

WIND RIVER RESOURCES CORPORATION

ROUTE 3 BOX 3010

ROOSEVELT, UTAH 84066

435-722-2546 (office) / 435-722-5089(fax)

e-mail: mte@ubtanet.com

Marc T. Eckels, Vice President

April 30, 2003

Lisha Cordova, Petroleum Technician
Utah Division of Oil, Gas & Mining
P. O. Box 145801
Salt Lake City, UT 84114-5801

RE: Applications for Permit to Drill:

North Hill Creek 14-11-15-20
603' FSL & 1,928' FWL
Section 11-T15S-R20E
Uintah County, Utah

North Hill Creek 8-13-15-20
1,854' FNL & 681' FEL
Section 13-T15S-R20E
Uintah County, UT

North Hill Creek 2-14-15-20
520' FNL & 1,943' FEL
Section 14-T15S-R20E

Dear Ms. Cordova:

Enclosed please find three copies of the APD for each of the three above-captioned wells on Ute Indian lands. We intend to drill these wells in the order listed. The NHC 14-11-15-20 will be drilled on acreage included in our lease 14-20-H62-5000. The remaining wells will be drilled on acreage included in our Exploration and Development Agreement with the Ute Indian Tribe and the Ute Distribution Corporation (14-20-H62-4917), which includes a provision for a *Mineral Access Permit* from the BIA. These have been applied for. Water for drilling will come from existing wells in the field and from Willow Creek at Santio Crossing, from which it will be hauled by the Ute Oilfield Water Service under their filing with the State. A copy of this filing is attached.

These three wells are in close proximity to each other, are of nearly identical design and will share an access road. We hope that this will simplify the approval process.

RECEIVED

MAY 02 2003

DIV. OF OIL, GAS & MINING

Please call me if you have any questions or need additional information.

Sincerely,



Marc T. Eckels

Cc: BLM – 3
BIA – 1

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. **E&D Agreement**
14-20-H62-4917

6. If Indian, Allottee or Tribe Name
Ute Indian Tribe

7. If Unit or CA Agreement, Name and No.
n/a

8. Lease Name and Well No. **North Hill**
Creek 2-14-15-20

9. API Well No.
43-047-34955

10. Field and Pool, or Exploratory
Exploratory

11. Sec., T., R., M., or Blk. and Survey or Area

Sec. 14-T15S-R20E, SLB&M

12. County or Parish
Uintah

13. State
UT

1a. Type of Work: DRILL REENTER

1b. Type of Well: Oil Well Gas Well Other Single Zone Multiple Zone

2. Name of Operator
Wind River Resources Corporation

3a. Address **Route 3 Box 3010**
Roosevelt, UT 84066

3b. Phone No. (include area code)
435-722-2546

4. Location of Well (Report location clearly and in accordance with any State requirements. *)
At surface **520' FNL & 1,943' FEL (nwne) Sec. 14-T15S-R20E**
At proposed prod. zone **same 616596x - 109,64360**

14. Distance in miles and direction from nearest town or post office*
54 miles SSE of Roosevelt / 63 miles SSW of Vernal

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
520'

16. No. of Acres in lease
640

17. Spacing Unit dedicated to this well
40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
n/a

19. Proposed Depth
12,000'

20. ~~EXM~~/BIA Bond No. on file
Zions Bank SB-509795

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
7,133' (GL)

22. Approximate date work will start*
7-20-03

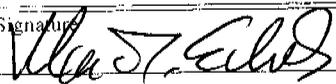
23. Estimated duration
4 weeks

24. Attachments

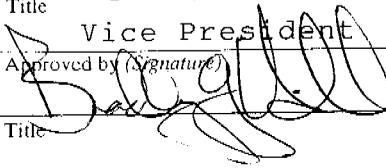
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

- 1. Well plat certified by a registered surveyor.
- 2. A Drilling Plan.
- 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- 5. Operator certification.
- 6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature  Name (Printed/Typed) **Marc T. Eckels** Date **4-30-03**

Title **Vice President**

Approved by (Signature)  Name (Printed/Typed) **BRADLEY G. HILL** Date **05-05-03**

Title **ENVIRONMENTAL SCIENTIST III**

Federal Approval of this Action is Necessary

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

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, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

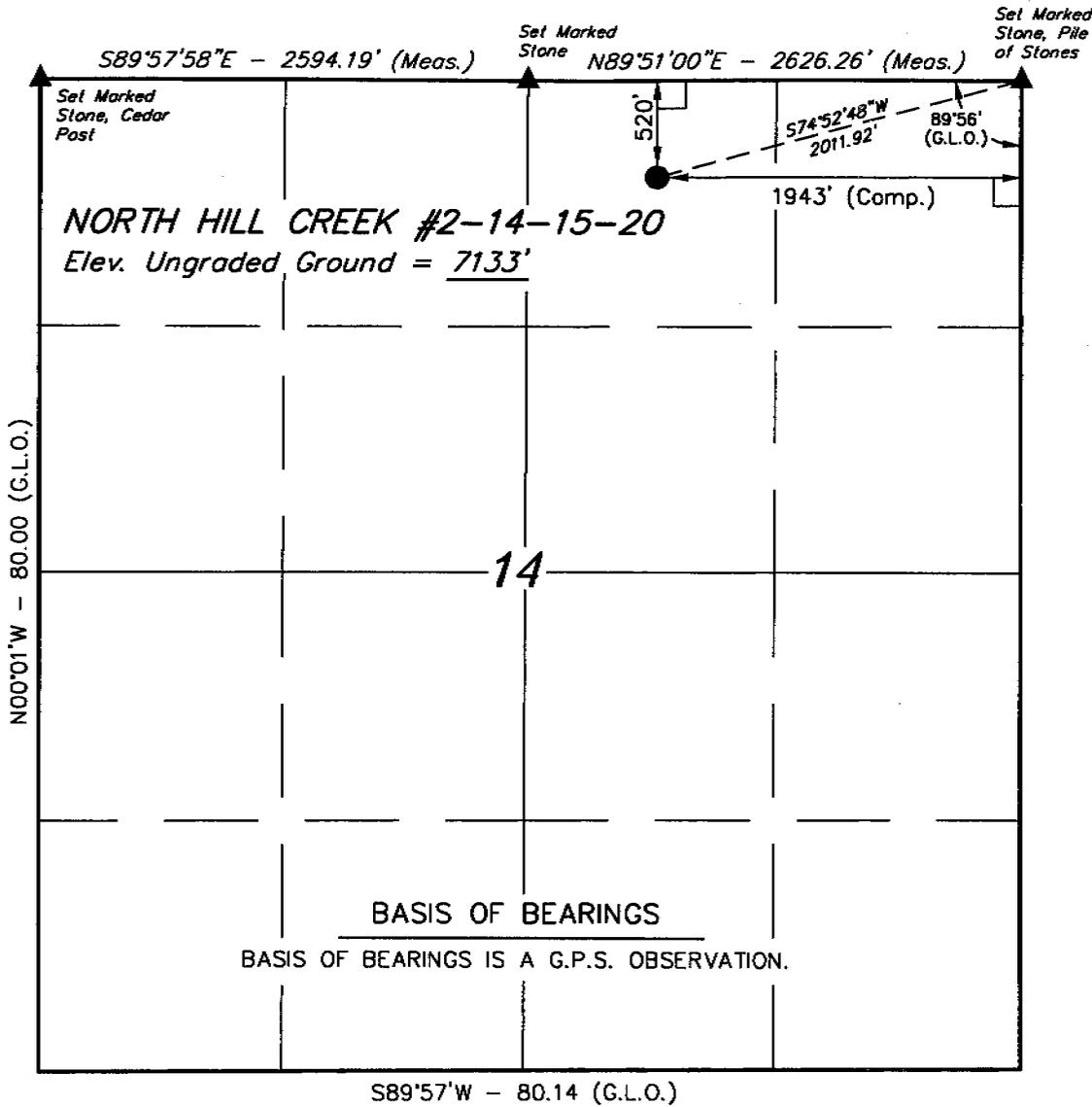
*(Instructions on reverse)

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MAY 02 2003

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T15S, R20E, S.L.B.&M.

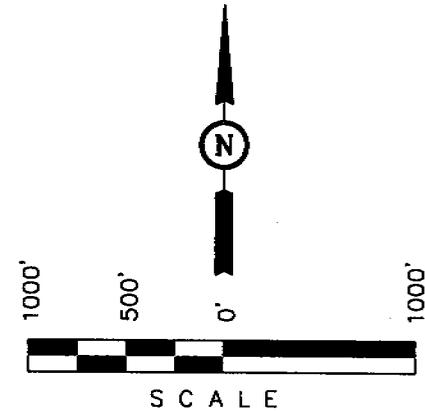


WIND RIVER RESOURCES CORP.

Well location, NORTH HILL CREEK #2-14-15-20, located as shown in the NW 1/4 NE 1/4 of Section 14, T15S, R20E, S.L.B.&M. Uintah County, Utah.

BASIS OF ELEVATION

BENCH MARK (59 WF) LOCATED IN THE NW 1/4 OF SECTION 10, T15S, R20E, S.L.B.&M. TAKEN FROM THE FLAT ROCK MESA QUADRANGLE, UTAH, UINTAH COUNTY 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 7449 FEET.



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.

[Signature]
 REGISTERED LAND SURVEYOR
 REGISTRATION NO. 161319
 STATE OF UTAH

BASIS OF BEARINGS
 BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

LEGEND:

- └─┘ = 90° SYMBOL
 - = PROPOSED WELL HEAD.
 - ▲ = SECTION CORNERS LOCATED.
- (AUTONOMOUS NAD 83)
 LATITUDE = 39°31'06.92" (39.518589)
 LONGITUDE = 109°38'39.28" (109.644244)

UINTAH ENGINEERING & LAND SURVEYING
 85 SOUTH 200 EAST - VERNAL, UTAH 84078
 (435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 4-2-03	DATE DRAWN: 4-3-03
PARTY G.S. T.A. C.G.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE WIND RIVER RESOURCES CORP.	

**DRILLING PLAN
WIND RIVER RESOURCES CORP.
NORTH HILL CREEK 2-14-15-20**

1. Estimated Formation Tops (Depth from Surface):

Green River @ Surface

Wasatch = 2,160' - Oil and/or gas anticipated at +/- 2,800' and below

Mesaverde = 4,1725' - Gas

Castlegate Sandstone = 5,955' - Gas

Mancos Shale = 6,190' - Gas

Mancos B = 6,700'

Dakota Sandstone = 10,062' - Gas

Cedar Mountain = 10,180' - Gas

Morrison = 10,380' - Gas

Curtis = 11,065'

Entrada Sandstone = 11,130' - Gas

Carmel = 11,420'

Wingate = 11,580' - Gas

Chinle = 11,900'

2. Wind River Resources' Minimum Specification for Pressure Control Equipment and Testing:

- A. 5,000 psi WP Double Gate Blowout Preventer with Annular Preventer (schematic diagram attached)
- B. BOPE will be pressure tested upon installation, whenever a seal subject to test pressure is broken or repairs are made; and at least once every 30 days. Chart recorders shall be used for all pressure tests.

Ram-type preventers and related pressure control equipment will be pressure tested to the rated working pressure of the stack assembly if a test plug is used. If a test plug is not used, the stack assembly will be tested to the rated working pressure of the stack assembly or to 70% of the minimum internal yield pressure of the casing, whichever is less.

Annular-type preventers will be pressure tested to 50% of rated working pressure.

- C. All casing strings will be pressure tested to 0.22 psi/ft or 1,500 psi, whichever is greater, prior to drilling plug after cementing. Test pressure not to exceed 70% of the internal yield pressure for the casing.
- D. Wind River Resources Corp. will comply with all requirements for well control specified in BLM Onshore Order #2.

3. Auxiliary Equipment:

Kelly Cock – Yes

Float Sub at Bit – No

Mud Logger & Instrumentation– Yes

Full-opening Safety Valve on Rig Floor – Yes

Rotating Head – Yes

4. Casing Program*:

	Setting Depth	Hole Size	Casing O.D.	Grade	Weight/Ft.
Conductor	60'	20"	16"	Contractor	0.250" wall
Surface	3,100'	12-1/4"	9-5/8"	K-55	36.00# (new)
Production	0'-10,000'	7-7/8"	5-1/2"	N-80	17# (new)
	10,000'-11,950'	7-7/8"	5-1/2"	P-110	17# (new)

*Subject to review on the basis of actual conditions encountered.
 Production casing depth will be adjusted based on results.

5. Cement Program:

Conductor – 0-60'

Ready Mix to surface

Surface Casing – 0 – 3,100'

Lead: 510 sx HiFill w/ 0.125 lbm/sk Poly-E-Flake

Tail: 290 sx Premium AG 300 (Class G) w/ 2% CaCl & 0.125lbm/sk Poly-E-Flake

100% excess.

Will top with cement down 1" pipe with 50 sx Premium Top Out Cement.

Cement Characteristics:

Lead

Yield = 3.12 cu ft per sk
 Slurry Weight = 11.6 ppg
 Compressive Strength = 500 psi (24 hrs @ 80 degrees F)

Tail

Yield = 1.17 cu ft per sk
 Slurry Weight = 15.8 ppg
 Compressive Strength = 3,000 psi (24 hrs @ 80 degrees F)

Production Casing – 0'- 11,950'

Lead: 30 sx 50:50 Pozmix w/ 5 lbm/sk Silicalite, 0.3% Diacel LWL, 20% SSA-1, 1.5% Zonesealant 2000, 0.1% Versaset, not foamed

Primary: 1,200 sx 50:50 Pozmix w/ 5 lbm/sk Silicalite, 0.3% Diacel LWL, 20% SSA-1, 1.5% Zonesealant 2000, 0.1% Versaset, foamed to 11 ppg w/ nitrogen

Tail: 25 sx 50:50 Pozmix w/ 5 lbm/sk Silicalite, 0.3% Diacel LWL, 20% SSA-1, 1.5% Zonesealant 2000, 0.1% Versaset, not foamed

15% excess.

Cement Characteristics: Yield = 1.47 cu ft per sk
Slurry Weight (not foamed) = 14.3 ppg
Slurry Weight (foamed) = 11.0 ppg
Compressive Strength = 1,125 psi
(24 hrs @ 140 degrees F)
= 1,500 psi
(7 days @ 140 degrees F)

Actual cement volumes will be based on caliper log calculations and drilling experience.

6. Testing, Logging, Coring:

- A. Drill Stem Tests – none anticipated
- B. Electric Logs – DIFL/SP/GR from TD to surface
SDL/CNL/CAL w/ DFIL from TD to 2,500'
- C. Coring – Possible sidewall coring in the Dakota, Cedar Mountain, Morrison and Entrada.

7. Drilling Fluids:

Well will be drilled with a low solids non-dispersed mud. In the event of severe lost circulation, the mud may be aerated.

8. Abnormal Pressures and Hazards:

No abnormal pressures or hydrogen sulfide are anticipated based on drilling to similar depths in the Flat Rock Field, approximately 3.5 miles to the northwest. The Del-Rio/Orion 29-7A produced a 36-hour shut-in pressure of 3,100 psi and a calculated formation pore pressure of approximately 4,000 psi at 11,700'.

SURFACE USE PLAN WIND RIVER RESOURCES

NORTH HILL CREEK 2-14-15-20

1. Existing Roads:

- A. Topographic Map "A" shows the vicinity of the well, including a portion of the Agency Draw-Flat Rock Mesa Road. This road is reached from Ouray, Utah, by following the Seep Ridge Road south to Buck Canyon; taking the Buck Canyon Road west to the Willow Creek Road; then north on the Willow Creek Road to Santio Crossing, which is at the junction of the Willow Creek Road and the Agency Draw Road.
- B. Topographic Map "B" shows the point approximately 50 miles south of Ouray where the access road to the well departs from the Flat Rock Mesa Road, known locally as the Weaver Road. Beyond this point the access road consists of 3.5 miles of existing road, 1.4 miles of two-track that will have been upgraded for the NHC 14-11-15-20, and 0.3 miles of proposed new road to the location.
- C. The 3.5 miles of the existing road was upgraded with a shale surface to allow heavy traffic for the drilling of previous wells. The shale material was hauled from a pit located in Section 32-T13S-R21E, leased to the operator by SITLA. The shale road surface has proved very durable and the operator will apply a similar shale surface from the same source to the 1.4 miles of upgraded two-track and 0.3 miles of new access road. Some of the native shale is likely to be suitable and will be used to the extent possible.

2. Planned Access Road:

Refer to Topographic Map "B".

- A. Length of new road will be approximately 0.3 miles, not counting the 1.4 miles previously upgraded.
- B. The right-of-way width is 30' (15' on either side of the centerline) with a 20-foot wide running surface.

- C. Maximum grade will be less than 2%.
 - D. No turn-outs are planned.
 - E. The new road will be crowned, ditched and dipped to provide adequate drainage.
 - F. No culverts or bridges will be used.
 - G. Surface material will be shale native to the area or hauled in from the pit in Section 32-T13S0R21E.
 - H. No gates or cattleguards will be needed. Nor will any existing facilities be modified.
 - I. The proposed road was flagged when the location was staked.
 - J. The authorized officer will be contacted at least 24 hours in advance of commencement of construction of the access road and well pad.
3. Location of Existing Wells:

The nearest well is the operator's NHC 6-11-15-20, located approximately 4,300' north of the proposed well location.

4. Location of Existing and/or proposed Facilities:

There are no existing facilities on the proposed well pad. All proposed facilities will be contained within the proposed location site (see attached "Location Layout"). Topographic Map "C" shows the proposed route for a gas line, to be co-located in the access road right-of-way, and connecting to the operator's existing 4" line in the SW of Section 12 or to the Comet pipeline in the SESE Section 34-T14S-R20E, depending on line pressure requirements. If the NHC 14-11-15-20 is a gas producer, the pipeline for the NHC 2-14-15-20 will connect with the line from that well in the SWNE Sec. 14. The operator has an existing corridor right-of-way along the entire pre-existing road.

The operator will submit information concerning proposed on and off well pad facilities once production has been established by applying for approval of subsequent operations.

5. Location and Type of Water Supply:

- A. Some produced water from existing wells will be used for drilling. Fresh water will be taken at a point of diversion at Santio Crossing from Willow Creek in the SESE Section 29-T12S-R21E, SLB&M. This water will be taken under the terms of the Ute Oilfield Water Service's state filing.
- B. Water will be transported by truck on the Agency Draw and Flat Rock Mesa roads.
- C. No water well will be drilled.

6. Source of Construction Materials:

- A. It is not anticipated that any construction materials will be needed for the drilling phase of this project. Gravel, shale or road base materials needed to upgrade access roads and well pad will be obtained from the operator's pit located on SITLA land near Chimney Rock.
- B. The entire well site and all access roads to be upgraded or built are located on lands held in trust by the federal government for the Ute Indian Tribe.
- C. All construction materials used in building the well pad and access road will be native material accumulated during construction. In the event that additional materials are needed, they will be obtained from the operator's existing pit on SITLA land or from private sources.

7. Methods for Handling Waste Disposal

- A. Drill cuttings will be buried in the reserve pit.

Sewage waste will be contained in portable chemical toilets serviced by a commercial sanitary service.

Garbage and trash will be contained in trash baskets and hauled to a sanitary landfill.

Salt and chemicals will be kept in proper containers and salvaged for future use or disposed of at an approved facility.

- B. Drilling fluids will be contained in the reserve pit and mud tanks. To the extent possible, drilling fluids and water will be saved for use at future drilling locations. Unusable drilling fluids and water will be disposed of in an approved manner upon the completion of the well.
- C. The reserve pit will be lined with 12 mil plastic nylon reinforced liner installed over sufficient bedding material to cover any exposed rocks.

The pit will be fenced on three sides with 39" net wire, topped with a minimum of one stand of barbed wire. All wire will be stretched prior to attachment to the corner posts. The fourth side will be fenced when drilling activities are completed to allow drying.

8. Ancillary Facilities:

No airstrips will be built. Mobile living quarters and office facilities for supervisors, geologists, mud engineer, mud loggers and air compressor personnel will be confined to the drilling location as shown on the "Location Layout" diagram. The drilling crew will be housed in the pre-existing camp located at the North Hill Creek 4-10-15-20, approximately 1-1/4 miles to the southwest.

9. Well Site Layout:

- A. Refer to attached "Typical Cross Section" diagram for cuts and fills and relation to topography
- B. Refer to "Location Layout" diagram for location of mud tanks, reserve and flare pits, pipe racks, living facilities and top soil stockpiles.
- C. Refer to "Location Layout" diagram for rig orientation, access road and parking area. Parking area will be in the northeast corner of the location.

10. Plans for Restoration of the Surface:

A. Producing well location

- i. Immediately upon well completion the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash and junk not required for production.
- ii. Immediately upon well completion any hydrocarbons on the reserve pit will be removed and disposed of properly.
- iii. The reserve pit and that portion of the location not needed for production facilities/operations will be re-contoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days of the date of well completion, or as soon thereafter as is practical. Before any dirt work takes place, the reserve pit must be completely dry and all cans, barrels, pipe, etc, removed. The liner will be perforated and torn prior to backfilling.
- iv. Access roads will be graded and maintained to prevent erosion and accommodate year-round traffic.
- v. All disturbed areas not needed for operations will be seeded with the mixture required by the BIA in the manner specified by the BIA.

B. Dry Hole/Abandoned Location

At such time as it is determined that the well is to be plugged and abandoned, the operator will submit a subsequent report of abandonment to the BLM and the BIA. The BLM will attach plugging conditions of approval, and the BIA will attach conditions of approval for the restoration of the surface.

11. Surface Ownership:

Access roads and location are held in trust for the Ute Indian Tribe by the United States. The operator has obtained a Mineral Access Agreement with the BIA and submitted payment for damages as specified in its Exploration and Development Agreement with the Ute Indian Tribe.

12. Additional Information:

A. The operator will inform all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and will inform the assigned monitor and the authorized officer (AO) at the BIA. Within five working days the AO will inform the operator as to:

- Whether the materials appear to be eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and
- A time frame for the AO to complete an expedited review under 36 CFR 900.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes at any time to relocate activities to avoid the cost of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that required mitigation has been completed, the operator will be allowed to resume construction.

- C. Less than 10,000 pounds of any chemical(s) on EPA's Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, and less than threshold planning quantity (TPQ) of any extremely hazardous substance(s), as defined in 40 CFR, would be used, produced, transported, stored, disposed of, or associated with the proposed operation.
- D. At the request of the Ute Indian Tribe, a 30'-wide fire break will be bladed around the perimeter of the location.

13. Lessee's or Operator's Representative and Certification:

Marc T. Eckels, Vice President
Wind River Resources Corporation
Route 3 Box 3010
Roosevelt, UT 84066
Office – 435-722-2546
Fax - 435-722-5089
Cell – 435-823-2546
Home – 435-722-3714

I hereby certify that I have inspected the proposed drill site and access road; that I am familiar with the conditions which currently exist; that the statements made in this plan are true and correct to the best of my knowledge; and that the work associated with the operations proposed here will be performed by Wind River Resources Corporation, and its contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Please be advised that Wind River Resources Corporation is considered to be the operator of the North Hill Creek 2-14-15-20 well (Ute Tribal); NWNE Section 14-T15S-R20E; Exploration & Development 14-20-H62-4917; Uintah County, Utah; and is responsible for the operations conducted upon the leased lands. Bond coverage is provided by Zions Bank SB-509795.

April 30, 2003
Date



Marc T. Eckels
Vice President

The onsite inspection for this well was conducted on April 23, 2003.

Participants in the onsite inspection were:

Alvin Ignacio, Ute Indian Tribe EMRD
Manuel Myore, BIA
Bill Allred, Uintah Engineering & Land Surveying
Marc Eckels, Wind River Resources Corp.
Bob Chapoose, Mike Brady & Vern Holdman, Bear Paw Const.
Billy McClure, Blackhair/Huffman JV
Shane Reary, Nile Chapman Const.

