



## Directional

### NOBLE ENERGY INC WELD COUNTY CO

SEC.17-T6N-R66W  
Ulrich PC 117-17D Pad Sec.17-T6N-R66W  
Ulrich PC 117-07D

Wellbore #1

Survey: Survey #1

### Standard Survey Report

10 February, 2012

N10  
T6S  
7014

Proj 1980' FNL  
1980' FEL

1988' FNL	Sec 17	836' FEL
37' (S)	T6N	1157' (W)
<u>2025' FNL</u>	R66W	<u>1993' FEL</u>

1988' FNL	836' FEL
46' (S)	1172' (W)
<u>2034' FNL</u>	<u>2008' FEL</u>

B4L

TD  
7581

 noble energy



## Directional

## Ensign Directional Survey Report



Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC. 17-T6N-R66W  
Site: Ulrich PC 117-17D Pad Sec. 17-T6N-R66W  
Well: Ulrich PC 117-07D  
Wellbore: Wellbore #1  
Design: Wellbore #1

Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:  
Database:

Well Ulrich PC 117-07D  
WELL @ 4795.0ft (Original Well Elev)  
WELL @ 4795.0ft (Original Well Elev)  
True  
Minimum Curvature  
Landmark

Survey									
Measured				Vertical					
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Dogleg Rate	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(%/100ft)	(%/100ft)	(%/100ft)
7,534.0	0.60	246.60	7,359.8	-45.6	-1,171.1	1,171.9	0.24	-0.23	5.46
7,581.0	0.60	246.00	7,406.8	-45.8	-1,171.6	1,172.4	0.01	0.00	-1.28

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Company: NOBLE ENERGY INC WELD COUNTY CO  
Project: SEC.17-T6N-R66W  
Site: Ulrich PC 117-17D Pad Sec.17-T6N-R66W  
Well: Ulrich PC 117-07D  
Wellbore: Wellbore #1  
Design: Wellbore #1

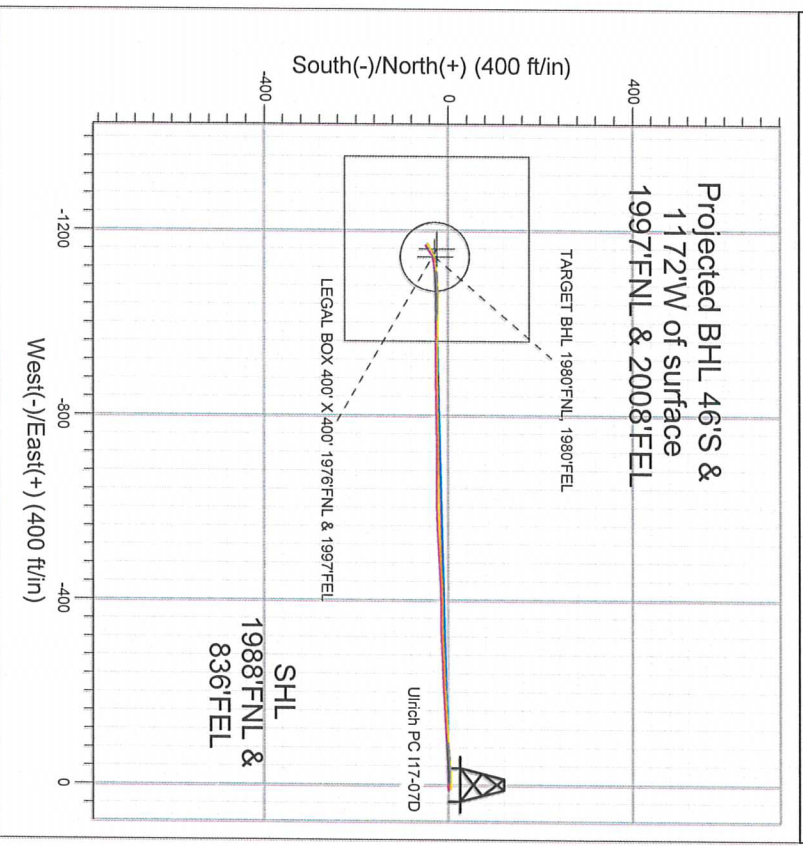
Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:  
Database:

Well Ulrich PC 117-07D  
WELL @ 4795.0ft (Original Well Elev)  
WELL @ 4795.0ft (Original Well Elev)  
True  
Minimum Curvature  
Landmark

Survey	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	1,369.0	6.80	271.20	1,368.1	3.8	-12.1	12.0	2.03	2.03	-0.55
	1,498.0	9.10	265.90	1,495.9	3.3	-29.9	29.8	1.87	1.78	-4.11
	1,626.0	11.60	265.70	1,621.8	1.6	-52.8	52.8	1.95	1.95	-0.16
	1,754.0	14.30	264.70	1,746.5	-0.8	-81.4	81.4	2.12	2.11	-0.78
	1,883.0	16.20	267.00	1,871.0	-3.3	-115.2	115.3	1.55	1.47	1.78
	2,011.0	17.80	266.80	1,993.4	-5.3	-152.6	152.7	1.25	1.25	-0.16
	2,140.0	18.70	267.00	2,115.9	-7.5	-192.9	193.1	0.70	0.70	0.16
	2,268.0	17.70	268.00	2,237.5	-9.2	-232.9	233.0	0.82	-0.78	0.78
	2,396.0	17.10	266.60	2,359.6	-11.0	-271.1	271.3	0.57	-0.47	-1.09
	2,525.0	17.90	267.70	2,482.7	-12.9	-309.9	310.1	0.67	0.62	0.85
	2,653.0	18.40	269.80	2,604.3	-13.8	-349.7	349.9	0.64	0.39	1.64
	2,782.0	19.90	270.10	2,726.2	-13.8	-392.0	392.3	1.17	1.16	0.23
	2,910.0	17.60	266.40	2,847.4	-15.0	-433.1	433.4	2.02	-1.80	-2.89
	3,038.0	18.50	267.70	2,969.1	-17.0	-472.7	473.0	0.77	0.70	1.02
	3,167.0	19.30	267.10	3,091.1	-18.9	-514.5	514.8	0.64	0.62	-0.47
	3,295.0	18.40	267.10	3,212.2	-21.0	-555.8	556.1	0.70	-0.70	0.00
	3,424.0	18.50	268.50	3,334.6	-22.6	-596.6	597.0	0.35	0.08	1.09
	3,552.0	17.90	271.70	3,456.2	-22.5	-636.5	636.9	0.91	-0.47	2.50
	3,680.0	17.70	269.60	3,578.1	-22.1	-675.7	676.0	0.53	-0.16	-1.64
	3,809.0	18.90	269.80	3,700.6	-22.3	-716.2	716.5	0.93	0.93	-0.16
	3,937.0	20.20	268.70	3,821.2	-22.9	-759.0	759.3	1.06	1.02	-0.86
	4,066.0	20.80	268.40	3,942.0	-24.0	-804.1	804.5	0.47	0.47	-0.23
	4,194.0	19.70	269.60	4,062.1	-24.8	-848.4	848.8	0.92	-0.86	0.94
	4,322.0	19.80	270.10	4,182.6	-24.9	-891.7	892.0	0.15	0.08	0.39
	4,451.0	19.50	270.30	4,304.1	-24.8	-935.1	935.4	0.24	-0.23	0.16
	4,579.0	19.80	270.70	4,424.6	-24.4	-978.1	978.4	0.26	0.23	0.31
