

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 Abbott Fee 3-6D-54
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 BRUNDAGE CANYON
4. TYPE OF WELL Oil Well Coalbed Methane Well: NO		5. UNIT or COMMUNITIZATION AGREEMENT NAME
6. NAME OF OPERATOR BERRY PETROLEUM COMPANY, LLC		7. OPERATOR PHONE 303 999-4044
8. ADDRESS OF OPERATOR 4000 South 4028 West Rt 2 Box 7735, Roosevelt, UT, 84066		9. OPERATOR E-MAIL kao@bry.com
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) Fee	11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>	12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
13. NAME OF SURFACE OWNER (if box 12 = 'fee') Jay Abbott		14. SURFACE OWNER PHONE (if box 12 = 'fee') 435-733-0311
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee') PO Box 75, Duchesne, UT 84021		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 type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	498 FNL 271 FWL	NWNW	6	5.0 S	4.0 W	U
Top of Uppermost Producing Zone	720 FNL 1740 FWL	NENW	6	5.0 S	4.0 W	U
At Total Depth	742 FNL 1850 FWL	NENW	6	5.0 S	4.0 W	U

21. COUNTY DUCHEсне	22. DISTANCE TO NEAREST LEASE LINE (Feet) 271	23. NUMBER OF ACRES IN DRILLING UNIT 640
27. ELEVATION - GROUND LEVEL 6368	25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completion) 271	26. PROPOSED DEPTH MD: 7171 TVD: 6897
	28. BOND NUMBER RLB0005651	29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-12400

Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
SURF	12.25	8.625	0 - 1000	24.0	J-55 ST&C	9.5	Class G	640	1.15	15.8
PROD	7.875	7.5	0 - 7171	17.0	N-80 LT&C	9.5	Type V	200	3.82	11.0
							Class G	450	1.7	13.1

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE 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 checked="" 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 checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

NAME Krista Wilson	TITLE Regulatory Permitting Tech	PHONE 435 722-1325
SIGNATURE	DATE 07/24/2013	EMAIL kwilson@linnenergy.com
API NUMBER ASSIGNED 43013523250000		APPROVAL

BERRY PETROLEUM COMPANY
 Abbott Fee 3-6D-54
 Section 6, T5S, R4W, U.S.B.&M.
 Surface: 498' FNL & 271' FWL (NW/4NW/4)
 BHL: 742' FNL & 1850' FWL (NE/4NW/4)
 Duchesne County, Utah

ONSHORE ORDER NO. 1

DRILLING PROGRAM

A,B Estimated Tops of Geological Markers and Formations Expected to Contain Water, Oil and Gas and Other Minerals

FORMATION	DRILL DEPTH * @ SHL (TVD)	DRILL DEPTH* @ BHL (TVD)	Measured Depth
Uinta Fm	Surface	Surface	Surface
Green River	1430'	1456'	1455'
Green River Fouch Marker	2037'	2067'	2112'
Mahogany	2711'	2740'	2844'
Tgr3	3823'	3853'	4052'
*Douglas Creek	4613'	4643'	4898'
Black Shale	5366'	5353'	5663'
*Castle Peak	5558'	5578'	5855'
Uteland Butte	5965'	5986'	6262'
*Wasatch	6174'	6197'	6471'
CR-4A	6824'	6847'	7121'
TD	6874'	6897'	7171'
Base of Moderate Saline Water	2187'	2187'	

*PROSPECTIVE PAY

Berry is locating the well at the proposed surface location and directionally drilling to the proposed bottom hole location. By drilling directionally, Berry Petroleum Company will improve field development efficiency by potentially combining multiple surface hole locations together. This will significantly reduce total surface disturbance plus combine the use of access roads and existing pipelines.

Furthermore, Berry hereby certifies that it is the sole working interest owner within 460 feet of the production zones that will be penetrated in the well bore and the remainder of the section.

C Pressure Control Equipment : (Schematic Attached)

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc. A 3M system will be utilized. The attached diagram depicts the use of an annular in conjunction with double rams. However, an annular, double rams or both may be used depending on the drilling rig contracted.

Chart recorders will be used for all pressure tests.

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

Mud volumes will be monitored visually.
Upper and Lower Kelly cocks will be utilized.
A gas buster will be utilized, if necessary.

<u>Depth Intervals</u>	<u>BOP Equipment</u>
0 – 1000'	No Pressure Control
1000' – 7171'	11" 3000# Ram Type BOP 11" 3000# Annular BOP

D,E Proposed Casing and Cementing Program

<u>Purpose</u>	<u>Depth</u>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Type</u>	<u>Connection</u>	<u>Weight</u>
Surface	1000'	12.25"	3-5/8"	J-55	ST&C	24#
Production	7171'	7.875"	3-1/2"	N-80 or LIDA-80	LT&C	17#

Surface Type & Amount

0' – 1000' Approx. 640 SX Premium Class G, plus additives or a similar slurry with a minimum weight of 15.8 #/gal and approximate yield of 1.15 cuft/sx, minimum 24 hr compressive strength = 500 psi (Cement will be circulated to surface and topped off, if necessary.)

Production Type & Amount

0' – 3500' Lead: +/- 200 sx Premium Type V + additives or similar slurry with a minimum weight of 11.0 #/gal and approximate yield of 3.82 cuft/sx

3500' – 7171' Tail: +/- 450 sx Premium Class G + additives or similar slurry with a minimum weight of 13.1 #/gal and approximate yield of 1.70cuft/sk.

For production casing, actual cement volumes will be determined from the caliper log plus a minimum of 15% excess.

F Drilling Fluids Program

Interval	Weight	Viscosity	Fluid Loss	Remarks
0' – 1000'	8.4 – 9.5	27	NC	DAP Mud
1000' – 7171'	8.4 – 9.5	27	NC	DAP Water

G Evaluation Program

Logging Program:	HRI-GR-SP with SDL-DSN-PE: surface casing to TD. Preserve samples from all show intervals.
Sampling:	10' dry cut samples: Douglas Creek to TD. Preserve samples From all show intervals.
Surveys:	As deemed necessary
Mud Logger:	As deemed necessary
Drill Stem Tests:	As deemed necessary
Cores:	As deemed necessary

H Anticipated Abnormal Pressures or Temperatures

No abnormal temperatures or pressures or other hazards are anticipated.

Shallow gas and/or water flows are possible below surface casing.

Maximum anticipated bottom hole pressure equals approximately 3542 psi* and maximum anticipated surface pressure equals approximately 1965**psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

*Max Mud Wt x 0.052 x TD = A (bottom hole pressure)

**Maximum surface pressure = A – (0.22xTD)

I Anticipated Starting Dates and Notification of Operations

Drilling Activity:

Anticipated Commencement Date:	Upon approval of the APD.
Drilling Days:	Approximately 10 days.
Completion Days:	Approximately 7 days.

RAW, U.S.B.&M.

N88°05'59"E - 2634.52' (Meas.) - 31
 I.C.C. 2010 Duchesne Co. 3" Alum. Cap, Pile of Stones, E-W Fenceline, T-Post Aluminum Cap

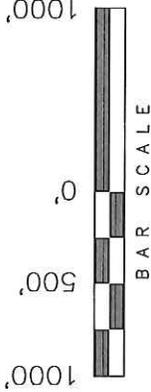
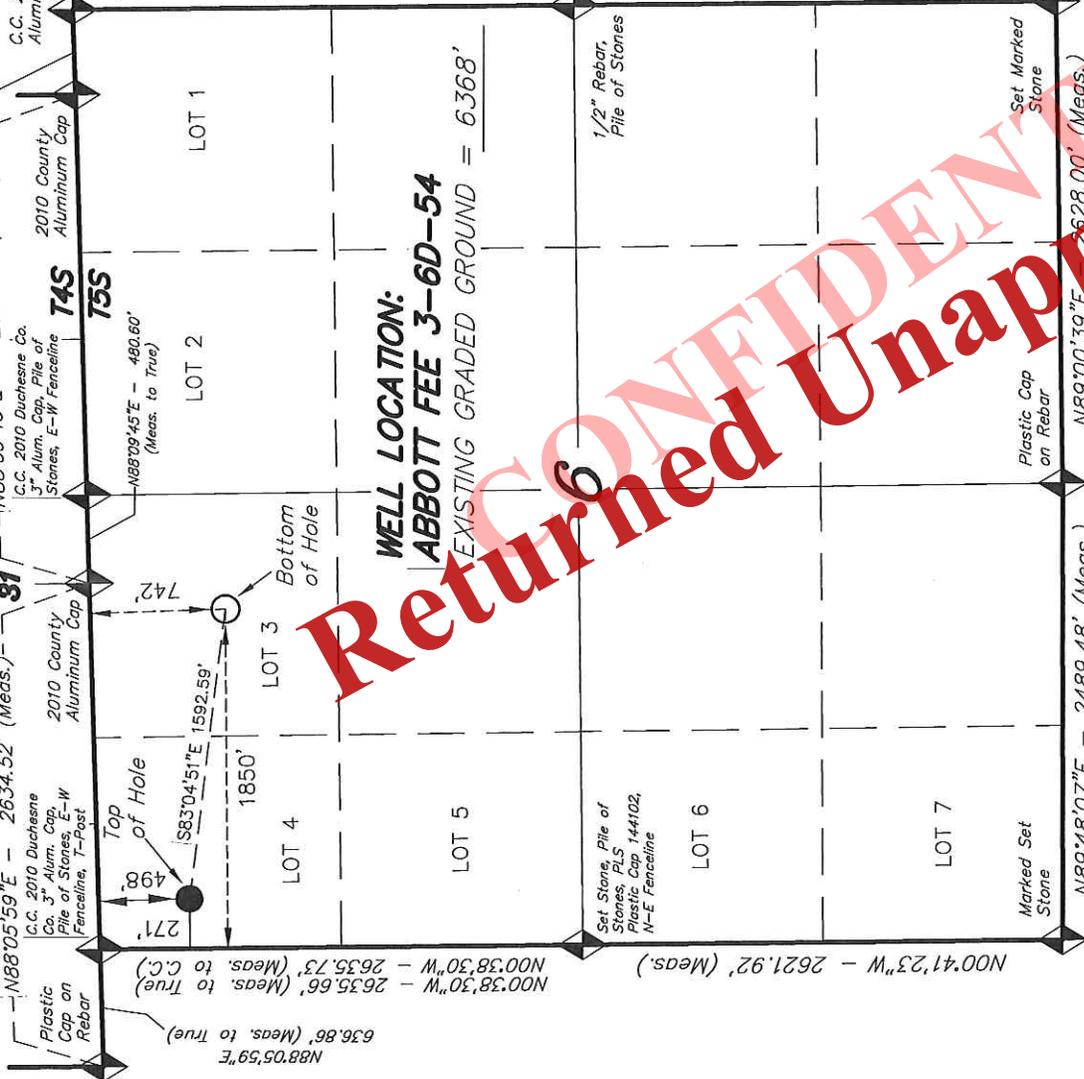
N88°09'45"E - 2663.58' (Meas.) - 74S
 I.C.C. 2010 Duchesne Co. 3" Alum. Cap, Pile of Stones, E-W Fenceline Aluminum Cap

N87°49'02"E - 463.57' (Meas. to True)
 C.C. 2010 County Aluminum Cap

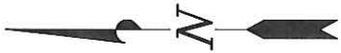
BERRY PETROLEUM COMPANY

WELL LOCATION, ABBOTT FEE 3-6D-54, LOCATED AS SHOWN IN THE NW 1/4 NW 1/4 (LOT 4) OF SECTION 6, T5S, R4W, U.S.B.&M. DUCHESNE COUNTY, UTAH.

N00°36'55"W - 2737.97' (Meas. to C.C.)
 N00°36'55"W - 2738.32' (Meas. to C.C.)



- NOTES:**
- Well footages are measured at right angles to the Section Lines.
 - Bearings are based on Global Positioning Satellite observations.



THIS IS TO CERTIFY THAT THE ABOVE REPORT WAS PREPARED FROM FIELD NOTES OF ACCURATE SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. 189377

STACY W.
 06-04-13
 REGISTERED LAND SURVEYOR
 REGISTRATION NO. 189377
 STATE OF UTAH

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

DATE SURVEYED: 06-04-13
 SURVEYED BY: K.G.S.

DATE DRAWN: 06-04-13
 DRAWN BY: L.C.S.

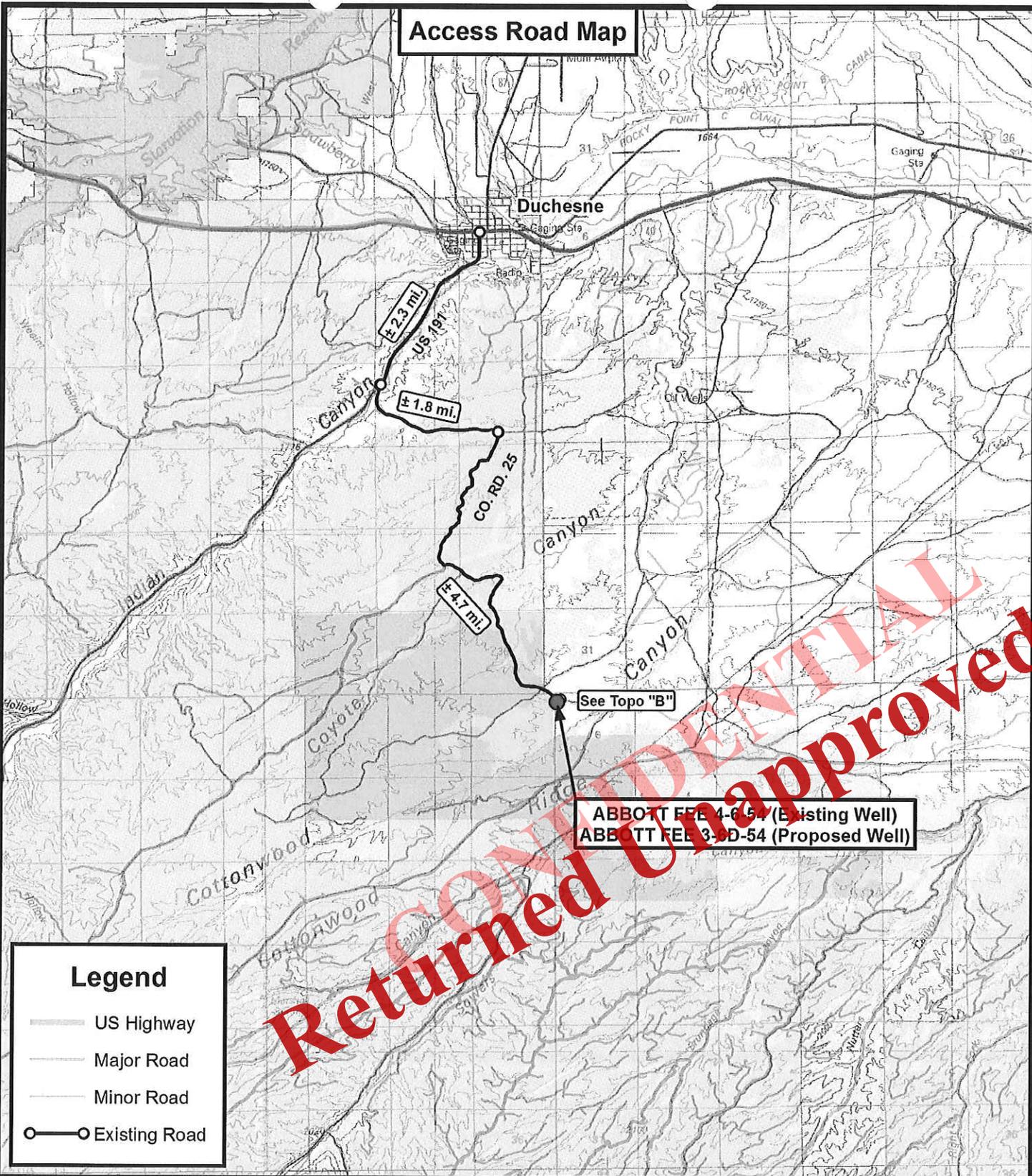
REVISED:
 SCALE: 1" = 1000'

NAD 83 (SURFACE LOCATION)	
LATITUDE = 40°04'52.47"	(40.081240)
LONGITUDE = 110°23'09.86"	(110.386074)
NAD 27 (SURFACE LOCATION)	
LATITUDE = 40°04'52.61"	(40.081280)
LONGITUDE = 110°23'07.31"	(110.385364)
NAD 83 (BOTTOM HOLE LOCATION)	
LATITUDE = 40°04'50.38"	(40.080660)
LONGITUDE = 110°22'49.56"	(110.380435)
NAD 27 (BOTTOM HOLE LOCATION)	
LATITUDE = 40°04'51.52"	(40.080700)
LONGITUDE = 110°22'47.66"	(110.379725)

◆ = SECTION CORNERS LOCATED

BASIS OF ELEV; Elevations are base on an N.G.S. OPUS Correction. LOCATION: LAT. 39°58'55.06" LONG. 110°22'05.00" (Tristate Aluminum Cap) Elev. 7307.99'

Access Road Map



Legend

- US Highway
- Major Road
- Minor Road
- Existing Road

Returned Unapproved

ABBOTT FEE 4-6-54 (Existing Well)
 ABBOTT FEE 3-6D-54 (Proposed Well)



**Tri State
 Land Surveying, Inc.**
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078

P: (435) 781-2501
 F: (435) 781-2518

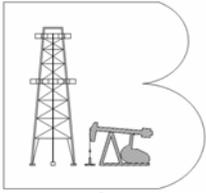


BERRY PETROLEUM COMPANY
 ABBOTT FEE 4-6-54 (Existing Well)
 ABBOTT FEE 3-6D-54 (Proposed Well)
 SEC. 6, T5S, R4W, U.S.B.&M.
 Duchesne County, UT.