RECEIVED FILING FOR WATER IN THE STATE OF UTAH

Rec. by AS
 Fee Rec. 75.00 Cash
 Receipt # _____

OCT 10 2002

WATER RIGHT VERNAL APPLICATION TO APPROPRIATE WATER

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements to Title 73, Chapter 3 of the Utah Code Annotated (1953, as amended).

WATER RIGHT NUMBER: 49 - 1667

APPLICATION NUMBER: T74534

1. OWNERSHIP INFORMATION:

LAND OWNED? No

A. NAME: Ute Oilfield Water Service
 c/o Michael Wood
 ADDRESS: P.O. Box 598, Roosevelt, UT 84066

B. PRIORITY DATE: October 10, 2002

FILING DATE: October 10, 2002

2. SOURCE INFORMATION:

A. QUANTITY OF WATER: 5.0 acre-feet

B. SOURCE: Willow Creek

COUNTY: Uintah

C. POINT OF DIVERSION -- SURFACE:

(1) N 150 feet W 700 feet from SE corner, Section 29, T 12S, R 21E, SLBM
 DIVERT WORKS: Water truck pump from creek
 SOURCE: Willow Creek

D. COMMON DESCRIPTION: 45 SW of Vernal

3. WATER USE INFORMATION:

OIL EXPLORATION: from Oct 10 to Oct 9. Drilling and completion of oil/gas wells
 2002 2003 on Flat Rock Mesa

4. PLACE OF USE: (which includes all or part of the following legal subdivisions:)

BASE TOWN RANG SEC	NORTH-WEST¼				NORTH-EAST¼				SOUTH-WEST¼				SOUTH-EAST¼			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
SL 14S 20E	Entire TOWNSHIP															

5. EXPLANATORY:

Point of diversion is on BLM land. Permission is being obtained.

WIND RIVER RESOURCES CORP.
NORTH HILL CREEK #2-14-15-20
 LOCATED IN UINTAH COUNTY, UTAH
 SECTION 14, T15S, R20E, S.L.B.&M.

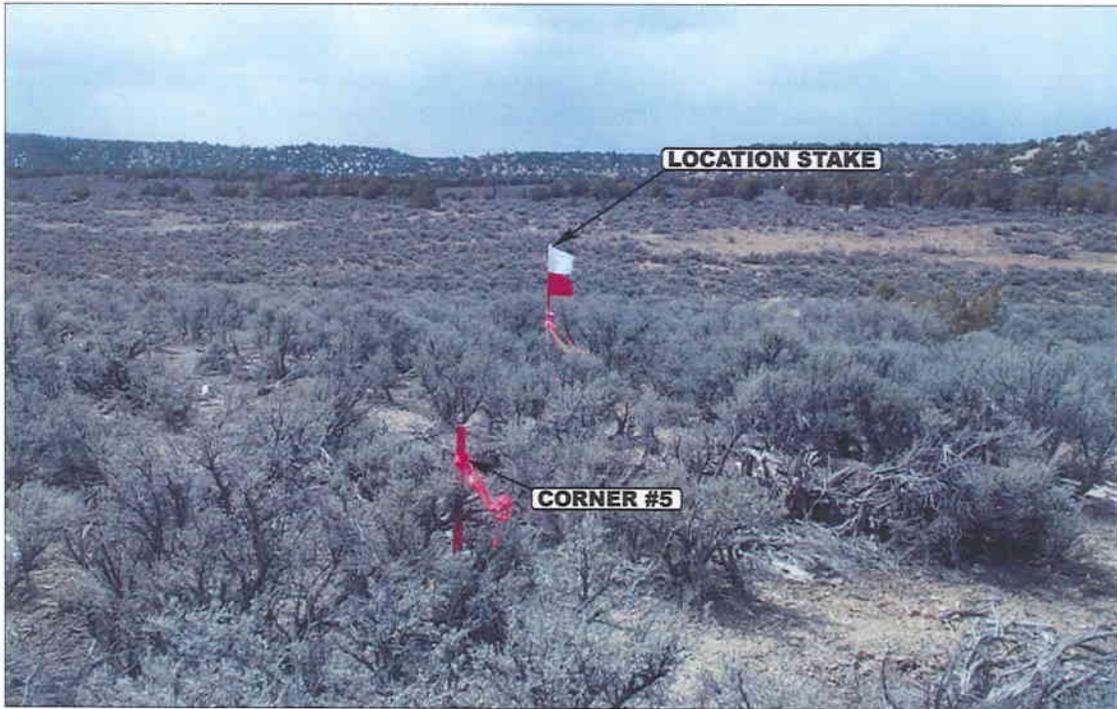


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: NORTHERLY

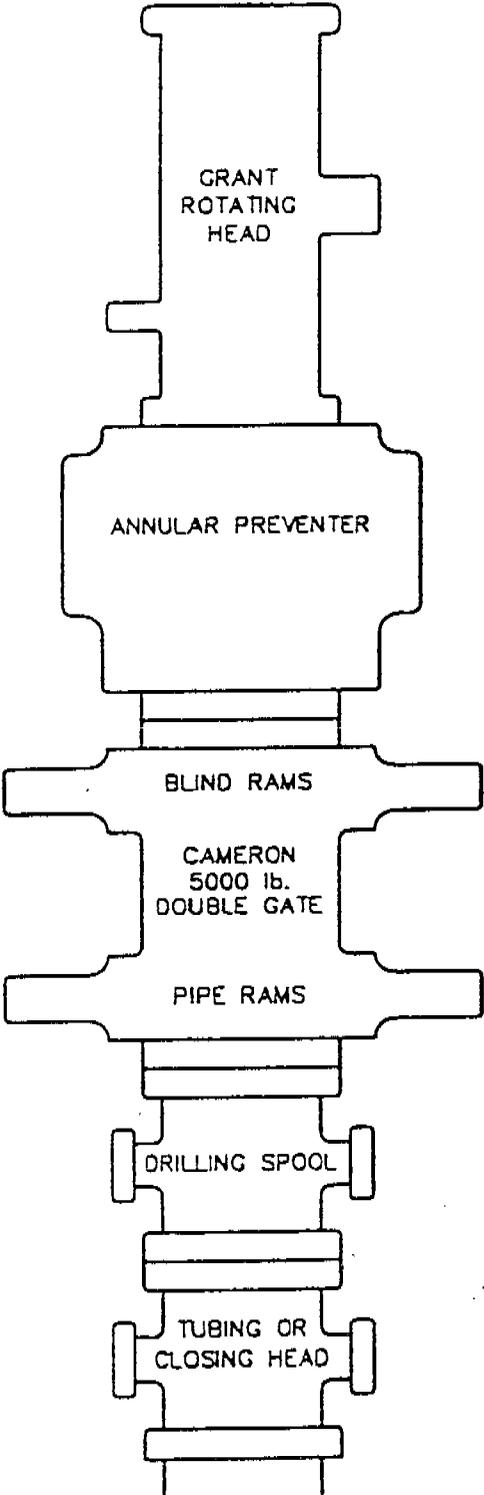


- Since 1964 -

UELS Uintah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 435-789-1017 uels@uelsinc.com

LOCATION PHOTOS			04	03	03	PHOTO
	MONTH	DAY	YEAR			
TAKEN BY: G.S.	DRAWN BY: P.M.		REVISED: 00-00-00			

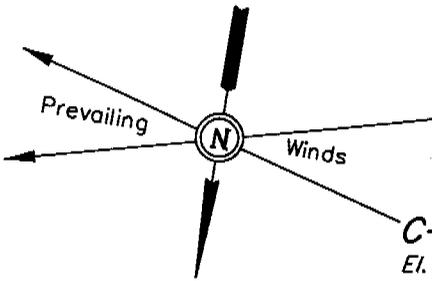
CLASS III BLOWOUT PREVENTER STACK



WIND RIVER RESOURCES CORP.

LOCATION LAYOUT FOR

NORTH HILL CREEK #2-14-15-20
SECTION 14, T15S, R20E, S.L.B.&M.



520' FNL 1943' FEL
C-9.1' Install Culvert El. 37.6'
Proposed Access Road

F-10.3'
El. 18.2'

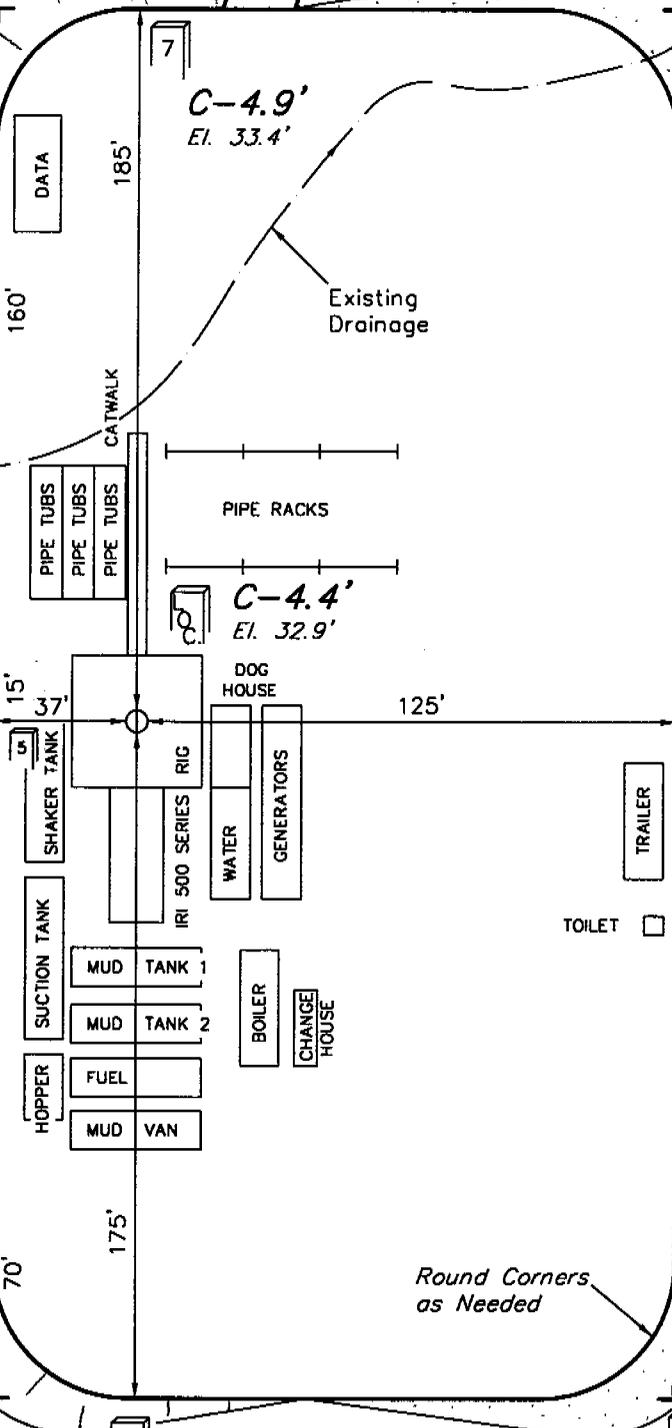
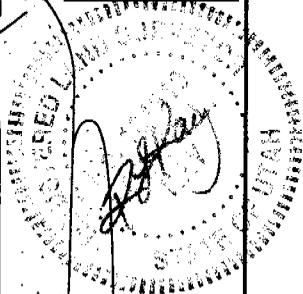
SCALE: 1" = 50'
DATE: 4-3-03
DRAWN BY: C.G.

CONSTRUCT
DIVERSION
DITCH

NOTE:
Flare Pit is to
be located a min.
of 100' from the
Well Head.

Approx.
Top of
Cut Slope

Sta. 3+60



Topsail Stockpile

Sta. 1+75

F-8.7'
El. 19.8'

Approx.
Toe of
Fill Slope

Sta. 0+00

Round Corners
as Needed

Reserve Pit Backfill
& Spoils Stockpile

C-24.4'
El. 42.9'
(Btm. Pit)

C-7.7'
El. 36.2'

C-7.7'
El. 36.2'

C-4.4'
El. 32.9'

F-7.7'
El. 20.8'

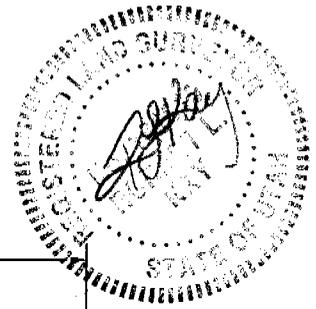
Elev. Ungraded Ground at Location Stake = 7132.9'
Elev. Graded Ground at Location Stake = 7128.5'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017

WIND RIVER RESOURCES CORP.

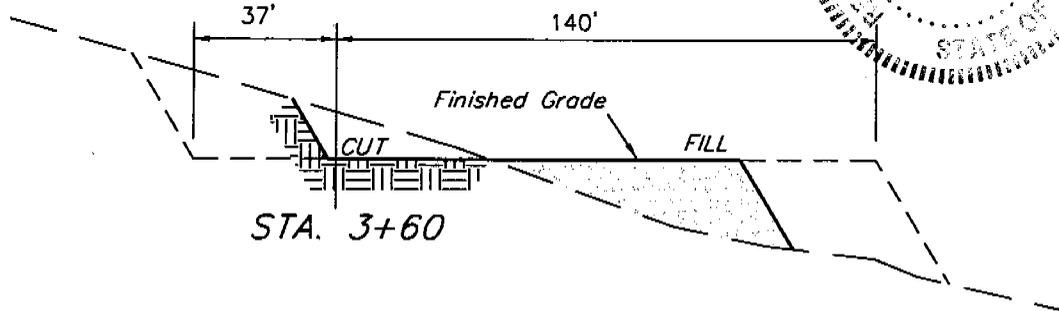
TYPICAL CROSS SECTIONS FOR

NORTH HILL CREEK #2-14-15-20
SECTION 14, T15S, R20E, S.L.B.&M.
520' FNL 1943' FEL

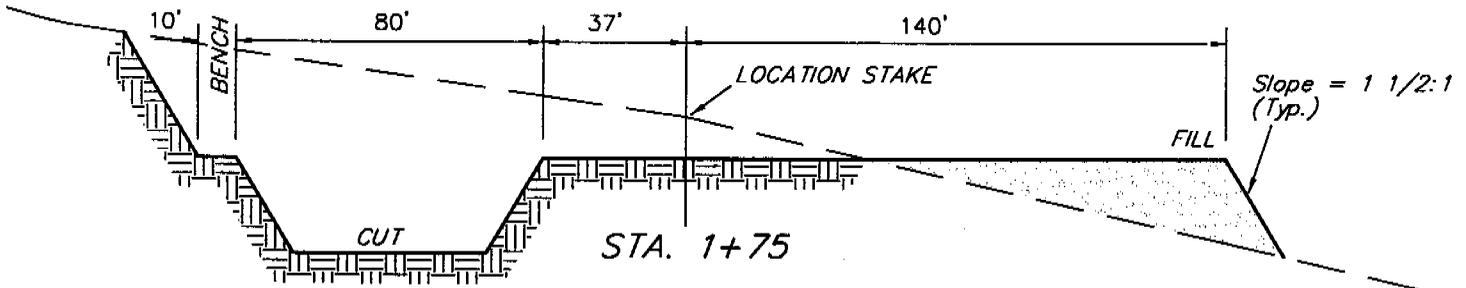


1" = 20'
X-Section Scale
1" = 50'

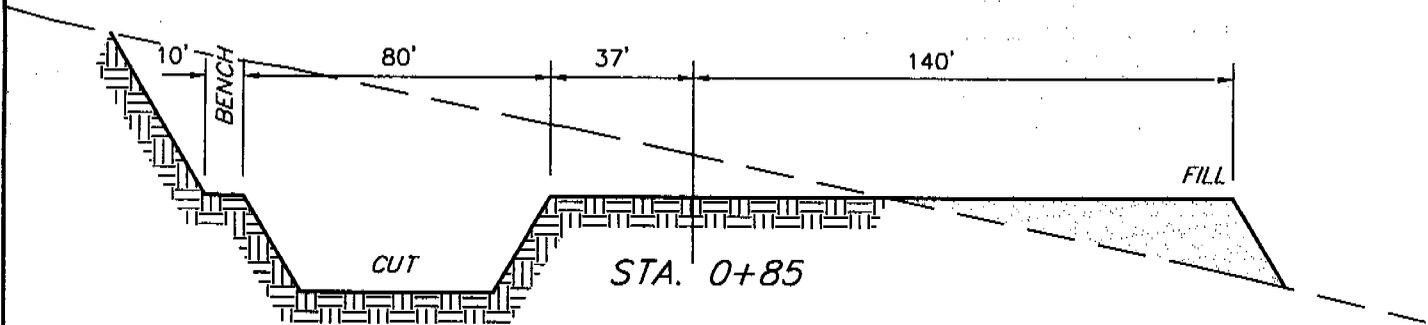
DATE: 4-3-03
DRAWN BY: C.G.



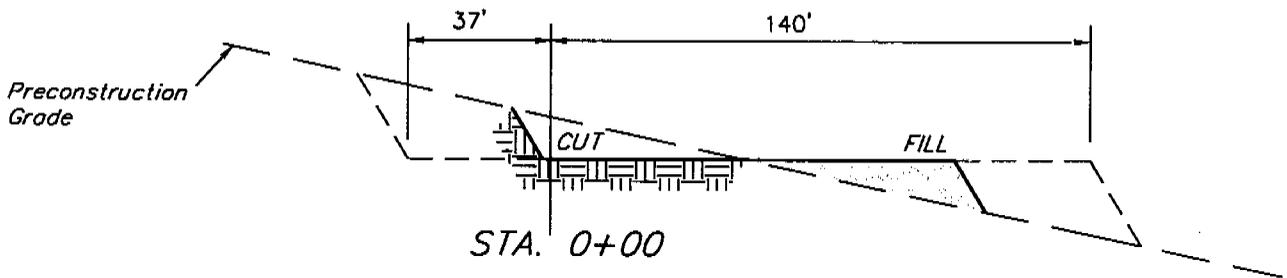
STA. 3+60



STA. 1+75



STA. 0+85

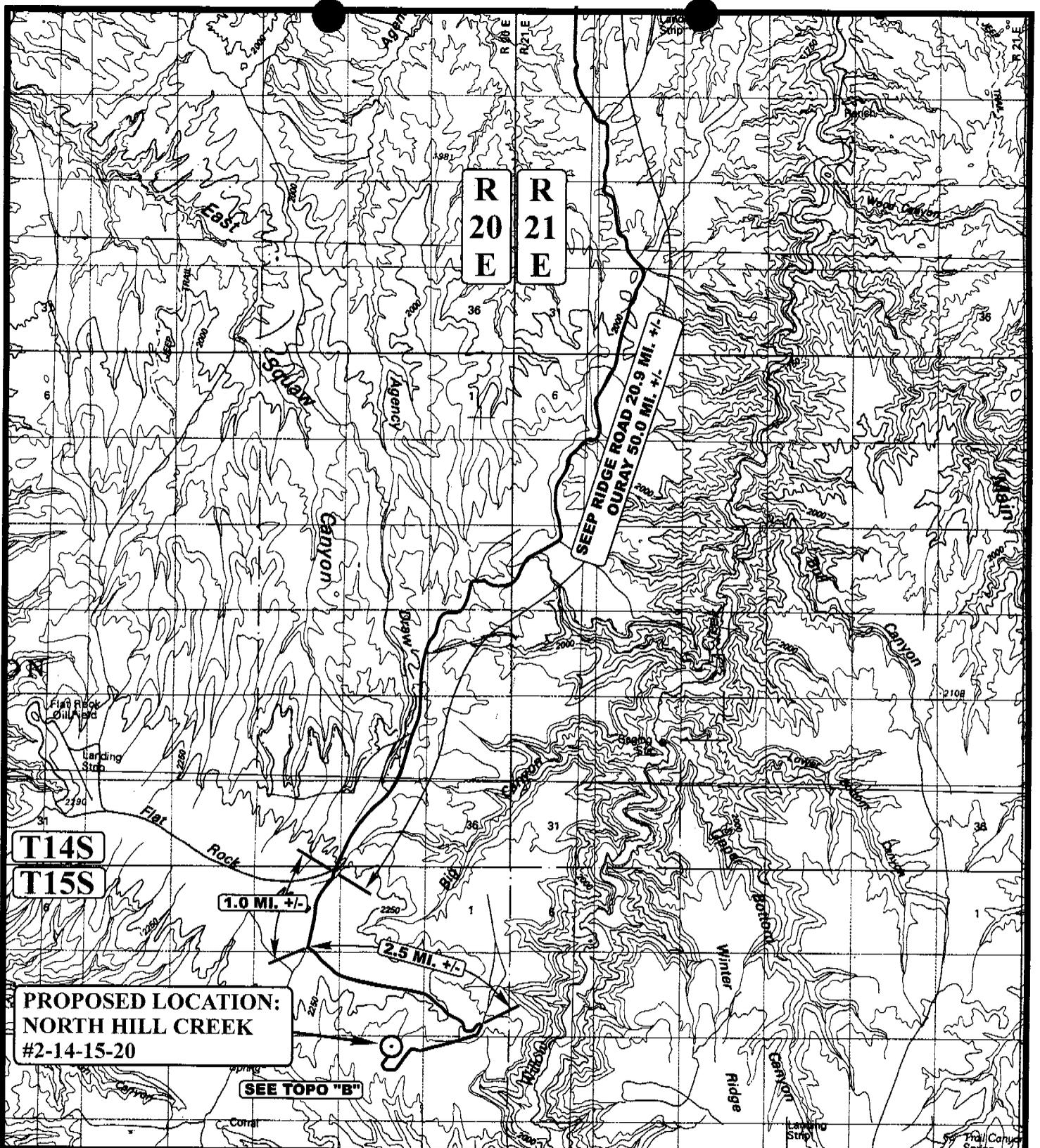


STA. 0+00

APPROXIMATE YARDAGES

CUT	
(12") Topsoil Stripping	= 2,820 Cu. Yds.
Remaining Location	= 10,820 Cu. Yds.
TOTAL CUT	= 13,640 CU.YDS.
FILL	= 9,300 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION	= 3,850 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 3,850 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	= 0 Cu. Yds.



**PROPOSED LOCATION:
NORTH HILL CREEK
#2-14-15-20**

SEE TOPO "B"

LEGEND:

○ PROPOSED LOCATION

WIND RIVER RESOURCES CORP.