	4,708.0	17.90	270.80	4,546.7	-23.8	-1,019.8	1,020.1	1.47	-1.47	0.08
	4,836.0	14.90	271.00	4,669.5	-23.3	-1,055.9	1,056.2	2.34	-2.34	0.16
	4,964.0	11.90	266.10	4,794.0	-23.9	-1,085.5	1,085.8	2.50	-2.34	-3.83
	5,093.0	9.30	264.20	4,920.7	-25.9	-1,109.2	1,109.5	2.03	-2.02	-1.47
	5,221.0	5.70	261.70	5,047.6	-27.8	-1,125.8	1,126.1	2.82	-2.81	-1.95
	5,350.0	2.60	261.50	5,176.3	-29.2	-1,135.0	1,135.4	2.40	-2.40	-0.16
	5,478.0	0.40	236.20	5,304.2	-29.9	-1,138.3	1,138.6	1.75	-1.72	-19.77
	5,606.0	0.30	210.40	5,432.2	-30.4	-1,138.8	1,139.2	0.14	-0.08	-20.16
	5,735.0	0.40	272.90	5,561.2	-30.7	-1,139.4	1,139.8	0.29	0.08	48.45
	5,863.0	0.80	274.00	5,689.2	-30.6	-1,140.8	1,141.2	0.31	0.31	0.86
	5,973.8	0.71	265.74	5,800.0	-30.6	-1,142.2	1,142.6	0.13	-0.08	-7.45
TARGET BHL 1980°FNL, 1980°FEL										
	5,992.0	0.70	264.20	5,818.2	-30.6	-1,142.4	1,142.8	0.13	-0.07	-8.49
	6,120.0	0.50	288.60	5,946.2	-30.5	-1,143.7	1,144.1	0.25	-0.16	19.06
	6,248.0	0.60	249.40	6,074.2	-30.5	-1,144.9	1,145.3	0.30	0.08	-30.63
	6,377.0	0.50	248.50	6,203.2	-31.0	-1,146.1	1,146.5	0.08	-0.08	-0.70
	6,505.0	0.90	256.80	6,331.2	-31.4	-1,147.6	1,148.0	0.32	0.31	6.48
	6,634.0	1.60	241.00	6,460.1	-32.5	-1,150.1	1,150.6	0.60	0.54	-12.25
	6,762.0	1.80	235.20	6,588.1	-34.5	-1,153.3	1,153.8	0.21	0.16	-4.53
	6,890.0	1.90	235.20	6,716.0	-36.9	-1,156.7	1,157.3	0.08	0.08	0.00
	7,019.0	2.30	229.50	6,844.9	-39.8	-1,160.4	1,161.1	0.35	0.31	-4.42
	7,078.3	2.05	235.82	6,904.2	-41.2	-1,162.2	1,162.9	0.58	-0.42	10.66
TARGET CIRCLE 1980°FNL & 1980°FEL										
	7,078.8	2.05	235.88	6,904.7	-41.2	-1,162.2	1,162.9	0.58	-0.40	11.95
LEGAL BOX 400' X 400' 1976°FNL & 1997°FEL										
	7,147.0	1.80	245.20	6,972.9	-42.3	-1,164.2	1,164.9	0.58	-0.36	13.66
	7,276.0	1.30	248.00	7,101.8	-43.7	-1,167.4	1,168.2	0.39	-0.39	2.17
	7,404.0	0.90	239.50	7,229.8	-44.8	-1,169.6	1,170.4	0.34	-0.31	-6.64

