CHECK SHEET

Date: 8/7/2012 API Number: 087-21738

Company: Fidelity Exploration & Production Co.

Well Name: 71 Ranch 44-1H

County: Rosebud

Field: Wildcat Rosebud, N

Surf. Location: 330 FSL 330 FEL SE SE Lot: Sec: 1 Twp: 10 N Rng: 34 E

Permit Number: 30232 Drilling Fee:

Intention to Drill: 8/7/2012 Expiration Date: 2/7/2013

Mineral Ownership: ☑ Private ☐ State ☐ Federal ☐ Indian

Well Type: Horizontal ☐ Multiple Laterals

Proposed Depth/Formation: MD: 9927 TVD: 5125 Heath

Drilling Unit Acres Description:

Samples Required: ☐ Received:

COMPLETION INFORMATION

Completion Date: 10-3-12 TD: 9900 PBTD:

Completed As: Oil IP / Formation: 87BO/14mcf/127BW Heath

Geological Well Report: 6-26-13 Mud Log: ✓ 6-26-13

Sundry Notices: Intent - Frac 9-19-12
Correct Elevation on Maps 11-14-12
Notice of 1st Production 11-13-12
Subseq - Pumping Equip Installation 11-27-12

Subsequent Report of Abandonment: Received: Approved:

Electric Logs: CBL - GR - Collar Locator - Pressure - Temperature Log 6-26-13

Miscellaneous: Directional Survey (9900') 6-26-13

PLAINTIFFS' EXHIBIT
P274

Form No. 4 R10/09
LOCATE WELL CORRECTLY

(SUBMIT IN TRIPLICATE)
TO
MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

ARM 36.22.302
ARM 36.22.307
ARM 36.22.1011
ARM 36.22.1013
ARM 36.22.1414

COMPLETION REPORT

API # 25 - 087 - 21738

Company Fidelity Exploration & Production Company Lease 71 Ranch Well No. 44-1H

Address 2585 Heartland Drive Field or Area Wildcat

Sheridan, WY 82801

Surface Location: 330 ft. from S (N/S) Line, 330 ft. from E (E/W) Line, Sec. 1 T 10N R 34E

County Rosebud Elevation 3014.4 (Surface) (KB)

Date Spud 8/9/2012 Date Completed 10/3/2012 Completed as Oil (Oil, gas, cbm, injection, dry hole, etc.)

The information given herewith is a complete and correct record of the well as of the date of preparation.

Signed

Title Operations Technician III Date 8/12/2013

Telephone 307-672-5713 ext 17

For Vertical Well: Total depth _____ ft. Plugged back to _____ ft.

For Horizontal or Directionally Drilled Well: Enter well bore and bottom hole location data on page 2 of this form.

For coal bed natural gas well: Static water level _____ ft. below reference elevation of _____ ft.

Casing and Tubing Record

Well Bore	String				Length	From	To	Cement	Cement Top	Packer Set
	Type	Size	Weight	Grade	(Feet)	(MD, Feet)	(MD, Feet)	(Sacks)	(MD, Feet)	(MD, Feet)
Vertical	Conductor	13 3/8	61	J-55	284	0	284	N/A	0	652
Vertical	Surface	9 5/8"	36	J-55	687	0	687	405	0	687
V/H	Intermediate	7"	23	L-80	5550	0	5550	170	1589	5505.3
V/H	Intermediate	7"	26	L-80	1105	4418	5523	465		
Horizontal	Liner	4.5	11.6	P-110	9988	0	9988	585	4118	N/A

Perforated or Open-hole Intervals

Well Bore	Open Hole/Perf'd Zone		Holes per foot	Size and Type	Open or Isolated (method of isolation)
	Top	Bottom			
stg 1	9650	9852	6	0.45	open
stg 2	9340	9552	5	0.45	open
stg 3	9030	9242	5	0.45	open
stg 4	8720	8932	5	0.45	open
stg 5	8410	8622	5	0.45	open
stg 6	8100	8312	5	0.45	open
stg 7	7790	8002	5	0.45	open
stg 8	7480	7692	5	0.45	open

Acidized, Shot, Fraced, Squeezed, or Cemented

Well Bore	Interval		Treatment Type	Amount and Type of Material	Max. Rate	Max. Pressure
	Top	Bottom			(BBLS/Min)	(PSI)
stg 1	9650	9852	Gel	107,147# Proppant	34.9	6901
stg 2	9340	9552	Gel	108,822# Proppant	36.3	6378
stg 3	9030	9242	Gel	108,262# Proppant	36.4	5147
stg 4	8720	8932	Gel	107,615# Proppant	35.8	5281
stg 5	8410	8622	Gel	122,558# Proppant	33.8	5487
stg 6	8100	8312	Gel	123,641# Proppant	40.5	5536
stg 7	7790	8002	Gel	123,443# Proppant	40.1	5295
stg 8	7480	7692	Gel	122,763# Proppant	41.1	5703

Well is producing from Heath formation(s) or pool(s).

I.P. 87 barrels of oil, 14 MCF of gas, and 127 barrels of water per 24 hours.

Initial 10-day average production _____ /day (if taken)

Pressures (if measured): Tubing _____ psi flowing: _____ psi shut-in

Casing _____ psi flowing: _____ psi shut-in

Formation Volume Factor _____ Porosity _____ % Water Saturation _____ %

Type Of Trap _____ Producing Mechanism _____

Bottom Hole Locations

Well Bore	Kick-off		Total Depth		Location, T-R-S					From N/S Line		From E/W Line	
	MD	From (Well bore)	MD	TVD	Twp	N/S	Rng	E/W	Sec.	Feet	N / S	Feet	E / W
Horizontal	4438	Vertical	9900	5113.9	10	N	34	E	1	378	N	2204	E

Drill Stem Tests

DST #	Interval		Tool Open (Min.)	Shut-in (Min.)	F.P.	S.I.P.	Recovery	Cushion
	From	To						
N/A								

Cores

Core #	Interval		Recovery
	From	To	
N/A			

Logs

Log Type	Interval	
	From	To
CBL Log	3500	9516
Mud Log -Vertical	3820	4670
Mud Log -Horizontal	5000	9900
Geological Report		

Geological Markers

Formation	Top		Formation	Top	
	MD	TVD		MD	TVD
Amsden	4,691	4,690			
Tyler	4,851	4,845			
Heath	5,012	4,983			

71 Ranch 44-1H

API # 25-087-21738

Perforated intervals continued-

	Top	Bottom	Holes per foot	Size & Type	
Stage 9	7190	7357	5	0.45	Open
Stage 10	6890	7102	5	0.45	Open
Stage 11	6300	6627	5	0.45	Open
Stage 12	5900	6102	5	0.45	Open

Wellbore	Top	Bottom	Amount & treatment type	Max Rate	Max PSI
Stage 9	7190	7357	108,857	41	6986
Stage 10	6890	7102	107,699	40.3	6120
Stage 11	6300	6627	108,285	40	5057
Stage 12	5900	6102	51,315	35.2	5692

087- 21738

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MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

FORM NO. 22 R 10/09 SUBMIT IN QUADRUPLICATE TO: ARM 36.22.307 ARM 36.22.601

MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE, BILLINGS, MONTANA 59102

Application for Permit To:

Drill [x] Deepen [ ] Re-enter [ ]
Oil [x] Gas [ ] Other _____ [ ]

Operator: Fidelity Exploration & Production Company
Address: 1700 Lincoln St Suite 2800
City: Denver State: CO Zip: 80203
Telephone Number: 720-917-3036

Surface Location of Well (quarter-quarter and footage measurements):
330' FSL 330' FEL SESE
Lat: 46.642727 Long: -107.379455

Proposed Total Depth and Bottom-hole Location(s) if directional or horizontal well:
Total Depth: ~~5,100'~~ 5135' TVD, ~~9,800'~~ 9927' MD
Bottom Hole Location: NWNE Sec 1 T10N R34E
Footages: 330' FNL 2,310'FEL
Lat: 46.655314 Long: -107.387323

Lease Name: Fee
Lease Type (Private/State/Federal): Private
Well Number: 71 Ranch 44-1H
Field Name or Wildcat: Wildcat
Unit Name (if applicable): N/A
Objective Formation(s): Heath Shale
Township, Range, and Section: T10N R34E Section 1
County: Rosebud
Elevation (indicate GL or KB): 3,014.4' GL

Size and description of drilling/spacing unit and applicable order, if any:	Formation at total depth:	Anticipated Spud Date:
Temp spacing order # 84-2012. T10N R34E Section1 all	Heath	8/6/2012

Hole Size	Casing Size	Weight / Foot	Grade (API)	Depth	Sacks of Cement	Type of Cement
13 1/2"	9 5/8"	36#	J-55	660'	335	"C"
8 3/4"	7"	23# & 26#	N-80 LTC	5,029'	535	"G"
6.25"	4 1/2" & 5 1/2"	17# and 11.6#	P-110	9758'	585	San Tail WB

Describe Proposed Operations:
Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.
Drill vertically to 4,711' to kop, then drill horizontally in the Heath formation. An earthen freshwater reserve pit will be constructed on location and lined with a 20 mil woven reinforced poly liner. Upon completion of drilling and completion operations all free flowing liquids will be removed from the pit and hauled to a permitted disposal well. When no visible liquids are present, dry subsoil will be mixed with the drilling cuttings with a toothless long reach trackhoe until the mixture is too dry to continue mixing. At least 4 feet of dry subsoil and topsoil will then be added to fill the remaining pit volume to cap the pit.

BOARD USE ONLY

Approved (date) AUG 07 2012
By _____
Title CHIEF FIELD INSPECTOR

Permit Fee $150.00
Check Number 324-135025
Permit Expires FEB - 7 2013
Permit Number 30232

THIS PERMIT IS SUBJECT TO THE CONDITIONS OF APPROVAL STATED ON THE BACK

API Number: 25 - 087 - 21738

The undersigned hereby certifies that the information contained on this application is true and correct:

Signed (Agent) _____
Title Sr. Engineering Tech
Date 7/30/2012
Telephone Number 720-917-3036

Samples Required: NONE ✓ ALL _____ FROM _____ feet to _____ feet

Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO. Required samples must be **washed, dried** and delivered prepaid to:

Montana Board of Oil and Gas Conservation
2535 St. Johns Avenue
Billings, MT 59102

P-0021472

SUPPLEMENTAL INFORMATION

Note: Additional information or attachments may be required by Rule or by special request.

1. Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.

2. Attach an 8 1/2 x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a 1/2 mile radius of the well.

3. Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut/fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor). Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill, amount of freeboard, area of topsoil stockpile, and the height and width of berms.

4. Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicate the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications.

5. Describe the proposed plan for the treatment and/or the disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.)

6. Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:

- [x] No additional permits needed
- [ ] Stream crossing permit (apply through county conservation district)
- [ ] Air quality permit (apply through Montana Department of Environmental Quality)
- [ ] Water discharge permit (apply through Montana Department of Environmental Quality)
- [ ] Water use permit (apply through Montana Department of Natural Resources and Conservation)
- [ ] Solid waste disposal permit (apply through Montana Department of Environmental Quality)
- [ ] State lands drilling authorization (apply through Montana Department of Natural Resources and Conservation)
- [ ] Federal drilling permit (specify agency)
- [ ] Other federal, state, county, or local permit or authorization: (specify type) _____

NOTICES:

1. Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.

2. The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

BOARD USE ONLY | CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.

MONTANA BOARD OF OIL AND GAS ATTACHMENT TO APD "CONDITIONS OF APPROVAL"

Fidelity Exploration and Production Company
Fee/71 Ranch 44-1H
SE SE Section 1 T10N R34E
Rosebud County, MT

A. 36.22.703 HORIZONTAL WELLS

(1) Unless otherwise modified herein, the requirements of ARM 36.22.702 shall apply to horizontal wells.

(2) For the purpose of determining the size of drilling units and the permissible location of horizontal wells, "projected depth" as used in ARM 36.22.702 means the projected true vertical depth of the deepest horizontal drainhole.

(3) A horizontal well meets the location requirements of ARM 36.22.702 if the point where the well bore first penetrates the common source of supply, the horizontal drainhole end point, and every part of the well bore lying between these points meet the minimum distance requirements from the drilling unit boundaries that would apply to a vertical well of the same projected depth, regardless of the surface location proposed.

(4) The operator of a horizontal well may designate an optional drilling unit, which must consist of two, three, or four contiguous drilling units of the size and shape otherwise authorized for a vertical well of the same projected depth. The operator must receive administrative approval of the optional drilling unit before starting to drill the horizontal drainhole. Minimum distance requirements from drilling unit boundaries that would apply to the contiguous drilling units apply to the optional drilling unit, except that such requirements do not apply to the common boundary of the contiguous units. Any operator designating an optional drilling unit under this section must apply for proper well spacing within 90 days after the completion of a well capable of production.

(5) Within 30 days after completion of a horizontal well, the operator must file with the board a complete and accurate directional survey showing the location, direction, and length of each horizontal drainhole and demonstrating that all drainholes are at locations permitted by this rule or by a board location exception order.

(6) In those cases where a horizontal well is drilled following an initial vertical penetration of the target horizon, or the horizontal well includes more than one horizontal drainhole, the completion report submitted under ARM 36.22.1011 must adequately describe each well path.

History: Sec. 82-11-111 MCA; IMP, Sec. 82-11-124 and 82-11-201 MCA; NEW, 1992 MAR p. 654, Eff. 4/1/92; AMD, 1995 MAR p. 285, Eff. 2/24/95.

B. 36.22.1005 DRILLING WASTE DISPOSAL AND SURFACE RESTORATION

(1) The operator of a drilling well must contain and dispose of all solid waste and produced fluids that accumulate during drilling operations so as not to degrade surface water, groundwater, or cause harm to soils. Said waste and fluids must be disposed of in accordance with all applicable local, state and federal laws and regulations.

(2) When a salt-based or oil-based drilling fluid is used to drill a well located within a floodplain, as defined by ARM 36.15.101, or in irrigated cropland, drilling waste and produced fluids that accumulate during drilling operations must be disposed of off-site in a manner allowed by local, state, and federal laws and regulations unless an alternative on-site disposal method is approved in writing by the board administrator.

(3) The operator of a drilling well must construct, close, and restore any reserve pits in a manner that will prevent harm to the soil and will not degrade surface waters or groundwater. When a salt-based or oil-based drilling fluid is used, the reserve pit must be lined with a synthetic liner approved by the board administrator.

(4) Within 10 days after the cessation of drilling or completion operations, all hydrocarbons must be removed from earthen pits used in association with drilling or completion operations or such pits must be fenced, screened, and netted. Such pits that contain water with more than 15,000 parts per million total dissolved solids or salt-based drilling fluids must be fenced within 90 days after the cessation of drilling and completion operations.

(5) Earthen pits used in association with drilling and completion operations must not be used for the disposal of any additional fluids or materials after the cessation of drilling and completion operations.

(6) All earthen pits used in association with drilling and completion operations must be closed and the surface restored according to board specifications within one year after the cessation of drilling operations. Upon written application by the operator, an exception to the one-year pit closure requirement may be granted in writing by the board administrator upon a showing that:

(a) no dumping or disposal of waste or fluids in the pit will occur; and

(b) delayed closure of the pit will not present a risk of contamination to soils or water or a hazard to animals or persons. .

History: Sec. 82-11-111, MCA: IMP, Sec. 82-11-123 and Sec. 82-11-124, MCA; Eff. 12/31/72; AMD, Eff. 7/5/75; AMD, 1992 MAR p. 654, Eff. 4/1/92

Field Inspector for the area is Mr. Jerry Fraser. Contact number 406-698-4832 Cell # or 406-323-2127 Home

Confidential

FIDELITY
Exploration & Production Company

Confidential

Geologic Prognosis (07/30/12)

Author: BEG

Operator's Name: ***Fidelity Exploration & Production Co.***

Target Horizon: Heath Carbonate

Well Name: 71 Ranch 44-1H **API:**

Drilling Contractor: Pioneer #43 KB: 18'

County / State: Rosebud, Montana
Gr: 3012 Graded Location
KB: 3030

Company Man Contact: Dan Brewer: (701) 355-6852
Mark Berciers: Same Phone #

Location: TBD

SHL: 330' FSL 330' FEL (SESE)	Section 1 T10N-R34E	Lat. TBD	Long.TBD
BHL: 330' FNL 2310' FEL (NWNE)	Section 1 T10N-R34E	Lat. TBD	Long. TBD
(BHL footages are hard lines)		NAD27 UTM ZONE 13	

Classifications: Exploratory (**X**) Development ( ) State ( ) Federal ( ) Fee ( ) **Proposed Total Depth: '**

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Directions to Lease: TBD

NO PILOT HOLE
WELL TOPS

GR	Formation	Subsea	TVD	Est. Interval Thickness
3012	Bearpaw		Surf	
	Judith River	2,148	882	659
	Eagle	1,489	1,541	721
KB	Niobrara	768	2,262	325
3030	Greenhorn	443	2,587	453
	Mowry	-10	3,040	455
	Muddy	-465	3,495	90
	Dakota	-555	3,585	410
	Lakota	-965	3,995	73
	Morrison	-1,038	4,068	355
	Rierdon	-1,393	4,423	168
	Piper	-1,561	4,591	173
	Amsden	-1,734	4,764	176
	Tyler	-1,910	4,940	93
	Heath	-2,003	5,033	55
	Heath Carbonate Top	-2,058	5,088	32
	Heath Dolomite Target	-2,090	5,120	60
	Heath Carbonate Base	-2,150	5,180	
	Target reservoir highlighted in green			

Possible Drilling Hazards: Mowry Shale can swell and fall into the hole.

Offset Wells

Well Name: Magelsen # 1	API: 25-087-05153	Loc: NWNW Sec 31-T11N-R35E
Operator: New Drilling	Tests:	IP:
Completion Date:	Comments: 1956 Amsden & Lakota test	

Well Name: Magelsen # 2	API: 25-087-05172	Loc: NWNE Sec 30-T11N-R35E
Operator:	Tests:	IP:
Completion Date:	Comments: 1959 Amsden test	

Horizontal Well Detail

Estimated Overall Lateral Dip Angle = 90.17° (15' up dip at BHL)

ESTIMATED AZIMUTHAL ORIENTATION = 338° (N22W)

Azimuthal control is critical.