**NORTH HILL CREEK #2-14-15-20
SECTION 14, T15S, R20E, S.L.B.&M.
520' FNL 1943' FEL**

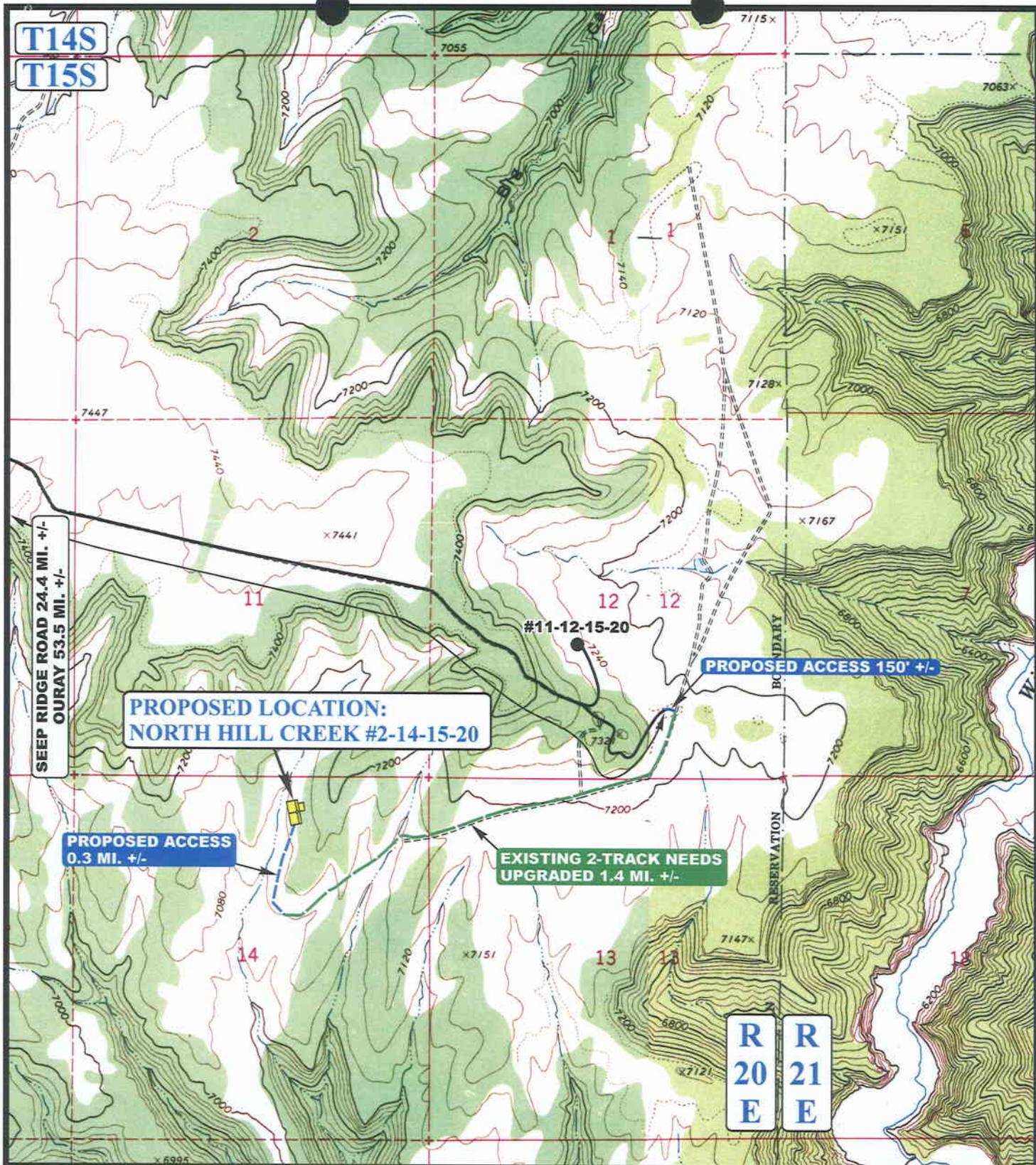


Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813



TOPOGRAPHIC MAP
04 03 03
MONTH DAY YEAR
SCALE: 1:100,000 DRAWN BY: P.M. REVISED: 00-00-00





LEGEND:

- EXISTING ROAD
- PROPOSED ACCESS ROAD
- EXISTING 2-TRACK NEEDS UPGRADED



WIND RIVER RESOURCES CORP.

NORTH HILL CREEK #2-14-15-20
SECTION 14, T15S, R20E, S.L.B.&M.
520' FNL 1943' FEL

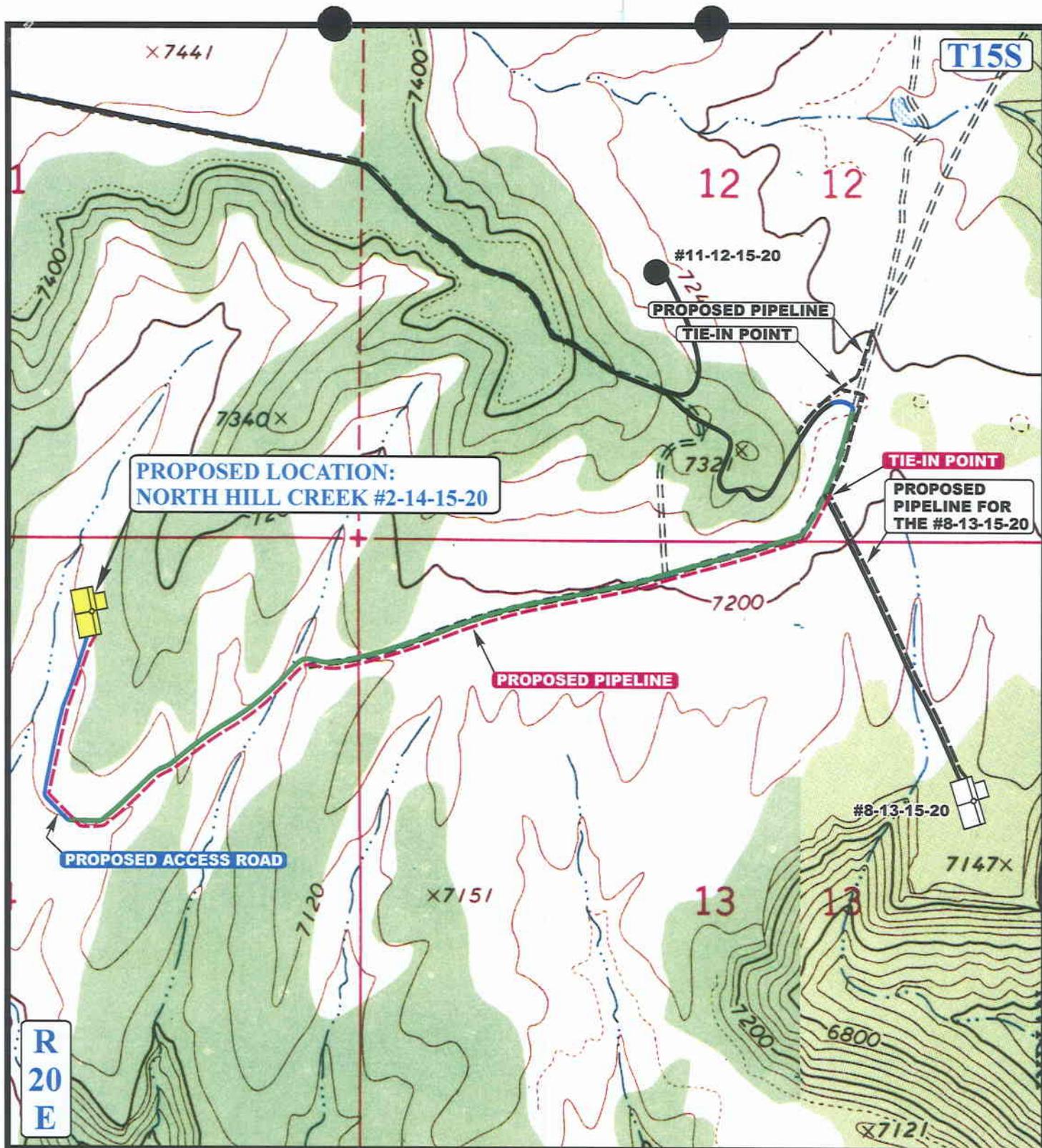


Utah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 (435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP **04 03 03**
 MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: P.M. REVISED: 00-00-00





APPROXIMATE TOTAL PIPELINE DISTANCE = 7,792' +/-

LEGEND:

- PROPOSED ACCESS ROAD
- - - - - EXISTING PIPELINE
- - - - - PROPOSED PIPELINE

WIND RIVER RESOURCES CORP.

NORTH HILL CREEK #2-14-15-20
SECTION 14, T15S, R20E, S.L.B.&M.
520' FNL 1943' FEL



Uintah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 (435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP 04 03 03
 MONTH DAY YEAR

SCALE: 1" = 1000' DRAWN BY: P.M. REVISED: 00-00-00



WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 05/02/2003

API NO. ASSIGNED: 43-047-34955

WELL NAME: N HILL CREEK 2-14-15-20
OPERATOR: WIND RIVER RESOURCES (N1850)
CONTACT: MARC ECKELS

PHONE NUMBER: 435-722-2546

PROPOSED LOCATION:

NWNE 14 150S 200E
SURFACE: 0520 FNL 1943 FEL
BOTTOM: 0520 FNL 1943 FEL
UINTAH
WILDCAT (1)

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering		
Geology		
Surface		

LEASE TYPE: 2 - Indian
LEASE NUMBER: 14-20-H62-4917
SURFACE OWNER: 2 - Indian

LATITUDE: 39.51857

PROPOSED FORMATION: ENRD

LONGITUDE: 109.64360

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[2] Sta[] Fee[]
(No. 509795)
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit
(No. 49-1667)
- RDCC Review (Y/N)
(Date: _____)
- Fee Surf Agreement (Y/N)

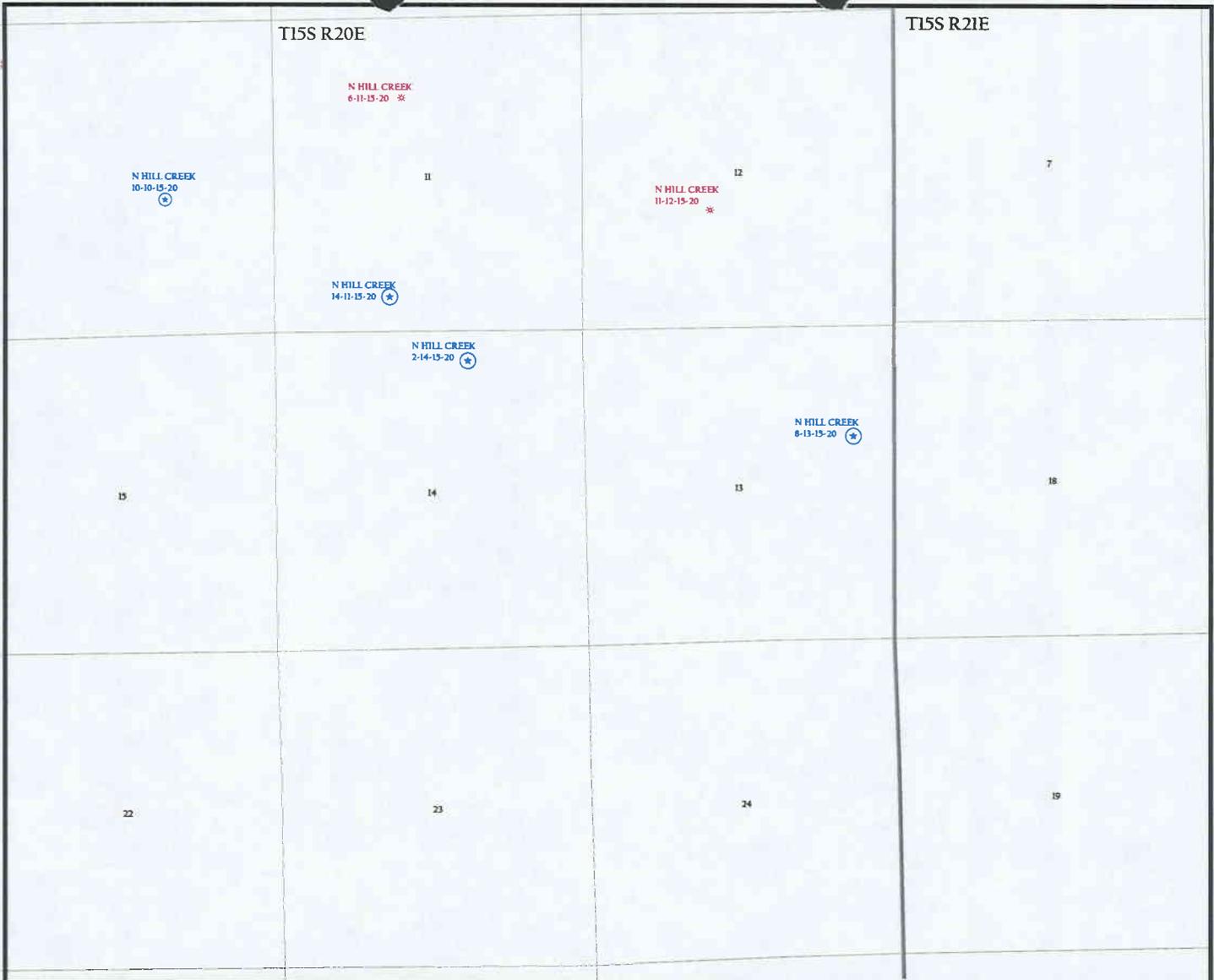
LOCATION AND SITING:

- R649-2-3.
- Unit _____
- R649-3-2. General
Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- Drilling Unit
Board Cause No: _____
Eff Date: _____
Siting: _____
- R649-3-11. Directional Drill

COMMENTS:

STIPULATIONS:

1- Federal approval
2- Spacing Strip



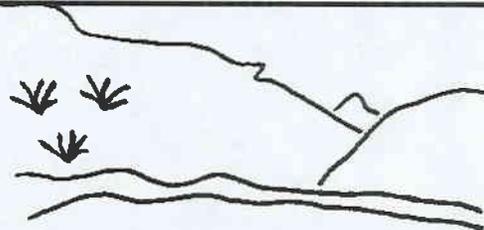
OPERATOR: WIND RIVER RES CORP (N1850)

SEC. 14 T15S, R20E

FIELD: WILDCAT (001)

COUNTY: UINTAH

SPACING: R649-3-2 / GENERAL SITING



Utah Oil Gas and Mining

WELLS

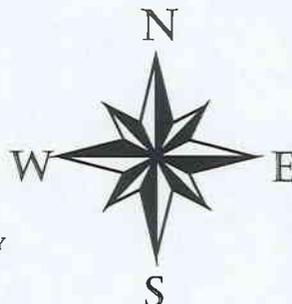
- ⚡ GAS INJECTION
- GAS STORAGE
- ✖ LOCATION ABANDONED
- ⊙ NEW LOCATION
- ✦ PLUGGED & ABANDONED
- * PRODUCING GAS
- PRODUCING OIL
- ◊ SHUT-IN GAS
- ◊ SHUT-IN OIL
- ✖ TEMP. ABANDONED
- TEST WELL
- ▲ WATER INJECTION
- ◆ WATER SUPPLY
- ♣ WATER DISPOSAL

UNIT STATUS

- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PENDING
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

FIELD STATUS

- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- PROPOSED
- STORAGE
- TERMINATED
- COUNTY BOUNDARY
- SECTION LINES
- TOWNSHIP LINES



PREPARED BY: DIANA MASON
DATE: 2-MAY-2003

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 05/02/2003

API NO. ASSIGNED: 43-047-34955

WELL NAME: N HILL CREEK 2-14-15-20
OPERATOR: WIND RIVER RESOURCES (N1850)
CONTACT: MARC ECKELS

PHONE NUMBER: 435-722-2546

PROPOSED LOCATION:

NWNE 14 150S 200E
SURFACE: 0520 FNL 1943 FEL
BOTTOM: 0497 FNL 1196 FEL
UINTAH
UNDESIGNATED (2)

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering		
Geology		
Surface		

LEASE TYPE: 2 - Indian
LEASE NUMBER: 14-20-H62-4917
SURFACE OWNER: 2 - Indian
PROPOSED FORMATION: ENRD
COALBED METHANE WELL? NO

LATITUDE: 39.51857
LONGITUDE: 109.64360

RECEIVED AND/OR REVIEWED:

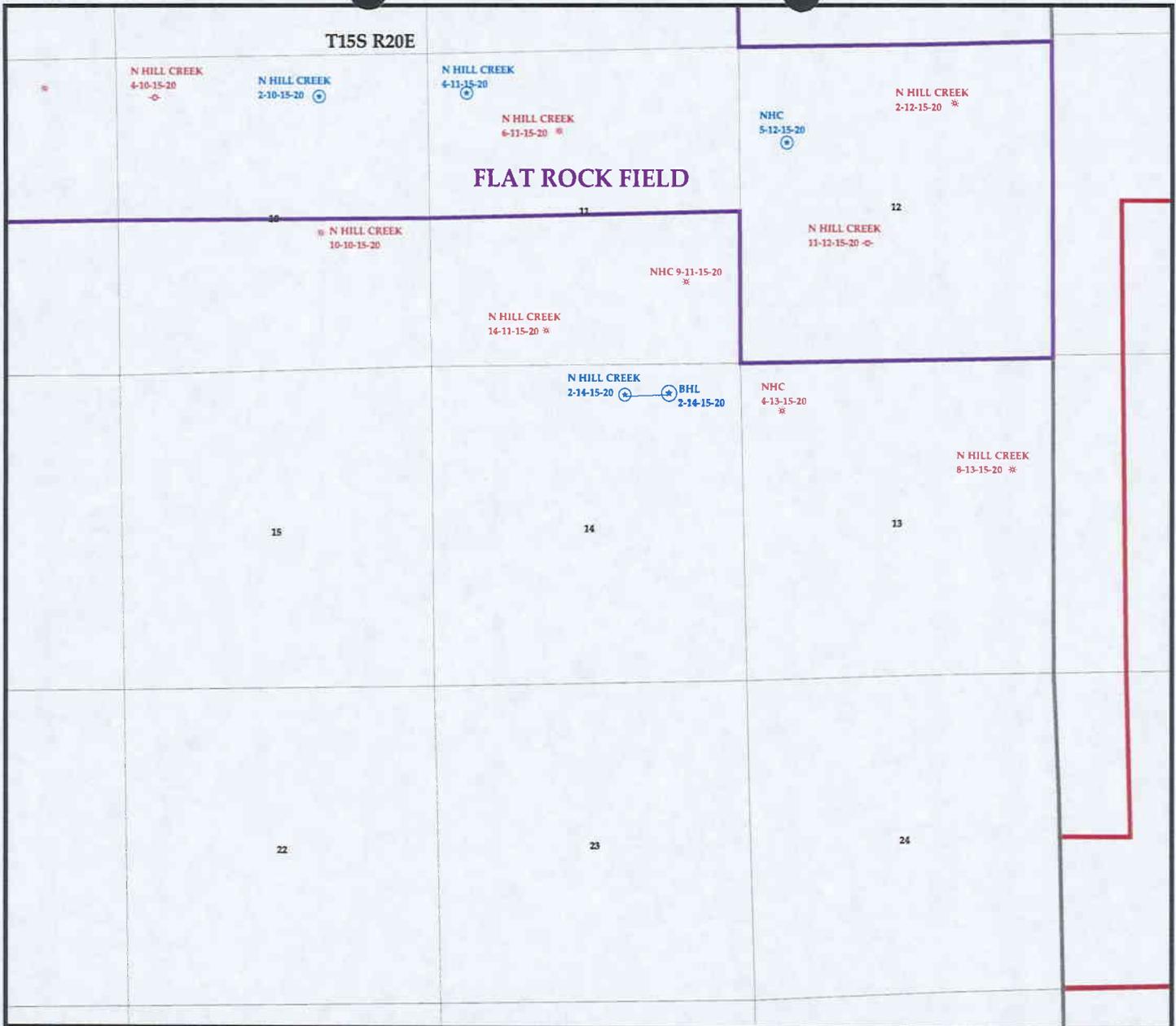
- Plat
- Bond: Fed[] Ind[2] Sta[] Fee[]
(No. 509795)
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit
(No. 49-1667)
- RDCC Review (Y/N)
(Date: _____)
- Fee Surf Agreement (Y/N)

LOCATION AND SITING:

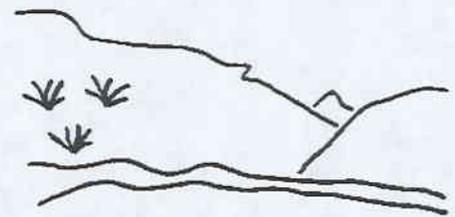
- ___ R649-2-3.
Unit _____
- ___ R649-3-2. General
Siting: 460 From Qtr/Qtr & 920' Between Wells
- ___ R649-3-3. Exception
- ___ Drilling Unit
Board Cause No: _____
Eff Date: _____
Siting: _____
- ___ R649-3-11. Directional Drill

COMMENTS: _____

STIPULATIONS: _____



OPERATOR: WIND RIVER RES CORP (N1850)
SEC. 14 T.15S R.20E
FIELD: UNDESIGNATED (002)
COUNTY: DUCHESNE
SPACING: R649-3-11 / DIRECTIONAL DRILLING



Utah Oil Gas and Mining

Wells	Units.shp	Fields.shp
⚡ GAS INJECTION	🔲 EXPLORATORY	🔲 ABANDONED
⊖ GAS STORAGE	🔲 GAS STORAGE	🔲 ACTIVE
× LOCATION ABANDONED	🔲 NF PP OIL	🔲 COMBINED
⊕ NEW LOCATION	🔲 NF SECONDARY	🔲 INACTIVE
⊖ PLUGGED & ABANDONED	🔲 PENDING	🔲 PROPOSED
⚡ PRODUCING GAS	🔲 PI OIL	🔲 STORAGE
● PRODUCING OIL	🔲 PP GAS	🔲 TERMINATED
⊖ SHUT-IN GAS	🔲 PP GEOTHERML	
⊖ SHUT-IN OIL	🔲 PP OIL	
⊖ TEMP. ABANDONED	🔲 SECONDARY	
⊖ TEST WELL	🔲 TERMINATED	
⊕ WATER INJECTION		
⊕ WATER SUPPLY		
⊕ WATER DISPOSAL		



PREPARED BY: DIANA WHITNEY
 DATE: 16-SEPTEMBER-2004



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 telephone
(801) 359-3940 fax
(801) 538-7223 TTY
www.nr.utah.gov

Michael O. Leavitt
Governor
Robert L. Morgan
Executive Director
Lowell P. Braxton
Division Director

May 5, 2003

Wind River Resources Corporation
Route 3, Box 3010
Roosevelt, UT 84066

Re: North Hill Creek 2-14-15-20 Well, 520' FNL, 1943' FEL, NW NE, Sec. 14, T. 15 South,
R. 20 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-34955.

Sincerely,

A handwritten signature in black ink, appearing to read "John R. Baza".

John R. Baza
Associate Director

pab
Enclosures

cc: Uintah County Assessor
Bureau of Land Management, Vernal District Office

Operator: Wind River Resources Corporation
Well Name & Number North Hill Creek 2-14-15-20
API Number: 43-047-34955
Lease: 14-20-H62-4917

Location: NW NE **Sec.** 14 **T.** 15 South **R.** 20 East

Conditions of Approval

1. General

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

2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dan Jarvis at (801) 538-5338

3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.

5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

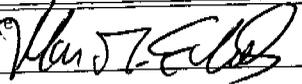
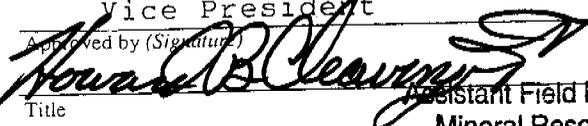
011

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. E&D Agreement 14-20-H62-4917
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name Ute Indian Tribe
2. Name of Operator Wind River Resources Corporation		7. If Unit or CA Agreement, Name and No. n/a
3a. Address Route 3 Box 3010 Roosevelt, UT 84066	3b. Phone No. (include area code) 435-722-2546	8. Lease Name and Well No. North Hill Creek 2-14-15-20
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 520' FNL & 1,943' FEL (nwne) Sec. 14-T15S-R20E At proposed prod. zone same		9. API Well No.
14. Distance in miles and direction from nearest town or post office* 54 miles SSE of Roosevelt / 63 miles SSW of Vernal		10. Field and Pool, or Exploratory Exploratory
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 520'	16. No. of Acres in lease 640	11. Sec., T., R., M., or Blk. and Survey or Area Sec. 14-T15S-R20E, SLB&M
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. n/a	19. Proposed Depth 12,000'	12. County or Parish Uintah
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7,133' (GL)	22. Approximate date work will start* 7-20-03	13. State UT
20. BLM /BIA Bond No. on file Zions Bank SB-509795		
23. Estimated duration 4 weeks		24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Marc T. Eckels	Date 4-30-03
Title Vice President		
Approved by (Signature) 	Name (Printed/Typed) Howard B. Cleaver	Date 06/19/2003
Title Assistant Field Manager Mineral Resources	Office	

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

NOTICE OF APPROVAL

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, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse)

CONDITIONS OF APPROVAL ATTACHED

RECEIVED

JUN 24 2003

DIV. OF OIL, GAS & MINING

03PS0510A

CONDITIONS OF APPROVAL
APPLICATION FOR PERMIT TO DRILL

Company/Operator: Wind River Resources Corporation
Well Name & Number: NORTH HILL CREEK 2-14-15-20
API Number: 43-047-34955
Lease Number: 14-20-H62-4917
Location: NWNE Sec. 14 TWN: 15S RNG: 20E
Agreement: N/A

NOTIFICATION REQUIREMENTS

- | | |
|---------------------------------|---|
| Location Construction | - At least forty-eight hours prior to construction of the location or access roads. |
| Location Completion | - Prior to moving on the drilling rig. |
| Spud Notice | - At least twenty-four (24) hours prior to spudding the well. |
| Casing String and Cementing | - At least twenty-four (24) hours prior to running casing and cementing all casing strings. |
| BOP and Related Equipment Tests | - At least twenty-four (24) hours prior to initiating pressure tests. |
| First Production Notice | - Within five (5) business days after new well begins, or production resumes after well has been off production for more than ninety (90) days. |

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Approval of this application 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.

Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.

Submit an electronic copy of all logs run on this well in LAS format. This submission will replace the requirement for submittal of paper logs to the BLM.

A. DRILLING PROGRAM

1. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones are Expected to be Encountered

Report ALL water shows and water-bearing sands to John Mayers of this office prior to setting the next casing string or requesting plugging orders. Faxed copies of State of Utah form OGC-8-X are acceptable. If noticeable water flows are detected, submit samples to this office along with any water analyses conducted.

All usable water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.

2. Pressure Control Equipment

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc., for a **5M** system and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests.

Test charts, with individual test results identified, shall be maintained on location while drilling and shall be made available to a BLM representative upon request.

If an air compressor is on location and is being utilized to provide air for the drilling medium while drilling, the special drilling requirements in Onshore Oil and Gas Order No. 2, regarding air or gas drilling shall be adhered to. If a mist system is being utilized then the requirement for a deduster shall be waived.

3. Casing Program and Auxiliary Equipment

Surface casing shall have centralizers on the bottom three joints, with a minimum of one centralizer per joint.

In addition, to the cementing proposal for the surface casing, a minimum of 200 ft. of Class G neat cement shall be placed from 200 ft. to surface in the 9 5/8" X 12 1/4 - 16" annulus.

As a minimum, the usable water and oil shale resources shall be isolated and/or protected by having a cement top for the production casing at least 200 ft. above the surface casing shoe, identified at 3,100 ft. and cementing the production liner through the liner lap. If gilsonite is encountered while drilling, it shall be isolated and/or protected via the cementing program.

4. Mud Program and Circulating Medium

Hazardous substances specifically listed by the EPA as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing, or completion operations.

5. Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

A cement bond log (CBL) will be run from the production casing shoe to the top of the cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

6. Notifications of Operations

Operator shall report production data to MMS pursuant to 30 CFR 216.5 using form MMS/3160.

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the AO, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

A schematic facilities diagram as required by 43 CFR 3162.7-5(d) shall be submitted to the appropriate Field Office within 60 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-5 (1).

7. Other Information

All loading lines will be placed inside the berm surrounding the tank battery.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the AO.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted on initial meter installations and at least quarterly thereafter. The AO will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Vernal District Office. All meter measurement facilities will conform with Onshore Oil & Gas Order No. 4 for liquid hydrocarbons and Onshore Oil & Gas Order No. 5 for natural gas measurement.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

APD approval is valid for a period of one (1) year from the signature date. An extension period may be granted, if requested, prior to the expiration of the original approval period. In the event after-hours approvals are necessary, please contact one of the following individuals:

Ed Forsman, Petroleum Engineer (435) 828-7874

Kirk Fleetwood, Petroleum Engineer (435) 828-7875

BLM FAX Machine (435) 781-4410

EPA'S LIST OF NONEXEMPT EXPLORATION AND PRODUCTION WASTES

While the following wastes are nonexempt, they are not necessarily hazardous.

Unused fracturing fluids or acids

Gas plant cooling tower cleaning wastes

Painting wastes

Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids.

Vacuum truck and drum rinsate from trucks and drums, transporting or containing nonexempt waste

Refinery wastes

Liquid and solid wastes generated by crude oil and tank bottom reclaimers

Used equipment lubrication oils

Waste compressor oil, filters, and blowdown

Used hydraulic fluids

Waste solvents

Waste in transportation pipeline-related pits

Caustic or acid cleaners

Boiler cleaning wastes

Boiler refractory bricks

Incinerator ash

Laboratory wastes

Sanitary wastes

Pesticide wastes

Radioactive tracer wastes

Drums, insulation and miscellaneous solids.

**SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)**

Wind River Resources Corporation (Wind River) will assure the Ute Tribe that any/all contractors and subcontractors have acquired a current Tribal Business License and have updated "Access Permits" prior to construction. All Wind River personnel, contractors and subcontractors will have these permits in their vehicles at all times. Companies that have not complied with this COA will be in violation of the Ute Tribal Business License Ordinance, and will be subject to fines and penalties.

Wind River employees, representatives, and/or authorized personnel (subcontractors) shall not carry firearms on their person or in their vehicles while working on the Uintah and Ouray Indian Reservation.

Wind River employees and/or authorized personnel (subcontractors) in the field will have approved applicable APDs and/or ROW permits/authorizations on their person(s) during all phases of construction.

Wind River will notify the Ute Tribe and Bureau of Indian Affairs (BIA) in writing of any requested modification of APDs or Rights-Of Way (ROW). Wind River shall receive written notification of authorization or denial of the requested modification. Without authorization, Wind River will be subject to fines and penalties.

The Ute Tribe Energy & Minerals Department shall be notified in writing 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday. A Tribal Technician is to routinely monitor construction. Wind River shall make arrangements with the Ute Energy & Minerals Department for all monitoring that will exceed regular working hours for Tribal Technicians. A qualified Archaeologist accompanied by a Tribal technician will monitor trenching construction wherever the pipeline is buried.

A Corridor ROW, 30 feet wide and 7767 feet long, shall be granted for the pipeline and access road. (See Map C of the APD for this ROW) The constructed travel width of the access road will be limited to 18 feet. Upon authorization by the Ute Tribe Energy & Minerals Department, the ROW may be wider where sharp curves; deep cuts and fills occur; or, where intersections with other roads are required.

Culverts and diversion ditches will be placed and constructed where needed. Road base gravel will be used where sandy soils make roadways and the drilling location hazardous for access or drilling operations.

Upon completion of the pertinent APD and ROWs, Wind River will notify the Ute Tribe Energy & Minerals Department for a Tribal Technician to verify the Affidavit of Completion.

Production waters, oil, and other byproducts shall not be placed on access roads or the well pad.

All vehicular traffic, personnel movement, construction and restoration operations will be confined to the areas examined and approved and to the existing roadways and/or evaluated access routes.

Wind River will implement "Safety and Emergency Plan" and ensure plan compliance.

Wind River shall stop construction activities and notify personnel from the Ute Tribe Energy & Minerals Department and BIA if cultural remains including paleontology resources (vertebrate fossils) are exposed or identified during construction. The Ute Tribe Department of Cultural Rights and Protection and the BIA will provide mitigation measures prior to allowing construction.

Wind River employees and/or authorized personnel (subcontractors) will not be allowed to collect artifacts and paleontology fossils. No significant cultural resources shall be disturbed.

Wind River will control noxious weeds on the well site and ROWs. Wind River will be responsible for noxious weed control if weeds spread from the project area onto adjoining land.

Reserve pits will be lined with an impervious synthetic liner. A fence will be constructed around the reserve pit until it is backfilled. Prior to backfilling the reserve pit, all fluids will be pumped from the pit into trucks, and hauled, to approved disposal sites. When the reserve pits are backfilled, the surplus oil and mud, etc., will be buried a minimum of 3 feet below the surface of the soil.

A closed system will be used during production. This means that production fluids will be contained in leak-proof tanks. All production fluids will be disposed of in either approved injection wells or at approved disposal sites.

Surface pipelines will be constructed to lay on the soil surface. The ROW will not be bladed or cleared of vegetation without authorization of the BIA. Surface pipelines shall be welded/ assembled in place at well sites or on access roads. They shall be pulled into place and assembled with suitable equipment. Vehicles shall not use pipeline ROWs as access roads unless specifically authorized.

Buried pipelines shall be buried a minimum of 3 feet below the soil surface. After construction is completed the disturbed area shall be contoured to blend into the natural landscape and be reseeded between September 15 and November 1 of the year following construction with perennial vegetation seed mixture provided by the BIA or Ute Tribe.

Before the site is abandoned, Wind River will be required to restore the well site and ROWs to near their original state. The disturbed areas will be reseeded with desirable perennial vegetation.

Soil erosion will be mitigated, by reseeded all disturbed areas.

WIND RIVER RESOURCES CORPORATION
ROUTE 3 BOX 3010
ROOSEVELT, UTAH 84066
435-722-2546 (office) / 435-722-5089(fax)
e-mail: mte@ubtanet.com

Marc T. Eckels, Vice President

August 18, 2004

Diana Whitney, Petroleum Technician
Utah Division of Oil, Gas & Mining
P. O. Box 145801
Salt Lake City, UT 84114-5801

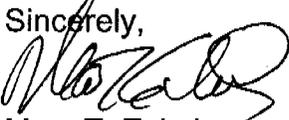
RE: Sundry Notice
Extension of Application for Permit to Drill
North Hill Creek 2-14-15-20
nwne Sec. 14-T15S-R20E
Uintah County

Gentlemen:

Enclosed please find two copies of a Sundry Notice requesting an extension of the drilling permit approval and a change in surface casing setting depth. We understand that we will be required to bring the long string cement above the surface casing shoe if the request for the 800' setting depth is granted. Also enclosed is a completed APD Request for Permit Extension Validation form.

Please call me if you have any questions or need additional information.

Sincerely,


Marc T. Eckels

Cc: BLM - 3

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AUG 19 2004

DIV. OF OIL, GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

005

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.

5. Lease Serial No. E&D Agreement
14-20-H62-4917

6. If Indian, Allottee or Tribe Name
Ute Indian Tribe

7. If Unit or CA/Agreement, Name and/or No.
n/a

8. Well Name and No. North Hill
Creek 2-14-15-20

9. API Well No.
43-047-34955

10. Field and Pool, or Exploratory Area
Exploratory

11. County or Parish, State
Uintah, UT

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
Wind River Resources Corporation

3a. Address Route 3 Box 3010
Roosevelt, UT 84066

3b. Phone No. (include area code)
435-722-2546

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
520' FNL & 1,943' FEL (nwne) Sec. 14-T15S-R20E, SLB&M

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zone. Attach the Bond under which the work will be performed or provide the Bond No. on file with 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 Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Wind River Resources Corporation hereby requests an extension of the approved APD for this well. We intend to drill the well immediately.

We also request a modification of the casing program to allow a change in the setting depth for the 9-5/8" surface casing from 3,100' to 800'.

**Approved by the
Utah Division of
Oil, Gas and Mining**

Date: 08-23-04
By: [Signature]

COPY SENT TO OPERATOR
Date: 8-26-04
Initials: [Signature]

Federal Approval of this
Action is Necessary

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Marc T. Eckels

Title Vice President

Signature

[Signature]

Date August 18, 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 to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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AUG 19 2004

DIV. OF OIL, GAS & MINING

**Application for Permit to Drill
Request for Permit Extension
Validation**

(this form should accompany the Sundry Notice requesting permit extension)

API: 43-047-34955 ²⁰
Well Name: North Hill Creek 2-14-15-~~6~~ (Ute Tribe)
Location: 520' fnl & 1,943' fel (nwne) Sec. 14-T15S-R20E
Company Permit Issued to: Wind River Resources Corporation
Date Original Permit Issued: May 5, 2003

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.

If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes No (All land and minerals are tribal)

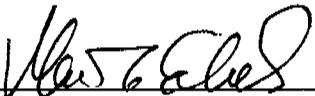
Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes No

Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes No

Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes No

Has the approved source of water for drilling changed? Yes No The approved source (Willow Creek) has not changed, but a water supply well has been*
Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes No

Is bonding still in place, which covers this proposed well? Yes No



Signature

8/18/2004
Date

Title: Vice President

Representing: Wind River Resources Corporation

RECEIVED

drilled by Wind River on tribal land in SE/4 Sec. 14-T15S-R20E, and this source will also be used.

AUG 19 2004

DIV. OF OIL, GAS & MINING



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 telephone
(801) 359-3940 fax
(801) 538-7223 TTY
www.nr.utah.gov

Michael O. Leavitt
Governor

Robert L. Morgan
Executive Director

Lowell P. Braxton
Division Director

May 5, 2003

Wind River Resources Corporation
Route 3, Box 3010
Roosevelt, UT 84066

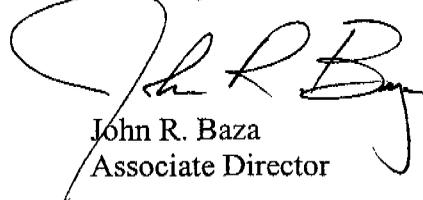
Re: North Hill Creek 2-14-15-20 Well, 520' FNL, 1943' FEL, NW NE, Sec. 14, T. 15 South,
R. 20 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-34955.

Sincerely,



John R. Baza
Associate Director

pab
Enclosures

cc: Uintah County Assessor
Bureau of Land Management, Vernal District Office

Operator: Wind River Resources Corporation
Well Name & Number North Hill Creek 2-14-15-20
API Number: 43-047-34955
Lease: 14-20-H62-4917

Location: NW NE **Sec.** 14 **T.** 15 South **R.** 20 East

Conditions of Approval

1. General

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

2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dan Jarvis at (801) 538-5338

3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.

5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

WIND RIVER RESOURCES CORPORATION
ROUTE 3 BOX 3010
ROOSEVELT, UTAH 84066
435-722-2546 (office) / 435-722-5089(fax)
e-mail: mte@ubtanet.com

Marc T. Eckels, Vice President

September 2, 2004

Diana Whitney, Petroleum Technician
Utah Division of Oil, Gas & Mining
P. O. Box 145801
Salt Lake City, UT 84114-5801

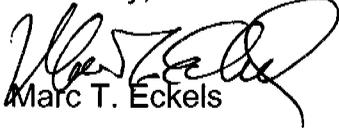
RE: Sundry Notice
Directional Drilling Plan
North Hill Creek 2-14-15-20
nwne Sec. 14-T15S-R20E
Uintah County

Dear Ms. Whitney:

Enclosed please find two copies of a Sundry Notice requesting approval to make the NHC 2-14-15-20 a directional well. Recent work with our 3D seismic data, and a desire to penetrate the fractured lower Mancos Shale at an angle to improve well productivity, have dictated this move. Attached for your review is the drilling plan for the directional portion of the well.

Please call me if you have any questions or need additional information.

Sincerely,


Marc T. Eckels

Cc: BLM - 3

RECEIVED

SEP 03 2004

DIV. OF OIL, GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

5. Lease Serial No. E&D Agreement
14-120-H62-4917
6. If Indian, Allottee or Tribe Name
Ute Indian Tribe
7. If Unit or CA/Agreement, Name and/or No.
n/a

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
 Oil Well Gas Well Other
2. Name of Operator
Wind River Resources Corporation
- 3a. Address Route 3 Box 3010
Roosevelt, UT 84066
- 3b. Phone No. (include area code)
435-722-2546
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Surface: 520 FNL & 1,943' FEL (nwn) *BHL 616823X 39.51841*
Bottom Hole: 497.45' FNL & 1,196.58' FEL (nene) *4375002Y-109.64094*
Section 14-T15S-R20E, SLB&M

8. Well Name and No. North Hill
Creek 2-14-15-20
9. API Well No.
43-047-34955
10. Field and Pool, or Exploratory Area
~~Exploratory~~ Undesignated
11. County or Parish, State
Uintah, UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Directional Drilling Plan</u>
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with 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 Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Approval is hereby requested for the directional drilling plan for this well. This will allow the penetration of the fractured Mancos Shale at an angle to the vertical fractures and penetration of the Dakota Silt target away from the Hill Creek fault. The Dakota Silt target is 20.00' north and 665.00' east of the surface location. The well will be drilled vertically to a depth of approximately 7,200', angle will then be built at the rate of 3 degrees per 100' to an inclination of 15 degrees. The hole will then be drilled to the Dakota Silt at 9,941' (TVD) (10,025.7 MD) and held at a 15 degree inclination to TD at approximately 10,340' MD. A single page diagram is attached.

No land owner or lessee other than Wind River has claims within a mile of either the surface location or the bottom hole location.

COPY SENT TO OPERATOR

Date: 9-21-04
Initials: cmh

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Marc T. Eckels

Title Vice President

Signature

[Handwritten Signature]

Date September 2, 2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

[Handwritten Signature]

BRADLEY G. HILL
ENVIRONMENTAL SCIENTIST III

Date 09-20-04

Conditions of approval, if any, are attached. Approval of this notice certifies that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

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, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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SEP 03 2004

Federal Approval of this
Action is Necessary

DIV. OF OIL, GAS & MINING

WIND RIVER RESOURCES CORP

NORTH HILL CREEK 2-14-15-20

SEC 14 T15S R20E

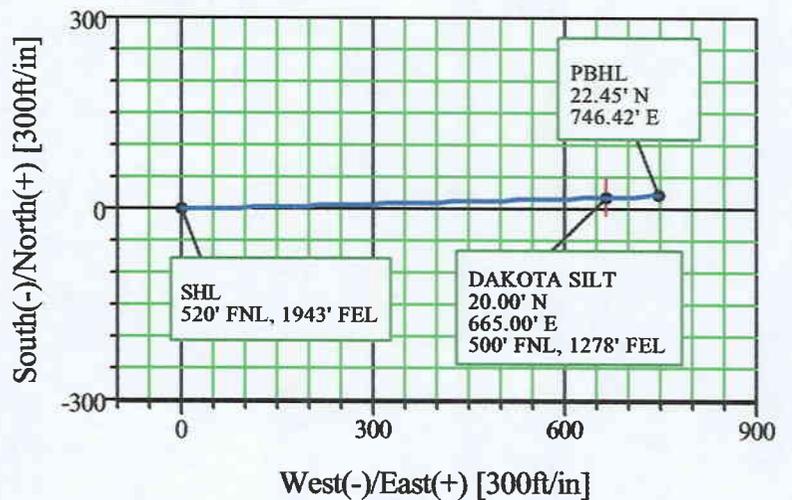
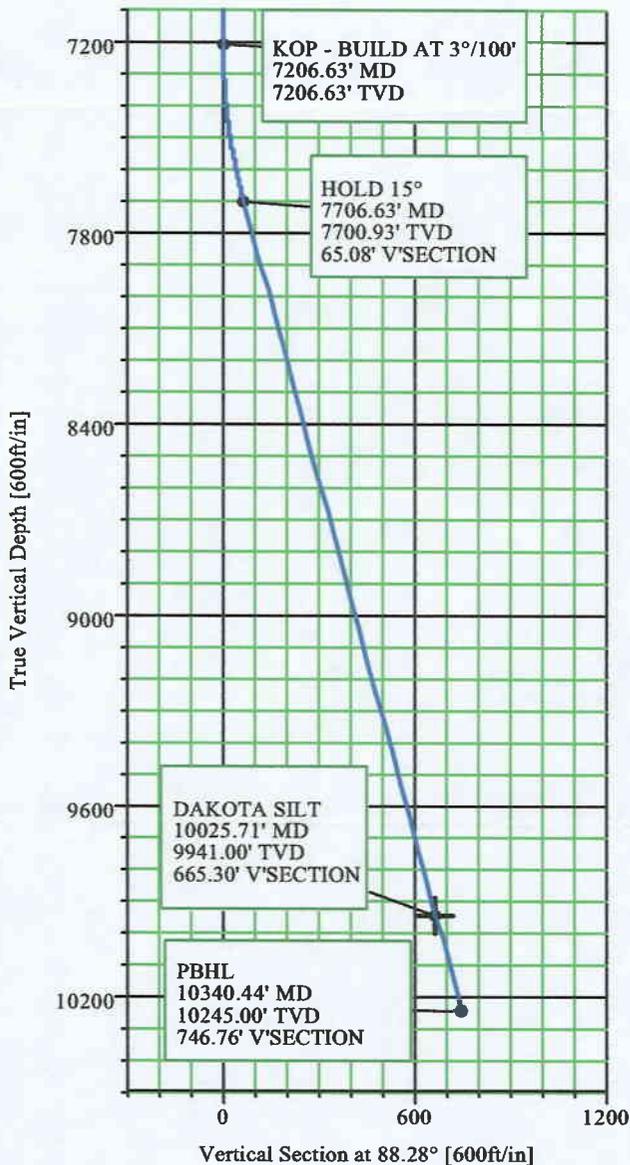
UINTAH COUNTY, UTAH



Precision Drilling

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	88.28	0.00	0.00	0.00	0.00	0.00	0.00	
2	7206.63	0.00	88.28	7206.63	0.00	0.00	0.00	0.00	0.00	KOP
3	7706.63	15.00	88.28	7700.93	1.96	65.05	3.00	88.28	65.08	HOLD
4	10025.71	15.00	88.28	9941.00	20.00	665.00	0.00	0.00	665.30	T1
5	10340.44	15.00	88.28	10245.00	22.45	746.42	0.00	0.00	746.76	TD



COMPUTALOG

Drilling Services

COMPANY: WIND RIVER RESOURCES CORP

WELL NAME: NORTH HILL CREEK
 LOCATION: UINTAH COUNTY, UTAH
 FILE: DRAFT 2
 PROPOSAL/COMPLETION: PROPOSAL
 DATE: SEPT 2/04
 PREPARED BY: BV

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

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.

007

- 5. Lease Serial No. E&D Agreement
14- 20-H62-4917
- 6. If Indian, Allottee or Tribe Name
Ute Indian Tribe
- 7. If Unit or CA/Agreement, Name and/or No.
n/a
- 8. Well Name and No. North Hill
Creek 2-14-15-20
- 9. API Well No.
43-047-34955
- 10. Field and Pool, or Exploratory Area
Exploratory
- 11. County or Parish, State
Uintah, UTAH

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
 Wind River Resources Corporation

3a. Address Route 3 Box 3010
 Roosevelt, UT 84066

3b. Phone No. (include area code)
 435-722-2546

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
 Surface: 520 FNL & 1,943' FEL (nwne)
 Bottom Hole: 233' FNL & 950' FEL (nene)
 Section 14-T15S-R20E, SLB&M

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Spud & Drilling Report
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with 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 Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The North Hill Creek 2-14-15-20 was spud on August 30, 2004, by Bill Jr. Rat Hole Drilling air rig, which set 9-5/8", 36#, J-55 surface casing at 849' in 12 1/2" hole. This was then cemented to the surface with 450 sack of premium Class G cement.

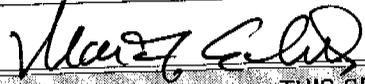
Patterson-UTI Rig 104 was moved in and rigged up from September 2-6, 2004. September 6-17, 2004: Drill 7-7/8" hole to 2,032'. Lost circulation at 1,971'. Stuck drill string will working on lost circulation. Fished out bottom hole assembly. Reamed hole to 8-3/4", drilled on to 4,4,215' with aerated KCl wtr. Set 7", 23#, J-55 intermediate casing at 4,172 and cemented with 380 sack foamed and unfoamed cement.

September 18-23, 2004: Changed to 3-1/2" drill string. Drilling 6-11/16" hole from surface casing shoe to 7,000'.

