

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

FORM 3
AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER ARCHY BENCH 11-22-24-2	
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT BITTER CREEK	
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO						5. UNIT or COMMUNITIZATION AGREEMENT NAME	
6. NAME OF OPERATOR Enduring Resources, LLC						7. OPERATOR PHONE 303 350-5114	
8. ADDRESS OF OPERATOR 475 17th Street, Suite 1500, Denver, CO, 80202						9. OPERATOR E-MAIL aarlian@enduringresources.com	
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML-47075			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')	
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')	
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			19. SLANT VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>	
20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN	
LOCATION AT SURFACE	811 FSL 2125 FWL	SESW	2	11.0 S	22.0 E	S	
Top of Uppermost Producing Zone	811 FSL 2125 FWL	SESW	2	11.0 S	22.0 E	S	
At Total Depth	811 FSL 2125 FWL	SESW	2	11.0 S	22.0 E	S	
21. COUNTY UINTAH			22. DISTANCE TO NEAREST LEASE LINE (Feet) 481			23. NUMBER OF ACRES IN DRILLING UNIT 40	
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 1173			26. PROPOSED DEPTH MD: 7616 TVD: 7616	
27. ELEVATION - GROUND LEVEL 5207			28. BOND NUMBER RLB0008031			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 49-2279	

ATTACHMENTS

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

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

NAME Alvin Arlian	TITLE Landman-Regulatory	PHONE 303 350-5114
SIGNATURE	DATE 12/22/2008	EMAIL aarlian@enduringresources.com
API NUMBER ASSIGNED 43047502110000	APPROVAL  Permit Manager	

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Cond	20	14	0	40		
Pipe	Grade	Length	Weight			
	Grade K-55 LT&C	40	36.0			
	Cement Interval	Top (MD)	Bottom (MD)			
		0	40			
		Cement Description	Class	Sacks	Yield	Weight
			Class G Cement	99	1.15	15.1

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Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	8.625	0	1000		
Pipe	Grade	Length	Weight			
	Grade J-55 ST&C	1000	24.0			
	Cement Interval	Top (MD)	Bottom (MD)			
		0	0			
		Cement Description	Class	Sacks	Yield	Weight
			Premium Lite High Strength	138	1.15	15.8
			Premium Plus	100	1.15	15.8
	Cement Interval	Top (MD)	Bottom (MD)			
		0	1000			
		Cement Description	Class	Sacks	Yield	Weight
			Premium Plus	238	3.5	11.1

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	7616		
Pipe	Grade	Length	Weight			
	Grade N-80 LT&C	7616	11.6			
	Cement Interval	Top (MD)	Bottom (MD)			
		0	7616			
		Cement Description	Class	Sacks	Yield	Weight
			50/50 Poz	1057	3.3	11.0

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Enduring Resources, LLC

Archy Bench 11-22-24-2
 SESW Sec 2 T11S-R22E
 Uintah County, Utah

State Lease: ML-47075

ONSHORE ORDER 1 - DRILLING PLAN

1. Estimated Tops of Geological Markers:

Formation	Depth (K.B.)
Uinta	Surface
Green River	279'
Wasatch	3239'
Mesaverde	5643'

2. Estimated Depths of Anticipated Water, Oil, Gas or Other Minerals:

Substance	Formation	Depth (K.B.) TVD
	KB-Uinta Elevation: 5216' est.	
Oil / Gas	Green River	279'
Oil /Gas	Wasatch	3239'
Oil /Gas	Mesaverde	5643'
	TD	7616'

An 11" hole surface hole will be drilled with air, air/mist, foam or mud depending on hole conditions to approximately 1016 feet. The depth will be determined by the depth that the Birds Nest zone is encountered. The hole will be drilled 400 feet beyond the top of the Birds Nest zone and surface casing will be set and cemented to surface. Surface casing will be pre-set before drilling rig is moved on location. ProPetro Services Incorporated, or if not available, another Surface Hole Driller (collectively "Surface Hole Driller") will drill the surface hole. A 300 or 400 bbl tank of fresh water will be on location prior to commencement of operations to use as a kill fluid. The anchored blooie line shall be at least 6" in diameter and extend straight from the wellhead to the reserve/blooie pit. Surface Hole Driller's equipment includes a 1250 CFM compressor on the drilling rig along with a 1070 to 1170 CFM stand alone compressor. Surface Hole Driller's equipment shall be setup on the front side of the location with the rig between the driller and the reserve/blooie pit. The stand alone compressor will be adjacent to the rig on the same side as the driller. Surface Hole Driller's equipment includes spark arrestors on engines, a diverter head, a mister close to the end of the

blooie line for dust suppression, a continuously lit pilot light, a fluid pump to circulate kill fluids as necessary, a diverter on the end of the blooie line, a float valve in the drill string and kill switches.

3. Pressure Control Equipment: (3000 psi schematic attached)

- A. Type: Eleven (11) inch double gate hydraulic BOP with eleven (11) inch annular preventer on 3,000 psi casinghead, with 3,000 psi choke manifold equipped per the attached diagram. BOPE as specified in *Onshore Oil & Gas Order Number 2*. A PVT, stroke counter and flow sensor will be installed to check for flow and monitor pit volume.
- B. Pressure Rating: 3,000 psi BOPE
- C. Kelly will be equipped with upper and lower Kelly valves.
- D. Testing Procedure: Annular Preventer

At a minimum, the annular preventer will be pressure tested to 50% of the stack rated working pressure for a period of ten (10) minutes or until provisions of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

- 1. When the annular preventer is initially installed;
- 2. Whenever any seal subject to test pressure is broken;
- 3. Following related repairs; and
- 4. At thirty (30) day intervals.

In addition to the above, the annular preventer will be functionally operated at least weekly.

Blow-Out Preventer

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface casing by a test plug) or to 70% of the internal yield strength of the surface casing (if the BOP is not isolated from the casing by a test plug). Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

- 1. When the BOP is initially installed;
- 2. Whenever any seal subject to test pressure is broken;
- 3. Following related repairs; and
- 4. At thirty (30) day intervals.

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills and tests will be recorded in the IADC driller's log.

E. Miscellaneous Information:

The blowout preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and requirements of *Onshore Oil & Gas Order Number 2*.

4. **Proposed Casing & Cementing Program:**

A. **Casing Program: All New**

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Depth Set (MD)
20"	14" O.D.				40' (GL)
11"	8-5/8"	24#	J-55	ST&C	0 – 1016' (KB) est.
7-7/8"	4-1/2"	11.6#	N-80	LT&C	0 – 7616' (KB)

The surface casing will have guide shoe, 1 joint, insert float collar. Centralize the shoe joint with bowspring centralizers in the middle and top of the joint and the next 16 joints with bowspring centralizers on every other collar (8 centralizers total). Thread lock guide shoe. Surface casing will be pre-set before the drilling rig is moved on location.

Casing string(s) will be pressure tested to 0.22 psi/foot of casing string length or 1500 psi, whichever is greater (not to exceed 70% of the internal yield strength of the casing), after cementing and prior to drilling out from under the casing shoe.

B. **Casing Design Parameters:**

Depth (MD)	Casing	Collapse(psi)/SF	Burst (psi)/SF	Tension(mlbs)/SF
40' (GL)	14" OD			
1016' (KB)	8-5/8", 24#/ft, J55, STC	1370/1.52(a)	2950/3.28(b)	244/5.81(c)
7616' (KB)	4-1/2", 11.6#/ft, N-80, LTC	6350/1.57 (d)	7780/2.09 (e)	223/2.87 (f)

- (a.) based on full evacuation of pipe with 8.6 ppg fluid on annulus
- (b.) based on 8.6 ppg gradient with no fluid on annulus
- (c.) based on casing string weight in 8.6 ppg mud
- (d.) based on full evacuation of pipe with 10.0 ppg fluid on annulus
- (e.) based on 9.2 ppg gradient, gas to surface, with no fluid on annulus, no gas gradient
- (f.) based on casing string weight in 9.2 ppg mud

PROPOSED CEMENTING PROGRAM

Surface Casing (if well will circulate)-Cemented to surface

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft ³ /sx)
8-5/8"	Lead	500	Premium cement + 16% gel + 0.25 pps celloflake	138	25%	11.1	3.50
8-5/8"	Tail	451	Premium cement + 2% CaCl ₂ + 0.25 pps celloflake	100	25%	15.8	1.15

A cement top job is required if cement fallback is greater than 10' below ground level. Top job (weight 15.8 ppg, yield 1.15 ft³/sx) cement will be premium cement w/ 3% CaCl₂ + 0.25 pps celloflake. Volume as required

Surface Casing (if well will not circulate) - Cemented to surface

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft ³ /sx)
8-5/8"	Lead	500	Premium cement + 2% CaCl ₂ + 0.25 pps celloflake	138	25	15.8	1.15
8-5/8"	Top job	As req.	Premium cement + 3% CaCl ₂ + 0.25 pps celloflake	As Req.		15.8	1.15

Production Casing and Liner - Cemented TD to 300' above base of surface casing

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft ³ /sx)
4-1/2"	Lead	2133	Class "G" + 5% NaCl + 12% Gel + 0.25 pps celloflake + 0.2% antifoam + 0.25% fluid loss + 1% extender	185	25	11.0	3.3
4-1/2"	Tail	4777	50/50 POZ Class G + 2% gel + 1% CaCl ₂ + 0.2% dispersant + 0.2% fluid loss + 0.1% antifoam	872	25	14.3	1.56

Cement volumes for the 4-1/2" Production Casing will be calculated to provide a top of cement to 300' above base of surface casing. Cement volumes are approximate and were calculated under the assumption that a gauge hole will be achieved. Actual cement volumes may vary due to variations in the actual hole

size and will be determined by running a caliper log on the drilled hole. Actual cement types may vary due to hole conditions and cement contractor used.

All waiting on cement (WOC) times will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. Drilling Fluids (mud) Program:

Interval (MD)	Mud Weight	Fluid Loss	Viscosity	Mud Type
0' – 1016' (KB)		No cntrl		Air/mist
2000'-3000' (KB)	8.4-8.6	No cntrl	28-36	Water
3000'-7855' (KB)	8.8-9.8	8 - 10 ml	32-42	Water/Gel

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blowout will be available at the well site during drilling operations. For the surface casing water and wellbore cuttings will be used as necessary for a weighting material. For the rest of the well wellbore cuttings will be used as a weighting material. Barite will be used as needed for a weighting material in the lower portions of the well. The mud properties will be checked at least daily by the drilling rig personnel and/or by the mud company representative. The mud company representative will leave a written report at the rig when the mud is checked. The mud weight will be measured with a mud balance.

6. Evaluation Program:

Tests: No tests are currently planned.

Coring: No cores are currently planned.

Samples: No sampling is currently planned.

Logging

- Dual Induction – SFL /Gamma Ray/Caliper/SP/TDLT/CNL/ML
TD to Base Surface Casing
- Cement Bond Log / Gamma Ray:
TD to Base of Surface Casing or Top of Cement if below Base of Surface Casing

Stimulation: A stimulation or frac treatment will be designed for completion of this well based on openhole log analysis. The drill site, as approved, will be sufficient size to accommodate all completion activities.

7. **Abnormal Conditions:**

No abnormal temperatures or pressures are anticipated. No H₂S has been encountered or known to exist from previous wells drilled to similar depths in the general area.

Maximum anticipated bottom hole pressure equals approximately 3'960 psi (calculated at 0.52 psi/foot of hole) and maximum anticipated surface pressure equals approximately 2,285 psi (anticipated bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot of hole).

8. **Anticipated Starting Dates:**

- Anticipated Commencement Date- Within one year of APD issue.
- Drilling Days- Approximately 10 days
- Completion Days - Approximately 10 days
- Anticipate location construction within 30 days of permit issue.

9. **Variances:**

None anticipated

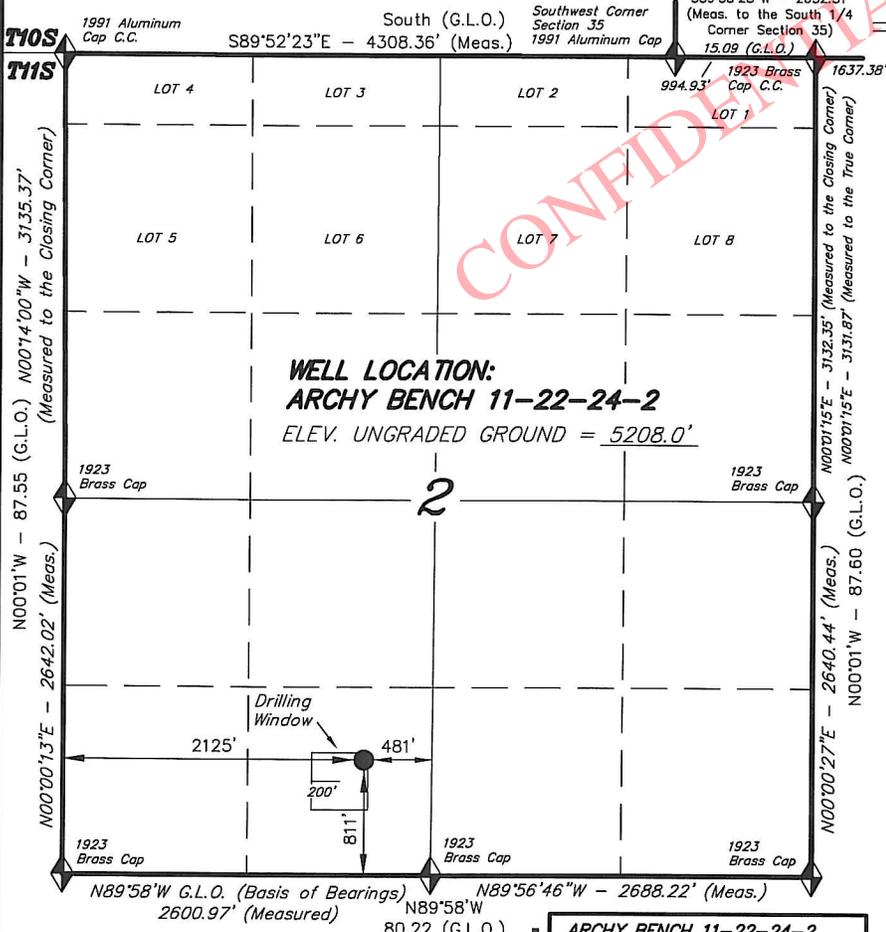
10. **Other:**

A Cultural Resource Inventory and Paleontology reconnaissance shall be conducted for the well location, access route and pipeline. The reports shall be submitted to the Division of Oil, Gas and Mining and the School and Institutional Trust lands Administration upon their receipt.

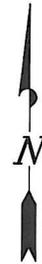
A measurement while drilling (MWD) system will be used to track and control the directional path of the wellbore.

T11S, R22E, S.L.B.&M.

ENDURING RESOURCES

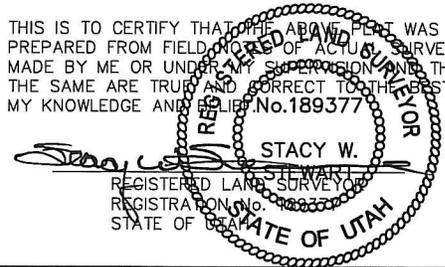


WELL LOCATION, ARCHY BENCH
11-22-24-2, LOCATED AS SHOWN IN
THE SE 1/4 SW 1/4 OF SECTION 2,
T11S, R22E, S.L.B.&M. UINTAH COUNTY,
UTAH.



WELL LOCATION:
ARCHY BENCH 11-22-24-2
ELEV. UNGRADED GROUND = 5208.0'

THIS IS TO CERTIFY THAT THE ABOVE PLAN 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. No. 189377



STACY W.
REGISTERED LAND SURVEYOR
REGISTRATION No. 189377
STATE OF UTAH

◆ = SECTION CORNERS LOCATED

BASIS OF ELEV; U.S.G.S. 7-1/2 min
QUAD (ARCHY BENCH)

ARCHY BENCH 11-22-24-2
(Surface Location) NAD 83
LATITUDE = 39° 53' 04.28"
LONGITUDE = 109° 25' 26.99"

TRI STATE LAND SURVEYING & CONSULTING

180 NORTH VERNAL AVE. - VERNAL, UTAH 84078
(435) 781-2501

DATE DRAWN: 6-1-05	SURVEYED BY: J.H.	SHEET 2a
REVISED:	DRAWN BY: F.T.M.	
NOTES:	SCALE: 1" = 1000'	OF 10

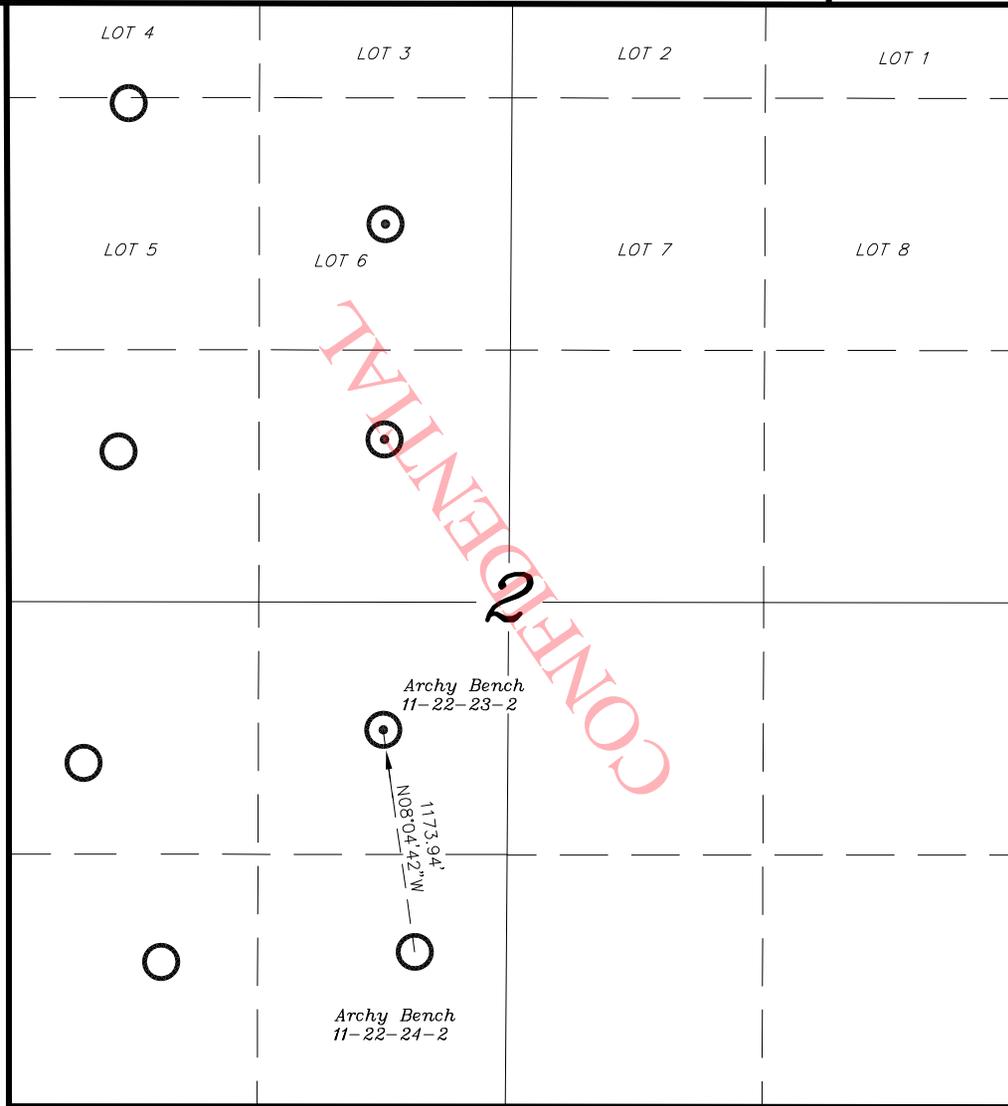
T11S, R22E, S.L.B.&M.