DRAWN BY:	J.A.S.	REVISED:	06-07-2013 J.A.S.
DATE:	06-18-2012		
SCALE:	1:100,000		

TOPOGRAPHIC MAP

SHEET
A



Berry Petroleum Company

Duchesne Co., UT (UT27C)

Sec.6-T5S-R4W

Abbott Fee 3-6D-54

Wellbore #1

Plan: Design #1

Standard Planning Report

25 June, 2013

CONFIDENTIAL
Returned Unapproved

Archer

Received: July 24, 2013



Project: Duchesne Co., UT (UT27C)
 Site: Sec.6-T5S-R4W
 Well: Abbott Fee 3-6D-54
 Wellbore: Wellbore #1
 Design: Design #1
 Latitude: 40° 4' 52.608 N
 Longitude: 110° 23' 7.310 W
 Ground Level: 6368.00
 WELL @ 6388.00usft

Archer



PROJECT DETAILS: Duchesne Co., UT (UT27C)

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Utah Central 4302
 System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Abbott Fee 3-6D-54, True North
 Vertical (TVD) Reference: WELL @ 6388.00usft
 Section (VS) Reference: Slot - (0.00N, 0.00E)
 Measured Depth Reference: WELL @ 6388.00usft
 Calculation Method: Minimum Curvature

WELL DETAILS: Abbott Fee 3-6D-54

+N/-S	+E/-W	Northing	Ground Level:	6368.00	Latitude	Longitude	Slot
0.00	0.00	638594.640	Easting	2311880.659	40° 4' 52.608 N	110° 23' 7.310 W	

DESIGN TARGET DETAILS

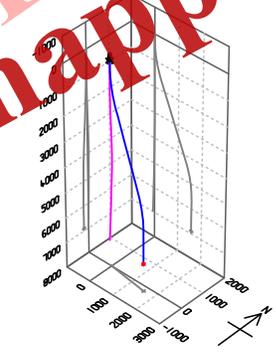
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Point	Shape
Abbott Fee 3-6D-54 Tgt	6897.00	-211.21	1577.87	40° 4' 50.520 N	110° 22' 47.010 W		Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Wslot	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	Start 2714.98 hold at 1679.86 MD
1679.86	22.20	97.62	1643.12	-37.56	280.60	1.50	97.62	1308.40	Start 1297.00 hold at 5874.71 MD
4394.85	22.20	97.62	4156.88	-173.65	1297.27	0.00	0.00	1308.84	Start Drop -1.50
5874.71	0.00	0.00	5600.00	-211.21	1577.87	1.50	80.00	1591.95	Start 1297.00 hold at 5874.71 MD
7171.71	0.00	0.00	6897.00	-211.21	1577.87	0.00	0.00	1591.95	TD at 7171.71

FORMATION TOP DETAILS

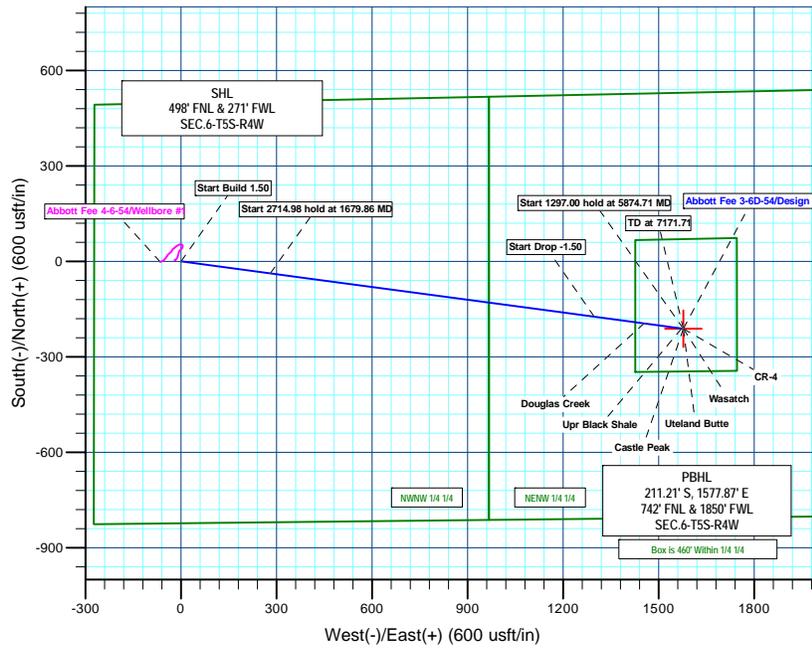
TVDPath	MDPath	Formation
1432.96	1455.44	Green River
2043.47	2112.26	GR Fouch Mkr
2721.48	2844.54	Mahogany
3840.09	4052.70	TGR3
4634.27	4898.38	Douglas Creek
5388.98	5663.58	Upr Black Shale
5581.06	5855.77	Castle Peak
5988.06	6262.78	Uteland Butte
6197.06	6471.78	Wasatch
6847.06	7121.78	CR-4



Compass Rose

Azimuths to True North
 Magnetic North: 11.19°

Magnetic Field
 Strength: 52037.6snT
 Dip Angle: 65.71°
 Date: 2013/06/25
 Model: IGRF2010



Plan: Design #1 (Abbott Fee 3-6D-54/Wellbore #1)

Created By: Bret Wolford Date: 14:11, June 25, 2013

Received: July 24, 2013



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Abbott Fee 3-6D-54
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 6388.00usft
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 6388.00usft
Site:	Sec.6-T5S-R4W	North Reference:	True
Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Duchesne Co., UT (UT27C)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site	Sec.6-T5S-R4W				
Site Position:		Northing:	638,454.083 usft	Latitude:	40° 4' 50.768 N
From:	Lat/Long	Easting:	2,315,516.921 usft	Longitude:	110° 22' 20.554 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.72 °

Well	Abbott Fee 3-6D-54					
Well Position	+N/-S	186.39 usft	Northing:	638,594.640 usft	Latitude:	40° 4' 52.608 N
	+E/-W	-3,634.20 usft	Easting:	2,311,880.659 usft	Longitude:	110° 23' 7.310 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	6,368.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	06/25/13	11.19	65.71	52,038

Design	Design #1			
Audit Notes:				
Version:	Present	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	97.62

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,679.86	22.20	97.62	1,643.12	-37.56	280.60	1.50	1.50	0.00	97.62	
4,394.85	22.20	97.62	4,156.88	-173.65	1,297.27	0.00	0.00	0.00	0.00	
5,874.71	0.00	0.00	5,600.00	-211.21	1,577.87	1.50	-1.50	0.00	180.00	
7,171.71	0.00	0.00	6,897.00	-211.21	1,577.87	0.00	0.00	0.00	0.00	



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Abbott Fee 3-6D-54
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 6388.00usft
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 6388.00usft
Site:	Sec.6-T5S-R4W	North Reference:	True
Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50										
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	1.50	97.62	299.99	-0.17	1.30	1.31	1.50	1.50	0.00	0.00
400.00	3.00	97.62	399.91	-0.69	5.19	5.23	1.50	1.50	0.00	0.00
500.00	4.50	97.62	499.69	-1.56	11.67	11.77	1.50	1.50	0.00	0.00
600.00	6.00	97.62	599.27	-2.78	20.74	20.92	1.50	1.50	0.00	0.00
700.00	7.50	97.62	698.57	-4.34	32.39	32.68	1.50	1.50	0.00	0.00
800.00	9.00	97.62	797.54	-6.24	46.61	47.03	1.50	1.50	0.00	0.00
900.00	10.50	97.62	896.09	-8.49	63.40	63.96	1.50	1.50	0.00	0.00
8 5/8" Csg.										
1,000.00	12.00	97.62	994.16	-11.07	82.73	83.47	1.50	1.50	0.00	0.00
1,100.00	13.50	97.62	1,091.70	-14.00	104.61	105.34	1.50	1.50	0.00	0.00
1,200.00	15.00	97.62	1,188.62	-17.27	129.00	130.15	1.50	1.50	0.00	0.00
1,300.00	16.50	97.62	1,284.86	-20.87	155.91	157.30	1.50	1.50	0.00	0.00
1,400.00	18.00	97.62	1,380.36	-24.80	185.00	186.95	1.50	1.50	0.00	0.00
Green River										
1,455.44	18.83	97.62	1,432.96	-27.13	202.66	204.47	1.50	1.50	0.00	0.00
1,500.00	19.50	97.62	1,475.03	-29.07	217.16	219.09	1.50	1.50	0.00	0.00
1,600.00	21.00	97.62	1,568.86	-33.96	251.46	253.70	1.50	1.50	0.00	0.00
Start 2714.98 hold at 1679.86 MD										
1,679.86	22.20	97.62	1,643.12	-37.56	280.60	283.10	1.50	1.50	0.00	0.00
1,700.00	22.20	97.62	1,661.76	-38.57	288.14	290.71	0.00	0.00	0.00	0.00
1,800.00	22.20	97.62	1,754.35	-43.58	325.59	328.49	0.00	0.00	0.00	0.00
1,900.00	22.20	97.62	1,846.94	-48.59	363.03	366.27	0.00	0.00	0.00	0.00
2,000.00	22.20	97.62	1,939.53	-53.61	400.48	404.05	0.00	0.00	0.00	0.00
2,100.00	22.20	97.62	2,032.12	-58.62	437.93	441.83	0.00	0.00	0.00	0.00
GR Focus Mk										
2,112.26	22.20	97.62	2,043.47	-59.23	442.52	446.46	0.00	0.00	0.00	0.00
2,200.00	22.20	97.62	2,124.71	-63.63	475.37	479.61	0.00	0.00	0.00	0.00
2,300.00	22.20	97.62	2,217.29	-68.64	512.82	517.39	0.00	0.00	0.00	0.00
2,400.00	22.20	97.62	2,309.88	-73.66	550.27	555.18	0.00	0.00	0.00	0.00
2,500.00	22.20	97.62	2,402.47	-78.67	587.71	592.96	0.00	0.00	0.00	0.00
2,600.00	22.20	97.62	2,495.06	-83.68	625.16	630.74	0.00	0.00	0.00	0.00
2,700.00	22.20	97.62	2,587.65	-88.69	662.61	668.52	0.00	0.00	0.00	0.00
2,800.00	22.20	97.62	2,680.24	-93.71	700.05	706.30	0.00	0.00	0.00	0.00
Mahogany										
2,844.54	22.20	97.62	2,721.48	-95.94	716.73	723.13	0.00	0.00	0.00	0.00
2,900.00	22.20	97.62	2,772.82	-98.72	737.50	744.08	0.00	0.00	0.00	0.00
3,000.00	22.20	97.62	2,865.41	-103.73	774.95	781.86	0.00	0.00	0.00	0.00
3,100.00	22.20	97.62	2,958.00	-108.74	812.40	819.64	0.00	0.00	0.00	0.00
3,200.00	22.20	97.62	3,050.59	-113.76	849.84	857.42	0.00	0.00	0.00	0.00
3,300.00	22.20	97.62	3,143.18	-118.77	887.29	895.20	0.00	0.00	0.00	0.00
3,400.00	22.20	97.62	3,235.77	-123.78	924.74	932.98	0.00	0.00	0.00	0.00
3,500.00	22.20	97.62	3,328.35	-128.79	962.18	970.76	0.00	0.00	0.00	0.00
3,600.00	22.20	97.62	3,420.94	-133.81	999.63	1,008.54	0.00	0.00	0.00	0.00
3,700.00	22.20	97.62	3,513.53	-138.82	1,037.08	1,046.33	0.00	0.00	0.00	0.00
3,800.00	22.20	97.62	3,606.12	-143.83	1,074.52	1,084.11	0.00	0.00	0.00	0.00
3,900.00	22.20	97.62	3,698.71	-148.84	1,111.97	1,121.89	0.00	0.00	0.00	0.00
4,000.00	22.20	97.62	3,791.30	-153.86	1,149.42	1,159.67	0.00	0.00	0.00	0.00
TGR3										
4,052.70	22.20	97.62	3,840.09	-156.50	1,169.15	1,179.58	0.00	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Abbott Fee 3-6D-54
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 6388.00usft
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 6388.00usft
Site:	Sec.6-T5S-R4W	North Reference:	True
Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,100.00	22.20	97.62	3,883.88	-158.87	1,186.86	1,197.45	0.00	0.00	0.00	
4,200.00	22.20	97.62	3,976.47	-163.88	1,224.31	1,235.23	0.00	0.00	0.00	
4,300.00	22.20	97.62	4,069.06	-168.89	1,261.76	1,273.01	0.00	0.00	0.00	
Start Drop -1.50										
4,394.85	22.20	97.62	4,156.88	-173.65	1,297.27	1,308.84	0.00	0.00	0.00	
4,400.00	22.12	97.62	4,161.65	-173.91	1,299.20	1,310.79	1.50	-1.50	0.00	
4,500.00	20.62	97.62	4,254.77	-178.74	1,335.32	1,347.23	1.50	-1.50	0.00	
4,600.00	19.12	97.62	4,348.82	-183.25	1,369.01	1,381.22	1.50	-1.50	0.00	
4,700.00	17.62	97.62	4,443.72	-187.43	1,400.24	1,412.73	1.50	-1.50	0.00	
4,800.00	16.12	97.62	4,539.41	-191.28	1,429.01	1,441.75	1.50	-1.50	0.00	
Douglas Creek										
4,898.38	14.64	97.62	4,634.27	-194.74	1,454.87	1,467.85	1.50	-1.50	0.00	
4,900.00	14.62	97.62	4,635.83	-194.80	1,455.28	1,468.26	1.50	-1.50	0.00	
5,000.00	13.12	97.62	4,732.91	-197.98	1,479.04	1,492.25	1.50	-1.50	0.00	
5,100.00	11.62	97.62	4,830.59	-200.82	1,500.27	1,513.65	1.50	-1.50	0.00	
5,200.00	10.12	97.62	4,928.79	-203.32	1,518.96	1,532.51	1.50	-1.50	0.00	
5,300.00	8.62	97.62	5,027.45	-205.48	1,535.10	1,548.79	1.50	-1.50	0.00	
5,400.00	7.12	97.62	5,126.51	-207.30	1,548.67	1,562.49	1.50	-1.50	0.00	
5,500.00	5.62	97.62	5,225.89	-208.77	1,559.67	1,573.58	1.50	-1.50	0.00	
5,600.00	4.12	97.62	5,325.52	-209.90	1,568.09	1,582.07	1.50	-1.50	0.00	
Upr Black Shale										
5,663.58	3.17	97.62	5,388.83	-210.43	1,572.09	1,586.11	1.50	-1.50	0.00	
5,700.00	2.62	97.62	5,425.35	-210.68	1,573.91	1,587.95	1.50	-1.50	0.00	
5,800.00	1.12	97.62	5,525.29	-211.11	1,577.15	1,591.22	1.50	-1.50	0.00	
Castle Peak										
5,855.77	0.28	97.62	5,581.06	-211.20	1,577.83	1,591.90	1.50	-1.50	0.00	
Start 1297.00 hold at 5874.71 MD										
5,874.71	0.00	0.00	5,600.00	-211.21	1,577.87	1,591.95	1.50	-1.50	0.00	
5,900.00	0.00	0.00	5,625.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,725.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,825.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,925.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
Uteland Butte										
6,262.78	0.00	0.00	5,988.06	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,025.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,125.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
Wasatch										
6,471.78	0.00	0.00	6,197.06	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,225.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,325.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,425.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,525.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,625.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,725.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,825.29	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
CR-4										
7,121.78	0.00	0.00	6,847.06	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	
TD at 7171.71 - Abbott Fee 3-6D-54 Tgt										
7,171.71	0.00	0.00	6,897.00	-211.21	1,577.87	1,591.95	0.00	0.00	0.00	



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Abbott Fee 3-6D-54
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 6388.00usft
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 6388.00usft
Site:	Sec.6-T5S-R4W	North Reference:	True
Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Abbott Fee 3-6D-54 Tgt - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	6,897.00	-211.21	1,577.87	638,403.112	2,313,461.043	40° 4' 50.520 N	110° 22' 47.010 W

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter
1,000.00	994.16	8 5/8" Csg.	8-5	12-1/4

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,455.44	1,430.00	Green River		0.83	97.62
2,112.26	2,037.00	GR Fouch Mkr		0.83	97.62
2,844.54	2,711.00	Mahogany		0.83	97.62
4,052.70	3,823.00	TGR3		0.83	97.62
4,898.38	4,613.00	Douglas Creek		0.83	97.62
5,663.58	5,366.00	Upr Black Shale		0.83	97.62
5,855.77	5,558.00	Castle Peak		0.83	97.62
6,262.78	5,965.00	Uteland Butte		0.83	97.62
6,471.78	6,274.00	Wasatch		0.83	97.62
7,121.71	6,827.00	CR-4		0.83	97.62