RECEIVED
SEP 24 2004

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

Name (Printed/Typed) Marc T. Eckels Title Vice President

Signature  Date September 23, 2004

DIV. OF OIL, GAS & MINING

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, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

008

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

FORM 6

ENTITY ACTION FORM

Operator: Wind River Resources Corporation
Address: Route 3 Box 3010
city Roosevelt
state UT zip 84066

Operator Account Number: N 1850
Phone Number: (435) 722-2546

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304734955	North Hill Creek 2-14-15-20		nwne	14	15S	20E	Uintah
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	9999	14327	8/30/2004			10/6/04	
Comments: Well was spud with an air rig drilling surface casing hole. <i>ENRD</i>							

K

Well 2

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

Well 3

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

ACTION CODES:

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

Marc T. Eckels

Name (Please Print)

Marc T. Eckels

Signature

Vice President

Title

9/23/2004
RECEIVED
Date

SEP 24 2004

DIV. OF OIL, GAS & MINING

WIND RIVER RESOURCES CORPORATION
ROUTE 3 BOX 3010
ROOSEVELT, UTAH 84066
435-722-2546 (office) / 435-722-5089(fax)
e-mail: mte@ubtanet.com

Marc T. Eckels

September 23, 2004

Dustin Doucet, Petroleum Engineer
Utah Division of Oil, Gas & Mining
P. O. Box 145801
Salt Lake City, UT 84114-5801

RE: Location Exception for:
North Hill Creek 2-14-15-20
520' FNL & 1,943' FEL (surface)
233' FNL & 950' FEL (TD)
Section 14-T15S-R20E
Uintah County, Utah

RECEIVED
SEP 24 2004
DIV. OF OIL, GAS & MINING

Dear Mr. Doucet:

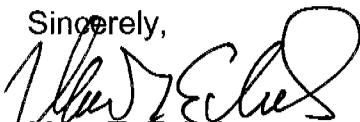
Wind River Resources hereby requests a location exception for the deeper directional portion of the North Hill Creek 2-14-15-20. This exception is necessary in order to penetrate targets identified on 3-D seismic and is being requested now because a change in drill string has extended the reach of the rig currently drilling this well. The surface location will not change.

This well is located on minerals held in trust by the United States for the Ute Indian Tribe and subject to Exploration and Development Agreement 14-20-H6204917. All minerals within a mile of the requested bottom hole location are either subject to this EDA or to a lease earned by Wind River under the terms of this EDA.

Attached are the Sundry Notice requesting approval of the revised directional drilling plan and a drilling report update.

Please call me if you have questions or need any additional information.

Sincerely,



Marc T. Eckels

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

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.

009

- 5. Lease Serial No. E&D Agreement
14-20-H62-4917
- 6. If Indian, Allottee or Tribe Name
Ute Indian Tribe
- 7. If Unit or CA/Agreement, Name and/or No.
n/a

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
 Wind River Resources Corporation

3a. Address Route 3 Box 3010
 Roosevelt, UT 84066

3b. Phone No. (include area code)
 435-722-2546

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
 Surface: 520 FNL & 1,943' FEL (nwne) *BHL 616909X 39.519383*
 Bottom Hole: 233' FNL & 950' FEL (nene) *4375090Y-109.639940*
 Section 14-T15S-R20E, SLB&M

- 8. Well Name and No. North Hill
 Creek 2-14-15-20
- 9. API Well No.
 43-047-34955
- 10. Field and Pool, or Exploratory Area
 Exploratory
- 11. County or Parish, State
 Uintah, UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with 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 Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The change in drill string has allowed us to extend the depth capability of the rig drilling the North Hill Creek 2-14-15-20, which means that an excellent deep target is now accessible in the Wingate sand in the nene Sec. 14.

Approval is hereby requested to change the directional target to the point at 11,728' MD (11,586' TVD) located 233' FNL & 950' FEL. The revised directional drilling plan is attached.

This bottom hole location requires a location exception from the Utah DOG&M, the letter for which is also attached. Wind River has the minerals under lease for more than a mile in any direction from this location.

The kick off point remains 7,200', but the well path will be slightly to the north of that previously approved.

RECEIVED
SEP 24 2004

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

Name (Printed/Typed) Marc T. Eckels Title Vice President

Signature *Marc T. Eckels* Date September 23, 2004

DIV. OF OIL, GAS & MINING

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by _____ Title _____

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.

Accepted by the Utah Division of Oil, Gas and Mining

Federal Approval Of This Action Is Necessary

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 3160 make 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.

Date: 10/2/04 Date: 9/24/04

Initials: ME By: [Signature]



Precision Drilling

COMPUTALOG

PROPOSAL

FOR

WIND RIVER RESOURCES CORP.

NORTH HILL CREEK #2-14

FROM SURFACE LOCATION:
520' FNL – 1943' FEL IN SECTION 14 – T15S – R20E
UINTAH COUNTY, UTAH

WELL FILE: 4002391P

SEPTEMBER 16, 2004

COMPUTALOG DRILLING SERVICES
7090 Barton Drive
Casper, Wyoming 82604
Phone: (307) 577-8875 Fax: (307) 577-9182

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
JAN 26 2005

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

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.

012

5. Lease Serial No. E&D Agreement
14- 20-H62-4917

6. If Indian, Allottee or Tribe Name
Ute Indian Tribe

7. If Unit or CA/Agreement, Name and/or I
n/a

8. Well Name and No. North Hill
Creek 2-14-15-20

9. API Well No.
43-047-34955

10. Field and Pool, or Exploratory Area
Exploratory

11. County or Parish, State
Uintah, UTAH

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
Wind River Resources Corporation

3a. Address Route 3 Box 3010
Roosevelt, UT 84066

3b. Phone No. (include area code)
435-722-2546

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Surface: 520 FNL & 1,943' FEL (nwn) e
Bottom Hole: 233' FNL & 950' FEL (nene)
Section 14-T15S-R20E, SLB&M

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Drilling</u> Report
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration there. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zonal testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

8-30-04: Well was spud by Bill Jrs.' air rig. 9-5/8", 36#, J-55 surface casing was set and cemented in 12 1/4" hole to 849'.

9-6-04: Complete move in and rig up of Patterson Rig #104, nipple up and test BOPE.

9-7 & 8-04: Pick up BHA w/ 7-7/8" bit. Tag cement at 735'. Drill cement to 848' and formation from 848' to 2,032'. Lost returns and pipe stuck.

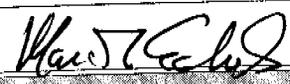
9-9 thru 14-04: Work stuck pipe, back-off and fish stuck pipe. Mix mud & LCM and pump down hole w/o returns. Wait on air package.

9-15 thru 18-04: Rig up air compressors and ream hole with air to 8-3/4".

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

Name (Printed/Typed)
Marc T. Eckels

Title
Vice President

Signature


Date
1-24-05

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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.

Title

Office

Date

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, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Page 2
North Hill Creek
2-14-15-20
Sundry Notice
1-24-05

9-15 thru 18-04 (cont.): Drill to 4,215' w/ aerated KCl water. Run 7" 23#, J-55 casing and cement.

9-19-04: Swith over to 3½" drill pipe and 6¼" bit.

9-20 thru 24-04: Drill 6¼" hole with mud. Tag cement at 4,125'. Drill to 7,211'. Pick up directional tools.

9-25-04 thru 10-17-04: Drill and slide hole at 15 degrees to target NNE of surface location. Penetrate Wingate at 11,515'. Reach TD at 11,669'.

10-18-04: Log well and attempt to get complete suite of sidewall cores. Able to get cores from Mesaverde (4,225'-4,675') only.

10-19-04: Trip in hole w/ 6¼" bit and drill additional rathole to 11,702' TD. Condition hole to run casing and lay down drill pipe.

10-20-04: Lay down BHA. Run 298 jts. 4½", 13½#, P-110 LTC casing to 11,701'. Circulate to condition hole to cement.

10-21-04: Cement long string with full returns to surface. Release rig.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: November 30, 2000

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
14-20-H62-4917

1a. Type of Well Oil Well Gas Well Dry Other
b. Type of Completion: New Well Work Over Deepen Plug Back Diff. Resrv.,
Other _____

6. If Indian, Allottee or Tribe Name
Ute Indian Tribe

7. Unit or CA Agreement Name and No.
n/a

2. Name of Operator
Wind River Resources Corporation

8. Lease Name and Well No
North Hill Creek 2-14-15-20

3. Address (P.O. Box 1540) 572 Park Ave. Park City, UT 84060

3a. Phone No. (include area code)
435-658-0195

9. API Well No.
43-047-34955

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface 520' FNL & 1,943' FEL (nwn) Sec. 14-T15S-R20E, SLB&M

At top prod. interval reported below 230' FNL & 1,027' FEL (nene)

At total depth 183' FNL & 892' FEL (nene)

10. Field and Pool, or Exploratory
North Hill Creek Area

11. Sec., T., R., M., on Block and Survey or Area 14-T15S-R20E

12. County or Parish
Uinyah

13. State
Utah

14. Date Spudded
8-30-04

15. Date T.D. Reached
10-19-04

16. Date Completed
 D & A Ready to Prod.
1-21-05

17. Elevations (DF, RKB, RT, GL)*
RKB=7,151'
GL=7,131'

18. Total Depth: MD 11,700'
TVD 11,582'

19. Plug Back T.D.: MD 11,626'
TVD 11,510'

20. Depth Bridge Plug Set: MD 11,480'
TVD 11,366'

21. Type Electric & Other Mechanical Logs Run (Submit copy of each) Hi Resolution Laterolog/GR/Cal; DNL/GR/CAL; Microlog/GR/Cal; & CBL/GR/Temp/CCL

22. Was well cored? No Yes (Submit analysis)
Was DST run? No Yes (Submit report)
Directional Survey? No Yes (Submit copy)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cemen-ter Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12.25"	9.625 J-55	36#	Surface	849'		450 "G"	92	surface	
8.75"	7" J-55	26#	Surface	782'		495 Poz	157	surface	
	7" N-80	23#	782'	4,172'		50 "G"	14	cap	
6.25"	4.5P110	13.5	Surface	11,700		515 Poz	206	surface	(good to 5,250')

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	11,063							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Wingate	11,513	11,594	see "Add'l Remarks"	0.41"	100	below CIBP
B) Entrada	11,072	11,162		0.41"	82	producing
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
11,513-25 (Wingate)	Foam Frac w/ 447 bbl gel'd KCl wtr, 1,000 Mcf N2 & 44,153# Econoprop
11,072-80 & 11,149-62 (Entrada)	Foam Frac w/ 331 bbl gel'd KCl wtr, 1,062 Mcf N2 & 50,000# Econoprop

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
1-21-05	2-15-05	24	→	0	204	65			Flowing
Choke Size	Tbg. Press. Flwgl	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
32/64	140	1700	→	0	204	65		Wingate isolated below CIBP	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
5-2-05	5-15-05	24	→	0	2001	13			Flowing
Choke Size	Tbg. Press. Flwgl	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
19 32/64	1975	2050	→	0	2001	13		PRODUCING	

(See instructions and spaces for additional data on reverse side)

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JAN 11 2006

DIV. OF OIL, GAS & MINING

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

Sold into Comet Pipeline, less lease fuel

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
Green Riv	2,026	2,032	Sand, lost circulation	Green River	Surface
Mesaverde	5,025	5,033	Coal w/ 2182u gas show	Wasatch	2,064
ditto	5,638	5,642	Coal w/ 1591u gas show	Mesaverde	4,202
Mancos	7,728	9,934	Multiple fractured shale intervals w gas shows from 1,000u to >8,000u	Caslegate	5,940
				Mancos Shale	6,174
				Mancos B	6,700
Dakota Silt	10,007	10,013	Sand w/ 3882u show	Dakota Silt	10,004
Cedar Mtn.	10,328-35		Sand w/ 6898u gas show	Dakota Sand	10,100
Entrada	11,159-62		Sand w/ 1918u gas show	Cedar Mountain	10,218
Wingate	11,112-30		Sand w/ 350u gas show	Morrison	10,407
				Salt Wash	10,633
				Summerville	10,970
				Curtis	11,001
				Entrada	11,058
				Carmel	11,290
				Kayenta	11,367
				Wingate	11,503

32. Additional remarks (include plugging procedure):

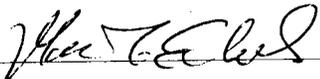
Perforated Intervals:

Wingate - 11,587-94; 11,578-84 & 11,513-25
Entrada - 11,149-62 & 11,072-80

33. Circle enclosed attachments:

- 1. Electrical/Mechanical Logs (1 full set req'd.)
- 2. Geologic Report
- 3. DST Report
- 4. Directional Survey
- 5. Sundry Notice for plugging and cement verification
- 6. Core Analysis
- 7. Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print) Marc T. Eckels Title Vice President
Signature  Date January 9, 2006

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, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



WIND RIVER RESOURCES CORPORATION

Claim Jumper Building
572 Park Avenue, 2nd Floor
P.O. Box 1540
Park City, Utah 84060
Telephone: (435) 658-0195
Facsimile: (435) 658-0194
Email: wrrc@mwutah.com

Marc T. Eckels, Vice President

January 10, 2006

Dustin Doucet, Petroleum Engineer
Utah Division of Oil, Gas & Mining
P. O. Box 145801
Salt Lake City, UT 84114-5801

Re: Transmittal of Completion Report
North Hill Creek 2-14-15-20
NWNE Sec. 14-T15S-R20E
Lease #14-20-H62-5512
Uintah County, UT

Dear Mr. Doucet:

Enclosed is the Completion Report for the above-captioned well, including the well logs, a copy of the directional survey and a copy of the core report.

Sincerely,


Marc T. Eckels

RECEIVED
JAN 11 2006
DIV. OF OIL, GAS & MINING



Precision Drilling

COMPUTALOG

FINAL SURVEYS

FOR

WIND RIVER RESOURCES CORP.

NORTH HILL CREEK #2-14

FROM SURFACE LOCATION:
520' FNL – 1943' FEL IN SECTION 14 – T15S – R20E
UINTAH COUNTY, UTAH

WELL FILE: **4002391C**

NOVEMBER 29, 2004

COMPUTALOG DRILLING SERVICES
7090 Barton Drive
Casper, Wyoming 82604
Phone: (307) 577-8875 Fax: (307) 577-9182

COMPUTALOG DRILLING SERVICES

Client : WIND RIVER RESOURCES CORP.
 Well Name : NORTH HILL CREEK #2-14
 Location : UINTAH COUNTY, UTAH

Page : 1 of 4
 Date : 11/29/2004
 File : 4002391C

KB Elevation : 7151.00

Gr Elevation : 7133.00

Vertical Section Calculated Along Azimuth 72.93°

All Bearings Are Along Grid North

MD	Inc	Azi	TVD	North	East	V'Sect	D'Leg	Build	Turn	
ft	deg	deg	ft	ft	ft	ft	°/100	°/100	°/100	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SINGLE SHOT SURVEY										
911.00	0.75	170.00	910.97	-5.87	1.04	-0.73	0.08	0.08	18.66	
1500.00	0.75	180.00	1499.92	-13.52	1.70	-2.34	0.02	0.00	1.70	
1512.00	0.75	130.00	1511.92	-13.65	1.76	-2.32	5.28	0.00	-416.67	
1951.00	1.25	120.00	1950.85	-17.89	8.11	2.50	0.12	0.11	-2.28	
3003.00	1.75	165.00	3002.53	-39.15	22.21	9.74	0.12	0.05	4.28	
3510.00	2.00	170.00	3509.25	-55.34	25.75	8.37	0.06	0.05	0.99	
4017.00	1.00	85.00	4016.12	-63.67	31.69	11.61	0.43	-0.20	-16.77	
4571.00	5.00	95.00	4569.25	-65.35	60.57	38.72	0.73	0.72	1.81	
5080.00	3.00	205.00	5077.50	-79.37	77.06	50.36	1.31	-0.39	21.61	
5680.00	4.00	70.00	5677.00	-86.45	90.10	60.75	1.08	0.17	-22.50	
6613.00	3.75	40.00	6607.96	-51.94	140.30	118.87	0.22	-0.03	-3.22	
7160.00	3.00	20.00	7154.03	-24.79	156.69	142.51	0.25	-0.14	-3.66	
CDS SURVEYS										
7168.00	2.95	21.20	7162.02	-24.40	156.84	142.76	1.02	-0.66	15.04	
7200.00	2.75	26.46	7193.98	-22.95	157.48	143.80	1.02	-0.62	16.43	
7232.00	3.06	26.96	7225.94	-21.50	158.21	144.93	0.97	0.97	1.56	
7264.00	3.56	22.09	7257.88	-19.82	158.97	146.15	1.79	1.56	-15.22	
7295.00	4.00	24.09	7288.82	-17.94	159.77	147.47	1.48	1.42	6.45	
7327.00	4.44	27.46	7320.73	-15.82	160.80	149.07	1.58	1.37	10.53	
7359.00	5.13	31.46	7352.62	-13.50	162.11	151.01	2.39	2.16	12.50	
7391.00	5.63	33.84	7384.48	-10.98	163.73	153.30	1.71	1.56	7.44	
7422.00	6.00	33.96	7415.32	-8.37	165.49	155.74	1.19	1.19	0.39	
7454.00	6.00	34.09	7447.14	-5.60	167.36	158.34	0.04	0.00	0.41	
7485.00	7.25	32.21	7477.93	-2.60	169.31	161.09	4.09	4.03	-6.06	
7516.00	8.06	32.71	7508.66	0.88	171.53	164.23	2.62	2.61	1.61	
7548.00	9.44	38.84	7540.29	4.82	174.38	168.12	5.20	4.31	19.16	
7574.00	10.31	42.71	7565.90	8.19	177.30	171.89	4.21	3.35	14.88	
7611.00	11.06	46.59	7602.26	13.06	182.12	177.93	2.81	2.03	10.49	
7643.00	10.69	46.34	7633.68	17.22	186.50	183.34	1.17	-1.16	-0.78	
7675.00	11.25	47.84	7665.10	21.36	190.96	188.82	1.96	1.75	4.69	
7706.00	11.63	49.46	7695.48	25.42	195.58	194.42	1.61	1.23	5.23	
7738.00	11.88	52.34	7726.81	29.53	200.64	200.47	1.99	0.78	9.00	
7770.00	11.63	52.46	7758.14	33.51	205.80	206.57	0.78	-0.78	0.37	
7801.00	11.44	53.46	7788.52	37.24	210.75	212.40	0.89	-0.61	3.23	
7833.00	12.13	54.46	7819.84	41.09	216.04	218.58	2.25	2.16	3.13	
7865.00	12.69	54.09	7851.09	45.10	221.62	225.09	1.77	1.75	-1.16	
7896.00	12.63	54.96	7881.34	49.05	227.15	231.54	0.64	-0.19	2.81	
7928.00	12.25	58.21	7912.59	52.84	232.90	238.15	2.49	-1.19	10.16	
7959.00	12.31	62.46	7942.88	56.10	238.63	244.58	2.92	0.19	13.71	
7991.00	12.75	62.59	7974.12	59.31	244.79	251.41	1.38	1.37	0.41	
8022.00	13.25	59.21	8004.32	62.70	250.87	258.23	2.93	1.61	-10.90	
8054.00	13.31	58.84	8035.47	66.48	257.18	265.36	0.33	0.19	-1.16	

COMPUTALOG DRILLING SERVICES

Client : WIND RIVER RESOURCES CORP.
 Well Name : NORTH HILL CREEK 2-14
 Location : Uintah County, Utah

Page : 2 of 4
 Date : 11/29/2004
 File : 4002391C

KB Elevation : 7151.00 Gr Elevation : 7133.00
 Vertical Section Calculated Along Azimuth 72.93°
 All Bearings Are Along Grid North

MD	Inc	Azi	TVD	North	East	V'Sect	D'Leg	Build	Turn
ft	deg	deg	ft	ft	ft	ft	°/100	°/100	°/100
8085.00	12.75	59.59	8065.67	70.06	263.18	272.15	1.89	-1.81	2.42
8117.00	13.50	60.96	8096.83	73.66	269.49	279.24	2.54	2.34	4.28
8149.00	14.63	60.84	8127.87	77.44	276.29	286.85	3.53	3.53	-0.37
8181.00	14.44	62.46	8158.85	81.26	283.35	294.72	1.40	-0.59	5.06
8212.00	14.31	64.21	8188.88	84.71	290.23	302.31	1.46	-0.42	5.65
8244.00	14.00	67.21	8219.91	87.93	297.36	310.07	2.49	-0.97	9.37
8275.00	14.00	70.59	8249.99	90.63	304.35	317.55	2.64	0.00	10.90
8307.00	14.31	72.84	8281.02	93.08	311.78	325.37	1.97	0.97	7.03
8339.00	14.44	73.09	8312.01	95.41	319.38	333.32	0.45	0.41	0.78
8370.00	14.19	72.59	8342.05	97.67	326.70	340.98	0.90	-0.81	-1.61
8402.00	14.06	72.96	8373.08	99.98	334.16	348.79	0.49	-0.41	1.16
8434.00	13.44	74.34	8404.17	102.13	341.46	356.39	2.19	-1.94	4.31
8466.00	13.25	75.96	8435.30	104.02	348.60	363.77	1.31	-0.59	5.06
8497.00	12.44	77.59	8465.53	105.60	355.30	370.65	2.86	-2.61	5.26
8528.00	11.38	76.84	8495.86	107.01	361.54	377.03	3.46	-3.42	-2.42
8557.00	10.88	76.21	8524.31	108.32	366.99	382.62	1.77	-1.72	-2.17
8592.00	10.81	72.71	8558.69	110.08	373.33	389.20	1.89	-0.20	-10.00
8624.00	10.81	71.81	8590.12	111.91	379.05	395.20	0.53	0.00	-2.81
8656.00	10.25	73.09	8621.58	113.67	384.62	401.04	1.90	-1.75	4.00
8688.00	9.75	75.09	8653.10	115.20	389.96	406.60	1.90	-1.56	6.25
8719.00	10.38	73.59	8683.62	116.66	395.18	412.02	2.20	2.03	-4.84
8751.00	11.56	70.34	8715.03	118.56	400.96	418.10	4.16	3.69	-10.16
8783.00	12.44	70.46	8746.33	120.79	407.23	424.75	2.75	2.75	0.37
8815.00	12.75	70.09	8777.56	123.14	413.80	431.72	1.00	0.97	-1.16
8846.00	12.69	69.21	8807.80	125.52	420.20	438.53	0.65	-0.19	-2.84
8846.00	12.69	69.21	8807.80	125.52	420.20	438.53	0.00	0.00	0.00
8877.00	12.38	69.34	8838.06	127.90	426.49	445.25	1.00	-1.00	0.42
8910.00	13.63	71.96	8870.22	130.35	433.50	452.67	4.19	3.79	7.94
8941.00	15.13	75.59	8900.25	132.49	440.89	460.36	5.64	4.84	11.71
8972.00	15.56	77.46	8930.14	134.40	448.87	468.55	2.11	1.39	6.03
9004.00	14.81	78.34	8961.02	136.16	457.06	476.90	2.45	-2.34	2.75
9035.00	14.13	78.09	8991.04	137.74	464.65	484.61	2.20	-2.19	-0.81
9067.00	14.88	75.21	9022.02	139.59	472.44	492.60	3.25	2.34	-9.00
9098.00	14.63	74.96	9052.00	141.63	480.07	500.49	0.83	-0.81	-0.81
9129.00	13.88	75.59	9082.04	143.57	487.45	508.12	2.47	-2.42	2.03
9160.00	13.13	76.21	9112.19	145.33	494.47	515.35	2.46	-2.42	2.00
9192.00	13.06	71.71	9143.35	147.33	501.44	522.59	3.19	-0.22	-14.06
9233.00	12.63	70.84	9183.33	150.26	510.07	531.71	1.15	-1.05	-2.12
9255.00	13.13	67.21	9204.78	152.01	514.64	536.60	4.32	2.27	-16.50
9286.00	12.75	66.84	9234.99	154.72	521.04	543.50	1.25	-1.23	-1.19
9318.00	13.75	67.21	9266.14	157.59	527.79	550.80	3.14	3.13	1.16
9350.00	13.50	67.71	9297.24	160.48	534.75	558.30	0.86	-0.78	1.56

