:23*	WG2063612
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*05/22/2023 14:02*	WG2064345

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2020		25.0	250	05/20/2023 05:37	WG2062096
(S) o-Terphenyl	*0.000*	J7	*31.0-160*		*05/20/2023 05:37*	WG2062096

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927751-1 05/19/23 11:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1616015-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616015-01 05/19/23 11:40 • (DUP) R3927751-3 05/19/23 11:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	253	273	1	7.60	J3	5

L1616031-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616031-01 05/19/23 11:40 • (DUP) R3927751-4 05/19/23 11:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	258	271	1	4.91		5

Laboratory Control Sample (LCS)

(LCS) R3927751-2 05/19/23 11:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8550	97.2	77.3-123	

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927204-1 05/19/23 11:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U		2.50	2.50

L1615869-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1615869-01 05/19/23 11:25 • (DUP) R3927204-3 05/19/23 11:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	765	655	1	15.5	J3	5

L1616012-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616012-02 05/19/23 11:25 • (DUP) R3927204-4 05/19/23 11:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	7.20	8.20	1	13.0	P1	5

Laboratory Control Sample (LCS)

(LCS) R3927204-2 05/19/23 11:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	792	102	85.7-114	

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3926946-2 05/19/23 09:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0
Alkalinity,Hydroxide	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

Method Blank (MB)

(MB) R3926946-3 05/19/23 09:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	15.9	J	6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1616270-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616270-02 05/19/23 09:50 • (DUP) R3926946-4 05/19/23 09:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	89.3	90.7	1	1.51		20
Alkalinity,Bicarbonate	89.3	90.7	1	1.51		20
Alkalinity,Carbonate	ND	ND	1	0.000		20
Alkalinity,Hydroxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

L1616270-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616270-02 05/19/23 09:50 • (DUP) R3926946-5 05/19/23 09:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	10.3		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1617081-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617081-01 05/19/23 11:15 • (DUP) R3926946-6 05/19/23 11:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	1440	1450	1	0.580		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1617081-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617081-01 05/19/23 11:15 • (DUP) R3926946-7 05/19/23 11:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	193	188	1	2.76		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3926946-1 05/19/23 09:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	104	104	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3926394-1 05/18/23 12:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	0.0898	J	0.0350	0.100

L1616344-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616344-01 05/18/23 12:58 • (DUP) R3926394-3 05/18/23 12:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	2.93	2.89	1	1.37		20

Laboratory Control Sample (LCS)

(LCS) R3926394-2 05/18/23 12:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	3.42	3.19	93.3	83.2-116	

L1616344-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616344-02 05/18/23 13:00 • (MS) R3926394-4 05/18/23 13:01 • (MSD) R3926394-5 05/18/23 13:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2.50	0.959	3.25	3.24	91.6	91.2	1	90.0-110			0.308	20

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3926301-1 05/17/23 22:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	U		0.00180	0.00500

L1616480-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616480-02 05/17/23 23:04 • (DUP) R3926301-3 05/17/23 23:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

L1616527-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1616527-03 05/17/23 23:20 • (DUP) R3926301-6 05/17/23 23:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3926301-2 05/17/23 22:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.0983	98.3	87.1-120	

L1616527-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616527-01 05/17/23 23:14 • (MS) R3926301-4 05/17/23 23:16 • (MSD) R3926301-5 05/17/23 23:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0991	0.0996	99.1	99.6	1	90.0-110			0.503	20

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927381-1 05/21/23 10:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

Laboratory Control Sample (LCS)

(LCS) R3927381-2 05/21/23 10:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.476	95.2	85.0-115	

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

L1614908-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1614908-01 05/19/23 11:10 • (DUP) R3926963-2 05/19/23 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.80	7.85	1	0.639		1

Sample Narrative:

OS: 7.8 at 18.8C

DUP: 7.85 at 19.2C

L1617111-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1617111-02 05/19/23 11:10 • (DUP) R3926963-3 05/19/23 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.27	7.27	1	0.000		1

Sample Narrative:

OS: 7.27 at 20C

DUP: 7.27 at 20.9C

Laboratory Control Sample (LCS)

(LCS) R3926963-1 05/19/23 11:10

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 20.4C

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927137-1 05/19/23 16:48

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1615872-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1615872-01 05/19/23 16:48 • (DUP) R3927137-3 05/19/23 16:48

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	391	388	1	0.770		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1615910-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1615910-04 05/19/23 16:48 • (DUP) R3927137-4 05/19/23 16:48

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1440	1420	1	1.54		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3927137-2 05/19/23 16:48

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	347	106	85.0-115	

Sample Narrative:
LCS: at 25C

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927286-1 05/17/23 09:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate as (N)	U		0.0480	0.100
Nitrite as (N)	U		0.0420	0.100
Sulfate	U		0.594	5.00

L1616499-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1616499-15 05/17/23 23:32 • (DUP) R3927286-6 05/17/23 23:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	50.2	51.0	1	1.63		15
Nitrate as (N)	0.114	0.113	1	0.442		15
Sulfate	37.1	37.8	1	1.93		15

L1616499-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1616499-18 05/18/23 03:26 • (DUP) R3927286-8 05/18/23 03:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		15
Nitrate as (N)	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3927286-2 05/17/23 10:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	41.3	103	80.0-120	
Chloride	40.0	40.3	101	80.0-120	
Fluoride	8.00	8.08	101	80.0-120	
Nitrate as (N)	8.00	7.85	98.2	80.0-120	
Nitrite as (N)	8.00	8.51	106	80.0-120	
Sulfate	40.0	41.1	103	80.0-120	

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

L1616499-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L1616499-15 05/17/23 23:32 • (MS) R3927286-7 05/18/23 00:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	50.2	95.1	89.8	1	80.0-120	
Nitrate as (N)	5.00	0.114	4.64	90.5	1	80.0-120	
Sulfate	50.0	37.1	82.2	90.2	1	80.0-120	

L1617073-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617073-02 05/18/23 04:07 • (MS) R3927286-9 05/18/23 04:20 • (MSD) R3927286-10 05/18/23 05:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50.0	ND	46.0	47.6	92.0	95.2	1	80.0-120			3.43	15
Chloride	50.0	41.1	89.8	92.8	97.4	103	1	80.0-120			3.27	15
Nitrate as (N)	5.00	ND	4.47	4.64	89.3	92.9	1	80.0-120			3.88	15
Nitrite as (N)	5.00	ND	5.14	5.32	103	106	1	80.0-120			3.52	15
Sulfate	50.0	6.07	53.9	56.5	95.7	101	1	80.0-120			4.64	15

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3926437-1 05/18/23 12:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.000736	0.00500
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00
Iron	U		0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Strontium	U		0.000640	0.0100

Laboratory Control Sample (LCS)

(LCS) R3926437-2 05/18/23 12:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1.00	1.03	103	80.0-120	
Boron	1.00	0.990	99.0	80.0-120	
Calcium	10.0	10.0	100	80.0-120	
Iron	10.0	9.81	98.1	80.0-120	
Magnesium	10.0	9.85	98.5	80.0-120	
Manganese	1.00	0.925	92.5	80.0-120	
Potassium	10.0	9.79	97.9	80.0-120	
Selenium	1.00	0.981	98.1	80.0-120	
Sodium	10.0	10.5	105	80.0-120	
Strontium	1.00	0.999	99.9	80.0-120	

L1616631-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616631-01 05/18/23 12:23 • (MS) R3926437-4 05/18/23 12:28 • (MSD) R3926437-5 05/18/23 12:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.0320	1.03	1.03	99.7	99.5	1	75.0-125			0.208	20
Boron	1.00	ND	1.05	1.05	98.8	98.5	1	75.0-125			0.259	20
Calcium	10.0	33.6	42.7	42.7	91.3	91.1	1	75.0-125			0.0313	20
Iron	10.0	0.268	10.2	10.3	99.2	100	1	75.0-125			0.890	20
Magnesium	10.0	3.21	12.7	12.8	95.1	96.2	1	75.0-125			0.897	20
Manganese	1.00	0.0149	0.944	0.931	92.9	91.7	1	75.0-125			1.36	20
Potassium	10.0	471	453	449	0.000	0.000	1	75.0-125	V	V	0.922	20

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

L1616631-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616631-01 05/18/23 12:23 • (MS) R3926437-4 05/18/23 12:28 • (MSD) R3926437-5 05/18/23 12:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Selenium	1.00	ND	1.07	1.06	107	106	1	75.0-125			0.554	20
Sodium	10.0	731	724	725	0.000	0.000	1	75.0-125	V	V	0.143	20
Strontium	1.00	0.109	1.11	1.11	100	99.7	1	75.0-125			0.421	20

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927399-1 05/20/23 13:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	0.000795	J	0.000736	0.00500
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00
Iron	U		0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Strontium	U		0.000640	0.0100

Laboratory Control Sample (LCS)

(LCS) R3927399-2 05/20/23 13:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1.00	1.04	104	80.0-120	
Boron	1.00	1.03	103	80.0-120	
Calcium	10.0	10.3	103	80.0-120	
Iron	10.0	10.1	101	80.0-120	
Magnesium	10.0	10.2	102	80.0-120	
Manganese	1.00	0.968	96.8	80.0-120	
Potassium	10.0	9.77	97.7	80.0-120	
Selenium	1.00	1.01	101	80.0-120	
Sodium	10.0	10.2	102	80.0-120	
Strontium	1.00	1.02	102	80.0-120	

L1616887-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616887-02 05/20/23 13:34 • (MS) R3927399-4 05/20/23 13:39 • (MSD) R3927399-5 05/20/23 13:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.282	1.29	1.29	101	101	1	75.0-125			0.0172	20
Boron	1.00	ND	1.13	1.14	101	102	1	75.0-125			1.18	20
Calcium	10.0	152	160	160	78.5	79.1	1	75.0-125			0.0332	20
Iron	10.0	11.5	21.4	21.3	98.4	97.5	1	75.0-125			0.423	20
Magnesium	10.0	32.5	41.9	41.8	93.8	93.0	1	75.0-125			0.191	20
Manganese	1.00	0.831	1.76	1.76	93.3	93.0	1	75.0-125			0.210	20
Potassium	10.0	6.82	16.3	16.4	94.4	95.9	1	75.0-125			0.886	20

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

L1616887-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616887-02 05/20/23 13:34 • (MS) R3927399-4 05/20/23 13:39 • (MSD) R3927399-5 05/20/23 13:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Selenium	1.00	ND	1.06	1.05	106	105	1	75.0-125			1.30	20
Sodium	10.0	11.9	21.9	22.0	100	101	1	75.0-125			0.467	20
Strontium	1.00	0.946	1.91	1.93	96.5	98.6	1	75.0-125			1.09	20

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927367-2 05/20/23 20:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.7*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3927367-1 05/20/23 18:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.06	110	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*101*	*78.0-120*	

L1616179-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616179-18 05/21/23 03:26 • (MS) R3927367-3 05/21/23 07:05 • (MSD) R3927367-4 05/21/23 07:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	550	53.7	578	599	95.3	99.1	100	10.0-160			3.57	22
(S) a,a,a-Trifluorotoluene(FID)					*96.7*	*96.7*		*78.0-120*				

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3928656-2 05/24/23 08:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ethanol	U		4.76	10.0

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3928656-1 05/24/23 08:48 • (LCSD) R3928656-3 05/24/23 08:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	50.0	48.5	48.7	97.0	97.4	64.0-130			0.412	20

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3928747-2 05/24/23 11:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methanol	U		4.95	10.0

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3928747-1 05/24/23 11:04 • (LCSD) R3928747-3 05/24/23 11:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methanol	50.0	51.4	51.8	103	104	61.0-132			0.775	21

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927624-3 05/20/23 19:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
Naphthalene	U		0.00100	0.00500
(S) Toluene-d8	*94.8*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3927624-1 05/20/23 18:39 • (LCSD) R3927624-2 05/20/23 18:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00474	0.00511	94.8	102	70.0-123			7.51	20
Ethylbenzene	0.00500	0.00437	0.00460	87.4	92.0	79.0-123			5.13	20
Xylenes, Total	0.0150	0.0126	0.0136	84.0	90.7	79.0-123			7.63	20
Naphthalene	0.00500	0.00378	0.00424	75.6	84.8	54.0-135			11.5	20
(S) Toluene-d8				*96.4*	*96.4*	*80.0-120*				
(S) 4-Bromofluorobenzene				*104*	*103*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*111*	*115*	*70.0-130*				

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3928046-3 05/22/23 11:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*117*			*80.0-120*
(S) 4-Bromofluorobenzene	*93.8*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*125*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3928046-1 05/22/23 10:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00461	92.2	70.0-123	
Toluene	0.00500	0.00492	98.4	79.0-120	
Xylenes, Total	0.0150	0.0134	89.3	79.0-123	
(S) Toluene-d8			*118*	*80.0-120*	
(S) 4-Bromofluorobenzene			*93.3*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*123*	*70.0-130*	

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

Method Blank (MB)

(MB) R3927165-1 05/19/23 07:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.0554	J	0.0247	0.100
(S) o-Terphenyl	*153*			*31.0-160*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3927165-2 05/19/23 07:28 • (LCSD) R3927165-3 05/19/23 07:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	2.18	2.03	145	135	50.0-150			7.13	20
(S) o-Terphenyl				*168*	*138*	*31.0-160*	J1			

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Dominion Energy
1140 West 200 South
Salt Lake City, UT 84104

Billing Information:
Attn: Paul Drake
PO Box 45360
Salt Lake City, UT 84145-0360

Pres Chk

Report to: Levi Arguello, JACE CAPPARO
Email To: levi.n.arguello@dominionenergy.com
phn.C.capparo@dominionenergy.com

Project Description: Rock Springs, Wyoming
City/State Collected: Vernal, UT
Please Circle: PT MT CT ET

Phone: 801-324-3966
JACE 801-598-6394
Client Project #
Lab Project # DOMENESLCUT-ROCKSPRG

Collected by (print): JACE CAPPARO
Site/Facility ID #
P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
~~Same Day~~ ___ Five Day
~~Next Day~~ ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
~~Three Day~~ 3 day JC
Quote #
Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE
MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L617111
Table # E167
Acctnum: DOMENESLCUT
Template: T223088
Prelogin: P986245
PM: 824 - Chris Ward
PB:
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK,ALKBI,ALKCA,OH 250mlHDPE-NoPres	Br,Cl,F,NO2,NO3,SO4 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH (HCL)	CO2 40mlAmb-NoPres	DROLVI 40mlAmb-HCl-BT	GRO 40mlAmb HCl (V2)	Metals 250mlHDPE-HNO3	Methanol 40mlClr-HCl	PT 250mlHDPE-H2SO4 (V2)	RA-226 1L-HDPE-Add-HNO3 (V2)	Remarks	Sample # (lab only)
WW-IW-PAD4-230515	Grab	GW		5/15/23	10:45am	22	X	X	X	X	X	X	X	X	X	X		01
		GW				22	X	X	X	X	X	X	X	X	X	X		
WW-IW-PAD3-230515	Grab	GW		5/15/23	11:15am	22	X	X	X	X	X	X	X	X	X	X		02
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____
Tracking # 6094 5471 0932

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Howa Mweching

Trip Blank Received: Yes / (No) HCL / MeoH TBR
Temp: 3.1 °C Bottles Received: 44
Date: 5.17.23 Time: 0931
If preservation required by Login: Date/Time
Hold:
Condition: NCF / OK

Company Name/Address:
Dominion Energy

1140 West 200 South
Salt Lake City, UT 84104

Billing Information:
Attn: Paul Drake
PO Box 45360
Salt Lake City, UT 84145-0360

Pres Chk

Report to: Levi Arguello, JACE Caprara
Email To: levi.n.arguello@dominionenergy.com
john.c.caprara@dominionenergy.com

Project Description: Rock Springs, Wyoming
City/State Collected: Vernal, UT
Please Circle: PT MT CT ET

Phone: 801-324-3966
JACE - 801-518-8394
Client Project #
Lab Project # DOMENESLCUT-ROCKSPRG

Collected by (print): JACE CAPRARA
Site/Facility ID #
P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
~~X Next Day~~ ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
X Three Day
Date Results Needed
Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-228 1L-HDPE-Add-HNO3	SPCON 250mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TDS 1L-HDPE NoPres	TSS 1L-HDPE NoPres	V8260BTEXN 40mlAmb-HCl	pH 125mlHDPE-NoPres				
WW-IWPAD4-230515	Grab	GW		5/15/23	10:45am	22	X	X	X	X	X	X	X				-01
		GW				22	X	X	X	X	X	X	X				
WW-IWPAD3-230515	Grab	GW		5/15/23	11:15am	22	X	X	X	X	X	X	X				-02
		GW				22	X	X	X	X	X	X	X				
		GW				22	X	X	X	X	X	X	X				
		GW				22	X	X	X	X	X	X	X				
		GW				22	X	X	X	X	X	X	X				
		GW				22	X	X	X	X	X	X	X				
		GW				22	X	X	X	X	X	X	X				
		GW				22	X	X	X	X	X	X	X				

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1611711
Table #
Acctnum: DOMENESLCUT
Template: T223088
Prelogin: P986245
PM: 824 - Chris Ward
PB:
Shipped Via: FedEX Ground

Remarks | Sample # (lab only)

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____
Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Hana Minechina	Date: Time:	Hold: Condition: NCF / OK

5/17 NCF-L1617111 DOMENESLCUT

Shortholds

Time estimate: oh **Time spent:** oh

Members

Nicolle Faulk (responsible) Chris Ward

Due on *22 May 2023 5:00 PM* for target *Done*

- [x] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [ ] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Nicolle Faulk *17 May 2023 1:53 PM*

samples collected 5/15/23 @1045 & 1115

Chris Ward *17 May 2023 2:02 PM*

Please proceed with note to run as close to hold as possible.

Nicolle Faulk *17 May 2023 2:03 PM*

done

Nicolle Faulk *17 May 2023 2:12 PM*

for -02, the sulfide container was received empty.

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

16/7111

Chris Ward *17 May 2023 2:13 PM*

Please split off and proceed

Nicolle Faulk *17 May 2023 2:14 PM*

done

Sundry Number: 125043 API: 43047315020 File: 125043_labanalyses.pdf

2.8. The proposed average and maximum injection pressures.

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.

The information required by UAC R649-5-2.2.8 and 2.9 will be determined based on pressures obtained from a Step-Rate Test. A sundry notice for the Step-Rate Test will be filed after submittal of this application. See attached for proposed operations for the Step-Rate Test.

RECEIVED: Jul. 25, 2023

Dominion Energy Wexpro
2221 Westgate Dr.
P.O. Box 458
Rock Springs, WY 82902
Tel (307) 352-7500
Fax (307) 352-7575

Island 18

Legal Description: SENW 2-10S-19E
Location: Uintah, UT
API: 43-047-31502

PROPOSED OPERATIONS

Perform a Step-Rate Test on the Bird's Nest Aquifer to determine the maximum injection pressure for the proposed injection well. UDOGM Step-Rate Test Guidelines dated June 2017 will be used as a guide to conduct the test.

- Fill tanks with 2% KCl and plan to treat with scale inhibitor and biocide prior to pumping down hole.
- MIRU pumping equipment for the Step-Rate Test (SRT).
- MIRU slickline. RIH with dual downhole pressure gauges and set at approximately 1,775'. Leave slickline and gauges in hole to record bottomhole pressures during SRT.
- Bring on pumps to initial rate on attached Proposed Pump Schedule.
- Hold rate constant for the given amount of time on the schedule and record all data.
- Slowly increase to the next rate on the schedule and repeat previous step.
- If fracture pressure is observed, record pressure when formation broke.
    - Note: Test may be terminated at lower rates if fracture pressure is observed earlier or for surface equipment constraints.
- After final pump rate; shut down pumps, shut in, and record ISIP.
- POOH with dual downhole pressure gauges.
- RDMO all equipment.

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PROPOSED PUMP SCHEDULE

STEP	PUMP RATE (bpm)	PUMP TIME (minutes)	BARRELS PUMPED (bbls)	CUM BARRELS PUMPED (bbls)
1	0.75	60	45	45
2	1.50	60	90	135
3	2.25	60	135	270
4	3.00	60	180	450
5	3.75	60	225	675
6	4.50	60	270	945
7	5.25	60	315	1260

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2.8. The proposed average and maximum injection pressures.

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.

The information required by UAC R649-5-2.2.8 and 2.9 will be determined based on pressures obtained from a Step-Rate Test. A sundry notice for the Step-Rate Test will be filed after submittal of this application. See attached for proposed operations for the Step-Rate Test.

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2.10. Appropriate geological data on the injection interval with confining beds clearly labeled,
2.10.1. Nearby Underground Sources of Drinking Water, including the geologic formation name;
2.10.2. Lithologic descriptions, thicknesses, depths, water quality, and lateral extent;
2.10.3. Information relative to geologic structure near the proposed well that may effect the conveyance and/or storage of the injected fluids.

See attached Geologic Recommendation and exhibits.

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Island Unit #18 SWD Conversion
Geologic Recommendation

Wexpro Company proposes converting the Island Unit #18 well (API: 4304731502) to a saltwater disposal well. The Island Unit is located on the southern flank of the Uinta Basin where the Wasatch and Green River Formations dip to the north at approximately 2.5 degrees (Exhibit 1). The well is located in the northwestern corner of the Island Unit in the SE ¼ NW ¼ section 2 Township 10 S Range 19E (Exhibit 1). Offset operators include XTO Energy, and Utah Gas OP LTD (Exhibit 2).

The Island Unit #18 was first drilled in 1984 and completed as a natural gas producer in the Wasatch Formation. Cumulative production in the Wasatch Formation from perforations ranging from 5,998-6,734' is 0.48 billion cubic feet of gas and 11,367 barrels of oil. Wexpro Company has operated the well from initial completion to present. Currently the well does not produce.

The Uinta Formation is the rock unit exposed at the surface across much of the Island Unit (Exhibit 3). Lithologically, it is composed of brown, red, and green mudstone, siltstone, and shale. Sandstones, where present, are generally a yellow brown color (Exhibit 3). The Uinta Formation was deposited in a fluvial environment from streams derived from the Uinta Mountain and surrounding uplifts. Fluvial channel sandstones in this formation are generally not laterally continuous.

The proposed injection zone for the Island Unit #18 SWD well conversion is the Birds Nest Aquifer which exists from 1,564 to 1,957 feet MD in the Island Unit #18 wellbore (Exhibits 4 and 5). The location of the Island Unit #18 well is within the >10,000 TDS area of the Birds Nest aquifer water chemistry map from Vanden Berg et al., 2013 (Exhibit 6). Water tests from this zone in the Island Unit #18 wellbore confirm a TDS of 172,000 to 217,000 mg/L, which is above the 10,000 TDS limit for a moderately saline aquifer (Exhibit 7). The Island Unit #18 well exists on the southern flank of the Uinta Basin where dips are approximately 2° to the north and no major faults are observed (Exhibit 1). As such, we anticipate that the injected water will be conveyed through and stored within the Birds Nest Aquifer with integrity.

The Birds Nest Aquifer was chosen as the disposal target based on the following criteria:

1) It has excellent storage and injectivity capacities.
2) It is bound below by aquitards preventing disposed water from invading potential oil or gas strata in the Green River Formation,
3) It is bound above by aquitards that will prevent disposed water from invading potential fresh water sources in the Uinta Formation.

Based on the 1978 Uinta Basin groundwater report by Hood and Fields, the Duchesne and Uinta formations are the primary source of fresh ground water in the Uinta Basin. Based on log analysis of the Green River Formation above the Birds Nest Aquifer in the Island Unit and surrounding areas there is approximately 400 feet of Green River Formation shales and limestones that will act as an aquitard before reaching the base of the Uinta Formation (Exhibits 8-10). Additionally, the basal portions of the Uinta Formation in this area are composed primarily of shales with no sandstone reservoirs present in logs that penetrate the interval near the Island Unit #18 well (Exhibits 8-10). As such, disposal of salt water in the Birds Nest Aquifer in the Island Unit #18 well poses no threat to oil and gas bearing zones in the Green River Formation below or to freshwater resources in the overlying Uinta Formation.

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Birds Nest Aquifer disposal wells similar to Wexpro's proposal are present in the Greater Natural Buttes area (Exhibits 5 and 11).

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Sundry Number: 125043 API: 43047315020 File: 125043_geologicdata.pdf

Exhibit 1. Island Unit location map with Green River - Uteland Butte structural contours (TVD-sea level datum)

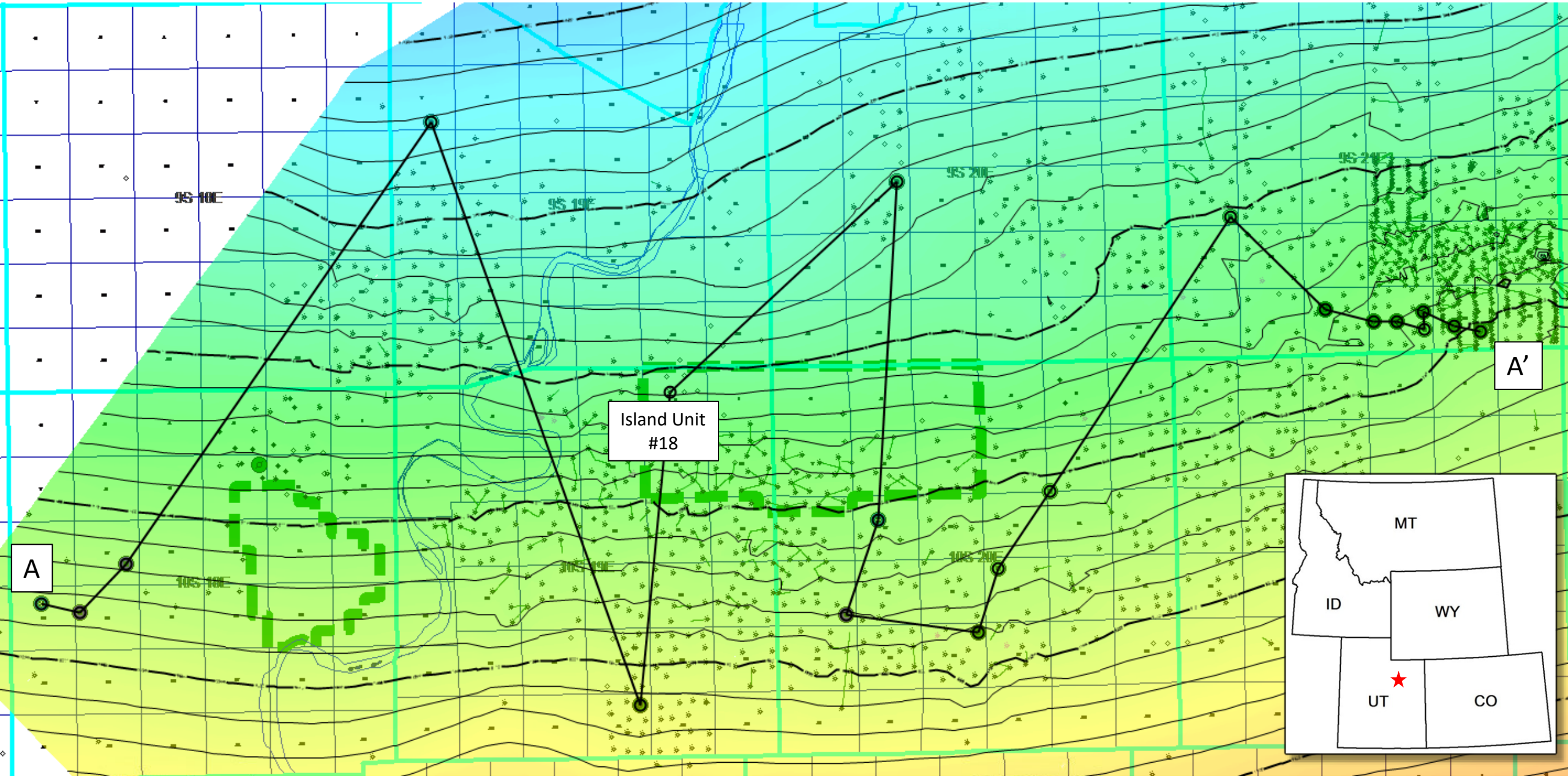
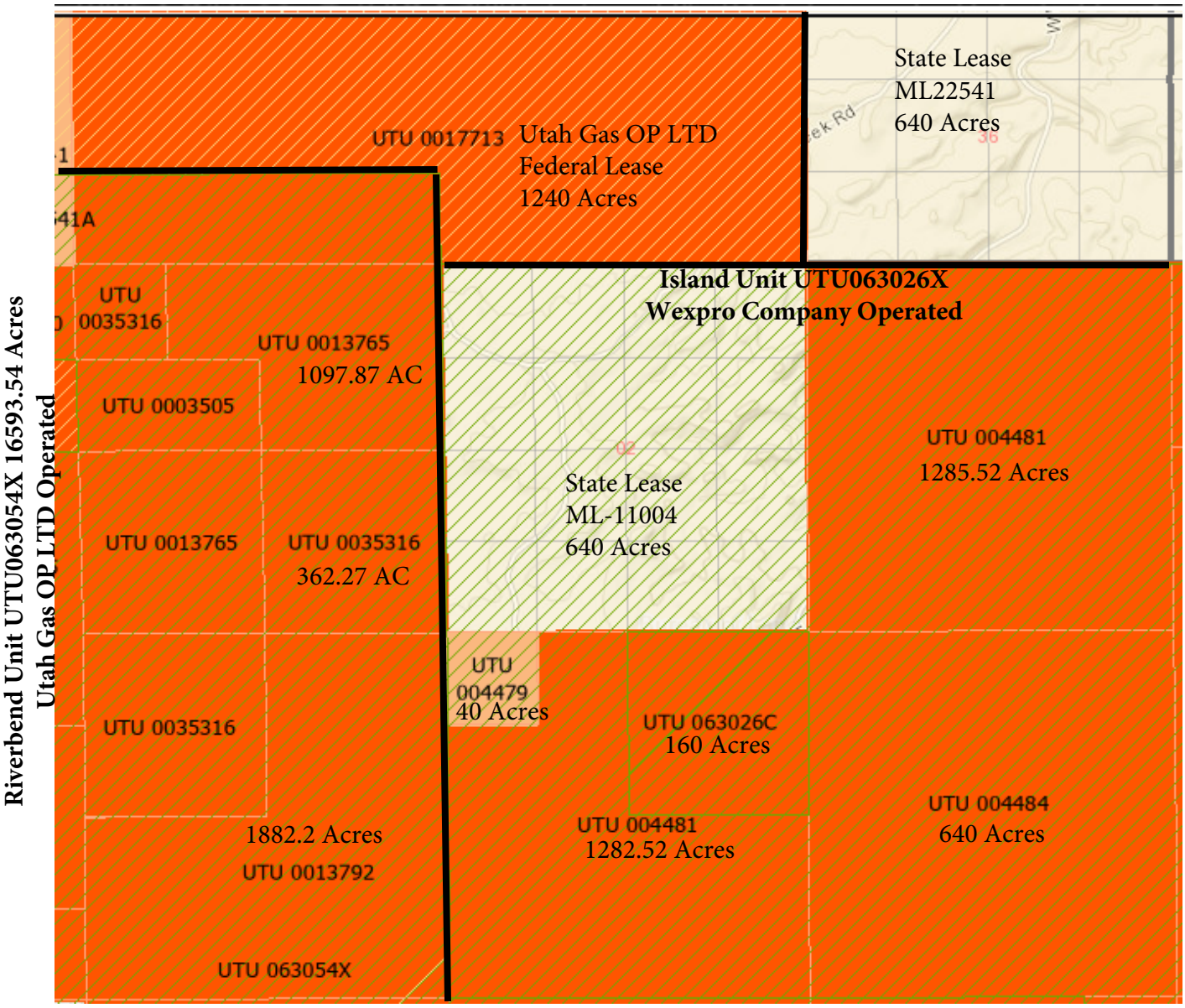


Exhibit 2.
Land map (acreage by operator)