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Start Build 1.50
1,679.86	1,643.12	-37.56	280.60	Start 2714.98 hold at 1679.86 MD
4,394.85	4,156.88	-173.65	1,297.27	Start Drop -1.50
5,874.71	5,600.00	-211.21	1,577.87	Start 1297.00 hold at 5874.71 MD
7,171.71	6,897.00	-211.21	1,577.87	TD at 7171.71



Berry Petroleum Company

Duchesne Co., UT (UT27C)

Sec.6-T5S-R4W

Abbott Fee 3-6D-54

Wellbore #1

Design #1

Anticollision Report

25 June, 2013

CONFIDENTIAL
Returned Unapproved

Archer

Received: July 24, 2013



Company:	Berry Petroleum Company	Local Co-ordinate Reference:	Well Abbott Fee 3-6D-54
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 6388.00usft
Reference Site:	Sec.6-T5S-R4W	MD Reference:	WELL @ 6388.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	06/25/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	7,171.71	Design #1 (Wellbore #1)	MWD	MWD - Standard

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec.6-T5S-R4W						
Abbott Fee 4-6-54 - Wellbore #1 - Wellbore #1	0.00	7.00	19.86			
Abbott Fee 4-6-54 - Wellbore #1 - Wellbore #1	200.00	207.00	19.87	19.33	36.600	ES
Abbott Fee 4-6-54 - Wellbore #1 - Wellbore #1	500.00	506.68	31.68	30.15	20.810	SF

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 1064-MWD													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	7.00	0.00	0.00	0.01	-77.62	4.26	-19.40	19.86					
100.00	100.00	107.00	100.00	0.09	0.12	-77.60	4.27	-19.40	19.86	19.65	0.21	95.539		
200.00	200.00	207.00	200.00	0.31	0.23	-77.53	4.29	-19.40	19.87	19.33	0.54	36.600	ES	
300.00	299.99	306.98	299.98	0.53	0.34	-77.72	4.33	-19.41	21.19	20.32	0.87	24.459		
400.00	399.91	406.90	399.90	0.74	0.45	-78.32	4.39	-19.42	25.12	23.94	1.19	21.117		
500.00	499.69	506.68	499.68	0.98	0.56	-79.03	4.47	-19.43	31.68	30.15	1.52	20.810	SF	
600.00	599.27	606.26	599.26	1.24	0.67	-79.66	4.56	-19.44	40.84	38.98	1.86	21.937		
700.00	698.57	705.55	698.55	1.53	0.78	-80.15	4.66	-19.45	52.62	50.41	2.21	23.823		
800.00	797.54	804.51	797.51	1.84	0.89	-80.53	4.78	-19.47	66.99	64.43	2.56	26.131		
900.00	896.09	903.05	896.05	2.20	1.00	-80.81	4.92	-19.49	83.96	81.03	2.93	28.675		
1,000.00	994.16	1,001.12	994.11	2.60	1.10	-81.03	5.07	-19.51	103.51	100.21	3.30	31.343		
1,100.00	1,091.70	1,098.27	1,091.27	3.04	1.24	-81.20	5.22	-19.59	125.67	121.96	3.71	33.865		
1,200.00	1,188.62	1,195.58	1,188.58	3.53	1.44	-81.44	5.18	-20.12	150.81	146.64	4.16	36.232		
1,300.00	1,284.86	1,294.25	1,287.24	4.06	1.64	-81.69	4.72	-19.27	177.05	172.44	4.61	38.389		
1,400.00	1,380.36	1,390.83	1,383.81	4.65	1.85	-81.63	5.10	-17.80	205.32	200.25	5.07	40.472		
1,500.00	1,475.05	1,486.13	1,479.08	5.29	2.05	-81.38	6.27	-15.83	235.69	230.14	5.55	42.485		
1,600.00	1,568.86	1,578.33	1,571.26	5.98	2.25	-81.16	7.67	-14.37	269.04	263.02	6.02	44.690		
1,679.86	1,643.12	1,651.64	1,644.56	6.57	2.40	-81.11	8.50	-13.84	298.02	291.62	6.40	46.586		
1,700.00	1,661.76	1,670.96	1,663.88	6.73	2.44	-81.09	8.75	-13.68	305.52	299.02	6.50	47.022		
1,800.00	1,754.35	1,764.50	1,757.40	7.50	2.63	-80.90	10.58	-12.41	342.33	335.33	6.99	48.941		
1,900.00	1,846.94	1,855.65	1,848.52	8.27	2.82	-80.78	12.23	-11.70	379.65	372.15	7.49	50.656		
2,000.00	1,939.53	1,949.87	1,942.71	9.06	3.02	-80.63	14.26	-10.77	416.82	408.82	8.01	52.066		
2,100.00	2,032.12	2,042.18	2,034.97	9.84	3.22	-80.40	17.10	-9.57	453.87	445.35	8.52	53.269		
2,200.00	2,124.71	2,132.28	2,125.03	10.63	3.41	-80.24	19.68	-8.82	491.30	482.28	9.03	54.415		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Company:	Berry Petroleum Company	Local Co-ordinate Reference:	Well Abbott Fee 3-6D-54
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 6388.00usft
Reference Site:	Sec.6-T5S-R4W	MD Reference:	WELL @ 6388.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 1064-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,300.00	2,217.29	2,224.15	2,216.88	11.42	3.60	-80.15	21.88	-8.58	529.20	519.66	9.54	55.477		
2,400.00	2,309.88	2,320.32	2,313.02	12.22	3.80	-80.04	24.35	-7.75	566.57	556.51	10.06	56.317		
2,500.00	2,402.47	2,410.18	2,402.85	13.01	3.98	-79.98	26.49	-7.15	604.09	593.52	10.57	57.133		
2,600.00	2,495.06	2,504.06	2,496.69	13.81	4.18	-79.91	28.78	-6.62	641.72	630.62	11.10	57.816		
2,700.00	2,587.65	2,601.43	2,594.03	14.61	4.39	-79.82	31.26	-6.65	678.97	667.34	11.63	58.373		
2,800.00	2,680.24	2,699.74	2,692.29	15.41	4.60	-79.73	33.75	-6.69	715.30	703.13	12.16	58.806		
2,900.00	2,772.82	2,790.22	2,782.73	16.21	4.79	-79.69	35.81	-2.09	751.79	739.10	12.68	59.277		
3,000.00	2,865.41	2,889.19	2,881.65	17.01	5.00	-79.62	38.15	0.20	787.80	774.57	13.22	59.779		
3,100.00	2,958.00	2,977.79	2,970.20	17.81	5.19	-79.60	40.00	2.16	823.87	810.12	13.74	60.954		
3,200.00	3,050.59	3,064.59	3,056.98	18.61	5.37	-79.59	41.79	3.45	860.59	846.33	14.26	60.350		
3,300.00	3,143.18	3,154.84	3,147.21	19.41	5.56	-79.59	43.51	4.32	897.77	882.88	14.78	60.722		
3,400.00	3,235.77	3,242.82	3,235.17	20.21	5.75	-79.60	45.14	4.72	935.39	921.09	15.31	61.112		
3,500.00	3,328.35	3,335.09	3,327.42	21.02	5.95	-79.60	46.89	4.97	973.20	957.37	15.84	61.446		
3,600.00	3,420.94	3,426.74	3,419.06	21.82	6.14	-79.61	48.50	5.13	1,011.07	994.70	16.37	61.782		
3,700.00	3,513.53	3,514.02	3,506.33	22.62	6.32	-79.64	49.84	5.00	1,049.20	1,032.31	16.88	62.145		
3,800.00	3,606.12	3,603.39	3,595.68	23.43	6.51	-79.67	51.13	4.47	1,087.71	1,070.31	17.41	62.486		
3,900.00	3,698.71	3,693.23	3,685.51	24.23	6.70	-79.72	52.23	3.70	1,126.44	1,108.51	17.93	62.824		
4,000.00	3,791.30	3,784.04	3,776.32	25.03	6.89	-79.77	53.00	2.70	1,165.33	1,146.87	18.45	63.152		
4,100.00	3,883.88	3,872.58	3,864.85	25.84	7.07	-79.84	53.53	1.53	1,204.36	1,185.39	18.97	63.484		
4,200.00	3,976.47	3,963.27	3,955.53	26.64	7.26	-79.93	53.62	-0.01	1,243.66	1,224.17	19.49	63.804		
4,300.00	4,069.06	4,054.01	4,046.25	27.45	7.44	-80.02	53.44	-1.60	1,282.97	1,262.96	20.01	64.107		
4,394.85	4,156.88	4,140.18	4,132.41	28.21	7.62	-80.10	53.36	-3.23	1,320.40	1,299.89	20.51	64.383		
4,400.00	4,161.65	4,144.96	4,137.19	28.25	7.63	-80.10	53.35	-3.32	1,322.43	1,301.89	20.54	64.388		
4,500.00	4,254.77	4,235.76	4,227.97	28.87	7.82	-80.19	53.06	-5.09	1,360.57	1,339.48	21.09	64.522		
4,600.00	4,348.82	4,328.30	4,320.46	29.46	8.01	-80.28	52.36	-7.16	1,396.47	1,374.86	21.62	64.602		
4,700.00	4,443.72	4,420.23	4,412.38	30.01	8.20	-80.39	51.27	-9.20	1,429.85	1,407.73	22.12	64.629		
4,800.00	4,539.41	4,510.51	4,502.68	30.51	8.38	-80.50	49.90	-11.69	1,461.21	1,438.60	22.61	64.635		
4,900.00	4,635.83	4,612.31	4,604.36	30.97	8.59	-80.62	47.97	-14.42	1,489.94	1,466.86	23.09	64.538		
5,000.00	4,732.91	4,712.44	4,704.45	31.40	8.79	-80.74	46.02	-16.70	1,515.77	1,492.24	23.54	64.400		
5,100.00	4,830.59	4,810.20	4,802.17	31.78	8.99	-80.84	44.26	-18.84	1,539.02	1,515.06	23.96	64.226		
5,200.00	4,928.79	4,904.64	4,896.57	32.12	9.18	-80.93	42.38	-20.94	1,559.72	1,535.36	24.36	64.027		
5,300.00	5,027.45	5,002.27	4,994.14	32.41	9.38	-81.03	40.44	-23.42	1,578.16	1,553.42	24.74	63.790		
5,400.00	5,126.51	5,107.18	5,099.00	32.67	9.60	-81.13	38.28	-25.80	1,593.74	1,568.64	25.11	63.482		
5,500.00	5,225.89	5,224.15	5,215.91	32.89	9.84	-81.27	35.06	-27.79	1,606.11	1,580.64	25.47	63.062		
5,600.00	5,325.52	5,303.76	5,295.48	33.08	10.00	-81.36	32.67	-29.04	1,615.72	1,589.99	25.73	62.785		
5,700.00	5,425.35	5,400.64	5,392.29	33.22	10.20	-81.47	30.12	-31.56	1,623.77	1,597.76	26.01	62.431		
5,800.00	5,525.29	5,503.79	5,495.38	33.33	10.41	-81.57	27.55	-33.93	1,628.93	1,602.66	26.27	62.010		
5,874.71	5,600.00	5,575.50	5,567.05	33.40	10.56	-81.64	25.93	-35.54	1,631.08	1,604.64	26.44	61.688		
5,900.00	5,625.29	5,599.41	5,590.95	33.41	10.61	-81.66	25.41	-36.12	1,631.61	1,605.08	26.53	61.506		
6,000.00	5,725.29	5,697.17	5,688.66	33.49	10.82	-81.74	23.40	-38.57	1,633.79	1,606.91	26.88	60.783		
6,100.00	5,825.29	5,814.02	5,805.46	33.57	11.06	-81.83	21.10	-40.98	1,635.56	1,608.29	27.27	59.979		
6,200.00	5,925.29	5,919.70	5,911.11	33.65	11.28	-81.91	18.96	-42.32	1,636.52	1,608.89	27.64	59.216		
6,300.00	6,025.29	6,014.85	6,006.24	33.73	11.48	-81.99	17.07	-43.59	1,637.56	1,609.58	27.99	58.511		
6,400.00	6,125.29	6,113.90	6,105.25	33.81	11.69	-82.07	14.99	-45.07	1,638.76	1,610.41	28.35	57.805		
6,500.00	6,225.29	6,215.23	6,206.54	33.90	11.90	-82.16	12.57	-46.66	1,639.99	1,611.27	28.72	57.108		
6,600.00	6,325.29	6,315.64	6,306.91	33.98	12.11	-82.24	10.25	-48.02	1,641.01	1,611.93	29.08	56.424		
6,700.00	6,425.29	6,405.75	6,397.00	34.07	12.30	-82.31	8.56	-49.51	1,642.40	1,612.97	29.43	55.805		
6,800.00	6,525.29	6,497.41	6,488.61	34.16	12.50	-82.38	6.83	-51.66	1,644.47	1,614.68	29.79	55.210		
6,900.00	6,625.29	6,595.28	6,586.43	34.25	12.71	-82.47	4.44	-54.17	1,646.69	1,616.54	30.15	54.609		
7,000.00	6,725.29	6,690.32	6,681.39	34.34	12.91	-82.56	2.20	-56.94	1,649.27	1,618.75	30.52	54.042		
7,100.00	6,825.29	6,789.64	6,780.66	34.43	13.12	-82.63	0.61	-59.79	1,651.91	1,621.01	30.89	53.473		
7,171.71	6,897.00	6,859.09	6,850.08	34.50	13.27	-82.67	-0.31	-61.86	1,653.91	1,622.75	31.16	53.082		

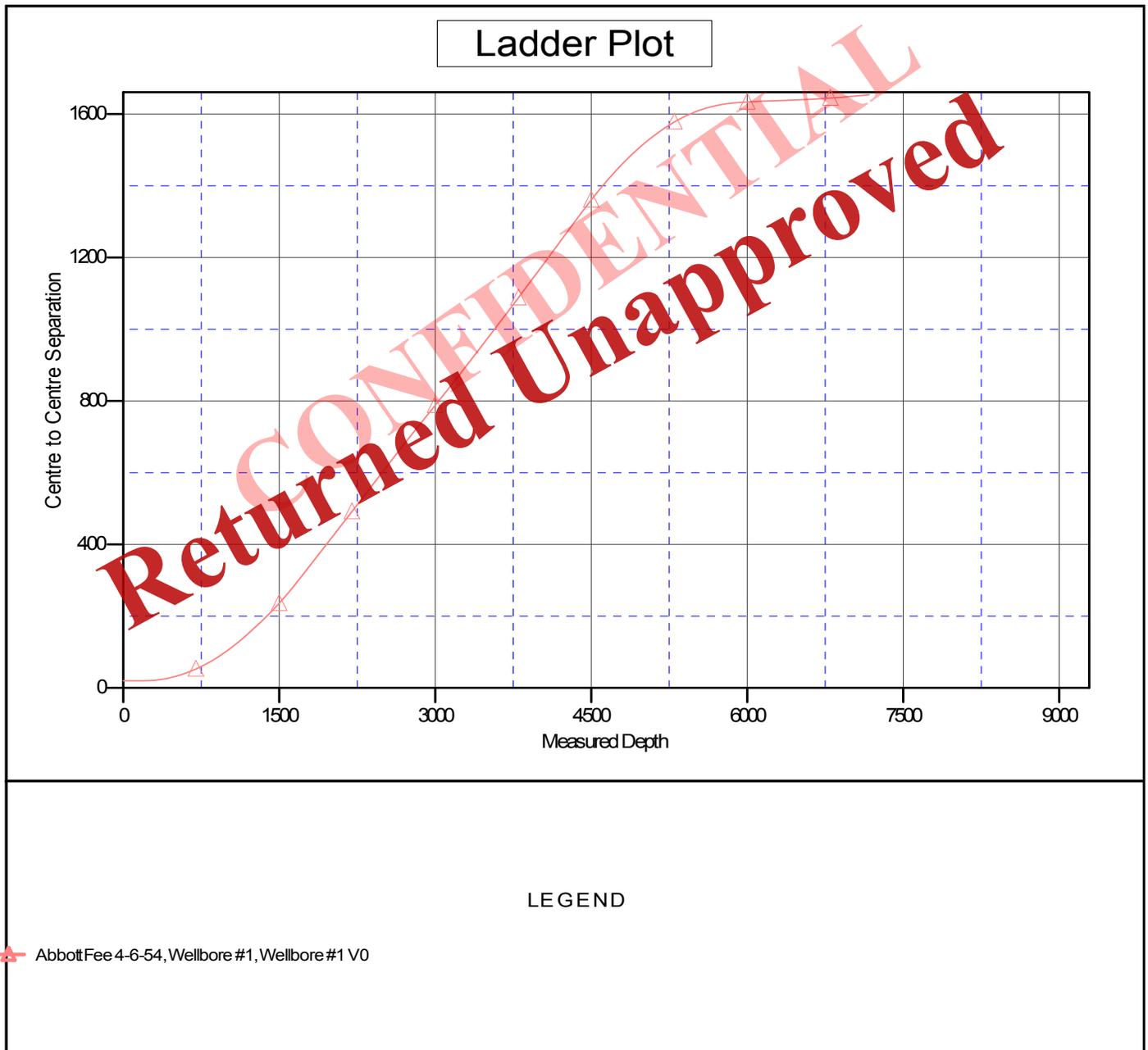
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Company:	Berry Petroleum Company	Local Co-ordinate Reference:	Well Abbott Fee 3-6D-54
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 6388.00usft
Reference Site:	Sec.6-T5S-R4W	MD Reference:	WELL @ 6388.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to WELL @ 6388.00usft
Offset Depths are relative to Offset Datum
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: Abbott Fee 3-6D-54
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
Grid Convergence at Surface is: 0.71°