COMPUTALOG DRILLING SERVICES

Client : WIND RIVER RESOURCES CORP.
 Well Name : NORTH HILL CREEK 2-14
 Location : UINTAH COUNTY, UTAH

Page : 3 of 4
 Date : 11/29/2004
 File : 4002391C

KB Elevation : 7151.00 Gr Elevation : 7133.00
 Vertical Section Calculated Along Azimuth 72.93°
 All Bearings Are Along Grid North

MD	Inc	Azi	TVD	North	East	V'Sect	D'Leg	Build	Turn
ft	deg	deg	ft	ft	ft	ft	°/100	°/100	°/100
9381.00	13.50	69.46	9327.38	163.12	541.49	565.51	1.32	0.00	5.65
9413.00	13.00	70.46	9358.53	165.63	548.38	572.84	1.72	-1.56	3.13
9445.00	13.94	73.96	9389.65	167.90	555.47	580.29	3.89	2.94	10.94
9476.00	13.69	75.09	9419.75	169.88	562.61	587.69	1.19	-0.81	3.65
9508.00	13.50	72.96	9450.85	171.95	569.84	595.21	1.67	-0.59	-6.66
9539.00	13.13	72.84	9481.02	174.04	576.66	602.35	1.20	-1.19	-0.39
9571.00	12.81	71.59	9512.20	176.24	583.50	609.53	1.33	-1.00	-3.91
9602.00	12.00	72.46	9542.48	178.29	589.83	616.19	2.68	-2.61	2.81
9634.00	12.25	73.84	9573.77	180.24	596.27	622.91	1.20	0.78	4.31
9665.00	11.94	74.34	9604.08	182.02	602.51	629.40	1.06	-1.00	1.61
9697.00	11.75	74.46	9635.40	183.79	608.84	635.97	0.60	-0.59	0.37
9728.00	12.63	74.84	9665.70	185.52	615.15	642.51	2.85	2.84	1.23
9760.00	14.38	75.59	9696.81	187.42	622.38	649.98	5.50	5.47	2.34
9792.00	14.56	77.96	9727.80	189.25	630.16	657.95	1.93	0.56	7.41
9824.00	13.50	77.71	9758.84	190.89	637.74	665.68	3.32	-3.31	-0.78
9856.00	13.06	68.59	9789.99	193.00	644.76	673.01	6.68	-1.38	-28.50
9887.00	12.44	67.71	9820.22	195.55	651.11	679.83	2.10	-2.00	-2.84
9919.00	13.69	70.84	9851.40	198.10	657.88	687.05	4.49	3.91	9.78
9949.00	13.88	71.84	9880.53	200.38	664.65	694.19	1.02	0.63	3.33
9980.00	14.94	71.46	9910.56	202.81	671.97	701.90	3.43	3.42	-1.23
10012.00	16.44	71.71	9941.36	205.55	680.18	710.55	4.69	4.69	0.78
10043.00	16.44	72.59	9971.10	208.24	688.53	719.33	0.80	0.00	2.84
10075.00	15.31	73.59	10001.88	210.78	696.91	728.08	3.63	-3.53	3.13
10106.00	14.75	75.46	10031.81	212.93	704.65	736.11	2.39	-1.81	6.03
10137.00	14.50	73.46	10061.81	215.03	712.19	743.94	1.82	-0.81	-6.45
10200.00	14.19	78.59	10122.85	218.80	727.32	759.51	2.08	-0.49	8.14
10231.00	14.06	80.09	10152.91	220.20	734.76	767.03	1.25	-0.42	4.84
10262.00	14.06	76.21	10182.98	221.75	742.12	774.52	3.04	0.00	-12.52
10294.00	13.50	78.59	10214.06	223.41	749.56	782.12	2.49	-1.75	7.44
10326.00	12.50	82.09	10245.24	224.63	756.65	789.26	3.98	-3.12	10.94
10358.00	12.25	79.96	10276.50	225.69	763.42	796.04	1.63	-0.78	-6.66
10389.00	12.38	73.09	10306.79	227.23	769.84	802.63	4.74	0.42	-22.16
10421.00	11.81	67.96	10338.08	229.46	776.16	809.32	3.80	-1.78	-16.03
10453.00	11.44	67.59	10369.42	231.90	782.13	815.75	1.18	-1.16	-1.16
10485.00	11.19	67.84	10400.80	234.28	787.94	822.00	0.80	-0.78	0.78
10517.00	11.38	70.09	10432.18	236.53	793.78	828.24	1.50	0.59	7.03
10547.00	12.56	70.34	10461.53	238.63	799.64	834.46	3.94	3.93	0.83
10578.00	15.31	64.21	10491.61	241.55	806.50	841.87	10.06	8.87	-19.77
10610.00	16.00	58.09	10522.43	245.72	814.05	850.31	5.59	2.16	-19.12
10641.00	16.06	58.59	10552.22	250.21	821.33	858.60	0.49	0.19	1.61
10673.00	15.69	60.46	10583.00	254.65	828.88	867.11	1.97	-1.16	5.84
10705.00	15.06	62.71	10613.86	258.69	836.34	875.43	2.71	-1.97	7.03
10736.00	14.13	63.84	10643.86	262.21	843.31	883.13	3.14	-3.00	3.65

COMPUTALOG DRILLING SERVICES

Client : WIND RIVER RESOURCES CORP.
 Well Name : NORTH HILL CREEK 2-14
 Location : UINTAH COUNTY, UTAH

Page : 4 of 4
 Date : 11/29/2004
 File : 4002391C

KB Elevation : 7151.00 Gr Elevation : 7133.00

Vertical Section Calculated Along Azimuth 72.93°

All Bearings Are Along Grid North

MD	Inc	Azi	TVD	North	East	V'Sect	D'Leg	Build	Turn
ft	deg	deg	ft	ft	ft	ft	°/100	°/100	°/100
10768.00	13.25	64.71	10674.95	265.49	850.13	890.61	2.82	-2.75	2.72
10798.00	12.88	65.59	10704.17	268.34	856.29	897.33	1.40	-1.23	2.93
10825.00	13.69	66.96	10730.45	270.84	861.97	903.50	3.22	3.00	5.07
10857.00	14.13	67.09	10761.51	273.84	869.05	911.15	1.38	1.37	0.41
10889.00	14.00	67.84	10792.55	276.82	876.23	918.89	0.70	-0.41	2.34
10920.00	12.94	69.59	10822.70	279.45	882.96	926.09	3.66	-3.42	5.65
10952.00	12.56	70.71	10853.91	281.85	889.60	933.14	1.42	-1.19	3.50
10984.00	12.69	70.84	10885.14	284.15	896.20	940.13	0.42	0.41	0.41
11016.00	12.56	71.96	10916.36	286.38	902.83	947.12	0.87	-0.41	3.50
11048.00	12.25	73.21	10947.61	288.44	909.39	954.00	1.28	-0.97	3.91
11078.00	12.63	73.71	10976.91	290.28	915.59	960.46	1.32	1.27	1.67
11110.00	13.75	73.59	11008.07	292.33	922.59	967.76	3.50	3.50	-0.37
11142.00	14.56	71.84	11039.09	294.66	930.06	975.58	2.86	2.53	-5.47
11173.00	14.69	70.46	11069.09	297.19	937.47	983.41	1.20	0.42	-4.45
11211.00	14.88	70.46	11105.83	300.43	946.61	993.10	0.50	0.50	0.00
11242.00	15.13	69.71	11135.77	303.17	954.15	1001.11	1.02	0.81	-2.42
11274.00	14.94	70.09	11166.68	306.02	961.95	1009.40	0.67	-0.59	1.19
11298.00	14.25	69.34	11189.90	308.12	967.62	1015.44	2.98	-2.87	-3.12
SINGLE SHOT SURVEYS									
11400.00	14.01	70.00	11288.82	316.77	990.97	1040.30	0.28	-0.24	0.65
11500.00	12.58	71.39	11386.14	324.38	1012.67	1063.28	1.47	-1.43	1.39
11600.00	11.32	72.42	11483.97	330.82	1032.34	1083.98	1.28	-1.26	1.03
EXT. TOTAL DEPTH									
11700.00	11.32	72.42	11582.02	336.75	1051.06	1103.60	0.00	0.00	0.00

Bottom Hole Closure 1103.69ft Along Azimuth 72.23°

Wind River Resources
North Hill Creek 2-14-15-20
Routine Core Analysis Test Results
 Project No: 501276
 December 6, 2004



TerraTek

Pioneer Business Park
 1935 S. Fremont Drive
 Salt Lake City, Utah 84104

Sample Number	Sample Depth (ft)	Sample Length (in)	Sample Diameter (in)	Ambient Porosity (%)	Dry Bulk Density (g/cc)	Grain Density (g/cc)	Gas Permeability (md)	Saturation		Lithology
								Water (%)	Oil (%)	
1	4675	1.526	0.919	16.31	2.22	2.648	16.624	76.86	22.34	ss, ltan, vfgr, cly + mnrcalc
2	4580	1.375	0.921	16.12	2.23	2.661	7.299	79.78	17.44	ss, ltgy, vf-fgr, abund cly + mnrcalc
3	4480	1.221	0.922	16.24	2.24	2.672	11.515	85.09	14.29	ss, ltgy, vfgr, cly + calc
4	4430	1.374	0.920	15.02	2.24	2.639	7.700	83.39	15.16	ss, ltgy, vf-fgr, abund cly + mnrcalc
5	4385	1.321	0.921	18.74	2.14	2.628	58.878	82.83	16.60	ss, ltgy, vfgr, abund cly + mnrcalc
6	4225	1.363	0.922	18.13	2.16	2.635	65.446	90.29	2.79	ss, ltgy, vf-fgr, abund cly + calc

WIND RIVER RESOURCES CORPORATION

**NORTH HILL CREEK #2-14
NW/NE SEC. 14, T15S, R20E
UINTAH, COUNTY, UTAH**

FINAL GEOLOGICAL REPORT

GEOLOGIC REPORT

ON

**NORTH HILL CREEK #2-14
NW/NE SEC. 14, T15S, R20E
UINTAH, COUNTY, UTAH**

FOR

**WIND RIVER RESOURCES CORPORATION
ROUTE 3, BOX 3010
ROOSEVELT, UTAH 84066**

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October 2004

Roger D. Charbonneau, B. Sc.
Wellsite Geologist

WELL DATA SUMMARY

WELL NAME	NORTH HILL CREEK #2-14	
OPERATOR	WIND RIVER RESOURCES CORP	
SURFACE LOCATION	NW/NE SEC. 14,T15S,R20E	
API#	043-047-34955	
WELL CLASIFICATION	EXPLORATORY	
DRILLING CONTRACTOR	PATTERSON #104	
WELL LIESCENCE #	14-20-H62-4917	
ELEVATION	GROUND LEVEL:	7133'
	KELLY BUSHING:	7149'
SPUD DATE	9-30-2004	
TOTAL DEPTH-DATE	11,702-10-18-2004	
CASING	849' of 8 5/8"; 4172' of 7"; 11,702' of 4 1/2"	
HOLE SIZE	7 7/8" opened to 8 3/4", 6 1/4" to TD	
SAMPLE INTERVAL	2140-11,702	
GAS DETECTOR	4214-11,702'	
OPEN HOLE LOGS	PLATFORM EXPRESS SCHLUMBERGER	
MUD TYPE	LOW SOLIDS/KCL	
WELL STATUS	AWAITING COMPLETION	

FORMATION TOPS

KB 7149'

Formation	Prognosis	Sample	E-log	Sub Sea	TVD
Green River	Surface				
Wasatch	2160				
Mesa Verde	4184	4140			
Castlegate	5955	6030	5939	1212	5934
Mancos Shale	6145	6250	6248	903	6243
Mancos "B"	6700	6730	6703	448	6698
Dakota Silt	10143	10060	10007	-340	9936
Cedar Mountain	10180	10250	10215	-3065	10138
Morrison	10380	10380	10381	-3229	10267
Curtis	10052	11010	11001	-3850	10901
Entrada	11108	11120	11126	-3975	11023
Carmel	11420	11240	11224	-4073	11118
Wingate	11468	11520	11512	-4361	11406
T.D.	11702		11671		

FORMATION EVALUATION

WIND RIVER RESOURCES CORPORATION
NORTH HILL CREEK #2-14
NW/NE SEC. 14, T15S, R20E
UINTAH CO., UT

North Hill Creek 2-14 was drilled in the beginning as a vertical well with a Dakota objective. During the drilling of the up hole section the well was changed to a directional (MWD) well with a Wingate Formation target. Hole problems required 7" casing set at 4172'. The 7 7/8" hole was opened to 8 3/4". MWD was picked up at 7220' and 6 1/4" hole was drill to 11,702' with a 1005.92' separation at 72.37 degrees. Decollement Consulting began sample coverage at 2140' with gas detection beginning at 4172. A full suite of E-logs were run by Schlumberger (Platform Express). Side Wall Cores were to be run over zones of interest but the tool bridged of at 4500' Five cores were cut above that interval.

MESA VERDE

There were numerous thick porous sands on the E-logs but very little sand was recovered in the samples. Mud Gas shows were weak but the mud weight was 8.5 lbs/gallon and the interval drilled over balanced.

NESLEN

The upper section had thick sands on E-logs and again had little sand in the drill cuttings. The sands had up 300 units mud gas. There was an abundance of good source rock in the section from coal and carbonaceous shale. The interval 5660-5708' had 478 units and 9-12% log porosity.

CASTLEGATE

The upper sands had 6-19% porosity with 200 units mud gas over a 8.9 pound mud weight. The samples had good shows.

MANCOS

There were numerous shows from the Mancos interval. The shows come fractures, sand, and silty zones. The 7730-8700' and 9300-9880' zones had the best gas shows and associated redundant connection gas after penetration.

FORMATION EVALUATION CONT.**DAKOTA**

The Dakota had 3882 units mud gas and cross over on the E-logs. The log had 13% porosity and repeated connection gas after penetration.

CEDAR MOUNTAIN

The Cedar Mountain interval had 12% porosity and 3280 units mud gas.

MOAB MEMBER

The Moab member had 15% cross over porosity and 3280 units mud gas.

ENTRADA

The Entrada had 3498 units mud gas and 16% log porosity.

WINGATE

The Wingate had 190 units mud gas and 15% log porosity.

CONCLUSION: The well bore has multi-pay, (Mesa Verde thru Wingate)-Awaiting Completion.

BIT RECORD

WELL NAME	NORTH HILL CREEK #2-14				
LOCATION	NW/NE SEC. 14,T15S,R20E				
SURFACE CASING	849' OF 8 5/8"				
SPUD DATE	8-30-2004				
T.D. DATE	10-18-2004				
NUMBER	1	2	3	4	5
SIZE	7 7/8	8 3/4	6 1/4	6 1/4	6 1/4
MAKE	RTC	RTC	RTC	RTC	RTC
SERIAL#	108513	J12836	109095	103268	108521
TYPE	DSX199	HP51A	DSX189	DSX149	DSX146
JETS	6x14	3x20	5x11	6x12	6x11
OUT	2032	4215	7624	7624	8706
FOOTAGE	1183	2183	1890	1519	1082
HOURS	138	42 1/2	46 1/2	63 1/2	57 1/2
WT	15	28	4-6	5-10	15/20
RPM	120	100	102/33	205/60	115/60
PP	350	220	820/1100	1225/1600	1800/2000
MUD	8.5	8.5	8.9	9.1	9.2
VIS	26	27	32	39	35
DEV	3/4	1	4	6	11.56
NUMBER	6	7	8		
SIZE	6 1/4	6 1/4	6 1/4		
MAKE	RTC	STC	RTC		
SERIAL#	TN8646	MT5363	LU8606		
TYPE	SL51H	XR-40	EPH62A		
JETS	3x12	3x12	3x12		
OUT	10212	10642	10867		
FOOTAGE	1506	430	225		
HOURS	90 1/2	41	19 1/2		
WT	15/20	25	25		
RPM	106/60	104/60	104/60		
PP	1950/2200	2120/2450	2120		
MUD	9.3	9.2	9.2		
VIS	37	36	36		
DEV	14.5	12.8	12.5		

DAILY DRILLING SUMMARY

DATE	DEPTH	PROG.	HOURS	MUD	VIS	WL	PH	ACTIVITY
9-7-04	1656	798	5 ½	8.4	28			DrillCement,Pres.Test,Drill
9-8-04	2032	376	3	8.5	26			Drill,Short Trip,Work pipe
9-9-04	2032	Nil	Nil	8.5	26			Stuck in hole
9-10-04	2032	Nil	Nil	8.9	36	17	9	Free Point,Rig up air
9-11-04	2032	Nil	Nil	8.9	36	17	9	Jarred on fish
9-12-04	2032	Nil	Nil	8.8	52	24	8	RIH,Lost Returns,POOH
9-13-04	2032	Nil	Nil	8.8	52	24	8	RIH,No Returns
9-14-04	2032	Nil	Nil	8.6	30			Open 7 7/8 to 8 ¾
9-15-04	3058	1026	21	8.4	26	7		Open hole,Drill
9-16-04	3882	824	22	8.6	27	12		Drill
9-17-04	4215	333	8	8.5	27	12		Drill,POOH,Run 7"
9-18-04	4215	Nil	Nil	8.5	27	12		Run 7"
9-19-04	4215	Nil	Nil	8.6	37	10.4	11.5	Nipple up. Pres. Test
9-20-04	5014	Nil	Nil	8.5	33	8.4	10.5	Pick up 3 ½" Drill Pipe
9-21-04	6063	1039	22	8.6	33	10.4	10	Drill
9-22-04	6105	140	16 ½	8.9	32	7.2	11.5	Bit Trip,Drill
9-23-04	6907	844	19 ½	8.8	33	7.6	11	Drill
9-24-04	7211	304	9 ½	9.2	35	8.4	10	Drill,POOH,Pick up MWD
9-25-04	7523	312	19	9.1	36	9.6	10	Dir. Drill
9-26-04	7725	202	12 ½	9.1	39	8.8	11.5	Dir. Drill,Bit Trip
9-27-04	8074	349	19	9.1	37	8.6	11.5	Dir. Drill
9-28-04	8435	361	17 ½	9.1	34	8.8	11.5	Dir. Drill,Rig Repair
9-29-04	8607	172	9	9.1	34	8.8	11.5	Dir. Drill,Trip-Motor
9-30-04	8815	208	15	9.2	35	8.4	11.5	Dir. Drill,Trip-Bit
10-1-04	9188	373	23 ½	9.4	36	7.2	11	Dric. Drill
10-2-04	9526	338	23 ½	9.2	41	8.0	11.5	Dir. Drill
10-3-04	10020	494	23 ½	9.3	37	7.6	12	Dir. Drill
10-4-04	10212	192	12	9.3	39	7.4	11	Dir. Drill,Bit Trip
10-5-04	10426	214	16	9.1	38	7.2	11	RIH,Dir. Drill
10-6-04	10640	214	24	9.1	39	6.6	11.5	Dir. Drill
10-7-04	10720	80	9	9.0	37	7.2	11.5	Dir. Drill,Trip-Bit
10-8-04	10867	147	11 ½	9.2	36	6.0	11	Dir. Drill,Trip-Motor
10-9-04	11114	247	21	9.2	37	6.4	11	RIH,Dir. Drill
10-10-04	11161	47	6	9.2	35	7.4	11	POOH,Cone on bottom
10-11-04	11192	31	4	9.2	37	7.8	11	Mill Junk,POOH,Drill
10-12-04	11256	64	8	9.3	37	6	10.5	Dir. Drill,Trip-Bit
10-13-04	11321	65	9 ½	9.4	37	5.8	11	RIH,Dir. Drill
10-14-04	11380	59	10	9.4	34	7.4	11	Dir. Drill,Trip-Release MWD
10-15-04	11465	85	11	9.0	32	8.8	11.5	Drill,Trip-Bit

10-16-04 11509 44	8	9.0	37	7.6	12	RIH,Drill
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DAILY DRILLING SUMMARY CONTINUED

10-17-04 11669 160	21 ½	9.0	39	6.8	12.0	Drill,Cirr. For logs
10-18-04 11702 33	5	9.1	37	7.2	12.0	Logging,Drill Rate hole
10-19-04 11702 Nil	Nil	9.2	45	7.5	12.0	POOH,Run Casing

LITHOLOGIC DESCRIPTIONS

- 2110-40 SHALE-70% red brown, silty, blocky, firm.
 SANDSTONE-20% white, clear, quartzose, fine grained (lower to upper),sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
 SILTSTONE-10% white, arenaceous, argillaceous, calcareous cement, tight.
- 2140-70 SHALE-30% red brown, silty, blocky, firm.
 SANDSTONE-30% white, clear, quartzose, fine grained (lower to upper),sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
 SILTSTONE-40% white, light red orange, arenaceous, argillaceous, calcareous cement, tight.
- 2170-2200 SHALE-10% red brown. silty, blocky, firm.
 SANDSTONE-80% white, clear, quartzose, fine grained (lower to upper),sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
 LIMESTONE-10% tan, silty, lithographic, mudstone.
- 2200-30 SHALE-50% red brown, brick red, silty, blocky, firm.
 SANDSTONE-50% white, clear, quartzose, fine grained (lower to upper),sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
- 2230-60 SHALE-40% red brown, brick red, silty, blocky, firm.
 SANDSTONE-60% white, clear, quartzose, fine grained (lower to upper),sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
- 2260-90 SHALE-20% red brown, brick red,silty, blocky, firm.
 SANDSTONE-80% white, clear, quartzose, fine grained (lower to upper),sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
- 2290-2320 SHALE-30% red brown, brick red, silty, blocky, firm.
 SANDSTONE-50% white, clear, quartzose, fine grained (lower to upper),sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
 SILTSTONE-20% white, arenaceous, limey, argillaceous, calcareous cement, tight.

- 2320-50 SHALE-40% red brown, brick red, silty, blocky, firm.
SANDSTONE-60% white, clear, quartzose, fine grained (lower to upper), sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
- 2350-80 SHALE-90% red brown, brick red, silty, blocky, calcareous, firm.
SANDSTONE-10% white, clear, quartzose, fine grained (lower to upper), sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
- 2380-2410 SHALE-90% red brown, brick red, silty, blocky, calcareous, firm.
- 2410-40 SHALE-30% red brown, brick red, silty, blocky, firm.
SANDSTONE-50% white, clear, quartzose, very fine to fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-20% white, arenaceous, limey, argillaceous, calcareous, cement, tight.
- 2440-70 SHALE-40% red brown, brick red, silty, blocky, firm.
SILTSTONE-60% white, arenaceous, limey, argillaceous, calcareous, cement, tight.
- 2470-2500 SHALE-90% red brown, brick red, silty, blocky, firm.
SANDSTONE-10% white, clear, quartzose, fine grained (lower to upper), sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, unconsolidated in part.
- 2500-30 SHALE-10% red brown, brick red, silty, blocky, firm.
SANDSTONE-90% white, clear, quartzose, fine grained (lower to upper), sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, white, clay filled, calcareous.
- 2530-60 SHALE-10% red brown, brick red, silty, blocky, firm.
SANDSTONE-90% white, clear, quartzose, fine grained (lower to upper), sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, white, clay filled, calcareous, 30% unconsolidated, 40% clay filled
- 2560-90 SHALE-30% red brown, brick red, silty, blocky, firm.
SANDSTONE-70% white, clear, quartzose, fine grained (lower to upper), sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, white, clay filled, calcareous, 30% unconsolidated, 40% clay filled

- 2590-2620 SILTSTONE-20% white, arenaceous, limey, argillaceous, calcareous cement, tight.
SANDSTONE-80% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, white, clay filled, calcareous.
- 2620-50 SHALE-40% red brown, brick red, silty, blocky, firm.
SANDSTONE-30% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-30% white, red brown, arenaceous, limey, argillaceous, calcareous cement, tight.
- 2650-80 SHALE-90% varied color, blocky, waxy, calcareous.
SANDSTONE-10% light gray, fine grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, white, clay filled, calcareous.
- 2680-2710 SHALE-10% red brown, brick red, silty, blocky, calcareous, firm.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, unconsolidated in part.
SILTSTONE-20% white, arenaceous, clay matrix, calcareous cement, tight.
- 2710-40 SHALE-30% red brown, brick red, silty, blocky, calcareous, firm.
SANDSTONE-40% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-30% white, arenaceous, limey, calcareous cement, tight.
- 2740-70 SHALE-20% red brown, brick red, silty, blocky, calcareous, firm.
SANDSTONE-20% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-60% white, arenaceous, limey, calcareous cement, tight.
- 2770-2800 SHALE-30% red brown, brick red, silty, blocky, calcareous, firm.
SANDSTONE-20% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-50% white, arenaceous, limey, calcareous cement, tight.
- 2800-30 SHALE-70% variable colored, red brown, brick red, light green, silty, blocky, calcareous, firm.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.