ENDURING RESOURCES

SECTION DRILLING MAP
 ARCHY BENCH 11-22-24-2
 ARCHY BENCH 11-22-23-2

T10S

T11S



LEGEND

- = Vertical Well
- ⊙ = Directional Well Bottom Hole

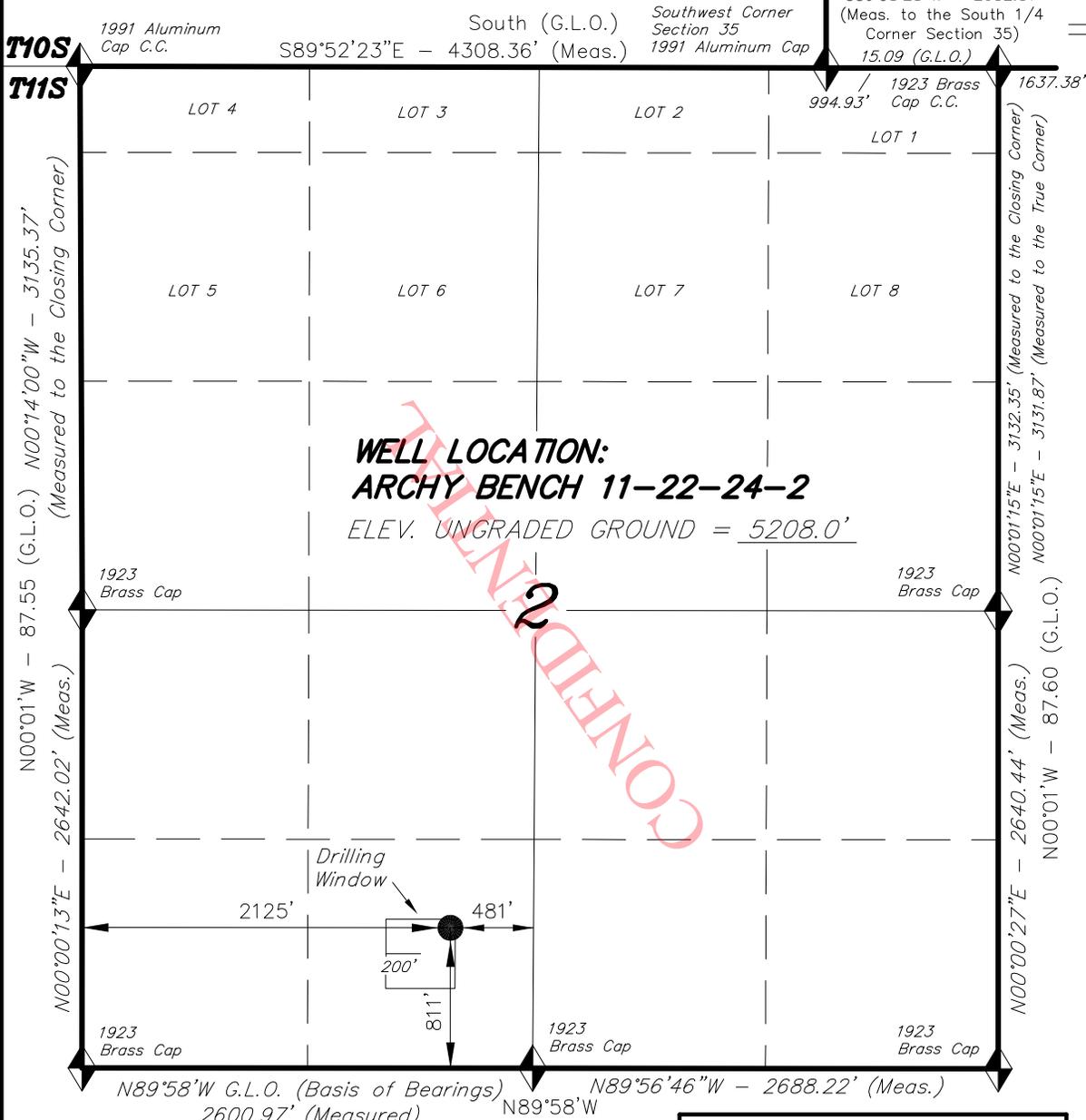
TRI STATE LAND SURVEYING & CONSULTING
 180 NORTH VERNAL AVE. – VERNAL, UTAH 84078
 (435) 781-2501

DATE DRAWN: 6-1-05	SURVEYED BY: J.H.	SHEET 1 OF 10
REVISED: 6-9-05	DRAWN BY: F.T.M.	
NOTES:	SCALE: 1" = 1000'	

'APIWellNo:43047502110000'

T11S, R22E, S.L.B.&M.

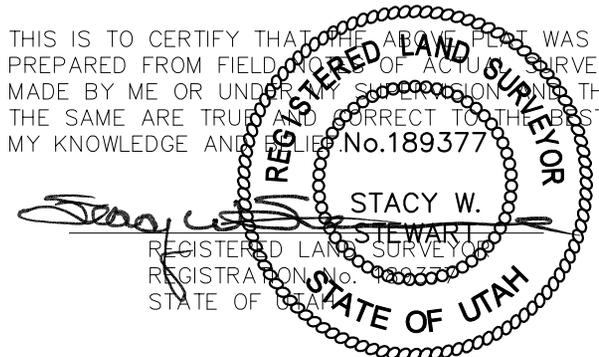
ENDURING RESOURCES



WELL LOCATION, ARCHY BENCH
11-22-24-2, LOCATED AS SHOWN IN
THE SE 1/4 SW 1/4 OF SECTION 2,
T11S, R22E, S.L.B.&M. UINTAH COUNTY,
UTAH.



THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS
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◆ = SECTION CORNERS LOCATED
BASIS OF ELEV; U.S.G.S. 7-1/2 min
QUAD (ARCHY BENCH)

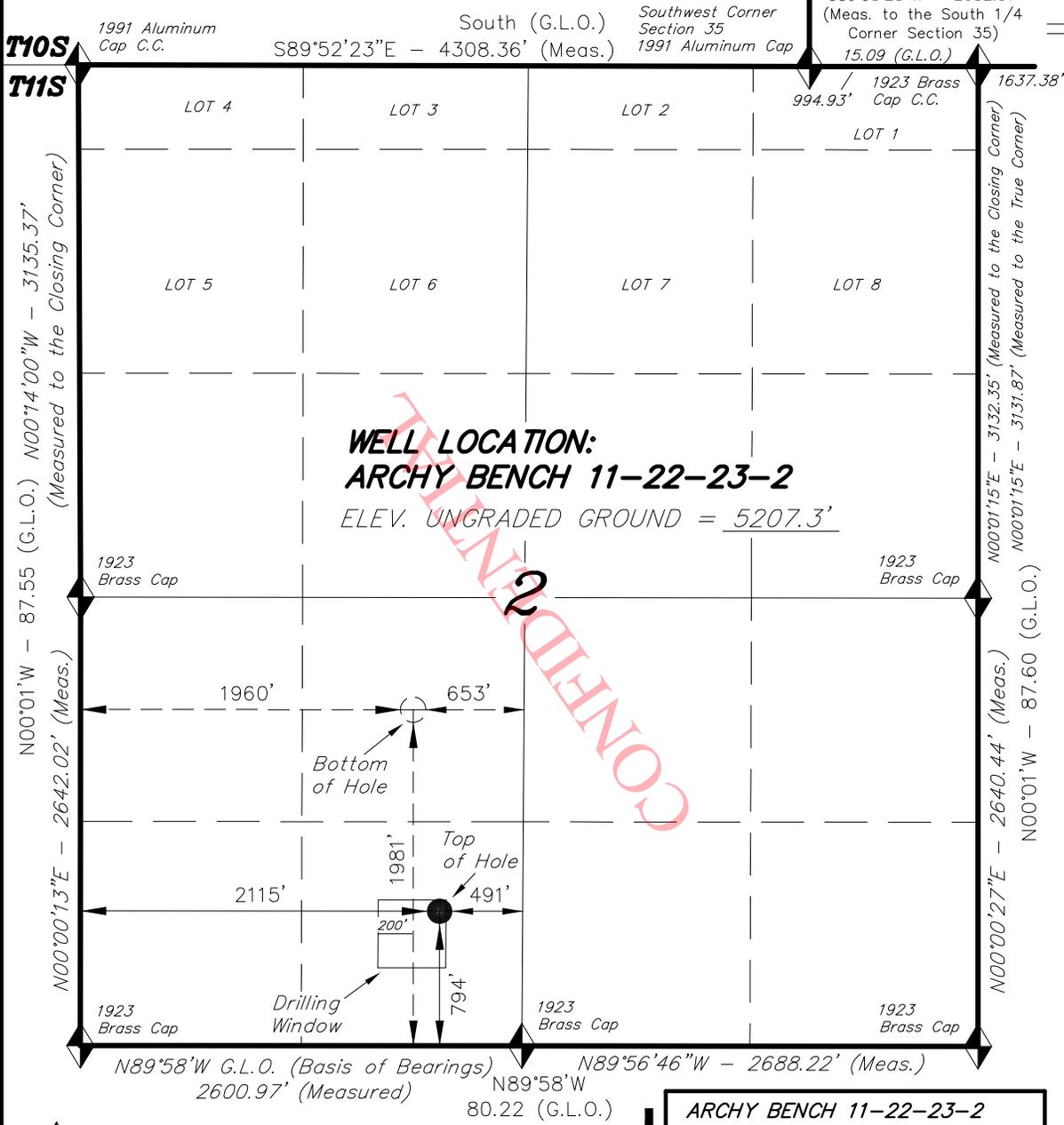
ARCHY BENCH 11-22-24-2
(Surface Location) NAD 83
LATITUDE = 39° 53' 04.28"
LONGITUDE = 109° 25' 26.99"

TRI STATE LAND SURVEYING & CONSULTING		
180 NORTH VERNAL AVE. - VERNAL, UTAH 84078 (435) 781-2501		
DATE DRAWN: 6-1-05	SURVEYED BY: J.H.	SHEET 2a OF 10
REVISED:	DRAWN BY: F.T.M.	
NOTES:	SCALE: 1" = 1000'	

'APIWellNo:43047502110000'

T11S, R22E, S.L.B.&M.

ENDURING RESOURCES



WELL LOCATION, ARCHY BENCH 11-22-23-2, THE TOP HOLE LOCATED AS SHOWN IN THE SE 1/4 SW 1/4, THE BOTTOM HOLE LOCATED AS SHOWN IN THE NE 1/4 SW 1/4 OF SECTION 2, T11S, R22E, S.L.B.&M. UINTAH COUNTY, UTAH.



NOTES:

1. The Bottom of hole bears N07°26'12"W 1197.16' from the Top of Hole.

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD BOOKS 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. No.189377

Stacy W. Stewart
 STACY W. STEWART
 REGISTERED LAND SURVEYOR
 REGISTRATION No. 189377
 STATE OF UTAH

◆ = SECTION CORNERS LOCATED
 BASIS OF ELEV; U.S.G.S. 7-1/2 min QUAD (ARCHY BENCH)

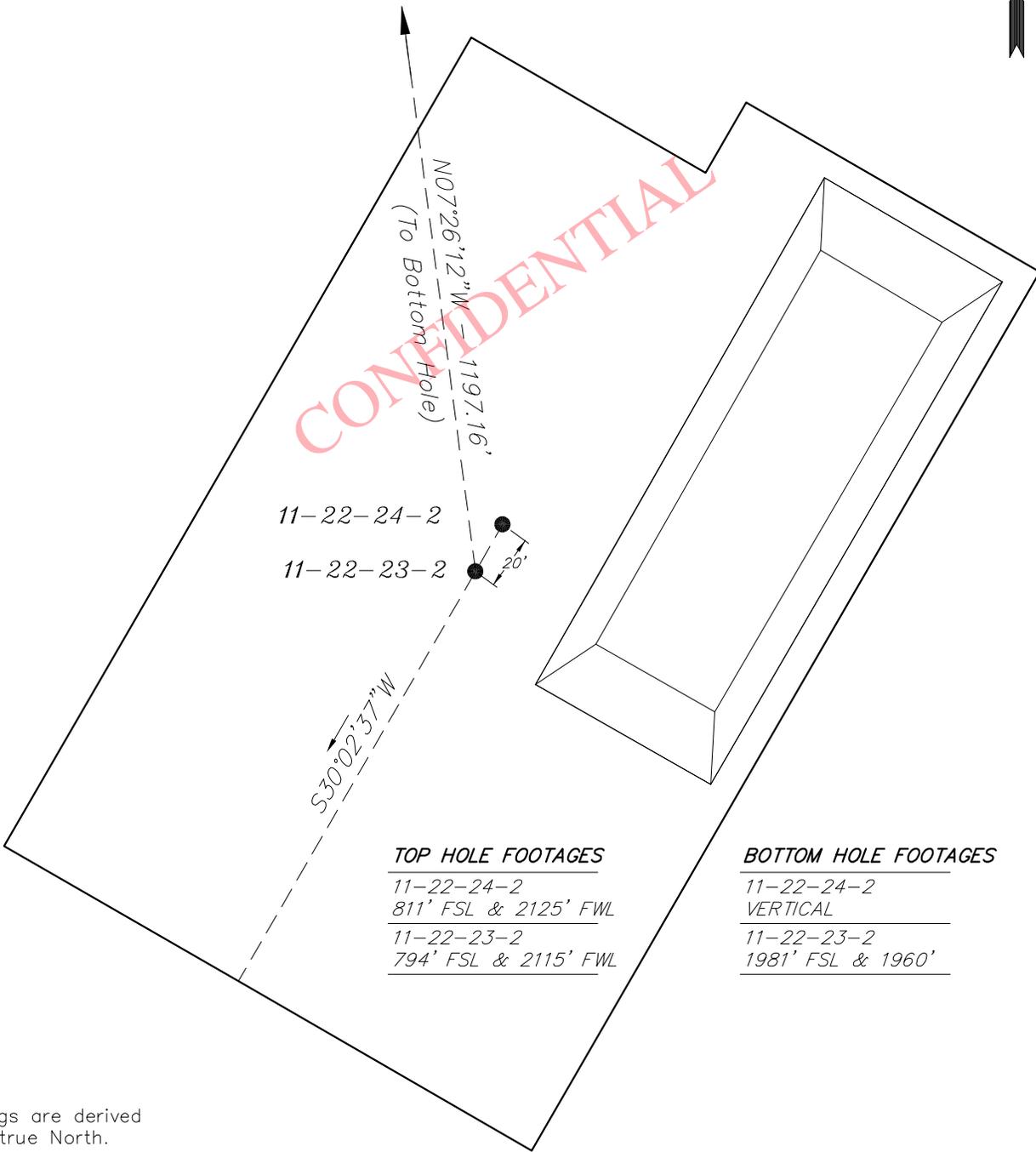
ARCHY BENCH 11-22-23-2
 (Surface Location) NAD 83
 LATITUDE = 39° 53' 04.11"
 LONGITUDE = 109° 25' 27.12"

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180 NORTH VERNAL AVE. - VERNAL, UTAH 84078 (435) 781-2501		
DATE DRAWN: 6-1-05	SURVEYED BY: J.H.	SHEET 2b OF 10
REVISED:	DRAWN BY: F.T.M.	
NOTES:	SCALE: 1" = 1000'	

APIWellNo:43047502110000'

ENDURING RESOURCES

WELL PAD INTERFERENCE PLAT
 ARCHY BENCH 11-22-24-2
 ARCHY BENCH 11-22-23-2
 Sestion 2, T11S, R22E, S.L.B.&M.



CONFIDENTIAL

11-22-24-2
 11-22-23-2

TOP HOLE FOOTAGES
 11-22-24-2
 811' FSL & 2125' FWL
 11-22-23-2
 794' FSL & 2115' FWL

BOTTOM HOLE FOOTAGES
 11-22-24-2
 VERTICAL
 11-22-23-2
 1981' FSL & 1960'

Note:
 Bearings are derived
 using true North.

RELATIVE COORDINATES From top hole to bottom hole		
WELL	NORTH	EAST
24-2	N/A	N/A
23-2	1187	-155

LATITUDE & LONGITUDE Surface position of Wells (NAD 83)		
WELL	LATITUDE	LONGITUDE
24-2	39° 53' 04.28"	109° 25' 26.99"
23-2	39° 53' 04.11"	109° 25' 27.12"

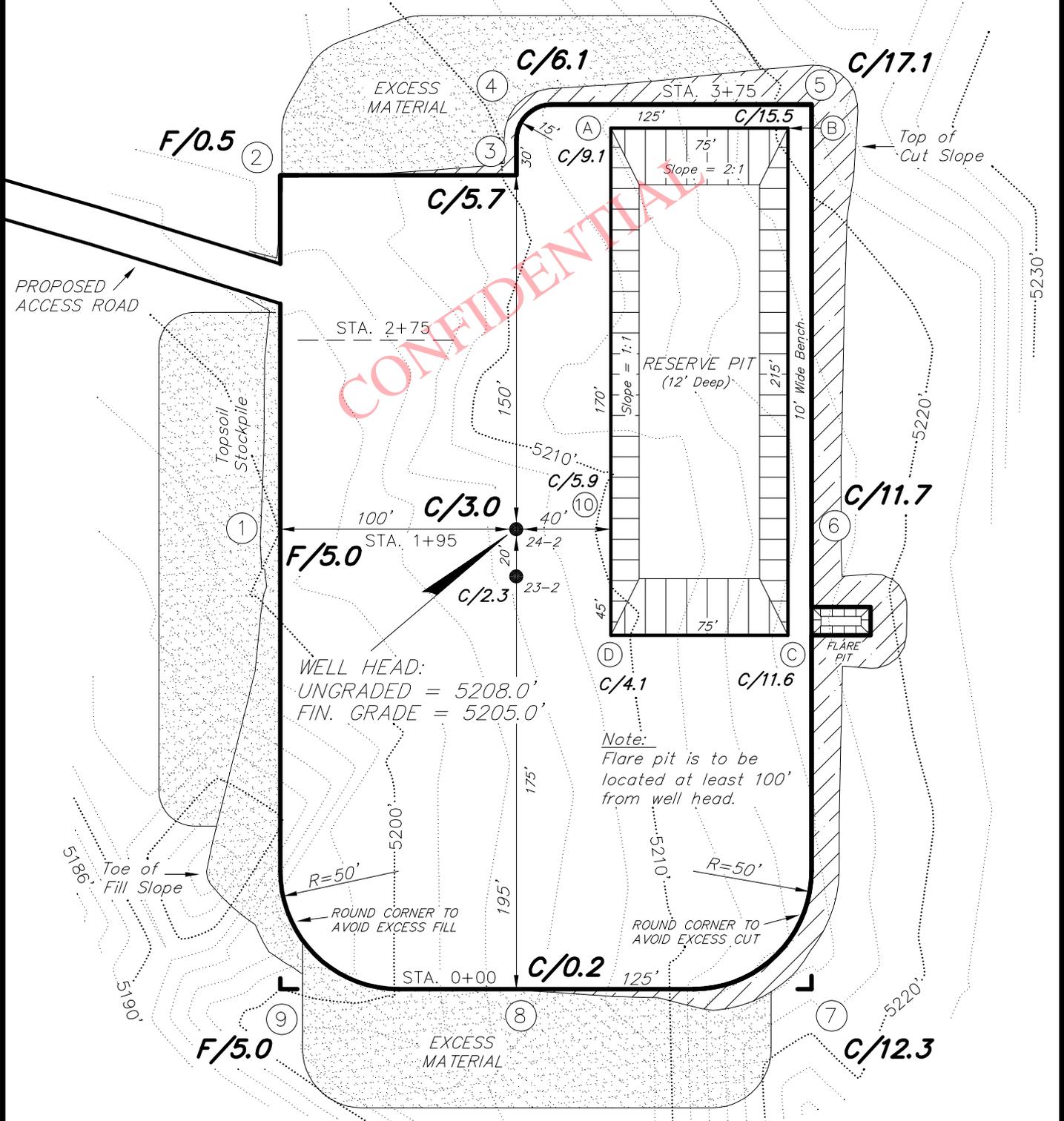
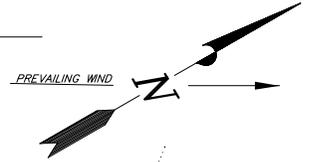
SURVEYED BY: J.H. DATE DRAWN: 6-1-05
 DRAWN BY: F.T.M. SCALE: 1" = 60'
 NOTES:

Tri State (435) 781-2501
 Land Surveying, Inc.
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078

SHEET
3
 OF 10

ENDURING RESOURCES

ARCHY BENCH 11-22-24-2
 ARCHY BENCH 11-22-23-2
 Section 2, T11S, R22E, S.L.B.&M.