Island Unit 18 Disposal Well
Acreage Map



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Legend

Fluid Minerals

Fluid Minerals Participating Areas - Case Disposition

Authorized

Fluid Minerals Agreements

Fluid Minerals Agreements - Case Disposition

Authorized

Oil and Gas Leases

Oil and Gas Leases - Case Disposition

Authorized

Oil and Gas Leases - Production Status

Held by Actual Production

Held by Allocated Production

Non-Producing

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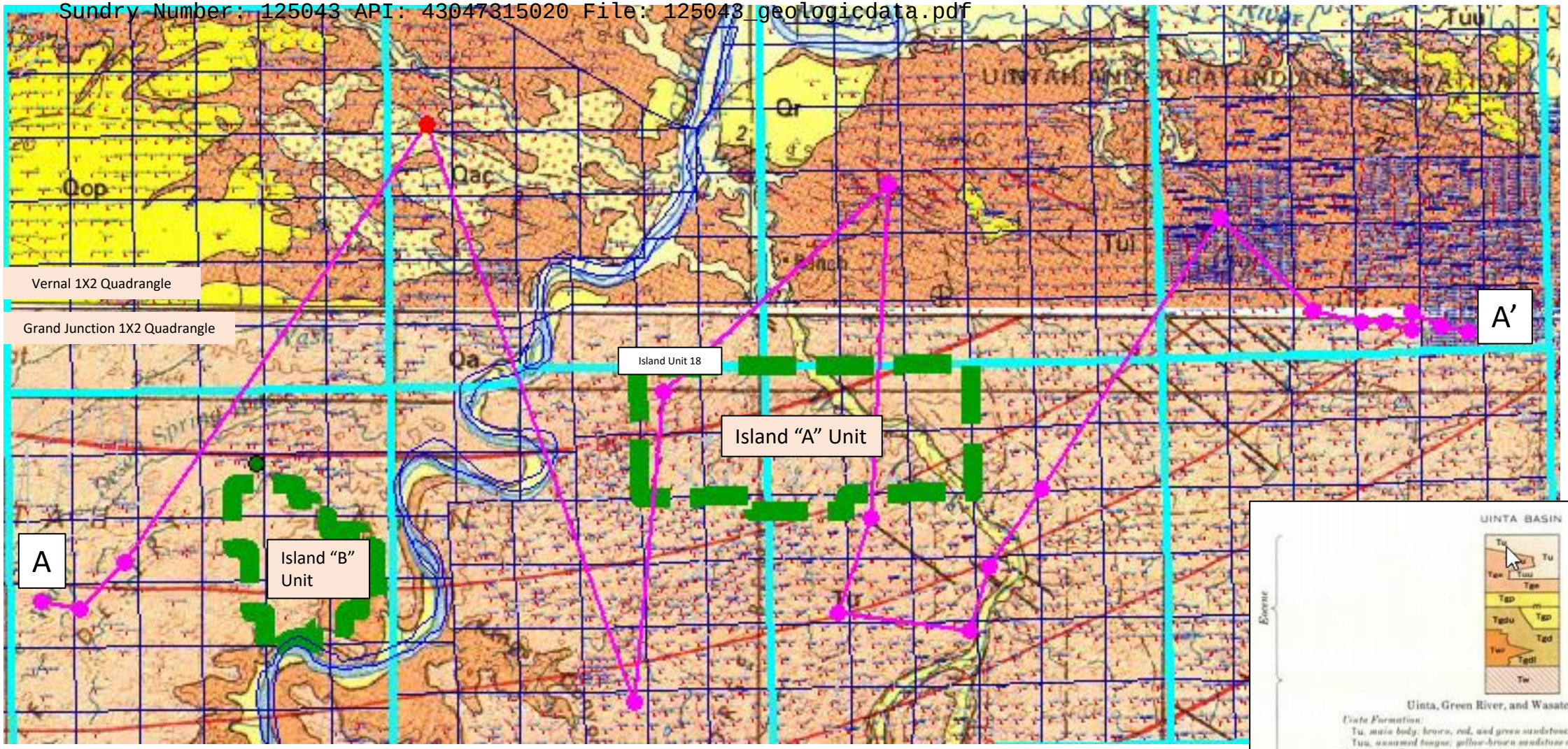


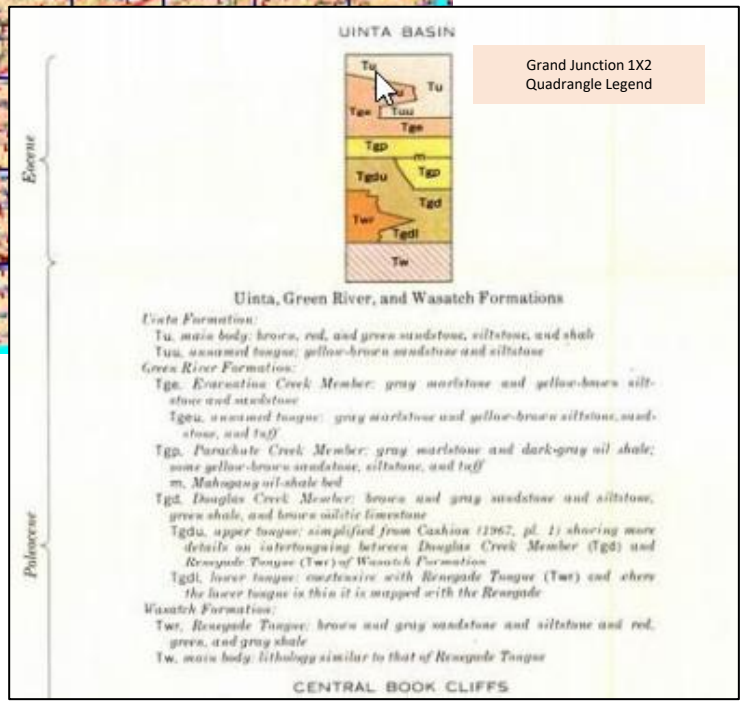
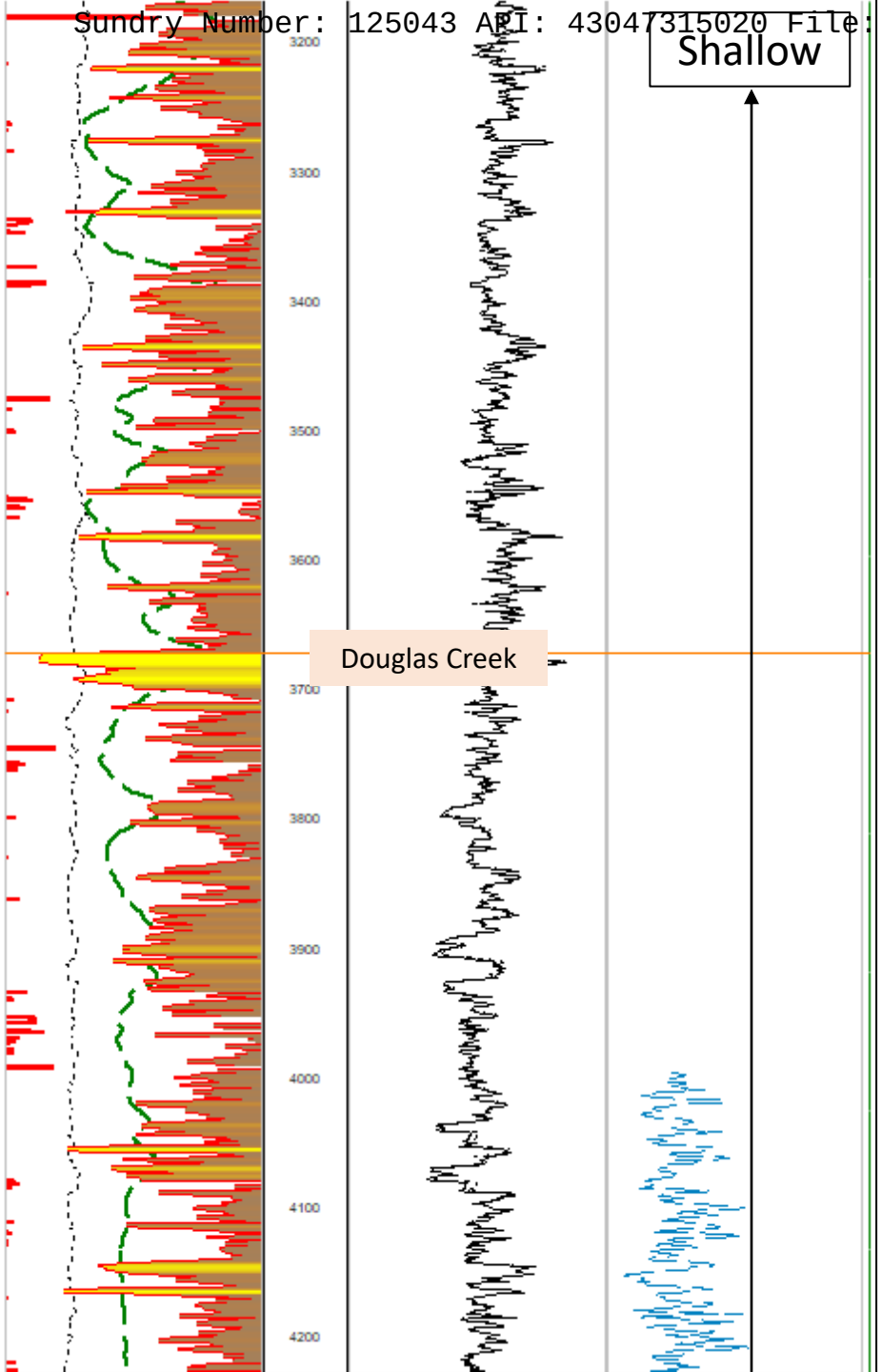


Exhibit 3. Surface geology map of the Island Unit area. Saltwater disposal and water source well cross-section (A-A') depicted. The formation at surface across the entire Island Unit is the Tertiary Uinta Formation, except along Willow Creek, where Quaternary stream deposits overlie the Uinta Formation.

E-W water well cross section



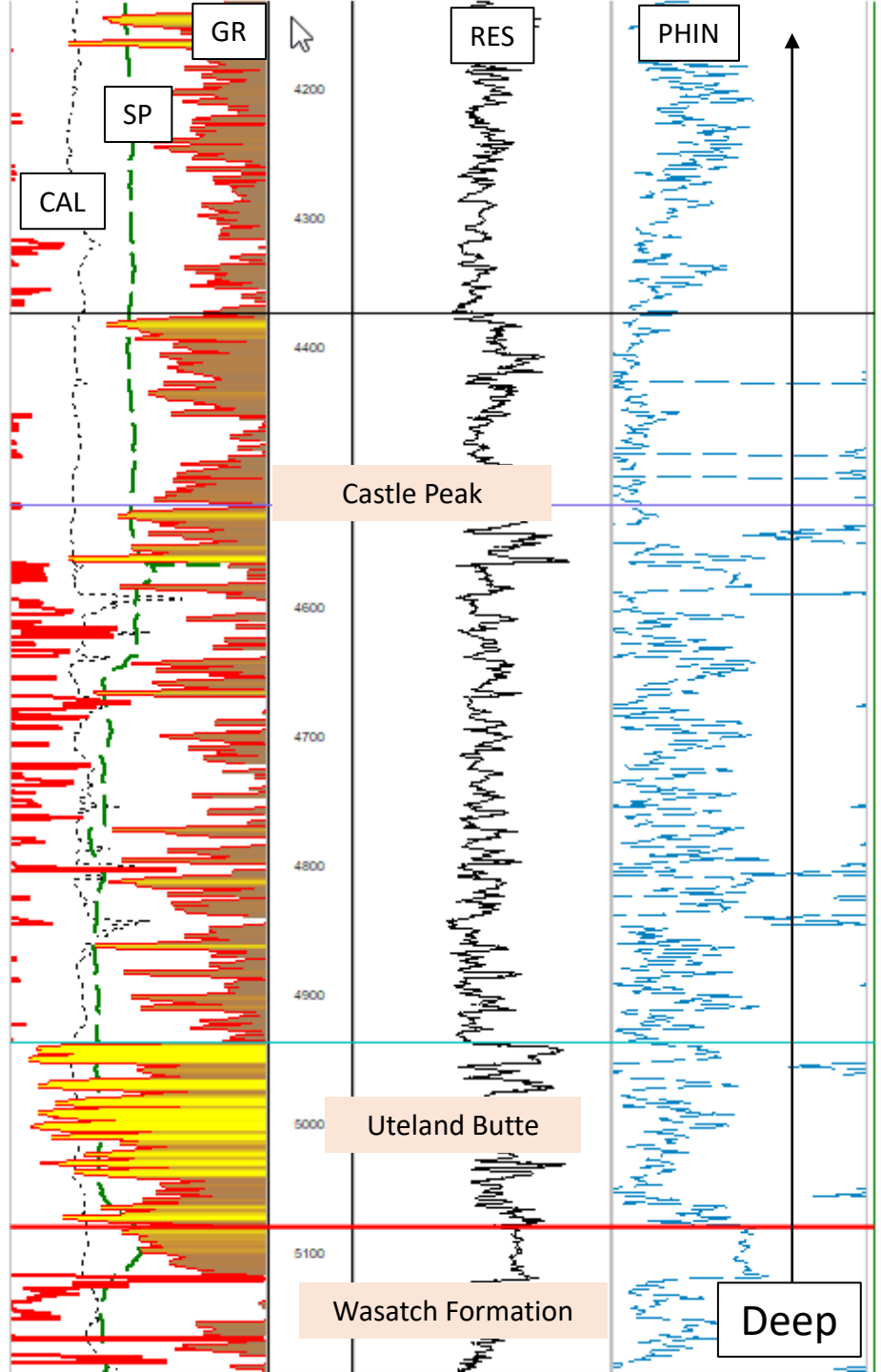
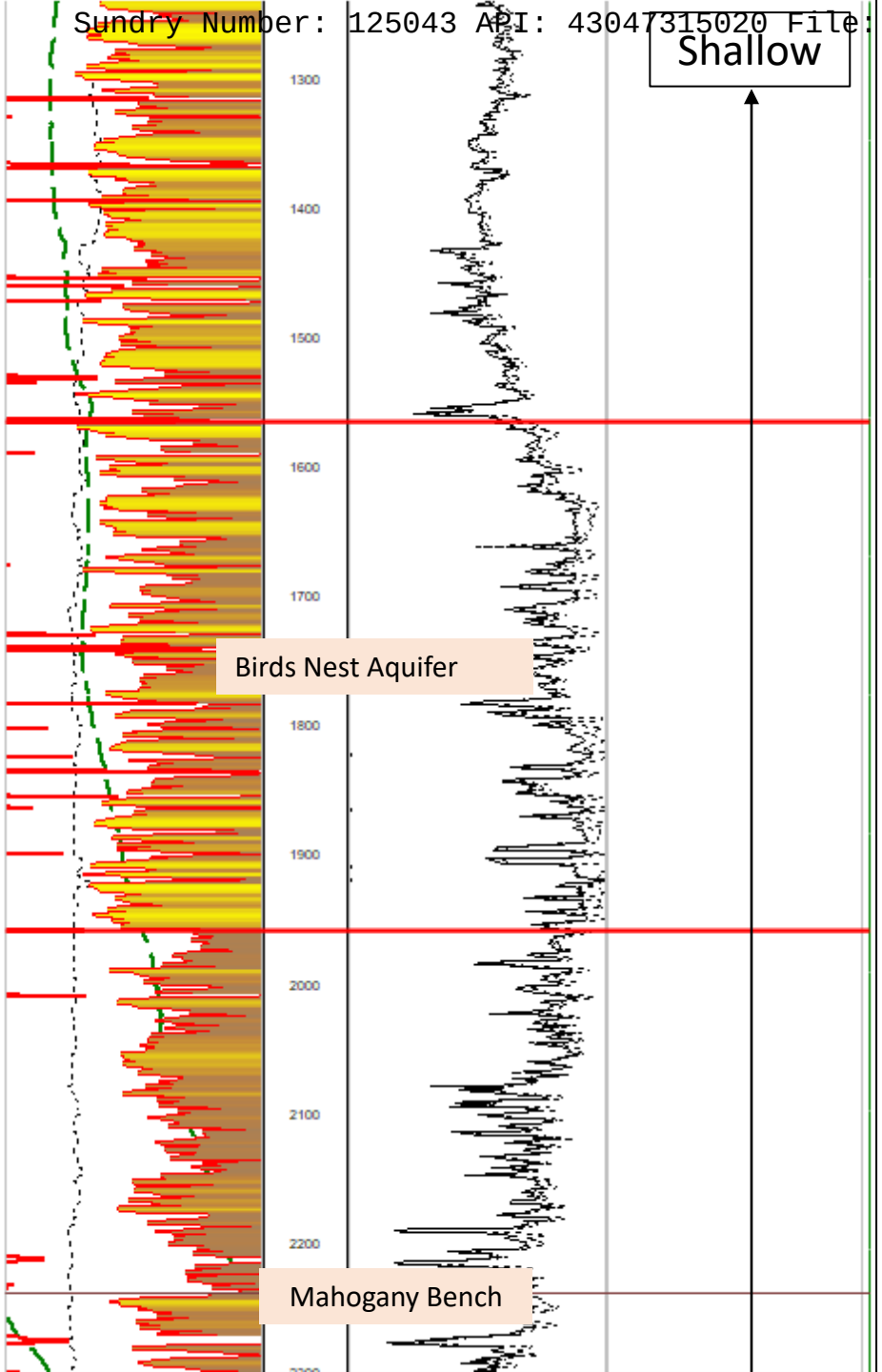


Exhibit 4. Island Unit 18 electrical and radioactive logs (page 1/3)

Sundry Number: 125043 API: 43047315020 File: 125043_geologicdata.pdf



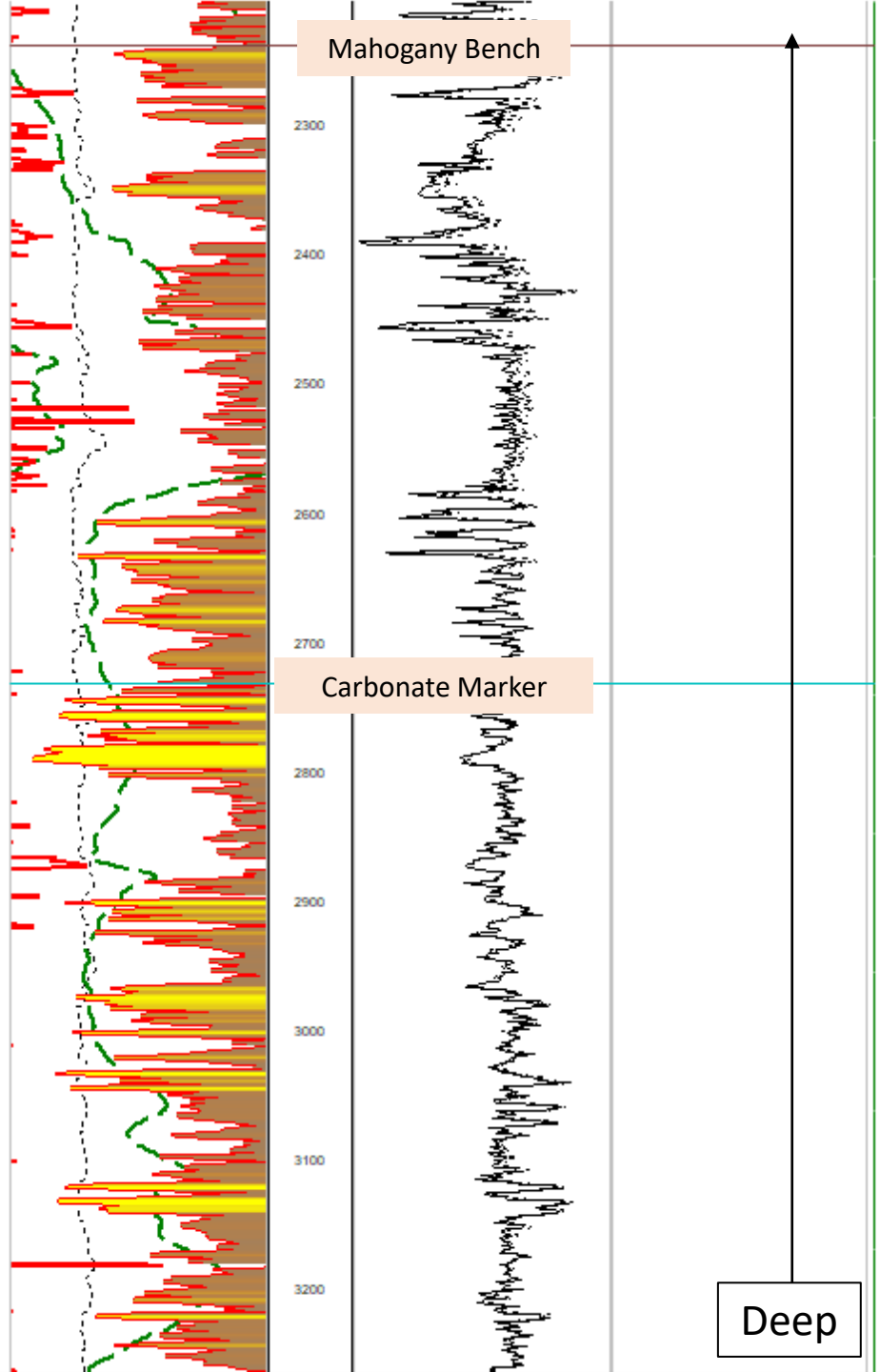


Exhibit 4. Island Unit 18 electrical and radioactive logs (page 2/3)

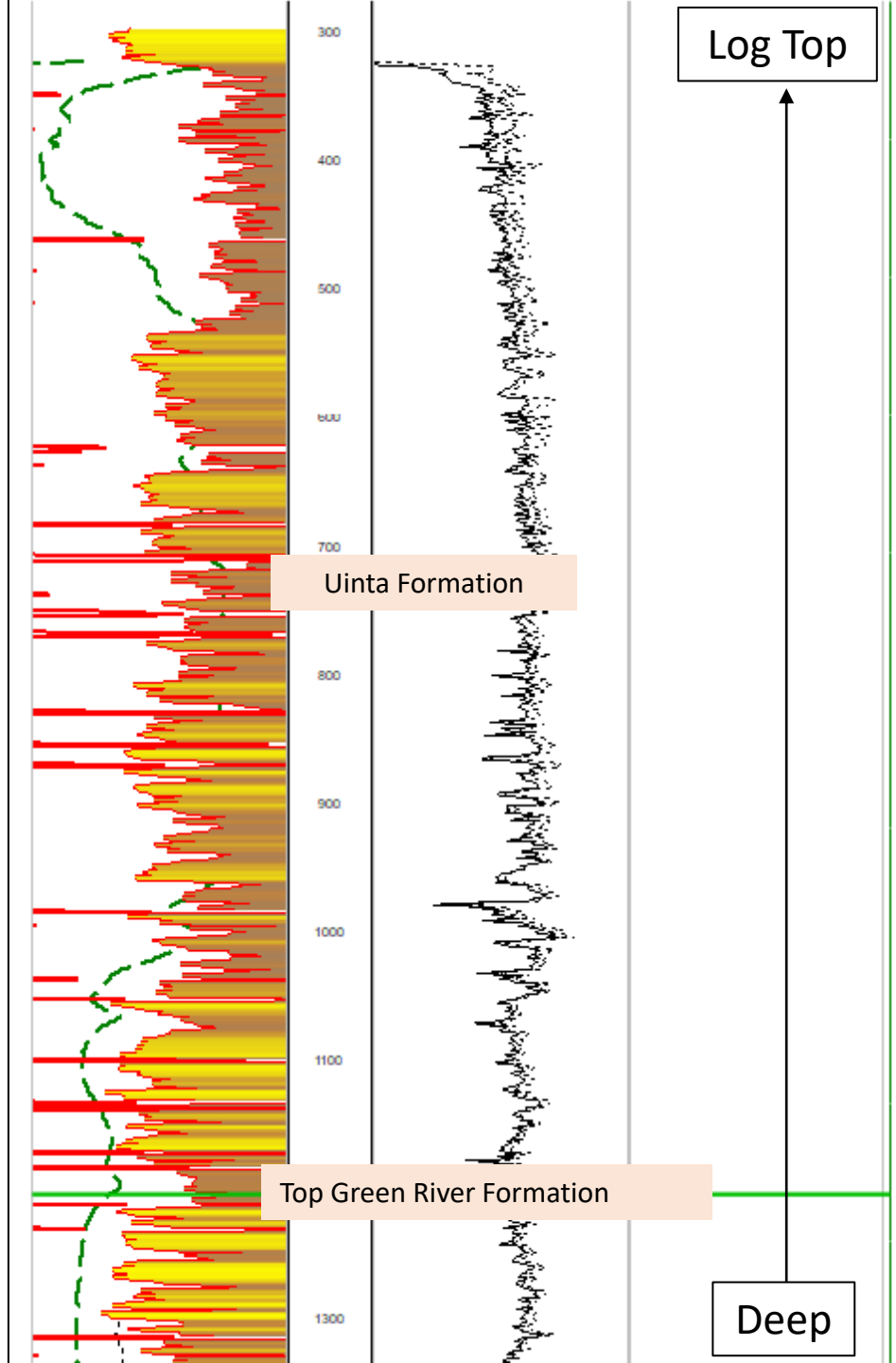


Exhibit 4. Island Unit18 electrical and radioactive logs (page 3/3)

A

A’

Exhibit 5. Regional water well cross section

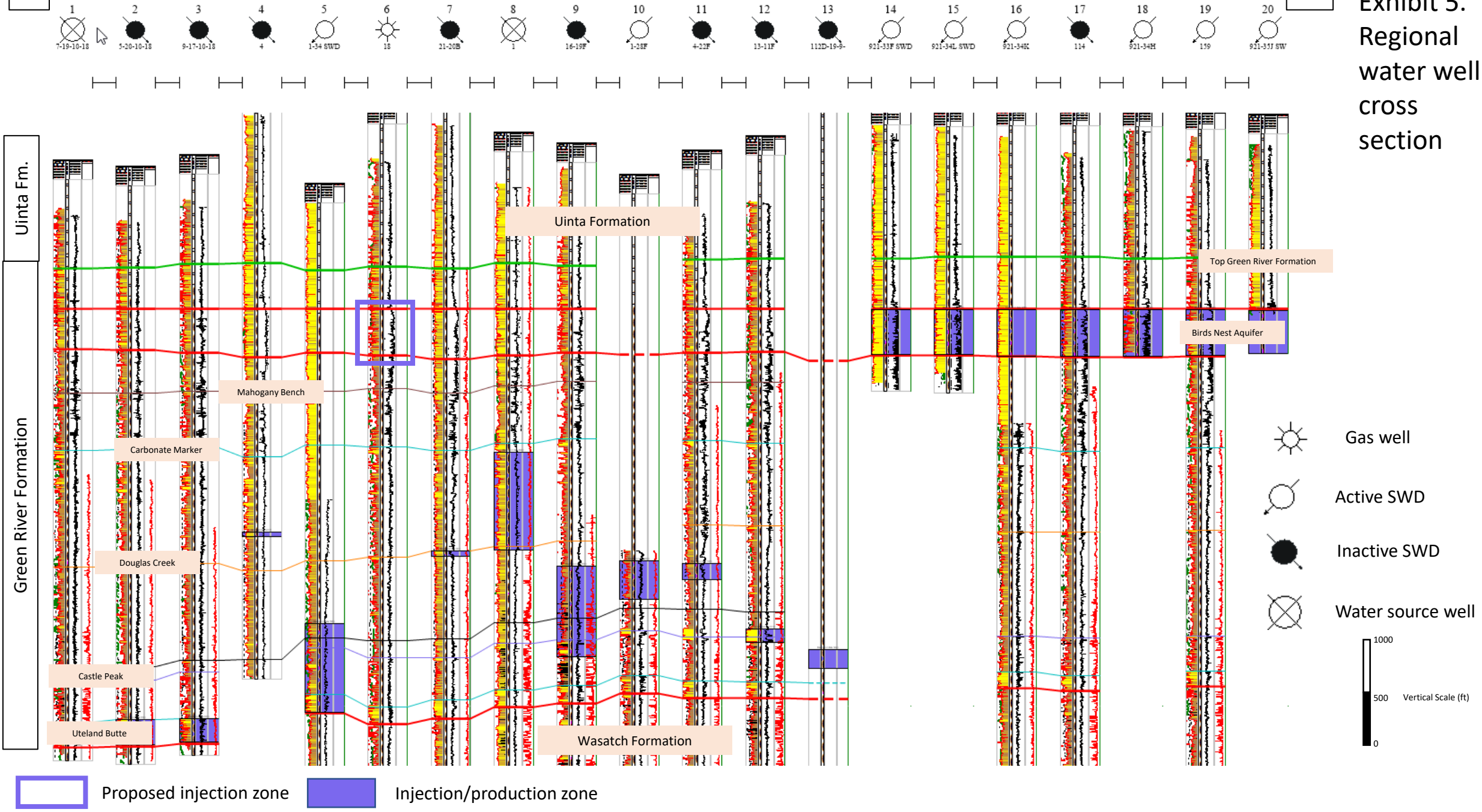


Exhibit 6. Island Unit and Island Unit 18 well in relation to the 10,000 TDS water chemistry line. Island Unit is within the mapped boundary of Birds Nest water with > 10,000 TDS. TDS in Island Unit 18 ranges from 172,000 to 217,000 PPM (see Exhibit 7)

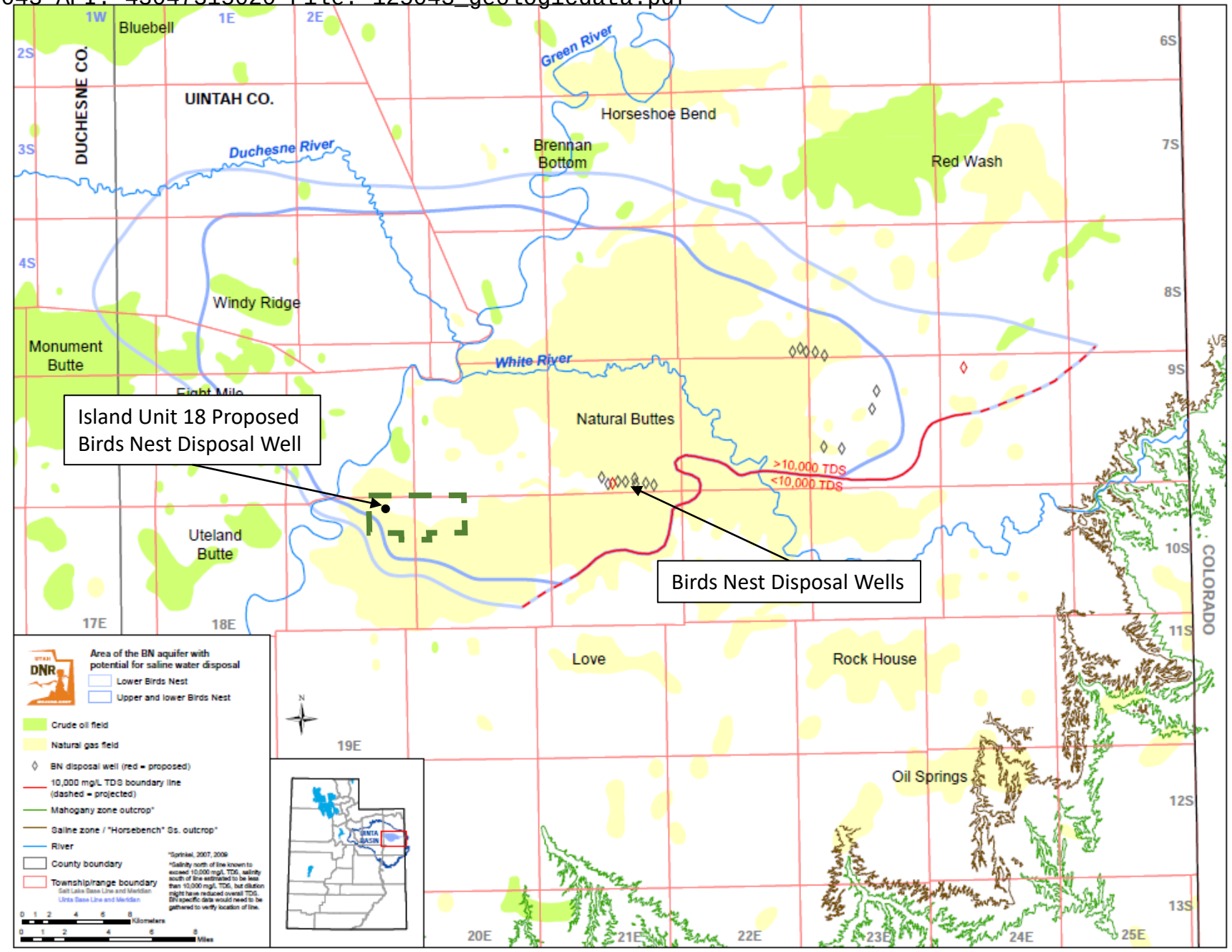


Figure 25. Area of the Birds Nest aquifer with potential for saline water disposal and its proximity to major producing oil and gas fields.