Regional Structural Dip top of the Heath Carbonate: ~0.06`° @ azimuth 230° (S50W)
Strike: ~320° (N20W)
Comments: Well to be drilled roughly strike parallel SE to NW

ESTIMATED OVERALL DIP OF LATERAL HOLE = 89.94° (90 - arc tan[5'/5050'])

Lateral Length: Estimated at 5050' from SHL to TD at BHL **Down-dip. Target at BHL estimated to be 5' TVD Deeper than SHL. Estimated lateral length from landing to TD = 4,500'**
Total Depth: Estimated to be -2,095' TVDSS at TD, 5' **Deeper** than at Heath Dolomite Interval Target location at SHL
Pilot Hole Total Depth: N/A
Horizontal Total Depth: 5,125' TVD, ~ 9620' MD

TESTING AND CORING

Wireline Logging:	**Well Site Geology: Weatherford Logging**
Contact: N/A	**Supervisor Contact:** Ryan Schaefer **E-mail:** ryan.schaefer2@weatherford.com **Phone:** (303) 825-6558 Cell (303) 579-3770
Alt. Contact: N/A	**Lead Well Site Geologist:** Nick Loundagin **E-mail:** Nicholas.loundagin@weatherford.com **Phone:** Rig (701) 355-6899

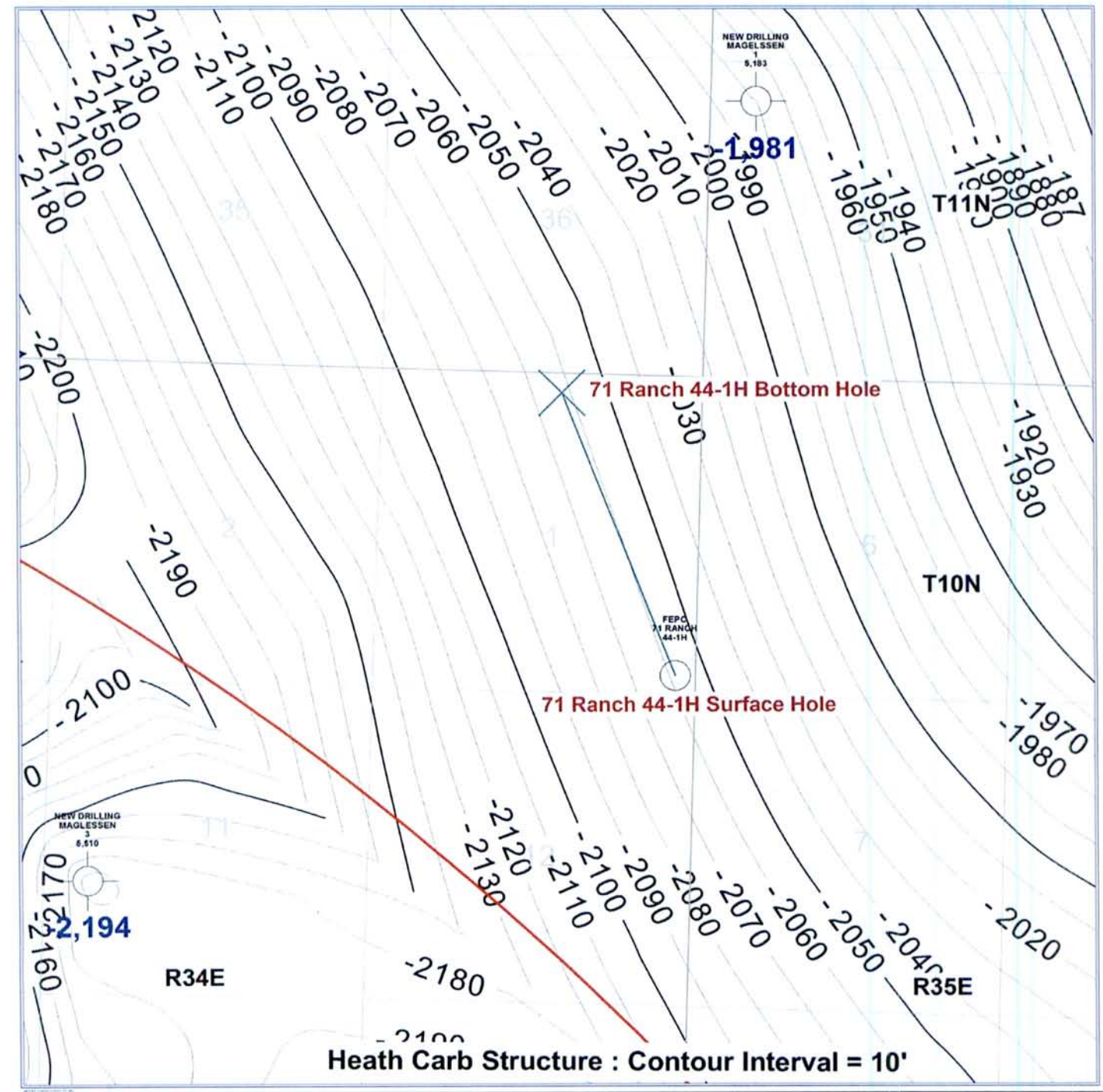
Whole Core Cutting:	**Whole Core Onsite Collection:**
Contact: No Whole Core is Planned **E-mail:** **Phone:**	**Contact:** No Whole Core is Planned **E-mail:** **Phone:**

Wireline Logging		**Well Site Geology**			
Log Type		**Samples and Drilling Time Control**			
No Vertical Logs Anticipated		**Company**	**Feet / Sample**	**Interval**	**Drilling Control**
No Lateral logs Anticipated:		Weatherford	30' samples	Morrison to Amsden (KOP)	N/A
		Weatherford	30' samples	KOP to Lateral TD	N/A
Whole Core Cutting/Acquisition		**Whole Core Onsite Handling**			
No Whole Core or RSWCs are Planned		No Whole Core or RSWCs are Planned			**Drilling Control**
No Whole Core or RSWCs are Planned		No Whole Core or RSWCs are Planned			

Preliminary Log, Drlg. Samples, Core, etc. Distribution List

Contact	Phone	Logs	Mailing Address E-Mail
Stacey Saltsman	Work 720-917-3036 Cell 720-353-8903 Fax 303-893-1964	**3 Final Print Well Logs** **3 Final Mud Logs** **3 DST Reports** **3 Final Geo-Eng Reports** **2 Final Paper Directional Survey Data (Within 30 days of Well Completion)** **Whole Core Chips**	Fidelity E&P Co. 1700 Lincoln Suite 2800 Denver, Colorado 80203 Stacey.saltsman@fidelityepco.com
Phillip Johnson **Contact**	Work 720-917-3035 Cell 303-895-1382		Phillip.Johnson@fidelityepco.com
Barron Gimza	Work 720-931-9622 Cell 303-956-5642 Fax 303-893-1964	**2 Final Print Well Logs** **2 Final Mud Logs-Daily Mud Logs** **2 DST Reports** **2 Final Geo-Eng Reports** **Daily Drilling Reports** **Logs (LAS-TIF)**	Fidelity E&P Co. 1700 Lincoln St. Suite 2800 Denver, CO 80203 barron.gimza@fidelityepco.com
Adam VanHolland	Work 720-956-5779 Cell 720-940-0394		Adam.VanHolland@fidelityepco.com
Christina Morris	Work 720-956-5776		christina.morris@fidelityepco.com

Index Structure Map

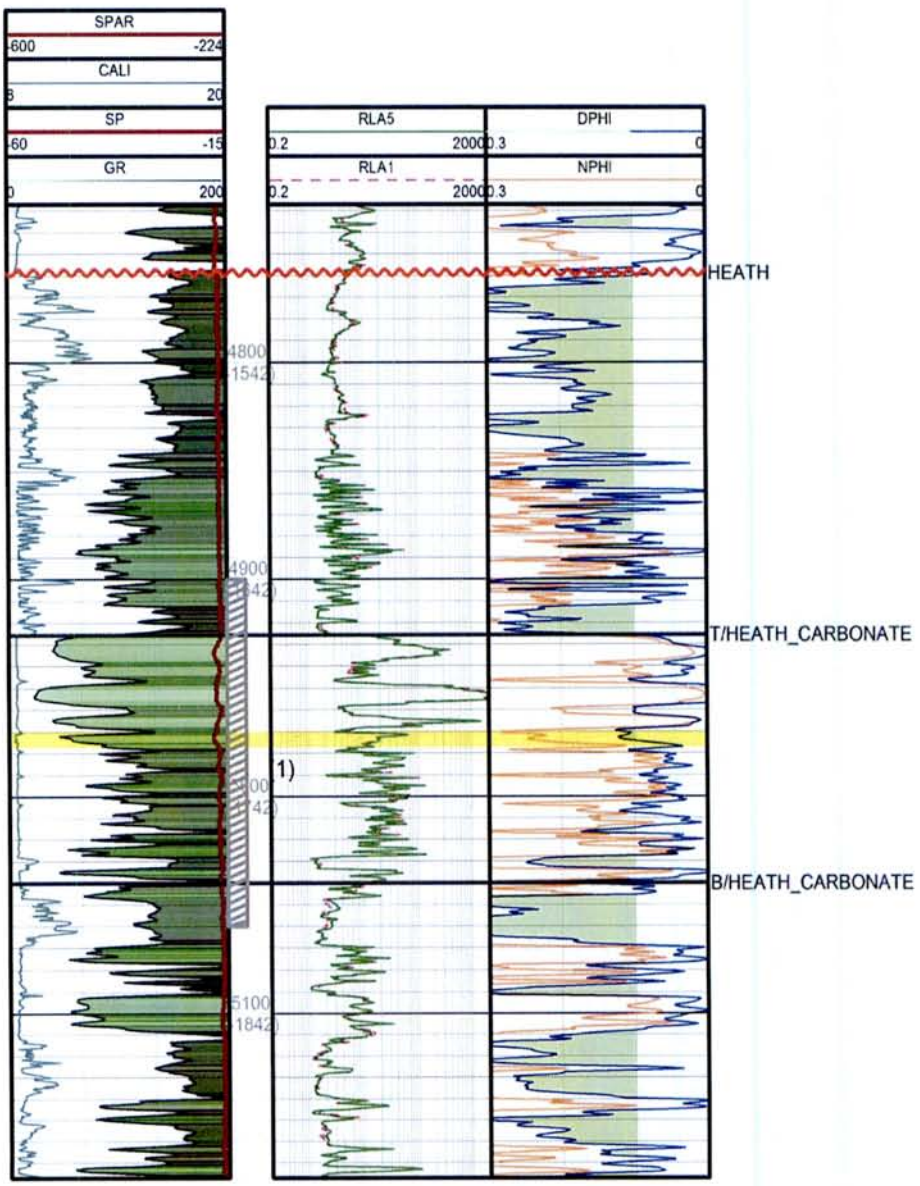


Heath Carb Structure : Contour Interval = 10'

Type Log

FEPC
SCHMIDT
44-27H (PILOT)

5,412
T11N R33E S27
ELEV_KB : 3,258
25087217310000



Heath Dolomite Target

6,213
700
1,635

(1) Core: Limestone, Shale, Dolomite, and some Anhydrite

FIDELITY
Exploration & Production Company

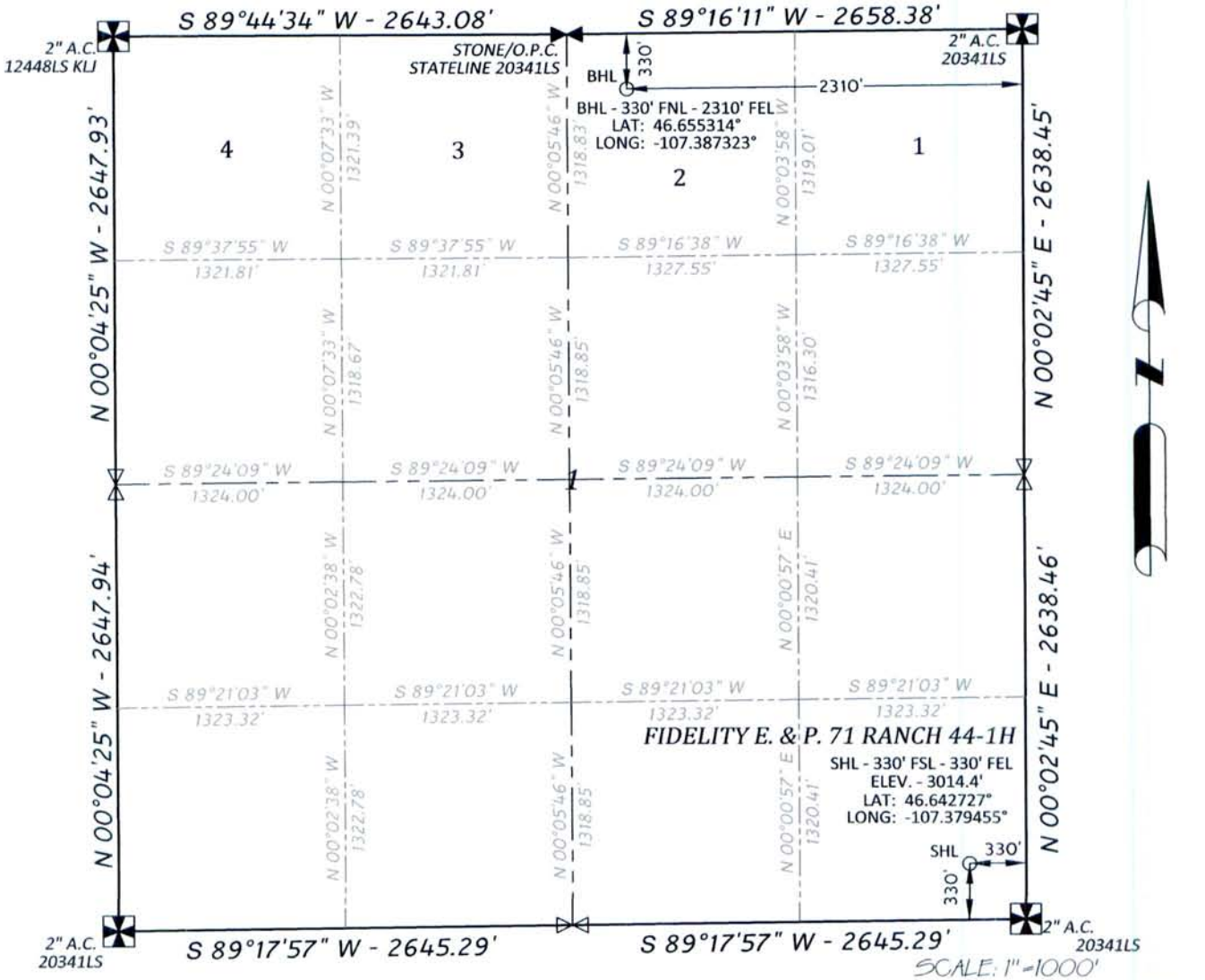
1700 Lincoln St. Suite #2800, Denver., CO 80203
Phone: 303.893-3133 - Fax: 303.893.1964

ROSEBUD COUNTY, MONTANA
DRILLING PROGRAM FOR:

Well: 71 Ranch #44-1H

- Proposed Formation: Heath
- Surface Casing Size: 9.625", Weight 36#/ft J-55
- Surface Casing Depth: 660'
- SC Sacks Class "C" Cement Volume: 335 sxs
- Production Casing Size: 7"; weight #23#/ft & 26 #/ft; N- 80
- Production Casing Depth: 5029'
- PC Sacks Class "G" Cement Volume: 535 sxs
- Cement Top: 1589'
- Top Dakota Sand: 3413'
- Logs Run: GR
- Closed Loop System: No
- Drilling Mud Type for Vertical Hole – below S Casing: Inhibited Fresh Water Mud
- Drilling Mud Type in Lateral: Inhibited Fresh Water Mud
- Survey Type in Vertical Portion of Well: EM tool, every 100' As needed for vertical Control
- Survey Frequency: Build Section: 30'; Survey Frequency: Lateral: 30'
- Survey Contractor: Phoenix
- BOPE Size: 11"; 5000# double ram & Annular Preventer, will test to 5000# & Annular to 2500#; test Surface casing to 2500# for 15 minutes
- Surface Mud Program: Will be drilled with fresh water mud system; not to exceed 9#. Mud monitoring method is PVT.
- Drilling fluids will be hauled to a permitted disposal well in the Sidney MT area

WELL LOCATION PLAT
FIDELITY EXPLORATION & PRODUCTION
2010 MONTANA AVE., P.O. BOX 1010, GLENDIVE, MT 59330
SE1/4SE1/4 - SECTION 1 - TWP. 10 N. - RGE. 34 E. -P.M.M.
ROSEBUD COUNTY, MONTANA



I ADAM CLAYTON THOMPSON, CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS WORK PERFORMED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MONTANA 7-31-2012 ADAM CLAYTON THOMPSON 20341LS PROFESSIONAL LAND SURVEYOR