SURVEYED BY:	J.H.	DATE DRAWN:	6-1-05
DRAWN BY:	F.T.M.	SCALE:	1" = 60'
NOTES:			

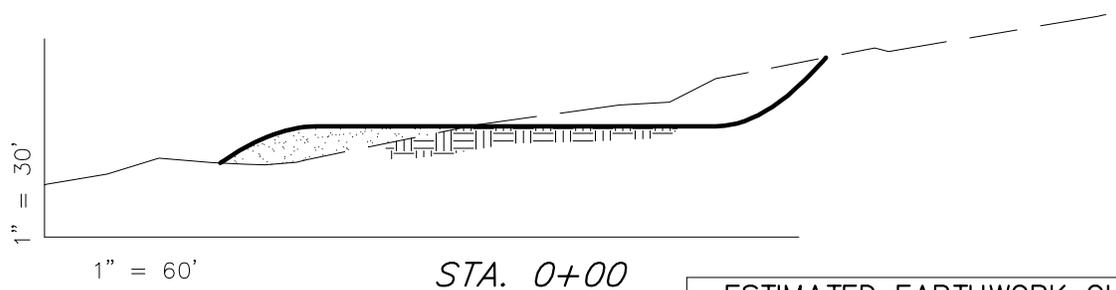
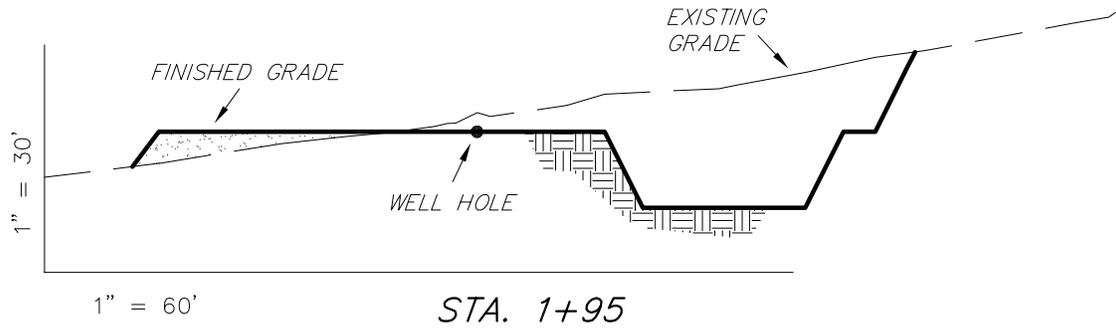
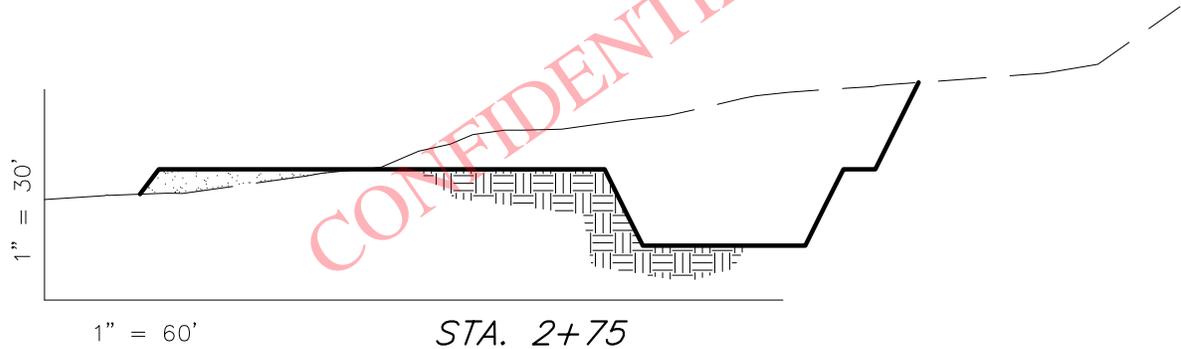
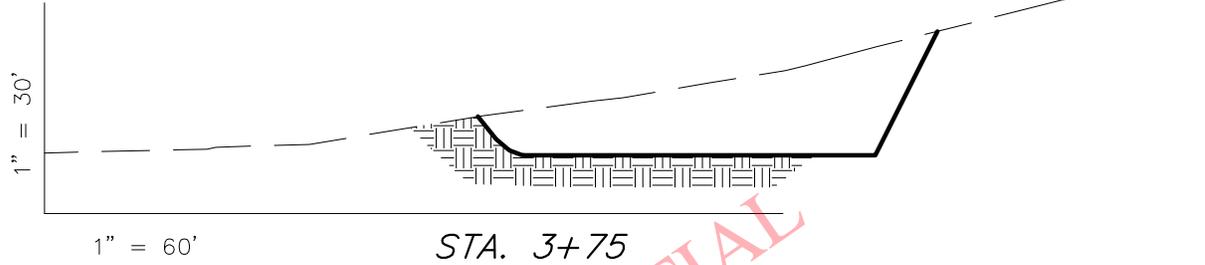
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ENDURING RESOURCES

CROSS SECTIONS

ARCHY BENCH 11-22-24-2

ARCHY BENCH 11-22-23-2



ESTIMATED EARTHWORK QUANTITIES
(No Shrink or swell adjustments have been used)
(Expressed in Cubic Yards)

ITEM	CUT	FILL	6" TOPSOIL	EXCESS
PAD	13,650	4,700	Topsoil is not included in Pad Cut	8,950
PIT	5,390	0		5,390
TOTALS	19,040	4,700	1,720	14,340

NOTE:
UNLESS OTHERWISE NOTED
CUT SLOPES ARE AT 1:1
FILL SLOPES ARE AT 1.5:1

SURVEYED BY: J.H.	DATE DRAWN: 6-1-05
DRAWN BY: F.T.M.	SCALE: 1" = 60'
NOTES:	

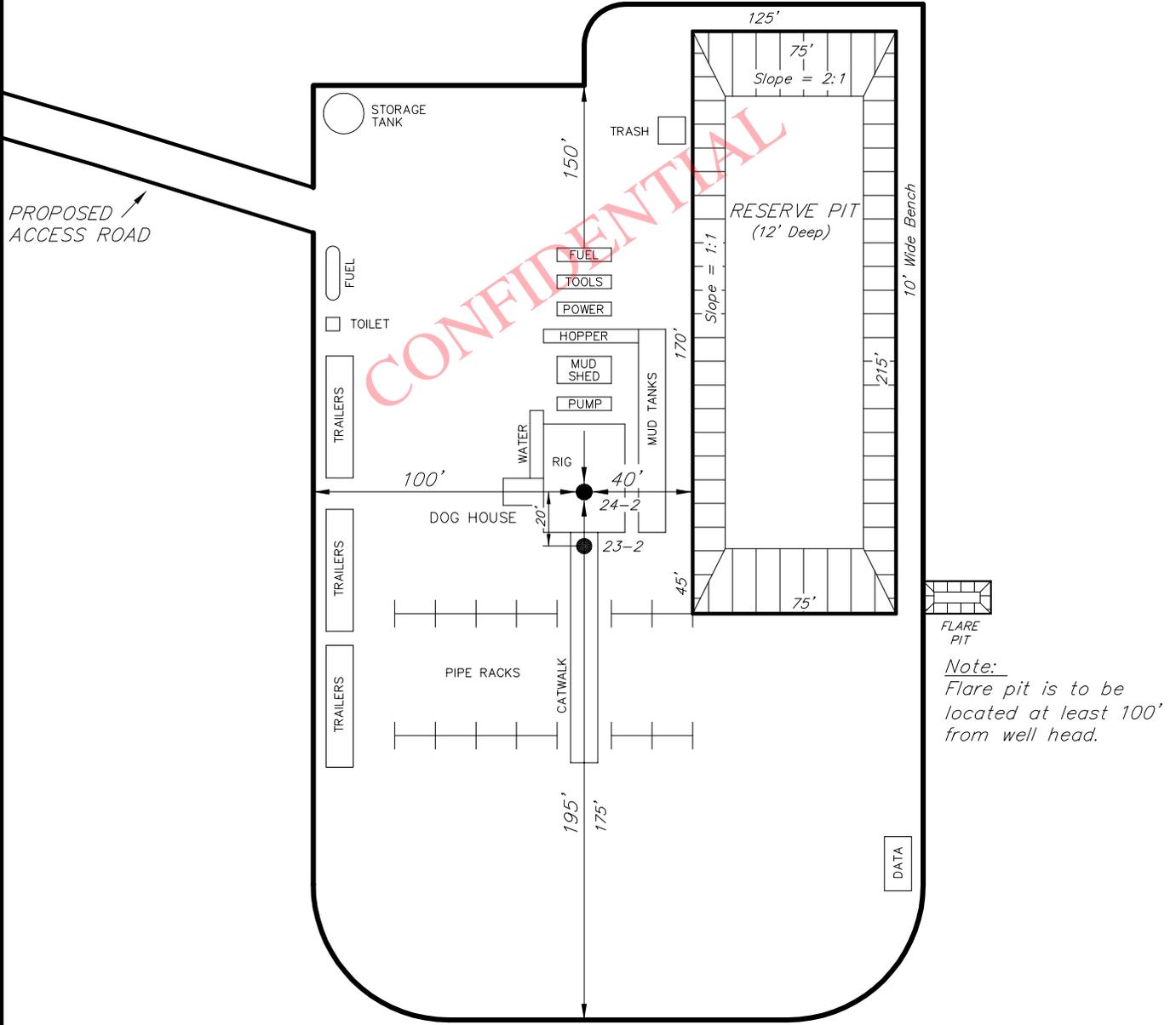
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ENDURING RESOURCES

TYPICAL RIG LAYOUT

ARCHY BENCH 11-22-24-2

ARCHY BENCH 11-22-23-2

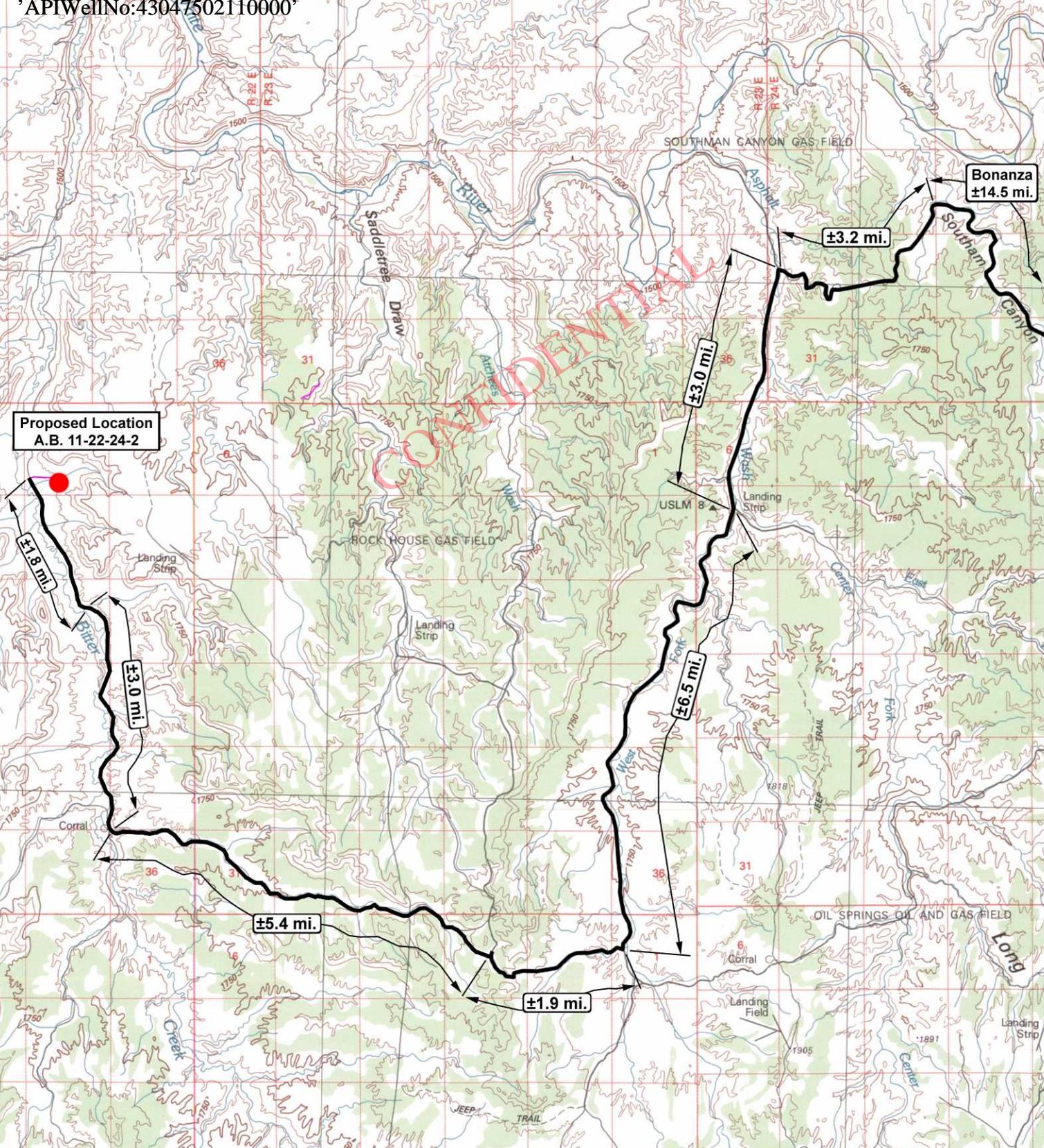


SURVEYED BY: J.H.	DATE DRAWN: 6-1-05
DRAWN BY: F.T.M.	SCALE: 1" = 60'
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Directions to the Archy Bench 11-22-24-2 Well Pad

Beginning at the city of Bonanza, Utah. Leave the city of Bonanza heading south on state highway 45 for a distance of approximately 5.7 miles where there is a turn-off to the right. Turn right, leaving state highway 45, and proceed southwest for a distance of approximately 5.1 miles (3.2 + 1.9 as shown on Topo "A"). The road then turns to the west; proceed northwesterly along said road for a distance of approximately 3.7 miles. Said road then turns to the southwest; proceed southwesterly then westerly for a distance of approximately 3.2 miles where the road forks. Turn left and bear southerly along the Asphalt Wash road for a distance of 3.0 miles where the road forks near a landing strip. Stay right, and continue heading south along the West Fork road for a distance of approximately 6.5 miles where there is a turn-off to the right. Turn right and bear westerly for a distance of approximately 1.9 miles where there is a turn-off to the left. Turn left and bear westerly for approximately 5.4 miles where there is an intersection. Turn right and bear northerly for a distance of 4.8 miles (3.0 + 1.8 as shown on Topo "A"). Take the second turn-off on proposed access to the right and bear approximately 1,780' easterly to the proposed Archy Bench 11-22-24-2 well pad.



ENDURING RESOURCES

Archy Bench 11-22-24-2
Sec. 2, T11S, R22E, S.L.B.&M.



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SCALE: 1" = 100,000'
 DRAWN BY: bgm
 DATE: 06-01-2005

Legend

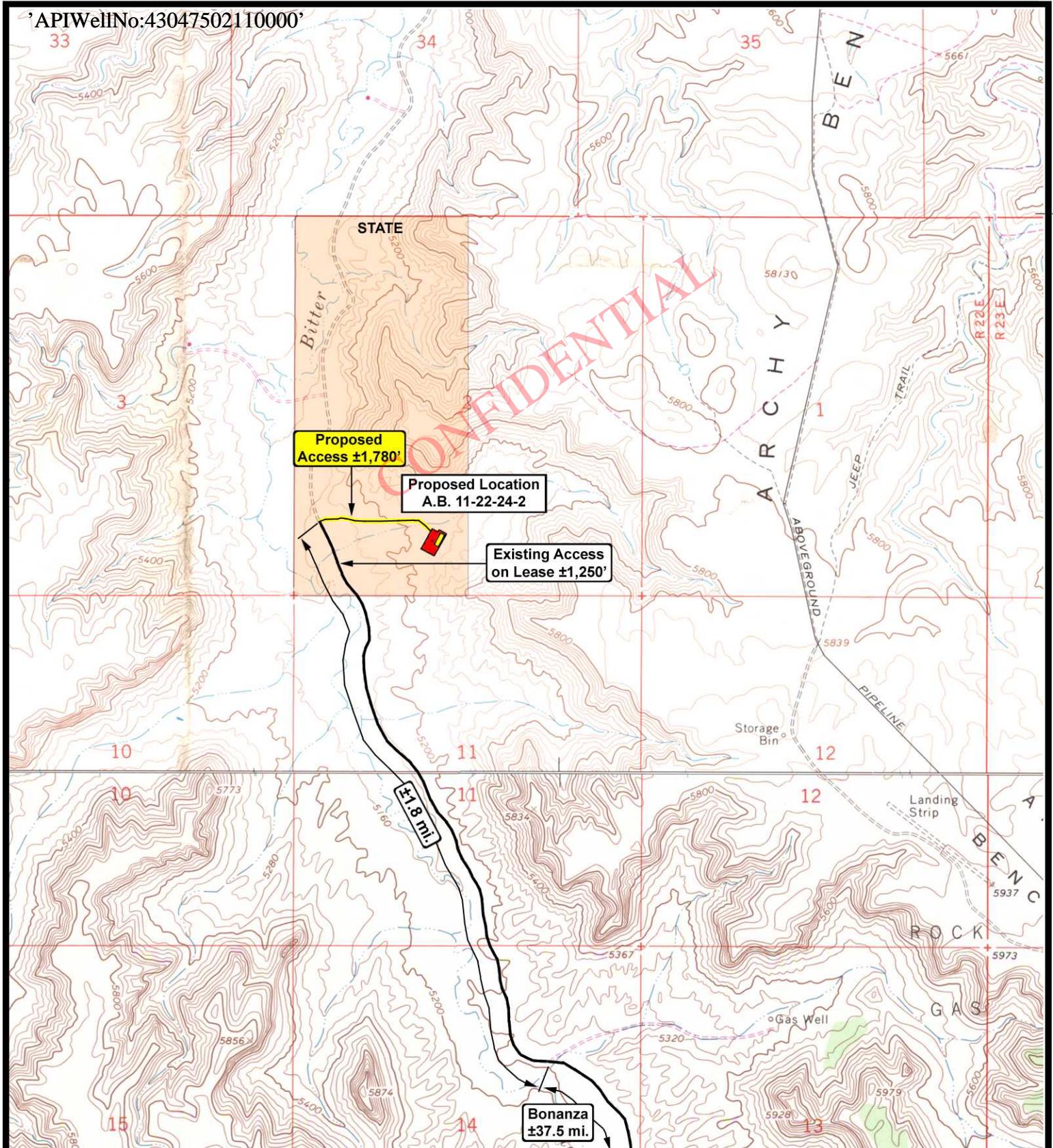
Existing Road

Proposed Access

TOPOGRAPHIC MAP

"A"

SHEET 7
OF 10



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Proposed Access ±1,780'

Proposed Location A.B. 11-22-24-2

Existing Access on Lease ±1,250'

±1.8 mi.

Bonanza ±37.5 mi.



ENDURING RESOURCES

Archy Bench 11-22-24-2
Sec. 2, T11S, R22E, S.L.B.&M.