From: Vanden Berg, M.D. et al., 2013, Geologicgal Characterization of the Birds Nest Aquifer, Uinta Basin, Utah: Assessment of the aquifer's potential as a saline water disposal zone, Special Study 147, Utah Geological Survey.

Exhibit 7. Water chemistry from Island 18

See PDF

Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45153**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**53662**	mg/L	Titration
P-Alkalinity (as CO3)	**36000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.126**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**172000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**30.6**	mg/L	Potassium	**343**	mg/L	Cobalt	**0.327**	mg/L
Manganese	**1.36**	mg/L	Boron	**358**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.273**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**18.8**	mg/L
Strontium	**0.227**	mg/L	Copper	**3.38**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.68**	mg/L	Nickel	**0.180**	mg/L	Molybdenum	**1.78**	mg/L
Magnesium	**3.89**	mg/L	Zinc	**39.9**	mg/L	Phosphorus	**35.9**	mg/L
Sodium	**54600**	mg/L	Lead	**2.59**	mg/L	Measured Sodium	**54600**	mg/L

Anions - Analyzed By IC

Chloride	**24400**	mg/L
Sulfate	**2450**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.3
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.37
Calcite CaCO3 PTB	3.20	**Calcite CaCO3 SI**	2.00
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.4
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.0
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.1

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45154**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**58504**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.134**		Densitometer
Ionic Strength	**2.05**	mol/L	Calculation
Total Dissolved Solids	**177000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**29.4**	mg/L	Potassium	**337**	mg/L	Cobalt	**0.191**	mg/L
Manganese	**1.84**	mg/L	Boron	**347**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.241**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**9.44**	mg/L
Strontium	**0.192**	mg/L	Copper	**3.22**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.03**	mg/L	Nickel	**0.226**	mg/L	Molybdenum	**1.85**	mg/L
Magnesium	**3.96**	mg/L	Zinc	**123**	mg/L	Phosphorus	**30.6**	mg/L
Sodium	**55000**	mg/L	Lead	**0.870**	mg/L	Measured Sodium	**55000**	mg/L

Anions - Analyzed By IC

Chloride	**23000**	mg/L
Sulfate	**2290**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.4
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.28
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.94
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.5
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.2
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.2

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45155**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**61132**	mg/L	Titration
P-Alkalinity (as CO3)	**67000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.19**	mol/L	Calculation
Total Dissolved Solids	**217000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**37.9**	mg/L	Potassium	**340**	mg/L	Cobalt	**0.265**	mg/L
Manganese	**2.01**	mg/L	Boron	**407**	mg/L	Chromium	**0.051**	mg/L
Barium	**0.320**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**12.1**	mg/L
Strontium	**0.210**	mg/L	Copper	**2.26**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.29**	mg/L	Nickel	**0.182**	mg/L	Molybdenum	**1.60**	mg/L
Magnesium	**3.92**	mg/L	Zinc	**79.9**	mg/L	Phosphorus	**32.9**	mg/L
Sodium	**57100**	mg/L	Lead	**1.47**	mg/L	Measured Sodium	**57100**	mg/L

Anions - Analyzed By IC

Chloride	**29000**	mg/L
Sulfate	**1580**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.5
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.22
Calcite CaCO3 PTB	2.80	**Calcite CaCO3 SI**	1.98
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.6
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.3
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.3

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45156**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**64146**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**181000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**33.3**	mg/L	Potassium	**279**	mg/L	Cobalt	**0.163**	mg/L
Manganese	**1.49**	mg/L	Boron	**350**	mg/L	Chromium	**<0.050**	mg/L
Barium	**0.268**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**14.1**	mg/L
Strontium	**0.162**	mg/L	Copper	**1.81**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.00**	mg/L	Nickel	**0.129**	mg/L	Molybdenum	**1.15**	mg/L
Magnesium	**2.92**	mg/L	Zinc	**76.7**	mg/L	Phosphorus	**29.3**	mg/L
Sodium	**47900**	mg/L	Lead	**1.41**	mg/L	Measured Sodium	**47900**	mg/L

Anions - Analyzed By IC

Chloride	**29900**	mg/L
Sulfate	**1480**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.6
Barite BaSO4 PTB	0.0	**Barite BaSO4 SI**	0.10
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.95
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.8
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.4
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.4

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Exhibit 8. Island Unit 18 cross-section index with Green River - Uteland Butte Structure Map (TVD-sea level datum)

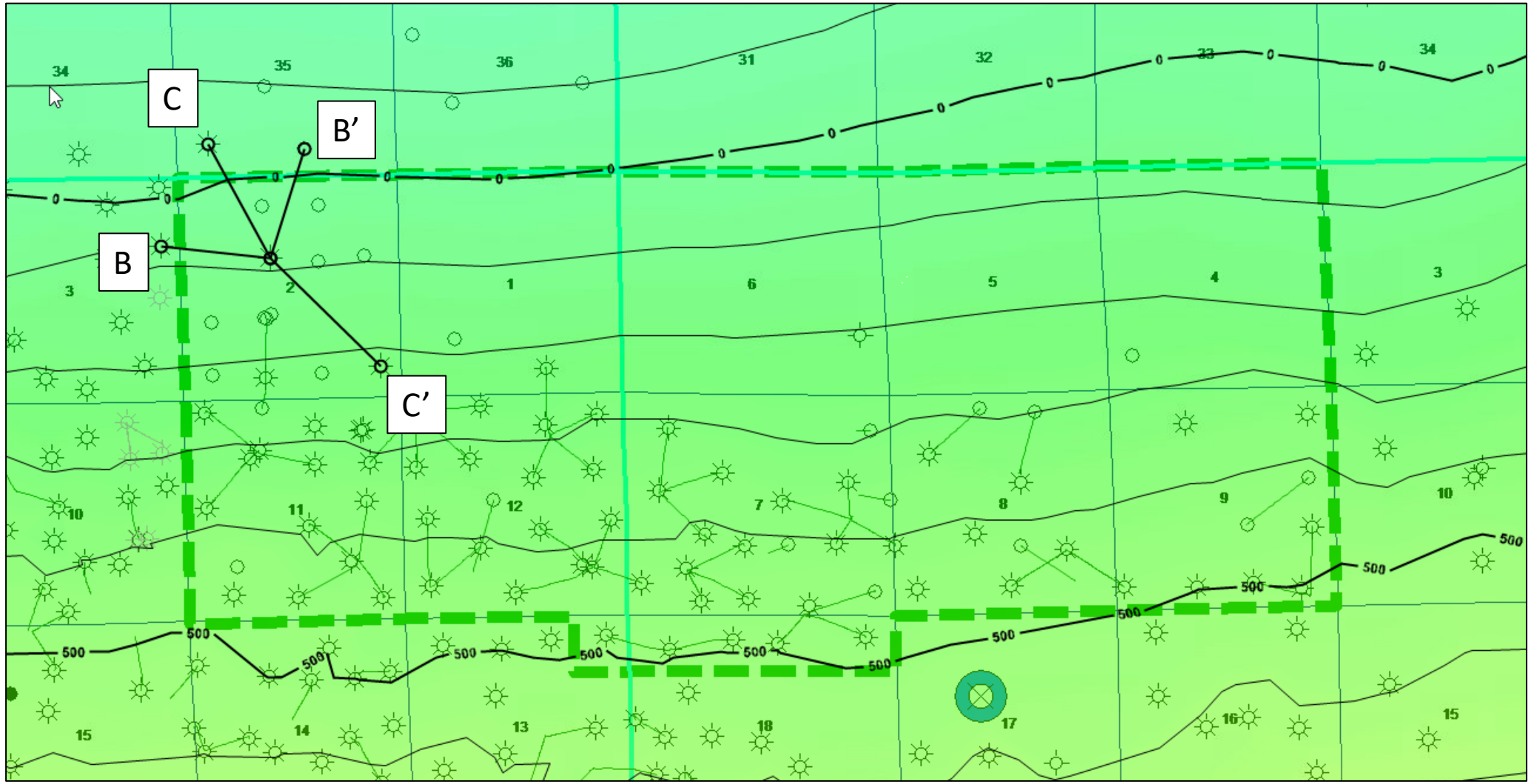


Exhibit 9. E-W cross section through Island Unit 18

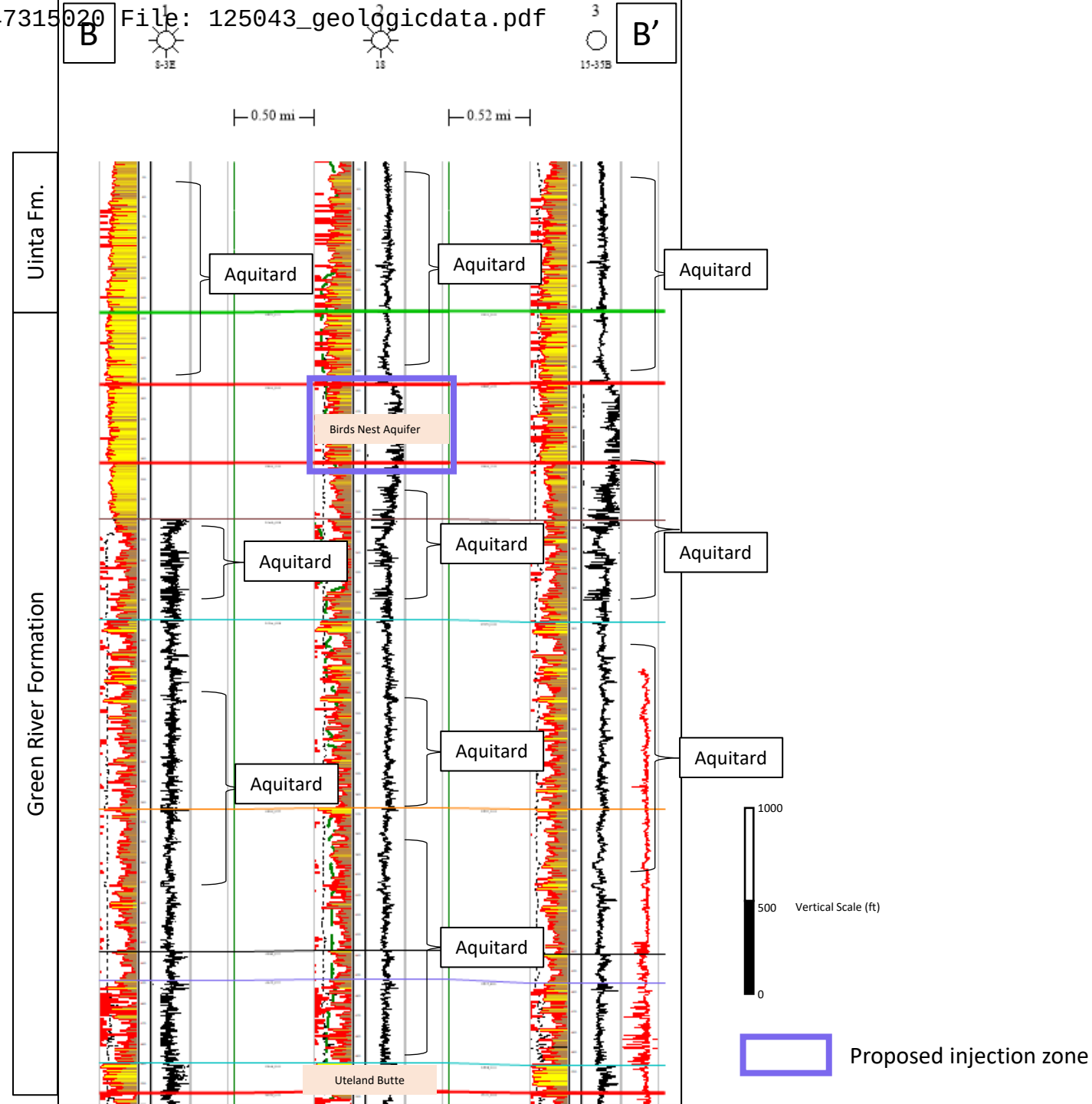
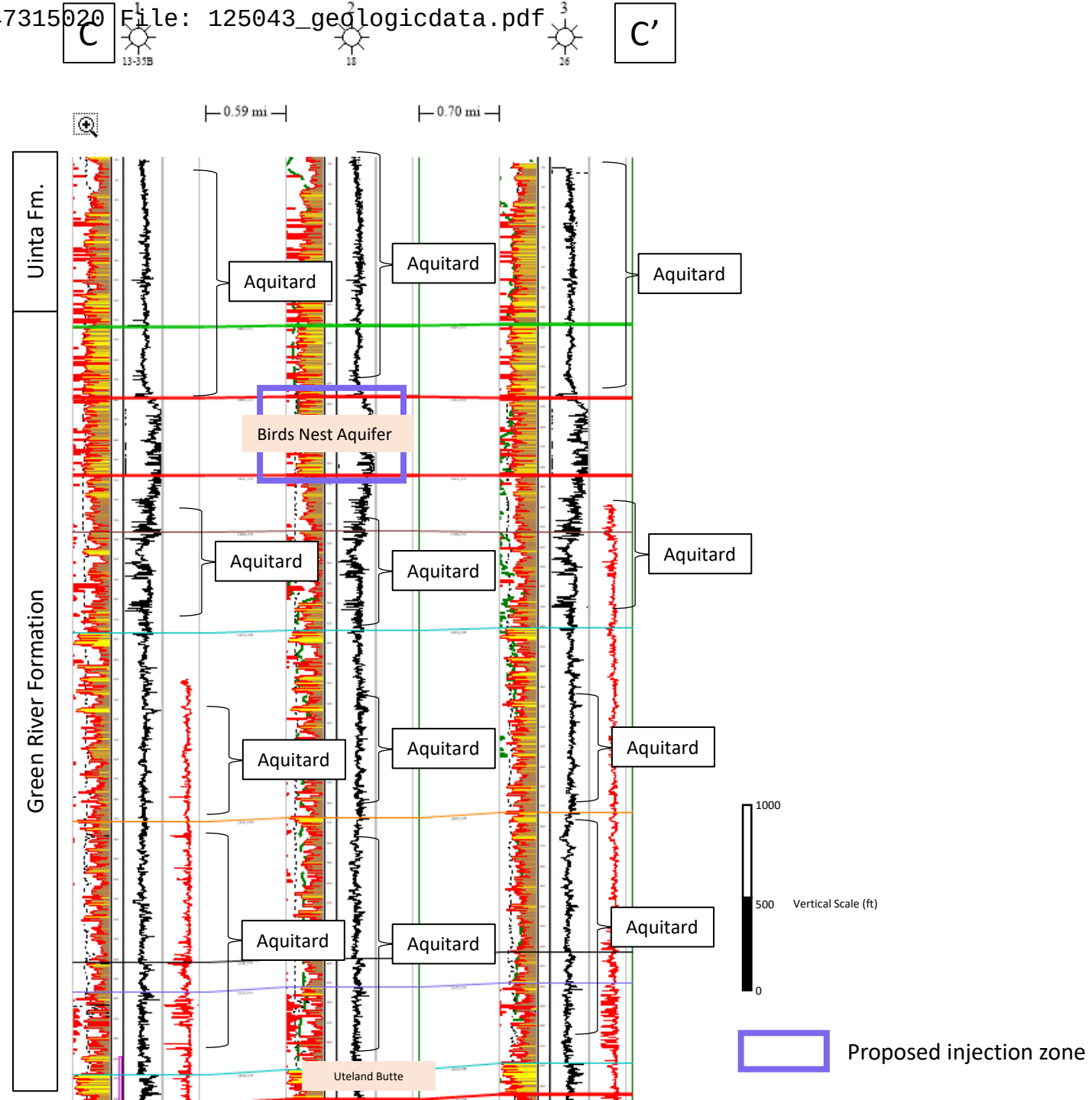


Exhibit 10. N-S cross section through Island Unit 18



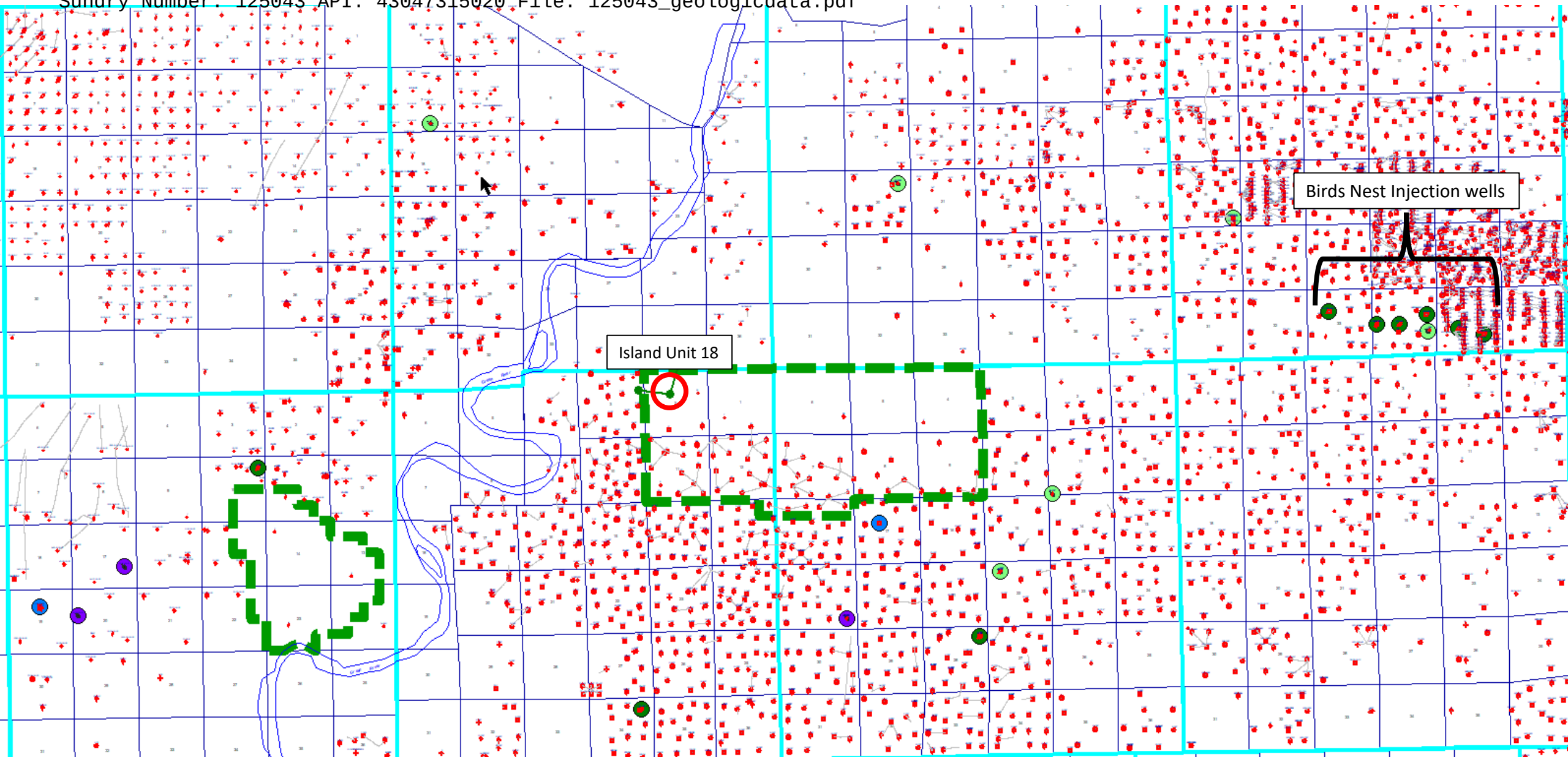


Exhibit 11. Water source and injection well status

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.

A review of well records on the Utah Division of Oil, Gas and Mining identified two wells and one permitted well within one-half mile radius. Please find information regarding each well below:

- RBU 8-3E (43-047-36609): The well is currently operated by Utah Gas Op Ltd. The last recorded monthly production was reported for November 2022. Drilled in 2006 to a TVD of 9009', the well has 8-5/8" surface casing set at 2195' and was cemented with a total of 725 sacks with 30 barrels of cement to surface. The 5-1/2" 17# production casing was set at 8988' and cemented with a total of 686 sacks. Cement top on the production string was identified with a cement bond log at 3700' KBM from a report dated 04/12/2006. The producing interval is in the Wasatch and Mesaverde (5846'-8790').
- Island Unit 29 (43-047-31752): The well was plugged and abandoned in April 2001 by Wexpro Company. Wasatch perforations from 5980'-7034' were squeezed with 100 sacks of cement and 60' of cement left on top of a cement retainer set at 5892'. A balanced cement plug was placed across the Bird's Nest Aquifer from 2400'-2605' (20 sacks) per a COA from the Utah Division of Oil, Gas and Mining. 65 sacks of cement were pumped down the 4-1/2"x 8-5/8" annulus and a 75' surface plug was set inside the 4-1/2" casing.
- Island Unit 2K1 (43-047-57001): An APD was approved in April 2022 by the Utah Division of Oil, Gas and Mining.

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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.

See attached affidavit of Paul Jibson.

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Dominion Energy Wexpro
333 South State Street, Salt Lake City, UT 84111
Mailing Address:
P.O. Box 45003, Salt Lake City, UT 84145-0003
DominionEnergy.com

Dominion Energy®

AFFIDAVIT OF NOTICE OF APPLICATION FOR INJECTION

STATE OF UTAH

COUNTY OF SALT LAKE

BEFORE ME, Paul R. Jibson personally appeared, and who after first being duly sworn states as follows:

1. My name is Paul R. Jibson, and I am the Manager of Joint Operations and Regulatory Affairs for Wexpro Company.
2. I certify that a copy of the application for injection has been sent by certified mail to the owners, operators, and surface owners within a one-half mile radius of the proposed Island 18 injection well. This included the UIC 1 Form and associated maps.

Paul R. Jibson
Manager of Joint Operations & Regulatory Affairs
Wexpro Company

Subscribed and worn to before me Kelli Carter, a notary public, personally appeared Paul R. Jibson, proved on the basis of satisfactory evidence to be the person whose name subscribed to this instrument and acknowledged he executed the same on this 17 day of May, 2023.

Witness my hand and official seal

KELLI CARTER
Notary Public State of Utah
My Commission Expires on:
February 24, 2027
Comm. Number: 729637

Kelli Carter

Notary Public

My Commission Expires on: 2/24/2027

WEXPRO COMPANY – UIC PERMIT APPLICATION

RECEIVED: Jul. 25, 2023

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

UIC FORM 1

APPLICATION FOR INJECTION WELL

Name of Operator: Wexpro Company	Operator Number: 1070	Well Name and Number: Island Unit 18
Address of Operator: PO BOX 458 CITY Rock Springs STATE WY ZIP 82902	Phone Number: (307) 352-7514	API Number: 4304731502
Location of Well Footage : 1957' FNL 2149' FWL County : Uintah QQ, Section, Township, Range: SENW 2 10S 19E State : UTAH		Field or Unit Name: Natural Buttes Lease Designation and Number: ML-11004

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: 10/6/2022

Proposed injection interval: from 1,604 to 1,945

Proposed maximum injection: rate 2,000 bpd pressure SRT psig

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

List of attachments: 1/2 mile radius plat map, surface owners, Utah water rights, Form 9 plus attachments, disposing well list, geological data, cross sections and maps.

SUBMIT ADDITIONAL INFORMATION AS REQUIRED BY CURRENT UTAH OIL AND GAS CONSERVATION GENERAL RULES VIA EPERMIT

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

Name (Please Print) Tammy Fredrickson Title Senior Permit Agent

Signature Tammy Fredrickson Date 3/28/2023

(6/2021)

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.

See attached plat maps.

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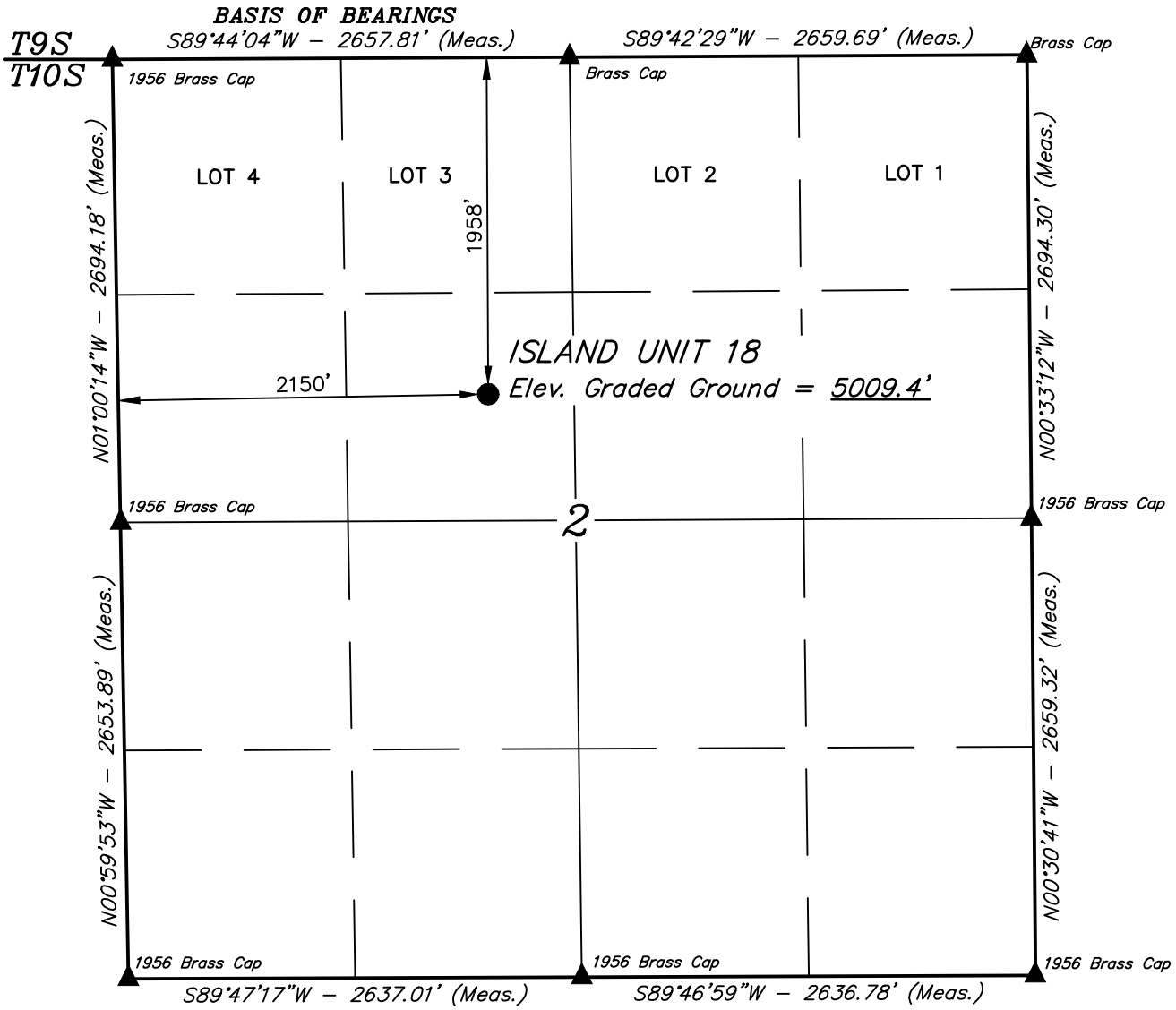
LEGEND:

● = EXISTING WELLHEAD.

▲ = SECTION CORNERS LOCATED.

T10S, R19E, S.L.B.&M.

NOTE:
- Distances referenced on plat to section lines are perpendicular.



NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 39°58'43.01" (39.978613°)
LONGITUDE = 109°45'08.17" (109.752270°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 39°58'43.13" (39.978648°)
LONGITUDE = 109°45'05.67" (109.751574°)
STATE PLANE NAD 83 (UT. CENTRAL)
N: 7165718.11' E: 2130139.50'
UTM, NAD 83 (ZONE 12, METERS)
Y: 4426128.86 X: 606540.56
UTM, NAD 27 (ZONE 12, METERS)
Y: 4425923.63 X: 606602.72

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR No. 6631032 STATE OF UTAH

BRANDON J. BOWTHORPE

REGISTERED LAND SURVEYOR
REGISTRATION NO. 6631032
STATE OF UTAH

02-08-23

BASIS OF ELEVATION
OPUS SOLUTION GENERATED NAVD 88

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1" = 1000'

AS-DRILLED WELL LOCATION PLAT

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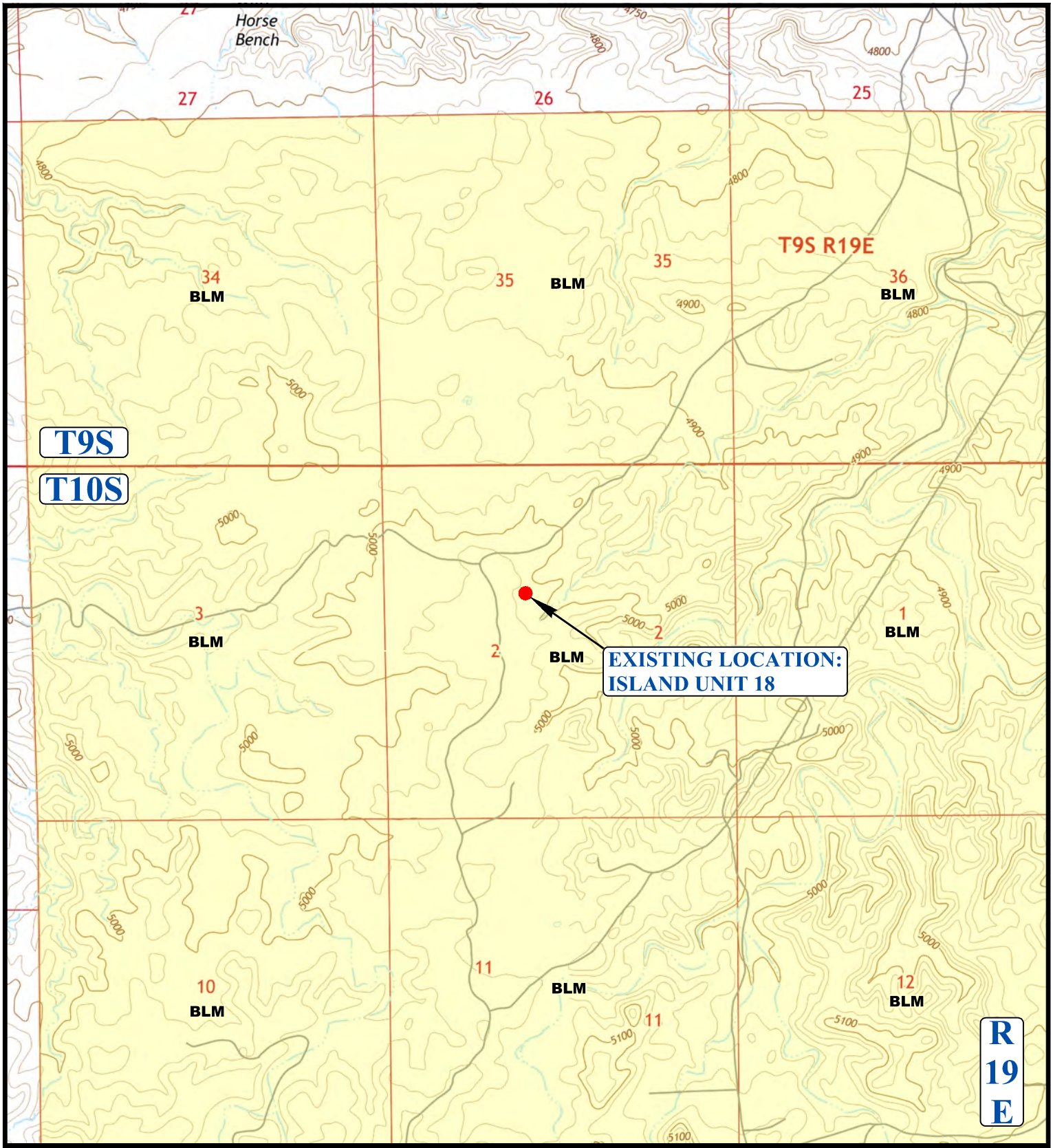

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000

SURFACE OWNERSHIP MAP

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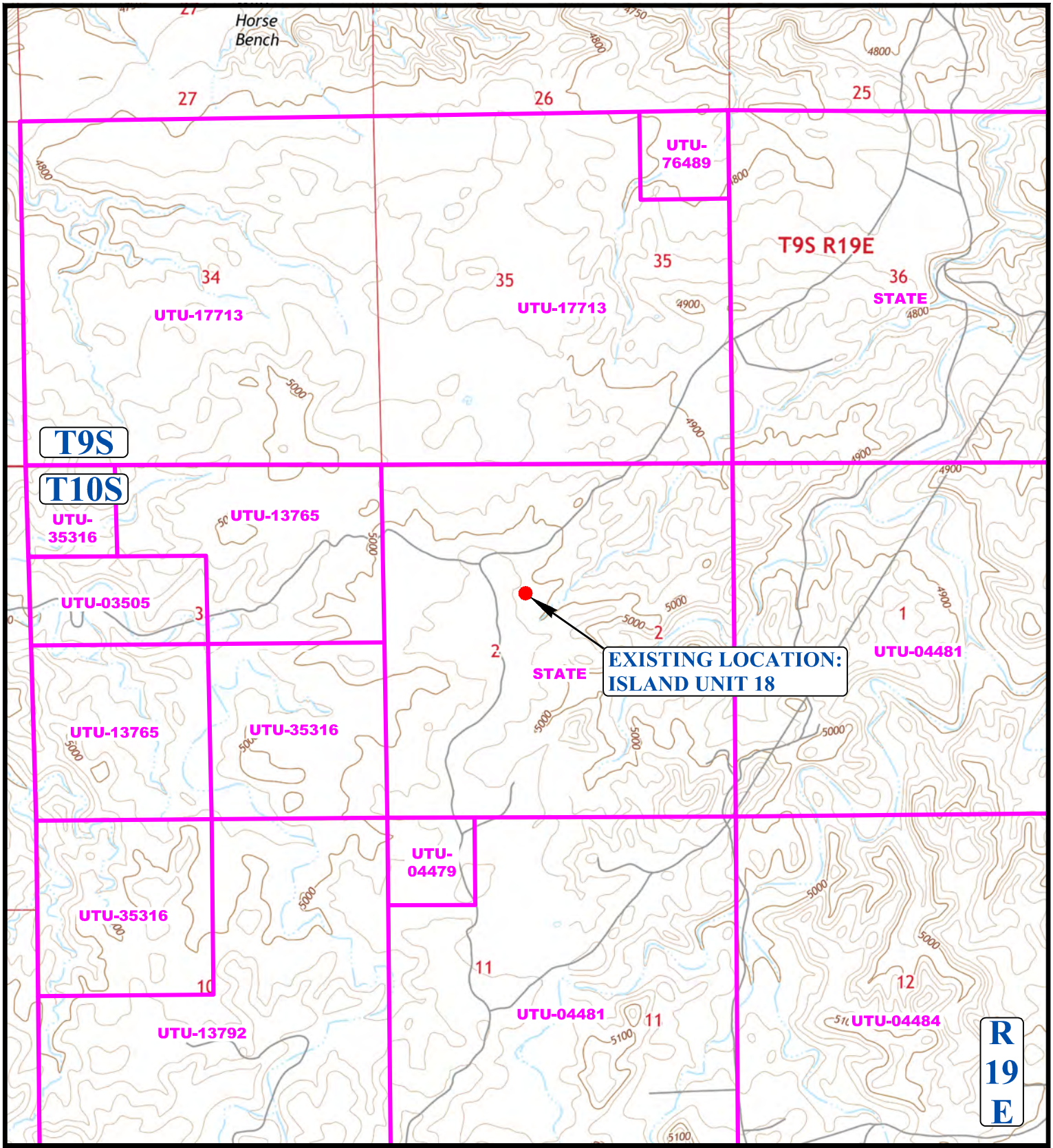

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000

MINERAL LEASE MAP

UINTAH ENGINEERING & LAND SURVEYING

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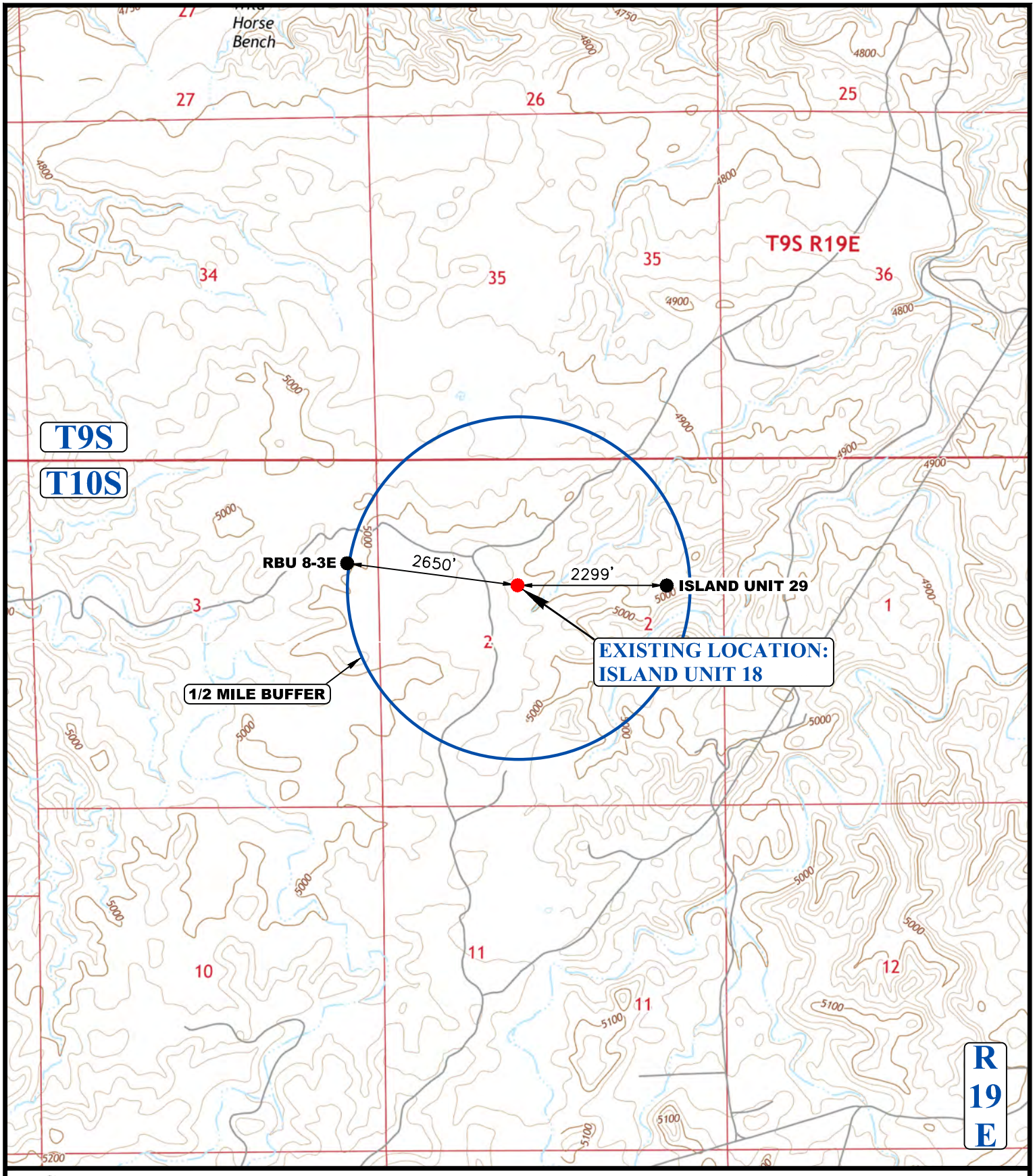

LEGEND:

● OIL/GAS WELLS

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000
WELL PROXIMITY MAP			TOPO C

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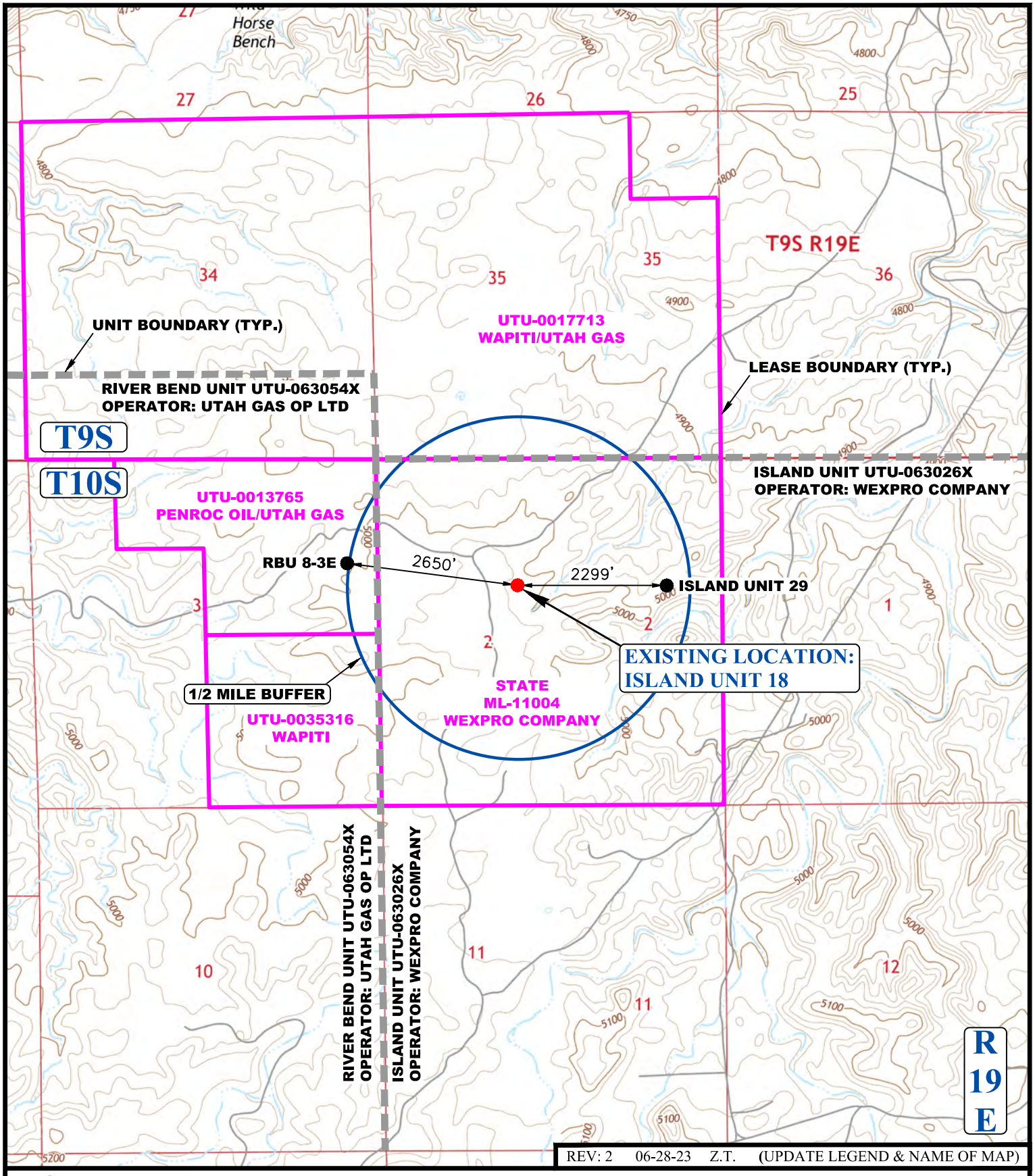

REV: 2 06-28-23 Z.T. (UPDATE LEGEND & NAME OF MAP)

LEGEND:

- OIL/GAS WELLS
- OIL & GAS LEASE

N

WEXPRO COMPANY

ISLAND UNIT 18
SE 1/4 NW 1/4 , SECTION 2, T10S, R19E, S.L.B.&M.
UINTAH COUNTY, UTAH

SURVEYED BY	J.F., J.L.	02-06-23	SCALE
DRAWN BY	Z.L.	02-08-23	1 : 24,000
UNIT AND LEASE OPERATOR MAP			TOPO C

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Vernal, UT 84078 * (435) 789-1017

UINTAH ENGINEERING & LAND SURVEYING

RECEIVED: Jul. 25, 2023

ISLAND UNIT 18 PAD

SUPPLEMENTAL OIL & GAS SPREADSHEET TO TOPO "C"

DATE: 02-08-23 Z.L.

API	COMPANY	UNIT_LEASE	WN	QTR-QTR 1	QTR-QTR 2	FOOTAGE 1	FOOTAGE 2	STATUS	SECTION	TWP	TWP-DIR	RNG	RNG-DIR
4304731752	Wexpro Company	Island Unit	Island Unit 29	SE	NE	1944' FNL	843' FEL	Plugged & Abandoned	2	10	S	19	E
4304736609	Utah Gas Op Ltd	RBU	RBU 8-3E	SE	NE	1607' FNL	472' FEL	Producing	3	10	S	19	E

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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.

See attached electrical and radioactive logs for the Island Unit 18 well.

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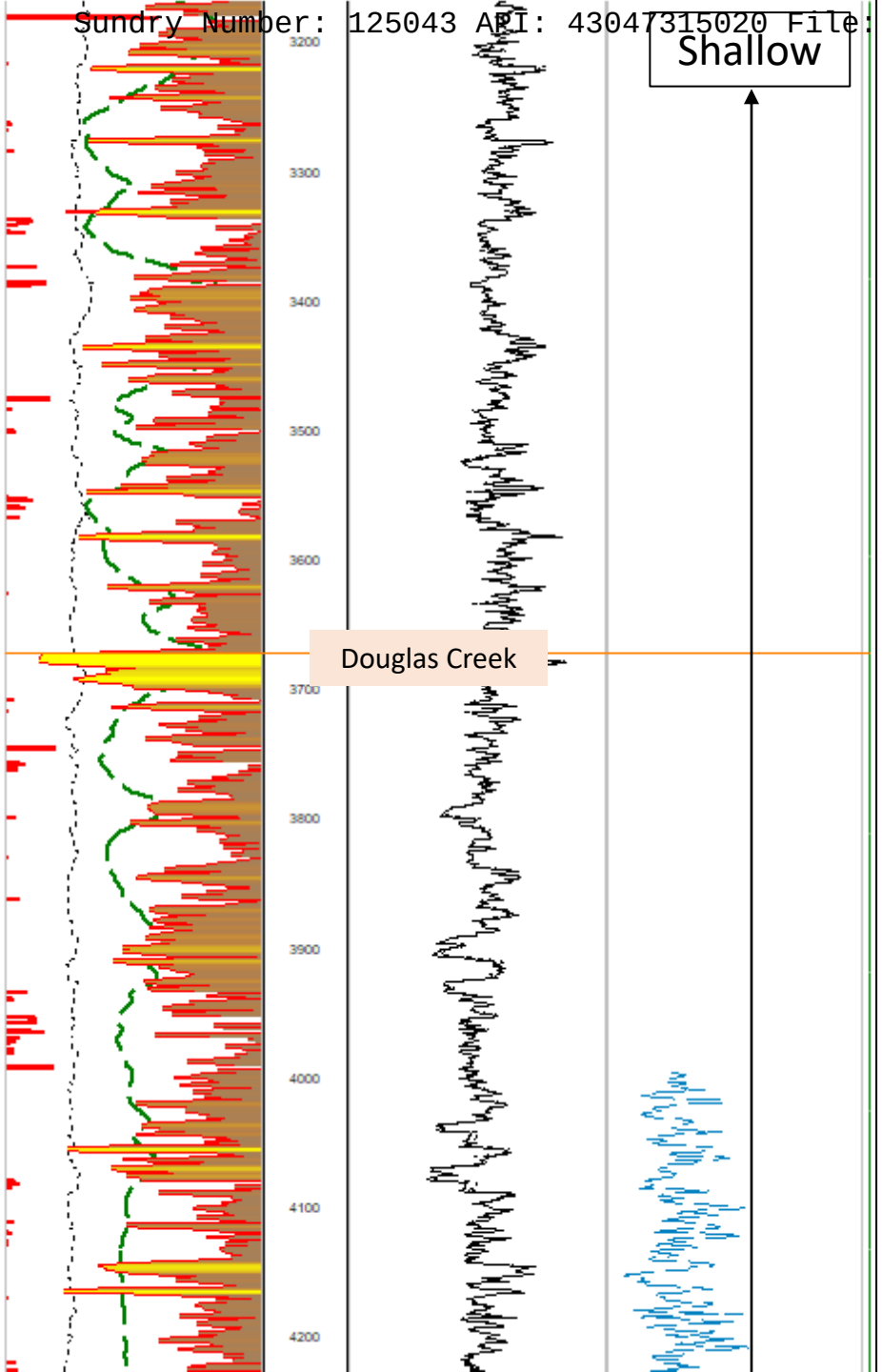
Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf



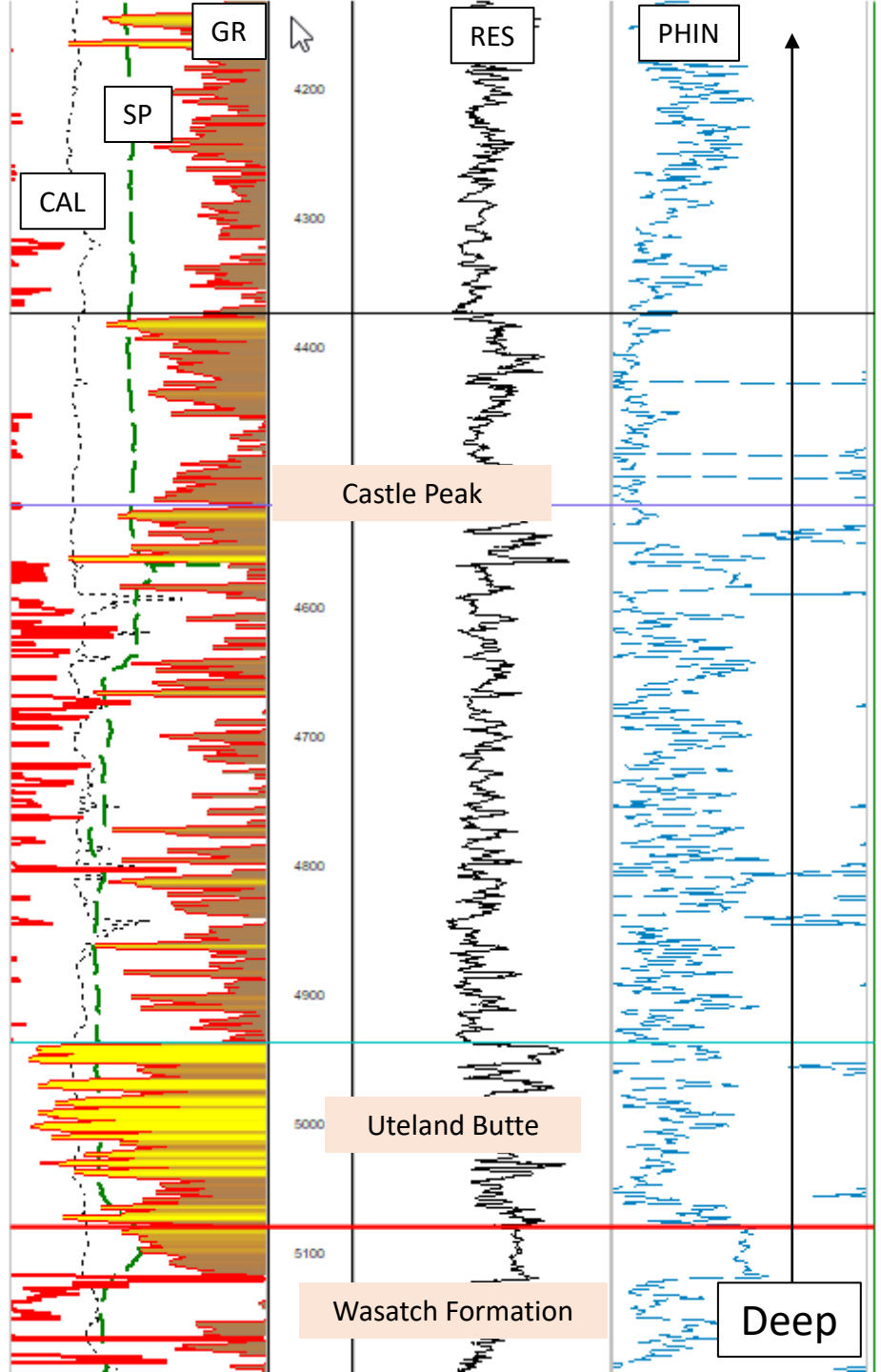


Exhibit 4. Island Unit 18 electrical and radioactive logs (page 1/3)

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

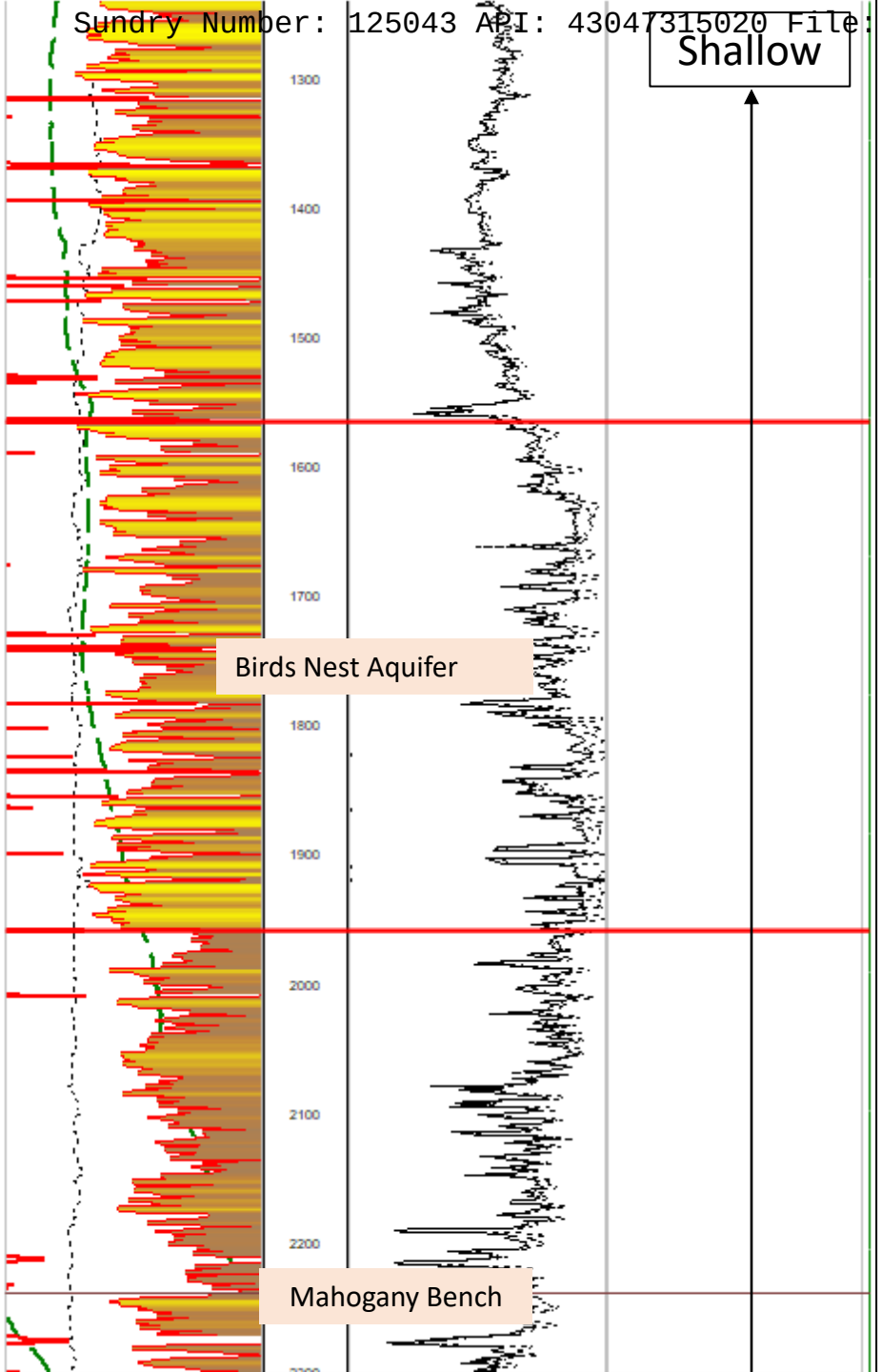
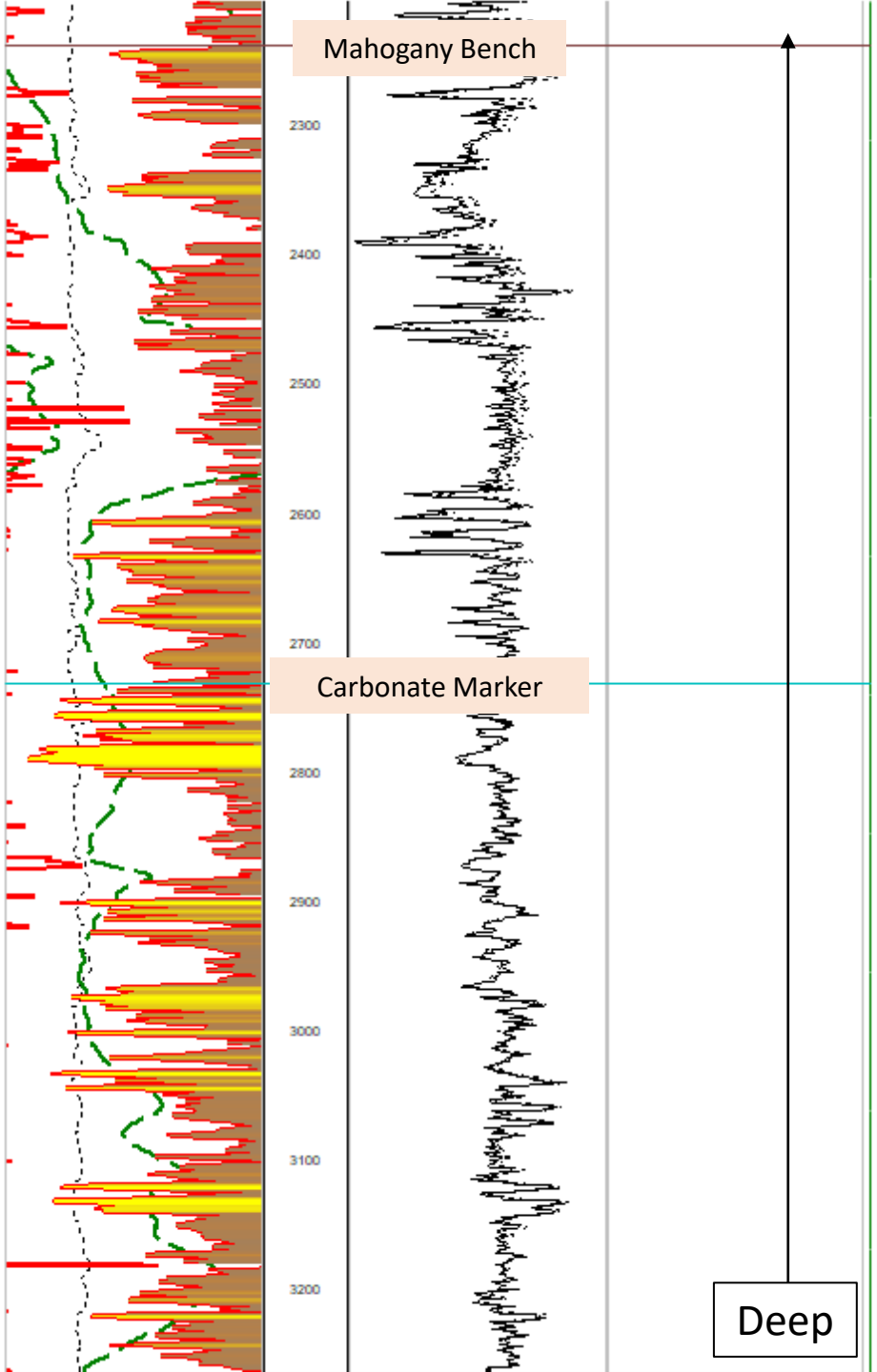


Exhibit 4. Island Unit 18 electrical and radioactive logs (page 2/3)



Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

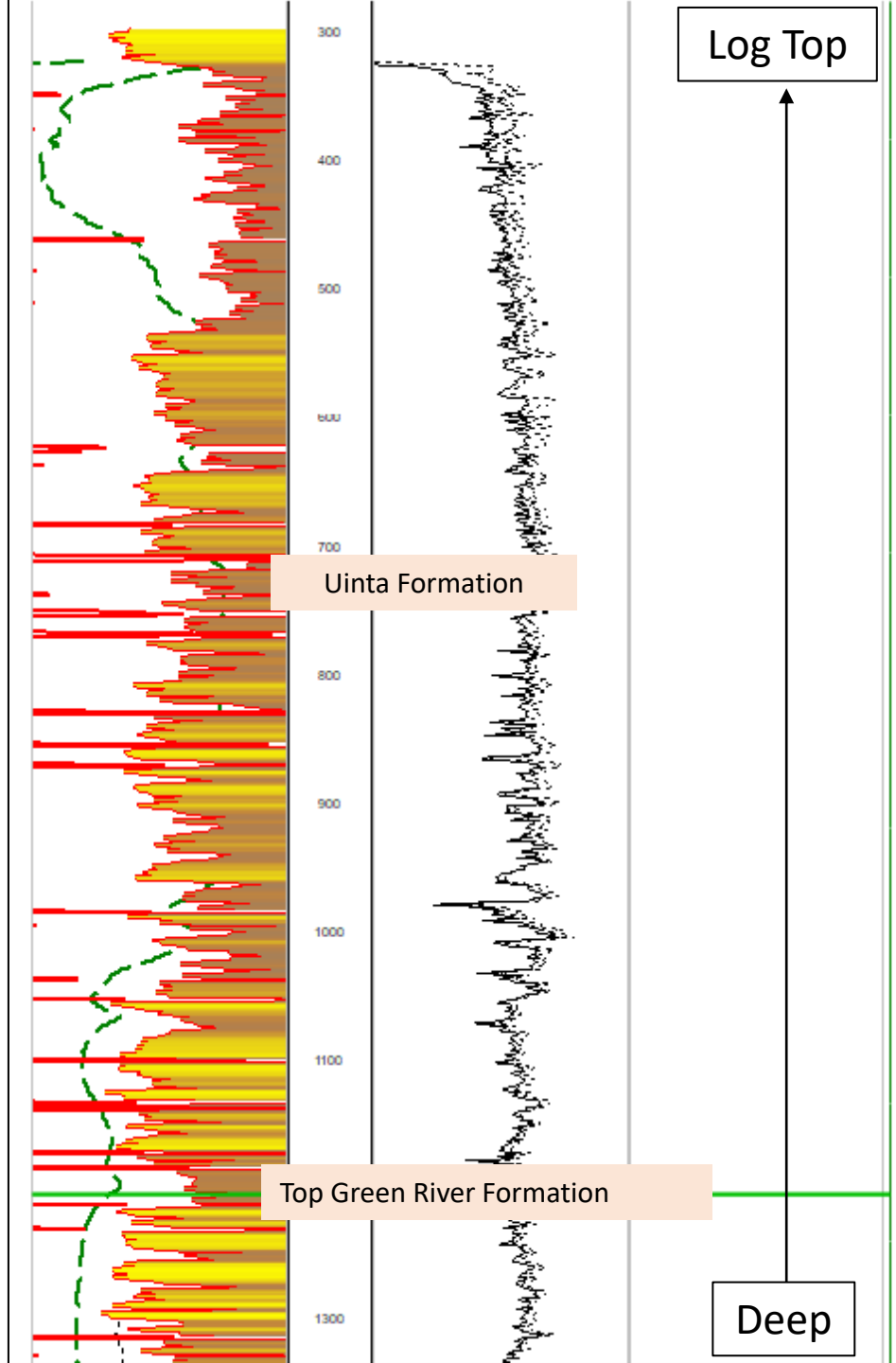


Exhibit 4. Island Unit18 electrical and radioactive logs (page 3/3)

2.3. A copy of a cement bond or comparable log run for the proposed injection well after casing was set and cemented.

A cement bond log was completed September 1984. *Please see attached cement bond log.*

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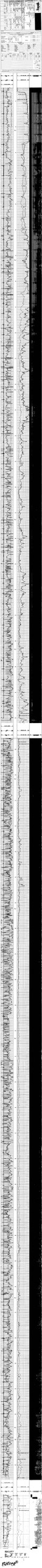

2.5. A description of the casing or proposed casing program of the injection well and of the proposed method for testing the casing before use of the well.