ADAM CLAYTON THOMPSON
PROFESSIONAL LAND SURVEYOR
REGISTRATION NO. 20341LS
STATE OF MONTANA

DATE STAKED: 7-31-12

REVISED 7.31.2012 A.T. – MOVE SHL

TRUE NORTH(GPS OBSERVED)
BASIS OF BEARING

NAD 83(CORS 96)(EPOCH:2002)
BASIS OF HORIZONTAL DATUM

NAVD 88 - GEOID 09
BASIS OF VERTICAL DATUM

FIDELITY
Exploration & Production Company
An MDU Resources Group, Inc. company

FIDELITY E. & P.
71 RANCH 44-1H (SESE)
WELL LOCATION

SCALE	DATE	DRAWN BY	JOB NO.
NOTED	7.22.12	A.THOMPSON	12118

STATELINE SURVEYS, INC. - 406.377.1483 - PO BOX 668 - GLENDIVE, MT 59330

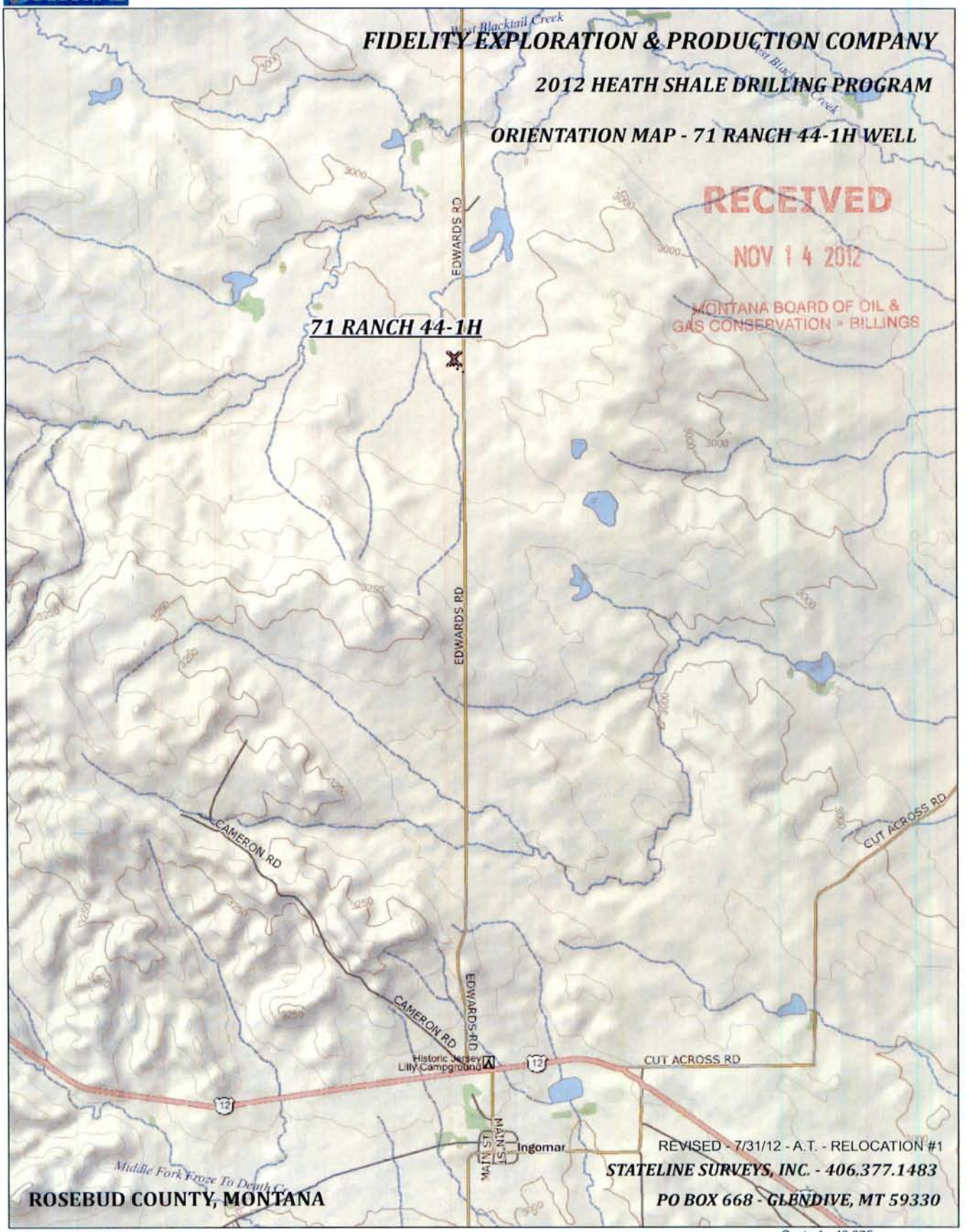
DeLORME

XMap® 7

FIDELITY EXPLORATION & PRODUCTION COMPANY

2012 HEATH SHALE DRILLING PROGRAM

ORIENTATION MAP - 71 RANCH 44-1H WELL



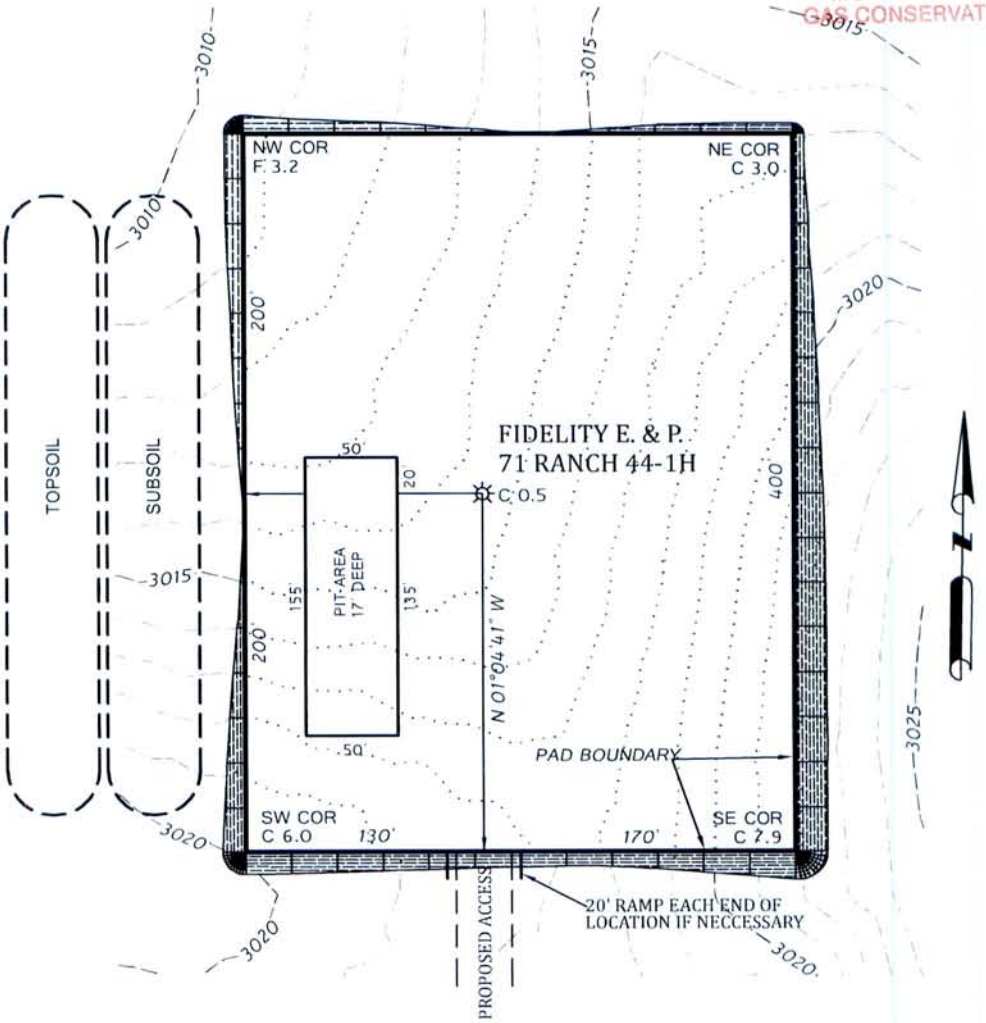
REVISED - 7/31/12 - A.T. - RELOCATION #1

STATELINE SURVEYS, INC. - 406.377.1483
PO BOX 668 - GLENDIVE, MT 59330

ROSEBUD COUNTY, MONTANA

TN
MN (10.7°E)

Scale 1 : 46,875
1" = 3,906.3 ft
Data Zoom 12-0



ESTIMATED EARTHWORK

TOPSOIL (6"DEPTH)	2222 C.Y.
EXCAVATION	11395 C.Y.
FILL (W/10% SHRINKAGE)	1549 C.Y.
WASTE MATERIAL	9846 C.Y.
TOTAL EXCAVATION*	13617 C.Y.

ACCESS ROAD - APPROX. 459' SOUTHERLY

*PIT EXCAVATION NOT INCLUDED
FILL 3:1 SLOPES
CUT 2:1 SLOPES

EXISTING WELL ELEVATION	3014.4'
GRADED WELL ELEVATION	3013.9'

CONTOUR INTERVAL 1.0'

NOTE: USE EXCESS MATERIAL ON ACCESS ROAD

SCALE: 1" = 100'
0 100 200

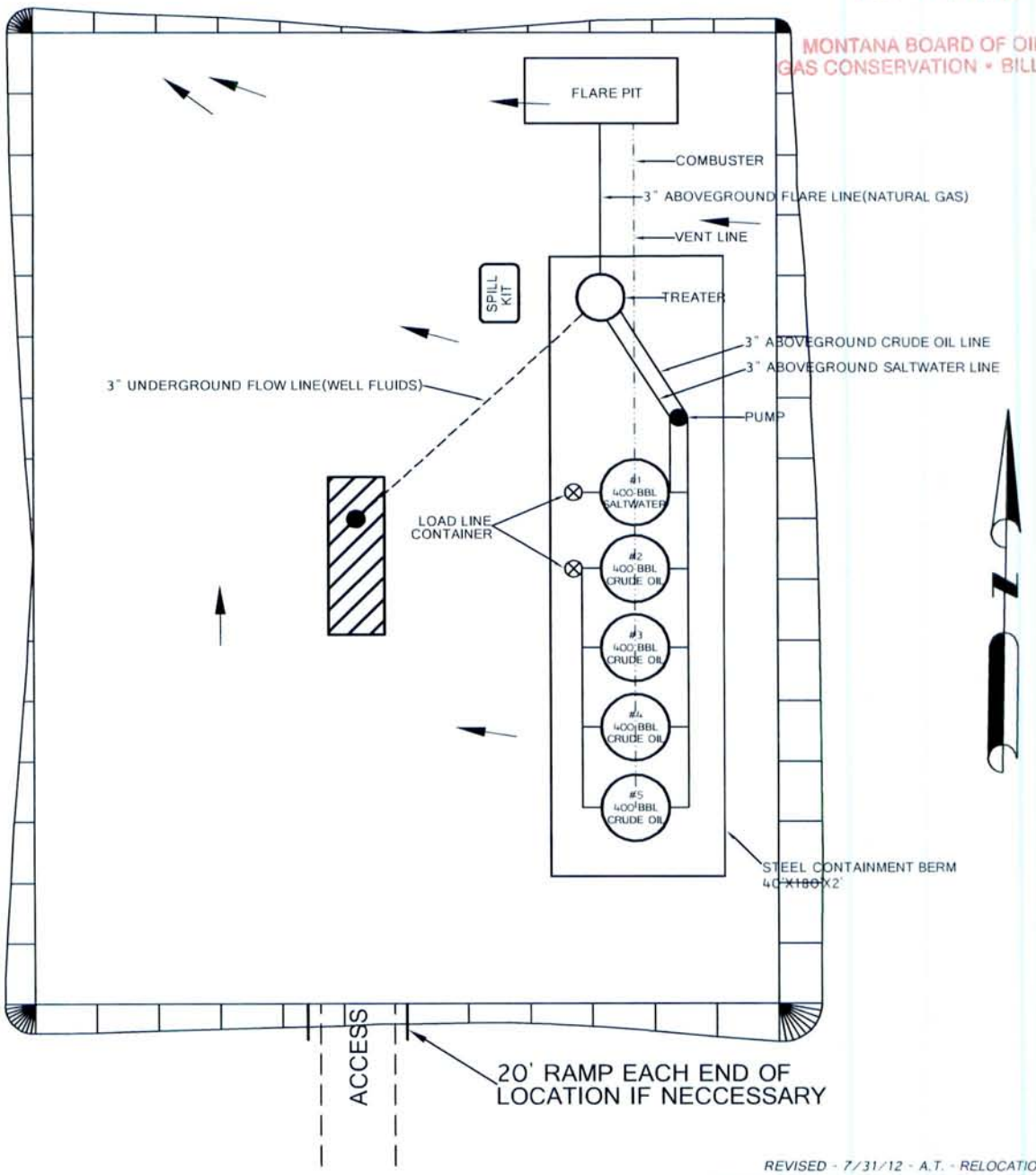
REVISED - 7/31/12 - A.T. - RELOCATION #1

FIDELITY
Exploration & Production Company
An MDU Resources Group, Inc. company

FIDELITY E. & P.
71 RANCH 44-1H
DRILL SITE LAYOUT

SCALE	DATE	DRAWN BY	JOB NO.
1" = 100'	7.22.12	A.THOMPSON	12118

STATELINE SURVEYS, INC. - 406.377.1483 - PO BOX 668 - GLENDIVE, MT 59330



REVISED - 7/31/12 - A.T. - RELOCATION #1

- FLOW DIRECTION

EXISTING WELL ELEVATION	3014.4'
GRADED WELL ELEVATION	3013.9'

FIDELITY
Exploration & Production Company
An MDU Resources Group, Inc. company

FIDELITY E. & P.

71 RANCH 44-1H

PROPOSED SPCC PLOT PLAN

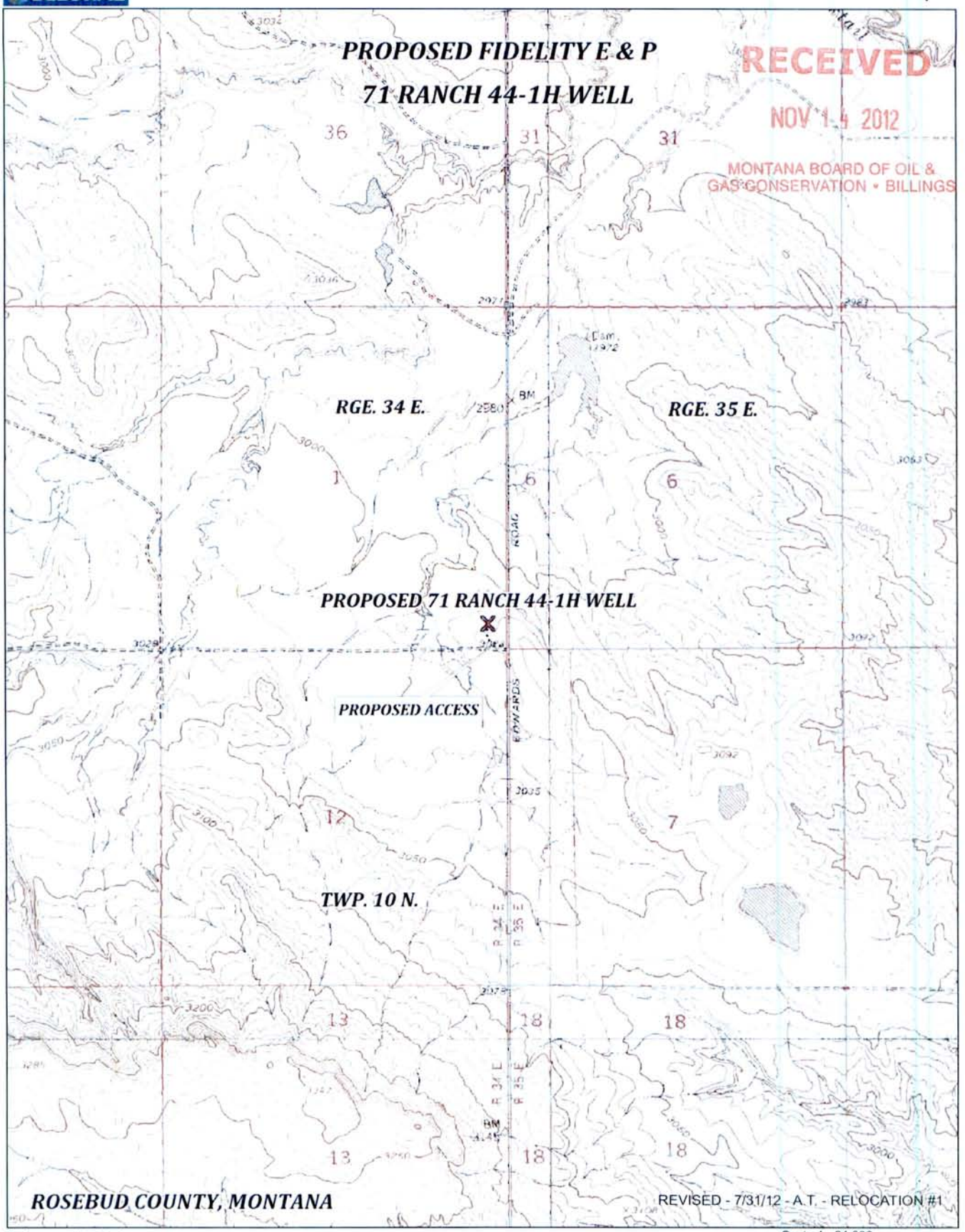
SCALE	DATE	DRAWN BY	JOB NO.
NTS	7.22.12	A.THOMPSON	12118

STATELINE SURVEYS, INC. - 406.377.1483 - PO BOX 668 - GLENDIVE, MT 59330

P-0021484

DeLORME

XMap® 7



TN
MN (10.7°E)

Scale 1 : 24,000
1" = 2,000.0 ft
Data Zoom 13-0

P-0021485

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71 Ranch 44-1H
1/4 Mile buffer

0 0.15 0.3 0.6 Miles

N

P-0021486

FIDELITY
Exploration & Production Company
An MDU Resources Group company

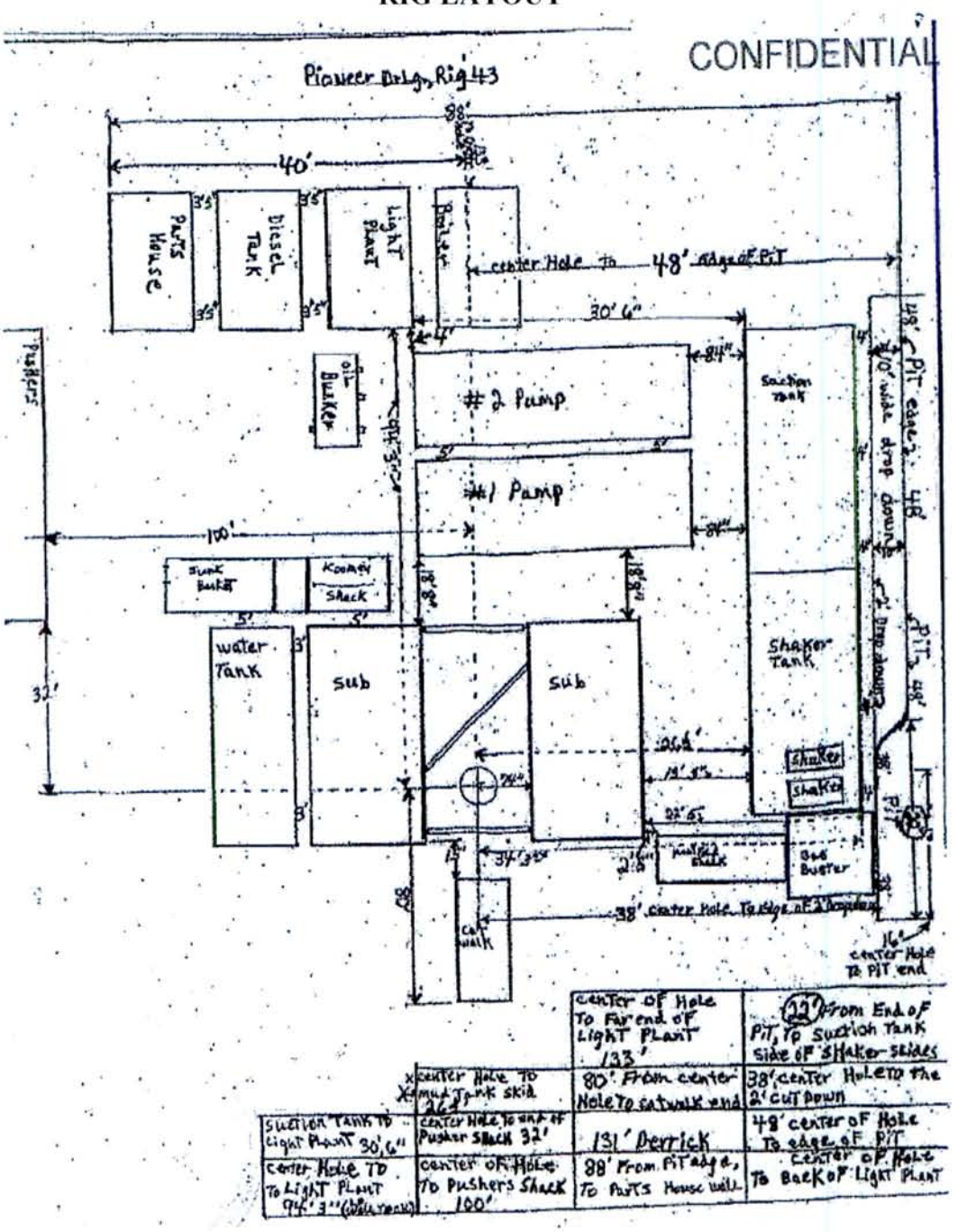
June 18, 2012

Version 1

DRILLING PROCEDURE

71 Ranch 44-1H

RIG LAYOUT



FIDELITY
Exploration & Production Company
An MDU Resources Group company

June 18, 2012

Version 1

DRILLING PROCEDURE

71 Ranch 44-1H

PIT LINER DETAILS

BRAWLER
TOUGH TARPS...NO BULL

Western Industries Inc.
PO Box 428
Yellowstone Hill
Miles City, Montana 59301
(406) 234-1680
(406) 234-7774 Fax
(800) 488-3592

WCPE
20, 24 & 30 Mil
Woven Coated Polyethylene

	WCPE20	WCPE24	WCPE30	
Properties				**ASTM**
Weight	10 oz/yd²	12.6 oz/yd²	18 oz/yd²	
Thickness	20 Mil	24 Mil	30 Mil	D5199
Grab Tensile	Warp: 350 lb Weft: 335 lb	Warp: 335 lb Weft: 388 lb	Warp: 400 lb Weft: 420 lb	D-5034-95
Tongue Tear	Warp:120 lb Weft: 120 lb	Warp: 83 lb Weft: 78 lb	Warp: 30 lb Weft: 40 lb	D2261-96
Mullen Burst	700 p.s.i.	740 p.s.i.	780 p.s.i.	D-3786-01
Accelerated UV Weathering	80% Strength retention after 2000 hours exposure	90% Strength retention after 2000 hours exposure	90% Strength retention after 2000 hours exposure	G151-00

These values are typical data and are not intended as limiting specifications.