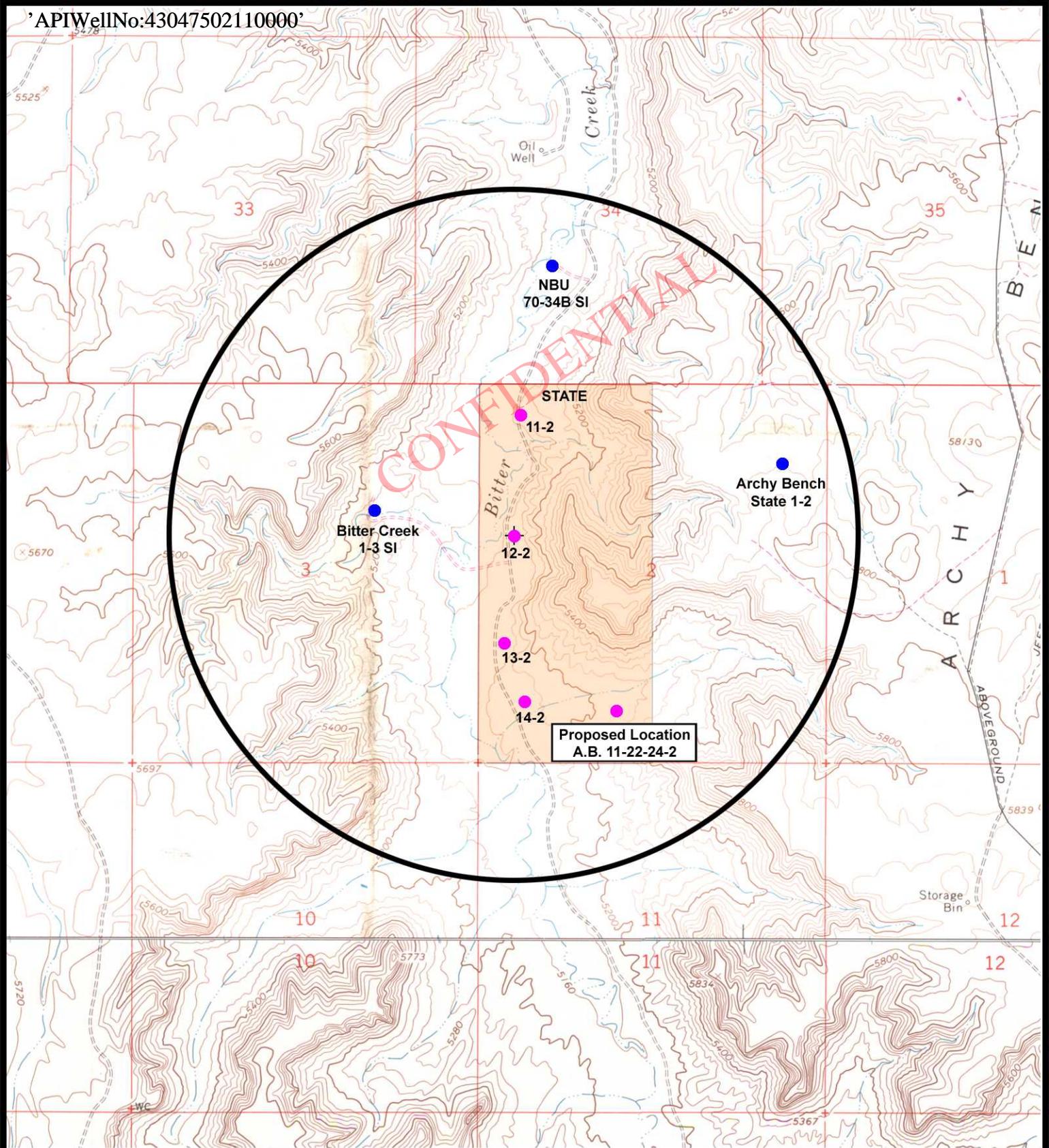


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SCALE: 1" = 2,000'
DRAWN BY: bgm
DATE: 06-01-2005

Legend
Existing Road
Proposed Access

TOPOGRAPHIC MAP
"B"
SHEET 8 OF 10



ENDURING RESOURCES

**Archy Bench 11-22-24-2
Sec. 2, T11S, R22E, S.L.B.&M.**



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SCALE: 1" = 2,000'

DRAWN BY: bgm

DATE: 06-01-2005

Legend

- Proposed Location
- Existing Location
- One-Mile Radius

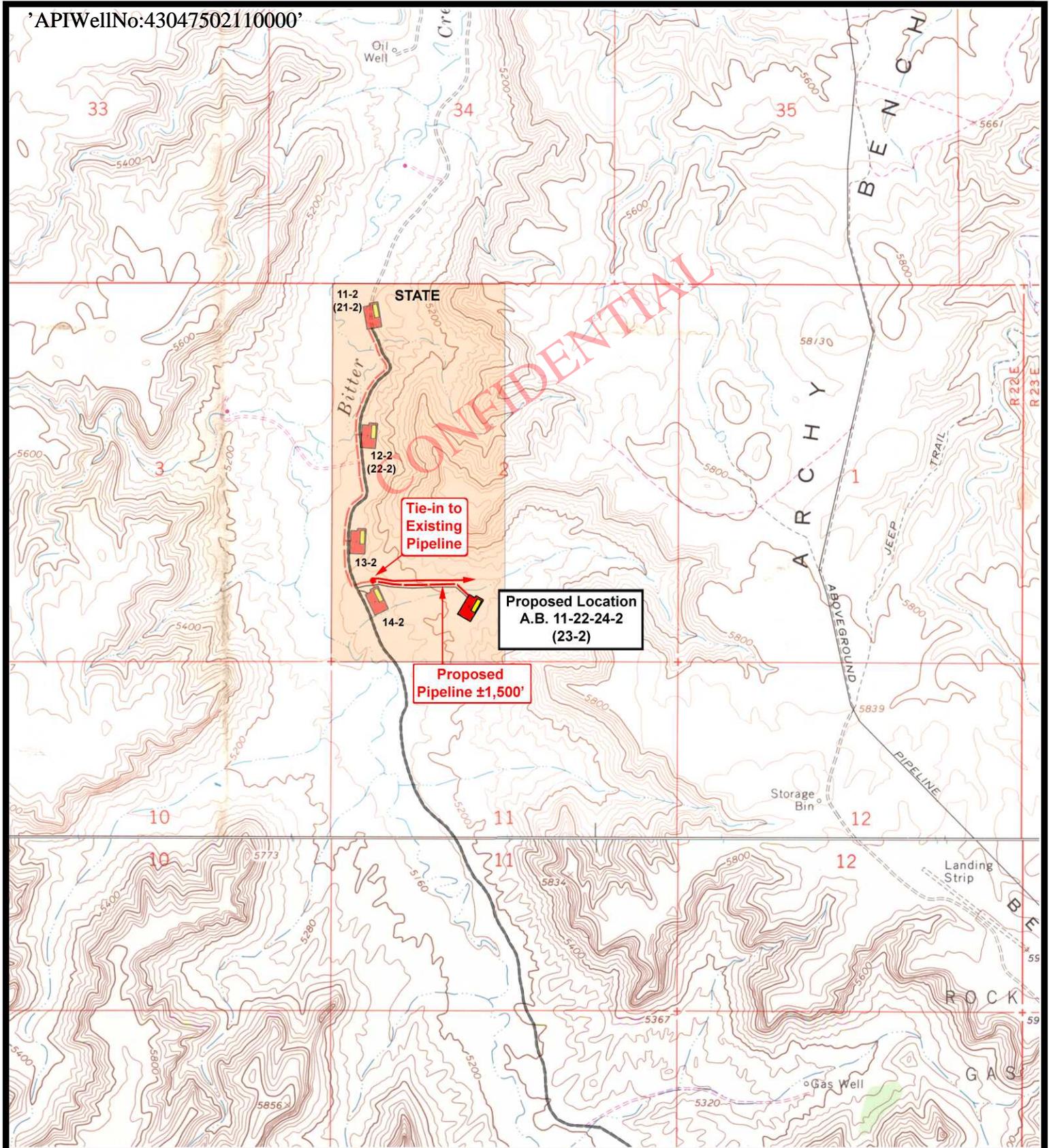
TOPOGRAPHIC MAP

"C"

SHEET

9

OF 10



ENDURING RESOURCES

**Archy Bench 11-22-24-2
Sec. 2, T11S, R22E, S.L.B.&M.**



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SCALE: 1" = 2,000'
DRAWN BY: bgm
DATE: 06-01-2005

Legend	
	Roads
	Existing Gas Line
	Proposed Gas Line
TOPOGRAPHIC MAP	
"D"	10 OF 10



CENTER STAKE


ENDURING RESOURCES

A.B. 11-22-24-2

Date Photographed: 05/20/2005

Date Drawn: 05/23/2005

Drawn By: bgm


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NORTH


ENDURING RESOURCES

A.B. 11-22-24-2

Date Photographed: 05/20/2005

Date Drawn: 05/23/2005

Drawn By: bgm


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EAST





SOUTH


ENDURING RESOURCES

A.B. 11-22-24-2

Date Photographed: 05/20/2005

Date Drawn: 05/23/2005

Drawn By: bgm

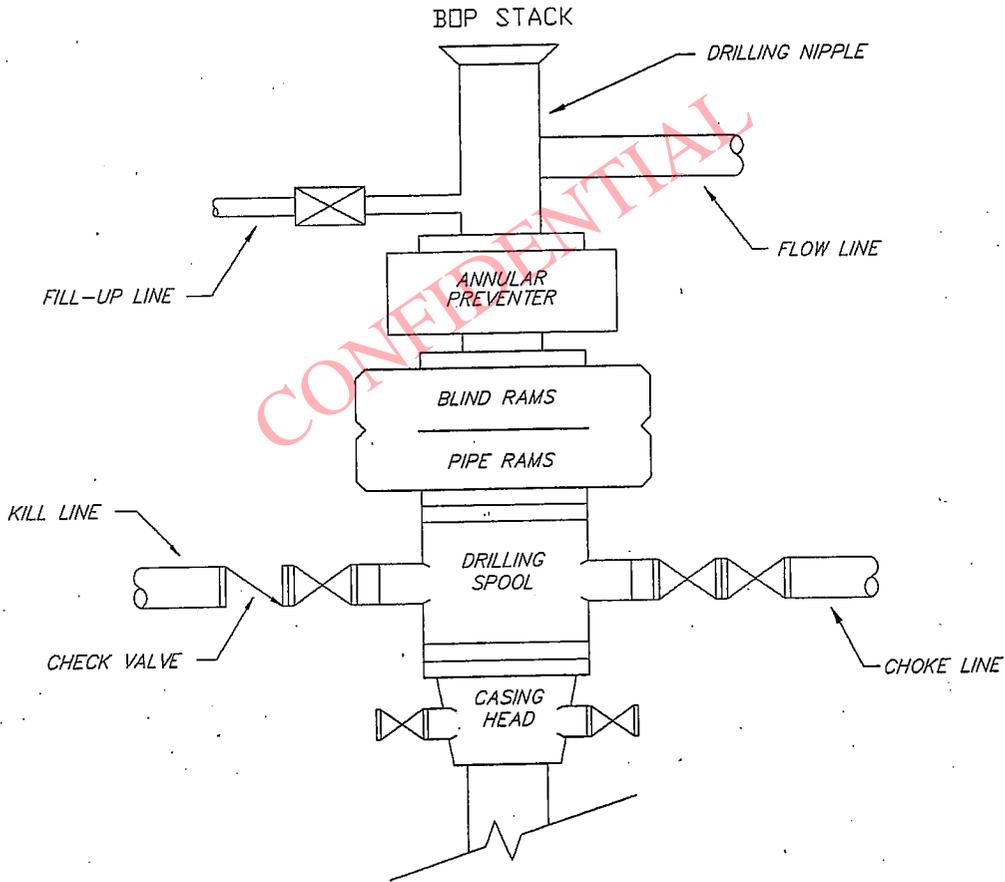

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WEST

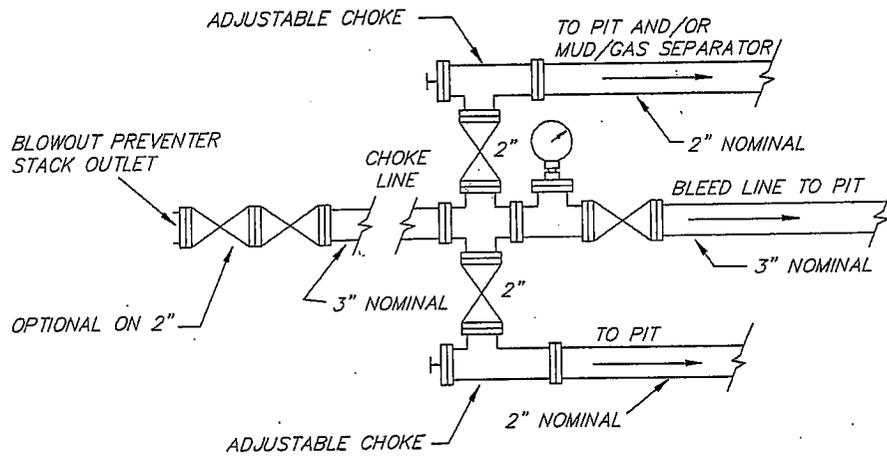


ENDURING RESOURCES, LLC

TYPICAL 3,000 p.s.i. BLOWOUT PREVENTER SCHEMATIC



TYPICAL 3,000 p.s.i. CHOKE MANIFOLD SCHEMATIC



CULTURAL RESOURCE INVENTORY FOR
ENDURING RESOURCES' FIVE PROPOSED
WELL LOCATIONS ON BITTER CREEK,
(ARCHY BENCH 11-22-11-2, 11-22-12-2,
11-22-13-2, 11-22-14-2, AND 11-22-24-2)
IN T 11S, R22E, SEC. 2
UINTAH COUNTY, UTAH

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CULTURAL RESOURCE INVENTORY FOR
ENDURING RESOURCES' FIVE PROPOSED
WELL LOCATIONS ON BITTER CREEK,
(ARCHY BENCH 11-22-11-2, 11-22-12-2,
11-22-13-2, 11-22-14-2, AND 11-22-24-2)
IN T 11S, R22E, SEC. 2
UINTAH COUNTY, UTAH

By:

Todd B. Seacat
and
Kate Freudenberg

Prepared For:

Bureau of Land Management
Vernal Field Office

Prepared Under Contract With:

Enduring Resources, LLC
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Denver, Colorado 80202

Prepared By:

Montgomery Archaeological Consultants
P.O. Box 147
Moab, Utah 84532

MOAC Report No. 05-196

27 June 2005

United States Department of Interior (FLPMA)
Permit No. 05-UT-60122

State of Utah Antiquities Project (Survey)
Permit No. U-05-MQ-0614b

ABSTRACT

In June 2005, a cultural resource inventory was conducted by Montgomery Archaeological Consultants Inc. (MOAC) for Enduring Resources' proposed five Archy Bench wells and pipeline corridors: Archy Bench 11-22-11-2, 11-22-12-2, 11-22-13-2, 11-22-14-2, and 11-22-24-2. The project area occurs along Bitter Creek road west of Archy Bench. The legal description for the project area is Township 11 South, Range 22 East, Section 2. A total of 59.7 acres were surveyed, all of which occurred on BLM land.

The cultural resource inventory resulted in locating one prehistoric site with a historic component (42Un4826) which is eligible for the National Register of Historic Places. Three other historic sites (42Un4827, 42Un4828, and 42Un4829) were located and are not eligible for the National Register of Historic Places.

In summary, the inspection of Enduring Resources' proposed five Archy Bench wells and pipeline corridors resulted in the documentation of four archaeological sites (42Un4826, 42Un4827, 42Un4828, and 42Un4829). Site 42Un4826 is considered eligible to the NRHP and should be avoided by the undertaking. To facilitate avoidance during the construction activities, it is recommended that a temporary fence be erected at the sites' boundary. In addition, the construction of Archy Bench 11-22-11-2 well location should be monitored by a qualified archaeologist. Based on these avoidance procedures, a recommendation of "no historic properties affected" pursuant to Section 106, CFR 800 is proposed for this project.

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CONFIDENTIAL

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INTRODUCTION

A cultural resource inventory was conducted by Montgomery Archaeological Consultants Inc. (MOAC) in June 2005 for Enduring Resources' five proposed well locations. The well locations are designated: Archy Bench 11-22-11-2, 11-22-12-2, 11-22-13-2, 11-22-14-2 and 11-22-24-2. The project area occurs in the Archy Bench area on Bitter Creek, south of Vernal, Utah. The survey was implemented at the request of Ms. Phyllis Sobotik, Enduring Resources, LLC, Denver, Colorado. A total of 59.7 acres was inventoried for cultural resources on public land administered by the Bureau of Land Management (BLM), Vernal Field Office.

The objective of the inventory was to locate, document, and evaluate any cultural resources within the project area in order to comply with Section 106 of 36 CFR 800, the National Historic Preservation Act of 1966 (as amended). Also, the inventory was implemented to attain compliance with a number of federal and state mandates, including the National Environmental Policy Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979, the American Indian Religious Freedom Act of 1978, and Utah State Antiquities Act of 1973 (amended 1990).

The fieldwork was performed on between June 11 and 13, 2005 by Todd B. Seacat (Project Archaeologist) and directed by Keith R. Montgomery (Principal Investigator) under the auspices of U.S.D.I. (FLPMA) Permit No. 05-UT-60122 and State of Utah Antiquities Permit (Survey) No. U-05-MQ-0614b issued to MOAC.

A file search was conducted by Marty Thomas of the Utah Division of State Historic Antiquities Section on June 15, 2005. The file search revealed that several previous inventories have been completed in the vicinity of the present project area. In 1980, Gordon and Kranzush Consultants inventoried a Natural Gas Pipeline Company corridor revealing no archaeological sites (Gordon 1980). Again in 1980 this company surveyed a proposed pipeline in the area and located no cultural resources (Gordon 1980). In 1984, Western Wyoming College conducted an inventory for the Natural Gas Pipeline Company; no cultural resources were found (Creasman, 1984). In 2002, Montgomery Archaeological Consultants (MOAC) completed a cultural resource inventory under contract with Buys and Associates for the Veritas DGC Land, Inc. Uintah Seismic Project. Of the 75 archaeological sites found or revisited, none lie near the current project area (Elkins and Montgomery 2002, U-02-MQ-0243b,p,s). This project identified 19 projects previously completed near the project area; however, no previously recorded sites were identified. In 2004, MOAC completed a cultural resource inventory of the proposed Seep Ridge West Expansion pipeline corridor for Miller, Dyer & Co. (Drake 2004) which resulted in the identification of three previously recorded sites (42Un2383, 42Un2570 and 42Un2761) and four new archaeological sites (42Un4387 through 42Un4390). None of the sites are near the current project area. In summary, while several projects have been completed near the project area, there are no previously recorded sites within the area.

DESCRIPTION OF PROJECT AREA

Enduring Resources' proposed five Archy Bench wells with associated access/pipeline corridors is situated on Bitter Creek, Uintah County, Utah. The legal description is Township 11 South, Range 22 E, Section 2 (Figure 1).

Table 1: Enduring Resources' Proposed Five Archy Bench Wells and Pipeline Corridors on Bitter Creek.

Well Location	Legal Locations	Pipeline	Cultural Resources
Archy Bench 11-22-11-2	NW, NW Sec. 2 T11S, R22E	Pipeline: 1,400 ft.	42Un4826 42Un4827 42Un4828
Archy Bench 11-22-12-2	SW, NW Sec. 2 T11S, R22E	Pipeline: 1,050 ft.	None
Archy Bench 11-22-13-2	NW, SW Sec. 2 T11S, R22E	Pipeline: 420 ft.	42Un4829
Archy Bench 11-22-14-2	SW, SW Sec. 2 T11S, R22E	Pipeline: 940 ft.	None
Archy Bench 11-22-24-2	SE, SW Sec. 2 T11S, R22E	None	None

Environment

The study area lies within the Uinta Basin physiographic unit, a distinctly bowl-shaped geologic structure (Stokes 1986:231). The Uinta Basin ecosystem is within the Green River drainage, considered to be the northernmost extension of the Colorado Plateau. The geology is comprised of Tertiary age deposits which include Paleocene age deposits, and Eocene age fluvial and lacustrine sedimentary rocks. The Uinta Formation, which is predominate in the project area, occurs as eroded outcrops formed by fluvial deposited, stream laid interbedded sandstone and mudstone, and is known for its prolific paleontological localities.

Specifically, the project area is situated in the ephemeral drainage area between Cottonwood Wash and Willow Creek. Surface geology consists of hard pan residual soil armored with shale and sandstone pebbles. The elevation ranges between 5700 ft and 5900 ft a.s.l. The project occurs within the Upper Sonoran Desert Shrub Association which includes sagebrush, shadscale, greasewood, mat saltbush, snakeweed, rabbitbrush, prickly pear cactus, Indian ricegrass and other grasses. Modern disturbances include roads and oil/gas development.

Cultural Overview

The cultural-chronological sequence represented in the area includes the Paleoindian, Archaic, Fremont, Protohistoric, and Euro-American stages. The earliest inhabitants of the region are representative of the Paleoindian stage (ca. 12,000-8,000 B.P.), characterized by the adaptation to terminal Pleistocene environments and by the exploitation of big game fauna. The presence of Paleoindian hunters in the Uinta Basin region is implied by the discovery of Clovis and Folsom fluted points (ca.12,000 B.P. - 10,000 B.P.), as well as the more recent Plano Complex lanceolate points (ca. 10,000 B.P. - 7,000 B.P.). Near the project area, a variety of Plano Complex Paleoindian projectile points have been documented, including Goshen, Alberta, and Midland styles

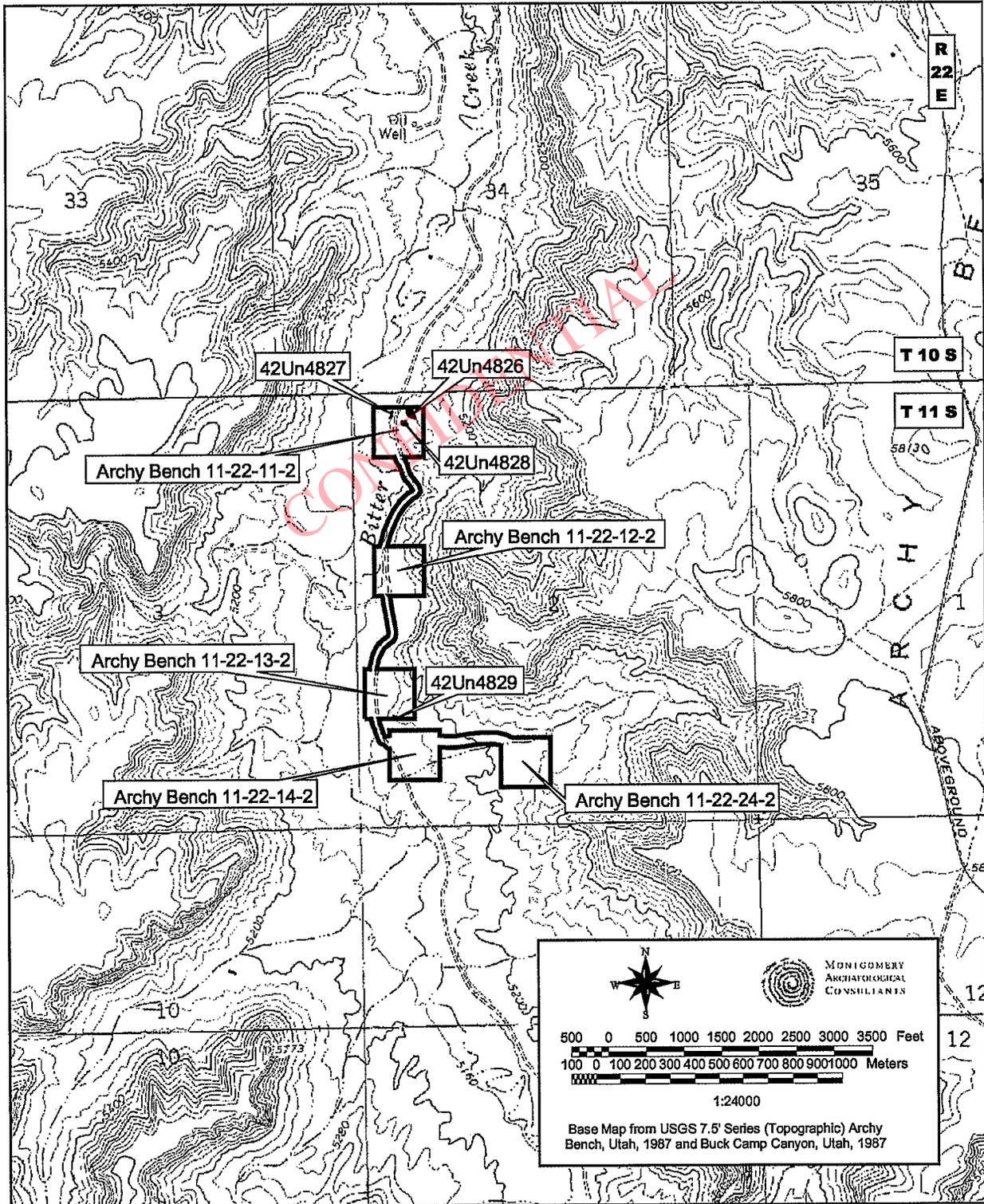


Figure 1. Inventory Area of Enduring Resources' Proposed Five Archy Bench Well Locations and Pipeline Corridor on Bitter Creek in Uintah County, Utah.