SILTSTONE-20% white, arenaceous, limey, calcareous cement, tight.

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- 2830-60 SHALE-70% variable colored, red brown, brick red, light green, silty, blocky, calcareous, firm.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-20% white, arenaceous, limey, calcareous cement, tight.
- 2860-90 SHALE-80% variable colored, red brown, brick red, light green, silty, blocky, calcareous, firm.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-10% white, arenaceous, limey, calcareous cement, tight.
- 2890-2920 SHALE-60% variable colored, red brown, brick red, light green, silty, blocky, calcareous, firm.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable.
SILTSTONE-10% white, arenaceous, limey, calcareous cement, tight.
LIMESTONE-20% light brown, tan, chalky, lithographic, mudstone, silty in part.
- 2920-50 SANDSTONE-100% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show.
- 2950-80 SHALE-30% light to medium gray, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-70% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, pyrite inclusions, friable, 6-8% intergranular porosity, no show.
- 2980-3010 SHALE-30% light to medium gray, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-70% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, pyrite inclusions, friable, 6-8% intergranular porosity, no show.
- 3010-40 SHALE-40% light to medium gray, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-60% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay filled, calcareous cement, pyrite inclusions, friable, tight, no show.

- 3040-70 SHALE-70% light to medium gray, varied color, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-20% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay filled, calcareous cement, pyrite inclusions, friable, tight, no show.
SILTSTONE-10% white, arenaceous, argillaceous, calcareous.
- 3070-3100 SHALE-40% red brown, brick red, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-30% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay filled, calcareous cement, pyrite inclusions, friable, tight, no show.
SILTSTONE-30% white, arenaceous, argillaceous, calcareous.
- 3100-30 SHALE-20% red brown, brick red, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-40% white, light gray, fine(upper to lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, dirty silt matrix in part, tight, no show.
SILTSTONE-40% white, light gray, arenaceous, argillaceous, calcareous.
- 3130-60 SHALE-60% varied color, light to medium gray, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-10% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay filled, calcareous cement, pyrite inclusions, friable, tight, no show.
SILTSTONE-30% gray brown, arenaceous, argillaceous, calcareous.
- 3160-90 SHALE-60% varied color, light to medium gray, firm to hard, calcareous, silty, blocky, pyrite inclusions.
SANDSTONE-10% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay filled, calcareous cement, pyrite inclusions, friable, tight, no show.
SILTSTONE-30% gray brown, arenaceous, argillaceous, calcareous.
- 3190-3220 SHALE-60% red brown, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay filled, calcareous cement, pyrite inclusions, friable, unconsolidated, no show.
SILTSTONE-30% gray brown, arenaceous, argillaceous, calcareous.

- 3220-50 SHALE-60% red brown, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, light gray, fine(upper) to fine (lower) grained, sub angular, fair to poor sorted, clay filled, calcareous cement, pyrite inclusions, friable, unconsolidated, no show.
SILTSTONE-30% gray brown, arenaceous, argillaceous, calcareous.
- 3250-80 SHALE-100% red brown, firm to hard, calcareous, silty, blocky.
- 3280-3310 SHALE-30% red brown, firm to hard, calcareous, silty, blocky.
SILTSTONE-70% light gray, arenaceous, argillaceous, limey.
- 3310-40 SHALE-50% red brown, light gray, varied color, firm to hard, calcareous, silty, blocky.
SILTSTONE-50% light gray, arenaceous, argillaceous, limey, blocky.
- 3340-70 SHALE-80% red brown, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-10% light gray, arenaceous, argillaceous, calcareous.
- 3370-3400 SHALE-60% red brown, firm to hard, calcareous, silty, blocky.
SANDSTONE-20% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-20% light gray, arenaceous, argillaceous, calcareous.
- 3400-30 SHALE-80% varied color, red brown, light green, yellow, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-10% light gray, arenaceous, argillaceous, calcareous.
- 3430-60 SHALE-90% varied color, red brown, light green, yellow, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-Trace% light gray, arenaceous, argillaceous, calcareous.

- 3460-90 SHALE-60% varied color, red brown, light green, yellow, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-30% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-10% light gray, arenaceous, argillaceous, calcareous.
- 3490-3520 SHALE-60% varied color, red brown, light green, yellow, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-30% light gray, arenaceous, argillaceous, calcareous.
- 3520-50 SHALE-10% varied color, red brown, light green, yellow, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, very fine to fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-20% light gray brown, arenaceous, argillaceous, calcareous.
- 3550-80 SHALE-30% varied color, red brown, light green, yellow, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-30% white, clear, quartzose, very fine to fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-40% light gray brown, arenaceous, argillaceous, calcareous.
- 3580-3610 SHALE-60% red brown, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-20% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-20% light gray, arenaceous, argillaceous, calcareous.
- 3610-40 SHALE-40% red brown, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-30% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-30% light gray, arenaceous, argillaceous, calcareous.

- 3640-70 SHALE-30% red brown, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-40% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-30% light gray, arenaceous, argillaceous, calcareous.
- 3670-3700 SHALE-90% red brown, light gray, yellow, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 3700-30 SHALE-100% red brown, light gray, yellow, mottled, sandy, firm to hard, calcareous, silty, blocky.
- 3730-60 SHALE-30% red brown, light gray, yellow, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 3760-90 SHALE-80% red brown, light gray, yellow, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-20% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 3790-3820 SHALE-90% red brown, light gray, white, mottled, sandy, firm to hard, calcareous, silty, blocky.
SILTSTONE-10% light gray, arenaceous, argillaceous, calcareous.
- 3820-50 SHALE-90% red brown, light gray, white, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 3850-80 SHALE-90% red brown, light gray, white, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.

- 3880-3910 SHALE-70% red brown, light gray, white, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-10% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-20% light gray, arenaceous, argillaceous, calcareous.
- 3910-40 SHALE-70% red brown, light gray, white, mottled, sandy, firm to hard, calcareous, silty, blocky.
SILTSTONE-20% light gray, arenaceous, argillaceous, calcareous.
- 3940-70 SHALE-100% varied color, red brown, light gray, white, light green, mottled, sandy, firm to hard, calcareous, silty, blocky.
- 3970-4000 SHALE-40% red brown, light green, white, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-60% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 4000-30 SHALE-60% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-40% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 4030-60 SHALE-20% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-10% light gray, arenaceous, argillaceous, calcareous.
- 4060-90 SHALE-20% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
SILTSTONE-10% light gray, arenaceous, argillaceous, calcareous.
COAL-trace black, sub bituminous, vitrious luster.

- 4090-4110 SHALE-30% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
COAL-trace black, sub bituminous, vitrious luster.
- 4110-20 SHALE-10% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
CONGLOMERATE-20% clear, frosted, sharp, angular chert fragments.
- 4120-30 SHALE-30% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-40% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
CONGLOMERATE-20% clear, frosted, sharp, angular chert fragments.
SILTSTONE-10% white, arenaceous, argillaceous, slightly calcereous.
- 4130-40 SHALE-30% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-50% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
CONGLOMERATE-20% clear, frosted, sharp, angular chert fragments.
- 4140-50 SHALE-20% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
CONGLOMERATE-10% clear, frosted, sharp, angular chert fragments.
- 4150-60 SHALE-10% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-90% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.

- 4160-70 SHALE-30% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-70% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 4170-80 SHALE-40% red brown, light green, white, yellow, gray, mottled, sandy, firm to hard, calcareous, silty, blocky.
SANDSTONE-60% white, clear, quartzose, fine to medium grained, sub angular, fair to poor sorted, clay filled, calcareous cement, friable, unconsolidated, no show.
- 4230-60 CEMENT-100%
- 4260-90 SANDSTONE-70% light gray, salt and pepper, fine (upper) to medium (lower) grained 40%, very fine upper to fine lower grained 30%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, no show.
SILTSTONE-30% light gray, arenaceous, argillaceous, calcareous, tight, hard.
- 4290-4320 SANDSTONE-60% light gray, salt and pepper, fine (upper) to medium (lower) grained 40%, very fine upper to fine lower grained 30%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, no show.
SILTSTONE-40% light gray, arenaceous, argillaceous, calcareous, tight, hard.
- 4320-50 SANDSTONE-60% light gray, salt and pepper, fine (upper) to medium (lower) grained 40%, very fine upper to fine lower grained 30%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, no show.
SILTSTONE-40% light gray, arenaceous, argillaceous, calcareous, tight, hard.
SHALE-10% medium to dark gray, silty, carbonaceous partings, firm.
- 4350-80 SANDSTONE-50% light gray, salt and pepper, fine (upper) to medium (lower) grained 40%, very fine upper to fine lower grained 30%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray, arenaceous, argillaceous, calcareous, tight, hard.
SHALE-30% medium to dark gray, silty, carbonaceous partings, firm.

- 4380-4410 SANDSTONE-60% light gray, salt and pepper, fine (upper) to medium (lower) grained 20%, very fine upper to fine lower grained 40%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-20% light to dark gray, silty, carbonaceous partings, firm.
- 4410-40 SANDSTONE-30% light gray, salt and pepper, fine (upper) to medium (lower) grained 20%, very fine upper to fine lower grained 40%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, no show.
SILTSTONE-40% light gray, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-30% light to dark gray, silty, carbonaceous partings, firm.
- 4440-70 SANDSTONE-30% light gray, salt and pepper, fine (upper) to medium (lower) grained 10%, very fine upper to fine lower grained 20%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, 15% unconsolidated no show.
SILTSTONE-50% light gray, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-20% light to dark gray, silty, carbonaceous partings, firm.
- 4470-4500 SANDSTONE-50% light gray, salt and pepper, fine (upper) to medium (lower) grained 40%, very fine upper to fine lower grained 10%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, 40% unconsolidated no show.
SILTSTONE-20% light gray, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-30% light to dark gray, silty, carbonaceous partings, firm.
- 4500-30 SANDSTONE-60% light gray, salt and pepper, fine (upper) to medium (lower) grained 30%, very fine upper to fine lower grained 30%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, 40% unconsolidated no show.
SILTSTONE-20% light gray, white, salt and pepper, clay filled in part, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-20% light to dark gray, silty, blocky, smooth, carbonaceous partings, firm.

- 4530-60 SANDSTONE-60% light gray, salt and pepper, fine (upper) to medium (lower) grained 30%, very fine upper to fine lower grained 30%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, 40% unconsolidated no show.
SILTSTONE-20% light gray, white, salt and pepper, clay filled in part, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-20% light to dark gray, silty, blocky, smooth, carbonaceous partings, firm.
- 4560-90 SANDSTONE-60% light gray, salt and pepper, fine (upper) to medium (lower) grained 30%, very fine upper to fine lower grained 30%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, 20% unconsolidated no show.
SILTSTONE-20% light gray, white, salt and pepper, clay filled in part, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-20% light to dark gray, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4590-4620 SANDSTONE-60% light gray, salt and pepper, fine (upper) to medium (lower) grained 20%, very fine upper to fine lower grained 50%, poor sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, 20% unconsolidated no show.
SILTSTONE-20% light gray, white, salt and pepper, clay filled in part, arenaceous, argillaceous, calcareous, tight, coal laminations, hard.
SHALE-20% light to dark gray, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4620-50 SANDSTONE-60% light gray, salt and pepper, fine (upper to lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-20% medium to dark gray, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.

- 4650-80 SANDSTONE-50% light gray, salt and pepper, fine (upper to lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% medium to dark gray, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4680-4710 SANDSTONE-20% light gray, salt and pepper, fine (upper to lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-50% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% light gray green, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4710-40 SANDSTONE-80% white, salt and pepper, fine (upper) to medium (lower)grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-trace% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-20% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4740-70 SANDSTONE-70% white, salt and pepper, fine (upper) to medium (lower)grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-10% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-20% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.

- 4770-4800 SANDSTONE-70% white, salt and pepper, fine (upper) to medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-10% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-20% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4800-30 SANDSTONE-70% white, salt and pepper, fine (lower to upper) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-10% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4830-60 SANDSTONE-70% white, salt and pepper, fine (lower to upper) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-10% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4860-90 SANDSTONE-50% white, salt and pepper, fine (lower to upper) grained, medium (lower) in part, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% medium to dark gray, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.

- 4890-4920 SANDSTONE-50% white, salt and pepper, fine (lower to upper) grained, medium (lower) in part, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% medium to dark gray, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4920-50 SANDSTONE-40% white, salt and pepper, fine (lower to upper) grained 30%, medium (lower)30%, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-40% medium to dark gray, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4950-80 SANDSTONE-20% white, salt and pepper, fine (lower to upper) grained 30%, medium (lower)30%, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-40% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-40% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 4980-5010 SANDSTONE-50% white, salt and pepper, clear, very fine (upper) to fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.

- 5010-40 SANDSTONE-50% white, salt and pepper, clear, very fine (upper) to fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light to medium gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 5040-70 SANDSTONE-50% white, salt and pepper, clear, very fine (upper) to fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 5070-5100 SANDSTONE-50% white, salt and pepper, clear, very fine (upper) to fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-30% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 5100-30 SANDSTONE-20% white, salt and pepper, clear, very fine (upper) to fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-10% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-70% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 5130-60 SANDSTONE-100% white, quartzose, clear, very fine (upper) to fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub

angular, clay matrix, calcareous cement, 98% unconsolidated, yellow gold milky cut, thin yellow gold residual ring.

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- 5160-90 SANDSTONE-10% white, salt and pepper, clear, very fine (upper) to fine (lower) grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-70% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 5190-5220 SANDSTONE-20% white, salt and pepper, clear, very fine (upper) to fine (lower) grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-50% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-10% black, sub bituminous, vitreous luster.
- 5220-50 SANDSTONE-10% white, salt and pepper, clear, very fine (upper) to fine (lower) grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-10% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-80% gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-trace% black, sub bituminous, vitreous luster.
- 5250-80 SANDSTONE-10% white, salt and pepper, clear, very fine (upper) to fine (lower) grained, scattered medium (lower) grained, poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-70% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.

- 5280-5310 SANDSTONE-10% white, salt and pepper, clear, very fine (upper) to fine (lower)grained, scattered medium (lower) grained, poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SILTSTONE-20% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-70% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 5310-40 SILTSTONE-10% light gray brown, white, salt and pepper, clay filled in part, arenaceous, argillaceous, slightly calcareous, tight, coal laminations firm to hard.
SHALE-90% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 5340-70 SHALE-90% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-10% black, sub bituminous, vitreous luster, conchoidal fracture.
- 5370-5400 SANDSTONE-10% white, salt and pepper, clear, fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SHALE-80% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-10% black, sub bituminous, vitreous luster, conchoidal fracture.
- 5400-30 SANDSTONE-10% white, salt and pepper, clear, fine (lower)grained, scattered medium (lower) grained, fair to poor sorted, sub angular, clay matrix, calcareous cement, pyrite inclusions, carbonaceous partings, firm to hard, clay filled, tight, no show.
SHALE-80% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-10% black, sub bituminous, vitreous luster, conchoidal fracture.
- 5430-60 SHALE-80% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-10% black, sub bituminous, vitreous luster, conchoidal fracture.

- 5460-90 SANDSTONE-30% white, salt and pepper, clear, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-60% medium to dark gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-10% black, sub bituminous, vitreous luster, conchoidal fracture.
- 5490-5520 SANDSTONE-10% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-50% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-40% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
- 5520-50 SANDSTONE-20% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-50% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-30% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
- 5550-80 SANDSTONE-30% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-30% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-40% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
- 5580-5610 SANDSTONE-10% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-60% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-30% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.

- 5610-40 SANDSTONE-10% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-60% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-30% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
- 5640-70 SANDSTONE-10% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-60% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-30% black, sub bituminous, vitreous luster, degassing.
- 5670-5700 SANDSTONE-20% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-50% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-10% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-20% black, sub bituminous, vitreous luster, degassing.
- 5700-30 SANDSTONE-30% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, no show.
SHALE-50% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-10% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-10% black, sub bituminous, vitreous luster, degassing.
- 5730-60 SANDSTONE-30% light gray brown, fine (lower)grained, scattered medium (lower) grained, well sorted, sub angular, clay matrix and cement, firm to hard, clay filled, tight, 20% unconsolidated, no show.
SHALE-50% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-20% light gray, arenaceous, argillaceous.
- 5760-90 SHALE-80% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.

COAL-20% black, sub bituminous, vitreous luster, degassing.

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- 5790-5820 SHALE-80% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
COAL-20% black, sub bituminous, vitreous luster, degassing.
- 5820-50 SANDSTONE-30% light gray brown, light gray, very fine (lower to upper)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, 6-8% intergranular porosity, slow yellow white milky cut, thin residual ring.
SHALE-10% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-50% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-10% black, sub bituminous, vitreous luster, degassing.
- 5850-80 SANDSTONE-20% light gray brown, light gray, very fine (lower to upper)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, 6-8% intergranular porosity,slow yellow white milky cut, thin residual ring.
SHALE-20% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-40% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-20% black, sub bituminous, vitreous luster, degassing.
- 5880-5910 SANDSTONE-20% light gray brown, light gray, very fine (lower to upper)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, 6-8% intergranular porosity,slow yellow white milky cut, thin residual ring.
SHALE-20% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-40% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-20% black, sub bituminous, vitreous luster, degassing.
- 5910-5940 SANDSTONE-10% light gray brown, light gray, very fine (lower to upper)grained, fair to well sorted, sub angular, clay matrix, calcareous cement.
SHALE-20% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-60% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-10% black, sub bituminous, vitreous luster, degassing.

- 5940-70 SANDSTONE-10% light gray brown, light gray, very fine (lower to upper)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, no show.
SHALE-20% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-70% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-trace% black, sub bituminous, vitreous luster, degassing.
- 5970-6000 SANDSTONE-30% light gray, salt and pepper, white, very fine (upper) to fine(lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, friable, 8-10% intergranular porosity, blue white fluorescence, yellow white milky cut fluorescence, yellow gold residual ring.
SHALE-10% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-60% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-heavy trace% black, sub bituminous, vitreous luster, degassing.
- 6000-30 SANDSTONE-70% light gray, salt and pepper, white, very fine (upper) to fine(lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, friable, 8-10% intergranular porosity, blue white fluorescence, yellow white milky cut fluorescence, yellow gold residual ring.
SHALE-10% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-10% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-10% black, sub bituminous, vitreous luster.
- 6030-60 SANDSTONE-60% light gray, salt and pepper, white, very fine (upper) to fine(lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, friable, 8-10% intergranular porosity, blue white fluorescence, yellow white milky cut fluorescence, yellow gold residual ring.
SHALE-20% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-10% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
COAL-10% black, sub bituminous, vitreous luster.

- 6060-90 SANDSTONE-60% light gray, salt and pepper, white, very fine (upper) to fine(lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, friable, 8-10% intergranular porosity, blue white fluorescence, yellow white milky cut fluorescence, yellow gold residual ring.
SHALE-40% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 6090-6120 SANDSTONE-90% light gray, salt and pepper, white, very fine (upper) to fine(lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, friable, 8-10% intergranular porosity, blue white fluorescence, yellow white milky cut fluorescence, yellow gold residual ring.
SHALE-10% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 6120-30 SANDSTONE-20% light gray, salt and pepper, white, very fine (upper) to fine(lower)grained, fair to well sorted, sub angular, clay matrix, calcareous cement, friable, 8-10% intergranular porosity, blue white fluorescence, yellow white milky cut fluorescence, yellow gold residual ring.
SHALE-10% medium to dark gray, gray brown, silty, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-70% medium to dark gray brown, arenaceous, argillaceous, carbonaceous.
- 6130-60 No Sample
- 6160-90 SANDSTONE-20% light gray brown, white, very fine (upper) to fine(lower)grained, fair to well sorted, sub angular, clay matrix and cement, tight, weak show.
SHALE-10% gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-70% gray brown, arenaceous, argillaceous, carbonaceous, slightly calcareous.
- 6190-6220 SANDSTONE-10% light gray brown, white, very fine (lower)grained, fair to well sorted, sub angular, clay matrix and cement, tight, no show.
SHALE-70% gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-20% gray brown, arenaceous, argillaceous, carbonaceous, slightly calcareous.

- 6220-50 SHALE-80% gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SILTSTONE-20% gray brown, arenaceous, argillaceous, carbonaceous, slightly calcareous.
- 6250-80 SHALE-100% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 6280-6310 SHALE-100% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
- 6310-6340 SHALE-90% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SANDSTONE-10% light gray, light gray brown, very fine grained, sub angular, well sorted, clay matrix and cement, carbonaceous, tight, no show.
- 6340-70 SHALE-90% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SANDSTONE-10% light gray, light gray brown, very fine grained, sub angular, well sorted, clay matrix and cement, carbonaceous, tight, no show.
- 6370-6400 SHALE-70% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SANDSTONE-10% light gray, light gray brown, very fine grained, sub angular, well sorted, clay matrix and cement, carbonaceous, tight, no show.
SILTSTONE-20% gray brown, arenaceous, argillaceous, slightly calcareous.
- 6400-30 SHALE-80% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SANDSTONE-20% light gray, light gray brown, very fine grained, sub angular, well sorted, clay matrix and cement, carbonaceous, tight, no show.
- 6430-60 SHALE-60% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SANDSTONE-20% light gray, light gray brown, very fine grained, sub angular, well sorted, clay matrix and cement, carbonaceous, tight, no show.

SILTSTONE-20% gray brown, arenaceous, argillaceous, slightly calcareous.

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- 6460-90 SHALE-60% medium to dark gray brown, silty, sandy, blocky, smooth, carbonaceous partings, coal laminations, firm.
SANDSTONE-20% light gray, light gray brown, very fine grained, sub angular, well sorted, clay matrix and cement, carbonaceous, tight, no show.
- 6490-6520 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6520-50 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6550-80 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6580-6610 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6610-40 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6640-70 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6670-6700 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6700-30 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6730-60 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.

- 6760-90 SHALE-100% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
- 6790-6820 No Sample
- 6820-50 No Sample
- 6850-80 SHALE-70% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal lamination.
SANDSTONE-30% light gray brown, very fine grained(lower to upper), sub angular, well sorted, clay matrix and cement, slightly calcareous, tight, carbonaceous.
- 6880-6910 SHALE-70% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
SANDSTONE-30% light gray brown, very fine grained (lower to upper), sub angular, well sorted, clay matrix and cement, slightly calcareous, tight, carbonaceous.
SILTSTONE-20% light to medium gray, arenaceous, argillaceous, slightly calcareous, blocky, firm to hard.
- 6910-40 SHALE-90% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
SANDSTONE-10% light gray brown, very fine grained(lower to upper), sub angular, well sorted, clay matrix and cement, slightly calcareous, tight, carbonaceous.
- 6940-70 SHALE-90% medium to dark gray brown, silty, sand laminations, slightly calcareous, firm, blocky, smooth, carbonaceous partings, coal laminations.
SANDSTONE-10% light gray brown, very fine grained(lower to upper), sub angular, well sorted, clay matrix and cement, slightly calcareous, tight, carbonaceous.
- 6970-7000 SHALE-100% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.

7000-30 SHALE-100% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.

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7030-60 SHALE-100% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.