Prior to plug back operations of the Wasatch (5998'-6734') in October 2022, casing was pressure tested to 1500 psi for 15 minutes with no loss. After swab testing on the Bird's Nest Aquifer was concluded, a packer was set at 1550'. Casing was filled with packer fluid casing was tested for 15 minutes at 500 psi (good test). *Please refer to Sundry Number: 120208 for current wellbore configuration.*

Please see attached for proposed wellbore diagram.

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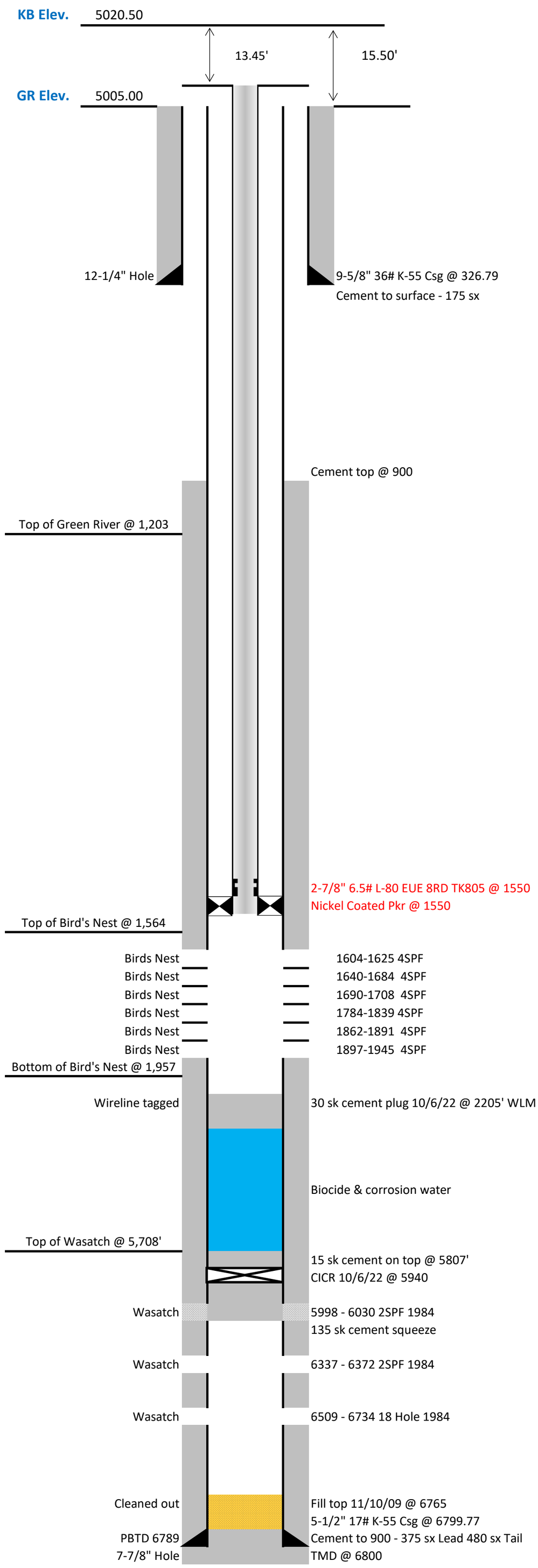
Proposed Wellbore Diagram

Well Name:	Island Unit 18
County, State	UINTAH, UT
Legal Description:	SE NW 2-10S-19E
API:	43-047-31502
SHL:	1957.00' FNL 2149.00' FWL
Updated By:	Jeff Bluemel
Date Updated:	11/7/2022
Reviewed By:	Lindsey Smith
Reviewed Date:	11/7/2022
Spud Date:	8/14/1984
TD Date:	9/9/1984
First Sales Date:	12/6/1984
Well TMD:	6,800
Orientation:	Vertical
Fill Top MD:	
Plug Back MD:	2,205 WLM
Bridge Plug MD:	
Injecting Frac Jobs:	1

Latitude	39.978634
Longitude	-109.751326

As Of Disposal Convert	10/10/2022

All measurements are in KB & MD unless otherwise specified.



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2.6. A statement as to the type of fluid to be used for injection, its source and estimated amounts to be injected daily.

The type of fluid to be used is produced water. The source of this fluid will be new wells drilled this year in the Mesaverde/Black Hawk formations. Water analysis on these new wells will be obtained after July 2023.

The estimated amounts to be injected daily will be determined upon completion of a Step-Rate Test.

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2.7. Standard laboratory analyses of:
2.7.1. The fluid to be injected,
2.7.2. The fluid in the formation into which the fluid is being injected, and
2.7.3. The compatibility of the fluids.

2.7.1 - Because the fluid to be injected will come from new wells which will be drilled in the Mesaverde/Black Hawk formation, see attached water analysis from Island Unit 86, which also produces from the Mesaverde/Black Hawk formation.

2.7.2 – See attached analysis for the Island Unit 18.

2.7.3 – See attached analyses for the Island Unit 86 and Island Unit 26.

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 86**	Collect Date:	**03/31/2023**
Formation Zone:		Sample Point:	**Separator**	Submit Date:	**04/06/2023**
Geographic Region:	**GNBU**	Customer ID:	**N/A**	Report Date:	**04/11/2023**
Geographic Location:	**Island Unit**	Latitude/Longitude:	**0.00, 0.00**	Sample ID:	**AV39710**
System Description:	**Production Well**	Account Rep:	**blane.cowan@championx.com**	Location Code:	**504282**

Field Analysis

Analysis	Result		Analysis Method
Dissolved H2S	**6.0**	mg/L	Titration
Pressure Surface	**160**	psi	
Temperature	**76**	° F	
pH of Water	**7.0**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.025**		Densitometer
Ionic Strength	**0.550**	mol/L	Calculation
Total Dissolved Solids	**29500**	mg/L	Calculation
ph (measured)	**7.04**		Meter
Total Inorganic Carbon (as HCO3)	**529**	mg/L	TOC
Bicarbonate - NDIR	**439**	mg/L	TOC
Carbonate - NDIR	**Not Detected**	mg/L	TOC
Dissolved CO2 - NDIR	**91.0**	mg/L	TOC

Cations - Analyzed By ICP

Iron	**6.04**	mg/L	Potassium	**476**	mg/L	Cobalt	**<0.050**	mg/L
Manganese	**2.90**	mg/L	Boron	**3.63**	mg/L	Chromium	**<0.050**	mg/L
Barium	**16.3**	mg/L	Lithium	**1.80**	mg/L	Silicon	**25.4**	mg/L
Strontium	**39.9**	mg/L	Copper	**<0.050**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**1290**	mg/L	Nickel	**<0.100**	mg/L	Molybdenum	**<0.050**	mg/L
Magnesium	**240**	mg/L	Zinc	**0.302**	mg/L	Phosphorus	**3.89**	mg/L
Sodium	**9810**	mg/L	Lead	**<0.200**	mg/L	Measured Sodium	**9810**	mg/L

Anions - Analyzed By IC*

Chloride	**16200**	mg/L	Bromide	**64.1**	mg/L	Sulfate	**920**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-1.1
Barite BaSO4 PTB	9.30	**Barite BaSO4 SI**	2.12
Calcite CaCO3 PTB	19.7	**Calcite CaCO3 SI**	0.080
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-0.30
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-0.74
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-0.65

Comments

Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45153**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**53662**	mg/L	Titration
P-Alkalinity (as CO3)	**36000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.126**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**172000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**30.6**	mg/L	Potassium	**343**	mg/L	Cobalt	**0.327**	mg/L
Manganese	**1.36**	mg/L	Boron	**358**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.273**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**18.8**	mg/L
Strontium	**0.227**	mg/L	Copper	**3.38**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.68**	mg/L	Nickel	**0.180**	mg/L	Molybdenum	**1.78**	mg/L
Magnesium	**3.89**	mg/L	Zinc	**39.9**	mg/L	Phosphorus	**35.9**	mg/L
Sodium	**54600**	mg/L	Lead	**2.59**	mg/L	Measured Sodium	**54600**	mg/L

Anions - Analyzed By IC

Chloride	**24400**	mg/L
Sulfate	**2450**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.3
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.37
Calcite CaCO3 PTB	3.20	**Calcite CaCO3 SI**	2.00
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.4
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.0
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.1

Comments

9

Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45154**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**58504**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.134**		Densitometer
Ionic Strength	**2.05**	mol/L	Calculation
Total Dissolved Solids	**177000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**29.4**	mg/L	Potassium	**337**	mg/L	Cobalt	**0.191**	mg/L
Manganese	**1.84**	mg/L	Boron	**347**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.241**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**9.44**	mg/L
Strontium	**0.192**	mg/L	Copper	**3.22**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.03**	mg/L	Nickel	**0.226**	mg/L	Molybdenum	**1.85**	mg/L
Magnesium	**3.96**	mg/L	Zinc	**123**	mg/L	Phosphorus	**30.6**	mg/L
Sodium	**55000**	mg/L	Lead	**0.870**	mg/L	Measured Sodium	**55000**	mg/L

Anions - Analyzed By IC

Chloride	**23000**	mg/L
Sulfate	**2290**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.4
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.28
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.94
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.5
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.2
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.2

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45155**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**61132**	mg/L	Titration
P-Alkalinity (as CO3)	**67000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.19**	mol/L	Calculation
Total Dissolved Solids	**217000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**37.9**	mg/L	Potassium	**340**	mg/L	Cobalt	**0.265**	mg/L
Manganese	**2.01**	mg/L	Boron	**407**	mg/L	Chromium	**0.051**	mg/L
Barium	**0.320**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**12.1**	mg/L
Strontium	**0.210**	mg/L	Copper	**2.26**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.29**	mg/L	Nickel	**0.182**	mg/L	Molybdenum	**1.60**	mg/L
Magnesium	**3.92**	mg/L	Zinc	**79.9**	mg/L	Phosphorus	**32.9**	mg/L
Sodium	**57100**	mg/L	Lead	**1.47**	mg/L	Measured Sodium	**57100**	mg/L

Anions - Analyzed By IC

Chloride	**29000**	mg/L
Sulfate	**1580**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.5
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.22
Calcite CaCO3 PTB	2.80	**Calcite CaCO3 SI**	1.98
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.6
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.3
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.3

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45156**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**64146**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**181000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**33.3**	mg/L	Potassium	**279**	mg/L	Cobalt	**0.163**	mg/L
Manganese	**1.49**	mg/L	Boron	**350**	mg/L	Chromium	**<0.050**	mg/L
Barium	**0.268**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**14.1**	mg/L
Strontium	**0.162**	mg/L	Copper	**1.81**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.00**	mg/L	Nickel	**0.129**	mg/L	Molybdenum	**1.15**	mg/L
Magnesium	**2.92**	mg/L	Zinc	**76.7**	mg/L	Phosphorus	**29.3**	mg/L
Sodium	**47900**	mg/L	Lead	**1.41**	mg/L	Measured Sodium	**47900**	mg/L

Anions - Analyzed By IC

Chloride	**29900**	mg/L
Sulfate	**1480**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.6
Barite BaSO4 PTB	0.0	**Barite BaSO4 SI**	0.10
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.95
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.8
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.4
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.4

Comments

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Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 26**	Collect Date:	**04/06/2023**
Formation Zone:		Sample Point:	**Separator**	Submit Date:	**04/07/2023**
Geographic Region:	**GNBU**	Customer ID:	**N/A**	Report Date:	**04/11/2023**
Geographic Location:	**Island Unit**	Latitude/Longitude:	**0.00, 0.00**	Sample ID:	**AV39708**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**504280**

Field Analysis

Analysis	Result		Analysis Method
Dissolved H2S	**6.0**	mg/L	Titration
Pressure Surface	**160**	psi	
Temperature	**73**	° F	
pH of Water	**8.0**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.017**		Densitometer
Ionic Strength	**0.380**	mol/L	Calculation
Total Dissolved Solids	**21600**	mg/L	Calculation
ph (measured)	**8.05**		Meter
Total Inorganic Carbon (as HCO3)	**813**	mg/L	TOC
Bicarbonate - NDIR	**797**	mg/L	TOC
Carbonate - NDIR	**Not Detected**	mg/L	TOC
Dissolved CO2 - NDIR	**16.0**	mg/L	TOC

Cations - Analyzed By ICP

Iron	**9.53**	mg/L	Potassium	**133**	mg/L	Cobalt	**<0.050**	mg/L
Manganese	**0.453**	mg/L	Boron	**6.21**	mg/L	Chromium	**0.050**	mg/L
Barium	**1.86**	mg/L	Lithium	**1.64**	mg/L	Silicon	**31.4**	mg/L
Strontium	**23.1**	mg/L	Copper	**<0.050**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**482**	mg/L	Nickel	**<0.100**	mg/L	Molybdenum	**<0.050**	mg/L
Magnesium	**69.3**	mg/L	Zinc	**0.120**	mg/L	Phosphorus	**0.283**	mg/L
Sodium	**7450**	mg/L	Lead	**<0.200**	mg/L	Measured Sodium	**7450**	mg/L

Anions - Analyzed By IC*

Chloride	**12300**	mg/L	Bromide	**49.8**	mg/L	Sulfate	**293**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-1.9
Barite BaSO4 PTB	1.00	**Barite BaSO4 SI**	0.92
Calcite CaCO3 PTB	245	**Calcite CaCO3 SI**	1.05
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-0.86
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-1.5
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-1.4

Comments

Scaling predictions calculated using Oddo-Tomson model

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Pace Analytical®

ANALYTICAL REPORT

May 24, 2023

Dominion Energy

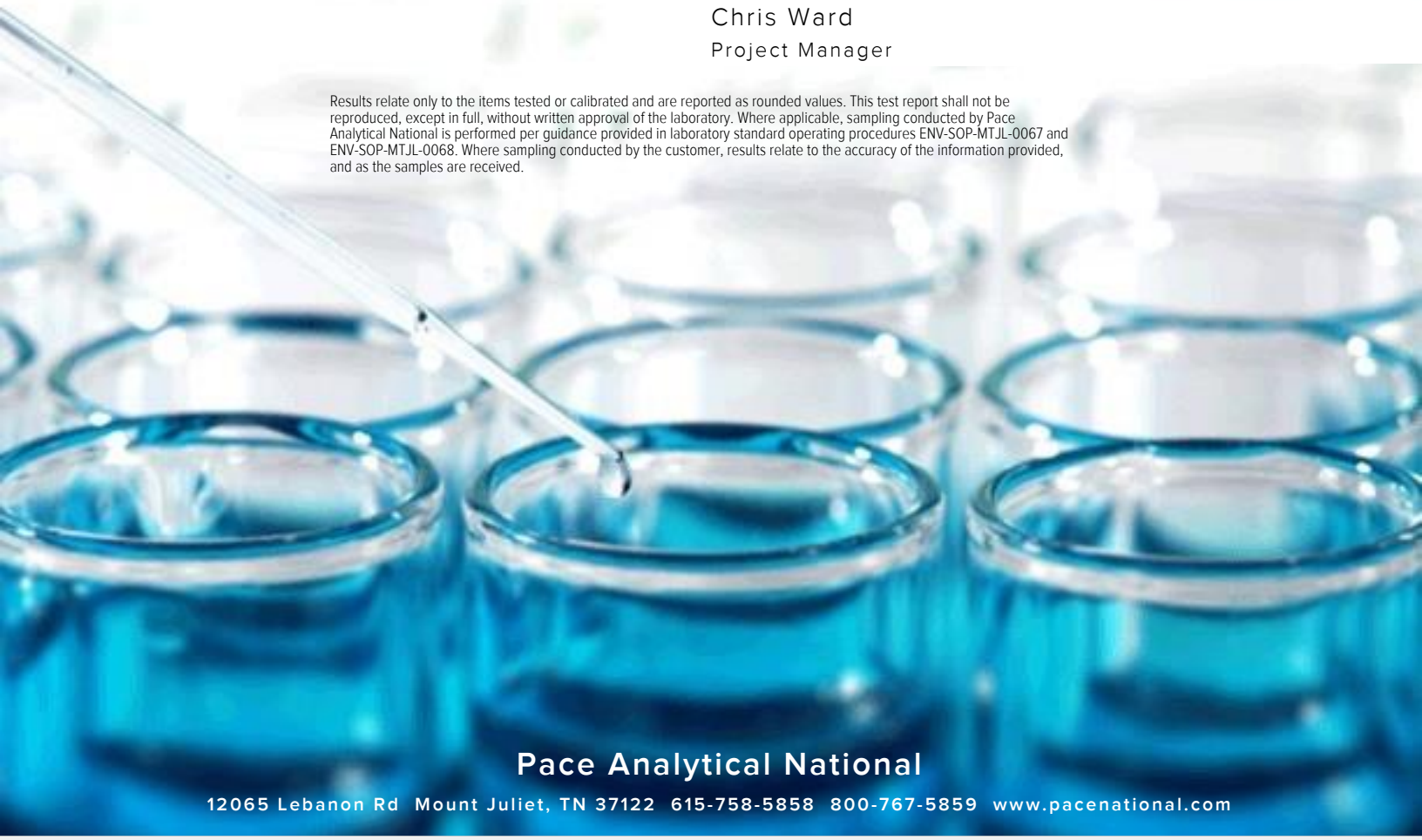
Sample Delivery Group:	L1617111
Samples Received:	05/17/2023
Project Number:	
Description:	Rock Springs, Wyoming

Report To: Levi Arguello
1140 West 200 South
Salt Lake City, UT 84104

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

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Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

WW-IW-PAD14-230515 L1617111-01 GW

Collected by	Collected date/time	Received date/time
	05/15/23 10:45	05/17/23 09:31

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2062824	1	05/19/23 10:52	05/19/23 11:40	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2062827	1	05/19/23 08:23	05/19/23 11:25	AS	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2062885	1	05/19/23 10:15	05/19/23 10:15	JAR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG2062885	1	05/19/23 10:15	05/19/23 10:15	JAR	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2062341	1	05/17/23 21:06	05/18/23 13:08	UNP	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2060740	5	05/17/23 16:18	05/17/23 23:40	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2062139	10	05/21/23 10:58	05/21/23 10:58	RTW	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2062592	1	05/19/23 11:10	05/19/23 11:10	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2062433	1	05/19/23 16:48	05/19/23 16:48	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	10	05/18/23 06:24	05/18/23 06:24	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	100	05/18/23 06:38	05/18/23 06:38	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2062586	1	05/19/23 14:32	05/20/23 14:39	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2062586	10	05/19/23 14:32	05/22/23 15:48	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2063760	500	05/20/23 22:31	05/20/23 22:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065632	10	05/24/23 09:12	05/24/23 09:12	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065754	100	05/24/23 11:22	05/24/23 11:22	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2063612	50	05/21/23 02:03	05/21/23 02:03	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2064345	500	05/22/23 13:41	05/22/23 13:41	KSD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2062096	25	05/18/23 16:22	05/20/23 04:15	MWS	Mt. Juliet, TN

WW-IW-PAD13-230515 L1617111-02 GW

Collected by	Collected date/time	Received date/time
	05/15/23 11:15	05/17/23 09:31

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2062824	1	05/19/23 10:52	05/19/23 11:40	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2062827	1	05/19/23 08:23	05/19/23 11:25	AS	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2062885	1	05/19/23 10:35	05/19/23 10:35	JAR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG2062885	1	05/19/23 10:35	05/19/23 10:35	JAR	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2062341	1	05/17/23 21:06	05/18/23 13:09	UNP	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2060740	2	05/17/23 16:18	05/17/23 23:41	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2062139	5	05/21/23 10:59	05/21/23 10:59	RTW	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2062592	1	05/19/23 11:10	05/19/23 11:10	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2062433	1	05/19/23 16:48	05/19/23 16:48	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	10	05/18/23 06:51	05/18/23 06:51	LBR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2061983	100	05/20/23 13:03	05/20/23 13:03	LBR	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2061885	1	05/18/23 08:03	05/18/23 13:14	SPL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2061885	5	05/18/23 08:03	05/18/23 16:04	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2063760	500	05/20/23 22:56	05/20/23 22:56	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065632	10	05/24/23 09:17	05/24/23 09:17	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015M	WG2065754	100	05/24/23 11:28	05/24/23 11:28	BAW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2063612	250	05/21/23 02:23	05/21/23 02:23	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2064345	2500	05/22/23 14:02	05/22/23 14:02	KSD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG2062096	250	05/18/23 16:22	05/20/23 05:37	MWS	Mt. Juliet, TN

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Sample Delivery Group (SDG) Narrative

Sample quantity was not sufficient to complete analysis per recommended method guidelines for the following samples.

Lab Sample ID	Project Sample ID	Method
L1617111-02	WW-IW-PAD13-230515	2540 D-2015

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	31100		1000	1	05/19/2023 11:40	WG2062824

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	ND		2.50	1	05/19/2023 11:25	WG2062827

Wet Chemistry by Method 2320 B-2011/4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	1650		20.0	1	05/19/2023 10:15	WG2062885
Free Carbon Dioxide	ND	T8	20.0	1	05/19/2023 10:15	WG2062885
Alkalinity,Bicarbonate	1550		20.0	1	05/19/2023 10:15	WG2062885
Alkalinity,Carbonate	92.6		20.0	1	05/19/2023 10:15	WG2062885
Alkalinity,Hydroxide	ND		20.0	1	05/19/2023 10:15	WG2062885

Sample Narrative:

L1617111-01 WG2062885: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	1.04		0.100	1	05/18/2023 13:08	WG2062341

Wet Chemistry by Method 4500CN E-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.0250	5	05/17/2023 23:40	WG2060740

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Sulfide	6.63		0.500	10	05/21/2023 10:58	WG2062139

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.34	T8	1	05/19/2023 11:10	WG2062592

Sample Narrative:

L1617111-01 WG2062592: 8.34 at 19.9C

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	42100		10.0	1	05/19/2023 16:48	WG2062433

Sample Narrative:

L1617111-01 WG2062433: at 25C

WW-IW-PAD14-230515 SAMPLE RESULTS - 01

Collected date/time: 05/15/23 10:45 L1617111

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	136		10.0	10	05/18/2023 06:24	WG2061983
Chloride	16100		100	100	05/18/2023 06:38	WG2061983
Fluoride	ND		1.50	10	05/18/2023 06:24	WG2061983
Nitrate as (N)	ND	T8	1.00	10	05/18/2023 06:24	WG2061983
Nitrite as (N)	ND	T8	1.00	10	05/18/2023 06:24	WG2061983
Sulfate	413		50.0	10	05/18/2023 06:24	WG2061983

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	2.16		0.00500	1	05/20/2023 14:39	WG2062586
Boron	2.96		0.200	1	05/20/2023 14:39	WG2062586
Calcium	167		1.00	1	05/20/2023 14:39	WG2062586
Iron	4.82		0.100	1	05/20/2023 14:39	WG2062586
Magnesium	51.6		1.00	1	05/20/2023 14:39	WG2062586
Manganese	0.0747		0.0100	1	05/20/2023 14:39	WG2062586
Potassium	137		2.00	1	05/20/2023 14:39	WG2062586
Selenium	ND		0.0100	1	05/20/2023 14:39	WG2062586
Sodium	8050		30.0	10	05/22/2023 15:48	WG2062586
Strontium	18.8		0.100	10	05/22/2023 15:48	WG2062586

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	142		50.0	500	05/20/2023 22:31	WG2063760
(S) a,a,a-Trifluorotoluene(FID)	*95.0*		*78.0-120*		*05/20/2023 22:31*	WG2063760

Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methanol	7560		1000	100	05/24/2023 11:22	WG2065754
Ethanol	ND		100	10	05/24/2023 09:12	WG2065632

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	5.51		0.500	500	05/22/2023 13:41	WG2064345
Toluene	10.3		0.500	500	05/22/2023 13:41	WG2064345
Ethylbenzene	0.461		0.0500	50	05/21/2023 02:03	WG2063612
Xylenes, Total	7.60		0.150	50	05/21/2023 02:03	WG2063612
Naphthalene	ND		0.250	50	05/21/2023 02:03	WG2063612
(S) Toluene-d8	*106*		*80.0-120*		*05/21/2023 02:03*	WG2063612
(S) Toluene-d8	*115*		*80.0-120*		*05/22/2023 13:41*	WG2064345
(S) 4-Bromofluorobenzene	*123*		*77.0-126*		*05/21/2023 02:03*	WG2063612
(S) 4-Bromofluorobenzene	*97.6*		*77.0-126*		*05/22/2023 13:41*	WG2064345
(S) 1,2-Dichloroethane-d4	*100*		*70.0-130*		*05/21/2023 02:03*	WG2063612
(S) 1,2-Dichloroethane-d4	*123*		*70.0-130*		*05/22/2023 13:41*	WG2064345

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	211		2.50	25	05/20/2023 04:15	WG2062096
(S) o-Terphenyl	*0.000*	J7	*31.0-160*		*05/20/2023 04:15*	WG2062096

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	15000		400	1	05/19/2023 11:40	WG2062824

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	17.0		2.78	1	05/19/2023 11:25	WG2062827

Wet Chemistry by Method 2320 B-2011/4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	555		20.0	1	05/19/2023 10:35	WG2062885
Free Carbon Dioxide	92.2	B T8	20.0	1	05/19/2023 10:35	WG2062885
Alkalinity,Bicarbonate	555		20.0	1	05/19/2023 10:35	WG2062885
Alkalinity,Carbonate	ND		20.0	1	05/19/2023 10:35	WG2062885
Alkalinity,Hydroxide	ND		20.0	1	05/19/2023 10:35	WG2062885

Sample Narrative:

L1617111-02 WG2062885: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	0.215	B	0.100	1	05/18/2023 13:09	WG2062341

Wet Chemistry by Method 4500CN E-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.0100	2	05/17/2023 23:41	WG2060740

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Sulfide	1.13		0.250	5	05/21/2023 10:59	WG2062139

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.27	T8	1	05/19/2023 11:10	WG2062592

Sample Narrative:

L1617111-02 WG2062592: 7.27 at 20C

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	24200		10.0	1	05/19/2023 16:48	WG2062433

Sample Narrative:

L1617111-02 WG2062433: at 25C

WW-IW-PAD13-230515 SAMPLE RESULTS - 02

Collected date/time: 05/15/23 11:15 L1617111

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	38.8		10.0	10	05/18/2023 06:51	WG2061983
Chloride	8180		100	100	05/20/2023 13:03	WG2061983
Fluoride	ND		1.50	10	05/18/2023 06:51	WG2061983
Nitrate as (N)	ND	T8	1.00	10	05/18/2023 06:51	WG2061983
Nitrite as (N)	ND	T8	1.00	10	05/18/2023 06:51	WG2061983
Sulfate	302		50.0	10	05/18/2023 06:51	WG2061983

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	1.07		0.00500	1	05/18/2023 13:14	WG2061885
Boron	3.54		0.200	1	05/18/2023 13:14	WG2061885
Calcium	120		1.00	1	05/18/2023 13:14	WG2061885
Iron	18.6		0.100	1	05/18/2023 13:14	WG2061885
Magnesium	26.4		1.00	1	05/18/2023 13:14	WG2061885
Manganese	1.06		0.0100	1	05/18/2023 13:14	WG2061885
Potassium	35.7		2.00	1	05/18/2023 13:14	WG2061885
Selenium	ND		0.0100	1	05/18/2023 13:14	WG2061885
Sodium	4820		15.0	5	05/18/2023 16:04	WG2061885
Strontium	12.3		0.0100	1	05/18/2023 13:14	WG2061885

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	3520		50.0	500	05/20/2023 22:56	WG2063760
(S) a,a,a-Trifluorotoluene(FID)	*93.2*		*78.0-120*		*05/20/2023 22:56*	WG2063760

Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methanol	2090		1000	100	05/24/2023 11:28	WG2065754
Ethanol	ND		100	10	05/24/2023 09:17	WG2065632

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	25.0		0.250	250	05/21/2023 02:23	WG2063612
Toluene	68.2		2.50	2500	05/22/2023 14:02	WG2064345
Ethylbenzene	10.4		0.250	250	05/21/2023 02:23	WG2063612
Xylenes, Total	107		7.50	2500	05/22/2023 14:02	WG2064345
Naphthalene	2.91		1.25	250	05/21/2023 02:23	WG2063612
(S) Toluene-d8	*90.5*		*80.0-120*		*05/21/2023 02:23*	WG2063612
(S) Toluene-d8	*115*		*80.0-120*		*05/22/2023 14:02*	WG2064345
(S) 4-Bromofluorobenzene	*190*	J1	*77.0-126*		*05/21/2023 02:23*	WG2063612
(S) 4-Bromofluorobenzene	*99.2*		*77.0-126*		*05/22/2023 14:02*	WG2064345
(S) 1,2-Dichloroethane-d4	*95.8*		*70.0-130*		*05/21/2023 02:23*	WG2063612
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*05/22/2023 14:02*	WG2064345

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2020		25.0	250	05/20/2023 05:37	WG2062096
(S) o-Terphenyl	*0.000*	J7	*31.0-160*		*05/20/2023 05:37*	WG2062096

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927751-1 05/19/23 11:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1616015-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616015-01 05/19/23 11:40 • (DUP) R3927751-3 05/19/23 11:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	253	273	1	7.60	J3	5

L1616031-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616031-01 05/19/23 11:40 • (DUP) R3927751-4 05/19/23 11:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	258	271	1	4.91		5

Laboratory Control Sample (LCS)

(LCS) R3927751-2 05/19/23 11:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8550	97.2	77.3-123	

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927204-1 05/19/23 11:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U		2.50	2.50

L1615869-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1615869-01 05/19/23 11:25 • (DUP) R3927204-3 05/19/23 11:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	765	655	1	15.5	J3	5

L1616012-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616012-02 05/19/23 11:25 • (DUP) R3927204-4 05/19/23 11:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	7.20	8.20	1	13.0	P1	5

Laboratory Control Sample (LCS)

(LCS) R3927204-2 05/19/23 11:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	792	102	85.7-114	

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3926946-2 05/19/23 09:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0
Alkalinity,Hydroxide	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

Method Blank (MB)

(MB) R3926946-3 05/19/23 09:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	15.9	J	6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1616270-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616270-02 05/19/23 09:50 • (DUP) R3926946-4 05/19/23 09:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	89.3	90.7	1	1.51		20
Alkalinity,Bicarbonate	89.3	90.7	1	1.51		20
Alkalinity,Carbonate	ND	ND	1	0.000		20
Alkalinity,Hydroxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

L1616270-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616270-02 05/19/23 09:50 • (DUP) R3926946-5 05/19/23 09:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	10.3		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1617081-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617081-01 05/19/23 11:15 • (DUP) R3926946-6 05/19/23 11:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	1440	1450	1	0.580		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

L1617081-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617081-01 05/19/23 11:15 • (DUP) R3926946-7 05/19/23 11:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	193	188	1	2.76		20

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3926946-1 05/19/23 09:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	104	104	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3926394-1 05/18/23 12:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	0.0898	J	0.0350	0.100

L1616344-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1616344-01 05/18/23 12:58 • (DUP) R3926394-3 05/18/23 12:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	2.93	2.89	1	1.37		20

Laboratory Control Sample (LCS)

(LCS) R3926394-2 05/18/23 12:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	3.42	3.19	93.3	83.2-116	

L1616344-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616344-02 05/18/23 13:00 • (MS) R3926394-4 05/18/23 13:01 • (MSD) R3926394-5 05/18/23 13:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2.50	0.959	3.25	3.24	91.6	91.2	1	90.0-110			0.308	20

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3926301-1 05/17/23 22:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	U		0.00180	0.00500

L1616480-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1616480-02 05/17/23 23:04 • (DUP) R3926301-3 05/17/23 23:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

L1616527-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1616527-03 05/17/23 23:20 • (DUP) R3926301-6 05/17/23 23:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3926301-2 05/17/23 22:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.0983	98.3	87.1-120	

L1616527-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616527-01 05/17/23 23:14 • (MS) R3926301-4 05/17/23 23:16 • (MSD) R3926301-5 05/17/23 23:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0991	0.0996	99.1	99.6	1	90.0-110			0.503	20