(Hauck 1998). No sites with evidence of Folsom lithic technology have previously been documented near the project area. Spangler (1995:332) reports that there are no sealed cultural deposits in association with extinct fauna or with chronologically distinct Paleoindian artifacts in Utah. Specifically in the Uinta Basin, few Paleoindian sites have been adequately documented, and most evidence of Paleoindian exploitation of the area is restricted to isolated projectile points recovered in nonstratigraphic contexts. Copeland and Fike (1998:21) argue that many areas in Utah are conducive to the herding behavior of megafauna, and that there is a high probability that many of the sites in Utah of unknown age are Paleoindian.

The Archaic stage (ca. 8,000 B.P.-1,500 B.P.) is characterized by the dependence on a foraging subsistence, with peoples seasonally exploiting a wide spectrum of plant and animal species in different ecozones. The shift to an Archaic lifeway was marked by the appearance of new projectile point types, and the development of the atlatl, perhaps in response to a need to pursue smaller and faster game (Holmer 1986). In the Uinta Basin, evidence of Early Archaic presence is relatively sparse compared to the subsequent Middle and Late Archaic periods. Early Archaic (ca. 6000-3000 B.C.) sites in the Basin include sand dune sites and rockshelters primarily clustered in the lower White River drainage (Spangler 1995:373). Early Archaic projectile points recovered from Uinta Basin contexts include Pinto Series, Humboldt, Elko Series, Northern Side-notched, Hawken Side-notched, Sudden Side-notched and Rocker Base Side-notched points. Excavated sites in the area with Early Archaic components include Deluge Shelter in Dinosaur National Monument, and open campsites along the Green River and on the Diamond Mountain Plateau (Spangler 1995:374). The Middle Archaic (ca. 3000-500 B.C.) is characterized by improved climatic conditions and an increase in human population on the northern Colorado Plateau. Several stratified Middle Archaic sites have been excavated and dozens of sites have been documented in the Uinta Basin. Middle Archaic sites in the area reflect cultural influences from the Plains, although a Great Basin and/or northern Colorado Plateau influence is represented in the continuation of the Elko Series projectile points. Subsistence data from Middle Archaic components indicate gathering and processing of plants as well as faunal exploitation (e.g., mule deer, antelope, bighorn sheep, cottontail rabbit, muskrat, prairie dog, beaver and birds). The Late Archaic period (ca. 500 B.C.-A.D. 550) in the Uinta Basin is distinguished by the continuation of Elko Series projectile points with the addition of semi-subterranean residential structures at base camps. By about A.D. 100, maize horticulture and Rose Springs arrow points had been added to the Archaic lifeway. In the Uinta Basin, the earliest evidence of Late Archaic architecture occurs at the Cackleburr Wash Site (42Un1476) where a temporary structure, probably a brush shelter, yielded a date of 316 B.C. (Tucker 1986). The structure was probably associated with seasonal procurement of wild floral resources gathered along Cliff Creek.

The Formative stage (A.D. 500-1300) is recognized in the area as the Uinta Fremont as first defined by Marwitt (1970). This stage is characterized by a reliance upon domesticated corn and squash, increasing sedentism, and in its later periods, substantial habitation structures, pottery, and bow and arrow weapon technology. Based on the evidence from Caldwell Village, Boundary Village, Deluge Shelter, Mantles Cave and others, the temporal range of the Uinta Fremont appears to be from A.D. 650 to 950. This variant is characterized by shallow, saucer-shaped pithouse structures with randomly placed postholes and off-center firepits, some of which were adobe-rimmed. Traits considered unique or predominate to the Uinta Basin include calcite-tempered pottery, two-handled wide-mouth vessels, Utah type metates, the use of gilsonite for pottery repair, settlement on tops of buttes and large-shouldered bifaces (Shields 1970).

Archaeological evidence suggests that Numic peoples appeared in east-central Utah at approximately A.D. 1100 or shortly before the disappearance of Formative-stage peoples (Reed 1994). The archaeological remains of Numic-speaking Utes consist primarily of lithic scatters with low quantities of brown ware ceramics, rock art, and occasional wickiups. The brown ware ceramics appear to be the most reliable indicator of cultural affiliation, as Desert Side-notched and Cottonwood Triangular points were manufactured by other cultural groups beside the Ute (Horn, Reed, and Chandler 1994:130). The Ute appear to have been hunters and gatherers who exploited various fauna and flora resources. According to macrobotanical and faunal data from dated components, deer, elk, pronghorn, bison, and small game were acquired (Reed 1994:191). Plant materials thought to have been exploited for food include goosefoot, grass seeds, pinyon nuts, juniper berries, squawbush berries and leaves, hackberry seeds and possibly saltbush seeds, knotweed, chokecherry, and chickweed (Reed 1994:191).

On May 5, 1864 Congress passed a law confirming the 1861 executive order setting up the Uintah Reservation (Burton 1996:24). This treaty provided that the Ute people give up their land in central Utah and move within one year to the Uintah Reservation without compensation for loss of land and independence. The Uinta-ats (later called Tavaputs), PahVant, Tumpanawach, and some Cumumba and Sheberetch of Utah were gathered together at the Uintah agency during the late 1860s and early 1870s to form the Uintah Band (Burton 1996:18-19). In the 1880 treaty council the White River Utes, who had participated in the Meeker Massacre, were forced to sell all their land in Colorado and were moved under armed escort to live on the Uintah Reservation (Callaway, Janetski, and Stewart 1986:339). Shortly thereafter, 361 Uncompahgre Utes were forced to sell their lands, and were relocated to the Ouray Reservation adjacent to the southern boundary of the Uintah Reservation. This area embraced a tract of land to the east and south of the Uintah Reservation below Ouray lying east of the Green River. A separate Indian Agency was established in 1881 with headquarters at Ouray which was located across the river from where the first military post, Fort Thornburgh was located. The Department of War established Fort Thornburgh along the Green River in 1881 to maintain peace between the settlers of Ashley Valley.

The infantry who participated in the relocation of the Colorado Indians ensured that the Uncompahgre and White River Utes remained on the two reservations (Burton 1996:28). In the late 1880s, gilsonite was discovered in the Uintah Basin, and Congress was persuaded to apportion 7,040 acres from the reservation so the mineral could be mined.

The earliest recorded visit by Europeans to Utah was the Dominguez-Escalante expedition, of 1776. From the early 1820s to 1845, the Uinta Basin became an important part of the expanding western fur trade. Homesteading began in 1878 with Thomas Smart, one of the first white settlers to settle east of Ouray. In 1879, about forty cowboys and several large herds of cattle wintered on the White River. The winter of 1879-1880 saw the establishment of a settlement near the White River by several pioneers and their families including Ephraim Ellsworth, the Remingtons, and the Campbells. The person most responsible for organizing a permanent homesteading movement in Ouray Valley was William H. Smart, the brother of Thomas Smart, who became president of the Wasatch LDS Stake in 1901 (Burton 1998). When the Ute reservation was opened to white homesteaders in 1905, Smart organized several exploration trips into the area that later attracted many LDS families.

Initially, livestock was the main industry of white homesteaders in Uintah County. Two factors - free grass and the availability of water - influenced men to move their cattle into the county. Most of the land in the area was part of the public domain and no territory or state could tax it. Cattle were eventually brought up east as far as the Green River and then to the surrounding mountains. Large cattle herds had been coming to Brown's Park from Texas and other eastern areas since the early 1850s. The K Ranch was a large cattle operation owned by P.R. Keiser which brought many cowboys to the area. The ranch was located on the Utah-Colorado line with property in both states. Charley Hill, who came to Ashley Valley as a trapper for the Hudson Bay Company, started a cattle company on Hill Creek and Willow Creek in the Book Cliffs (Burton 1996:109). They later moved out when the government set this section aside for the Ouray Indian Agency. Other prominent men in the cattle industry included A.C. Hatch, Dan Mosby, and James McKee. Cattle rustling became an increasingly large problem as cattle herds grew, and conflict resulted between the small and large cattle companies. In 1912, the Uintah Cattle and Horse Growers Association was organized to protect the livestock industry from thieves and to issue an authorized brand book (Ibid: 110).

The sheep industry later became part of Uintah County's economic backbone, and contributed to the decline of the cattle industry. Sheep were first introduced to the valley during the winter of 1879 when Robert Bodily brought in sixty head (Burton 1996:111). Sheep were able to survive the hard winters much better than cattle. By the mid-1890s, more than 50,000 head of sheep were in the region; and the production of wool became very important. In 1897, C.S. Carter began building shearing corrals. In 1899, 500,000 pounds of wool were shipped from the county and sold for twelve and one-half cents per pound (Ibid:111). In 1906, the Uintah Railway Company built shearing pens on the Green River to encourage the shipping of wool by train; and in 1912, pens were built at Bonanza and Dragon. Beginning in the 1940's Mexican sheep-shearing crews and Greek sheepmen from the Price and Helper areas came into the area. The Taylor Grazing Act was passed in 1934, allotting specific areas or "districts" to stockmen for livestock grazing that required permits. This act was a forerunner of the Bureau of Land Management, which was established in 1946 and eventually assumed responsibility for the administration of grazing laws on public land (Burton 1996:115).

Uintah County is also known for its natural resources. Coal, copper, iron, asphalt, shale, and especially gilsonite, were important to the mining industry. When gilsonite was discovered in the Uinta Basin in the 1880s, Congress was persuaded to apportion 7,040 acres from the Ute reservation so the mineral could be mined. This area became known as "The Strip" and later developed into the townsite of Moffat (later renamed Gusher). Gilsonite is a light-weight lustrous black hydrocarbon mineral that can easily be crushed into a black-brown powder. It can be found in commercial quantities only in the Uinta Basin. The earliest use of the mineral was in buggy paints and beer-vat linings. Today it is used in over a hundred products ranging from printing inks to explosives and automobile body sealer and radiator paint (Burton 1998:343). Mining camps also sprang up near the Colorado line in Bonanza, Dragon, and Watson starting in about 1903. Many immigrants, including Greeks and Chinese, worked in the mines. Bonanza became one of the largest and most modern functioning mining camps in the area beginning in 1921 and reached its peak in 1937. It was chosen as the Barber gilsonite company headquarters, because it was near the largest deposits of gilsonite in the area. Miners from Dragon, Rainbow, and other neighboring communities were relocated to Bonanza.

SURVEY METHODOLOGY

An intensive pedestrian survey was performed for this project which is considered 100% coverage. At the proposed well location, a ten acre area centered on the center stake of the location was surveyed by the archaeologist walking parallel transects spaced no more than 10 m (30 ft) apart. The pipeline corridor was 100 ft wide, surveyed by walking parallel transects along the staked centerline, spaced no more than 10 m (30 ft) apart. Ground visibility was considered to be good. A total of 59.7 acres was inventoried for cultural resources on public land administered by the Bureau of Land Management (BLM), Vernal Field Office.

INVENTORY RESULTS

The inventory of Enduring Resources' five proposed well locations with associated access/ and pipeline corridors resulted in the documentation of four new archaeological sites (42Un4826, 42Un4827, 42Un4828, and 42Un4829).

Smithsonian Site No.: 42Un4826
Temporary Site No.: 05-196-01
Legal Description: NE/NW/NW of Sec. 2, T11S, R22E
NRHP Eligibility: Eligible, Criterion D

Description: This is a prehistoric and historic component site associated with a small rockshelter and seep spring. The site is situated at the base of an east-west trending sandstone cliff on the east side of Bitter Creek Canyon. The prehistoric component is comprised of lithic artifacts and a small petroglyph panel. The historic component consists of a light trash scatter, historic graffiti, and a dry-laid masonry sheep enclosure.

Prehistoric cultural material consists of a late stage biface fragment, seven flakes, one piece of angular debris, and one quartzite mano fragment. Tool stone is dominated by chert/chalcedony with one piece of igneous rock. Debitage consists of tertiary and secondary flakes which suggests that latter stages of tool manufacture were occurring on site. One burned rock feature (Fea. B) as well as scattered fire-cracked rock indicate the presence of thermal features. This coupled with a mano fragment may indicate domestic activities such as food preparation were also occurring on site. At the northwestern edge of the site is a small petroglyph panel (Fea. A). It consists of a X motif, a anthropomorphic stick figure, a vertical line, and a horizontal line with a dot. The rock art appears to be Numic (probably Ute) based on the type of elements (Cole 1990). Finally, the rockshelter (Fea. E) which is fairly large but wet due to the seep spring may not have been inhabited although some potential midden deposits could occur around the opening.

The historic component consists of a light scatter of historic trash associated with historic inscriptions, and a dry-laid masonry enclosure. The inscriptions (Fea. D) occur on a large sandstone boulder at the southeastern end of the site and consist of the following names, initials, and dates: C. Hoel June. 17th 1912, J.P.T b/ ' 17 ", MM, T, A, KA and TOM LOPEZ 2.17 1963. Historic artifacts include amethyst bottle glass, aqua bottle glass, clear bottle glass, four external friction Prince Albert tobacco tins, 11 open top cans, five hole-in-top milk cans, a lard pail, a meat can, galvanized sheet metal, yellow glazed earthenware sherds, porcelain sherds, and one shoe sole. Diagnostic materials consist of amethyst glass (pre-1920), aqua glass (pre-1930), a type 9 evaporated milk can (ca. 1915-1930), an AHK bottle trademark (post-1944) and an ABGM Co. bottle trademark (1886-1928). The masonry wall or enclosure (Fea. C) consists of stacked tabular sandstone about three to four tier high and incorporating in-place sandstone boulders to make an area about 3 x 3 m square. This "structure" is interpreted as a lambing pen.

Smithsonian Site No.: 42Un4827
Temporary Site No.: 05-196-02
Legal Description: NW/NW/NW of Sec. 2, T11S, R22E
NRHP Eligibility: Not Eligible

Description: This is a small historic trash scatter located on a bench east of Bitter Creek. Cultural materials include eight hole-in-top cans, 10 open top cans, and a galvanized metal wash basin. No features were observed. Diagnostic materials are sparse and consist of seven type 9 hole-in-top evaporated milk cans which are thought to date between 1915-1930. Therefore, it is likely this site dates to the first third of the 20th century, probably related to livestock tending or simply trash discarded along the Bitter Creek Canyon road.

Smithsonian Site No.: 42Un4828
Temporary Site No.: 05-196-03
Legal Description: NE/NW/NW of Sec. 2, T11S, R22E
NRHP Eligibility: Not Eligible

Description: This is a trash scatter situated on the canyon floor east of Bitter Creek. Cultural materials are dominated by various tin cans although a small quantity of clear glass possibly from a drinking glass was also observed. Approximately 50 tin cans are scattered across the site with perhaps 25 to 35 in a 5 x 3 m concentration near the center. These include two hole-in-cap cans (pre-1940), seven open top cans and can tops marked "Sanitary" (1904-1908), five marked with a "C" (pre-1934?), one Towle's Log Cabin syrup can (1909-1955), and a short coffee can. In addition, 10 type 9 hole-in-top milk cans (1915-1930) and one type 16 milk can (1931-1948) also occur on site. The site appears to represent two discard episodes the earliest between 1904 and 1908 and several later ones dating from 1915 to 1948. Based on the type of artifacts, the locality most likely functioned as short-term range related camps.

Smithsonian Site No.: 42Un4829
Temporary Site No.: 05-196-04
Legal Description: NE/SW/SW of Sec. 2, T11S, R22E
NRHP Eligibility: Not Eligible

Description: This is a small sparse trash scatter situated on the crest and slope of a ridge along the east side of Bitter Creek. Cultural materials consist of 13 tin cans and one broken beer bottle. Tin cans include five open top food cans, four hole-in-top evaporated milk cans, one external friction, hinged lid pocket tobacco tin, a paint can, one open top juice can, and a lard can lid. Diagnostic artifacts consists of the beer bottle marked with a WF & S trademark (Wm. Franzen & Son 1900-1921) and type 9 (1915-1930) and type 19 (1930-1975) milk cans. The site probably functioned as a short-term camp related to livestock tending. Dated materials indicate the site was probably occupied in the early-middle 20th century between 1915 and 1935.

NATIONAL OF HISTORIC PLACES EVALUATION

The National Register Criteria for Evaluation of Significance and procedures for nominating cultural resources to the National Register of Historic Places (NRHP) are outlined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, material, workmanship, feeling, and association, and that they:

- a)...are associated with events that have made a significant contribution to the broad patterns of our history; or
- b)...are associated with the lives of persons significant to our past; or
- c)...embody the distinctive characteristics of a type, period, or method of construction; or that represents the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d)...have yielded or may be likely to yield information important in prehistory or history.

The cultural resource inventory resulted in the documentation of four new archaeological sites. Only the prehistoric and historic component site (42Un4826) is recommended as eligible to the NRHP under Criteria D. The prehistoric component could address such research topics as chronology, subsistence strategies, site chronology, stone tool technology, and site function. The historic component exhibits a feature and a variety of cultural materials. There is also potential for subsurface cultural remains. Historic trash scatters 42Un4827, 42Un4828, and 42Un4829 are recommended as not eligible because they are unlikely to contribute to the history of the area. These sites lack artifact density, diversity, features, and fail to possess subsurface cultural material.

CONCLUSIONS AND RECOMMENDATIONS

The cultural resource inventory of Enduring Resources' five proposed well locations with associated pipeline/access corridors resulted in the documentation of four new archaeological sites (42Un4826, 42Un4827, 42Un4828, and 42Un4829). Site 42Un4826 is considered eligible to the NRHP and should be avoided by the undertaking. To facilitate avoidance during the construction activities, it is recommended that a temporary fence be erected at the sites' boundary. In addition, the construction of Archy Bench 11-22-11-2 well location should be monitored by a qualified archaeologist. Based on these avoidance procedures, a recommendation of "no historic properties affected" is proposed for the undertaking pursuant to Section 106, CFR 800.

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APPENDIX A:

INTERMOUNTAIN ANTIQUITY COMPUTER SYSTEM (IMACS)
SITE INVENTORY FORMS

On File At:

Bureau of Land Management
Vernal Field Office
and
Division of State History
Salt Lake City, UT

CONFIDENTIAL

Montgomery Archaeological Consultants, Inc.