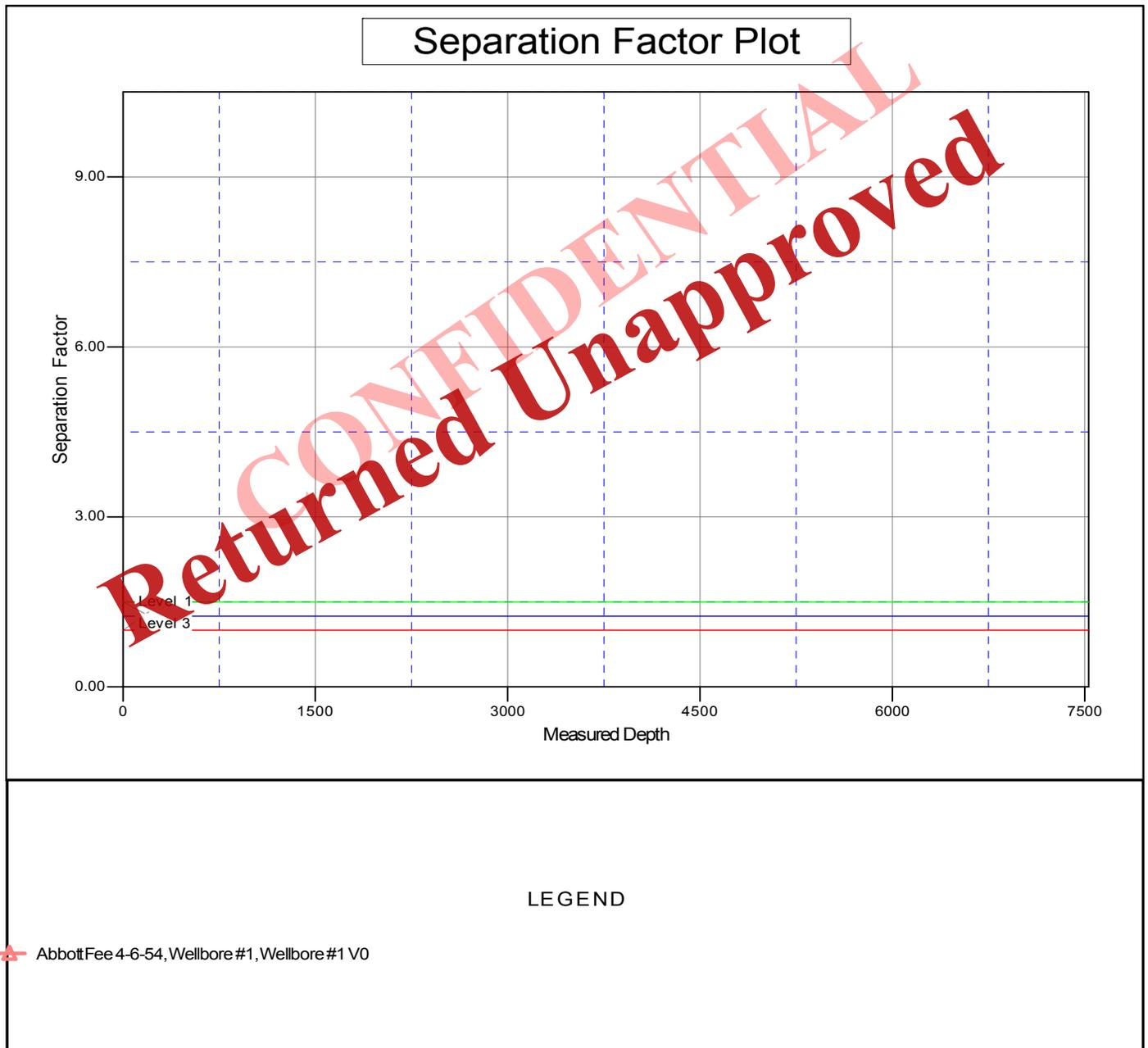


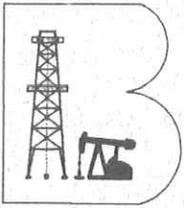


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Site Error:	0.00 usft	North Reference:	True
Reference Well:	Abbott Fee 3-6D-54	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to WELL @ 6388.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: Abbott Fee 3-6D-54
 Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
 Grid Convergence at Surface is: 0.71°





Berry Petroleum Company

Brundage Canyon Field

AFFIDAVIT OF FACTS

4000 South 4028 West
Route 2 Box 7735
Roosevelt, UT 84066

Ph. (435) 722-1325
Fax: (435) 722-1321
www.bry.com

STATE OF UTAH

COUNTY OF DUCHENSE

**RE: Surface Damage and Right of Way Settlement Agreement
Wellsite, Road and Pipeline
Berry Petroleum Company, Operator
Abbott Fee 2-6D-54 & 1-6D-54 Wellsite, Abbott Fee 4-6-54 & 3-6D-54 Wellsite, Abbott Fee 6-6-54 & 5-6D-54
Wellsite, Abbott Fee 8-6D-54 & 7-6D-54 Wellsite
T5S-R4W, USM
Section 6: N1/2**

Whereas, the undersigned, Jeff Crozier (affiant), with a mailing address of 4000 South 4028 West, Roosevelt, Utah 84066 being first duly sworn on oath depose and say:

1. I am over the age of 21 and am a Contract Field Landman for Berry Petroleum Company (Berry) in their Roosevelt, Utah office.
2. Berry is the operator and the owner of the mineral estate under oil and gas leases of the proposed Abbott Fee 2-6D-54 well, Abbott Fee 4-6-54 well, Abbott Fee 6-6-54 well, Abbott Fee 8-6D-54 well (the "Well").
3. The surface estate is owned by Jay Abbott, PO Box 75, Duchesne, UT. 84021. Mr. Abbott's phone numbers is 435-733-0311 (Cell).
4. I have spoken to Mr. Abbott on numerous occasions. On July 11, 2012, October 23, 2012 and November 15, 2012 successive offers were made to Mr. Abbott for a Surface Damage and Right of Way Settlement Agreement. While the offers improved each time, they were rejected by Mr. Abbott.
5. As of this date, December 22, 2012 Berry has not been able to acquire a signed Surface Damage and Right of Way Settlement Agreement for the proposed wells located in the section 6 of the N1/2.

NOW THEREFORE, the undersigned affiant, Jeff Crozier, of lawful age, being first duly sworn, depose and say, that the above facts are true and correct to the best of his knowledge, further Affiant saith not. Signed this 23rd day of July, 2013.

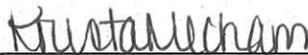

By: Jeff Crozier

STATE OF UTAH

COUNTY OF DUCHESNE

On the 23rd day of July, 2013, personally appeared before me Jeff Crozier, Affiant signer of the above instrument, who duly acknowledged to me that he executed the same. WITNESS my hand and official seal,




Notary Public

SURFACE USE PLAN of OPERATIONS

Attachment for Permit to Drill:

Name of Operator: Berry Petroleum Company
Address: 4000 South 4028 West/Rt. 2 Box 7735
Roosevelt, Utah 80466
Well Location: Abbott Fee 3-6D-54
Surface: 498' FNL & 271' FWL
Target: 742' FNL & 1850' FWL
NW/4NW/4 of Sec. 6, T5S, R4W.

The surface owner or surface owner representative and dirt contractor will be proved with an approved copy of the surface use plan of operations and approved conditions of approval before initiating construction.

The onsite inspection for the referenced well will be conducted per UDOGM.

A Existing Roads

To reach the Berry Petroleum Company well, Abbott Fee 3-6D-54, in Section 6-T5S-R4W:

The proposed well site is approximately 9.0 miles southwest of Duchesne, Utah.

Proceed in a southerly direction from Duchesne, Utah, along US Highway 191 for approximately 2.3 miles to the junction of this road and the existing Sowers Canyon access road to the south. Turn left and proceed in a southerly thence easterly direction for approximately 1.8 miles to the junction of this road and County Road 25 to the south. Turn right and proceed in a southwesterly thence southeasterly direction for approximately 4.7 miles to the beginning of the existing access to the south. Turn right and proceed in a southerly thence southwesterly direction for approximately 395 feet to the proposed Abbott Fee 3-6D-54, off the existing Abbott Fee 4-6-54.

Berry Petroleum Company will improve or maintain existing roads in a condition the same or better than before operations began. Best Management Practices will be considered when improving or maintaining existing roads. In general this would involve the need for some surface material or fill to prevent or repair holes in the road due to heavy truck traffic during the drilling and completion operations. If repairs are made the operator will secure the appropriate material from private sources.

B New or Reconstructed Access Roads

See Topographic Map "A & B" for the location of the proposed access road. Berry Petroleum Company will utilize an existing access road to access the Abbott Fee 3-6D-54, no new construction will take place.

C Location of Existing Wells

See Topographic Map "D" for the location of existing wells within a 1mile radius.

D Location of Tank Batteries, Production Facilities and Production Gathering and Service Lines

A containment dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks). This dike will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank. The site specific APD will address additional capacity if such is needed due to environmental concerns. The use of topsoil for the construction of dikes will not be allowed. If a Spill Prevention, Control, and Countermeasure (SPCC) Plan is required by the Environmental Protection Agency, the containment dike may be expanded with the Authorized Agency Officer's approval to meet SPCC requirements.

The proposed pipeline will tie in at an existing pipeline. Map "C" illustrating the proposed route is attached. The proposed pipeline will be 4"-6" polypipe and be placed above ground. The pipeline will run in the same corridor as the above proposed access road.

All site security guidelines identified in Federal regulation 43 CFR 3126.7, will be adhered to. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease production will have prior written approval from the Authorized Agency Officer.

Gas meter runs will be located approximately 100 feet from the wellhead. Where necessary, the gas line will be anchored down from the wellhead to the meter.

E Location and Type of Water Supply

Water for the drilling and completion will be pumped or trucked from one of the following Berry source wells:

- Water Permit # 43-12400, Sec. 23, T5S, R5W
- Water Permit # 43-12400, Sec. 24, T5S, R5W
- Water Permit # 43-1221, Sec. 30, T3S, R8W
- Water Permit # 43-1226, Sec. 30, T3S, R8W
- Water Permit # 43-1627, Sec. 30, T3S, R8W
- Water Permit # 43-1628, Sec. 12, T5S, R6W (Douglas E. & Yordis Nielsen)
- Duchesne City Culinary Water Dock located in Sec. 1, T4S, R5W
- East Duchesne Water, Arcadia Feedlot, Sec. 28, T3S, R3W
- Petroglyph Operating Company 08-04 Waterplant, Sec. 8, T5S, R3W

F Source of Construction Materials

All construction materials for this location site and access road shall be borrow material accumulated during the construction of the location site and access road.

Additional gravel or pit lining material will be obtained from a private source.

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

G Methods of Handling Waste Materials

Drill fluids will be contained in a closed loop system. Cuttings will be contained on site and buried in a pit or used on location and/or access roads, whichever is deemed appropriate by the authorized agency.

After first production, produced wastewater from Berry Petroleum Company wells will be used for injection in our enhanced oil recovery project(s) in the Brundage Canyon Field or they will be trucked to one of the following approved waste water disposal sites:

- R.N. Industries, Inc. Sec. 4, T2S, R2W, Bluebell
- MC & MC Disposal Sec. 12, T6S, R19E, Vernal
- LaPoint Recycle & Storage Sec. 12, T5S, R19E, LaPoint
- Water Disposal Inc. Sec. 32, T1S, R1W, Roosevelt
- ITL 4461 W 3000 So Roosevelt Location Pleasant Valley
- IWM PO Box 430 Altamont or 20250 W 2000 S Duchesne Location – Blue Bench
- Pro Water 12223 Highland Ave Ste B503 Rancho Cucamonga CA 91739 Location – Blue Bench

Should operations of the field be prohibited by the Authorized Officer, the wastewater shall be confined to the approved pit or storage tank for a period not to exceed 90 days. The use of such pit is hereby approved as part of this Application for Permit to Drill.

Production fluids will be contained in leak-proof tanks. All production fluids will be disposed of at approved disposal sites. Produced water, oil, and other byproducts will not be applied to roads or well pads for control of dust or weeds. The indiscriminate dumping of produced fluids on roads, well sites, or other areas will not be allowed.

Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical portable toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. Trash will not be burned on location.

All debris and other waste materials not contained in the trash cage will be cleaned up and removed from the location promptly after removal of the completion rig (weather permitting).

Any open pits will be fenced during the operations. The fencing will be maintained with best efforts until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of wells. Furthermore, extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will not be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completing of wells within these areas.

H Ancillary Facilities

There are no ancillary facilities planned for at this time and none are foreseen in the future.

I Well site Layout

The attached Location Layout diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, pipe racks, trailer parking, spoil dirt stockpile(s) and surface material stockpile(s)

J Plans for Restoration of the Surface

Interim

The dirt contractor will be provided with approved copies of the Surface Use Plan prior to construction activities.

Upon well completion, within a reasonable time, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions may include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and the re-establishment of vegetation as specified.

All disturbed areas will be re-contoured to the approximate natural contours.

Any drainage rerouted during the construction activities shall be restored to its original line of flow or as near as possible.

All areas of disturbance (including surface pipelines) must have appropriate surface use agreements or approvals in place with the proper owner and/or agency before such action is started.

The conditions of approval, as set forth by those owners and/or agencies, shall be adhered to.

Interim Reclamation consisting of minimizing the footprint of disturbance shall be accomplished by reclaiming all portions of the well site not needed for safe production operations. The portions of the well site not needed for operational and safety purposes will be recontoured to a final appearance that blends with the surrounding topography. Topsoil will be spread over these areas. The operator will spread the topsoil over the entire location except where an all-weather surface, access route or turnaround is needed. Production facilities should be clustered or placed offsite to maximize the opportunity for interim reclamation. Any incidental use on interim reclamation may require restoration of damage. This may require recontouring and seeding of the damaged area.

Paint all production facilities and equipment, not otherwise regulated (OSHA, etc.), a uniform, non-contrasting, non-reflective color tone, matched to the land and not the sky, slightly darker than the adjacent landscape.

Install Hospital muffler to the Pump-jack to minimize engine noise.

Final

Prior to the construction of the location, the top 12 inches of soil material (if present) will be stripped and stockpiled. Placement of the topsoil is noted on the location plat attached. Topsoil shall be stockpiled separately from subsoil materials. Topsoil salvaged from the reserve pit shall be stockpiled separately near the reserve pit.

When restoration activities have been completed, the location site and new access road cuts and shoulders shall be reseeded. Prior to reseeding, all disturbed areas, including the old access road will be scarified and left with a rough surface.

The Authorized Agency Officer shall be contacted for the required seed mixture. Seed will be broadcast and the amount of seed mixture per acre will be doubled. The seeded area will then be "walked" with a dozer to assure coverage of the seeds. The seed mixture will reflect the recommendation from the Archeology study done.

At final abandonment, all casing shall be cut off at the base of the cellar or 3 feet below final restored ground level, whichever is deeper, and cap the casing with a metal plate a minimum of 0.25 inches thick. The cap will be welded in place and the well location and identity will be permanently inscribed on the cap. The cap also will be constructed with a weep hole.

K Well Surface & Access Ownership:

Jay Abbott
PO Box 75
Duchesne, UT 84021
435-733-0311

L Other information

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

Berry will control noxious weeds along access road use authorizations, pipeline route authorizations, well sites or other applicable facilities. A list of noxious weeds may be obtained from the Authorized Agency or the appropriate County Extension Office.

Drilling rigs and/or equipment used during drilling operations on this location will not be stacked or stored on administered lands after the conclusion of drilling operations or at any other time without authorization by the Authorized Agency Officer. If authorization is obtained, such storage is only a temporary measure.

Travel is restricted to approved routes only.

All personnel will refrain from collecting artifacts and from disturbing any significant cultural resources in the area. The operator is responsible for informing all persons in the area who are associated with this project that they may be subject to prosecution for knowingly disturbing historic or archaeological sites or for collecting artifacts. All vehicular traffic, personnel movement, construction, and restoration activities shall be confined to the areas examined, as referenced in the archaeological report, and to the existing roadways and/or evaluated access routes. If historic or archaeological materials are uncovered during construction, Berry Petroleum Company is to immediately stop work that might further disturb such materials and contact the Authorized Agency Officer.

Within five working days, the Authorized Agency Officer will inform the operator as to:

- Whether the materials appear eligible for the National Historic Register of Historic Places;
- The mitigation measures Berry will likely have to undertake before the site can be used (assuming in-situ preservation is not necessary); and a time frame for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that the mitigation measures are appropriate.

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

All Surface Use Conditions of Approval associated with the Landowner Surface Use Agreement and Environmental Analysis Mitigation Stipulations will be adhered to.

All well site locations will have appropriate signs indicating the name of the operator, the lease serial number, the well name and number, the survey description of the well (footages or the quarter/quarter section, the section, township, and range).