P.O Box 428, Top of Yellowstone Hill, Miles City, MT 59301, 800-488-3592, customerservice@westernindustries.com

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Exploration & Production Company
An MDU Resources Group company

June 18, 2012

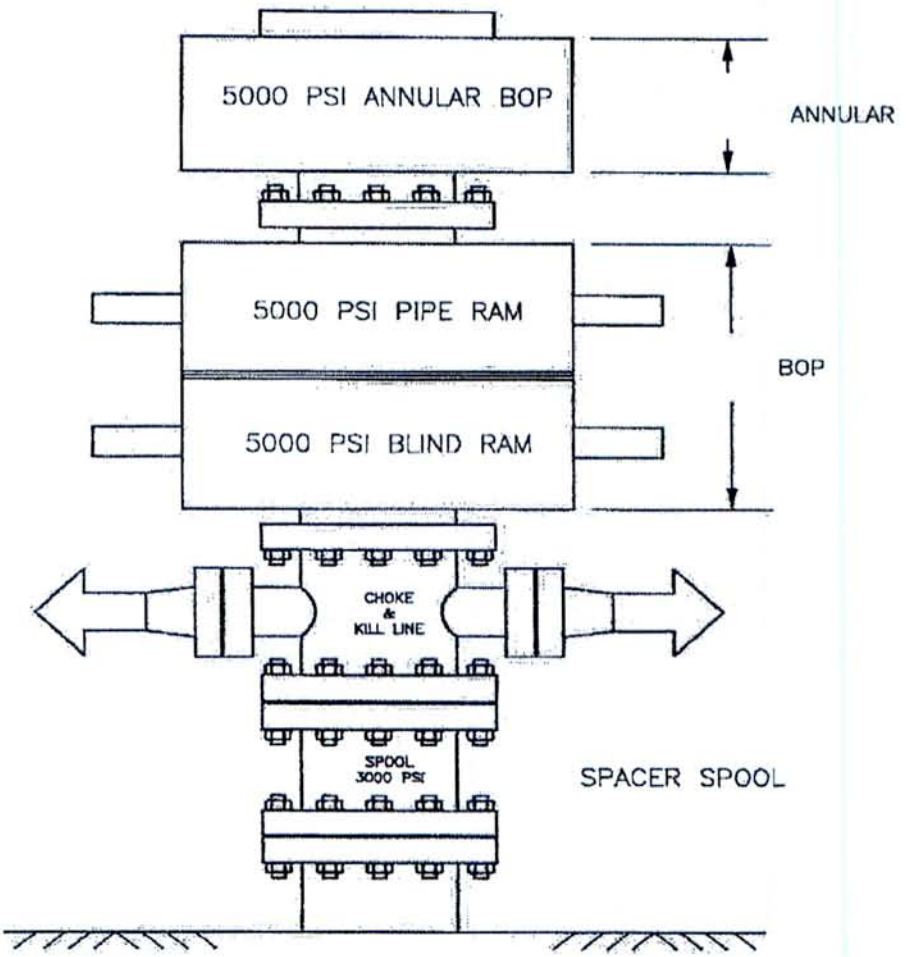
Version 1

DRILLING PROCEDURE

71 Ranch 44-1H

BOP DIAGRAM

PIONEER #43 B.O.P. STACK AND ANNULAR



FIDELITY
Exploration & Production Company
An MDU Resources Group company

June 18, 2012 Version 1

DRILLING PROCEDURE

71 Ranch 44-1H

CHOKE AND MANIFOLD DIAGRAM

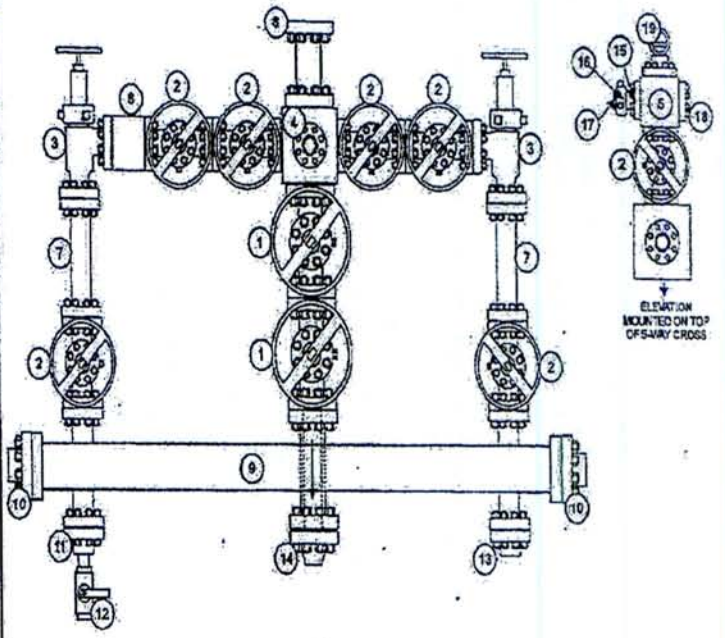
Rig 43

DYNAFLOW VALVES

DRAWING NUMBER	DV9608-1	DRAWING DATE	May 21, 2007
REVISION	0	MATERIAL	API 6DX/75X
TEMP RATING/TRIM	P/U	SCALE	NOT TO SCALE
DRAWN BY	TL	CHECKED BY	CJ

DESCRIPTION
Choke and Kill Manifold Assembly and accessories.

Item	Qty.	Description
1	2	Gate Valve, 4 1/16" 5,000psi, Manually Operated, Flanged End
2	7	Gate Valve, 2 1/16" 5,000psi, Manually Operated, Flanged End
3	2	Adjustable Choke, 2 1/16" 5,000psi, Manually Operated, Flange End
4	1	Studded 5-Way Cross, 4 1/16" x 4 1/16" x 2 1/16" x 2 9/16" x 2 1/16" - 5,000psi
5	1	Studded 4-Way Cross, 2 9/16" x 2 1/16" x 2 1/16" x 2 1/16" - 5,000psi
6	1	Spacer Spool, 4 1/16" x 4 1/16" - 5,000psi
7	2	Spacer Spool, 2 1/16" x 2 1/16" - 5,000psi
8	1	DSA, 2 1/16" 5,000psi x 2 1/16" 5,000psi
9	1	Buffer Tank Assembly, Shell Test 10,000psi, Working Pressure 5,000psi, Main Tube 4.5" OD x 7" ID 4130 Mechanical Tubing, with 2- 4 1/16" 5,000psi Studded End Caps, 3- 2 1/16" 5,000psi Flanged Inlets, 1- 4 1/16" 5,000psi Flanged Inlet connected to a 4 1/16" 5,000psi Flanged Outlet by welding 8" OD x 4" ID Tube that isolates this "Panic Link" from the remainder of the bellertank, 3- 2 1/16" 5,000psi Flanged Outlets and 1- 4 1/16" 5,000psi Extended Flange Outlet. Heat Treated.
10	2	Blind Flange, 4 1/16" 5,000psi
11	1	Companion Flange, 2 1/16" 5,000psi x 2" Line Pipe
12	1	Ball Valve, 2" 5,000psi x 2" Line Pipe
13	1	Target Flange, 2 1/16" 5,000psi, Lead Filled
14	2	Weld Neck Flange, 4 1/16" 5,000psi x 4" XXH
15	1	Adapter Flange, 2 1/16" 5,000psi x 2" Figure 1502 Female Threaded Half
16	1	Hammer Lug 2" Figure 1502 Male
17	1	Blanking Plug, 2" Figure 1502 Male
18	1	Blind Flange, 2 1/16" 5,000psi
19	1	Flanged Mud Gauge, 2 1/16" 5,000psi, Range 0-10,000psi
20	24	1 1/4" x 8 1/4" B7 Stud with 2- Grade 2H Nuts Each
21	88	7/8" x 6 1/4" B7 Stud with 2- Grade 2H Nuts Each
22	8	Ring Gasket, R39
23	20	Ring Gasket, R24



FIDELITY
Exploration & Production Company

WELL DETAILS: 71 Ranch 44-1H

+N/-S	+E/-W	Northing	Easting	Ground Level	Latitude	Longitude	Slot
0.0	0.0	676627.23	2500772.83	3012.0	46.642727	-107.379465	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4711.8	0.00	0.00	4711.8	0.0	0.0	0.00	0.00	0.0	
3	5245.1	80.00	336.71	5068.0	289.6	-124.6	15.00	336.71	315.6	
4	5395.9	80.00	336.71	5114.2	426.3	-183.5	0.00	0.00	464.2	
5	5462.2	89.94	336.71	5120.0	486.9	-209.6	15.00	0.00	530.1	
6	5464.5	89.94	336.71	5120.0	489.0	-210.5	0.15	60.32	532.4	
7	9927.1	89.94	336.71	5124.5	4566.0	-1974.7	0.00	0.00	4964.9	Fidelity E&P 71 Ranch 44-1H PBHL

T
M

Azimuths to True North
Magnetic North: 10.80°

Magnetic Field
Strength: 55736.0snT
Dip Angle: 71.44°
Date: 07/19/2012
Model: IGRF2010-14

Project: Rosebud Co., MT
Site: SESE Sec 1-T10N-R34E
Well: 71 Ranch 44-1H
Wellbore: Hz
Design: Plan #4

PHOENIX
TECHNOLOGY SERVICES

ANNOTATIONS

TVD	MD	Annotation
4711.8	4711.8	KOP @ 4711' MD, Build 15°/100'
5068.0	5245.1	Land @ 80° Inc, Hold
5114.2	5395.9	Build 15°/100'
5120.0	5462.2	Land @ 89.94° Inc, Hold to BHL
5124.5	9927.1	TD @ 9927.1'

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
882.0	882.0	Judith River
1541.0	1541.0	Eagle
2262.0	2262.0	Niobrara
2587.0	2587.0	Greenhorn
3040.0	3040.0	Mowry
3495.0	3495.0	Muddy
3585.0	3585.0	Dakota
3995.0	3995.0	Lakota
4068.0	4068.0	Morrison
4423.0	4423.0	Rierdon
4591.0	4591.0	Piper
4764.0	4764.2	Amsden
4940.0	4956.4	Tyler
5033.0	5093.4	Heath
5068.0	5246.3	Heath Carbonate Top
5120.0	5502.5	Heath Dolomite Target

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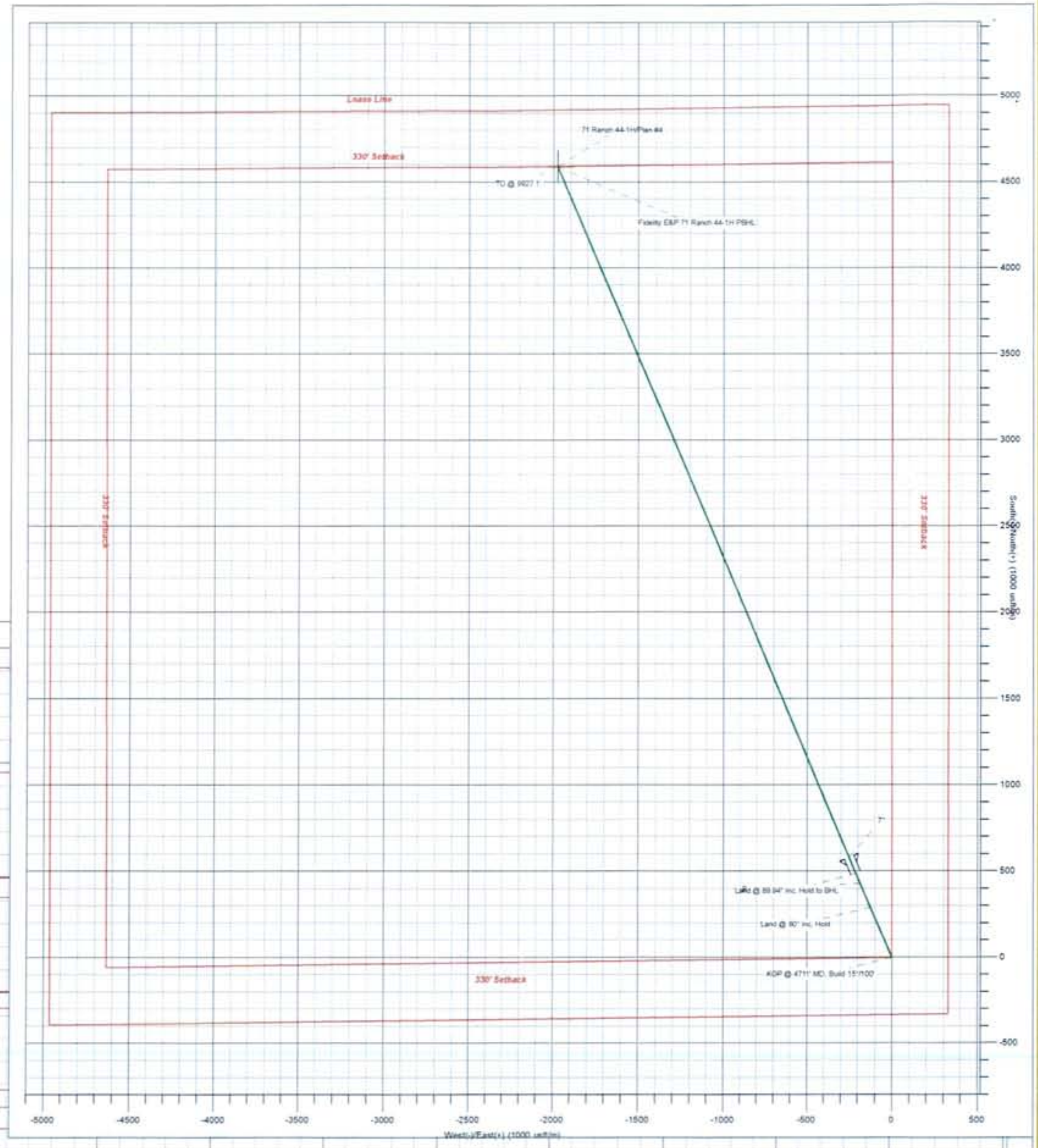
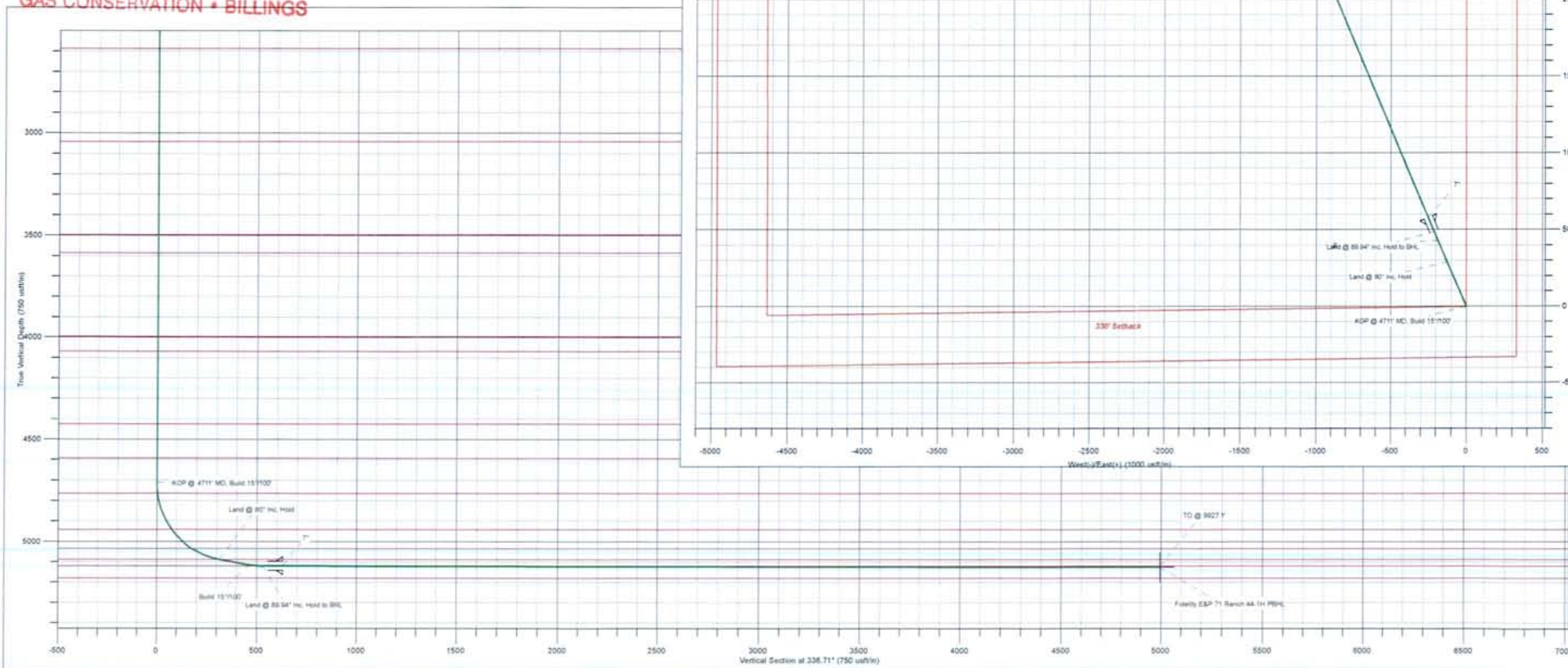




FIDELITY
Exploration & Production Company

Fidelity Exploration & Production

Rosebud Co., MT
SESE Sec 1-T10N-R34E
71 Ranch 44-1H

Hz

Plan: Plan #4

Standard Planning Report (Directional)

01 August, 2012

PHOENIX
TECHNOLOGY SERVICES

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Plan #4		

Project Rosebud Co., MT

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Montana		

Site SESE Sec 1-T10N-R34E

Site Position:		**Northing:**	879,527.23 usft	**Latitude:**	46.642727
From:	Lat/Long	**Easting:**	2,500,772.63 usft	**Longitude:**	-107.379455
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	1.55 °

Well 71 Ranch 44-1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	879,527.23 usft	**Latitude:**	46.642727
	+E/-W	0.0 usft	**Easting:**	2,500,772.63 usft	**Longitude:**	-107.379455
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,012.0 usft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010-14	07/19/12	10.80	71.44	55,735

Job Number Plan #4

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	336.71	

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,711.8	0.00	0.00	4,711.8	0.0	0.0	0.00	0.00	0.00	0.00	
5,245.1	80.00	336.71	5,088.0	289.9	-124.8	15.00	15.00	0.00	336.71	
5,395.9	80.00	336.71	5,114.2	426.3	-183.5	0.00	0.00	0.00	0.00	
5,462.2	89.94	336.71	5,120.0	486.9	-209.6	15.00	15.00	0.00	0.00	
5,464.5	89.94	336.71	5,120.0	489.0	-210.5	0.15	0.07	0.13	60.32	
9,927.1	89.94	336.71	5,124.5	4,588.0	-1,974.7	0.00	0.00	0.00	0.00	Fidelity E&P 71 Rancl