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927381-1 05/21/23 10:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

Laboratory Control Sample (LCS)

(LCS) R3927381-2 05/21/23 10:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.476	95.2	85.0-115	

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

L1614908-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1614908-01 05/19/23 11:10 • (DUP) R3926963-2 05/19/23 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.80	7.85	1	0.639		1

Sample Narrative:

OS: 7.8 at 18.8C

DUP: 7.85 at 19.2C

L1617111-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1617111-02 05/19/23 11:10 • (DUP) R3926963-3 05/19/23 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.27	7.27	1	0.000		1

Sample Narrative:

OS: 7.27 at 20C

DUP: 7.27 at 20.9C

Laboratory Control Sample (LCS)

(LCS) R3926963-1 05/19/23 11:10

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 20.4C

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927137-1 05/19/23 16:48

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1615872-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1615872-01 05/19/23 16:48 • (DUP) R3927137-3 05/19/23 16:48

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	391	388	1	0.770		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1615910-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1615910-04 05/19/23 16:48 • (DUP) R3927137-4 05/19/23 16:48

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1440	1420	1	1.54		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3927137-2 05/19/23 16:48

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	327	347	106	85.0-115	

Sample Narrative:
LCS: at 25C

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927286-1 05/17/23 09:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate as (N)	U		0.0480	0.100
Nitrite as (N)	U		0.0420	0.100
Sulfate	U		0.594	5.00

L1616499-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1616499-15 05/17/23 23:32 • (DUP) R3927286-6 05/17/23 23:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	50.2	51.0	1	1.63		15
Nitrate as (N)	0.114	0.113	1	0.442		15
Sulfate	37.1	37.8	1	1.93		15

L1616499-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1616499-18 05/18/23 03:26 • (DUP) R3927286-8 05/18/23 03:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		15
Nitrate as (N)	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3927286-2 05/17/23 10:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	41.3	103	80.0-120	
Chloride	40.0	40.3	101	80.0-120	
Fluoride	8.00	8.08	101	80.0-120	
Nitrate as (N)	8.00	7.85	98.2	80.0-120	
Nitrite as (N)	8.00	8.51	106	80.0-120	
Sulfate	40.0	41.1	103	80.0-120	

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L1616499-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L1616499-15 05/17/23 23:32 • (MS) R3927286-7 05/18/23 00:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	50.2	95.1	89.8	1	80.0-120	
Nitrate as (N)	5.00	0.114	4.64	90.5	1	80.0-120	
Sulfate	50.0	37.1	82.2	90.2	1	80.0-120	

L1617073-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617073-02 05/18/23 04:07 • (MS) R3927286-9 05/18/23 04:20 • (MSD) R3927286-10 05/18/23 05:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50.0	ND	46.0	47.6	92.0	95.2	1	80.0-120			3.43	15
Chloride	50.0	41.1	89.8	92.8	97.4	103	1	80.0-120			3.27	15
Nitrate as (N)	5.00	ND	4.47	4.64	89.3	92.9	1	80.0-120			3.88	15
Nitrite as (N)	5.00	ND	5.14	5.32	103	106	1	80.0-120			3.52	15
Sulfate	50.0	6.07	53.9	56.5	95.7	101	1	80.0-120			4.64	15

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3926437-1 05/18/23 12:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.000736	0.00500
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00
Iron	U		0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Strontium	U		0.000640	0.0100

Laboratory Control Sample (LCS)

(LCS) R3926437-2 05/18/23 12:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1.00	1.03	103	80.0-120	
Boron	1.00	0.990	99.0	80.0-120	
Calcium	10.0	10.0	100	80.0-120	
Iron	10.0	9.81	98.1	80.0-120	
Magnesium	10.0	9.85	98.5	80.0-120	
Manganese	1.00	0.925	92.5	80.0-120	
Potassium	10.0	9.79	97.9	80.0-120	
Selenium	1.00	0.981	98.1	80.0-120	
Sodium	10.0	10.5	105	80.0-120	
Strontium	1.00	0.999	99.9	80.0-120	

L1616631-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616631-01 05/18/23 12:23 • (MS) R3926437-4 05/18/23 12:28 • (MSD) R3926437-5 05/18/23 12:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.0320	1.03	1.03	99.7	99.5	1	75.0-125			0.208	20
Boron	1.00	ND	1.05	1.05	98.8	98.5	1	75.0-125			0.259	20
Calcium	10.0	33.6	42.7	42.7	91.3	91.1	1	75.0-125			0.0313	20
Iron	10.0	0.268	10.2	10.3	99.2	100	1	75.0-125			0.890	20
Magnesium	10.0	3.21	12.7	12.8	95.1	96.2	1	75.0-125			0.897	20
Manganese	1.00	0.0149	0.944	0.931	92.9	91.7	1	75.0-125			1.36	20
Potassium	10.0	471	453	449	0.000	0.000	1	75.0-125	V	V	0.922	20

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

L1616631-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616631-01 05/18/23 12:23 • (MS) R3926437-4 05/18/23 12:28 • (MSD) R3926437-5 05/18/23 12:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Selenium	1.00	ND	1.07	1.06	107	106	1	75.0-125			0.554	20
Sodium	10.0	731	724	725	0.000	0.000	1	75.0-125	V	V	0.143	20
Strontium	1.00	0.109	1.11	1.11	100	99.7	1	75.0-125			0.421	20

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927399-1 05/20/23 13:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	0.000795	J	0.000736	0.00500
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00
Iron	U		0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Strontium	U		0.000640	0.0100

Laboratory Control Sample (LCS)

(LCS) R3927399-2 05/20/23 13:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1.00	1.04	104	80.0-120	
Boron	1.00	1.03	103	80.0-120	
Calcium	10.0	10.3	103	80.0-120	
Iron	10.0	10.1	101	80.0-120	
Magnesium	10.0	10.2	102	80.0-120	
Manganese	1.00	0.968	96.8	80.0-120	
Potassium	10.0	9.77	97.7	80.0-120	
Selenium	1.00	1.01	101	80.0-120	
Sodium	10.0	10.2	102	80.0-120	
Strontium	1.00	1.02	102	80.0-120	

L1616887-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616887-02 05/20/23 13:34 • (MS) R3927399-4 05/20/23 13:39 • (MSD) R3927399-5 05/20/23 13:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.282	1.29	1.29	101	101	1	75.0-125			0.0172	20
Boron	1.00	ND	1.13	1.14	101	102	1	75.0-125			1.18	20
Calcium	10.0	152	160	160	78.5	79.1	1	75.0-125			0.0332	20
Iron	10.0	11.5	21.4	21.3	98.4	97.5	1	75.0-125			0.423	20
Magnesium	10.0	32.5	41.9	41.8	93.8	93.0	1	75.0-125			0.191	20
Manganese	1.00	0.831	1.76	1.76	93.3	93.0	1	75.0-125			0.210	20
Potassium	10.0	6.82	16.3	16.4	94.4	95.9	1	75.0-125			0.886	20

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

L1616887-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616887-02 05/20/23 13:34 • (MS) R3927399-4 05/20/23 13:39 • (MSD) R3927399-5 05/20/23 13:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Selenium	1.00	ND	1.06	1.05	106	105	1	75.0-125			1.30	20
Sodium	10.0	11.9	21.9	22.0	100	101	1	75.0-125			0.467	20
Strontium	1.00	0.946	1.91	1.93	96.5	98.6	1	75.0-125			1.09	20

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927367-2 05/20/23 20:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.7*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3927367-1 05/20/23 18:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.06	110	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*101*	*78.0-120*	

L1616179-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1616179-18 05/21/23 03:26 • (MS) R3927367-3 05/21/23 07:05 • (MSD) R3927367-4 05/21/23 07:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	550	53.7	578	599	95.3	99.1	100	10.0-160			3.57	22
(S) a,a,a-Trifluorotoluene(FID)					*96.7*	*96.7*		*78.0-120*				

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3928656-2 05/24/23 08:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ethanol	U		4.76	10.0

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3928656-1 05/24/23 08:48 • (LCSD) R3928656-3 05/24/23 08:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	50.0	48.5	48.7	97.0	97.4	64.0-130			0.412	20

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3928747-2 05/24/23 11:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methanol	U		4.95	10.0

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3928747-1 05/24/23 11:04 • (LCSD) R3928747-3 05/24/23 11:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methanol	50.0	51.4	51.8	103	104	61.0-132			0.775	21

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927624-3 05/20/23 19:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
Naphthalene	U		0.00100	0.00500
(S) Toluene-d8	*94.8*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3927624-1 05/20/23 18:39 • (LCSD) R3927624-2 05/20/23 18:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00474	0.00511	94.8	102	70.0-123			7.51	20
Ethylbenzene	0.00500	0.00437	0.00460	87.4	92.0	79.0-123			5.13	20
Xylenes, Total	0.0150	0.0126	0.0136	84.0	90.7	79.0-123			7.63	20
Naphthalene	0.00500	0.00378	0.00424	75.6	84.8	54.0-135			11.5	20
(S) Toluene-d8				*96.4*	*96.4*	*80.0-120*				
(S) 4-Bromofluorobenzene				*104*	*103*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*111*	*115*	*70.0-130*				

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3928046-3 05/22/23 11:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*117*			*80.0-120*
(S) 4-Bromofluorobenzene	*93.8*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*125*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3928046-1 05/22/23 10:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00461	92.2	70.0-123	
Toluene	0.00500	0.00492	98.4	79.0-120	
Xylenes, Total	0.0150	0.0134	89.3	79.0-123	
(S) Toluene-d8			*118*	*80.0-120*	
(S) 4-Bromofluorobenzene			*93.3*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*123*	*70.0-130*	

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Method Blank (MB)

(MB) R3927165-1 05/19/23 07:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.0554	J	0.0247	0.100
(S) o-Terphenyl	*153*			*31.0-160*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3927165-2 05/19/23 07:28 • (LCSD) R3927165-3 05/19/23 07:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	2.18	2.03	145	135	50.0-150			7.13	20
(S) o-Terphenyl				*168*	*138*	*31.0-160*	J1			

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

Company Name/Address:
Dominion Energy
1140 West 200 South
Salt Lake City, UT 84104

Billing Information:
Attn: Paul Drake
PO Box 45360
Salt Lake City, UT 84145-0360

Pres Chk

Report to: Levi Arguello, JACE CAPRARO

Email To: levi.n.arguello@dominionenergy.com
john.c.capraro@dominionenergy.com

Project Description: Rock Springs, Wyoming

City/State Collected: Vernal, UT

Please Circle: PT MT CT ET

Phone: 801-324-3966
JACE 801-598-8394

Client Project #

Lab Project # DOMENESLCUT-ROCKSPRG

Collected by (print): JACE CAPRARO

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
X Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
X Three Day 3 day JC

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace PEOPLE ADVANCING SCIENCE

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12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L 617111

Ta E167

Acctnum: DOMENESLCUT

Template: T223088

Prelogin: P986245

PM: 824 - Chris Ward

PB:

Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK,ALKBI,ALKCA,OH 250mlHDPE-NoPres	Br,Cl,F,NO2,NO3,SO4 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH (HCL >12)	CO2 40mlAmb-NoPres	DROLVI 40mlAmb-HCl-BT	GRO 40mlAmb HCl (<2)	Metals 250mlHDPE-HNO3	Methanol 40mlClr-HCl	PT 250mlHDPE-H2SO4 (<2)	RA-226 1L-HDPE-Add-HNO3 (<2)	Remarks	Sample # (lab only)
WW-IW-PAD14-230515	Grab	GW		5/15/23	10:45am	22	X	X	X	X	X	X	X	X	X	X		-01
		GW				22	X	X	X	X	X	X	X	X	X	X		
WW-IW-PAD13-230515	Grab	GW		5/15/23	11:15am	22	X	X	X	X	X	X	X	X	X	X		-02
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X	X	X	X		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 6094 5471 0932

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1 to=3.1 °C Bottles Received: 44
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Hawa Mwechiwa	Date: 5.17.23 Time: 0931

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Company Name/Address:
Dominion Energy

1140 West 200 South
Salt Lake City, UT 84104

Billing Information:
Attn: Paul Drake
PO Box 45360
Salt Lake City, UT 84145-0360

Pres Chk

Report to: Levi Arguello, JACE Caprara
Email To: levi.n.arguello@dominionenergy.com
john.c.caprara@dominionenergy.com

Project Description: Rock Springs, Wyoming
City/State Collected: Vernal, UT
Please Circle: PT MT CT ET

Phone: 801-324-3966
JACE - 801-518-8394
Client Project #
Lab Project # DOMENESLCUT-ROCKSPRG

Collected by (print): JACE CAPRARA
Site/Facility ID #
P.O. #

Collected by (Signature):
Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
~~X Next Day~~ ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
X Three Day
Quote #
Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-228 1L-HDPE-Add-HNO3	SPCON 250mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TDS 1L-HDPE NoPres	TSS 1L-HDPE NoPres	V8260BTEXN 40mlAmb-HCl	pH 125mlHDPE-NoPres	Remarks	Sample # (lab only)
WW-IWPAD4-230515	Grab	GW		5/15/23	10:45am	22	X	X	X	X	X	X	X		-01
		GW				22	X	X	X	X	X	X	X		
WW-IWPAD3-230515	Grab	GW		5/15/23	11:15am	22	X	X	X	X	X	X	X		-02
		GW				22	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X		
		GW				22	X	X	X	X	X	X	X		

Chain of Custody Page 2 of 2

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SDG # L1611711
Table #
Acctnum: DOMENESLCUT
Template: T223088
Prelogin: P986245
PM: 824 - Chris Ward
PB:
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____
Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Hana Minechina	Date: Time:	Hold: Condition: NCF / OK

5/17 NCF-L1617111 DOMENESLCUT

Shortholds

Time estimate: oh **Time spent:** oh

Members

Nicolle Faulk (responsible) Chris Ward

Due on *22 May 2023 5:00 PM* for target *Done*

- [x] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [ ] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Nicolle Faulk *17 May 2023 1:53 PM*

samples collected 5/15/23 @1045 & 1115

Chris Ward *17 May 2023 2:02 PM*

Please proceed with note to run as close to hold as possible.

Nicolle Faulk *17 May 2023 2:03 PM*

done

Nicolle Faulk *17 May 2023 2:12 PM*

for -02, the sulfide container was received empty.

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16/7111

Chris Ward *17 May 2023 2:13 PM*

Please split off and proceed

Nicolle Faulk *17 May 2023 2:14 PM*

done

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2.8. The proposed average and maximum injection pressures.

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.

The information required by UAC R649-5-2.2.8 and 2.9 will be determined based on pressures obtained from a Step-Rate Test. A sundry notice for the Step-Rate Test will be filed after submittal of this application. See attached for proposed operations for the Step-Rate Test.

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Dominion Energy Wexpro
2221 Westgate Dr.
P.O. Box 458
Rock Springs, WY 82902
Tel (307) 352-7500
Fax (307) 352-7575

Island 18

Legal Description: SENW 2-10S-19E
Location: Uintah, UT
API: 43-047-31502

PROPOSED OPERATIONS

Perform a Step-Rate Test on the Bird's Nest Aquifer to determine the maximum injection pressure for the proposed injection well. UDOGM Step-Rate Test Guidelines dated June 2017 will be used as a guide to conduct the test.

- Fill tanks with 2% KCl and plan to treat with scale inhibitor and biocide prior to pumping down hole.
- MIRU pumping equipment for the Step-Rate Test (SRT).
- MIRU slickline. RIH with dual downhole pressure gauges and set at approximately 1,775'. Leave slickline and gauges in hole to record bottomhole pressures during SRT.
- Bring on pumps to initial rate on attached Proposed Pump Schedule.
- Hold rate constant for the given amount of time on the schedule and record all data.
- Slowly increase to the next rate on the schedule and repeat previous step.
- If fracture pressure is observed, record pressure when formation broke.
    - Note: Test may be terminated at lower rates if fracture pressure is observed earlier or for surface equipment constraints.
- After final pump rate; shut down pumps, shut in, and record ISIP.
- POOH with dual downhole pressure gauges.
- RDMO all equipment.

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PROPOSED PUMP SCHEDULE

STEP	PUMP RATE (bpm)	PUMP TIME (minutes)	BARRELS PUMPED (bbls)	CUM BARRELS PUMPED (bbls)
1	0.75	60	45	45
2	1.50	60	90	135
3	2.25	60	135	270
4	3.00	60	180	450
5	3.75	60	225	675
6	4.50	60	270	945
7	5.25	60	315	1260

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2.10. Appropriate geological data on the injection interval with confining beds clearly labeled,
2.10.1. Nearby Underground Sources of Drinking Water, including the geologic formation name;
2.10.2. Lithologic descriptions, thicknesses, depths, water quality, and lateral extent;
2.10.3. Information relative to geologic structure near the proposed well that may effect the conveyance and/or storage of the injected fluids.

See attached Geologic Recommendation and exhibits.

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Island Unit #18 SWD Conversion
Geologic Recommendation

Wexpro Company proposes converting the Island Unit #18 well (API: 4304731502) to a saltwater disposal well. The Island Unit is located on the southern flank of the Uinta Basin where the Wasatch and Green River Formations dip to the north at approximately 2.5 degrees (Exhibit 1). The well is located in the northwestern corner of the Island Unit in the SE ¼ NW ¼ section 2 Township 10 S Range 19E (Exhibit 1). Offset operators include XTO Energy, and Utah Gas OP LTD (Exhibit 2).

The Island Unit #18 was first drilled in 1984 and completed as a natural gas producer in the Wasatch Formation. Cumulative production in the Wasatch Formation from perforations ranging from 5,998-6,734' is 0.48 billion cubic feet of gas and 11,367 barrels of oil. Wexpro Company has operated the well from initial completion to present. Currently the well does not produce.

The Uinta Formation is the rock unit exposed at the surface across much of the Island Unit (Exhibit 3). Lithologically, it is composed of brown, red, and green mudstone, siltstone, and shale. Sandstones, where present, are generally a yellow brown color (Exhibit 3). The Uinta Formation was deposited in a fluvial environment from streams derived from the Uinta Mountain and surrounding uplifts. Fluvial channel sandstones in this formation are generally not laterally continuous.

The proposed injection zone for the Island Unit #18 SWD well conversion is the Birds Nest Aquifer which exists from 1,564 to 1,957 feet MD in the Island Unit #18 wellbore (Exhibits 4 and 5). The location of the Island Unit #18 well is within the >10,000 TDS area of the Birds Nest aquifer water chemistry map from Vanden Berg et al., 2013 (Exhibit 6). Water tests from this zone in the Island Unit #18 wellbore confirm a TDS of 172,000 to 217,000 mg/L, which is above the 10,000 TDS limit for a moderately saline aquifer (Exhibit 7). The Island Unit #18 well exists on the southern flank of the Uinta Basin where dips are approximately 2° to the north and no major faults are observed (Exhibit 1). As such, we anticipate that the injected water will be conveyed through and stored within the Birds Nest Aquifer with integrity.

The Birds Nest Aquifer was chosen as the disposal target based on the following criteria:

1) It has excellent storage and injectivity capacities.
2) It is bound below by aquitards preventing disposed water from invading potential oil or gas strata in the Green River Formation,
3) It is bound above by aquitards that will prevent disposed water from invading potential fresh water sources in the Uinta Formation.

Based on the 1978 Uinta Basin groundwater report by Hood and Fields, the Duchesne and Uinta formations are the primary source of fresh ground water in the Uinta Basin. Based on log analysis of the Green River Formation above the Birds Nest Aquifer in the Island Unit and surrounding areas there is approximately 400 feet of Green River Formation shales and limestones that will act as an aquitard before reaching the base of the Uinta Formation (Exhibits 8-10). Additionally, the basal portions of the Uinta Formation in this area are composed primarily of shales with no sandstone reservoirs present in logs that penetrate the interval near the Island Unit #18 well (Exhibits 8-10). As such, disposal of salt water in the Birds Nest Aquifer in the Island Unit #18 well poses no threat to oil and gas bearing zones in the Green River Formation below or to freshwater resources in the overlying Uinta Formation.

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Birds Nest Aquifer disposal wells similar to Wexpro's proposal are present in the Greater Natural Buttes area (Exhibits 5 and 11).

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Exhibit 1. Island Unit location map with Green River - Uteland Butte structural contours (TVD-sea level datum)

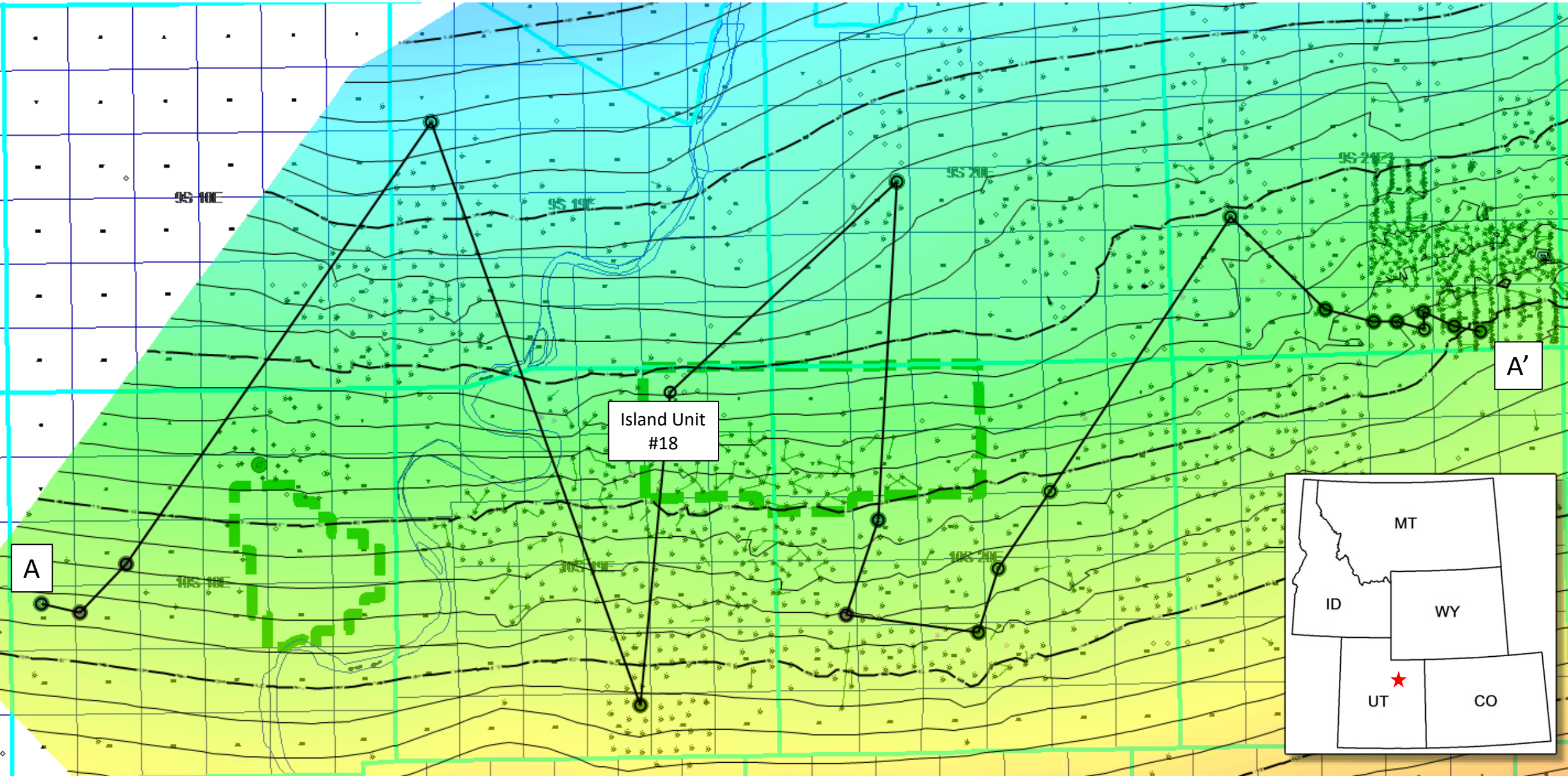
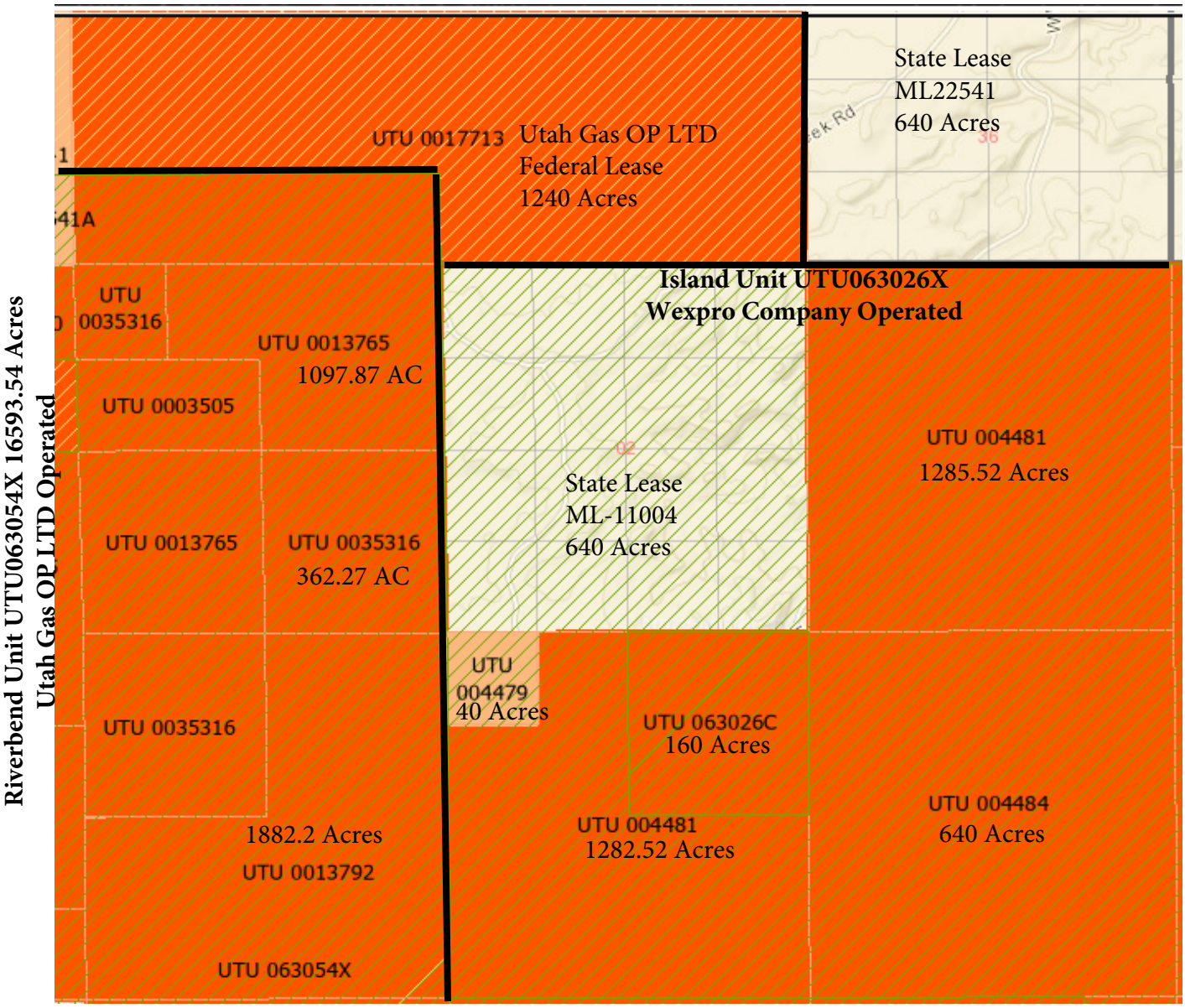


Exhibit 2.
Land map (acreage by operator)

Island Unit 18 Disposal Well
Acreage Map



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Legend

Fluid Minerals

Fluid Minerals Participating Areas - Case Disposition

Authorized

Fluid Minerals Agreements

Fluid Minerals Agreements - Case Disposition

Authorized

Oil and Gas Leases

Oil and Gas Leases - Case Disposition

Authorized

Oil and Gas Leases - Production Status

Held by Actual Production

Held by Allocated Production

Non-Producing

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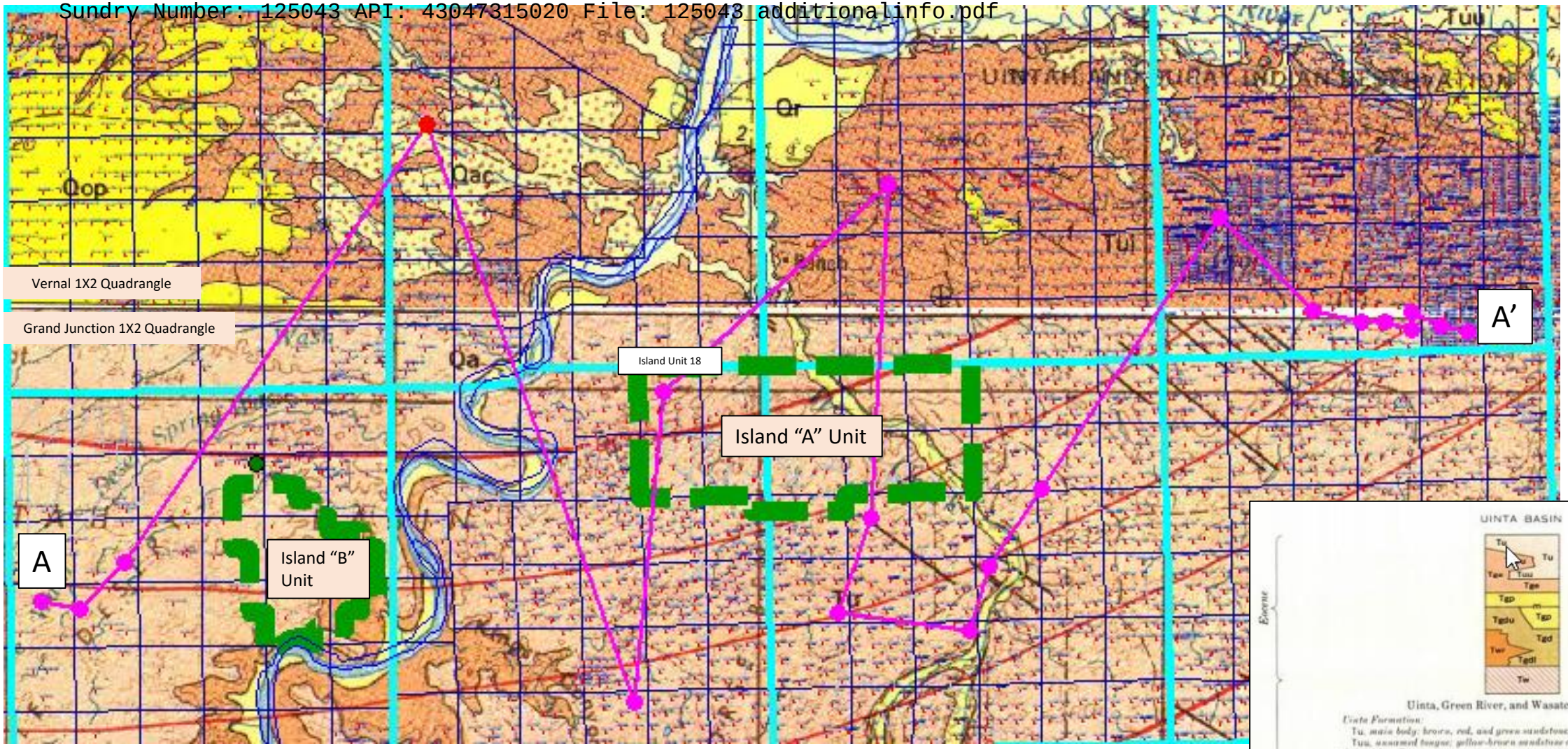

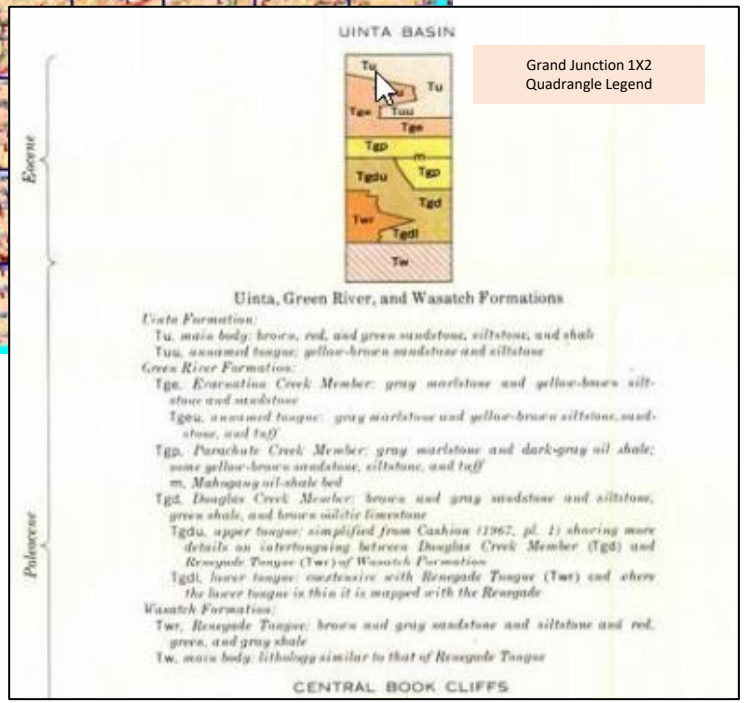

Exhibit 3. Surface geology map of the Island Unit area. Saltwater disposal and water source well cross-section (A-A') depicted. The formation at surface across the entire Island Unit is the Tertiary Uinta Formation, except along Willow Creek, where Quaternary stream deposits overlie the Uinta Formation.