CONFIDENTIAL
Returned Unapproved

BERRY PETROLEUM COMPANY
ABBOTT FEE 4-6-54 (Existing Well)
ABBOTT FEE 3-6D-54 (Proposed Well)
SECTION 6, T5S, R4W, U.S.B.&M.

PROCEED IN A SOUTHERLY DIRECTION FROM DUCHESNE, UTAH ALONG U.S. HIGHWAY 191 APPROXIMATELY 2.3 MILES TO THE JUNCTION OF THIS ROAD AND THE EXISTING SOWERS CANYON ACCESS ROAD TO THE SOUTH; TURN LEFT AND PROCEED IN A SOUTHERLY THENCE EASTERLY DIRECTION APPROXIMATELY 1.8 MILES TO THE JUNCTION OF THIS ROAD AND COUNTY ROAD 25 TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY THENCE SOUTHEASTERLY DIRECTION APPROXIMATELY 4.7 MILES TO THE BEGINNING OF THE EXISTING ACCESS ROAD FOR ABBOTT FEE 3-6D-54 & 4-6-54 TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY THENCE SOUTHWESTERLY DIRECTION APPROXIMATELY 395' MILES TO THE EXISTING LOCATION.

CONFIDENTIAL
Returned Unapproved

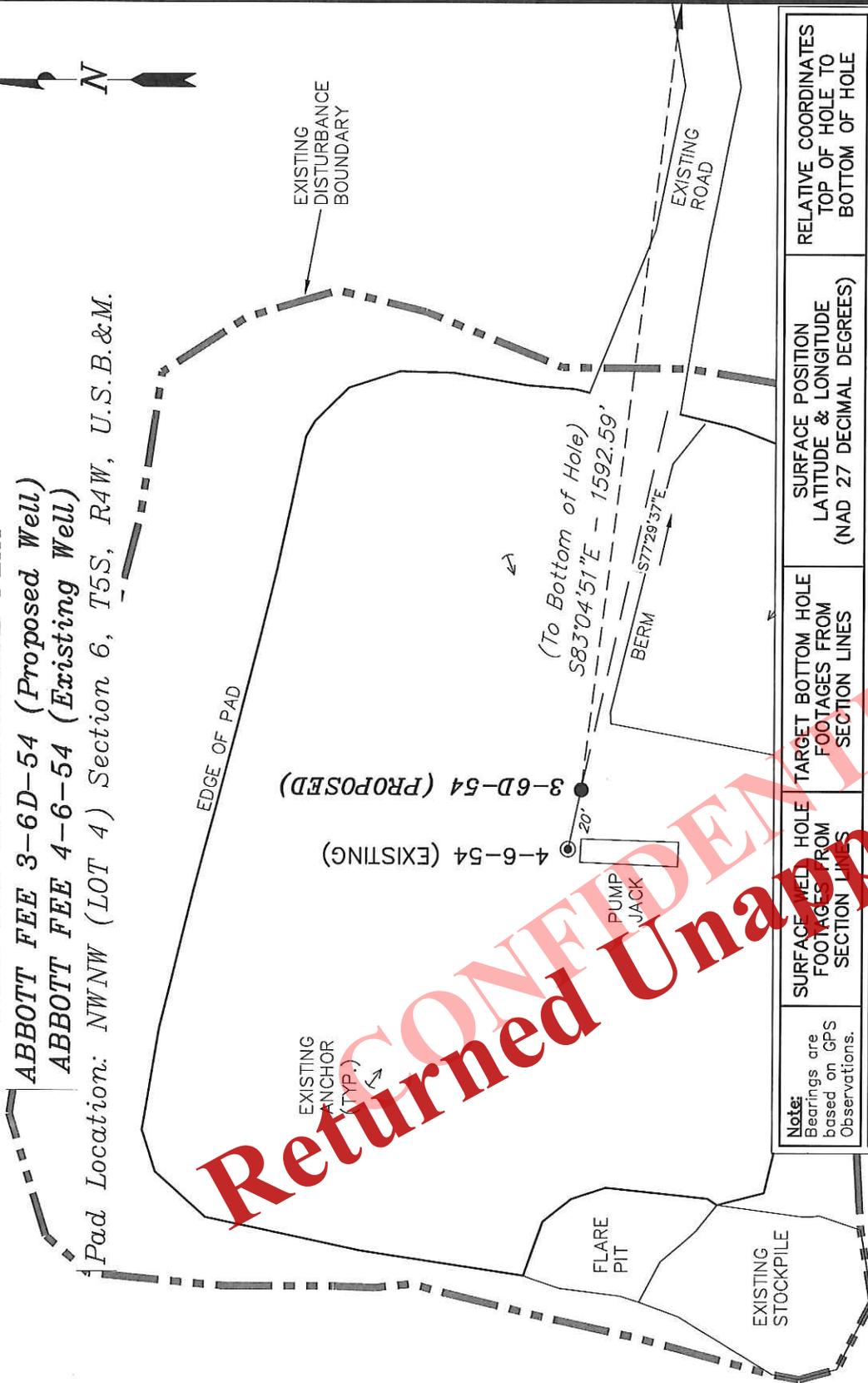
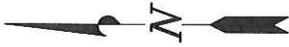
BERRY PETROLEUM COMPANY

WELL PAD INTERFERENCE PLAT

ABBOTT FEE 3-6D-54 (Proposed Well)

ABBOTT FEE 4-6-54 (Existing Well)

Pad Location: NWNW (LOT 4) Section 6, T5S, R4W, U.S.B.&M.



WELL	SURFACE WELD HOLE FOOTAGES FROM SECTION LINES	TARGET BOTTOM HOLE FOOTAGES FROM SECTION LINES	SURFACE POSITION LATITUDE & LONGITUDE (NAD 27 DECIMAL DEGREES)	RELATIVE COORDINATES TOP OF HOLE TO BOTTOM OF HOLE		
WELL	SURFACE HOLE	BOTTOM HOLE	LATITUDE	LONGITUDE	NORTH	EAST
3-6D-54	498' FNL 271' FWL	742' FNL -1850' FWL	40.081280	110.385364	-192'	1,581'
EX. 4-6-54	493' FNL 1850' FWL	NA	40.081293	110.385433	NA	NA

Note: Bearings are based on GPS Observations.

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SURVEYED BY: K.G.S. DATE SURVEYED: 06-04-13
 DRAWN BY: L.C.S. DATE DRAWN: 06-04-13
 SCALE: 1" = 50'

 Tri State Land Surveying, Inc.
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078
 (435) 781-2507

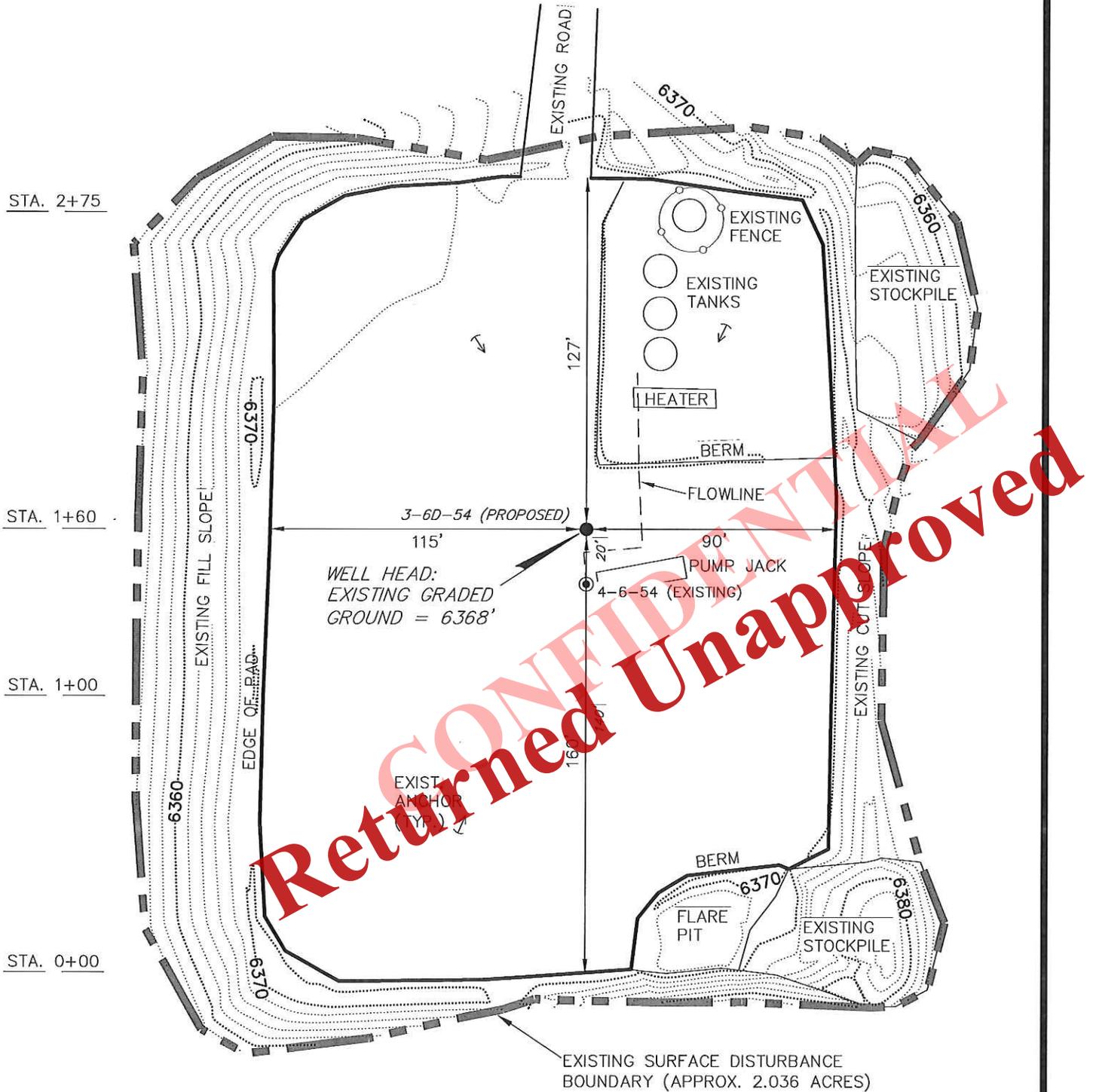
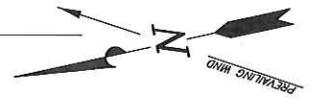
BERRY PETROLEUM COMPANY

LOCATION LAYOUT

ABBOTT FEE 3-6D-54 (Proposed Well)

ABBOTT FEE 4-6-54 (Existing Well)

Pad Location: NWNW (LOT 4) Section 6, T5S, R4W, U.S.B.&M.



SURVEYED BY:	K.G.S.	DATE SURVEYED:	06-04-13
DRAWN BY:	L.C.S.	DATE DRAWN:	06-04-13
SCALE:	1" = 50'	REVISED:	

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

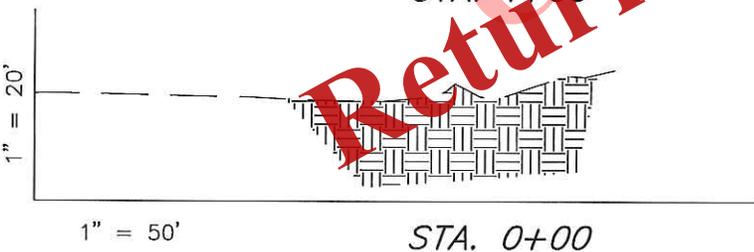
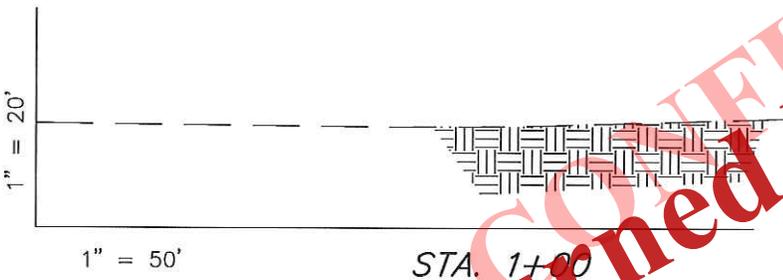
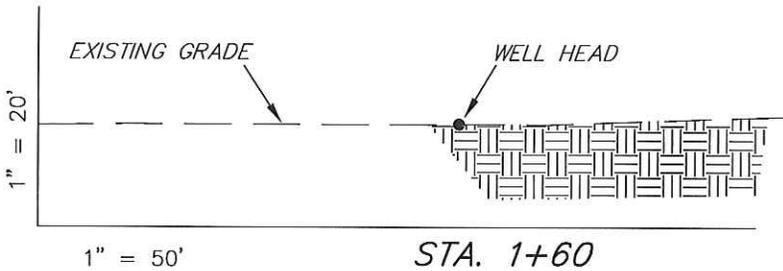
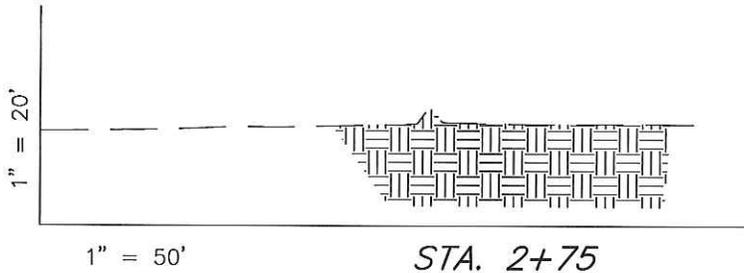
BERRY PETROLEUM COMPANY

CROSS SECTIONS

ABBOTT FEE 3-6D-54 (Proposed Well)

ABBOTT FEE 4-6-54 (Existing Well)

Pad Location: NWNW (LOT 4) Section 6, T5S, R4W, U.S.B.&M.



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Returned Unapproved

SURVEYED BY:	K.G.S.	DATE SURVEYED:	06-04-13
DRAWN BY:	L.C.S.	DATE DRAWN:	06-04-13
SCALE:	1" = 50'	REVISED:	

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

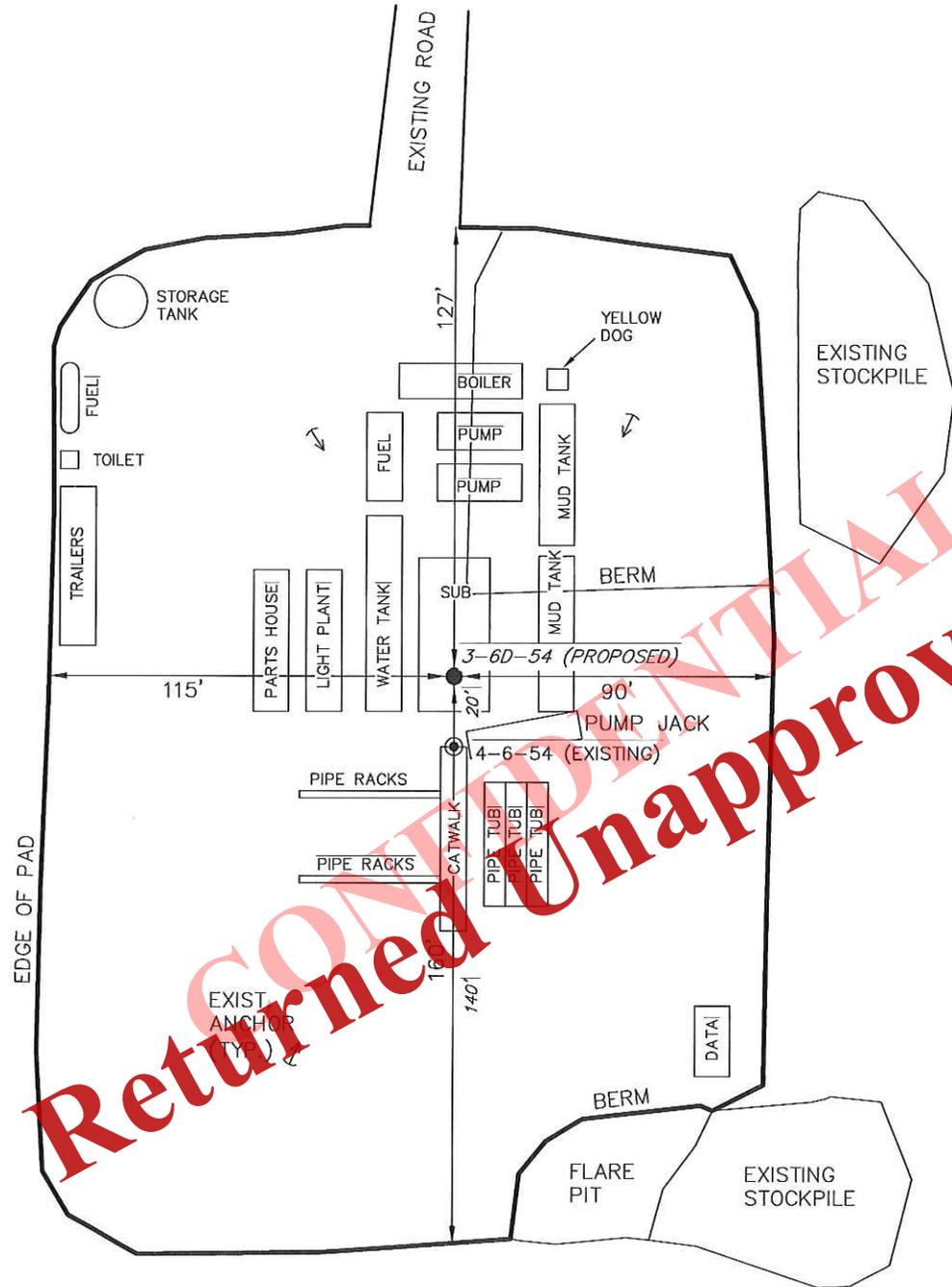
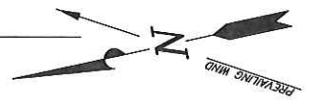
BERRY PETROLEUM COMPANY

TYPICAL RIG LAYOUT

ABBOTT FEE 3-6D-54 (Proposed Well)

ABBOTT FEE 4-6-54 (Existing Well)

Pad Location: NWNW (LOT 4) Section 6, T5S, R4W, U.S.B.&M.