**Well Name: Ulrich PC 117-07D**  
Surface Location: Ulrich PC 117-17D Pad Sec.17-T6N-R66W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
Ground Elevation: 4782.0  
Northing 1422078.70 Easting 3195978.97 Latitude 40.489870 Longitude -104.795390  
Original Well Elev WELL @ 4795.0ft (Original Well Elev) Slot

## NOBLE ENERGY INC WELD COUNTY CO



LEGEND

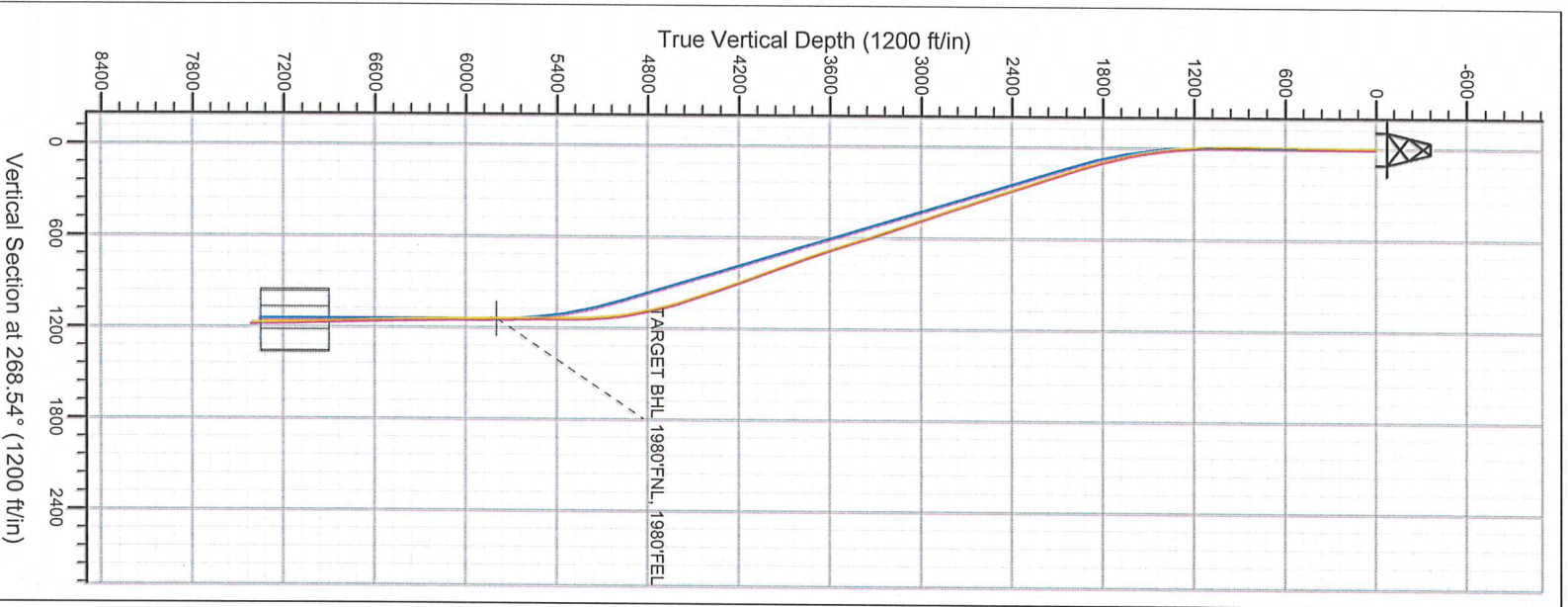
Survey #1  
Ulrich PC 117-07D, Wellbore #1, Noble Ulrich PC 117-07D Plan #2 (2-03-12)R V0

Wellbore #1

## Final Survey Plot

Projected Final Survey -  
7581'MD & 7407'TVD @ 1172'VS  
0.60 deg Inc 246.00 deg AZ

Project: SEC.17-T6N-R66W/  
Site: Ulrich PC 117-07D Pad Sec.17-T6N-R66W  
Well: Ulrich PC 117-07D  
Plan: Wellbore #1



**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.17-T6N-R66W  
**Site:** Ulrich PC 117-17D Pad Sec.17-T6N-R66W  
**Well:** Ulrich PC 117-07D  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:**  
**TVD Reference:**  
**MD Reference:**  
**North Reference:**  
**Survey Calculation Method:**  
**Database:**

**Well Ulrich PC 117-07D**  
**WELL @ 4795.0ft (Original Well Elev)**  
**WELL @ 4795.0ft (Original Well Elev)**  
**True**  
**Minimum Curvature**  
**Landmark**

<b>Project</b>	SEC.17-T6N-R66W	<b>System Datum:</b>	
<b>Map System:</b>	US State Plane 1983	<b>Mean Sea Level</b>	
<b>Geo Datum:</b>	North American Datum 1983	<b>Using Well Reference Point</b>	
<b>Map Zone:</b>	Colorado Northern Zone	<b>Using geodetic scale factor</b>	