E-W water well cross section

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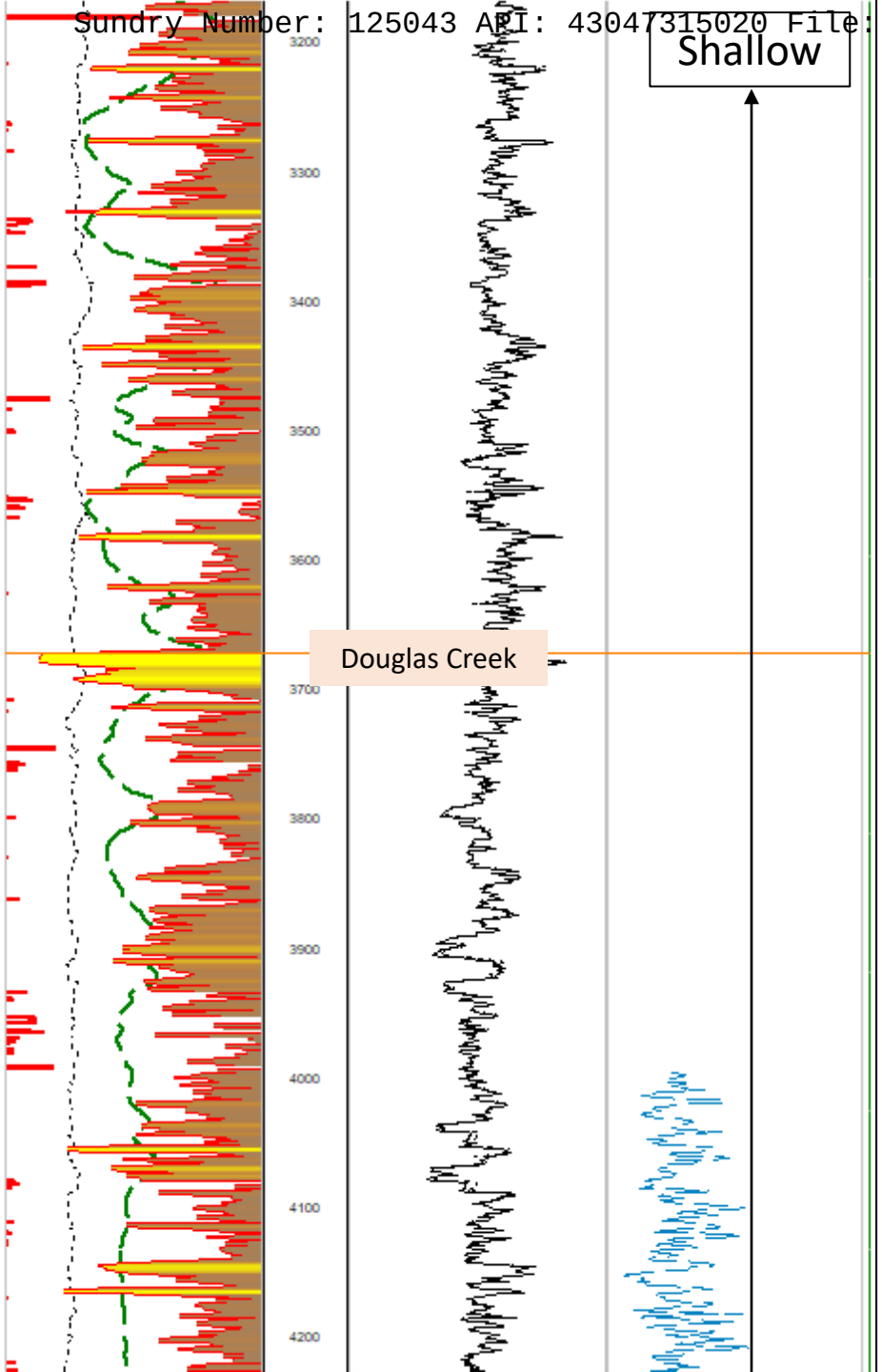


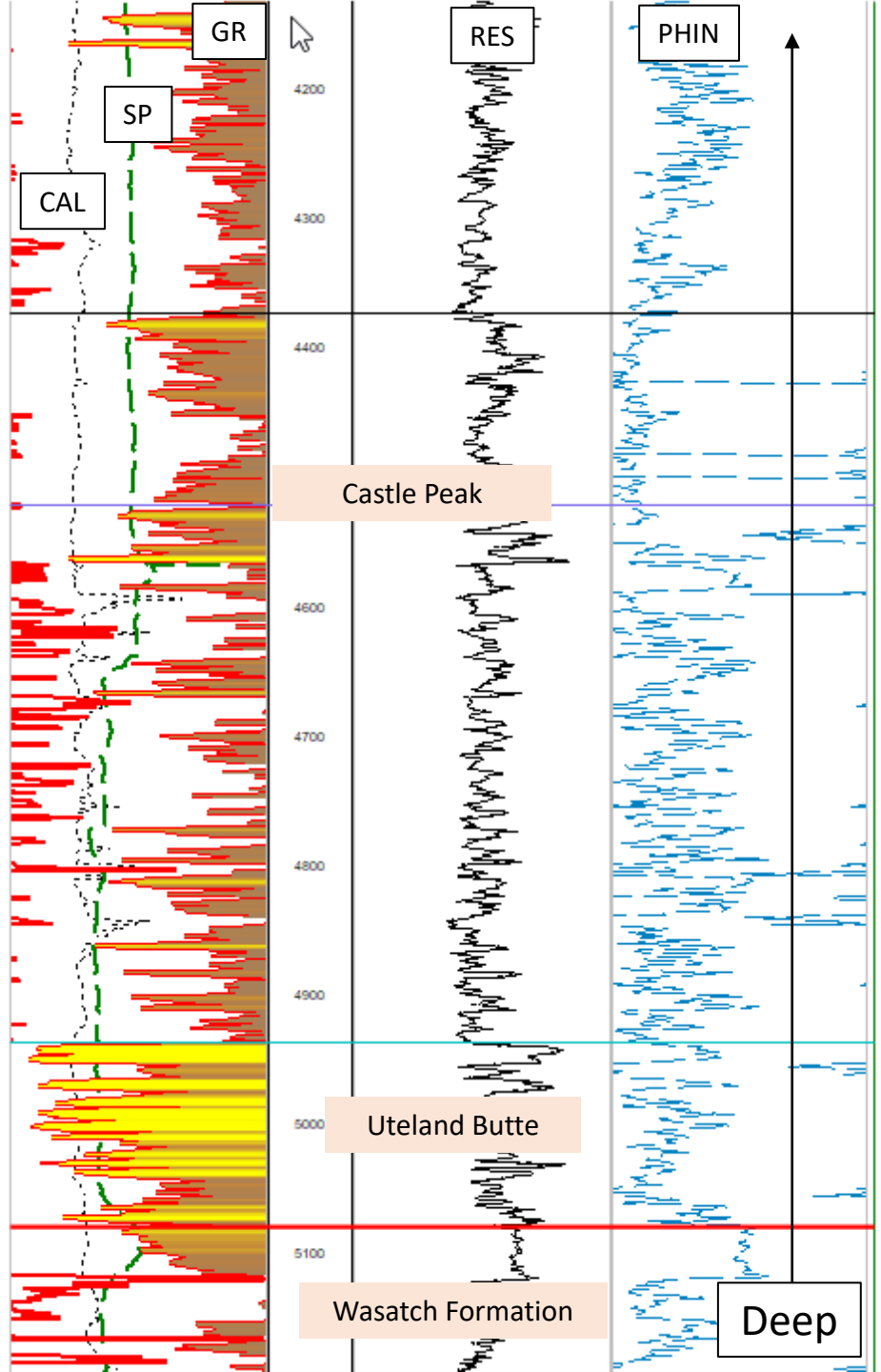


Exhibit 4. Island Unit 18 electrical and radioactive logs (page 1/3)

Sundry Number: 125043 API: 43047315020 File: 125043_additionalinfo.pdf

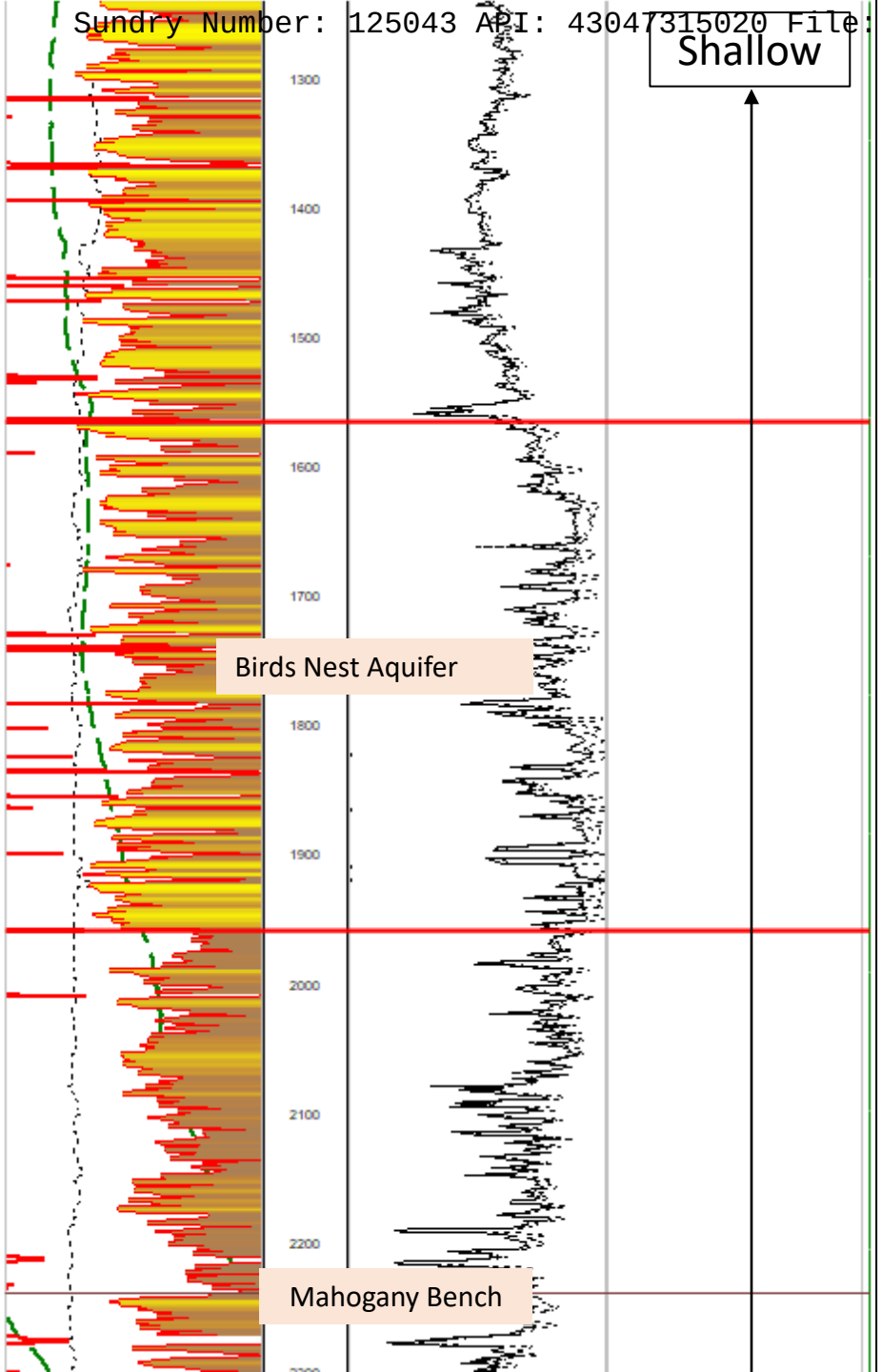
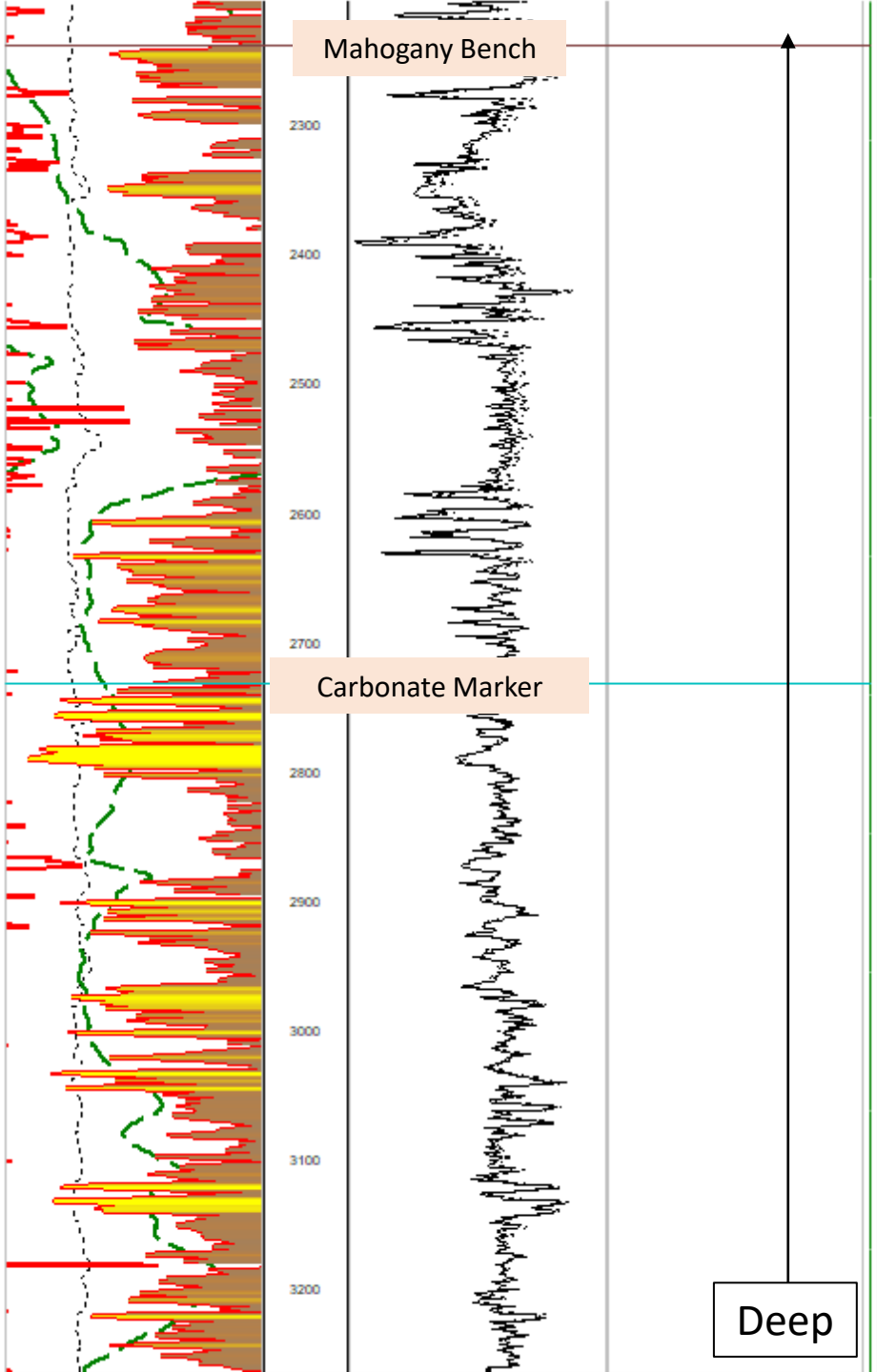


Exhibit 4. Island Unit 18 electrical and radioactive logs (page 2/3)



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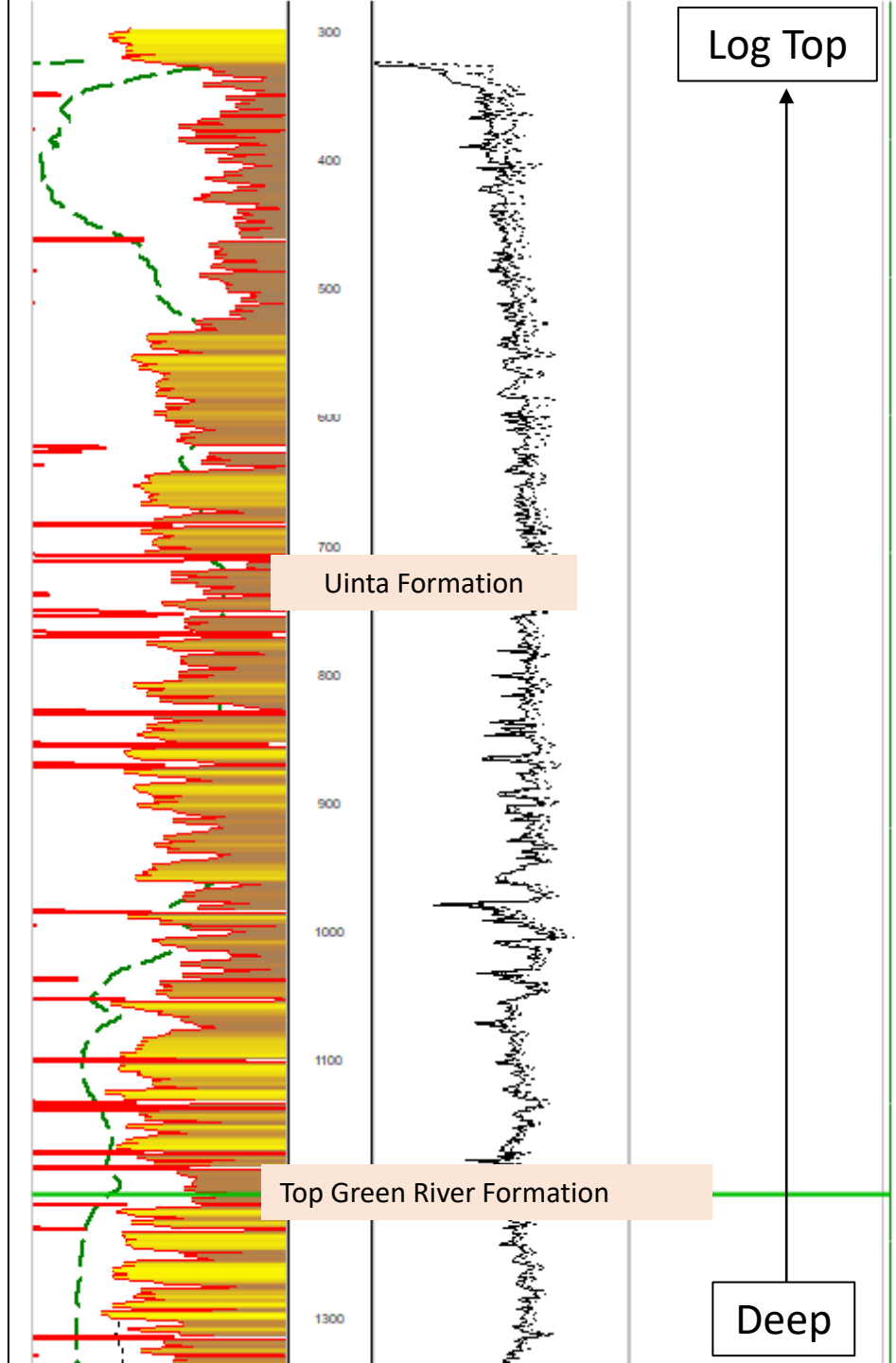

Exhibit 4. Island Unit18 electrical and radioactive logs (page 3/3)

A

A’

Exhibit 5. Regional water well cross section

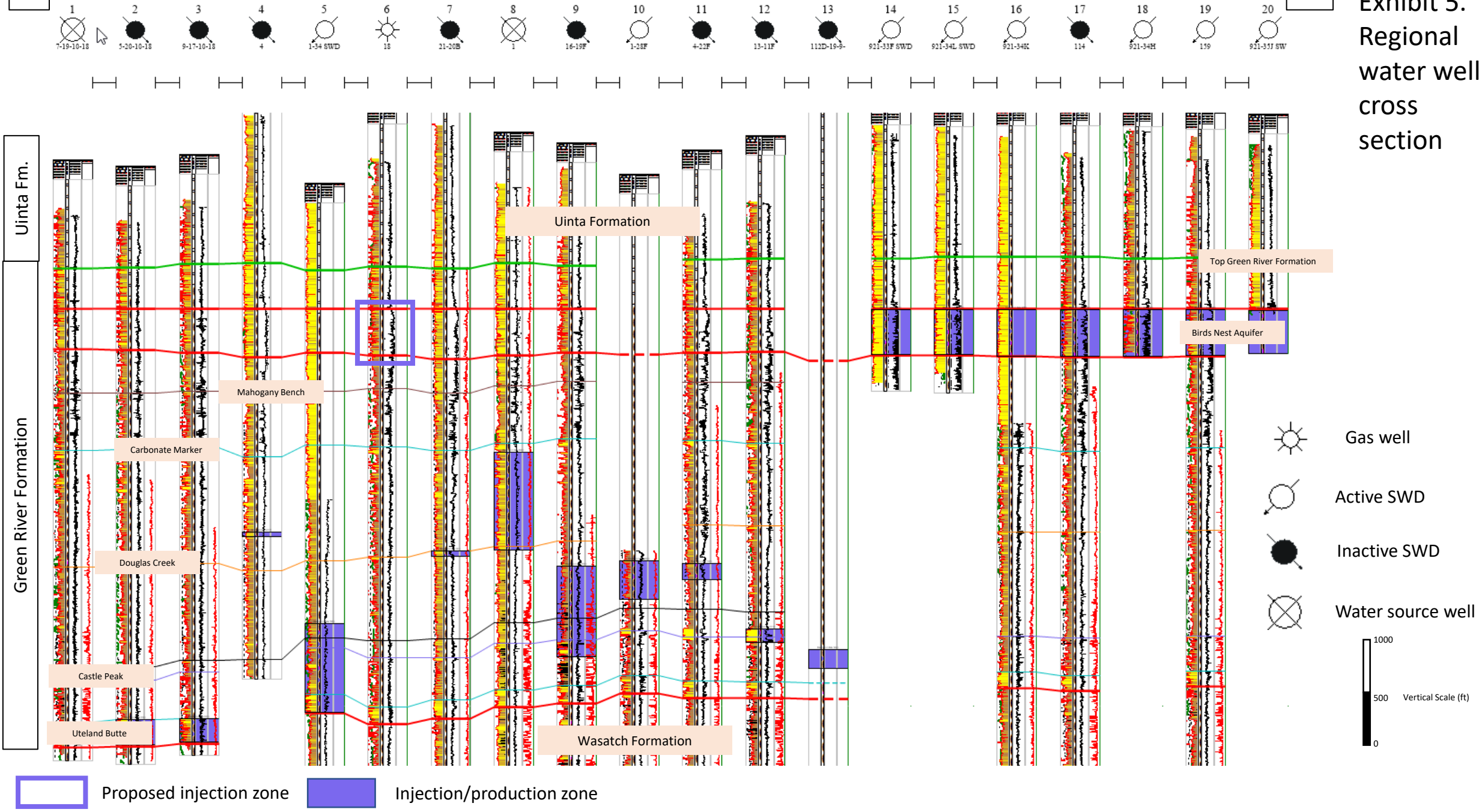

Exhibit 6. Island Unit and Island Unit 18 well in relation to the 10,000 TDS water chemistry line. Island Unit is within the mapped boundary of Birds Nest water with > 10,000 TDS. TDS in Island Unit 18 ranges from 172,000 to 217,000 PPM (see Exhibit 7)

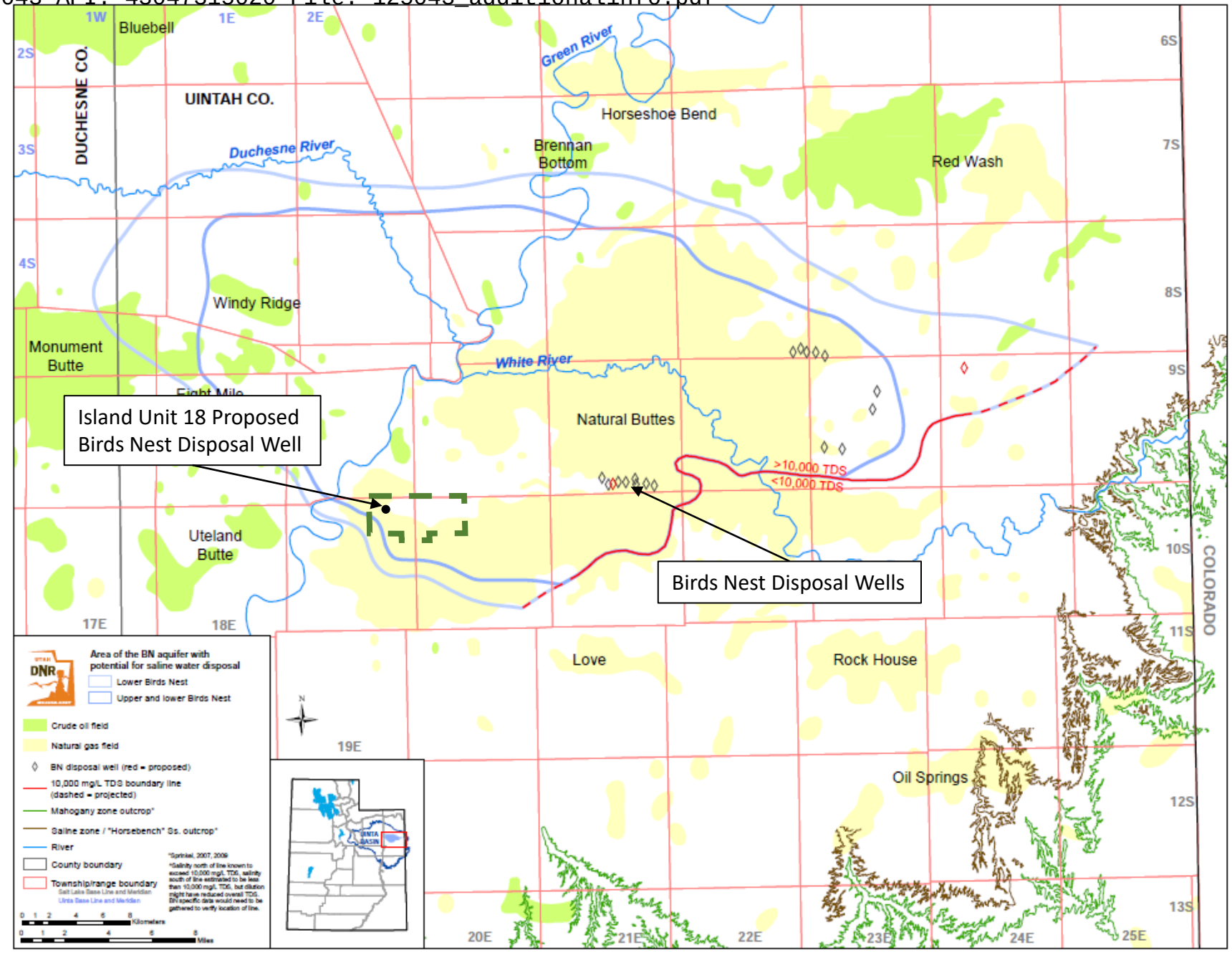

Figure 25. Area of the Birds Nest aquifer with potential for saline water disposal and its proximity to major producing oil and gas fields.

From: Vanden Berg, M.D. et al., 2013, Geoloigcal Characterization of the Birds Nest Aquifer, Uinta Basin, Utah: Assessment of the aquifer's potential as a saline water disposal zone, Special Study 147, Utah Geological Survey.