7060-90 SHALE-90% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.
SANDSTONE-10% white, light gray, very fine grained(lower to upper), sub angular, well sorted, clay matrix and cement, slightly calcareous, tight.

7090-7120 SHALE-100% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.

7120-50 SHALE-100% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.

7150-80 SHALE-100% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.

7180-7210 SHALE-90% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth, firm.
SANDSTONE-10% white, light gray, very fine grained(lower to upper), sub angular, well sorted, clay matrix and cement, slightly calcareous, tight.

7210-40 SHALE-100% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.

7240-70 SHALE-70% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.
SILTSTONE-30% light to medium gray, arenaceous, argillaceous, slightly calcareous, blocky, firm to hard.

7270-7300 SHALE-60% medium to dark gray, silty, sand laminations, slightly calcareous, firm, blocky, smooth.
SILTSTONE-20% light to medium gray, arenaceous, argillaceous, slightly calcareous, blocky, firm to hard.
SANDSTONE-20% white, light gray, very fine grained(lower to upper), sub angular, well sorted, clay matrix and cement, slightly calcareous, tight.

7300-30 SHALE-100% medium to dark gray brown, silty, carbonaceous, sand laminations, waxy, earthy, slightly calcareous, soft to firm, blocky, smooth.

- 7330-60 SHALE-100% medium to dark gray brown, silty, carbonaceous, sand laminations, waxy, earthy, slightly calcareous, soft to firm, blocky, smooth.
- 7360-90 SHALE-100% medium to dark gray brown, silty, carbonaceous, sand laminations, waxy, earthy, slightly calcareous, soft to firm, blocky, smooth.
- 7390-7420 SHALE-100% medium to dark gray brown, silty, carbonaceous, sand laminations, waxy, earthy, slightly calcareous, soft to firm, blocky, smooth.
- 7420-50 SHALE-100% medium to dark gray brown, silty, carbonaceous, sand laminations, waxy, earthy, slightly calcareous, soft to firm, blocky, smooth.
- 7450-80 SHALE-100% medium to dark gray brown, silty, carbonaceous, sand laminations, waxy, earthy, slightly calcareous, soft to firm, blocky, smooth.
- 7480-7510 SHALE-100% medium to dark gray brown, silty, carbonaceous, sand laminations, waxy, earthy, slightly calcareous, soft to firm, blocky, smooth.
- 7510-40 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, silty in part.
- 7540-70 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, silty in part.
- 7570-7600 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part.
- 7600-30 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part.
- 7630-60 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part.
- 7660-90 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7690-7720 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.

- 7720-50 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7750-80 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7780-7810 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7810-40 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7840-70 SHALE-80% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
SLTSTONE-20% light gray, arenaceous, argillaceous, slightly calcareous, firm to hard.
- 7870-7900 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7900-30 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7930-60 SHALE-90% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
SLTSTONE-10% light gray, arenaceous, argillaceous, slightly calcareous, firm to hard.
- 7960-90 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 7990-8020 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty in part, fissle, platy.
- 8020-50 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8050-80 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8080-8110 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.

- 8110-40 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8140-70 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8170-8200 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8200-30 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8230-60 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8260-90 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8290-8320 SHALE-100% medium to dark gray, blocky, earthy, soft to firm, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8320-50 SHALE-100% light gray brown, blocky, earthy, soft to firm, medium to dark gray, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8350-80 SHALE-100% light gray brown, blocky, earthy, soft to firm, medium to dark gray, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8380-8410 SHALE-100% light gray brown, blocky, earthy, soft to firm, medium to dark gray, carbonaceous, slightly calcareous, silty laminations, fissle, platy.
- 8410-40 SHALE-100% medium to dark gray, blocky, carbonaceous, earthy, soft to firm.
- 8440-70 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8470-8500 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.

- 8500-30 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8530-60 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8560-90 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8590-8620 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8620-50 SHALE-100% medium to dark gray, light gray green, light gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm
- 8650-80 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8680-8710 SHALE-100% medium to dark gray, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8710-40 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous, earthy, soft to firm.
- 8740-70 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.
- 8770-8800 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.
- 8800-30 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.
- 8830-60 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.
- 8860-90 SHALE-70% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

SILTSTONE-10% light gray, salt and pepper, arenaceous, argillaceous, slightly calcareous.

SANDSTONE-20% light gray, salt and pepper, gray brown, very fine(lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, 6-8% intergranular, porosity, no show.

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8890-8920 SHALE-70% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

SILTSTONE-10% light gray, salt and pepper, arenaceous, argillaceous, slightly calcareous.

SANDSTONE-20% light gray, salt and pepper, gray brown, very fine(lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, 6-8% intergranular, porosity, no show.

8920-50 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

8950-80 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

8980-9010 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

9010-40 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

9040-70 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

9070-9100 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

9100-30 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm.

9130-60 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.

9160-90 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.

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9190-9220 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.

9220-50 SHALE-90% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.
SANDSTONE-10% light gray, salt and pepper, gray brown, very fine(lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight, porosity, no show.

9250-80 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.

9280-9310 SHALE-80% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.
SANDSTONE-20% light gray, salt and pepper, gray brown, very fine(lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight, porosity, no show.

9310-40 SHALE-70% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.
SANDSTONE-20% light gray, salt and pepper, gray brown, very fine(lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight, porosity, no show.
SILTSTONE-10% light gray, salt and pepper, arenaceous, argillaceous, slightly calcareous.

9340-70 SHALE-70% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, earthy, soft to firm, soft clay.
SANDSTONE-20% light gray, salt and pepper, gray brown, very fine(lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight, porosity, no show.

SILTSTONE-10% light gray, salt and pepper, arenaceous, argillaceous, slightly calcareous.

9370-9400 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

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9400-30 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9430-60 SHALE-90% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.
SILTSTONE-10% light gray, salt and pepper, arenaceous, argillaceous, slightly calcareous.

9460-90 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9490-9520 SHALE-100% medium to dark gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9520-50 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9550-80 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9580-9610 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9610-40 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9640-70 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, soft to firm, soft clay.

9670-9700 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

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9700-30 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

9730-60 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

9760-90 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

9790-9820 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

9820-50 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

9850-80 SHALE-80% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 10% light gray brown, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% light gray brown, salt and pepper, very fine (lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight.

9880-9910 SHALE-80% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 10% light gray brown, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% light gray brown, salt and pepper, very fine (lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight.

9910-40 SHALE-80% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 10% light gray brown, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% light gray brown, salt and pepper, very fine (lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight.

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9940-70 SHALE-80% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

9970-10000 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10000-30 SHALE-70% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% light gray brown, salt and pepper, very fine (lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight.

10030-40 No Sample

10040-50 SHALE-70% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% light gray brown, salt and pepper, very fine (lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight, no show.

10050-60 SHALE-70% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% light gray brown, salt and pepper, very fine (lower) to siltstone, sub angular, well sorted, clay matrix, calcareous cement, tight, no show.

10060-70 SHALE-100% medium to dark gray brown, light gray, soft clay (50%), silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm.

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10070-80 SHALE-70% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.

10080-90 SHALE-70% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.

10090-10100 SHALE-100% light gray, soft, clay, limey(70%), light to medium gray, silty, sandy, blocky, firm(30%).

10100-10 SHALE-70% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% light gray brown, salt and pepper, very fine (lower) to fine (lower) grained, sub angular, well sorted, clay matrix, dirty silt matrix in part, calcareous cement, tight, no show.

10110-20 SHALE-30% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-70% light gray brown, salt and pepper, very fine (upper), sub angular, well sorted, clay matrix, dirty silt matrix in part, siliceous cement, tight, no show.

10120-30 SHALE-20% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.

SANDSTONE-60% light gray brown, salt and pepper, very fine (lower) to fine (lower) grained, sub angular, well sorted, clay matrix, dirty silt matrix in part, calcareous cement, tight, no show.

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- 10130-40 SHALE-70% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% light gray brown, arenaceous, argillaceous, slightly calcareous.
BENTONITE-trace% white, tan, soft, waxy.
- 10140-50 SHALE-30% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 30% light gray brown, arenaceous, argillaceous, slightly calcareous
SANDSTONE-40% light gray brown, salt and pepper, very fine (upper) grained, sub angular, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show.
- 10150-60 SHALE-30% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 30% light gray brown, arenaceous, argillaceous, slightly calcareous.
- 10160-70 Poor Sample 99% LCM
- 10170-80 Poor Sample 99% LCM
- 10180-90 Poor Sample 99% LCM
- 10190-200 Poor Sample 99% LCM
- 10200-10 Poor Sample 99% LCM
- 10210-20 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10220-30 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10230-40 SHALE-100% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

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10240-50 SHALE-20% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-80% white, clear, quartzose, fine (upper) to medium (lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, 20% unconsolidated, 10-12% intergranular porosity, no show.

10250-60 SHALE-10% medium to dark gray brown, light gray, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE 20% white, clay filled, floating sand grains.
SANDSTONE-70% light gray brown, salt and pepper, very fine (upper) grained, sub angular, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show.

10260-70 SHALE-20% gray, dark gray to black, brown, gray brown, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-80% white, clear, quartzose, fine (upper) to medium (lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, 20% unconsolidated, 10-12% intergranular porosity, chert shards no show.

10270-80 SHALE-60% gray, red orange, light green, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-40% white, soft, marly, chalky, limey, grades to lithographic mudstone.

10280-90 SHALE-60% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-10% white, soft, marly, chalky, sandy, limey, grades to lithographic mudstone.

SANDSTONE-30% white, clear, quartzose, fine (upper) to medium (lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, 20% unconsolidated, 10-12% intergranular porosity, chert shards no show.

10290-300 SHALE-100% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

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10300-10 SHALE-100% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10310-20 SHALE-100% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10320-30 SHALE-100% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10330-40 SHALE-80% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-20% white, soft, marly, chalky, sandy, limey, grades to lithographic mudstone.

10340-50 SHALE-100% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10350-60 SHALE-100% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10360-70 SHALE-100% varied color, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10370-80 SHALE-100% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

10380-90 SHALE-80% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-20% white, clear, quartzose, fine (upper) to medium(lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, chert shards no show.

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10390-400 SHALE-80% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-20% white, clear, quartzose, fine (upper) to medium(lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, chert shards no show.

10400-10 SHALE-30% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE-70% light gray, siliceous, firm to hard, salt and pepper, speckled.

10410-20 SHALE-50% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE-30% light gray, siliceous, firm to hard, salt and pepper, speckled.
SANDSTONE-20% white, clear, quartzose, very fine (lower to upper) to medium(lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, chert shards no show.

10420-30 SHALE-40% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE-60% light gray, siliceous, firm to hard, salt and pepper, speckled.

10430-40 SHALE-100% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery,

carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

- 10440-50 SHALE-70% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE-30% light gray, siliceous, firm to hard, salt and pepper, speckled.

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- 10450-60 SHALE-70% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE-10% light gray, siliceous, firm to hard, salt and pepper, speckled.
SANDSTONE-20% white, clear, quartzose, very fine (lower to upper) to medium(lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, chert shards no show.
- 10460-70 SHALE-90% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE-10% light gray, siliceous, firm to hard, salt and pepper, speckled.
- 10470-80 SHALE-80% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SILTSTONE-10% light gray, siliceous, firm to hard, salt and pepper, speckled.
SANDSTONE-10% white, clear, quartzose, very fine (lower to upper) to medium(lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, chert shards no show.
- 10480-520 SHALE-90% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-10% white, clear, quartzose, very fine (lower to upper) to medium(lower) grained, sub angular to angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, welded grains, chert shards no show.

10520-50 SHALE-30% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-70% white, soft, chalky, limey, grades to limestone, chalky, lithographic, mudstone.

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10550-80 SHALE-60% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-40% white, soft, chalky, limey, grades to limestone, chalky, lithographic, mudstone.

10580-610 SHALE-30% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-70% white, soft, chalky, limey, grades to limestone, chalky, lithographic, mudstone.

10610-640 SHALE-40% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-40% white, soft, chalky, limey, grades to limestone, chalky, lithographic, mudstone.
SILTSTONE-20% light green, firm, argillaceous, blocky.

10640-70 SHALE-50% varied color, red brown, lavender, gray, red orange, light green, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
CLAYSTONE-40% white, soft, chalky, limey, grades to limestone, chalky, lithographic, mudstone.
SILTSTONE-10% light green, firm, argillaceous, blocky.

10670-700 SHALE-50% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

SANDSTONE-50% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10700-30 SHALE-80% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-20% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

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10730-60 SHALE-90% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10760-90 SHALE-90% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10790-820 SHALE-90% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10820-50 SHALE-90% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10850-80 SHALE-90% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10880-910 SHALE-90% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10910-40 SHALE-100% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

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10940-70 SHALE-70% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-30% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

10970-11000 SHALE-50% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-50% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

11000-10 SHALE-50% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-50% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show.

11010-20 SHALE-70% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show. SILTSTONE-20% light green, arenaceous, calcareous, hard, tight.

11020-30 SHALE-50% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine grained, well sorted, clay matrix and cement, clay filled, tight, no show. SILTSTONE-20% light green, arenaceous, calcareous, hard, tight.

- 11030-40 SHALE-40% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-30% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show. SILTSTONE-30% light green, arenaceous, calcareous, hard, tight.
- 11040-70 SANDSTONE-100% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show.
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- 11070-80 SANDSTONE-100% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show.
- 11080-90 SANDSTONE-100% white, clear quartzose, fine (lower to upper) grained, sub angular, fair to well sorted, calcareous matrix, 6-8 % intergranular porosity, no show.
- 11090-100 SANDSTONE-100% white, clear quartzose, fine (lower to upper) grained, sub angular, fair to well sorted, calcareous matrix, 6-8 % intergranular porosity, no show.
- 11100-10 SHALE-30% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-40% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show. SILTSTONE-30% white, light orange, pink, limey, grades to sandy limestone, arenaceous, calcareous, hard, tight.
- 11110-20 SHALE-10% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-60% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show. LIMESTONE-30% pink, chalky, mudstone.
- 11120-30 SHALE-10% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.

SANDSTONE-20% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show.

LIMESTONE-70% pink, chalky, mudstone.

- 11130-40 SHALE-10% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-20% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show.
LIMESTONE-70% white, tan, soft to firm, chalky, mudstone.

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- 11140-50 SHALE-30% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-10% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show.
LIMESTONE-60% white, tan, soft to firm, chalky, mudstone.

- 11150-60 SHALE-30% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-10% light gray, salt and pepper, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, clay filled, tight, no show.
LIMESTONE-60% white, tan, soft to firm, chalky, mudstone.

- 11160-70 No Sample

- 11170-80 SHALE-80% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-20% white, clear, quartzose, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, 6-8% intergranular porosity, no show, (30%), 20% medium grained unconsolidated.

- 11180-90 SHALE-80% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-20% white, clear, quartzose, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement,

6-8% intergranular porosity, no show, (30%), 20% medium grained unconsolidated.

11190-200 SHALE-80% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-20% white, clear, quartzose, very fine(upper) to fine lower) grained, sub angular, well sorted, calcareous matrix, clay cement, 6-8% intergranular porosity, no show, (30%), 20% medium grained unconsolidated.

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11200-10 SHALE-100% peach, light green, light brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, abundant soft clay.

11210-20 SHALE-80% red orange, red brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-20% white, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show.

11220-30 No Sample

11230-40 SHALE-100% peach, light green, light brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, abundant soft clay.

11240-50 SHALE-90% peach, brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-10% white, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show.

11250-60 SHALE-70% peach, brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay. SANDSTONE-30% white, peach, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show, 10% unconsolidated, medium grained.

- 11260-70 SHALE-70% peach, brown, varied color, silty, slightly calcareous, siliceous, blocky, platy, splintery, carbonaceous partings, silt and sand laminations, fracture in fill, earthy, fissile, soft to firm, soft clay.
SANDSTONE-30% white, peach, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show, 10% unconsolidated, medium grained.
- 11270-80 SANDSTONE-100% white, peach, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show, 10% unconsolidated, medium grained.
- 11280-90 SANDSTONE-100% white, peach, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show, 10% unconsolidated, medium grained, 30% clay filled.
- 11290-300 SANDSTONE-100% white, peach, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, 6-8% intergranular porosity, no show, 10% unconsolidated, medium grained, 30% clay filled.
- 11300-10 SHALE-60% brick red, red brown, silty, blocky, varied color, white, peach, soft to firm.
SILTSTONE-20% brick red, arenaceous, argillaceous, blocky, slightly calcareous.
SANDSTONE-20% red orange, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight.
- 11310-20 SHALE-60% brick red, red brown, silty, blocky, varied color, white, peach, soft to firm.
SILTSTONE-20% brick red, arenaceous, argillaceous, blocky, slightly calcareous.
SANDSTONE-20% red orange, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight.
- 11320-30 SHALE-90% brick red, red brown, silty, blocky, varied color, white, peach, soft to firm.
SANDSTONE-10% red orange, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight.

- 11330-40 SHALE-70% brick red, red brown, silty, blocky, varied color, white, peach, soft to firm.
SANDSTONE-30% red orange, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight.
- 11340-50 SHALE-20% brick red, red brown, silty, blocky, varied color, white, peach, soft to firm.
SANDSTONE-80% red orange, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight.
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- 11350-60 SHALE-20% brick red, red brown, silty, blocky, varied color, white, peach, soft to firm.
SANDSTONE-80% red orange, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight.
- 11360-70 SHALE-70% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-30% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
- 11370-80 SHALE-70% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-30% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
- 11380-90 SHALE-50% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-20% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-30% red orange, red brown, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.
- 11390-400 SHALE-60% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-20% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-20% red orange, red brown, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.

11400-10 SHALE-50% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-20% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-30% red orange, red brown, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.

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11410-20 SHALE-80% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-10% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% red orange, red brown, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.

11420-50 SHALE-40% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-50% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-10% red orange, red brown, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.

11450-60 SHALE-60% red orange, red brown, brick red, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SILTSTONE-20% red orange, brick red, arenaceous, argillaceous, slightly calcareous.
SANDSTONE-20% red orange, red brown, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.

11460-70 No Sample

11470-80 SHALE-30% light to medium gray, medium to dark gray, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SANDSTONE-70% white, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.

11480-90 SHALE-20% light to medium gray, medium to dark gray, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SANDSTONE-80% white, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.

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11490-500 SHALE-10% light to medium gray, medium to dark gray, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SANDSTONE-70% white, clear, quartzose, light red, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.
SILTSTONE-20% red orange, arenaceous, argillaceous, blocky, firm to hard.

11500-10 SHALE-10% light to medium gray, medium to dark gray, silty, sandy, blocky, calcareous, light gray, limey, blocky.
SANDSTONE-70% white, clear, quartzose, light red, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, calcareous cement, friable, clay filled in part, tight, no show.
SILTSTONE-20% red orange, arenaceous, argillaceous, blocky, firm to hard.

11510-20 SANDSTONE-100% light red orange, white, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, no show.

11520-30 SANDSTONE-100% light red orange, white, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, no show.

11530-40 SANDSTONE-100% light red orange (30%), white, clear, quartzose (70%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 30% unconsolidated, no show.

11540-50 SANDSTONE-100% light red orange (15%), white, clear, quartzose (85%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 40% unconsolidated, no show.

11550-60 SANDSTONE-100% light red orange (15%), white, clear, quartzose (85%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 30% unconsolidated, fine(upper) to medium (lower), no show.

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11560-70 SANDSTONE-100% light red orange (15%), white, clear, quartzose (85%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 30% unconsolidated, fine(upper) to medium (lower), no show.

11570-80 SANDSTONE-30% light red orange (15%), white, clear, quartzose (15%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 2% unconsolidated, fine(upper) to medium (lower), no show.
SILTSTONE-60% red orange, arenaceous, argillaceous, blocky, firm.
SHALE-10% red brown, silty, arenaceous.

11580-90 SANDSTONE-50% light red orange (10%), white, clear, quartzose (40%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 5% unconsolidated, fine(upper) to medium (lower), no show.
SILTSTONE-40% red orange, arenaceous, argillaceous, blocky, firm.
SHALE-10% red brown, silty, arenaceous.

11590-600 SANDSTONE-50% light red orange (15%), white, clear, quartzose (35%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 10% unconsolidated, fine(upper) to medium (lower), 30% clay filled ? bit flour, no show.

11600-10 SANDSTONE-50% light red orange (50%), white, clear, quartzose (1%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 1% unconsolidated, fine(upper) to medium (lower), no show.
SILTSTONE-40% red orange, arenaceous, argillaceous, blocky, firm.
SHALE-10% medium to dark gray, limey, blocky, carbonaceous.

11610-20 SANDSTONE-40% light red orange, pink, (35%), white, clear, quartzose (5%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 1% unconsolidated, fine(upper) to medium (lower), no show.
SILTSTONE-30% red orange, arenaceous, argillaceous, blocky, firm.
SHALE-30% white, pink, light red, soft, clay filled, silty, sandy.

11620-30 SANDSTONE-90% light red orange, pink, (75%), white, clear, quartzose (15%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular
SHALE-10% white, pink, chalky, silty, sandy.

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11630-40 SANDSTONE-100% light red orange (15%), white, clear, quartzose (85%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 30% unconsolidated, fine(upper) to medium (lower), no show.

11640-50 SANDSTONE-100% light red orange (20%), white, clear, quartzose (80%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 20% unconsolidated, fine(upper) to medium (lower), no show.

11650-60 SANDSTONE-100% light red orange (20%), white, clear, quartzose (80%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 80% unconsolidated, fine(upper) to medium (lower), no show.

11660-70 SANDSTONE-50% light red orange, pink, (35%), white, clear, quartzose (15%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 1% unconsolidated, fine(upper) to medium (lower), no show.
SILTSTONE-30% red orange, arenaceous, argillaceous, blocky, firm.
SHALE-20% white, soft, clay filled, silty, sandy.

11670-80 SANDSTONE-50% light red orange, pink, (35%), white, clear, quartzose (15%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 1% unconsolidated, fine(upper) to medium (lower), no show.
SILTSTONE-30% red orange, arenaceous, argillaceous, blocky, firm.
SHALE-20% white, soft, clay filled, silty, sandy.

- 11680-90 SANDSTONE-90% light red orange (20%), white, clear, quartzose (70%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 70% unconsolidated, fine(upper) to medium (lower), no show.
SHALE-10% white, soft, clay filled, silty, sandy.
- 11690-702 SANDSTONE-100% light red orange (30%), white, clear, quartzose (70%), very fine (upper) to fine (lower) grained, sub angular, sub angular, fair to well sorted, clay matrix and cement, friable, 6-8 % intergranular porosity, 70% unconsolidated, fine(upper) to medium (lower), no show.

Wind River Resources Corporation
North Hill Creek Project Well List as of January 1, 2007
 (All wells on Ute Indian Tribe Surface and Minerals in Uintah County)

Well Name & Number	Location	Lease Serial Number	
North Hill Creek 9-11-15-20	nese Sec. 11-T15S-R20E	14-20-H62-5000	43-047-35390
North Hill Creek 14-11-15-20	sesw Sec. 11-T15S-R20E	14-20-H62-5000	43-047-34953
North Hill Creek 2-12-15-20	nwne Sec. 12-T15S-R20E	14-20-H62-5001	43-047-35283
North Hill Creek 11-12-15-20	nsw Sec. 12-T15S-R20E	14-20-H62-5001	43-047-34186
North Hill Creek 4-13-15-20	nwnw Sec. 13-T15S-R20E	14-20-H62-5023	43-047-35054
North Hill Creek 8-13-15-20	nese Sec. 13-T15S-R20E (Btm Hole) sene Sec. 13-T15S-R20E (Surface)	14-20-H62-5023	43-047-34954
North Hill Creek 2-14-15-20	nene Sec. 14-T15S-R20E (Btm Hole) Nwne Sec. 14-T15S-R20E (Surface)	14-20-H62-5512 ★ <i>from 14-20-H62-4917</i>	43-047-34955

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