NOTE:

OPERATOR TO DETERMINE ACTUAL LOCATION OF EQUIPMENT AND FACILITIES TO BE REMOVED FOR DRILLING.

SURVEYED BY:	K.G.S.	DATE SURVEYED:	06-04-13
DRAWN BY:	L.C.S.	DATE DRAWN:	06-04-13
SCALE:	1" = 50'	REVISED:	

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

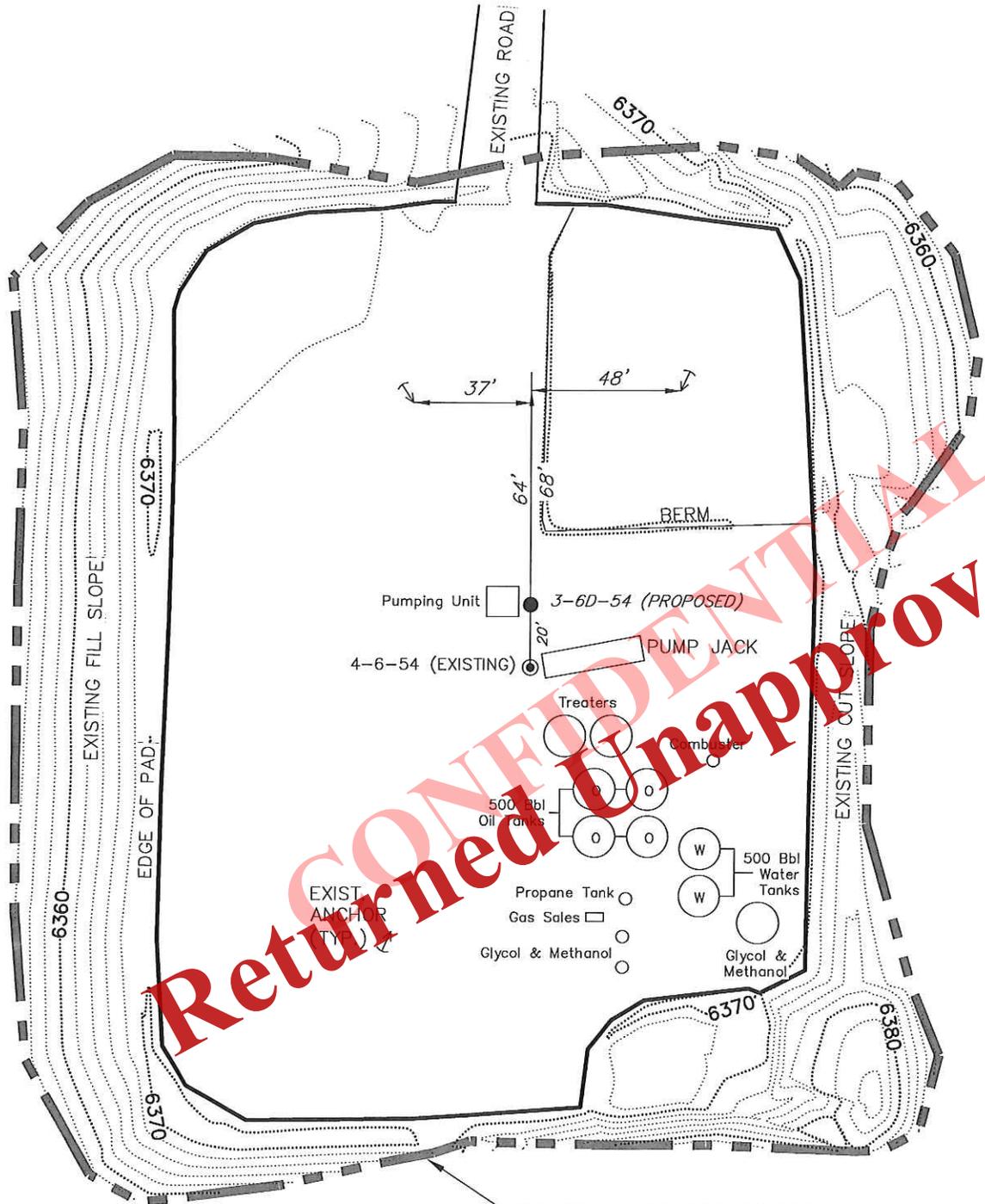
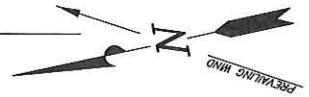
BERRY PETROLEUM COMPANY

INTERIM RECLAMATION PLAN

ABBOTT FEE 3-6D-54 (Proposed Well)

ABBOTT FEE 4-6-54 (Existing Well)

Pad Location: NWNW (LOT 4) Section 6, T5S, R4W, U.S.B.&M.



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APPROXIMATE ACREAGE

UN-RECLAIMED = ±2.036 ACRES

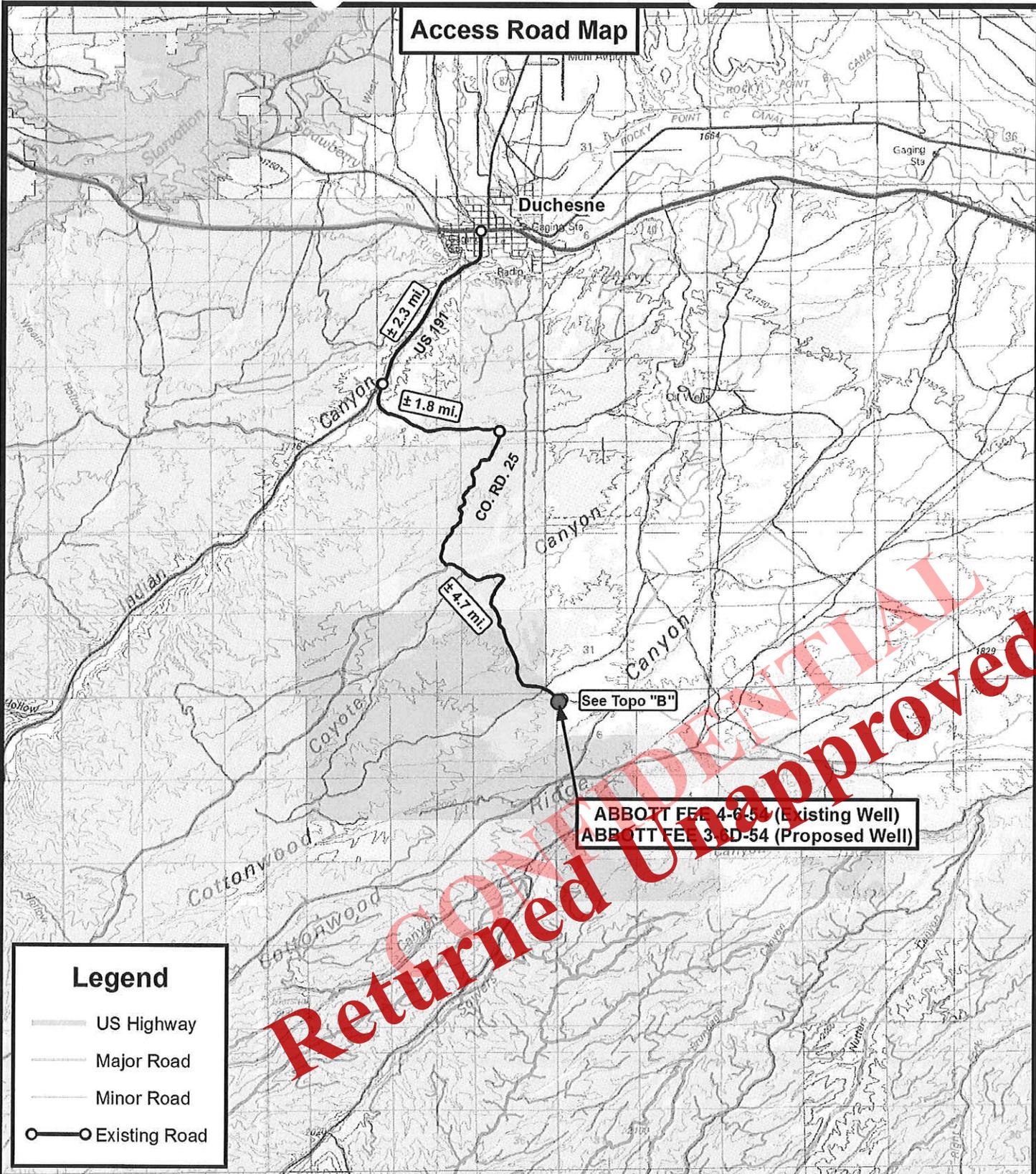
EXISTING SURFACE DISTURBANCE
BOUNDARY (APPROX. 2.036 ACRES)

SURVEYED BY:	K.G.S.	DATE SURVEYED:	06-04-13
DRAWN BY:	L.C.S.	DATE DRAWN:	06-04-13
SCALE:	1" = 50'	REVISED:	

(435) 781-2501

Tri State
 Land Surveying, Inc.
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078

Access Road Map



Legend

- US Highway
- Major Road
- Minor Road
- Existing Road

Tri State
Land Surveying, Inc.
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078

P: (435) 781-2501
 F: (435) 781-2518

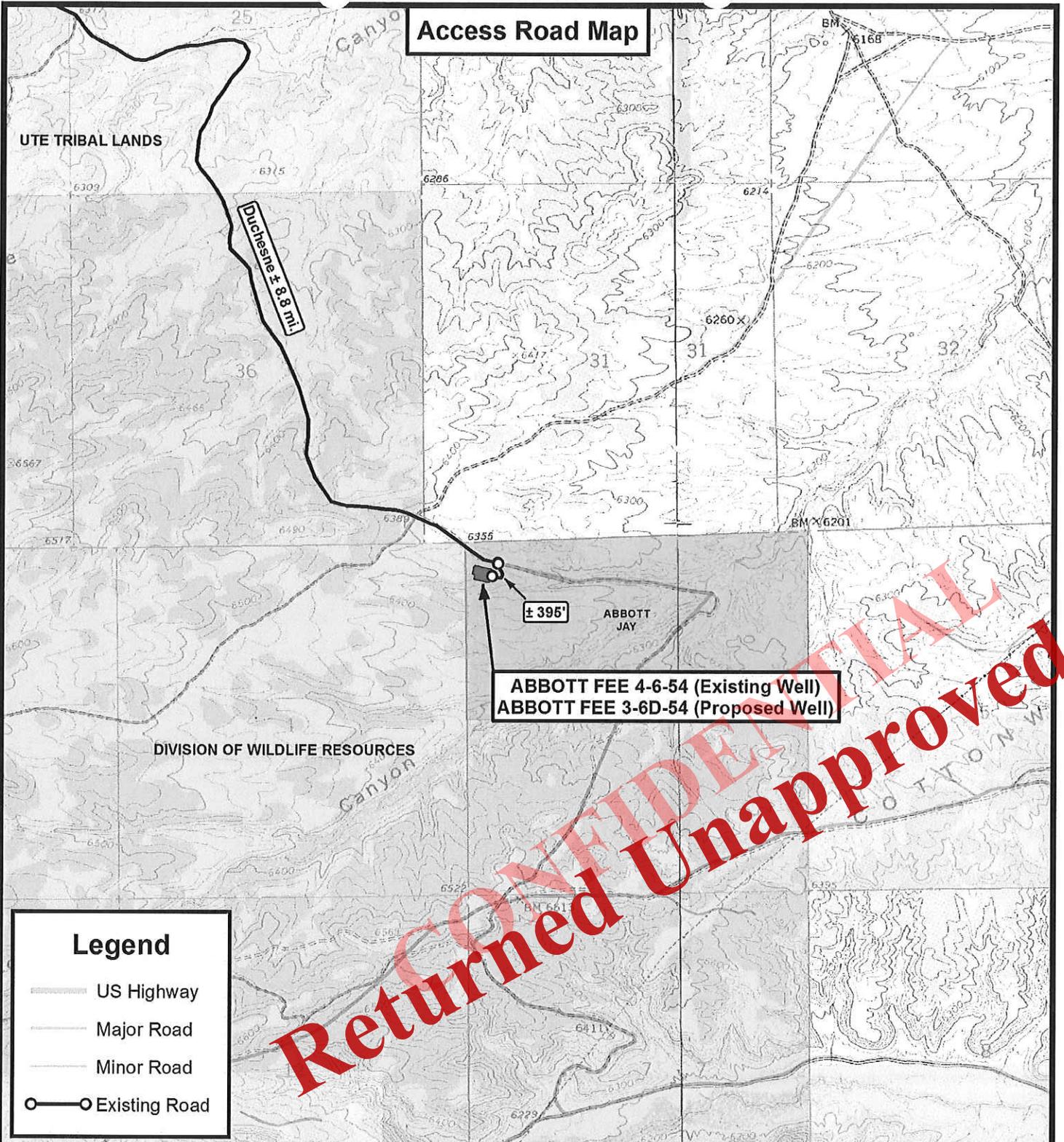


BERRY PETROLEUM COMPANY
 ABBOTT FEE 4-6-54 (Existing Well)
 ABBOTT FEE 3-6D-54 (Proposed Well)
 SEC. 6, T5S, R4W, U.S.B.&M.
 Duchesne County, UT.

DRAWN BY:	J.A.S.	REVISED:	06-07-2013 J.A.S.
DATE:	06-18-2012		
SCALE:	1:100,000		

TOPOGRAPHIC MAP

SHEET
A



Access Road Map

UTE TRIBAL LANDS

Duchesne ± 8.8 mi.

ABBOTT FEE 4-6-54 (Existing Well)
ABBOTT FEE 3-6D-54 (Proposed Well)

DIVISION OF WILDLIFE RESOURCES

Legend

- US Highway
- Major Road
- Minor Road
- Existing Road

THE PARCEL INFORMATION SHOWN HAS NOT BEEN SURVEYED BY TRI-STATE LAND SURVEYING, INC. - TRI-STATE DOES NOT WARRANTY PROPERTY PARCEL DATA OR ANY ASSOCIATED INFORMATION. A PROPERTY SURVEY IS REQUIRED TO DETERMINE THE ACTUAL LOCATION OF PROPERTY LINES AND SHOW ACCURATE DISTANCES ACROSS PARCELS.

Tri State Land Surveying, Inc.
180 NORTH VERNAL AVE. VERNAL, UTAH 84078

P: (435) 781-2501
F: (435) 781-2518



BERRY PETROLEUM COMPANY
ABBOTT FEE 4-6-54 (Existing Well)
ABBOTT FEE 3-6D-54 (Proposed Well)
SEC. 6, T5S, R4W, U.S.B.&M.
Duchesne County, UT.