Exhibit 7. Water chemistry from Island 18

See PDF

Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45153**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**53662**	mg/L	Titration
P-Alkalinity (as CO3)	**36000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.126**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**172000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**30.6**	mg/L	Potassium	**343**	mg/L	Cobalt	**0.327**	mg/L
Manganese	**1.36**	mg/L	Boron	**358**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.273**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**18.8**	mg/L
Strontium	**0.227**	mg/L	Copper	**3.38**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.68**	mg/L	Nickel	**0.180**	mg/L	Molybdenum	**1.78**	mg/L
Magnesium	**3.89**	mg/L	Zinc	**39.9**	mg/L	Phosphorus	**35.9**	mg/L
Sodium	**54600**	mg/L	Lead	**2.59**	mg/L	Measured Sodium	**54600**	mg/L

Anions - Analyzed By IC

Chloride	**24400**	mg/L
Sulfate	**2450**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.3
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.37
Calcite CaCO3 PTB	3.20	**Calcite CaCO3 SI**	2.00
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.4
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.0
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.1

Comments

9

Scaling predictions calculated using Oddo-Tomson model

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Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45154**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**58504**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.134**		Densitometer
Ionic Strength	**2.05**	mol/L	Calculation
Total Dissolved Solids	**177000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**29.4**	mg/L	Potassium	**337**	mg/L	Cobalt	**0.191**	mg/L
Manganese	**1.84**	mg/L	Boron	**347**	mg/L	Chromium	**0.053**	mg/L
Barium	**0.241**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**9.44**	mg/L
Strontium	**0.192**	mg/L	Copper	**3.22**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.03**	mg/L	Nickel	**0.226**	mg/L	Molybdenum	**1.85**	mg/L
Magnesium	**3.96**	mg/L	Zinc	**123**	mg/L	Phosphorus	**30.6**	mg/L
Sodium	**55000**	mg/L	Lead	**0.870**	mg/L	Measured Sodium	**55000**	mg/L

Anions - Analyzed By IC

Chloride	**23000**	mg/L
Sulfate	**2290**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.4
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.28
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.94
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.5
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.2
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.2

Comments

10

Scaling predictions calculated using Oddo-Tomson model

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RECEIVED: Jul. 25, 2023

Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45155**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**61132**	mg/L	Titration
P-Alkalinity (as CO3)	**67000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.19**	mol/L	Calculation
Total Dissolved Solids	**217000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**37.9**	mg/L	Potassium	**340**	mg/L	Cobalt	**0.265**	mg/L
Manganese	**2.01**	mg/L	Boron	**407**	mg/L	Chromium	**0.051**	mg/L
Barium	**0.320**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**12.1**	mg/L
Strontium	**0.210**	mg/L	Copper	**2.26**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.29**	mg/L	Nickel	**0.182**	mg/L	Molybdenum	**1.60**	mg/L
Magnesium	**3.92**	mg/L	Zinc	**79.9**	mg/L	Phosphorus	**32.9**	mg/L
Sodium	**57100**	mg/L	Lead	**1.47**	mg/L	Measured Sodium	**57100**	mg/L

Anions - Analyzed By IC

Chloride	**29000**	mg/L
Sulfate	**1580**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.5
Barite BaSO4 PTB	0.10	**Barite BaSO4 SI**	0.22
Calcite CaCO3 PTB	2.80	**Calcite CaCO3 SI**	1.98
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.6
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.3
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.3

Comments

11

Scaling predictions calculated using Oddo-Tomson model

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RECEIVED: Jul. 25, 2023

Complete Water Analysis

Customer:	**DOMINION ENERGY WEXPRO**	Equipment Description:	**Island Unit 18**	Collection Date:	**10/10/2022**
Geographic Region:	**GNBU**	Sample Point:	**Wellhead**	Receive Date:	**10/11/2022**
Geographic Location:	**Island Unit**	Sample ID:	**AU45156**	Report Date:	**10/21/2022**
System Description:	**Production Well**	Account Rep:	**dallin.fukui@championx.com**	Location Code:	**499600**

Field Analysis

Analysis	Result		Analysis Method
Total Alkalinity (M-Alk as HCO3)	**64146**	mg/L	Titration
P-Alkalinity (as CO3)	**37000**	mg/L	Titration
Dissolved CO2	**Not Detected**	mg/L	Titration
Dissolved H2S	**40**	mg/L	Titration
Pressure Surface	**15**	psi	
Temperature	**70**	° F	
pH of Water	**9.9**		Meter

Sample Analysis

Analysis	Result		Analysis Method
Specific Gravity	**1.138**		Densitometer
Ionic Strength	**2.02**	mol/L	Calculation
Total Dissolved Solids	**181000**	mg/L	Calculation

Cations - Analyzed By ICP

Iron	**33.3**	mg/L	Potassium	**279**	mg/L	Cobalt	**0.163**	mg/L
Manganese	**1.49**	mg/L	Boron	**350**	mg/L	Chromium	**<0.050**	mg/L
Barium	**0.268**	mg/L	Lithium	**<1.000**	mg/L	Silicon	**14.1**	mg/L
Strontium	**0.162**	mg/L	Copper	**1.81**	mg/L	Aluminum	**<0.300**	mg/L
Calcium	**3.00**	mg/L	Nickel	**0.129**	mg/L	Molybdenum	**1.15**	mg/L
Magnesium	**2.92**	mg/L	Zinc	**76.7**	mg/L	Phosphorus	**29.3**	mg/L
Sodium	**47900**	mg/L	Lead	**1.41**	mg/L	Measured Sodium	**47900**	mg/L

Anions - Analyzed By IC

Chloride	**29900**	mg/L
Sulfate	**1480**	mg/L

Scale Type

Anhydrite CaSO4 PTB	N/A	**Anhydrite CaSO4 SI**	-3.6
Barite BaSO4 PTB	0.0	**Barite BaSO4 SI**	0.10
Calcite CaCO3 PTB	2.60	**Calcite CaCO3 SI**	1.95
Celestite SrSO4 PTB	N/A	**Celestite SrSO4 SI**	-2.8
Gypsum CaSO4 PTB	N/A	**Gypsum CaSO4 SI**	-3.4
Hemihydrate CaSO4 PTB	N/A	**Hemihydrate CaSO4 SI**	-3.4

Comments

12

Scaling predictions calculated using Oddo-Tomson model

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RECEIVED: Jul. 25, 2023

Exhibit 8. Island Unit 18 cross-section index with Green River - Uteland Butte Structure Map (TVD-sea level datum)

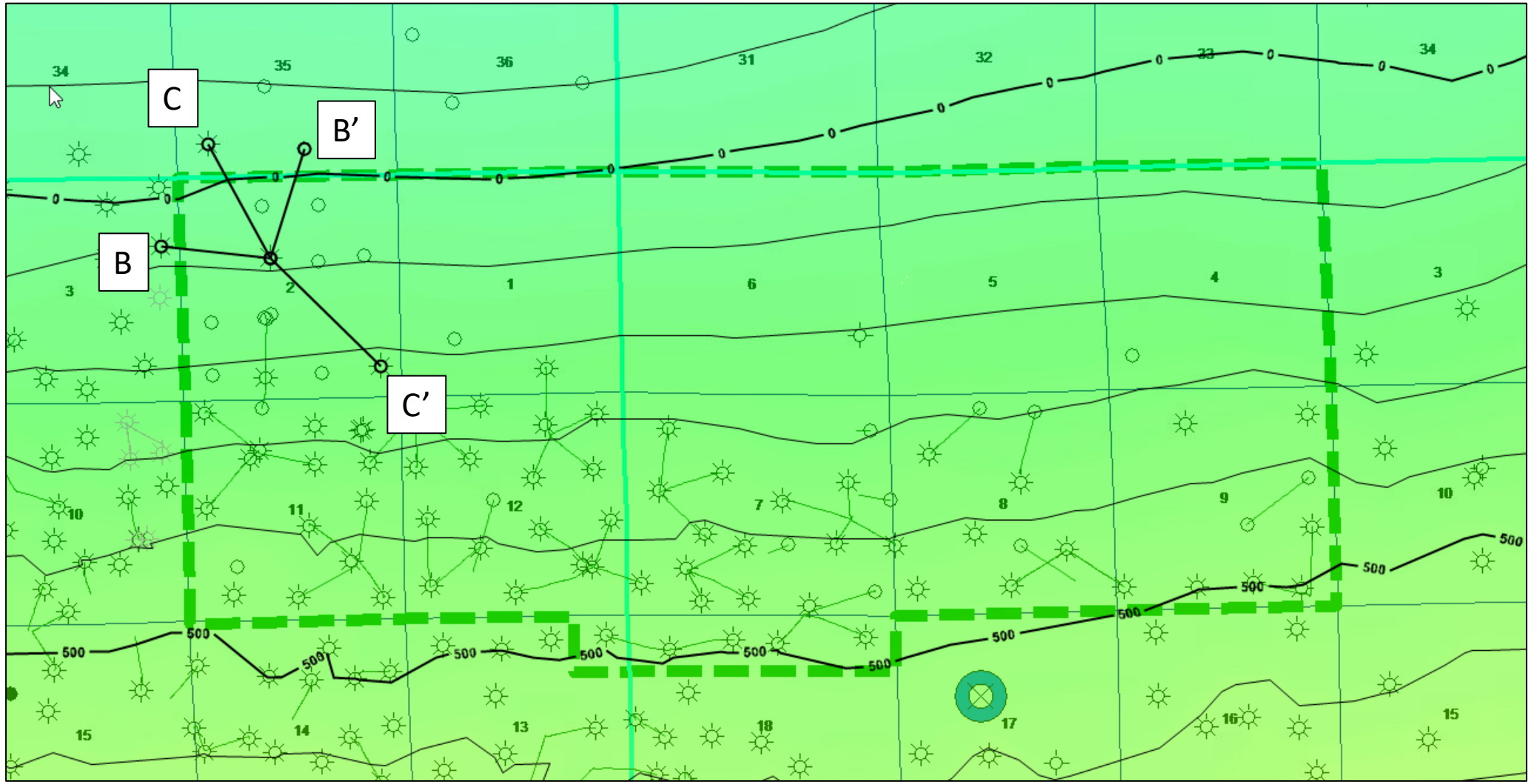


Exhibit 9. E-W cross section through Island Unit 18

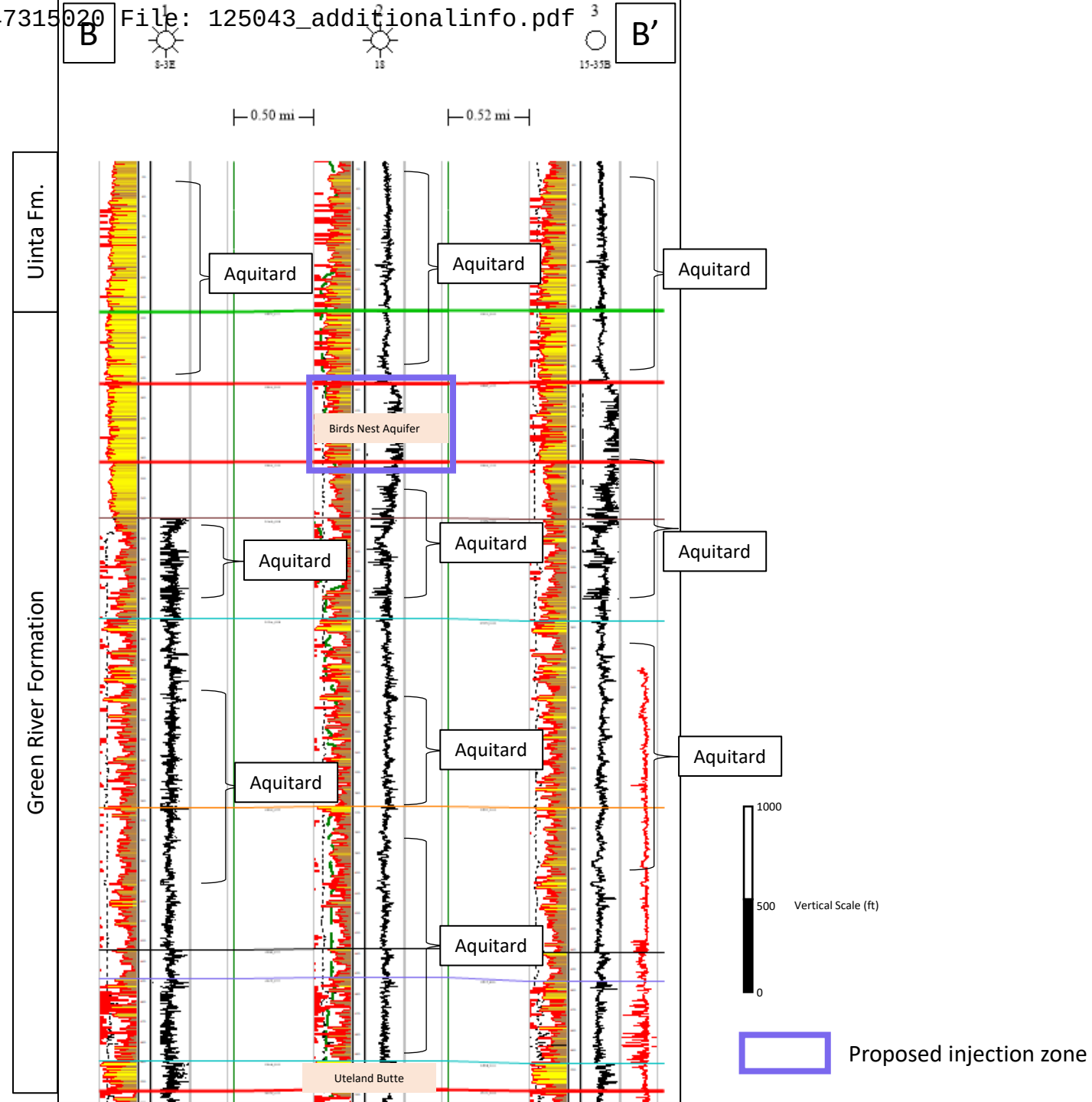
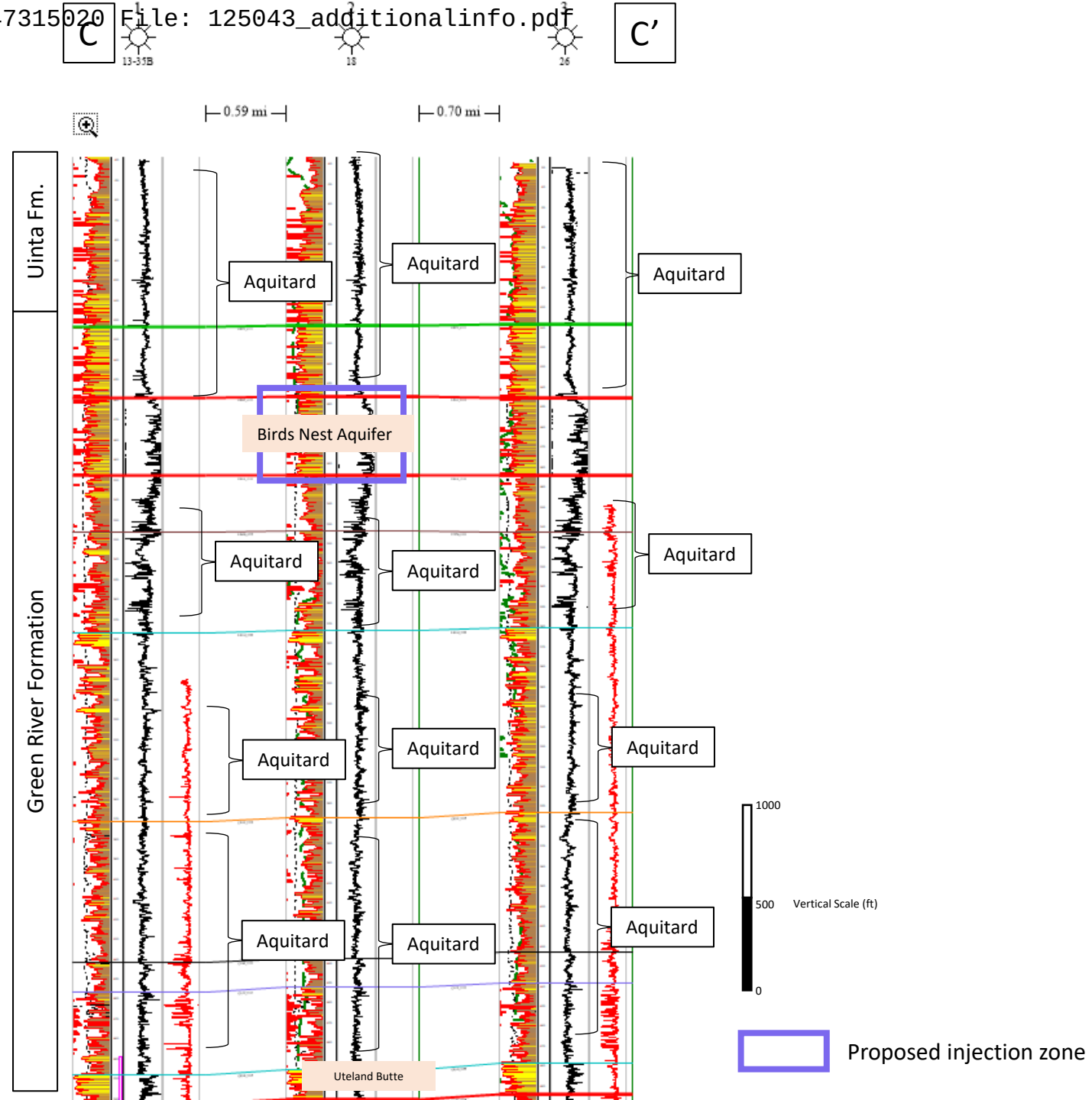


Exhibit 10. N-S cross section through Island Unit 18



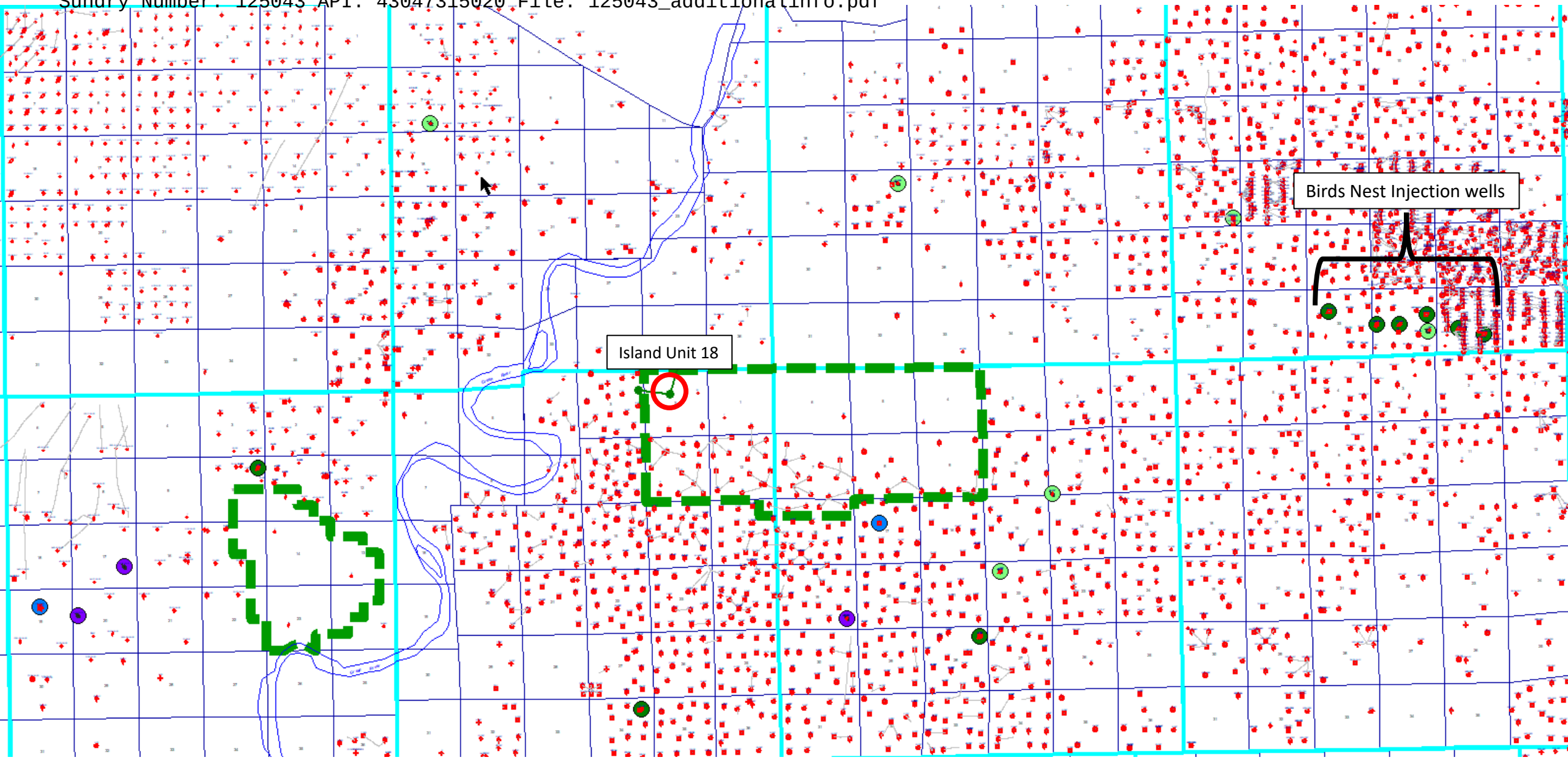


Exhibit 11. Water source and injection well status

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.

A review of well records on the Utah Division of Oil, Gas and Mining identified two wells and one permitted well within one-half mile radius. Please find information regarding each well below:

- RBU 8-3E (43-047-36609): The well is currently operated by Utah Gas Op Ltd. The last recorded monthly production was reported for November 2022. Drilled in 2006 to a TVD of 9009', the well has 8-5/8" surface casing set at 2195' and was cemented with a total of 725 sacks with 30 barrels of cement to surface. The 5-1/2" 17# production casing was set at 8988' and cemented with a total of 686 sacks. Cement top on the production string was identified with a cement bond log at 3700' KBM from a report dated 04/12/2006. The producing interval is in the Wasatch and Mesaverde (5846'-8790').
- Island Unit 29 (43-047-31752): The well was plugged and abandoned in April 2001 by Wexpro Company. Wasatch perforations from 5980'-7034' were squeezed with 100 sacks of cement and 60' of cement left on top of a cement retainer set at 5892'. A balanced cement plug was placed across the Bird's Nest Aquifer from 2400'-2605' (20 sacks) per a COA from the Utah Division of Oil, Gas and Mining. 65 sacks of cement were pumped down the 4-1/2"x 8-5/8" annulus and a 75' surface plug was set inside the 4-1/2" casing.
- Island Unit 2K1 (43-047-57001): An APD was approved in April 2022 by the Utah Division of Oil, Gas and Mining.

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.

See attached affidavit of Paul Jibson.

RECEIVED: Jul. 25, 2023

Dominion Energy Wexpro
333 South State Street, Salt Lake City, UT 84111
Mailing Address:
P.O. Box 45003, Salt Lake City, UT 84145-0003
DominionEnergy.com

Dominion Energy®

AFFIDAVIT OF NOTICE OF APPLICATION FOR INJECTION

STATE OF UTAH

COUNTY OF SALT LAKE

BEFORE ME, Paul R. Jibson personally appeared, and who after first being duly sworn states as follows:

1. My name is Paul R. Jibson, and I am the Manager of Joint Operations and Regulatory Affairs for Wexpro Company.
2. I certify that a copy of the application for injection has been sent by certified mail to the owners, operators, and surface owners within a one-half mile radius of the proposed Island 18 injection well. This included the UIC 1 Form and associated maps.

Paul R. Jibson
Manager of Joint Operations & Regulatory Affairs
Wexpro Company

Subscribed and worn to before me Kelli Carter, a notary public, personally appeared Paul R. Jibson, proved on the basis of satisfactory evidence to be the person whose name subscribed to this instrument and acknowledged he executed the same on this 17 day of May, 2023.

Witness my hand and official seal

KELLI CARTER
Notary Public State of Utah
My Commission Expires on:
February 24, 2027
Comm. Number: 729637

Notary Public

My Commission Expires on: 2/24/2027

Sundry Number: 125081 API Well Number: 43047315020000

FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML-11004

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 TRIBAL, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: ISLAND

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: Island Unit 18

2. NAME OF OPERATOR: Wexpro Company

9. API NUMBER: 43047315020000

3. ADDRESS OF OPERATOR: 2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER: 801-324-2562

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY: UINTAH

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: 8/1/2023	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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: Step Rate Test

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

Wexpro Company requests approval to perform a Step Rate Test on the Island 18. Prior to performing the Step Rate Test, Wexpro Company would like to pump 15% HCl below fracture gradient to clean out near wellbore damage. Please see the attached procedure for details.

Approved by the Utah Division of Oil, Gas and Mining

Date: September 28, 2023

By: Dark K Quist

Conditions Attached

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jan Crompton	307-352-7554	Sr. Permit Agent
SIGNATURE N/A		**DATE** 7/26/2023

RECEIVED: Jul. 26, 2023

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Sundry Conditions For Well Number 43047315020000

Contact appropriate agency for conducting MIT prior to commencing injection.

RECEIVED: Sep. 28, 2023

Dominion Energy Wexpro
2221 Westgate Dr.
P.O. Box 458
Rock Springs, WY 82902
Tel (307) 352-7500
Fax (307) 352-7575

Island 18

Legal Description: SENW 2-10S-19E
Location: Uintah, UT
API: 43-047-31502

PROPOSED OPERATIONS

Perform a Step-Rate Test on the Bird's Nest Aquifer to determine the maximum injection pressure for the proposed injection well. UDOGM Step-Rate Test Guidelines dated June 2017 will be used as a guide to conduct the test.

- Fill tanks with 2% KCl and plan to treat with scale inhibitor and biocide prior to pumping down hole.
- MIRU pumping equipment for the Step-Rate Test (SRT).
- MIRU slickline. RIH with dual downhole pressure gauges and set at approximately 1,775'. Leave slickline and gauges in hole to record bottomhole pressures during SRT.
- Bring on pumps to initial rate on attached Proposed Pump Schedule.
- Hold rate constant for the given amount of time on the schedule and record all data.
- Slowly increase to the next rate on the schedule and repeat previous step.
- If fracture pressure is observed, record pressure when formation broke.
    - Note: Test may be terminated at lower rates if fracture pressure is observed earlier or for surface equipment constraints.
- After final pump rate; shut down pumps, shut in, and record ISIP.
- POOH with dual downhole pressure gauges.
- RDMO all equipment.

RECEIVED: Jul. 26, 2023

PROPOSED PUMP SCHEDULE

STEP	PUMP RATE (bpm)	PUMP TIME (minutes)	BARRELS PUMPED (bbls)	CUM BARRELS PUMPED (bbls)
1	0.75	60	45	45
2	1.50	60	90	135
3	2.25	60	135	270
4	3.00	60	180	450
5	3.75	60	225	675
6	4.50	60	270	945
7	5.25	60	315	1260

RECEIVED: Jul. 26, 2023

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

Department of Natural Resources
Division of Oil, Gas and Mining

JOEL FERRY
Executive Director

JOHN R. BAZA
Division Director

October 2nd, 2023

Wexpro Company
Jan Crompton
PO Box 458
Rock Springs, WY 82901

Re: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases and SWD's

Dear Jan Crompton,

As of October 2023, Wexpro Company has 1 new well that is currently in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status.

Wells SI/TA beyond twelve (12) consecutive months requires filing a Sundry Notice (R649-3-36-1). Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (649-3-36-1.3.3). For extended SI/TA consideration the operator shall provide the Utah Division of Oil, Gas & Mining with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).

2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and

3. An explanation and supporting data if necessary, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Please note that the Divisions preferred method for showing well integrity is by MIT.

Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 will be subject to full cost bonding (R649-3-1-4.2, 4.3).

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
4. Fluid level in the wellbore, and
5. An explanation of how the submitted information proves integrity.

If the required information is not received within 30 days of the date of this notice, further actions may be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5290.

Sincerely,

Megan Crocker Digitally signed by Megan Crocker
Date: 2023.10.02 16:24:51 -06'00'

Megan Crocker
Geologist

cc: Compliance File
Well File
Dustin Doucet
Adam Miller

ATTACHMENT A

Well Name	API	Lease Type	Months Inactive
Island Unit 18	4304731502	State	13

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

FORM 9

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.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML-11004

6. IF TRIBAL, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: ISLAND

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: Island Unit 18

2. NAME OF OPERATOR: Wexpro Company

9. API NUMBER: 43047315020000

3. ADDRESS OF OPERATOR: 2221 Westgate PO Box 458, Rock Springs, WY, 82902-0458

PHONE NUMBER: 801-324-2562

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1957 FNL 2149 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E Meridian: S

COUNTY: UINTAH

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: 11/14/2023	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ 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.

Wexpro Company requests additional shut it status of the referenced well. Wexpro is in the process on filing the necessary applications to convert this well to a SWD well. To confirm well bore integrity, Wexpro conducted an MIT on October 18, 2023, which was witnessed by Mike Perkins. Additional details are in the attached document. The well successfully passed the MIT. Wexpro Company is requesting shut it status until December 31, 2024.

Approved by the Utah Division of Oil, Gas and Mining

Date: November 17, 2023

By: Myron L. Cordova

Conditions Attached

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Paul Jibson	801-324-5169	Supervisor of Joint Ops and Reg Affairs

SIGNATURE	DATE
N/A	11/14/2023

RECEIVED: Nov. 14, 2023

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

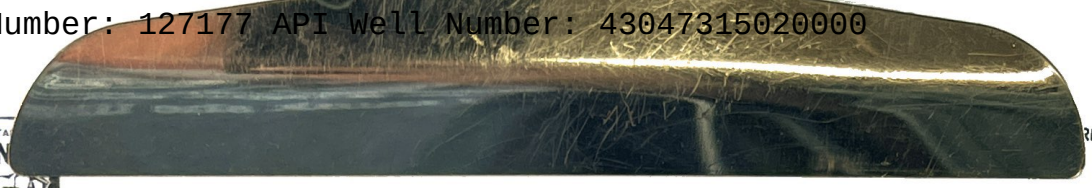
Electronic Permitting System - Sundry Notices

Sundry Conditions For Well Number 43047315020000

Well has been shut in for 1 year. Well is approved for a 1 year extension until 11/14/24.

Operator commits to monitoring this well and if anything changes that indicates a lack of integrity, will be addressed immediately. Continue to collect pressure data monthly.

RECEIVED: Nov. 17, 2023



RM 6

INJECTION WELL - PRESSURE TEST

Well Name: Island Unit 18 API Number: 43-047-31502

Qtr/Qtr: SENW Section: 2 Township: 10S Range: 19E

Company Name: Wexpro Company

Lease: State X Fee ____ Federal ____ Indian ____

Inspector: Mike Perkins Date: 10-18-2023

Initial Conditions:

Tubing - Rate: Ø Pressure: 520 psi

Csg/Tbg Annulus - Pressure: Ø psi Packer Depth: 1555' ft MD

Conditions During Test: Top Perf: 1604' ft MD

Time (Minutes)	Annulus Pressure	Tubing Pressure
0	1100	520
5	1100	520
10	1100	520
15	1100	520
20	1100	520
25	1100	520
30	1100	520

Results: (Pass)/Fail

Conditions After Test:

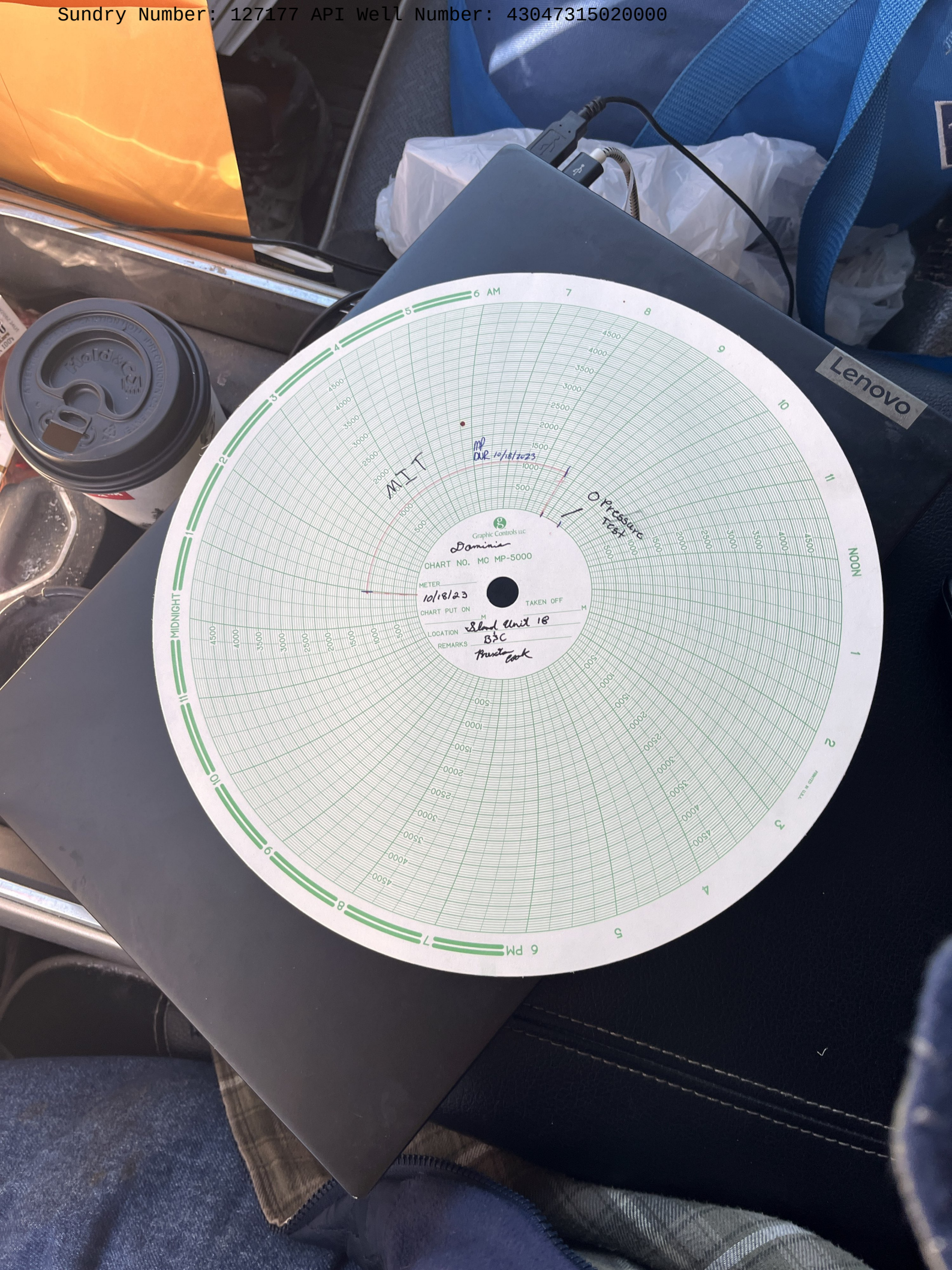
Tubing Pressure: 520 psi

Casing/Tubing Annulus Pressure: Ø psi

COMMENTS: DOW Injection well pressure test Casing has Tubing and Packer in well (well is SHUT IN) Fed/STATE

KERRY MEZNARICH

Operator Representative


6 AM
NOON
6 PM
MIDNIGHT
MIT
MP
DUE 10/18/2023
Pressure Test
Graphic Controls LLC
Dominion
CHART NO. MC MP-5000
METER
10/18/23
CHART PUT ON
TAKEN OFF
LOCATION Island Unit 18
REMARKS B3C
Preston Cook
Lenovo