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
0.0	0.00	0.00	0.0	3,030.0	0.0	0.0	0.0	0.00
Judith River								
882.0	0.00	0.00	882.0	2,148.0	0.0	0.0	0.0	0.00
Eagle								
1,541.0	0.00	0.00	1,541.0	1,489.0	0.0	0.0	0.0	0.00
Niobrara								
2,262.0	0.00	0.00	2,262.0	768.0	0.0	0.0	0.0	0.00
Greenhorn								
2,587.0	0.00	0.00	2,587.0	443.0	0.0	0.0	0.0	0.00
Mowry								
3,040.0	0.00	0.00	3,040.0	-10.0	0.0	0.0	0.0	0.00
Muddy								
3,495.0	0.00	0.00	3,495.0	-465.0	0.0	0.0	0.0	0.00
Dakota								
3,585.0	0.00	0.00	3,585.0	-555.0	0.0	0.0	0.0	0.00
Lakota								
3,995.0	0.00	0.00	3,995.0	-965.0	0.0	0.0	0.0	0.00
Morrison								
4,068.0	0.00	0.00	4,068.0	-1,038.0	0.0	0.0	0.0	0.00
Rierdon								
4,423.0	0.00	0.00	4,423.0	-1,393.0	0.0	0.0	0.0	0.00
Piper								
4,591.0	0.00	0.00	4,591.0	-1,561.0	0.0	0.0	0.0	0.00
KOP @ 4711' MD, Build 15°/100'								
4,711.8	0.00	0.00	4,711.8	-1,681.8	0.0	0.0	0.0	0.00
Amsden								
4,764.2	7.85	336.71	4,764.0	-1,734.0	3.3	-1.4	3.6	15.00
4,800.0	13.23	336.71	4,799.2	-1,769.2	9.3	-4.0	10.1	15.00
4,900.0	28.23	336.71	4,892.5	-1,862.5	41.7	-18.0	45.4	15.00
Tyler								
4,956.4	36.69	336.71	4,940.0	-1,910.0	69.5	-29.9	75.7	15.00
5,000.0	43.23	336.71	4,973.4	-1,943.4	95.2	-41.0	103.7	15.00
Heath								
5,093.4	57.24	336.71	5,033.0	-2,003.0	161.0	-69.3	175.3	15.00
5,100.0	58.23	336.71	5,036.5	-2,006.5	166.1	-71.5	180.9	15.00
5,200.0	73.23	336.71	5,077.5	-2,047.5	249.6	-107.5	271.8	15.00
Land @ 80° Inc, Hold								
5,245.1	80.00	336.71	5,088.0	-2,058.0	289.9	-124.8	315.6	15.00
Heath Carbonate Top								
5,245.3	80.00	336.71	5,088.0	-2,058.0	290.1	-124.9	315.8	0.00
5,300.0	80.00	336.71	5,097.5	-2,067.5	339.6	-146.2	369.7	0.00
Build 15°/100'								
5,395.9	80.00	336.71	5,114.2	-2,084.2	426.3	-183.5	464.2	0.00
5,400.0	80.61	336.71	5,114.8	-2,084.8	430.0	-185.1	468.2	15.00
Land @ 89.94° Inc, Hold to BHL								
5,462.2	89.94	336.71	5,120.0	-2,090.0	486.9	-209.6	530.1	15.00
5,464.5	89.94	336.71	5,120.0	-2,090.0	489.0	-210.5	532.4	0.15
5,500.0	89.94	336.71	5,120.0	-2,090.0	521.6	-224.5	567.9	0.00
Heath Dolomite Target								

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
5,502.5	89.94	336.71	5,120.0	-2,090.0	523.9	-225.5	570.4	0.14
7"								
5,562.2	89.94	336.71	5,120.1	-2,090.1	578.7	-249.1	630.1	0.01
5,600.0	89.94	336.71	5,120.1	-2,090.1	613.5	-264.1	667.9	0.00
5,700.0	89.94	336.71	5,120.2	-2,090.2	705.3	-303.6	767.9	0.00
5,800.0	89.94	336.71	5,120.3	-2,090.3	797.2	-343.1	867.9	0.00
5,900.0	89.94	336.71	5,120.4	-2,090.4	889.0	-382.7	967.9	0.00
6,000.0	89.94	336.71	5,120.5	-2,090.5	980.9	-422.2	1,067.9	0.00
6,100.0	89.94	336.71	5,120.6	-2,090.6	1,072.7	-461.7	1,167.9	0.00
6,200.0	89.94	336.71	5,120.7	-2,090.7	1,164.6	-501.3	1,267.9	0.00
6,300.0	89.94	336.71	5,120.8	-2,090.8	1,256.4	-540.8	1,367.9	0.00
6,400.0	89.94	336.71	5,120.9	-2,090.9	1,348.3	-580.3	1,467.9	0.00
6,500.0	89.94	336.71	5,121.0	-2,091.0	1,440.1	-619.9	1,567.9	0.00
6,600.0	89.94	336.71	5,121.1	-2,091.1	1,532.0	-659.4	1,667.9	0.00
6,700.0	89.94	336.71	5,121.2	-2,091.2	1,623.9	-698.9	1,767.9	0.00
6,800.0	89.94	336.71	5,121.3	-2,091.3	1,715.7	-738.5	1,867.9	0.00
6,900.0	89.94	336.71	5,121.4	-2,091.4	1,807.6	-778.0	1,967.9	0.00
7,000.0	89.94	336.71	5,121.5	-2,091.5	1,899.4	-817.5	2,067.9	0.00
7,100.0	89.94	336.71	5,121.6	-2,091.6	1,991.3	-857.1	2,167.9	0.00
7,200.0	89.94	336.71	5,121.7	-2,091.7	2,083.1	-896.6	2,267.9	0.00
7,300.0	89.94	336.71	5,121.8	-2,091.8	2,175.0	-936.1	2,367.9	0.00
7,400.0	89.94	336.71	5,121.9	-2,091.9	2,266.8	-975.7	2,467.9	0.00
7,500.0	89.94	336.71	5,122.0	-2,092.0	2,358.7	-1,015.2	2,567.9	0.00
7,600.0	89.94	336.71	5,122.1	-2,092.1	2,450.5	-1,054.7	2,667.9	0.00
7,700.0	89.94	336.71	5,122.2	-2,092.2	2,542.4	-1,094.3	2,767.9	0.00
7,800.0	89.94	336.71	5,122.3	-2,092.3	2,634.2	-1,133.8	2,867.9	0.00
7,900.0	89.94	336.71	5,122.4	-2,092.4	2,726.1	-1,173.3	2,967.9	0.00
8,000.0	89.94	336.71	5,122.5	-2,092.5	2,817.9	-1,212.9	3,067.9	0.00
8,100.0	89.94	336.71	5,122.6	-2,092.6	2,909.8	-1,252.4	3,167.9	0.00
8,200.0	89.94	336.71	5,122.7	-2,092.7	3,001.7	-1,291.9	3,267.9	0.00
8,300.0	89.94	336.71	5,122.8	-2,092.8	3,093.5	-1,331.5	3,367.9	0.00
8,400.0	89.94	336.71	5,122.9	-2,092.9	3,185.4	-1,371.0	3,467.9	0.00
8,500.0	89.94	336.71	5,123.0	-2,093.0	3,277.2	-1,410.5	3,567.9	0.00
8,600.0	89.94	336.71	5,123.1	-2,093.1	3,369.1	-1,450.1	3,667.9	0.00
8,700.0	89.94	336.71	5,123.3	-2,093.3	3,460.9	-1,489.6	3,767.9	0.00
8,800.0	89.94	336.71	5,123.4	-2,093.4	3,552.8	-1,529.1	3,867.9	0.00
8,900.0	89.94	336.71	5,123.5	-2,093.5	3,644.6	-1,568.7	3,967.9	0.00
9,000.0	89.94	336.71	5,123.6	-2,093.6	3,736.5	-1,608.2	4,067.9	0.00
9,100.0	89.94	336.71	5,123.7	-2,093.7	3,828.3	-1,647.7	4,167.9	0.00
9,200.0	89.94	336.71	5,123.8	-2,093.8	3,920.2	-1,687.3	4,267.9	0.00
9,300.0	89.94	336.71	5,123.9	-2,093.9	4,012.0	-1,726.8	4,367.9	0.00
9,400.0	89.94	336.71	5,124.0	-2,094.0	4,103.9	-1,766.3	4,467.9	0.00
9,500.0	89.94	336.71	5,124.1	-2,094.1	4,195.8	-1,805.9	4,567.9	0.00
9,600.0	89.94	336.71	5,124.2	-2,094.2	4,287.6	-1,845.4	4,667.9	0.00
9,700.0	89.94	336.71	5,124.3	-2,094.3	4,379.5	-1,884.9	4,767.9	0.00
9,800.0	89.94	336.71	5,124.4	-2,094.4	4,471.3	-1,924.5	4,867.9	0.00
9,900.0	89.94	336.71	5,124.5	-2,094.5	4,563.2	-1,964.0	4,967.9	0.00
TD @ 9927.1'								
9,927.1	89.94	336.71	5,124.5	-2,094.5	4,588.0	-1,974.7	4,994.9	0.00

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Fidelity E&P 71 Ranch 4 - plan hits target center - Point	0.00	0.00	5,124.5	4,588.0	-1,974.7	884,060.11	2,498,674.45	46.655314	-107.387323

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,562.2	5,120.1	7"	7	8-3/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
882.0	882.0	Judith River		0.00	
1,541.0	1,541.0	Eagle		0.00	
2,262.0	2,262.0	Niobrara		0.00	
2,587.0	2,587.0	Greenhorn		0.00	
3,040.0	3,040.0	Mowry		0.00	
3,495.0	3,495.0	Muddy		0.00	
3,585.0	3,585.0	Dakota		0.00	
3,995.0	3,995.0	Lakota		0.00	
4,068.0	4,068.0	Morrison		0.00	
4,423.0	4,423.0	Rierdon		0.00	
4,591.0	4,591.0	Piper		0.00	
4,764.2	4,764.0	Amsden		0.00	
4,956.4	4,940.0	Tyler		0.00	
5,093.4	5,033.0	Heath		0.00	
5,245.3	5,088.0	Heath Carbonate Top		0.00	
5,502.5	5,120.0	Heath Dolomite Target		0.00	

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Plan #4		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,711.8	4,711.8	0.0	0.0	KOP @ 4711' MD, Build 15°/100'
5,245.1	5,088.0	289.9	-124.8	Land @ 80° Inc, Hold
5,395.9	5,114.2	426.3	-183.5	Build 15°/100'
5,462.2	5,120.0	486.9	-209.6	Land @ 89.94° Inc, Hold to BHL
9,927.1	5,124.5	489.0	-210.5	TD @ 9927.1'

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605
1003, 1004, 1011, 1013
1103, 1222, 1240, 1301,
1306, 1309, and 1417

Submit In Quadruplicate To:

MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

RECEIVED
NOV 2 7 2012
MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

SUNDRY NOTICES AND REPORT OF WELLS

Operator **FIDELITY EXPLORATION & PRODUCTION COMPANY**

Address **P.O. Box 1010**

City **Glendive** State **MT** Zip Code **59330-1010**

Telephone **(406) 359-7360** Fax **(406) 359-7273**

Lease Name: **Fee**

Type (Private/State/Federal/Tribal/Allotted): **Private**

Well Number: **71 Ranch 44-1H**

Location of well (1/4-1/4 section and footage measurements):

SE, SE, 330' FSL, 330' FEL Gr Elevation 3014.4

Latitude 46.642727 Longitude -107.379455

Unit Agreement Name: **NA**

Field Name or Wildcat: **Wildcat**

Township. Range, and Section: **T10N, R34E, Sec 1**

API Number :

25 (State) | **087** (County) | **21738** (Well)

Well Type (oil, gas, injection, other): **Oil**

County: **Rosebud**

Indicate below with an X the nature of this notice, report, or other data:

Notice of Intention to Change Plans	☐	Subsequent Report of Mechanical Integrity Test	☐
Notice of Intention to Run Mechanical Integrity Test	☐	Subsequent Report of Stimulation or Treatment	☐
Notice of Intention to Stimulate or to Chemically Treat	☐	Subsequent Report of Perforation or Cementing	☐
Notice of Intention to Perforate or to Cement	☐	Subsequent Report of Well Abandonment	☐
Notice of Intention to Abandon Well	☐	Subsequent Report of Pulled or Altered Casing	☐
Notice of Intention to Pull or Alter Casing	☐	Subsequent Report of Drilling Waste Disposal	☐
Notice of Intention to Change Well Status	☐	Subsequent Report of Production Waste Disposal	☐
Supplemental Well History	☐	Subsequent Report of Change in Well Status	☐
Other (specify)_____	☐	Subsequent Report of Gas Analysis (ARM 36.22.1222)	☐
_____	☐	Subsequent Report: Pump Install	☒

Describe Proposed or Completed Operations:

Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

Description of Work:

Installation of Pumping Equipment
Pump Install Date: November 2, 2012
Pump Type: RHBM
Pump Size: 1.75"
Pump Depth: 4,589'

BOARD USE ONLY

Approved NOV 2 7 2012
Date

Steven P. Sasaki CHIEF FIELD INSPECTOR
Name Title

The undersigned hereby certifies that the information contained on this application is true and correct:

November 26, 2012 Lori Cullinan
Date Signed (Agent)

Lorie Cullinan Operations Technician
Print Name & Title

Telephone: 406-359-7302

P-0021498

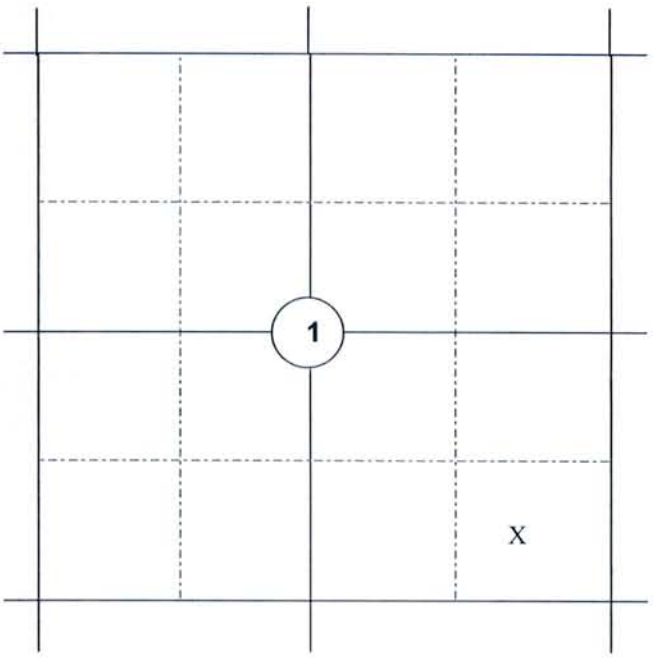
SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Range **R34E**

Township **T10N**



BOARD USE ONLY	CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605
1003, 1004, 1011, 1013
1103, 1222, 1240, 1301,
1306, 1309, and 1417

Submit In Quadruplicate To:

MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

RECEIVED
NOV 13 2012
MONTANA BOARD OF OIL & GAS CONSERVATION - BILLINGS

SUNDRY NOTICES AND REPORT OF WELLS

Operator **FIDELITY EXPLORATION & PRODUCTION COMPANY**

Address **P.O. Box 1010**

City **Glendive** State **MT** Zip Code **59330-1010**

Telephone **(406) 359-7360** Fax **(406) 359-7273**

Location of well (1/4-1/4 section and footage measurements):
SE, SE, 330' FSL, 330' FEL Gr Elevation 3014.4
Latitude 46.642727 Longitude -107.379455

Lease Name: **Fee**

Type (Private/State/Federal/Tribal/Allotted): **Private**

Well Number: **71 Ranch 44-1H**

Unit Agreement Name: **NA**

Field Name or Wildcat: **Wildcat**

Township. Range, and Section: **T10N, R34E, Sec 1**

County: **Rosebud**

API Number : **25** (State) **087** (County) **21738** (Well)

Well Type (oil, gas, injection, other): **Oil**

Indicate below with an X the nature of this notice, report, or other data:

Notice of Intention to Change Plans	☐	Subsequent Report of Mechanical Integrity Test	☐
Notice of Intention to Run Mechanical Integrity Test	☐	Subsequent Report of Stimulation or Treatment	☐
Notice of Intention to Stimulate or to Chemically Treat	☐	Subsequent Report of Perforation or Cementing	☐
Notice of Intention to Perforate or to Cement	☐	Subsequent Report of Well Abandonment	☐
Notice of Intention to Abandon Well	☐	Subsequent Report of Pulled or Altered Casing	☐
Notice of Intention to Pull or Alter Casing	☐	Subsequent Report of Drilling Waste Disposal	☐
Notice of Intention to Change Well Status	☐	Subsequent Report of Production Waste Disposal	☐
Supplemental Well History	☐	Subsequent Report of Change in Well Status	☐
Other (specify) 1st Sales Notification	☒	Subsequent Report of Gas Analysis (ARM 36.22.1222)	☐
1st Production Notification	☒	Subsequent Report: Pump Install	☐

Describe Proposed or Completed Operations:

Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

1st Oil Sales: 11/3/2012

1st Production: 10/16/2012

BOARD USE ONLY

Approved NOV 15 2012
Date

Steven P. Sasaki CHIEF FIELD INSPECTOR
Name Title

The undersigned hereby certifies that the information contained on this application is true and correct:

November 9, 2012 Lori Cullinan
Date Signed (Agent)

Lorie Cullinan Operations Technician
Print Name & Title

Telephone: 406-359-7302

P-0021500

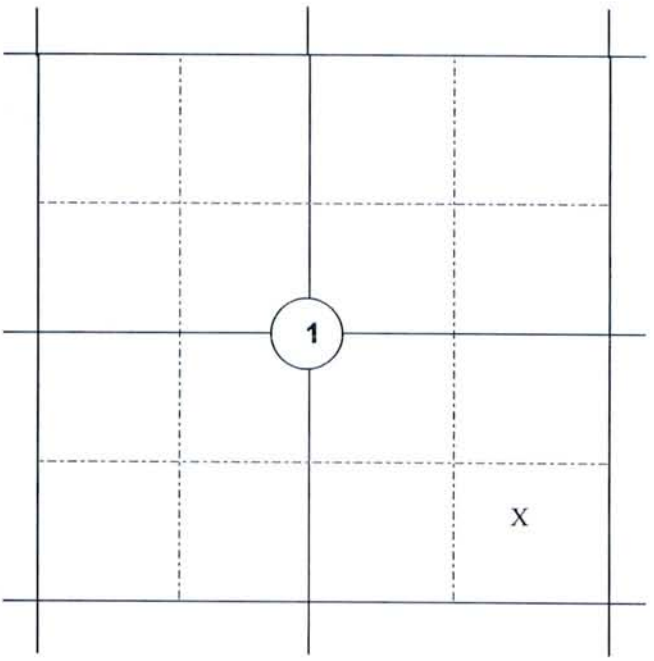
SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Range **R34E**

Township **T10N**



BOARD USE ONLY	CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

FORM NO. 2 R 10/09

ARM 36.22.307, 601, 605, 1003, 1004, 1011, 1013, 1103, 1222, 1240, 1301, 1306, 1309, and 1417

Submit In Quadruplicate To:

MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

SUNDRY NOTICES AND REPORT OF WELLS

Operator **Fidelity Exploration & Production Company**

Address **1700 Lincoln St Suite 2800**

City **Denver** State **CO** Zip Code **80203**

Telephone 303-893-3133 Fax 303-893-1964

Location of well (1/4-1/4 section and footage measurements):
330' FSL 330' FEL SESE
Lat: 46.642727 Long: -107.379455

Lease Name: **Fee**

Type (Private/State/Federal/Tribal/Allotted): **Private**

Well Number: **71 Ranch 44-1H**

Unit Agreement Name: **N/A**

Field Name or Wildcat: **Wildcat**

Township, Range, and Section: **T10N R34E Section 1**

County: **Rosebud**

API Number: **25 | 087 | 21738**
State County Well

Well Type (oil, gas, injection, other): **Oil**

Indicate below with an X the nature of this notice, report, or other data:

Notice of Intention to Change Plans	☐	Subsequent Report of Mechanical Integrity Test	☐
Notice of Intention to Run Mechanical Integrity Test	☐	Subsequent Report of Stimulation or Treatment	☐
Notice of Intention to Stimulate or to Chemically Treat	☒	Subsequent Report of Perforation or Cementing	☐
Notice of Intention to Perforate or to Cement	☐	Subsequent Report of Well Abandonment	☐
Notice of Intention to Abandon Well	☐	Subsequent Report of Pulled or Altered Casing	☐
Notice of Intention to Pull or Alter Casing	☐	Subsequent Report of Drilling Waste Disposal	☐
Notice of Intention to Change Well Status	☐	Subsequent Report of Production Waste Disposal	☐
Supplemental Well History	☐	Subsequent Report of Change in Well Status	☐
Other (specify) _____	☐	Subsequent Report of Gas Analysis (ARM 36.22.1222)	☐
_____	☐	_____	☐

Describe Proposed or Completed Operations:

Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

Fidelity Exploration & Production Company respectfully requests approval to fracture and stimulate the 71 Ranch 44-1H. The work is expected to start approximately 10/2/12. The frac is designed to be completed in 16 stages, each with 7,500 lbs of 100 Mesh Sand, 92,500 lbs of 20/40 White Sand, and 40 tons of Energized CO2. Please see the attached Calfrac completion plan. Flowback of the well will be into tanks and all fluids recovered will be disposed of at the nearest disposal wells.