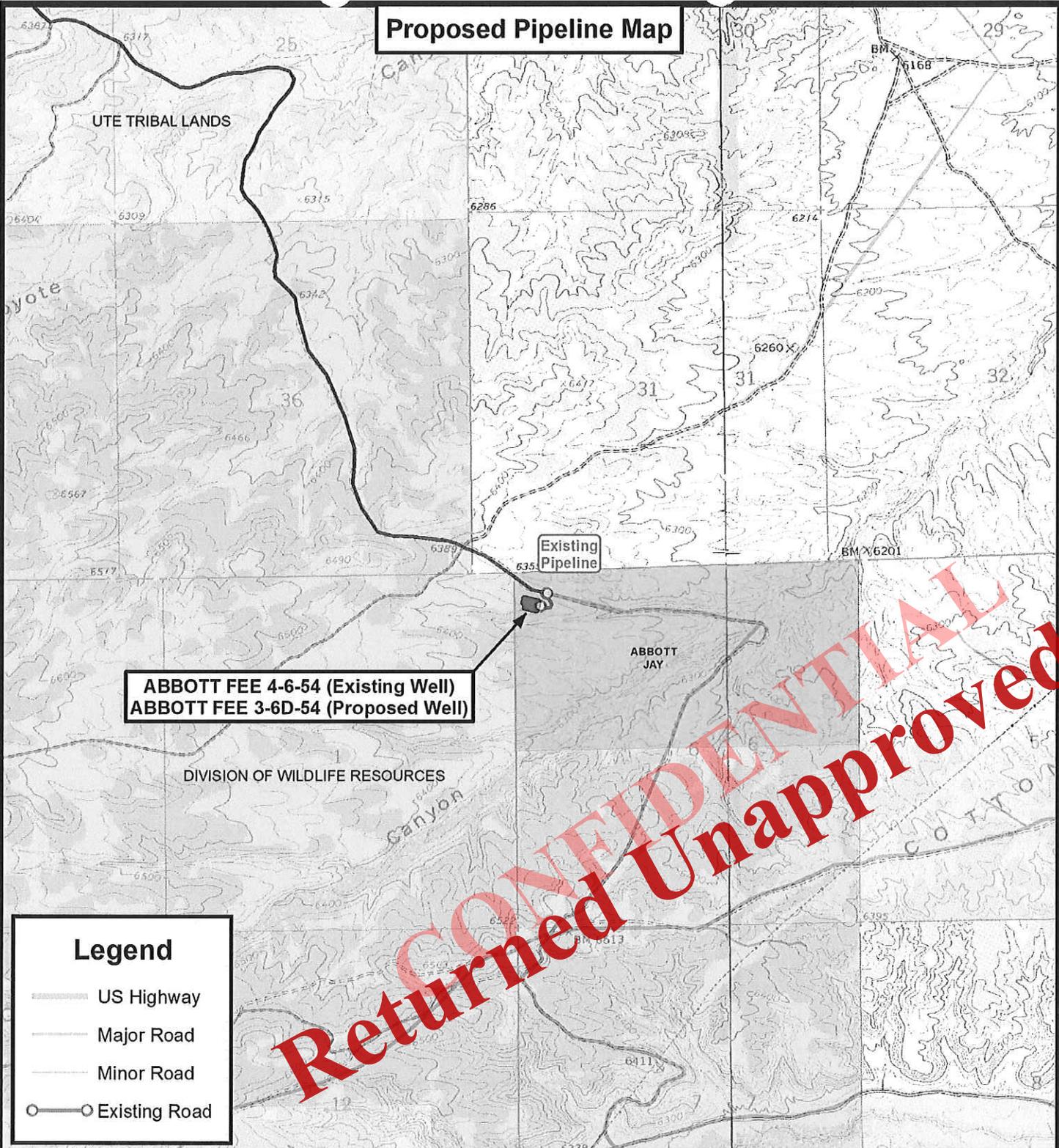
DRAWN BY:	J.A.S.	REVISED:	06-07-2013 J.A.S.
DATE:	06-18-2012		
SCALE:	1" = 2,000'		

TOPOGRAPHIC MAP

SHEET
B

Received: July 24, 2013

Proposed Pipeline Map



ABBOTT FEE 4-6-54 (Existing Well)
ABBOTT FEE 3-6D-54 (Proposed Well)

Legend

- US Highway
- Major Road
- Minor Road
- Existing Road

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Tri State Land Surveying, Inc.
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078

P: (435) 781-2501
 F: (435) 781-2518



BERRY PETROLEUM COMPANY
 ABBOTT FEE 4-6-54 (Existing Well)
 ABBOTT FEE 3-6D-54 (Proposed Well)
 SEC. 6, T5S, R4W, U.S.B.&M.
 Duchesne County, UT.

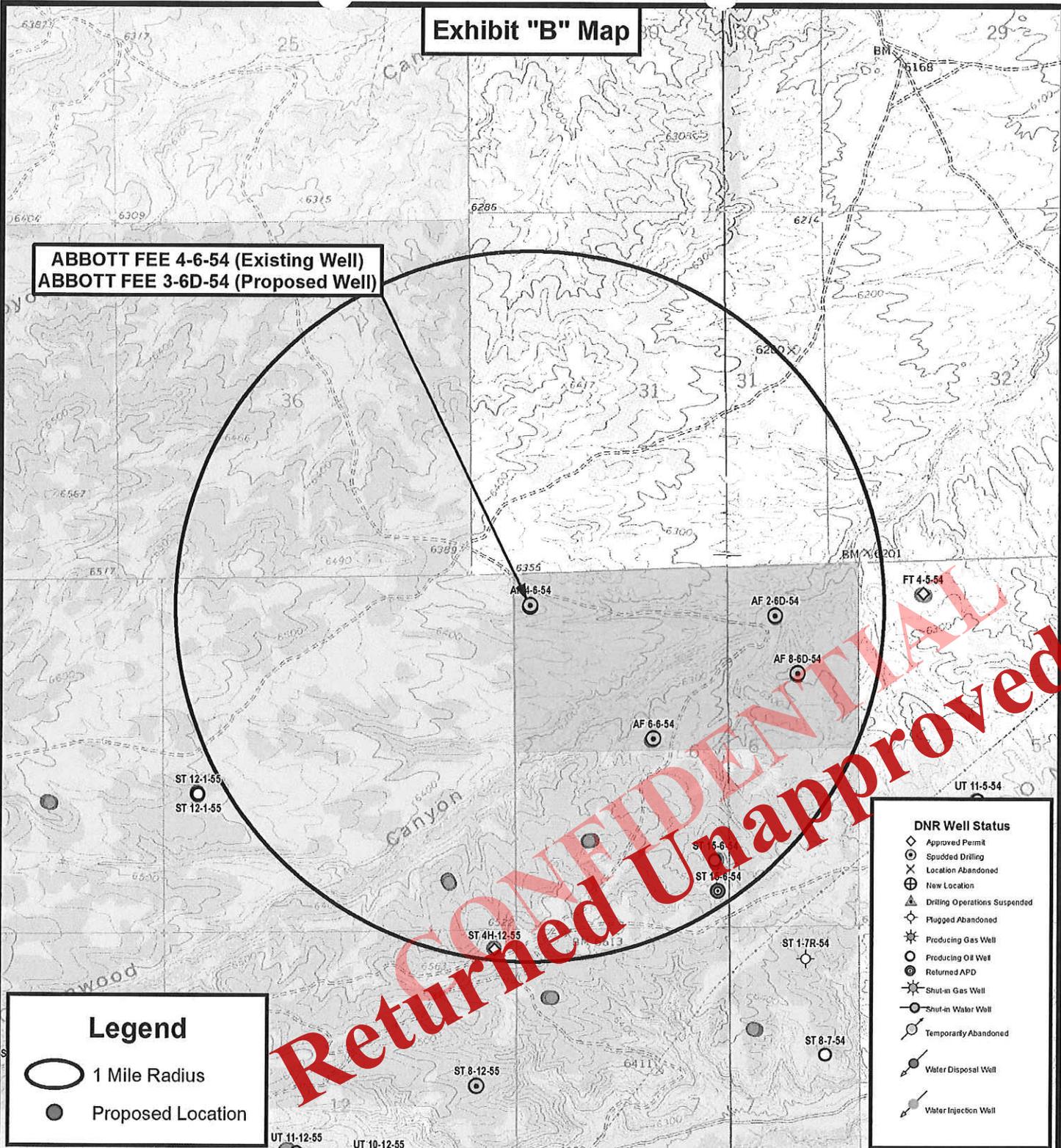
DRAWN BY:	J.A.S.	REVISED:	06-07-2013 J.A.S.
DATE:	06-18-2012		
SCALE:	1" = 2,000'		

TOPOGRAPHIC MAP

SHEET
C

Exhibit "B" Map

ABBOTT FEE 4-6-54 (Existing Well)
ABBOTT FEE 3-6D-54 (Proposed Well)



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Legend

- 1 Mile Radius
- Proposed Location

DNR Well Status

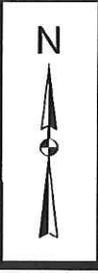
- Approved Permit
- Spudded Drilling
- Location Abandoned
- New Location
- Drilling Operations Suspended
- Plugged Abandoned
- Producing Gas Well
- Producing Oil Well
- Returned APD
- Shut-in Gas Well
- Shut-in Water Well
- Temporarily Abandoned
- Water Disposal Well
- Water Injection Well

THE PARCEL INFORMATION SHOWN HAS NOT BEEN SURVEYED BY TRI-STATE LAND SURVEYING, INC. - TRI-STATE DOES NOT WARRANTY PROPERTY PARCEL DATA OR ANY ASSOCIATED INFORMATION. A PROPERTY SURVEY IS REQUIRED TO DETERMINE THE ACTUAL LOCATION OF PROPERTY LINES AND SHOW ACCURATE DISTANCES ACROSS PARCELS.

P: (435) 781-2501
 F: (435) 781-2518

**Tri State
 Land Surveying, Inc.**
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078

DRAWN BY:	J.A.S.	REVISED:	06-07-2013 J.A.S.
DATE:	06-18-2012		
SCALE:	1" = 2,000'		



BERRY PETROLEUM COMPANY
 ABBOTT FEE 4-6-54 (Existing Well)
 ABBOTT FEE 3-6D-54 (Proposed Well)
 SEC. 6, T5S, R4W, U.S.B.&M.
 Duchesne County, UT.

TOPOGRAPHIC MAP

SHEET
D

**Location
Photos**

Center Stake

Looking Southwesterly

Date Photographed: 06/11/2013

Photographed By : S. Young



Access

Looking Southwesterly

Date Photographed: 06/11/2013

Photographed By : S. Young



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**Tri State
Land Surveying, Inc.**

180 NORTH VERNAL AVE. VERNAL, UTAH 84078

P: (435) 781-2501
F: (435) 781-2518

BERRY PETROLEUM COMPANY

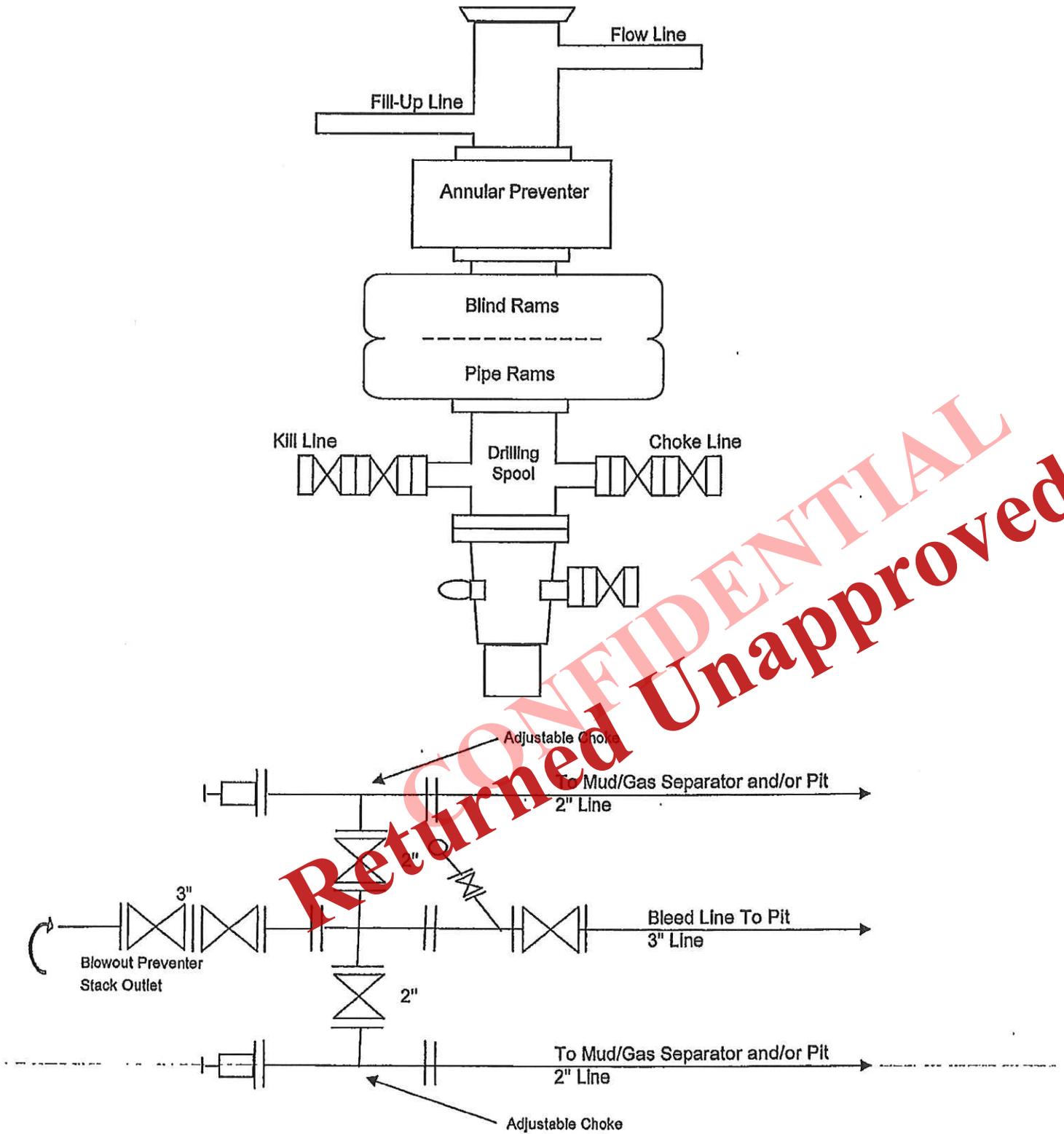
ABBOTT FEE 4-6-54 (Existing Well)
ABBOTT FEE 3-6D-54 (Proposed Well)
SEC. 6, T5S, R4W, U.S.B.&M.
Duchesne County, UT.

DRAWN BY: J.A.S. REVISD: 06-07-2013 J.A.S.
DATE: 06-18-2012

COLOR PHOTOGRAPHS

SHEET
P

SCHEMATIC DIAGRAM OF 3,000 PSI BOP STACK



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AFFIDAVIT OF NOTICE

I, Krista Mecham, the affiant herein, being of lawful age and duly sworn upon his oath deposes and states as follows:

Krista Mecham is a Sr. Regulatory & Permitting Tech. for **Berry Petroleum Company**, a Delaware Corporation, with headquarters located at 1999 Broadway, Suite 3700, Denver, Colorado 80202, and is duly authorized to make this affidavit on behalf of said corporation.

Berry Petroleum Company has submitted notices to commingle production from the Wasatch and Green River formations in the following wells:

Abbott Fee 1-6D-54
Abbott Fee 3-6D-54
Abbott Fee 5-6D-54
Abbott Fee 7-6D-54

This Affidavit is made in accordance with Utah's Oil, Gas and Mining regulation R649-3-22. As operator, Berry Petroleum Company has provided notices to the owner(s) of all contiguous oil and gas leases or drilling units overlying the pool for the aforementioned wells to the parties listed below:

Appaloosa Energy LLC
1776 Woodstead Ct., Suite 121
The Woodlands, Texas 77380
Attn: Brad Posey

Newfield Production Company
1001 17th Street, Suite 2000
Denver, Colorado 80202
Attn: Laura Smith

Bill Barrett Corporation
1099 18th Street, Suite 2300
Denver, CO 80202
Attn: Huntington Walker, Land Manager

This instrument is executed this 18th day of July, 2013.

Berry Petroleum Company

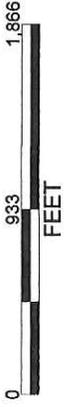
By: Krista Mecham

Received: July 24, 2013

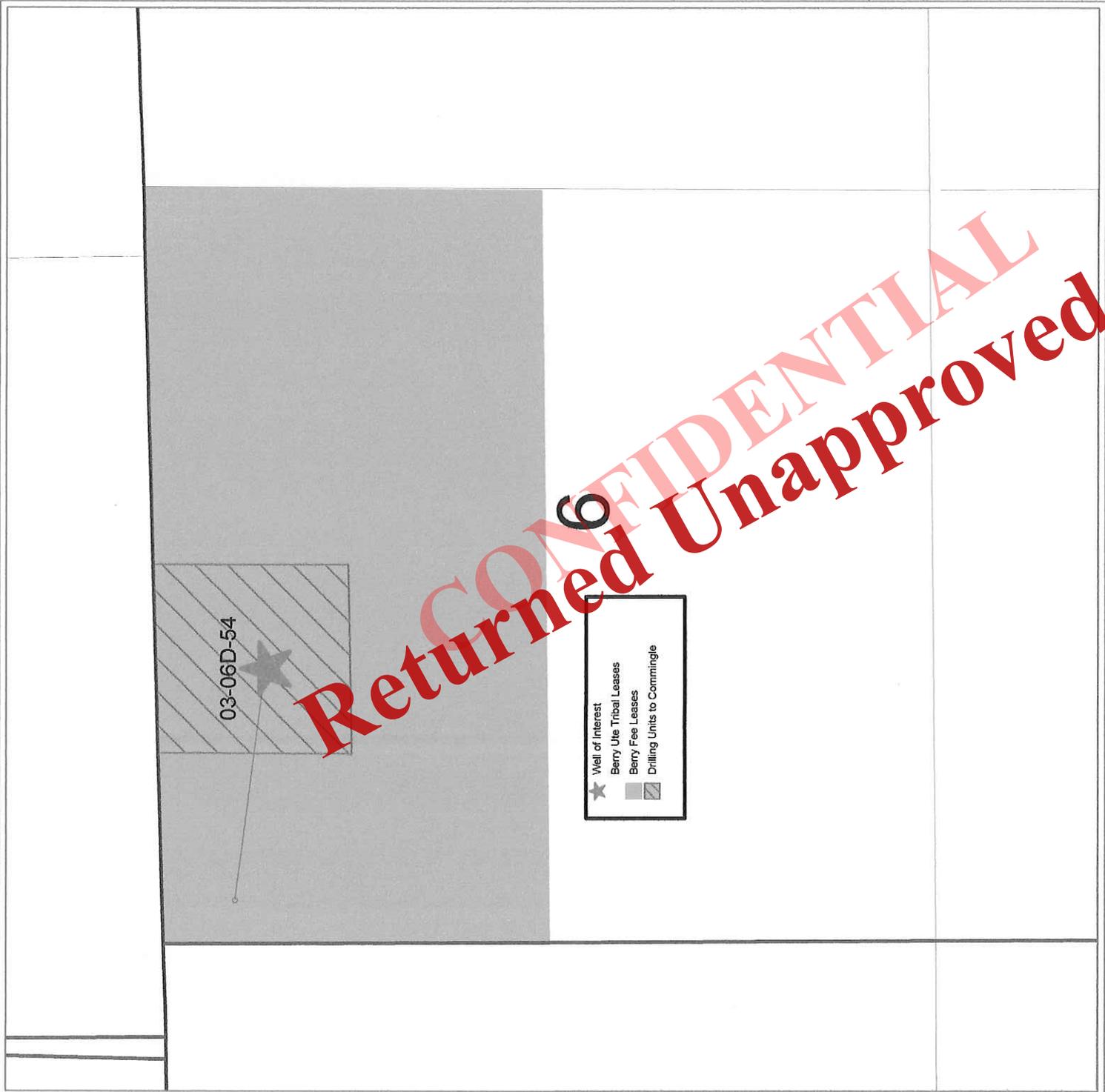
Berry Petroleum Company

Statewide Utah

Commingle Map



July 11, 2013



Received: July 24, 2013

SELF-CERTIFICATION STATEMENT

The following self -certification statement is provided per federal requirements dated May 7, 2007.