<b>Site</b>	Ulrich PC 117-17D Pad Sec.17-T6N-R66W	<b>Northing:</b>	1,422,104.22 ft	<b>Latitude:</b>	40.489940
<b>Site Position:</b>		<b>Easting:</b>	3,195,978.77 ft	<b>Longitude:</b>	-104.795390
<b>From:</b>	Lat/Long	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.46 °
<b>Position Uncertainty:</b>	0.0 ft				

<b>Well</b>	Ulrich PC 117-07D	<b>Northing:</b>	1,422,078.70 ft	<b>Latitude:</b>	40.489870
<b>Well Position</b>	+N/-S	<b>Easting:</b>	3,195,978.97 ft	<b>Longitude:</b>	-104.795390
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,782.0 ft

<b>Wellbore</b>	Wellbore #1	<b>Sample Date</b>	2/3/2012	<b>Declination</b>	8.80	<b>Dip Angle</b>	67.10	<b>Field Strength</b>	53.108
<b>Magnetics</b>	Model Name		IGRF2010						

**Design** Wellbore #1  
**Audit Notes:**  
**Version:** 1.0  
**Phase:** ACTUAL  
**Tie On Depth:** 0.0  
**Direction** (°)  
 268.54

<b>Survey Program</b>	<b>Date</b>	2/10/2012	<b>Tool Name</b>	MWD	<b>Description</b>	MWD - Standard
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>				
(ft)	(ft)					
78.0	7,581.0	Survey #1 (Wellbore #1)				

Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(%/100ft)	(%/100ft)	(%/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
78.0	1.10	40.90	78.0	0.6	0.5	-0.5	1.41	1.41	0.00
167.0	0.80	55.90	167.0	1.6	1.6	-1.6	0.44	-0.34	16.85
258.0	0.80	73.60	258.0	2.1	2.7	-2.8	0.27	0.00	19.45
362.0	0.60	82.70	362.0	2.4	3.9	-4.0	0.22	-0.19	8.75
489.0	0.60	67.80	489.0	2.7	5.2	-5.3	0.12	0.00	-11.73
617.0	0.40	119.30	617.0	2.7	6.2	-6.3	0.37	-0.16	40.23
660.0	0.20	119.30	660.0	2.6	6.4	-6.5	0.47	-0.47	0.00
727.0	0.40	91.40	727.0	2.6	6.8	-6.8	0.36	0.30	-41.64
856.0	0.50	71.30	856.9	2.7	7.7	-7.8	0.14	0.08	-15.58
984.0	0.30	112.50	983.9	2.8	8.6	-8.6	0.26	-0.16	32.19
1,112.0	1.80	280.20	1,111.9	3.0	6.9	-7.0	1.64	1.17	131.02
1,241.0	4.20	271.90	1,240.7	3.5	0.2	-0.3	1.89	1.86	-6.43

02531770

FORM  
4  
Rev 12005

Page 1

State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)994-2100 Fax: (303)994-2109



## SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form). Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the local Government Designee (Rule 603b.)

**RECEIVED**  
JAN 18 2012  
**COGCC**

1. OGCC Operator Number: 100322	4. Contact Name JAN KAJIWARA	Complete the Attachment Checklist	OP OGCC
2. Name of Operator: NOBLE ENERGY INC	Phone: (303) 228-4092		
3. Address: 1625 BROADWAY, SUITE 2200	Fax: (303) 228-4286		
City: DENVER State: CO Zip: 80202			
5. API Number 05-123-33391	OGCC Facility ID Number	Survey Plat	
6. Well/Facility Name: ULRICH PC-1	7. Well/Facility Number 17-07D	Directional Survey	
8. Location (Circle, Sec, Twp, Rng, Meridian): SENE SEC. 17, T6N, R66W 6TH		Surface Expt. Diagram	
9. County: WELD	10. Field Name:	Technical Info Page	✓
11. Federal, Indian or State Lease Number:		Other	