BOARD USE ONLY

Approved SEP 19 2012
Date

Steven P. Sparks CHIEF FIELD INSPECTOR
Name Title

The undersigned hereby certifies that the information contained on this application is true and correct:

9/18/12 Stacey Saltsman
Date Signed (Agent)

Stacey Saltsman, Sr. Engineering Tech
Print Name and Title

Telephone: 303-893-3133

PF

P-0021502

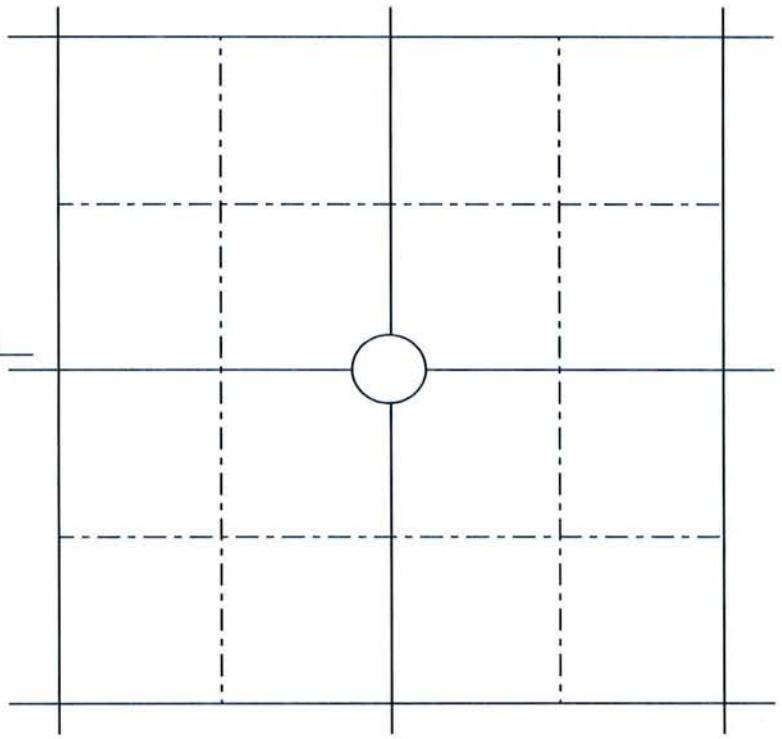
SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Range **34E**

Township **10N**



BOARD USE ONLY	CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

08721738

Failure to comply with the conditions of approval may void this permit.

MBOGC Pre-Frac Disclosure Statement

Well Operator: Fidelity E&P Company
Well Name: 71 Ranch 44-1H
Location
Footage
Elev
County, State Rosebud, MT

All volumes, concentrations, chemical compositions and wellbore details are approximate.

Wellbore Information

Lateral Length	4,802	ft
Number of Stages	16	
Proppant Concentration	333	lbs/ft
Total Proppant Volume	1,600,000	lbs
Type of Proppant	Sand	
Total Fluid Concentration	17	gal/ft
Fluid Volume	82,887	gal
Type of Fluid	25# Cross linked gel	

Fluid Information

Chemical Constiutents of Frac Fluid	Description	Estimated Concentration	Units	Total	Units
DWP-621	Friction Reducer	0.5	gpt	208	Gal
DWP-111	Gel Slurry	6.3	gpt	5,104	Gal
DWP-123	Crosslinker	3.0	gpt	2,384	Gal
DWP-204	Buffer	0.5	gpt	416	Gal
DWP-913	Clay Control	1.0	gpt	1,232	Gal
DWP-931G	Non-Emulsifier	1.0	gpt	1,232	Gal
DWP-944	Biocide	0.2	gpt	256	Gal
15% HCl	Acid			1,500	Gal
DAP-925	Acid Additive	0.5	gpt	16	Gal
DWP-902	Breaker	2.5	ppt	1,376	lbs

Other Potential Chemical Constituents

CO2 - 560 tons

Per Stage Volume Estimate		
Friction Reducer	13	Gal
Gel Slurry	319	Gal
Crosslinker	149	Gal
Buffer	26	Gal
Clay Control	77	Gal
Non-Emulsifier	77	Gal
Biocide	16	Gal
Acid	94	Gal
Acid Additive	1	Gal
Breaker	86	lbs

08721738

P-0021504

CALFRAC WELL SERVICES

Fidelity

100,000 lbs CO2 Energized Hybrid DynAqua-1 Stimulation Treatment

71 Ranch 44-1H BID (Stages 1-16)
Rosebud County, MT

Heath Formation

August 22, 2012
Program #: FACH0192LC

CWS™

08721738

P-0021505

CALFRAC WELL SERVICES

Fidelity

71 Ranch 44-1H BID (Stages 1-16)

100,000 lbs CO2 Energized Hybrid DynAqua-1 Stimulation Treatment

Rosebud County, MT

Well Data	
Formation:	Heath (oil)
Casing #1:	4.5 in, 11.6 lb/ft P-110 @ 9927 ft
B.H. Temperature:	121° F (est.)

Treatment Mode	**Down Casing**

Customer	**Dean Gimbel**	
	Fidelity	
	1700 Lincoln Street Suite 2800	
	Denver, CO 80203	
	Phone:	(720) 917-3021
	Cell Phone:	(303) 590-4993
	Email:	Dean.Gimbel@fidelityepco.com

Calfrac Representative	**Chad Buffington**	
	Phone:	(303) 892-3044
	Cell:	(970) 539-3822

For Service Call	**Williston**	(800) 737-2717
	Fax:	

Date	August 22, 2012	S.Version # : 578

FACH0192LC	Prepared by: Alicia Mills

08721738

CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16) ()
Program # FACH0192LC

PERFS

Stage	Top (ft)	Bottom (ft)
1	9,800 ft	0 ft
2	9,600 ft	0 ft
3	9,400 ft	0 ft
4	9,200 ft	0 ft
5	9,000 ft	0 ft
6	8,800 ft	0 ft
7	8,600 ft	0 ft
8	8,400 ft	0 ft
9	8,200 ft	0 ft
10	8,000 ft	0 ft
11	7,800 ft	0 ft
12	7,600 ft	0 ft
13	7,400 ft	0 ft
14	7,200 ft	0 ft
15	7,000 ft	0 ft
16	6,800 ft	0 ft

TVD (ft)	Flush Depth (ft)	Flush Volume (bbls)	BH Frac Pressure	Pumping Friction Psi	Hydrostatic Head	Surface Pumping Psi	Required Pump HHP
5125	9800	152.3	4356.3	2891.0	2219.1	5028.1	4313.3
5125	9600	149.2	4356.3	2832.0	2219.1	4969.1	4262.7
5125	9400	146.1	4356.3	2773.0	2219.1	4910.1	4212.1
5125	9200	143.0	4356.3	2714.0	2219.1	4851.1	4161.5
5125	9000	139.9	4356.3	2655.0	2219.1	4792.1	4110.9
5125	8800	136.8	4356.3	2596.0	2219.1	4733.1	4060.3
5125	8600	133.7	4356.3	2537.0	2219.1	4674.1	4009.7
5125	8400	130.6	4356.3	2478.0	2219.1	4615.1	3959.1
5125	8200	127.5	4356.3	2419.0	2219.1	4556.1	3908.4
5125	8000	124.3	4356.3	2360.0	2219.1	4497.1	3857.8
5125	7800	121.2	4356.3	2301.0	2219.1	4438.1	3807.2
5125	7600	118.1	4356.3	2242.0	2219.1	4379.1	3756.6
5125	7400	115.0	4356.3	2183.0	2219.1	4320.1	3706.0
5125	7200	111.9	4356.3	2124.0	2219.1	4261.1	3655.4
5125	7000	108.8	4356.3	2065.0	2219.1	4202.1	3604.8
5125	6800	105.7	4356.3	2006.0	2219.1	4143.1	3554.2

CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16) ()
Program # FACH0192LC

TREATMENT OBJECTIVE(s)

- Stimulate the Heath (oil) formation by performing a 100,000 lbs CO2 Energized Hybrid DynAqua-1 Fracture Treatment

DESIGN CRITERIA:

Acid 1:	1500 gal, 15% HCl
Proppant 1:	7,500 lbs, Sand, 100 Mesh
Proppant 2:	92,500 lbs, White Sand, 20/40
Base Fluid Required:	1831 bbls Fresh Water
CO2 Required:	40 tons
Maximum Downhole Rate:	35.0 bpm
Maximum Fluid Rate:	35.0 bpm
Maximum CO2 Rate:	30.0 bpm
Est. Pumping Pressure:	5,031 psi
Maximum Fluid Power Required:	4,316 hhp
Maximum CO2 Power Required:	3,699 hhp

PRE-TREATMENT REQUIREMENTS

- Notify Calfrac's Williston station at (800) 737-2717 of pending treatment. If possible, 4 days advance notice would be appreciated.
- Setup well(s) in preparation for the treatment.
- Confirm the maximum treating pressure and rate to determine the proper pump head size and treating iron requirments.
- Spot clean frac tanks on location and fill with:
  2000 bbls Fresh Water
- All Additives in the fluid provided by Fidelity must be identified, inclusive of concentrations and MSDS sheets, to Calfrac prior to the treatment.
- Spot Liquid CO2 Bulk Storage unit(s) on location and fill with: 40 tons Liquid CO2.
- Contact Chad Buffington at (970) 539-3822 if there is any questions or concerns with the program.
- Heat the fluid in the remaining tank(s) such that the fluid temperature is 50 F at time of pumping (If needed).
- Heat the fluid in the tank(s) such that the fluid temperature is 70 F at time of pumping.

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CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16) ()
Program # FACH0192LC

SAFETY AND OPERATION CONSIDERATIONS

- **Discuss pressure limitations and all safety issues with the Fidelity Field Representative.**
- **Internal Yield**

  Casing #1: 10,690 psi 4.5 in, 11.6 lbs/ft, P-110

- Complete and sign the Wellhead and Components Pressure Rating Data Sheet and send it with the Service Order Package.
- Conduct a pre-treatment safety and operational meeting with all personnel on location, detailing the following:

Treatment procedures	Personnel responsibilities	Designated safe areas
Pressure limitations	Safety precautions	Position of safety equipment
Safety and evacuation plan		

RIG-IN AND PRESSURE TEST

- Rig in Cafrac's fracturing equipment to pump Down Casing.
- Pressure test surface lines to pressure limit set by the Fidelity Field Representative.

PROCEDURE DETAILS

- Ensure the hole is full before starting treatment.
- Shut down before Pad, get an ISIP, and calculate a F.G.
- Perform the hydraulic fracturing treatment as per the attached injection schedule, or as advised.

  Anticipated DOWNHOLE rate and SPP: 35.0 bpm at 5,031 psi
- Flush with the specified fluid volume as calculated with 0.00 (bbls) Underflush
- Refer to perf sheet for individual flush volumes.
- This volume MUST be confirmed with the Fidelity Field Representative
- At the end of the flush, shut down all pumps and record the ISIP.
- Shut well in and rig out Calfrac equipment.

POST-TREATMENT PROCEDURES

- Flow well back at controlled rates when safely possible or as per the Fidelity field Representative.
- Continue to flow until well has cleaned up.
- Place well on production and evaluate results.

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CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16) ()
Program # FACH0192LC

ACID RECIPE

** Acid Recipe is subject to change - Please contact the LAB to confirm acid recipe prior to loading

- 1500 gal of 15% HCl

0.5	gpt	DAP-925, Spearhead Additive Blend	(0.8 gal)

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CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16)
Program # FACH0192LC

PROPPANT FLUID SCHEDULE

Pump Stage Summary	RATE			VOLUME			PROPPANT					
	Injection Rate BH (bpm)	Slurry Rate Surface (bpm)	Clean Rate Surface (bpm)	Slurry Volume Surface (gal)	Clean Volume Surface (gal)	Clean Volume Surface (bbl)	BH Conc - Start BH	BH Conc - End BH	Prop Volume (lbs)	Prop Volume Cum (lbs)	Stage Time (hr:min:sec)	Cum Time (Round UP) (hr:min)
Pump in - [CWS-600]	10.0	10.0	10.0	6,000	6,000	142.9					0:14:17	0:14
Acid - [15% HCl]	10.0	10.0	10.0	1,500	1,500	35.7					0:03:34	0:17
Sweep - [CWS-600]	30.0	30.0	30.0	2,000	2,000	47.6					0:01:35	0:19
Pad	30.0										0:06:45	0:26
Sweep - [CWS-600]	30.0	30.0	30.0	1,500	1,500	35.7					0:01:11	0:27
0.5 ppg Sand - [CWS-600 / Sand, 100 Mesh]	30.0	30.0	29.3	5,113	5,000	119.0	0.50	0.50	2,500	2,500	0:04:03	0:31
1 ppg Sand - [CWS-600 / Sand, 100 Mesh]	30.0	30.0	28.7	5,226	5,000	119.0	1.00	1.00	5,000	7,500	0:04:09	0:35
Pad - [Linear Gel]	30.0	30.0	30.0	1,500	1,500	35.7				7,500	0:01:11	0:36
Pad - [DynAqua-1]	30.0	30.0	30.0	2,000	2,000	47.6				7,500	0:01:35	0:38
0.5 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	30.0	29.3	4,601	4,500	107.1	0.50	0.50	2,250	9,750	0:03:39	0:42
0.75 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	30.0	29.0	5,168	5,000	119.0	0.75	0.75	3,750	13,500	0:04:06	0:46
1 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	30.0	28.7	6,269	6,000	142.9	1.00	1.00	6,000	19,500	0:04:59	0:51
1.5 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	30.0	28.1	9,606	9,000	214.3	1.50	1.50	13,500	33,000	0:07:37	0:58
2 ppg Sand - [DynAqua-1 / White Sand, 20/40]	35.0	35.0	32.1	9,263	8,500	202.4	2.00	2.00	17,000	50,000	0:06:18	1:05
3 ppg Sand - [DynAqua-1 / White Sand, 20/40]	35.0	35.0	30.8	9,077	8,000	190.5	3.00	3.00	24,000	74,000	0:06:10	1:11
4 ppg Sand - [DynAqua-1 / White Sand, 20/40]	35.0	35.0	29.7	7,667	6,500	154.8	4.00	4.00	26,000	100,000	0:05:13	1:16
Flush - [CWS-600]	35.0	35.0	35.0	6,397	6,397	152.3				100,000	0:04:21	1:20
				82,887	**78,397**				**100,000**			**1:20**

***Confirm flush volume for each stage**

Flush Depth (ft): **9800**

Over Flush (bbl):

Pad %: 16%
Sand Laden Fluid: 61990 gal 1476 bbl

Average Formation Proppant Conc (w/ pad):
Average Formation Proppant Conc (w/o pad):

Fluids as Pumped or Used	
Fresh Water	76,897
CWS-600	25,897
Linear Gel	1,500
DynAqua-1	49,500
15% HCl	1,500

Hybrid DynAqua-1	Gallons	BBLs	Tank Size	Bottoms	Tanks
Fresh Water	76,897	1,831	500	30	4
			500	30	
	76,897	**1,831**	(bbl)	(bbl)	**4**

Add to Resin Coated Proppant Stage			
Type	**Conc**	**Total**	**Unit**

Proppant as Pumped
Sand, 100 Mesh
White Sand, 20/40

Totals for the 16 stages in this program	
Sand, 100 Mesh	120,000
White Sand, 20/40	1,480,000

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CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16)
Program # FACH0192LC

CHEMICAL FLUID SCHEDULE

Stage	Slurry	Fluid				Chemical Additives							
	Slurry Rate (bpm)	Clean Rate (bpm)	Clean Fluid (gal)	Clean Fluid (bbls)	Clean Cum (bbls)	Friction Reducer DWP-621 (gpt)	Gel Slurry DWP-111 (gpt)	Crosslinker DWP-123 (gpt)	Buffer DWP-204 (gpt)	Clay Control DWP-913 (gpt)	Non-Emulsifier DWP-931G (gpt)	Biocide DWP-944 (gpt)	Encapsulated Breaker DWP-902 (ppt)
Pump in - [CWS-600]	10.0	10.0	6,000	143	143	0.50				1.00	1.00	0.20	
Acid - [15% HCl]	10.0	10.0	1,500	36	179								
Sweep - [CWS-600]	30.0	30.0	2,000	48	226	0.50				1.00	1.00	0.20	
Pad					226								
Sweep - [CWS-600]	30.0	30.0	1,500	36	262	0.50				1.00	1.00	0.20	
0.5 ppg Sand - [CWS-600 / Sand, 100 Mesh]	30.0	29.3	5,000	119	381	0.50				1.00	1.00	0.20	
1 ppg Sand - [CWS-600 / Sand, 100 Mesh]	30.0	28.7	5,000	119	500	0.50				1.00	1.00	0.20	
Pad - [Linear Gel]	30.0	30.0	1,500	36	536		6.25		0.50	1.00	1.00	0.20	1.00
Pad - [DynAqua-1]	30.0	30.0	2,000	48	583		6.25	3.00	0.50	1.00	1.00	0.20	1.00
0.5 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	29.3	4,500	107	690		6.25	3.00	0.50	1.00	1.00	0.20	1.00
0.75 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	29.0	5,000	119	810		6.25	3.00	0.50	1.00	1.00	0.20	1.00
1 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	28.7	6,000	143	952		6.25	3.00	0.50	1.00	1.00	0.20	1.00
1.5 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	28.1	9,000	214	1,167		6.25	3.00	0.50	1.00	1.00	0.20	1.20
2 ppg Sand - [DynAqua-1 / White Sand, 20/40]	35.0	32.1	8,500	202	1,369		6.25	3.00	0.50	1.00	1.00	0.20	1.50
3 ppg Sand - [DynAqua-1 / White Sand, 20/40]	35.0	30.8	8,000	190	1,560		6.25	3.00	0.50	1.00	1.00	0.20	1.80
4 ppg Sand - [DynAqua-1 / White Sand, 20/40]	35.0	29.7	6,500	155	1,714		6.25	3.00	0.50	1.00	1.00	0.20	2.00
Flush - [CWS-600]	35.0	35.0	6,397	152	1,867	0.50				1.00	1.00	0.20	2.50
						13	**319**	**149**	**26**	**77**	**77**	**16**	**86**
Totals for the 16 stages in this program						**208**	**5104**	**2384**	**416**	**1232**	**1232**	**256**	**1376**

CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16)
Program # FACH0192LC

ENERGIZED SCHEDULE

Stage	Slurry	Fluid				Liquid CO2					Downhole Conditions		
	Blender Rate (bpm)	Fluid Rate (bpm)	Stage Fluid (gal)	Stage Fluid (bbls)	Cum Fluid (bbls)	CO2 Quality (%)	CO2 Rate (bpm)	CO2 Ratio (scf/bbl)	Cum CO2 (bbls)	Stage CO2 (bbls)	Total Rate (bpm)	@ Perf Conc (ppg)	Energized Quality (%)
Pump in - [CWS-600]	10.0	10.0	6,000	143	143			3,060			10.0		
Acid - [15% HCl]	10.0	10.0	1,500	36	179			3,060			10.0		
Sweep - [CWS-600]	30.0	30.0	2,000	48	226			3,060			30.0		
Pad					226	100.0%	30.0	3,060	202	202	30.0		100%
Sweep - [CWS-600]	30.0	30.0	1,500	36	262			3,060	202		30.0		
0.5 ppg Sand - [CWS-600 / Sand, 100 Mesh]	30.0	29.3	5,000	119	381			3,060	202		30.0	0.50	
1 ppg Sand - [CWS-600 / Sand, 100 Mesh]	30.0	28.7	5,000	119	500			3,060	202		30.0	1.00	
Pad - [Linear Gel]	30.0	30.0	1,500	36	536			3,060	202		30.0		
Pad - [DynAqua-1]	30.0	30.0	2,000	48	583			3,060	202		30.0		
0.5 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	29.3	4,500	107	690			3,060	202		30.0	0.50	
0.75 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	29.0	5,000	119	810			3,060	202		30.0	0.75	
1 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	28.7	6,000	143	952			3,060	202		30.0	1.00	
1.5 ppg Sand - [DynAqua-1 / White Sand, 20/40]	30.0	28.1	9,000	214	1,167			3,060	202		30.0	1.50	
2 ppg Sand - [DynAqua-1 / White Sand, 20/40]	35.0	32.1	8,500	202	1,369			3,060	202		35.0	2.00	

Total Downhole CO2 (tons):	35
Bottoms (tons):	5
CO2 REQUIRED (TONS):	40

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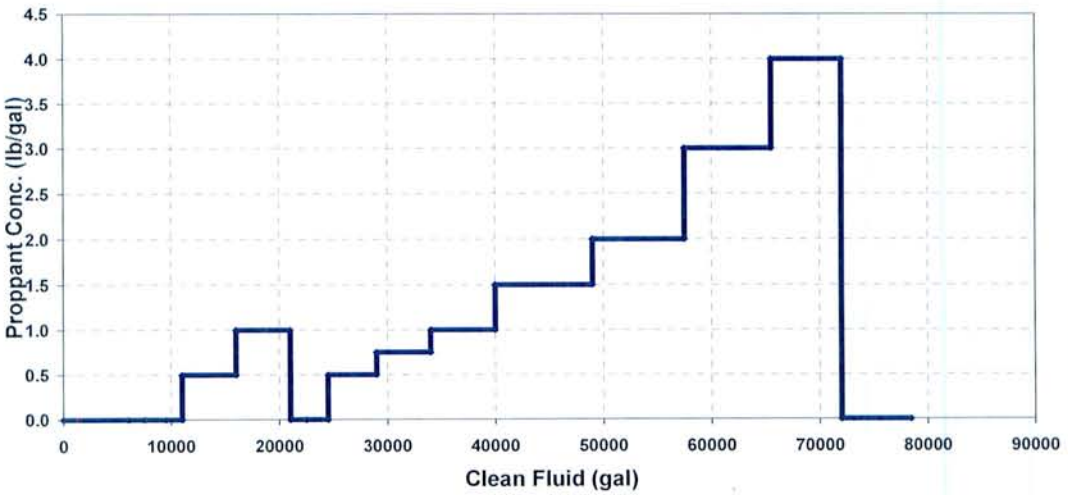
CALFRAC WELL SERVICES

71 Ranch 44-1H BID (Stages 1-16)
Program # FACH0192LC

Ramp Proppant Schedule Chart



CALCULATIONS PAGE

Depth to Top Perforation:	9,800.0 ft	TVD at Perforations	5,125.0 ft
Frac Gradient:	0.85 psi/ft	Friction Gradient:	0.2950 psi/ft
Specific Gravity of Frac Fluid:	1.000	Blender Rate:	35.00 bpm
CO2 Rate:	30.0 bpm	Injection Rate:	35.0 bpm

Bottom Hole Fracture Pressure: = Frac Gradient x Depth
(BHFP) = 0.85 psi/ft x 5125 ft = 4,360 psi

Pumping Friction Pressure: = Friction Gradient x Depth
(FP) = 0.2950 psi/ft x 9800 ft = **2,891 psi**

Hydrostatic Head: = Specific Gravity x 0.433 psi/ft x Depth
(HH) = 1.000 x 0.433 psi/ft x 5125 ft = 2,220 psi

Surface Pumping Pressure: = BHFP + FP - HH
(SPP) = 4,360 psi + 2,891 psi - 2,220 psi = **5,031 psi**

Required Pump Power: = (SPP x Rate) / 40.8
= (5,031 psi x 35.0 bpm) / 40.8 = 4,316 hhp

Required CO2 Pump Power: = (SPP x CO2 Rate) / 40.8
= (5,031 psi x 30.0 bpm) / 40.8) = 3,699 hhp

Volume to Top Perforation:

	Top of Pipe (ft)	Bottom of Pipe (ft)	Length of Interval (ft)	Volume Factor (bbls/ft)	Volume (bbl)
Casing	Surface	9,927	9,800	0.015543	152.32
			Total (bbls)		152.32
			Flush Volume (bbls)		**152.32**

DO NOT OVERFLUSH

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CALFRAC WELL SERVICES

TERMS AND CONDITIONS

(Revised September 13, 2011)

All work Performed by Calfrac Well Services Corp. is subject to the following Terms and Conditions

1. Calfrac Well Services Corp. ("Calfrac") will provide products and services to the Customer, which are governed by and subject to this Agreement, which represents the entire contract between Calfrac and the Customer. The Customer acknowledges and understands that any representative of Calfrac shall not be empowered to modify this Agreement, nor are there any terms implied by virtue of statute or otherwise which are incorporated herein.

2. 2. The Customer acknowledges and agrees that the products and services provided by Calfrac are of such a nature that no certainty of result can be assured and Calfrac specifically does not make any representations, warranties, or guarantees as to the likely results or consequences arising from the utilization of the products and services provided by Calfrac.

3. All information obtained by the Customer relating to the products and services provided to the Customer by Calfrac, including the cost schedule, are to be held in strict confidence and shall not be released to any person without the written consent of Calfrac, except where disclosure is required by law.

4. The Customer acknowledges and agrees that it has control of the location, including the well and all drilling and production equipment present thereon. The Customer shall ensure that it will have an agent or representative present at the well site to advise Calfrac on the well specifications necessary to carry out the services which are required including, without limiting the generality of the foregoing, pressures, depths and materials.

5. Where access to the Customer's location where services are to be provided by Calfrac to the Customer is, in the opinion of Calfrac, too difficult to be achieved with ordinary vehicular access then all necessary work and expense required, including the repair or construction of roads or bridges or the furnishing of alternate means of transport, shall be undertaken by, and the cost borne by, the Customer. The Customer shall be liable to Calfrac for any loss or damages, howsoever arising, to equipment or materials belonging to Calfrac while they are under the care or control of the Customer or being transported by the Customer or by a carrier arranged by the Customer.

6. (a) For the purposes of this section:
   - (i) "Claims" shall mean all awards, causes of action, claims, costs, expenses, damages (subject to (g) below), demands, judgments, liabilities and losses of every character, kind and nature including, without limitation, reasonable attorney's fees, court costs, fines, penalties and remedial obligations which arise out of or are related to, directly or indirectly, the subject matter or performance of this Agreement;
   - (ii) "Calfrac Group" shall mean Calfrac, its parent, affiliates, subsidiaries, partners, joint owners, joint venturers and subcontractors and the directors, agents, representatives, employees, insurers, invitees and consultants of all of the foregoing; and
   - (iii) "Customer Group" shall mean the Customer, its parent, affiliates, subsidiaries, partners, joint owners, joint venturers and contractors (not including any member of Calfrac Group) and the directors, agents, representatives, employees, insurers, invitees and consultants of all of the foregoing.

   (b) Calfrac acknowledges and agrees that, subject to (d) and (e) below, it shall defend, indemnify, release and hold harmless Customer Group from and against any and all Claims of every kind and character arising out of any personal injury, illness, death or damage to property of any member of Calfrac Group, regardless of whether caused by or the result of the sole, concurrent, active or passive negligence, fault or strict liability of any member of Customer Group but expressly excluding the gross negligence, willful misconduct or willful omissions of any member of Customer Group.

   (c) The Customer acknowledges and agrees that, subject to (f) below, it shall defend, indemnify, release and hold harmless Calfrac Group from and against any and all Claims of every kind and character arising out of any personal injury, illness, death or damage to property of any member of Customer Group, regardless of whether caused by or the result of the sole, concurrent, active or passive negligence, fault or strict liability of any member of Calfrac Group but expressly excluding the gross negligence, willful misconduct or willful omissions of any member of Calfrac Group.

   (d) In regards to any downhole, well completion, work over, well repair or cementing services, the Customer and Calfrac agree that, notwithstanding any other provision hereof to the contrary, the Customer shall defend, indemnify, release and hold Calfrac Group harmless in respect of Claims arising from:
   - (i) damage to or loss of any reservoir, production formation, well or borehole, or any injury to, destruction of, or loss of impairment of any property right in or to oil, gas or other mineral substance or water;
   - (ii) a blowout or other loss of well control including, without limitation, loss of or damage to real or personal property, injury or illness or death of any person, pollution (including control and removal thereof) or the cost of killing, controlling, redrilling or reworking the well; and
   - (iii) pollution, hazardous substances, environmental damage or similar matter of any kind, including control and removal thereof, emanating from or occurring below the surface of the ground.

   The Customer's release, defence, indemnity and hold harmless obligations under this section will apply even if the liability and Claims are caused by the sole, concurrent, active or passive negligence, fault or strict liability of Calfrac Group, but expressly excluding the gross negligence, willful misconduct or willful omissions of any member of Calfrac Group.

   (e) The Customer shall assume the liability for loss of or damage to Calfrac Group's equipment occurring in the hole or below the surface of the ground unless such loss is attributable to the negligence, gross negligence, willful misconduct or willful omissions of any member of Calfrac Group. When such equipment is lost or destroyed, the Customer shall be liable for the replacement cost less accumulated depreciation. If, however, the equipment is such that it is normally redressed or reworked to like-new condition after each use, the Customer agrees to pay Calfrac the full replacement value calculated at the time of loss without consideration of depreciation.

   (f) Calfrac shall defend, indemnify, and hold harmless Customer Group from and against all Claims arising from pollution, hazardous materials, environmental damage or similar matter of any kind, including control and removal thereof, occurring on or above the surface of the ground to the extent that such arises or results from spills, leaks, discharges or releases of fuels, lubricants, motor oils, chemicals, liquefied gases, acids, base fluids, proppants, sand, solvent, bilge, garbage and other like materials emanating from Calfrac Group's equipment and facilities.

   (g) Both parties waive and release all claims against the other party for indirect, incidental, consequential, exemplary, aggravated, special or punitive damages, including, without limitation, claims for loss of revenue, profit or use of capital, production delays, loss of product, reservoir loss or damage, losses resulting from failure to meet other contractual commitments or deadlines and downtime of facilities, directly or indirectly arising out of this Agreement.

7. (a) The price of the products and services provided by Calfrac shall generally be those as published in Calfrac's price schedule in effect at the date hereof but Calfrac reserves the right to change the prices so listed at any time without notice.
   (b) Payment terms are cash, net thirty (30) days.
   (c) Interest shall be charged at twenty-four percent (24%) per annum on all overdue accounts (subject to any required reduction to comply with applicable laws); and, where necessary, all costs of collection of overdue accounts shall be payable by the Customer including any legal fees and disbursements on a solicitor and client basis.

8. The price of any services rendered or material and equipment purchased by Calfrac at the Customer's request and not listed in the price schedule in effect at the date hereof shall be charged to the Customer at cost plus twenty percent (20%).

9. License fees and royalties payable by Calfrac in connection with the provisions of products and services to the Customer or other necessary or ancillary products and services shall be charged to the Customer at cost; special permit fees incurred by Calfrac in connection with the provision of products and services to the Customer shall be charged to the Customer at cost plus twenty percent (20%).

10. All sales tax and valued added tax of whatever nature levied on the product and service provided by Calfrac will be charged to and borne by the Customer where applicable.

11. Where Calfrac rents its own or third party equipment to the Customer the following additional terms and conditions apply:
   (a) The Customer bears full risk of loss or damage to the equipment from any cause whatsoever;
   (b) In the event of loss or damage to the equipment the Customer shall either (at the option of Calfrac) repair the equipment or obtain suitable replacements to the satisfaction of Calfrac,
   (c) The Customer shall indemnify Calfrac and hold Calfrac harmless from any and all claims, suits, actions, costs, expense or liability, including legal fees and disbursements arising out of or connections to the delivery, use, possession or return of equipment;
   (d) The Customer acknowledges it has inspected the equipment and that the equipment is in good condition and repair and the Customer is satisfied with the equipment and that the equipment is fit for the Customer's intended purpose; and
   (e) The equipment is, and shall at all times, be and remain the sole and exclusive property of Calfrac.

12. This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado.

13. If any of the provisions of this Agreement conflict with the law under which this Agreement is to be construed, or if such provisions are found to be invalid by a court of competent jurisdiction, then such provisions shall be deleted from this Agreement and the remainder of this Agreement shall survive and be construed to give full force and effect to the remaining provisions hereof.

14. Calfrac offers, furnishes, sells and delivers its products and services only under the above described terms and conditions. Calfrac shall not be bound by any changes or modifications in this Agreement except where such changes or modifications are made in writing by a duly authorized officer of Calfrac.

Prices subject to change without notice

08721738

P-0021515

FORM NO. 3 R 10/09

ARM 36.22.307, 601, 605
1003, 1004, 1011, 1013
1103, 1222, 1240, 1301,
1306, 1309, and 1417

Submit In Quadruplicate To:

MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

RECEIVED
NOV 14 2012
MONTANA BOARD OF OIL & GAS CONSERVATION - BILLINGS

SUNDRY NOTICES AND REPORT OF WELLS

Operator **FIDELITY EXPLORATION & PRODUCTION COMPANY**

Address **P.O. Box 1010**

City **Glendive** State **MT** Zip Code **59330-1010**

Telephone (**406**) **359-7360** Fax (**406**) **359-7273**

Location of well (1/4-1/4 section and footage measurements):

SE, SE, 330' FSL, 330' FEL Gr Elevation 3014.4

Latitude 46.642727 Longitude -107.379455

Lease Name:
Fee

Type (Private/State/Federal/Tribal/Allotted):
Private

Well Number:
71 Ranch 44-1H

Unit Agreement Name:
NA

Field Name or Wildcat:
Wildcat

Township. Range, and Section:
T10N, R34E, Sec 1

County:
Rosebud.

API Number :

25 | **087** | **21738**
State | County | Well

Well Type (oil, gas, injection, other):
Oil

Indicate below with an X the nature of this notice, report, or other data:

Notice of Intention to Change Plans	☐	Subsequent Report of Mechanical Integrity Test	☐
Notice of Intention to Run Mechanical Integrity Test	☐	Subsequent Report of Stimulation or Treatment	☐
Notice of Intention to Stimulate or to Chemically Treat	☐	Subsequent Report of Perforation or Cementing	☐
Notice of Intention to Perforate or to Cement	☐	Subsequent Report of Well Abandonment	☐
Notice of Intention to Abandon Well	☐	Subsequent Report of Pulled or Altered Casing	☐
Notice of Intention to Pull or Alter Casing	☐	Subsequent Report of Drilling Waste Disposal	☐
Notice of Intention to Change Well Status	☐	Subsequent Report of Production Waste Disposal	☐
Supplemental Well History	☐	Subsequent Report of Change in Well Status	☐
Other (specify) Revised APD Exhibits	☒	Subsequent Report of Gas Analysis (ARM 36.22.1222)	☐
		Subsequent Report: Pump Install	☐

Describe Proposed or Completed Operations:

Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

Discrepancies were found in the Elevations on the DSL, SPCC, Road Access and Orientation Map submitted with the APD. Revised exhibits are attached.