310 East 100 South
 PO Box 147
 Moab, UT 84532

Invoice

DATE	INVOICE #
6/30/2005	05-196

BILL TO
Enduring Resources Frank Hutto 410 17th Street, Suite 1520 Denver, CO 80202

CONFIDENTIAL

TERMS	DUE DATE	PROJECT
Net 30	7/30/2005	T11S R22E S2 8 Wells

QUANTITY	DESCRIPTION	RATE	AMOUNT
23	Project Archaeologists-Field Work	45.00	1,035.00
2	Perdiem	80.00	160.00
499	Mileage	0.50	249.50
30	Project Archaeologists-Report Prep	45.00	1,350.00
7	Secretarial/Drafting	28.00	196.00
<i>Archy Bench 11-22-11-2 = \$373.82</i>			
<i>11-22-23-2 = 373.82</i>			
<i>11-22-13-2 = 373.81</i>			
<i>11-22-24-2 = 373.81</i>			
<i>11-22-21-2 = 373.81</i>			
<i>11-22-22-2 = 373.81</i>			
Federal Identification Tax Number 47-090-2943 = 373.81			
<i>11-22-12-2 = 373.81</i>			
<i>11-22-14-2 = 373.81</i>			
Total			\$2,990.50

Payment is Due and Payable within 30 days. Interest will be calculated at the rate of 1.5% per month on the unpaid balance and a billing charge of \$25.00 per invoice for late payment will be assessed.

*1-8-05
 OK P Sobolik*



MONTGOMERY
ARCHAEOLOGICAL
CONSULTANTS

Box 147, 322 East 100 South Moab, Utah 84532 (435) 259-5764 Fax (435) 259-5608

July 2, 2005

Ms. Phyllis Sobotik
Enduring Resources, LLC
475 17th Street, Suite 1500
Denver, Colorado 80202

Dear Ms. Sobotik:

Enclosed please find two copies of the report entitled "Cultural Resource Inventory for Enduring Resources' Five Proposed Well Locations on Bitter Creek, (Archy Bench 11-22-11-2, 11-22-12-2, 11-22-13-2, 11-22-14-2, and 11-22-24-2) in T11S, R22E, Sec. 2 Uintah County, Utah." The cultural resource inventory resulted in the documentation of one prehistoric/historic site 42Un4826, which is eligible for the National Register of Historic Places. Three historic sites (42Un4827, 42Un4828, and 42Un4829) were located and are recommended not eligible for the National Register of Historic Places. Based on the findings, we recommend that site 42Un4826 should be avoided by the undertaking. To facilitate avoidance during the construction activities, it is recommended that a temporary fence be erected at the sites' boundary. In addition, the construction of Archy Bench 11-22-11-2 well location should be monitored by a qualified archaeologist. Based on these avoidance procedures, a recommendation of "no historic properties affected" is proposed for the undertaking pursuant to Section 106, CFR 800.

If you have any questions, please call me. We appreciate this opportunity to provide archaeological consulting services.

Sincerely,

Keith Montgomery

Keith R. Montgomery
Principal Investigator

cc: Mr. H. Blaine Phillips, Archaeologist, BLM, Vernal Field Office

MOAC# 05-197

Paleontological Reconnaissance Report

Enduring Resources Proposed Well Pads, Access Roads and Pipeline Corridors for Archy Bench #11-22-11-2, #11-22-12-2, #11-22-13-2, #11-22-14-2, #11-22-24-2 (Sec. 2, T 11 S, R 22 E); Red Wash #9-24-23-30, #9-24-34-30 (Sec. 30 T 9 S, R 24 E); Red Wash ^{BONANZA} #9-24-³⁴24-23 (Sec. 23, T 9 S, R 24 E); Southam Canyon #9-24-41-34 (Sec. 34, T 9 S, R 24 E); Southam Canyon #9-24-23-36, #9-24-24-36 (Sec. 36, T 9 S, R 24 E); Southam Canyon #10-25-11-6 (Sec. 6, T 10 S, R 25 E)

Archy Bench, Bonanza, Red Wash SE,
and Southam Canyon Topographic
Quadrangles Uintah County, Utah

July 19, 2005

Prepared by Andrew W. Stanton
Paleontologist for
Montgomery Archaeological Consultants
Box 147, 322 East 100 South
Moab, Utah 84532

INTRODUCTION

At the request of Phyllis Sobotik, of Enduring Resources, LLC, and authorized by John Mayers of the BLM Vernal Field Office and James Kirkland of the Office of the State Paleontologist a paleontological reconnaissance survey of Enduring's proposed Well Pads, Access Roads and Pipeline Corridors for Archy Bench #11-22-11-2, #11-22-12-2, #11-22-13-2, #11-22-14-2, #11-22-24-2 (Sec. 2, T 11 S, R 22 E); Red Wash #9-24-23-30, #9-24-34-30 (Sec. 30, T 9 S, R 24 E); Red Wash #9-24-24-23 (Sec. 23, T 9 S, R 24 E); Southam Canyon #9-24-41-34 (Sec. 34, T 9 S, R 24 E); Southam Canyon #9-24-23-36, #9-24-24-36 (Sec. 36, T 9 S, R 24 E); Southam Canyon #10-25-11-6 (Sec. 6, T 10 S, R 25 E) was conducted by Stephen Sandau June 8-11, 2005. The survey was conducted under the Utah BLM Paleontological Resources Use Permit #UT-S-05-33 and the Utah Paleontological Investigations Permit #04-345. This survey to collect any paleontological materials discovered during the construction processes in danger of damage or destruction was done to meet requirements of the National Environmental Policy Act of 1969, and other State and Federal laws and regulations that protect paleontological resources.

FEDERAL AND STATE REQUIREMENTS

As mandated by the US Department of the Interior Bureau of Land Management, paleontologically sensitive geologic formations in BLM lands that are considered for exchange or may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579).
- 3) The National Historic preservation Act. 16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320; and
- 4) The Utah Geological Survey. S. C. A.: 63-73-1. (1-21) and U.C.A.: 53B-17-603

Under policy dictated by the BLM Manual and Handbook H-8270-1 (July, 1998) formations are ranked according to their paleontological potential:

- *Condition 1* is applied to those areas known to contain fossil localities, and special consideration of the known resources is in need of evaluation.
- *Condition 2* is applied to areas that have exposures of geologic rock units known to have produced fossils elsewhere.
- *Condition 3* is applied to areas unlikely to produce fossils based on surficial geology.

Although these guidelines apply mostly to vertebrate fossils on lands under the direction of the BLM, they are equally designed to help protect rare plant and invertebrate fossils and will be used here with reference to State managed lands. It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleo-environmental, depositional, and chronostratigraphic indicators.

LOCATION

This project covers wells on land managed by the State of Utah Trust Lands Administration (SITLA) and on BLM land. The well pads and proposed pipeline corridor for Enduring's Archy Bench #11-22-11-2, #11-22-12-2, #11-22-13-2, #11-22-14-2, #11-22-24-2 (Sec. 2, T 11 S, R 22 E) are four to five miles south by southwest of the White River, and some fifteen miles south west of Bonanza, UT. Red Wash #9-24-23-30, #9-24-34-30 (Sec. 30, T 9 S, R 24 E) lies approximately 3 miles north of the White River and four to five miles west of Bonanza, UT; Red Wash #9-24-24-23 (Sec. 23, T 9 S, R 24 E) is on the southwestern outskirts of Bonanza, UT; Southam Canyon #9-24-41-34 (Sec. 34, T 9 S, R 24 E) is about one and one half miles south by southwest of Bonanza; Southam Canyon #9-24-23-36, #9-24-24-36 (Sec. 36, T 9 S, R 24 E) and Southam Canyon #10-25-11-6 (Sec. 6, T 10 S, R 25 E) are approximately three miles south of Bonanza, UT and one to one and a half miles north of the White River. The project areas can be found on the Archy Bench, Bonanza, Red Wash SE, and Southam Canyon Topographic Quadrangles, Uintah County, Utah

PREVIOUS WORK

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) and ranges in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992), and fauna (Black and Dawson, 1966) of North America.

GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic, deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events occurring during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded coarse-grained sandstone and conglomerates

preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta, and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929), and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt and mudstone and westward flowing channel sands, fluvial clays, and muds in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931) biostratigraphy (Flynn, 1986; Prothero, 1996). Well known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).

The Duchesne River Formation of the Uinta Basin in northeastern Utah is composed of a succession of fluvial and flood plain deposits composed of mud, silt, and sandstone. The source area for these late Eocene deposits is from the Uinta Mountains indicated by paleocurrent data (Anderson and Picard, 1972). In Peterson's (1931c) paper, the name "Duchesne Formation" was applied to the formation, and it was later changed to the "Duchesne River Formation" by Kay (1934). The formation is divided up into four members: the Brennan Basin, Dry Gulch Creek, Lapoint, and Starr Flat (Anderson and Picard, 1972). Debates concerning the Duchesne River Formation, as to whether its age was late Eocene or early Oligocene, have surfaced throughout the literature of the last century (Wood et al., 1941; Scott 1945). Recent paleo-magnetostratigraphic work (Prothero, 1996) shows that the Duchesne River Formation is late Eocene in time.

FIELD METHODS

In order to determine if the proposed pipeline corridors, access roads and well pads from this project contained any paleontological resources, a brief reconnaissance survey was performed. An on-site observation of the proposed areas undergoing surficial disturbance is necessary, because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces, and are of particular importance.

PROJECT AREA

The project site is situated in the Wagonhound Member (Uinta A & B) of the Uinta Formation.

Archy Bench #11-22-11-2

The proposed well pad lies adjacent to an existing access road in the NW/NW quarter-quarter section of Sec. 2, T 11 S, R 22 E (Figure 1). A proposed pipeline follows the path of this road and ties into an existing pipeline in the SW/SW quarter-quarter section of Sec. 2, T 11 S, R 22 E. The proposed pad and pipeline rest on sage brush covered soil and colluvium. The surrounding slopes and ridges to the east consist of interbedded green, purple and tan colored silt and sandstone. Ledges of tan sandstone and silt lie to the west of the proposed well pad. No fossils were found at this site.

Archy Bench #11-22-12-2

The proposed well pad lies adjacent to an existing access road in the SW/NW quarter-quarter section of Sec. 2, T 11 S, R 22 E (Figure 1). The proposed well pad rests on soil and colluvium covered ground. Cliffs of tan sandstone lie to the east of the pad area. No fossils were found in the proposed construction site.

Archy Bench #11-22-13-2

The proposed well pad lies adjacent to an existing access road in the NW/SW quarter-quarter section of Sec. 2, T 11 S, R 22 E (Figure 1). The ground is covered with sandy soil and colluvium, and is vegetated with brush. No fossils were found at this locality.

Archy Bench #11-22-14-2

The proposed well pad lies adjacent to an existing access road in the SW/SW quarter-quarter section of Sec. 2, T 11 S, R 22 E (Figure 1). The area consists of soil covered ground and is vegetated with brush. No fossils were found in the proposed construction site.

Archy Bench #11-22-24-2

The proposed well pad is in the SE/SW quarter-quarter section of Sec. 2, T 11 S, R 22 E (Figure 1). The proposed access and pipeline tie in at the SW/SW quarter-quarter section of Sec. 2, T 11 S, R 22 E. The area consists of soil covered ground, and an outcrop of tan sandstone and siltstone lies off the eastern edge of the pad. No fossils were found within the proposed construction site.

Red Wash #9-24-23-30

The proposed access road and pipeline begin in the NW/SE quarter-quarter section and end in the NE/SW quarter-quarter section of Sec. 30, T 11 S, R 22 E (Figure 2). The area consists of soil covered ground vegetated with grass and low brush. No fossils were found in the proposed construction area.

Red Wash #9-24-34-30

The proposed short access road, pipeline and well pad lie in the SW/SE quarter-quarter section of Sec. 30, T 9 S, R 24 E (Figure 2). The ground is soil covered and vegetated with brush and grass. No fossils were found at this site.

Bonanza 34
Red Wash #9-24-24-23

The proposed well pad and short access are located in the SW/SE quarter-quarter section of Sec. 23, T 9 S, R 24 E, and the proposed long pipeline begins in the NW/NE quarter-quarter section of Sec. 27, T 9 S, R 24 E, following the path of an existing road, and then follows the path of the proposed access road (Figure 3). The area consists of rolling hills of soil covered ground vegetated with sage and grass. No fossils were found at this site.

Southam Canyon #9-24-41-34

The proposed well pad lies in the NE/NE quarter-quarter section of Sec. 34, T 9 S, R 24 E. The proposed access road begins in the NW/NE quarter-quarter section of Sec. 34, T 9 S, R 24 E, and the proposed long pipeline begins in the NW/NE quarter-quarter section of Sec. 27, T 9 S, R 24 E, follows the path of an existing road, the follows the path of the proposed access road (Figure 3). The ground is covered with soil and is vegetated with sage. Along the proposed access road are some exposures of tan sandstone with brown concretions, along with green silt and mudstone. No fossils were found in the proposed construction area.

Southam Canyon #9-24-23-36

The proposed well pad, short access road and pipeline lie in the NE/NW quarter-quarter section of Sec. 36, T 9 S, R 24 E. The proposed access road and pipeline tie into the proposed access and pipeline for Southam Canon #9-24-24-36 (Figure 4). The area consists of soil covered ground with colluvium and some exposures of tan sandstone. No fossils were found in the proposed construction site.

Southam Canyon #9-24-24-36

The long proposed access road and pipeline begin in the SE/NE quarter-quarter section of Sec. 36, T 9 S, R 24 E, head southwest and enter the proposed well pad from the northwest in the SE/SW quarter-quarter section of Sec. 36, T 9 S, R 24 E (Figure 4). The area around the proposed access road has outcrops of tan sandstone containing petrified wood. No other fossils were found in the proposed construction area.

Southam Canyon #10-25-11-6

The proposed well pad and access road lie in the NW/NW quarter-quarter section of Sec. 6, T 10 S, R 25 E. The 2,900 ft. access enters the well pad from the south (Figure 4). To the northeast of the proposed well pad are outcrops of tan sandstone, and along the western flank of the southern extremity of access road are tan silt and shale in which was found fossils plant material and fish scales.

SURVEY RESULTS

WELL	GEOLOGY	PALEONTOLOGY
Archy Bench #11-22-11-2 (Sec. 2, T 11 S, R 22 E)	The pad and pipeline rest on sage brush covered soil and colluvium. The surrounding slopes and ridges to the east consist of interbedded green, purple and tan colored silt and sandstone. Ledges of tan sandstone and silt lie to the west of the proposed well pad.	No fossils were found. Condition 3.
Archy Bench #11-22-12-2 (Sec. 2, T 11 S, R 22 E)	The proposed well pad rests on soil and colluvium covered ground. Cliffs of tan sandstone lie to the east of the pad area.	No fossils were found. Condition 3.
Archy Bench #11-22-13-2 (Sec. 2, T 11 S, R 22 E)	The ground is covered with sandy soil and colluvium.	No fossils were found. Condition 3.
Archy Bench #11-22-14-2 (Sec. 2, T 11 S, R 22 E)	The area consists of soil covered ground.	No fossils were found. Condition 3.
Archy Bench #11-22-24-2 (Sec. 2, T 11 S, R 22 E)	The area consists of soil covered ground, and an outcrop of tan sandstone and siltstone lies off the eastern edge of the pad.	No fossils were found. Condition 3.
Red Wash #9- 24-23-30 (Sec. 30, T 9 S, R 24 E)	The area consists of soil covered ground.	No fossils were found. Condition 3.
Red Wash #9- 24-34-30 (Sec. 30, T 9 S, R 24 E)	The ground is soil covered.	No fossils were found. Condition 3.
Red Wash #9-24-24-23 (Sec. 23, T 9 S, R 24 E)	The area consists of rolling hills of soil covered ground.	No fossils were found. Condition 3.
Southam Canyon #9-24- 41-34 (Sec. 34, T 9 S, R 24 E)	The ground is covered with soil. Along the proposed access road are some exposures of tan sandstone with brown concretions, along with green silt and mudstone.	No fossils were found. Condition 3.

Southam Canyon #9-24-23-36 (Sec. 36, T 9 S, R 24 E)	The area consists of soil covered ground with colluvium and some exposures of tan sandstone.	No fossils were found. Condition 3.
Southam Canyon #9-24-24-36 (Sec. 36, T 9 S, R 24 E)	The area around the proposed access road has outcrops of tan sandstone containing petrified wood.	Plant fossils were found. Condition 2.
Southam Canyon #10-25-11-6 (Sec. 6, T 10 S, R 25 E)	To the northeast of the proposed well pad are outcrops of tan sandstone, and along the western flank of the southern extremity of access road are tan silt and shale in which was found fossils plant material and fish scales.	Plant impressions and fish scales were found. Condition 2.

RECOMMENDATIONS

The reconnaissance survey executed for Enduring's proposed Well Pads, Access Roads and Pipeline Corridors for Archy Bench #11-22-11-2, #11-22-12-2, #11-22-13-2, #11-22-14-2, #11-22-24-2 (Sec. 2, T 11 S, R 22 E); Red Wash #9-24-23-30, #9-24-34-30 (Sec. 30, T 9 S, R 24 E); Red Wash #9-24-24-23 (Sec. 23, T 9 S, R 24 E); Southam Canyon #9-24-41-34 (Sec. 34, T 9 S, R 24 E); Southam Canyon #9-24-23-36, #9-24-24-36 (Sec. 36, T 9 S, R 24 E); Southam Canyon #10-25-11-6 (Sec. 6, T 10 S, R 25 E) was brief.

The localities for Southam Canyon #9-24-24-36 (Sec. 36, T 9 S, R 24 E) and #10-25-11-6 (Sec. 6, T 10 S, R 25 E) both yielded plant fossils, the latter also contained fish scales. No monitoring of these sites is recommended unless more substantial fossil material is found.

The staked areas at the remainder of the sites, namely Archy Bench #11-22-11-2, #11-22-12-2, #11-22-13-2, #11-22-14-2, #11-22-24-2 (Sec. 2, T 11 S, R 22 E); Red Wash #9-24-23-30, #9-24-34-30 (Sec. 30, T 9 S, R 24 E); Red Wash #9-24-24-23 (Sec. 23, T 9 S, R 24 E); Southam Canyon #9-24-41-34 (Sec. 34, T 9 S, R 24 E); Southam Canyon #9-24-23-36 (Sec. 36, T 9 S, R 24 E) showed no signs of fossil materials inside of the proposed construction sites. Therefore, no credible reason to limit construction within the staked areas was found.

However, if vertebrate fossil(s) are found during construction of any of the other locations covered in this report, recommendations are that a paleontologist is immediately notified in order to collect fossil materials in danger of being destroyed. Any vertebrate fossils found should be carefully moved outside of the construction areas to be checked by a permitted paleontologist.