Please be advised that Berry Petroleum Company is considered to be the operator of the following well.

Abbott Fee 3-6D-54
Section 6, T5S, R4W, U.S.B.& M.
Surface: 498' FNL & 271' FWL (NW/4NW/4)
BHL: 742' FNL & 1850' FWL (NE/4NW/4)
Duchesne, County, Utah

Berry Petroleum Company is responsible under the terms of the lease for the operations conducted upon the lease lands.

Operator's Representative and Certification

A) Representative
NAME: Krista M. Mecham
ADDRESS: Berry Petroleum Company
4000 South 4028 West
Route 2, Box 7735
Roosevelt, Utah 84066
PHONE: 435-722-1325

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations and onshore oil and gas orders. Berry Petroleum Company is fully responsible for the actions of its subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The drilling permit will be valid for a period of two years from the date of approval. After permit termination, a new application will be filed for approval for any future operations.

B) Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge and belief, true and correct; and that the work associated with the operations proposed herein will be performed by Berry Petroleum Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

DATE

7/18/2013

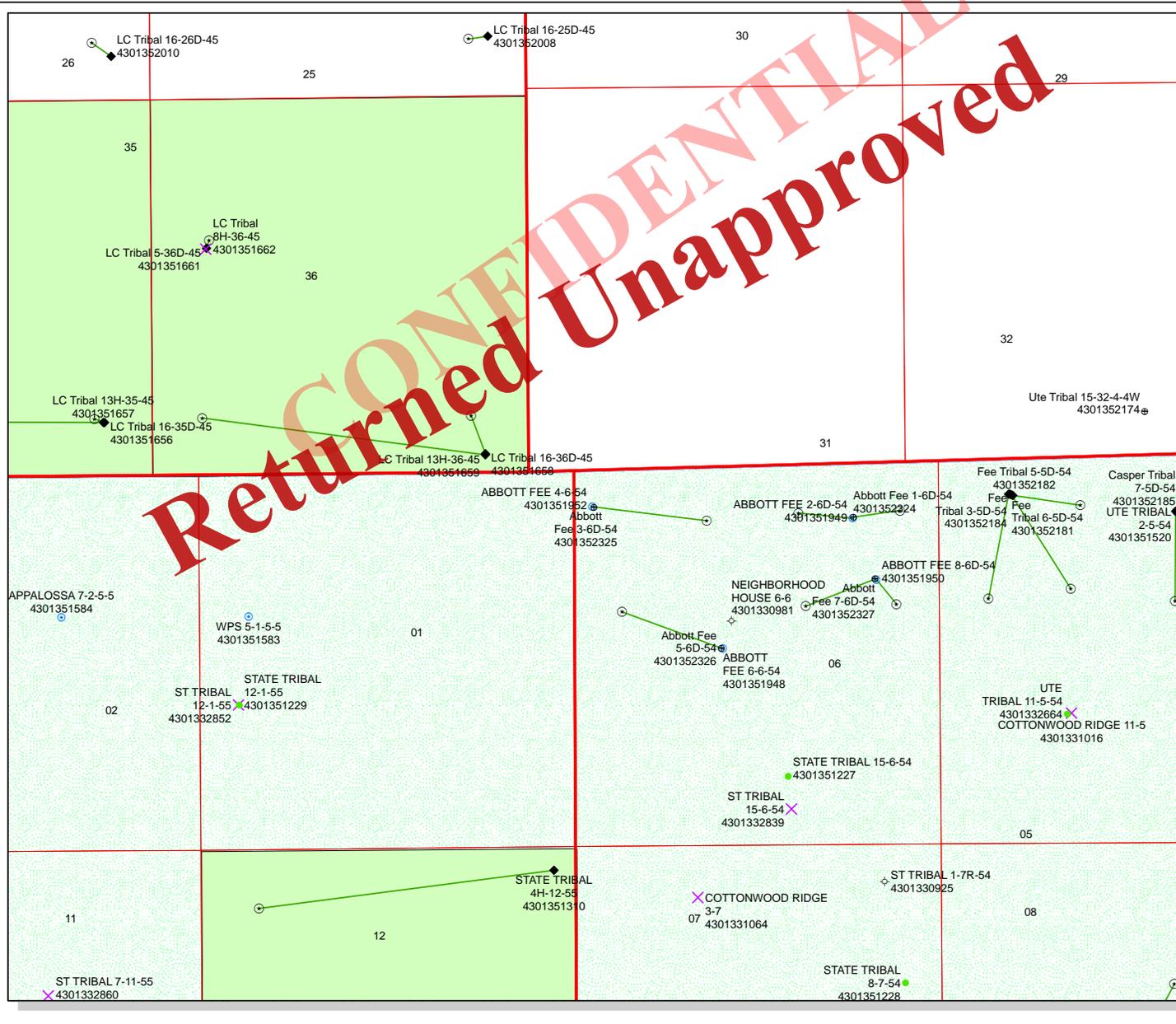
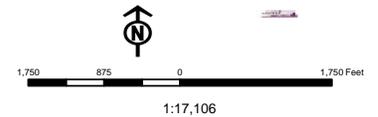
Krista M. Mecham

Sr. Regulatory & Permitting Tech.

API Number: 4301352325
Well Name: Abbott Fee 3-6D-54
Township T05.0S Range R04.0W Section 06
Meridian: UBM
Operator: BERRY PETROLEUM COMPANY

Map Prepared:
 Map Produced by Diana Mason

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



Well Name	BERRY PETROLEUM COMPANY Abbott Fee 3-6D-54 43013523250000			
String	Surf	Prod		
Casing Size(")	8.625	5.500		
Setting Depth (TVD)	1000	6896		
Previous Shoe Setting Depth (TVD)	0	1000		
Max Mud Weight (ppg)	9.5	9.5		
BOPE Proposed (psi)	0	3000		
Casing Internal Yield (psi)	2950	7740		
Operators Max Anticipated Pressure (psi)	3542	9.9		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	494	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	374	NO <input type="checkbox"/> DAP mud <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	274	NO <input type="checkbox"/> OK <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	274	NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=		1000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	5.500	"
Max BHP (psi)	.052*Setting Depth*MW=	3407	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	2579	YES <input type="checkbox"/> 3M ram type BOPE, 3M annular <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	1990	YES <input type="checkbox"/> OK <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	2110	NO <input type="checkbox"/> OK <input type="checkbox"/>
Required Casing/BOPE Test Pressure=		3000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		1000	psi *Assumes 1psi/ft frac gradient

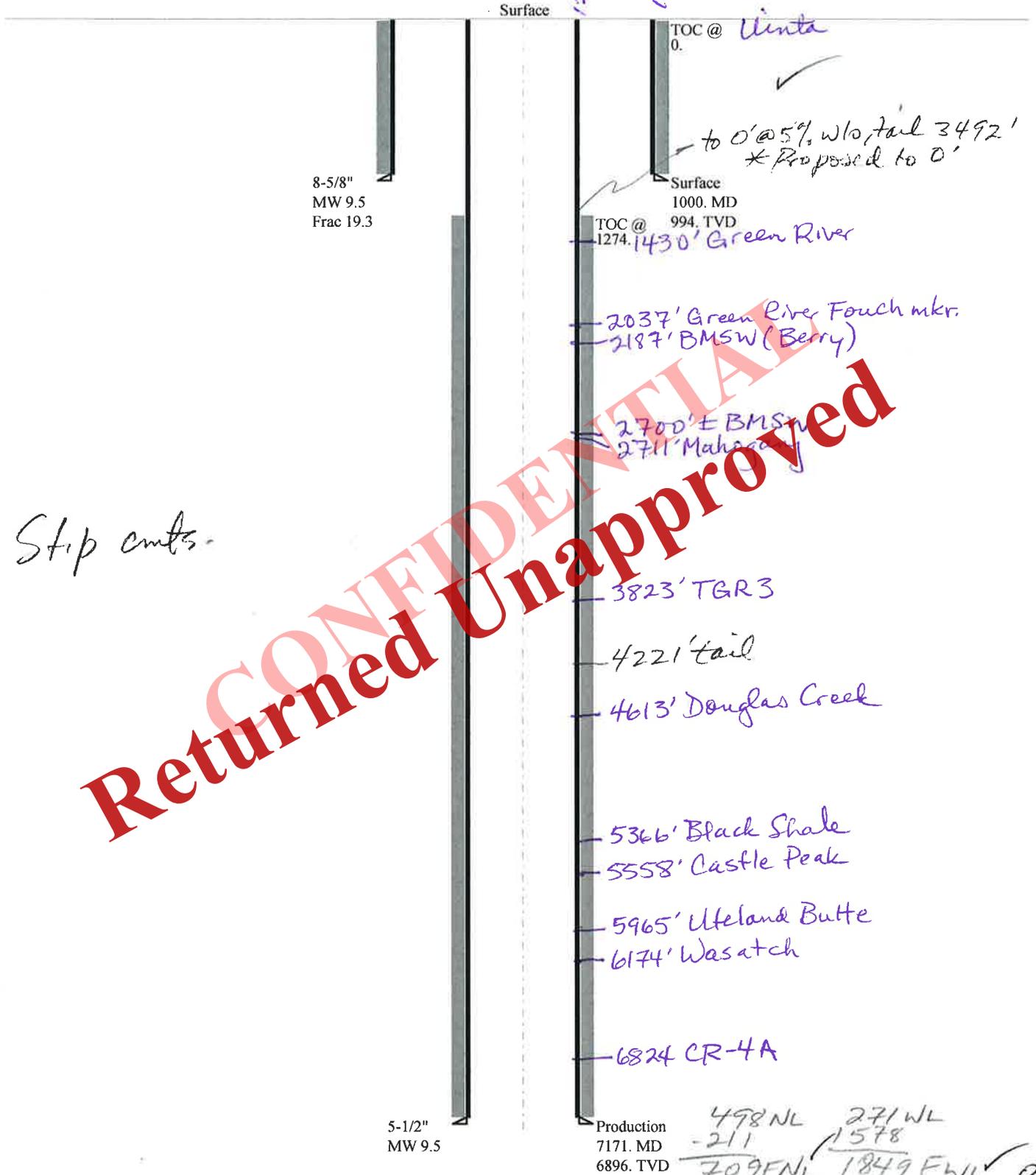
Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			*Can Full Expected Pressure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

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

Returned Unapproved

43013523250000 Abbott Fee 3-6D-54

Casing Schematic



Stip cmts.

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Returned Unapproved

Production	498 NL	271 WL	
7171. MD	-211	1578	
6896. TVD	<u>709 FNL</u>	<u>1849 FWL</u>	OK.
	proposed 742 NL	1850 WL	

Well name:	4301352325000 Abbott Fee 3-6D-54	
Operator:	BERRY PETROLEUM COMPANY	
String type:	Surface	Project ID:
AFE No.:	n/a	43-013-52325
Location:	DUCHESNE COUNTY	

Design parameters:

Collapse
Mud weight: 9.500 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:
Design factor 1.125

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 88 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Burst:

Design factor 1.00

Cement top: Surface

Burst

Max anticipated surface pressure: 876 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 996 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 856 ft

Directional Info - Build & Drop

Kick-off point 200 ft
Departure at shoe: 83 ft
Maximum dogleg: 1.5 °/100ft
Inclination at shoe: 12 °

Re subsequent strings:

Next setting depth: 6,896 ft
Next mud weight: 9.500 ppg
Next setting BHP: 3,403 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 996 ft
Injection pressure: 996 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	1000	8.625	24.00	J-55	ST&C	994	1000	7.972	5147
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	491	1350	2.752	996	2950	2.96	23.9	244	10.23 J

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

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

Date: August 29, 2013
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 994 ft, a mud weight of 9.5 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.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

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

Received: September 19, 2013

Well name: **43013523250000 Abbott Fee 3-6D-54**
 Operator: **BERRY PETROLEUM COMPANY**
 String type: Production Project ID: 43-013-52325
 AFE No.: n/a
 Location: DUCHESNE COUNTY

Design parameters:

Collapse

Mud weight: 9.500 ppg
 Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
 Surface temperature: 74 °F
 Bottom hole temperature: 171 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 1,000 ft

Cement top: 1,274 ft

Burst

Max anticipated surface pressure: 1,886 psi
 Internal gradient: 0.220 psi/ft
 Calculated BHP 3,403 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: 1.60 (B)

Tension is based on air weight.
 Neutral point: 6,178 ft

Directional Info - Build & Drop

Kick-off point 200 ft
 Departure at shoe: 1592 ft
 Maximum dogleg: 1.5 °/100ft
 Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	7171	5.5	17.00	N-80	LT&C	6896	7171	4.767	40419
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	3403	6290	1.848	3403	7740	2.27	117.2	348	2.97 J

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

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

Date: August 29, 2013
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 6896 ft, a mud weight of 9.5 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.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

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

Received: September 19, 2013



Diana Mason <dianawhitney@utah.gov>

FW: Abbott Fee Wells

Mecham, Krista M. <kmm@bry.com>

Thu, Sep 26, 2013 at 12:16 PM

To: "dianawhitney@utah.gov" <dianawhitney@utah.gov>

Cc: "Laudick, Terry L." <tll@bry.com>, "Gustafson, Dennis J." <djg@bry.com>

Good Afternoon Diana,

Please see the note below regarding the proposed Abbott Fee wells.

Thank you!

Krista

From: Laudick, Terry L.

Sent: Thursday, September 26, 2013 12:15 PM

To: Mecham, Krista M.

Cc: Gustafson, Dennis J.

Subject: RE: Abbott Fee Wells

Krista,

Dennis had that conversation with Brad Hill. Brad's position is that since there is no additional surface disturbance, no additional bonding is required. Dennis also met with Mr. Abbott this week and Mr. Abbott indicated he is aware of the additional wells and expressed appreciation for our drilling the these wells on existing pads, rather than new pads.

Please let me know if you need anything further.

Thanks,

Terry

Terry L. Laudick

Senior Landman

Berry Petroleum Company

Received: September 26, 2013

(303) 999-4271

From: Mecham, Krista M.
Sent: Thursday, September 26, 2013 12:10 PM
To: Laudick, Terry L.
Subject: FW: Abbott Fee Wells

From: Diana Mason [<mailto:dianawhitney@utah.gov>]
Sent: Thursday, September 26, 2013 9:04 AM
To: Mecham, Krista M.
Subject: Re: Abbott Fee Wells

I saw all of that but you'll need to get with Brad to see if he needs to contact the surface owner or something to get these approved.

On Thu, Sep 26, 2013 at 8:52 AM, Mecham, Krista M. <k.mecham@jory.com> wrote:

Good Morning Diana,

We have not reached an agreement with Mr. Abbott, I included in the APD application an affidavit stating that our land department tried to reach an agreement but they were unsuccessful (attached). These wells are on existing location that we bonded onto earlier in the year.

Let me know if you need anything else on these.

Thanks!

From: Diana Mason [<mailto:dianawhitney@utah.gov>]
Sent: Thursday, September 26, 2013 8:39 AM
To: Mecham, Krista M.
Subject: Abbott Fee Wells

Hi Krista,

Received: September 26, 2013

I noticed that all the Abbott Fee wells are missing the Surface agreement and that's it. Other than that, they are ready to be approved. Did Berry ever receive the agreement?

Thank you,

Diana

CONFIDENTIAL
Returned Unapproved



GARY R. HERBERT
Governor

SPENCER J. COX
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

July 27, 2015

LINN OPERATING, INC.
Rt. 2 Box 7735
Roosevelt, UT 84066

Re: Application for Permit to Drill - DUCHESNE County, Utah

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the Abbott Fee 3-6D-54 well, API 43013523250000 that was submitted July 24, 2013 is being returned unapproved. If you plan on drilling this well in the future, you must first submit a new application.

Should you have any questions regarding this matter, please call me at (801) 538-5312.

Sincerely,

Diana Mason
Environmental Scientist

Enclosure

cc: Bureau of Land Management, Vernal, Utah