## General Notice

<input type="checkbox"/> <b>CHANGE OF LOCATION:</b>	<b>Attach New Survey Plat</b>	(a change of surface plat is substantive and requires a new permit)
Change of Surface Footage from Exterior Section Lines:		PNL/FSL
Change of Surface Footage to Exterior Section Lines:		FEL/FWL
Change of Bottomhole Footage from Exterior Section Lines:		
Change of Bottomhole Footage to Exterior Section Lines:		attach directional survey
Bottomhole location Qtr/Ctr, Sec, Twp, Rng, Mer		
Latitude	Distance to nearest property line	Distance to nearest bldg, public rd, utility or RR
Longitude	Distance to nearest lease line	Is location in a High Density Area (rule 603b)?
Ground Elevation	Distance to nearest well same formation	Surface owner consultation date:
<b>GPS DATA:</b>	PDOP Reading	Instrument Operator's Name
Date of Measurement		
<input type="checkbox"/> <b>CHANGE SPACING UNIT</b>	Formation	Spacing order number
	Unit Acreage	Unit configuration
<input type="checkbox"/> <b>CHANGE OF OPERATOR (prior to drilling):</b>	Effective Date:	From:
Plugging Bond: <input type="checkbox"/> Blanket <input type="checkbox"/> Individual	To:	Effective Date:
<input type="checkbox"/> <b>ABANDONED LOCATION:</b>	Was location ever built? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> <b>NOTICE OF CONTINUED SHUT IN STATUS</b>
Is site ready for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	Date Ready for Inspection:	Date well shut in or temporarily abandoned:
		Has Production Equipment been removed from site? <input type="checkbox"/> Yes <input type="checkbox"/> No
		MIT required if shut in longer than two years. Date of last MIT
<input type="checkbox"/> <b>SPUD DATE:</b>		<input type="checkbox"/> <b>REQUEST FOR CONFIDENTIAL STATUS</b> (6 mos from date casing set)
<input type="checkbox"/> <b>SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK</b>	Method used	Cementing tool setting/perf depth
	Cement volume	Cement top
	Cement bottom	Date
<input type="checkbox"/> <b>RECLAMATION:</b>	Attach technical page describing final reclamation procedures per Rule 1004.	
Final reclamation will commence on approximately	<input type="checkbox"/> Final reclamation is completed and site is ready for inspection.	

## Technical Engineering/Environmental Notice

<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Report of Work Done
Approximate Start Date:	Date Work Completed:
Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)	
<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested
<input checked="" type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Deepen
	<input type="checkbox"/> E&P Waste Disposal
	<input type="checkbox"/> Beneficial Reuse of E&P Waste
	<input type="checkbox"/> Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Dickinson Date: 1/18/12 Email: kajiwara@nobleenergyinc.com  
 Print Name: JAN KAJIWARA Title: REGULATORY ANALYST  
 COGCC Approved: Dina B Title: Re Date: 1/19/12  
 CONDITIONS OF APPROVAL, IF ANY:



## TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

RECEIVED

JAN 18 2012

COGCC

1. OGCC Operator Number: 100322 API Number: 123-33391-00
2. Name of Operator: Noble Energy Inc. OGCC Facility ID #
3. Well/Facility Name: ULRICH PC I Well/Facility Number: 17-07D
4. Location (Qtztr. Sec. Twp. Rng. Meridian): SENE SEC. 17, T6N, R66W 6TH

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5.

DESCRIBE PROPOSED OR COMPLETED OPERATIONS

Noble Energy respectfully requests to deepen this well to 7509'. The zone will remain the same Codell Niobrara. Spacing unit remains the same.

CASING & CEMENT PLAN:						
CASING TYPE	SIZE HOLE	SIZE CSG	WT PER FT	SETTING DEPTH	SKS CMT	CMT BTM CMT TOP
SURFACE	12 1/4	8 5/8	24	600	248	600
1ST STRING	7 7/8	4 1/2	11.6	7509	608	7509

NOBLE ENERGY RESPECTFULLY REQUESTS AN EXPEDITED APPROVAL DUE TO DRILLING SCHEDULE PLANS.