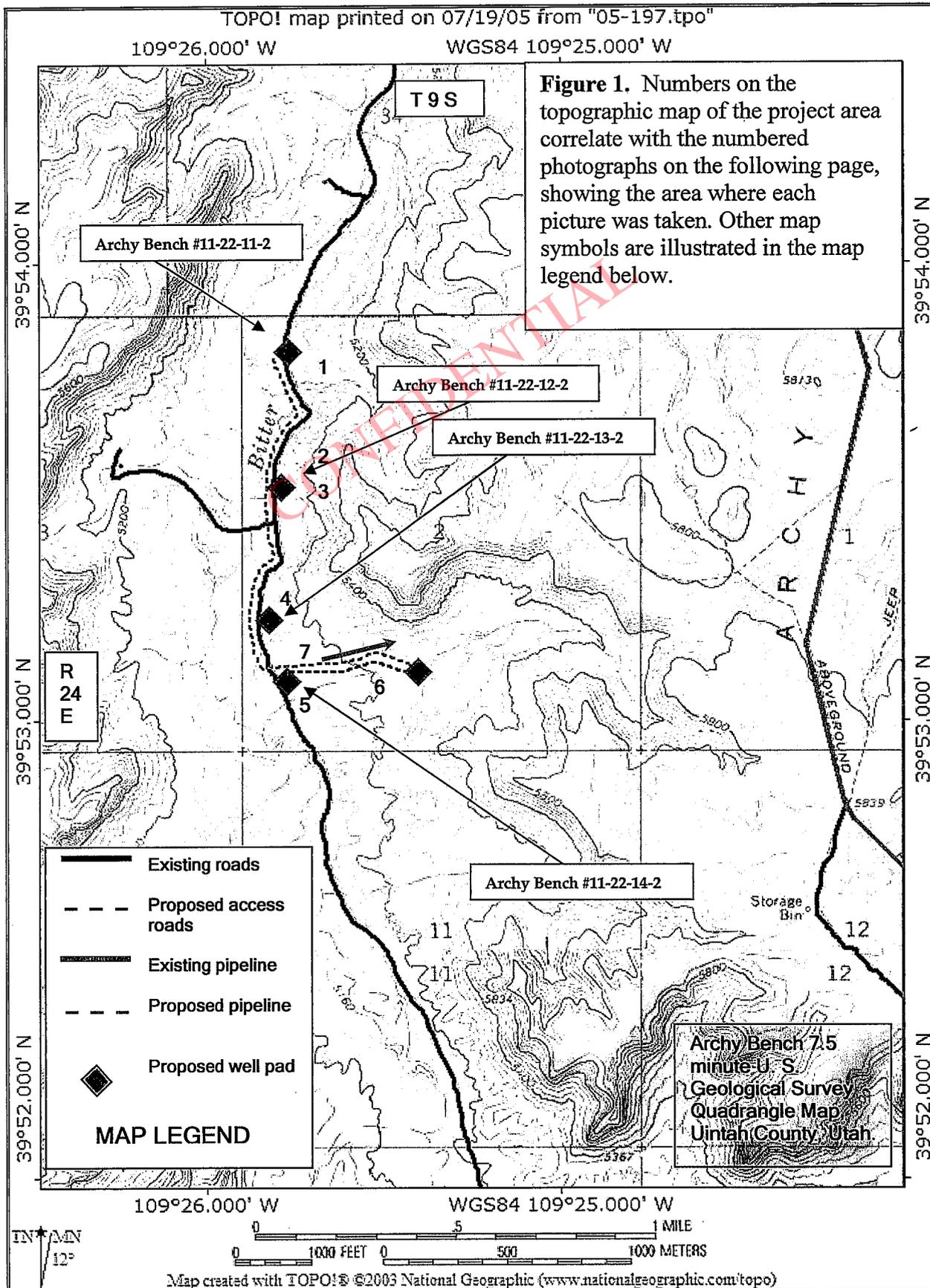
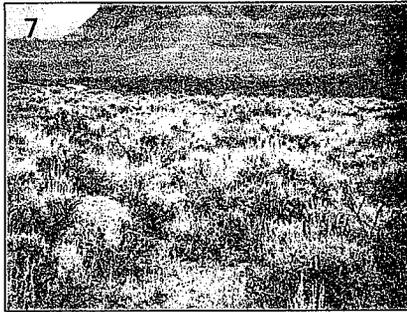
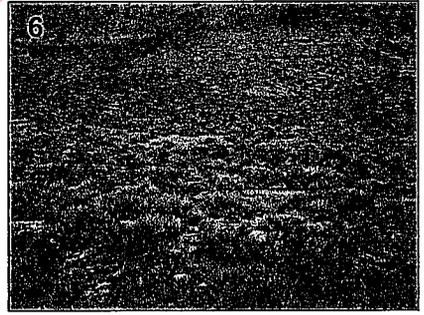
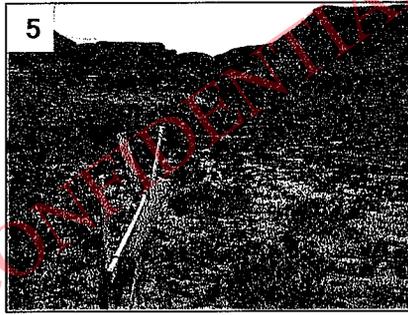
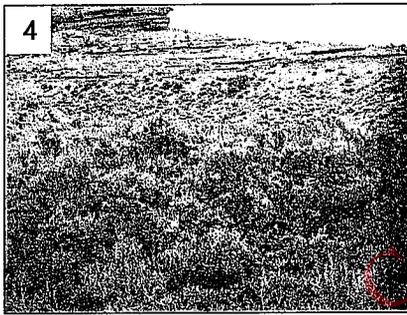
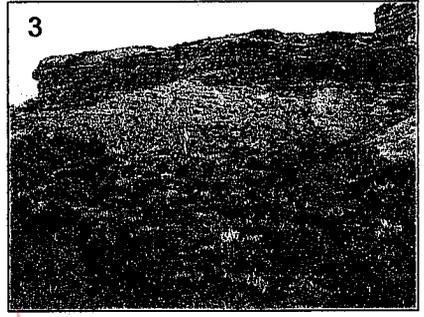
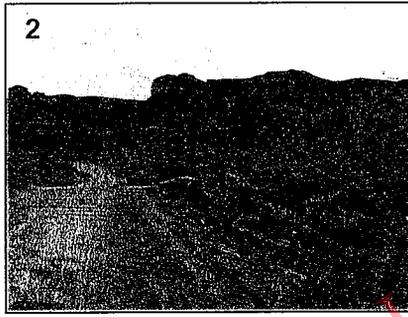
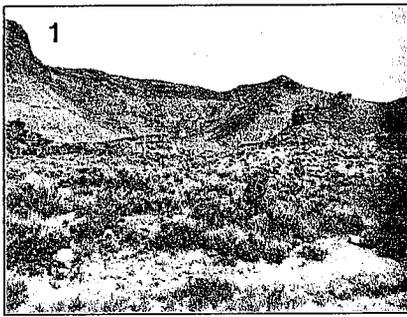


Figure 1 continued...



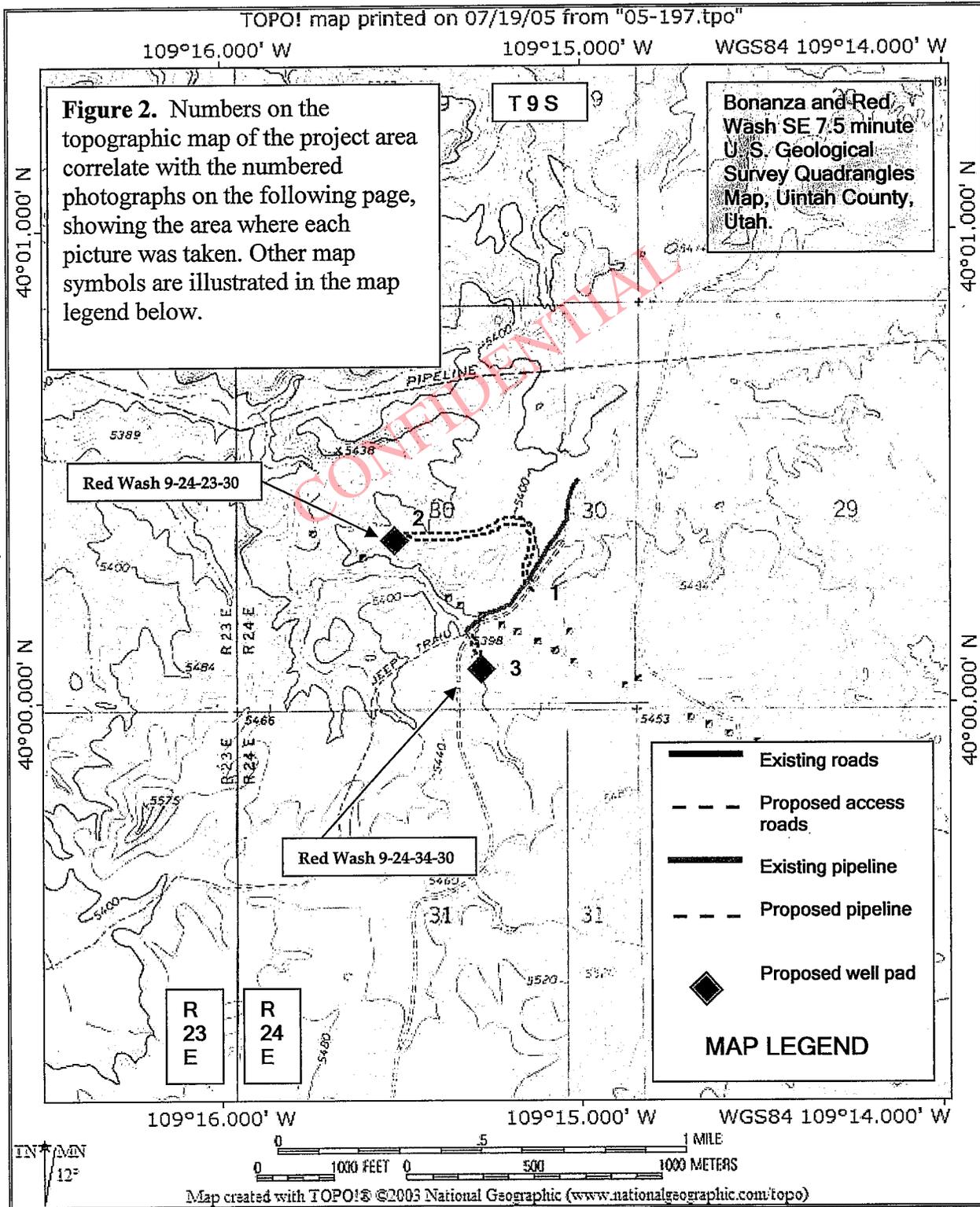
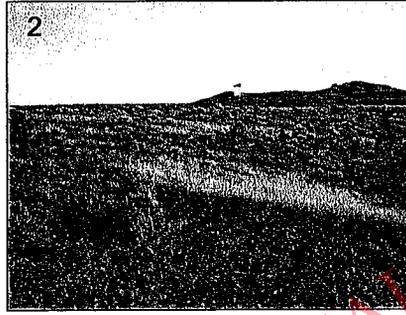
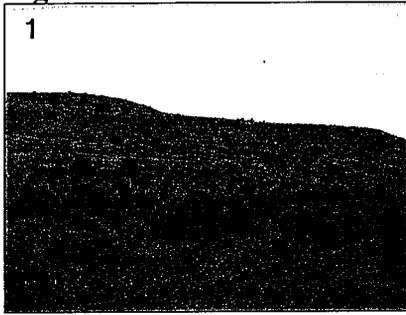


Figure 2 continued...



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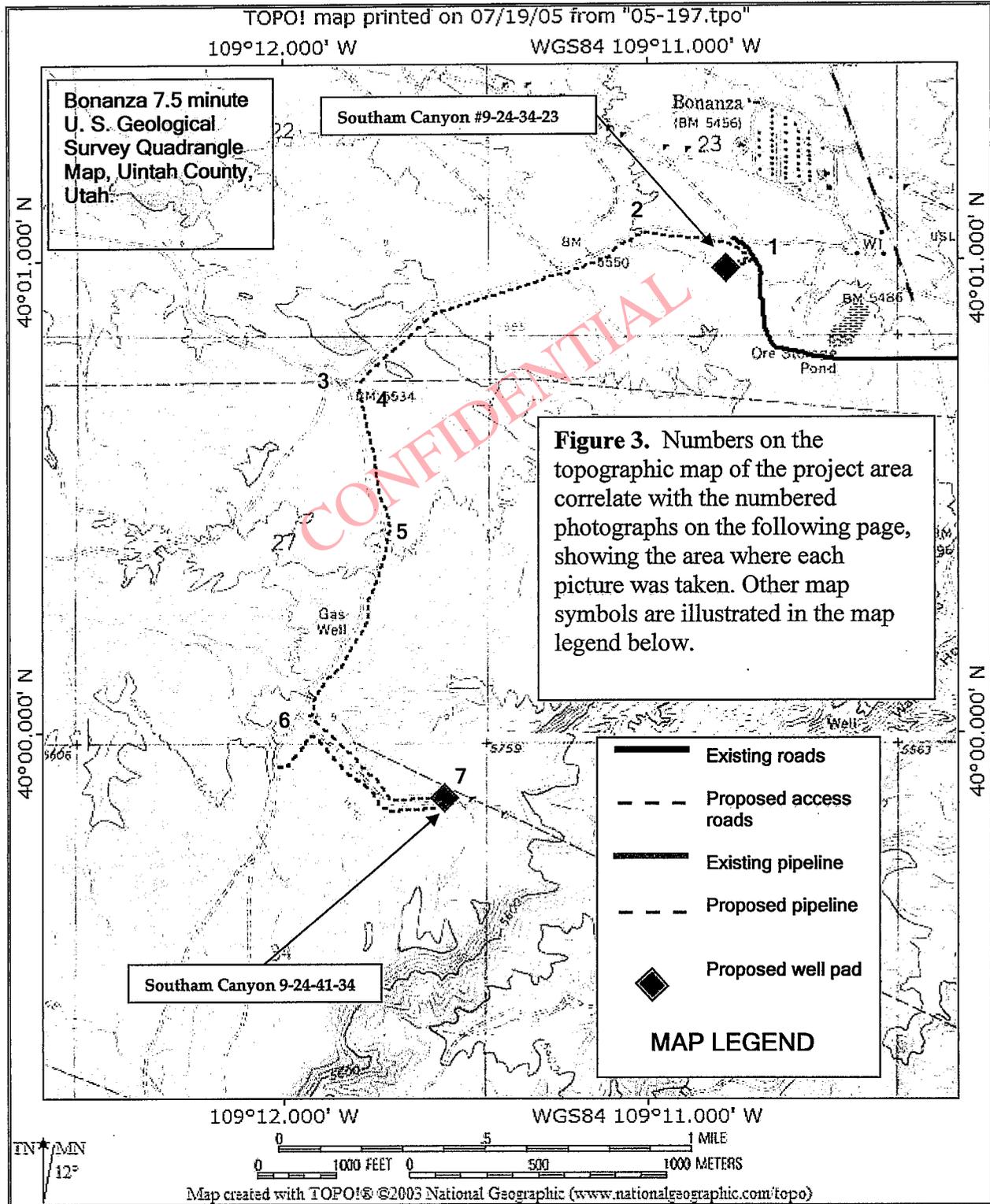
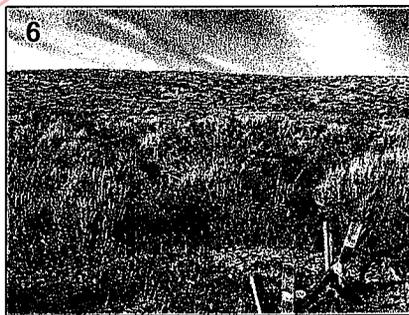
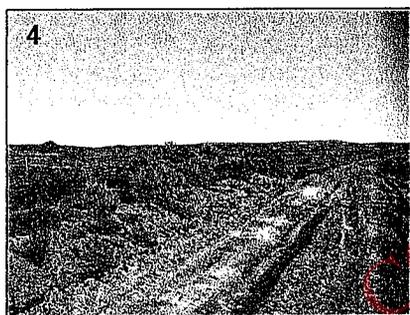
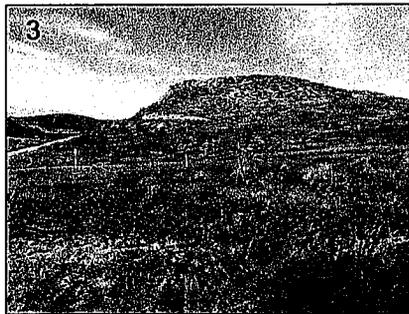


Figure 3 continued...



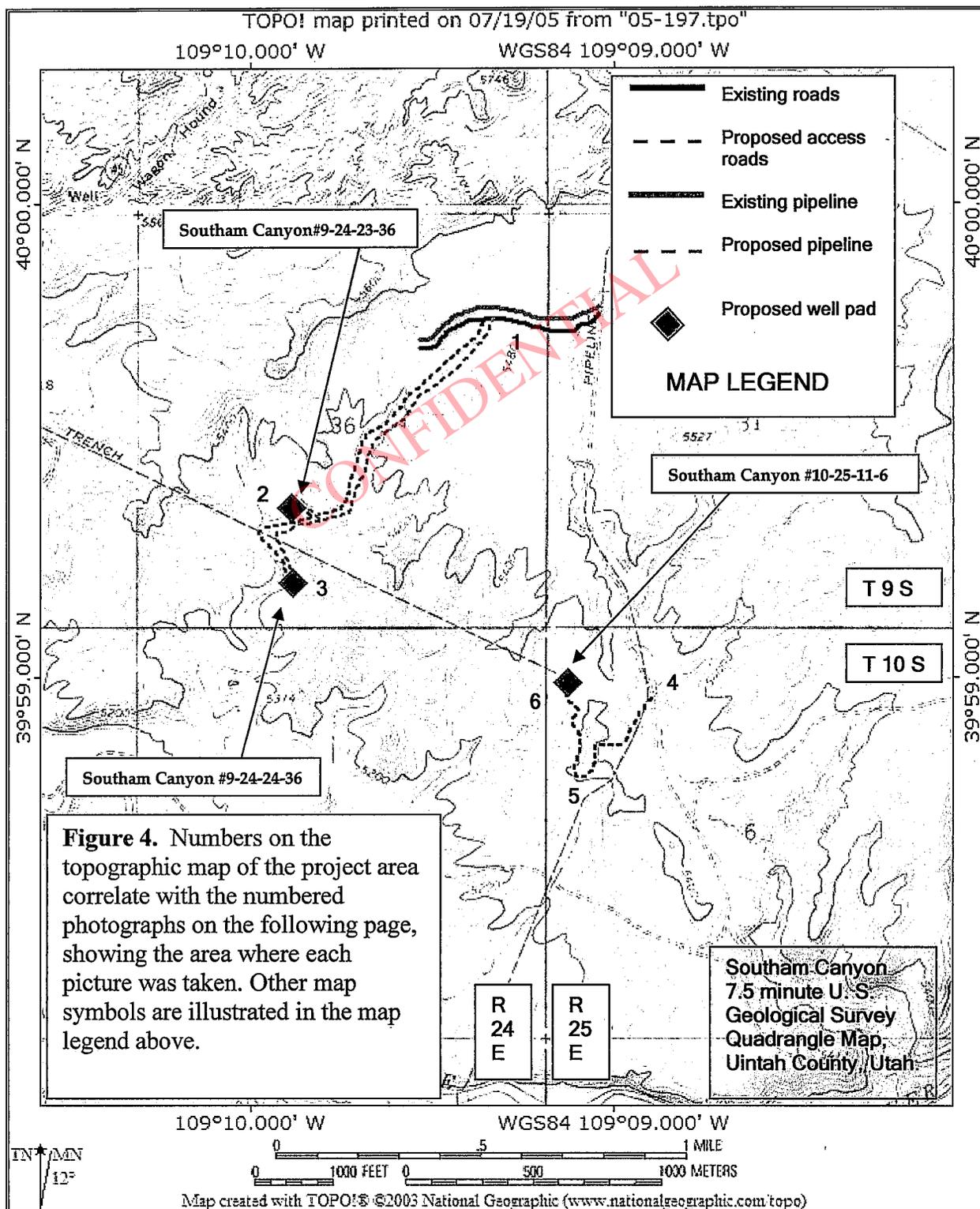
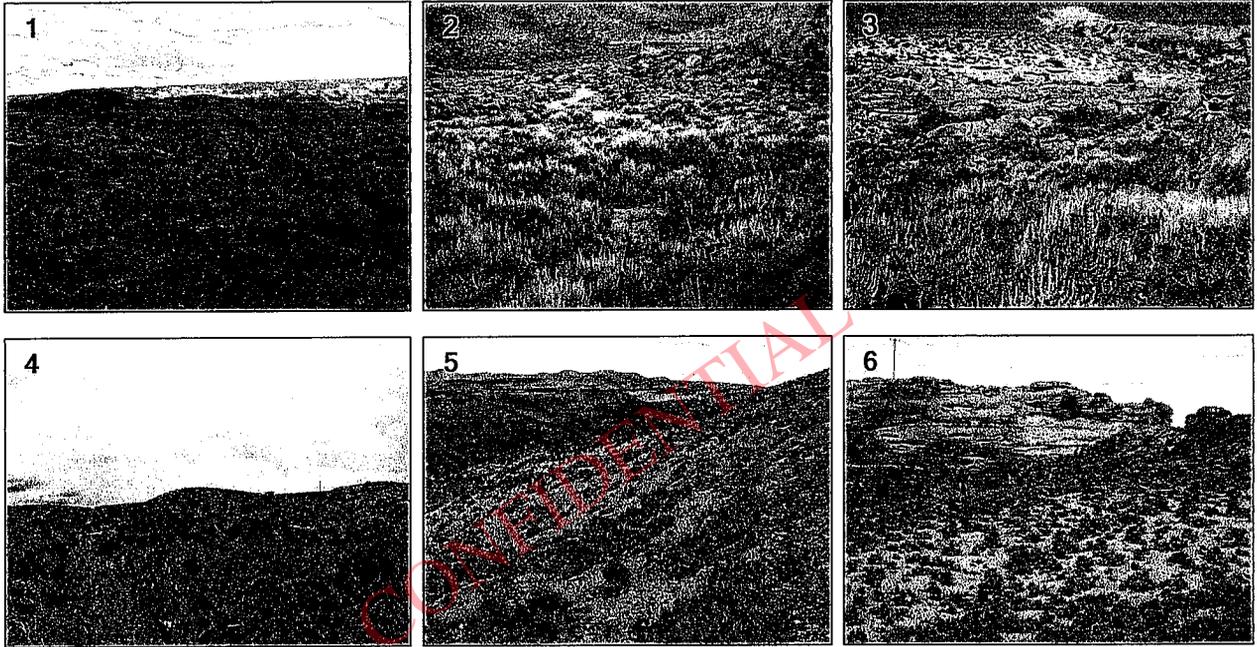


Figure 4 continued...



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ENDURING RESOURCES, LLC

425 Seventeenth Street, Suite 1500

Denver, Colorado 80202

Telephone: 303-573-1222

Facsimile: 303-573-0461

November 6, 2008

State of Utah
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801
Attention: Ms. Diana Whitney

RE: Exception Locations – Directionally Drilled Wells

Dear Ms. Whitney:

Enduring Resources, LLC respectfully requests a spacing exception for the following wells. Two wells will be drilled from this well pad to limit surface impact. Surface locations will be 20', more or less apart. BHL's for each well will be in its own "assigned" 40-acre, 200' drilling window. No BHL's will be within 960' of each other.

<u>WELL NAME & NUMBER</u>	<u>WELL LOCATIONS</u>
Archy Bench 11-22-24-2	SURF 811' FSL – 2125' FWL SESW Sec 2-11S-22E BHL 811' FSL – 2125' FWL SESW Sec 2-11S-22E
Archy Bench 11-22-24-2	SURF 794' FSL – 2115' FWL SESW Sec 2-11S-22E BHL 1981' FSL – 1960' FWL NWNE Sec 2-11S-22E

Enduring Resources, LLC is the only lease owner within a 460' radius of any point of any of the well bores, the surface locations, and the two BHL's, to be drilled from this pad.

Therefore, Enduring Resources, LLC hereby grants itself permission to directionally drill the wells and the four exception well locations.

Very truly yours

ENDURING RESOURCES, LLC

Alvin R. (Al) Arlian
Landman – Regulatory Specialist

ara/

API Number: 4304750211

Well Name: Archy Bench 11-22-24-2

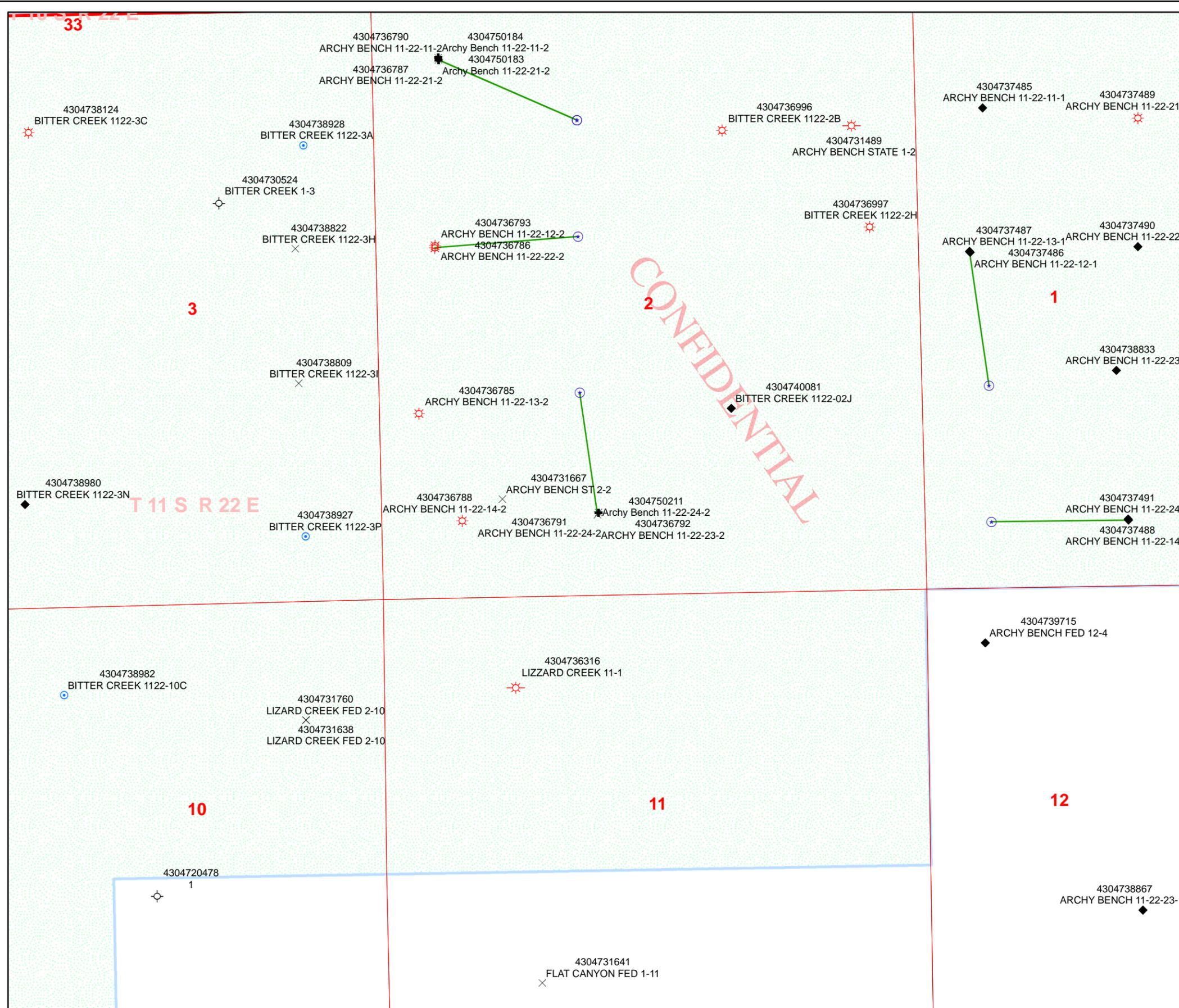
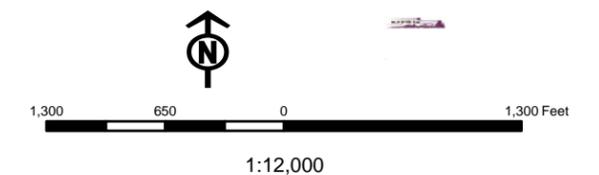
Township 11.0 S Range 22.0 E Section 2

Meridian: SLBM

Operator: ENDURING RESOURCES, LLC

Map Prepared:
Map Produced by Diana Mason

Units	Wells Query Events
STATUS	✖ <call other values>
ACTIVE	GIS_STAT_TYPE
EXPLORATORY	<Null>
GAS STORAGE	◆ APD
NF PP OIL	○ DRL
NF SECONDARY	⊗ GI
PI OIL	⊗ GS
PP GAS	⊗ LA
PP GEOTHERML	⊗ NEW
PP OIL	⊗ OPS
SECONDARY	⊗ PA
TERMINATED	⊗ PGW
Fields	⊗ POW
STATUS	⊗ RET
ACTIVE	⊗ SGW
COMBINED	⊗ SOW
Sections	⊗ TA
Township	⊗ TW
	⊗ WD
	⊗ WI
	⊗ WS



Well Name	Enduring Resources, LLC ARCHY BENCH 11-22-24-2 43047502110000			
String	Cond	Surf	Prod	
Casing Size(")	14.000	8.625	4.500	
Setting Depth (TVD)	40	1016	7616	
Previous Shoe Setting Depth (TVD)	0	40	1016	7616
Max Mud Weight (ppg)	8.4	8.6	9.8	
BOPE Proposed (psi)	0	500	3000	
Casing Internal Yield (psi)	500	2950	7780	
Operators Max Anticipated Pressure (psi)	3960			

Calculations	Cond String	14.000	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	17	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	12	NO
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	8	NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	8	NO
Required Casing/BOPE Test Pressure=		3000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

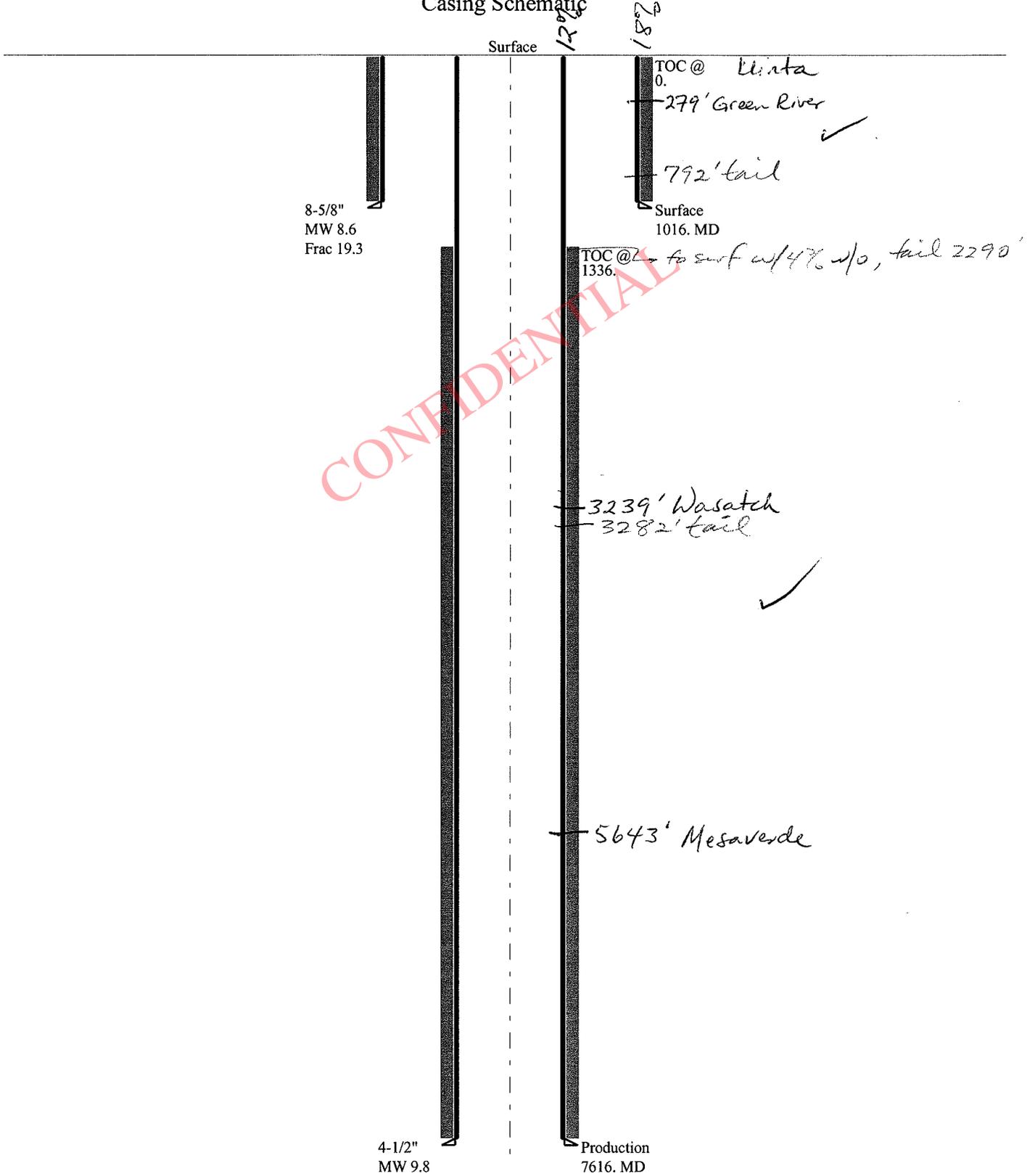
Calculations	Surf String	8.625	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	454	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	332	YES Diverter Head
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	230	YES
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	239	NO Reasonable depth in area, no expected pressures
Required Casing/BOPE Test Pressure=		1016	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BPH (psi)	$.052 * \text{Setting Depth} * \text{MW} =$	3881	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	2967	YES
MASP (Gas/Mud) (psi)	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	2205	YES O.K.
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	2429	NO Reasonable - note max. allowed pressure
Required Casing/BOPE Test Pressure=		3000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		1016	psi *Assumes 1psi/ft frac gradient

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

43047502110000 Archy Bench 11-22-24-2

Casing Schematic



Well name:	43047502110000 Archy Bench 11-22-24-2		
Operator:	Enduring Resources, LLC		
String type:	Surface		Project ID: 43-047-50211-0000
Location:	Uintah County		

Design parameters:

Collapse

Mud weight: 8.600 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Environment:

H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 89 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 266 ft

Burst:

Design factor 1.00

Cement top: Surface

Burst

Max anticipated surface pressure: 894 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 1,016 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on buoyed weight.
Neutral point: 885 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 7,616 ft
Next mud weight: 9.800 ppg
Next setting BHP: 3,877 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 1,016 ft
Injection pressure: 1,016 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	1016	8.625	24.00	J-55	ST&C	1016	1016	7.972	363.3
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	454	1370	3.018	1016	2950	2.90	21	244	11.49 J

Prepared by: Helen Sadik-Macdonald
Div of Oil, Gas & Minerals

Phone: 801-538-5357
FAX: 801-359-3940

Date: December 9, 2008
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1016 ft, a mud weight of 8.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	43047502110000 Archy Bench 11-22-24-2		
Operator:	Enduring Resources, LLC		
String type:	Production	Project ID:	43-047-50211-0000
Location:	Uintah County		

Design parameters:

Collapse

Mud weight: 9.800 ppg
 Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Environment:

H2S considered? No
 Surface temperature: 75 °F
 Bottom hole temperature: 182 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 1,500 ft

Burst:

Design factor 1.00

Cement top: 1,336 ft

Burst

Max anticipated surface pressure: 2,202 psi
 Internal gradient: 0.220 psi/ft
 Calculated BHP 3,877 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
 8 Round LTC: 1.80 (J)
 Buttress: 1.60 (J)
 Premium: 1.50 (J)
 Body yield: 1.50 (B)

Non-directional string.

Tension is based on buoyed weight.
 Neutral point: 6,500 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	7616	4.5	11.60	N-80	LT&C	7616	7616	3.875	664.6
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	3877	6350	1.638	3877	7780	2.01	75	223	2.96 J

Prepared by: Helen Sadik-Macdonald
 Div of Oil, Gas & Minerals

Phone: 801-538-5357
 FAX: 801-359-3940

Date: December 9, 2008
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 7616 ft, a mud weight of 9.8 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Application for Permit to Drill Statement of Basis

12/22/2008

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
1156	43047502110000	LOCKED	GW	F	No
Operator	ENDURING RESOURCES, LLC		Surface Owner-APD		
Well Name	ARCHY BENCH 11-22-24-2		Unit		
Field	BITTER CREEK		Type of Work		DRILL
Location	SESW 2 11S 22E S 811 FSL 2125 FWL GPS Coord (UTM) 634805E 4415923N				

Geologic Statement of Basis

Enduring proposes to set 1,016' of surface casing. The base of the moderately saline ground water is estimated at 3,200'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 2. The surface formation at this location is the Green River Formation. The Green River Formation is made up of interbedded limestones, shales and sandstones. Fresh water aquifers can be found in the Green River Formation and should be protected. The proposed surface casing should adequately protect any potentially useable aquifers. Production casing cement should be brought up above the base of the moderately saline ground water in order to isolate it from fresher waters uphole.

Brad Hill
APD Evaluator

12/22/2008
Date / Time

Surface Statement of Basis

The surface rights at the proposed location are owned by the Federal Government. The operator is responsible for obtaining any surface permits or rights-of-way required by the BLM.

Brad Hill
Onsite Evaluator

12/22/2008
Date / Time

Application for Permit to Drill Statement of Basis

12/22/2008

Utah Division of Oil, Gas and Mining

Page 2

Conditions of Approval / Application for Permit to Drill

Category	Condition
	None.

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**WORKSHEET
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 11/6/2008

API NO. ASSIGNED: 43047502110000

WELL NAME: Archy Bench 11-22-24-2

OPERATOR: Enduring Resources, LLC (N2750)

PHONE NUMBER: 303 350-5114

CONTACT: Alvin Arlian

PROPOSED LOCATION: SESW 2 110S 220E

Permit Tech Review:

SURFACE: 0811 FSL 2125 FWL

Engineering Review:

BOTTOM: 0811 FSL 2125 FWL

Geology Review:

COUNTY: UINTAH

LATITUDE: 39.88455

LONGITUDE: -109.42347

UTM SURF EASTINGS: 634805.00

NORTHINGS: 4415923.00

FIELD NAME: BITTER CREEK

LEASE TYPE: 3 - State

LEASE NUMBER: ML-47075

PROPOSED FORMATION: MVRD

SURFACE OWNER: 1 - Federal

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

LOCATION AND SITING:

- PLAT**
- Bond:** STATE/FEE - RLB0008031
- Potash**
- Oil Shale 190-5**
- Oil Shale 190-3**
- Oil Shale 190-13**
- Water Permit:** 49-2279
- RDCC Review:**
- Fee Surface Agreement**
- Intent to Commingle**

- R649-2-3.**
 - Unit:**
 - R649-3-2. General**
 - R649-3-3. Exception**
 - Drilling Unit**
 - Board Cause No:** 210-04
 - Effective Date:** 4/12/2004
 - Siting:** 460' fr ext. drl u bdry & 920' fr other wells
 - R649-3-11. Directional Drill**
-

Comments: Presite Completed

Stipulations: 3 - Commingling - ddoucet
4 - Federal Approval - dmason



JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: ARCHY BENCH 11-22-24-2
API Well Number: 43047502110000
Lease Number: ML-47075
Surface Owner: FEDERAL
Approval Date: 12/23/2008

Issued to:

Enduring Resources, LLC, 475 17th Street, Suite 1500, Denver, CO 80202

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of 210-04.

Duration:

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

Commingling:

In accordance with Cause No. 210-04, commingling the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:

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

Conditions of Approval:

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

Notification Requirements:

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

- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to spudding the well - contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program - contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well - contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well - contact Dustin Doucet
- Any changes to the approved drilling plan - contact Dustin Doucet

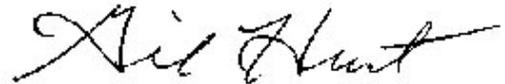
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at: (801) 538-5338 office
(801) 942-0871 home
- Carol Daniels at: (801) 538-5284 office
- Dustin Doucet at: (801) 538-5281 office
(801) 733-0983 home

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.

Approved By:



Gil Hunt
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: ML-47075
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SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME:
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1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: ARCHY BENCH 11-22-24-2
2. NAME OF OPERATOR: Enduring Resources, LLC	9. API NUMBER: 43047502110000
3. ADDRESS OF OPERATOR: 475 17th Street, Suite 1500 , Denver, CO, 80202	PHONE NUMBER: 303 350-5114 Ext
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0811 FSL 2125 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SESW Section: 2 Township: 11.0S Range: 22.0E Meridian: S	9. FIELD and POOL or WILDCAT: BITTER CREEK COUNTY: UINTAH STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 12/23/2009	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____

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

Request an one-year extension to APD term.

Approved by the Utah Division of Oil, Gas and Mining

Date: December 21, 2009

By:

NAME (PLEASE PRINT) Alvin Arlian	PHONE NUMBER 303 350-5114	TITLE Landman-Regulatory
SIGNATURE N/A		DATE 12/18/2009



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047502110000

API: 43047502110000

Well Name: ARCHY BENCH 11-22-24-2

Location: 0811 FSL 2125 FWL QTR SESW SEC 2 TWNP 110S RNG 220E MER S

Company Permit Issued to: ENDURING RESOURCES, LLC

Date Original Permit Issued: 12/23/2008

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

- 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 rightof- way, which could affect the proposed location? Yes No

- Has the approved source of water for drilling changed? Yes No

- 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

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

Signature: Alvin Arlian

Date: 12/18/2009

Title: Landman-Regulatory **Representing:** ENDURING RESOURCES, LLC

Date: December 21, 2009

By: 

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: ML-47075
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: ARCHY BENCH 11-22-24-2
2. NAME OF OPERATOR: Enduring Resources, LLC	9. API NUMBER: 43047502110000
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4. LOCATION OF WELL FOOTAGES AT SURFACE: 0811 FSL 2125 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SESW Section: 02 Township: 11.0S Range: 22.0E Meridian: S	9. FIELD and POOL or WILDCAT: BITTER CREEK COUNTY: UINTAH STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 12/23/2010	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
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	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
 Request an one-year extension to APD termination date.

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

Date: 12/23/2010
By: 

NAME (PLEASE PRINT) Alvin Arlian	PHONE NUMBER 303 350-5114	TITLE Landman-Regulatory
SIGNATURE N/A		DATE 12/17/2010



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047502110000

API: 43047502110000

Well Name: ARCHY BENCH 11-22-24-2

Location: 0811 FSL 2125 FWL QTR SESW SEC 02 TWP 110S RNG 220E MER S

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Date Original Permit Issued: 12/23/2008

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- Has the approved source of water for drilling changed? Yes No
- 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

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

Signature: Alvin Arlian

Date: 12/17/2010

Title: Landman-Regulatory **Representing:** ENDURING RESOURCES, LLC

Date: 12/23/2010

By:



State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

December 14, 2011

Al Arlian
Enduring Resources, LLC
511-16th Street, Ste. 700
Denver, CO 80202

Re: APD Rescinded – Archy Bench 11-22-24-2, Sec.2 T.11S, R.22E
Uintah County, Utah API No. 43-047-50211

Dear Mr. Arlian:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on December 23, 2008. December 21, 2009 and December 23, 2010 the Division granted a one-year APD extension. On December 12, 2011, you requested that the APD be rescinded. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective December 12, 2011.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason
Environmental Scientist

cc: Well File
Bureau of Land Management, Vernal
SITLA, Ed Bonner