BOARD USE ONLY

Approved NOV 15 2012
Date

Steve Sasak CHIEF FIELD INSPECTOR
Name Title

The undersigned hereby certifies that the information contained on this application is true and correct:

November 12, 2012 Lorie Cullinan
Date Signed (Agent)

Lorie Cullinan **Operations Technician**
Print Name & Title

Telephone: **406-359-7302**

P-0021516

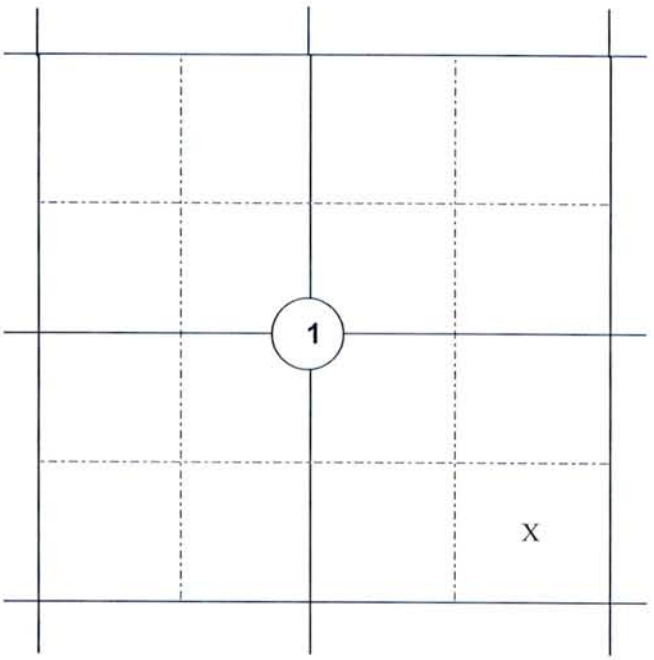
SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Range **R34E**

Township **T10N**



BOARD USE ONLY	CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

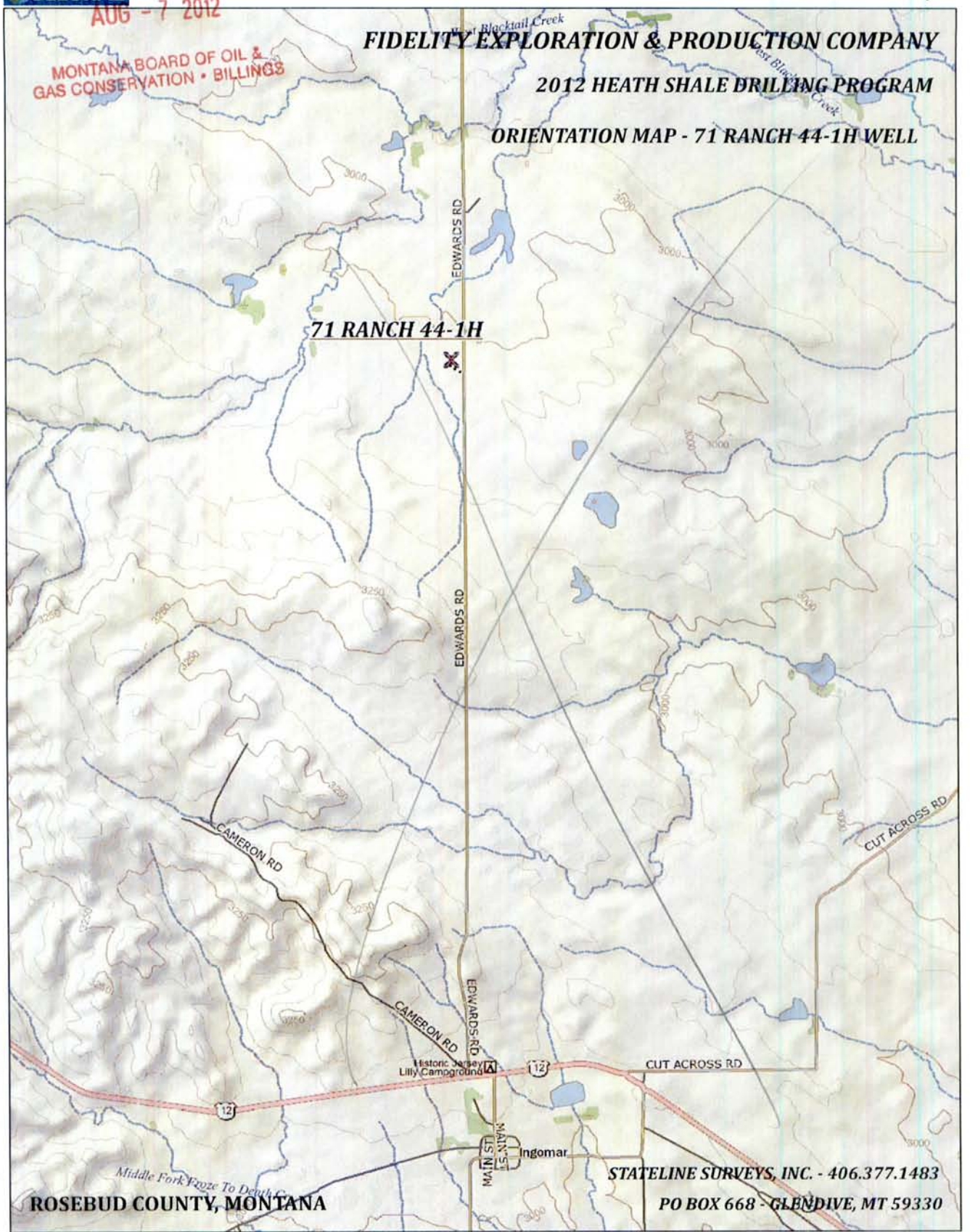
DeLORME

XMap® 7

FIDELITY EXPLORATION & PRODUCTION COMPANY

2012 HEATH SHALE DRILLING PROGRAM

ORIENTATION MAP - 71 RANCH 44-1H WELL



STATELINE SURVEYS, INC. - 406.377.1483

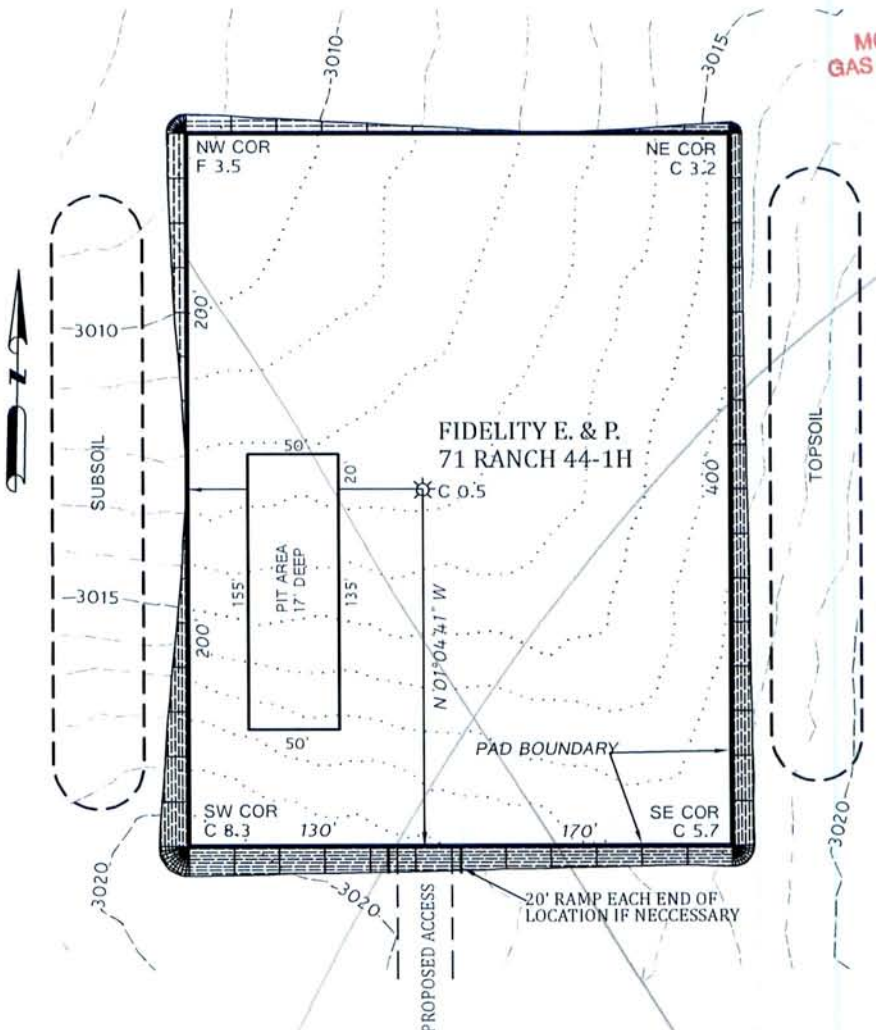
PO BOX 668 - GLENDIVE, MT 59330

TN
MN (10.7°E)

Scale 1 : 46,875

1" = 3,906.3 ft Data Zoom 12-0

P-0021518



ESTIMATED EARTHWORK

TOPSOIL (6"DEPTH)	2222 C.Y.
EXCAVATION	8789 C.Y.
FILL (W/10% SHRINKAGE)	1549 C.Y.
WASTE MATERIAL	7240 C.Y.
TOTAL EXCAVATION*	11011 C.Y.

ACCESS ROAD - APPROX. 511' SOUTHERLY

*PIT EXCAVATION NOT INCLUDED
FILL 3:1 SLOPES
CUT 2:1 SLOPES

EXISTING WELL ELEVATION	3012.8'
GRADED WELL ELEVATION	3012.3'

CONTOUR INTERVAL 1.0'

NOTE: USE EXCESS MATERIAL ON ACCESS ROAD

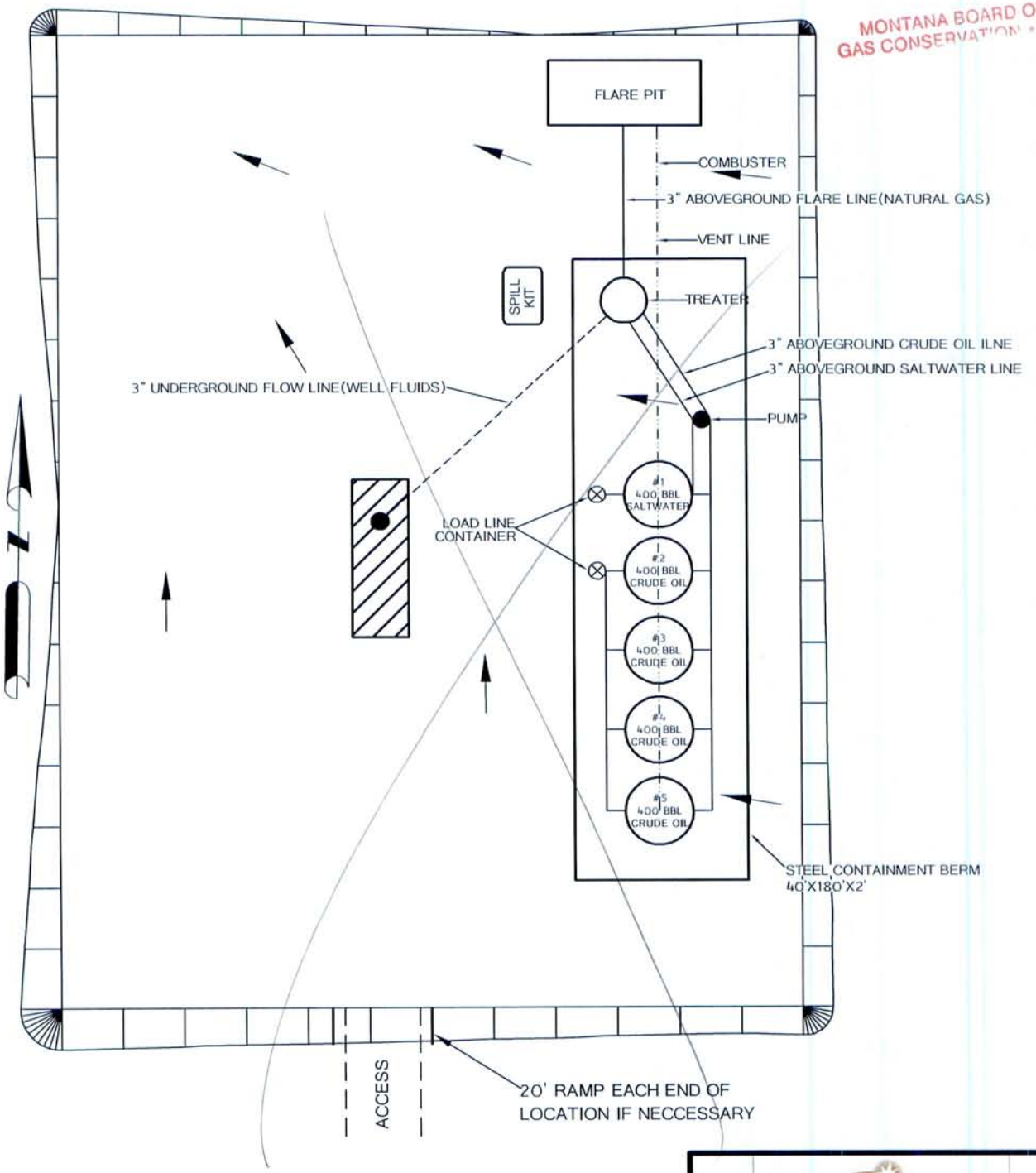
SCALE: 1" = 100'
0 100 200

FIDELITY
Exploration & Production Company
An MDU Resources Group, Inc. company

FIDELITY E. & P.
71 RANCH 44-1H
DRILL SITE LAYOUT

SCALE	DATE	DRAWN BY	JOB NO.
1" = 100'	7.22.12	A.THOMPSON	12118

STATELINE SURVEYS, INC. - 406.377.1483 - PO BOX 668 - GLENDIVE, MT 59330



- FLOW DIRECTION

EXISTING WELL ELEVATION	3136.3'
GRADED WELL ELEVATION	3135.1'

FIDELITY
Exploration & Production Company
An MDU Resources Group, Inc. company

FIDELITY E. & P.

71 RANCH 44-1H

PROPOSED SPCC PLOT PLAN

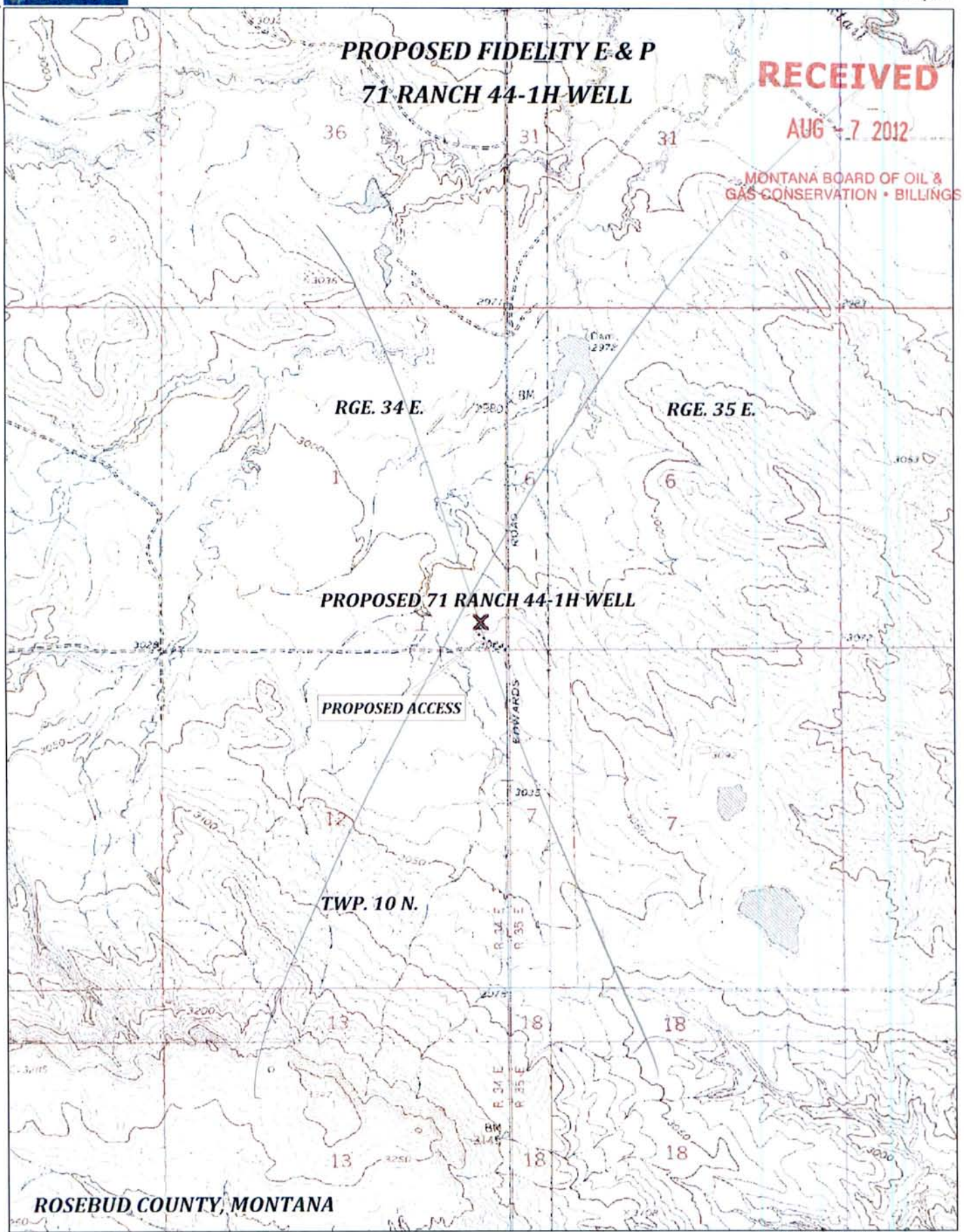
SCALE	DATE	DRAWN BY	JOB NO.
NTS	7.22.12	A.THOMPSON	12118

STATELINE SURVEYS, INC. - 406.377.1483 - PO BOX 668 - GLENDIVE, MT 59330

P-0021520

DeLORME

XMap® 7



TN
MN (10.7°E)

Scale 1 : 24,000
1" = 2,000.0 ft
Data Zoom 13-0

P-0021521

P-0021522

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	10/3/2012
State:	MT
County:	Rosebud
API Number:	25-087-21738
Operator Name:	Fidelity
Well Name and Number:	71 Ranch 44-1H
Longitude:	-107.379455
Latitude:	46.642727
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	5,115
Total Water Volume (gal)*:	1,082,654

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Sand (Proppant)	CWS	Propping Agent					
DAP-925	CWS	Acid Corrosion Inhibitor					
DWP-111	CWS	Gel Slurry					
DWP-123	CWS	Crosslinker					
DWP-204	CWS	pH Buffer					
DWP-621	CWS	Friction Reducer					
DWP-902	CWS	Breaker					
DWP-905	CWS	Breaker					
DWP-913	CWS	Clay Control					
DWP-944	CWS	Biocide					
DWP-955	CWS	Non-Emulsifier					
Hydrochloric Acid	CWS	Clean Perforations					
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	40.00%	0.01180%	
			Ammonium Persulfate	7727-54-0	100.00%	0.08724%	
			Apatite	64476-38-6	0.10%	0.00285%	
			Biotite	1302-27-8	0.10%	0.00285%	
			Calcite	471-34-1	1.00%	0.02366%	
			Choline chloride	67-48-1	100.00%	0.06960%	
			Crystalline silica (Quartz)	14808-60-7	30.00%	12.98209%	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00%	0.17820%	
			Fatty acids	Trade Secret	30.00%	0.00001%	
			Formaldehyde	50-00-0	0.10%	0.00000%	
			Formic Acid	64-18-6	13.00%	0.00149%	
			Goethite	1310-14-1	0.10%	0.00510%	
			Guar gum	9000-30-0	60.00%	0.17820%	
			Hydrochloric acid	7647-01-0	37.00%	0.03165%	
			Illite	12173-60-3	1.00%	0.00465%	
			Ilmenite	98072-94-7	0.10%	0.00172%	
			Methanol	67-56-1	60.00%	0.00002%	
			Modified thiourea polymer	68527-49-1	30.00%	0.00001%	
			Nonionic surfactant	Trade Secret	5.00%	0.00106%	

ION-34E-1

✓

			Olefin	Trade Secret	5.00%	0.00000%	
			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50%	0.00446%	
			Paraffinic hydrocarbon solvent	64742-47-8	30.00%	0.00637%	
			Polyacrylamide polymer	Trade Secret	40.00%	0.00849%	
			Polyethylene Glycol Mixture	25322-68-3	70.00%	0.01180%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00001%	
			Polyoxyalkylenes surfactant	Trade Secret	5.00%	0.00106%	
			Potassium hydroxide	1310-58-3	30.00%	0.03760%	
			Propargyl Alcohol	107-19-1	10.00%	0.00000%	
			Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00%	0.01485%	
			Sodium chloride	7647-14-5	1.00%	0.00000%	
			Sodium tetraborate pentahydrate	12179-04-3	Trade Secret	Trade Secret	
			Styrene acrylic copolymer	25085-34-1	40.00%	0.03490%	
Water	Customer & CWS	Base Fluid & Mix Water	Water	7732-18-5	100.00%	86.38062%	
CO2	Customer	Base Fluid Gas	Carbon Dioxide	124-38-9	Not Listed	Not Listed	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

SPUD INFORMATION

WELL NAME: 71 Ranch 44-1H

API #: 087- 21738

LOCATION: SESE: ~~33-11N-33E~~ 1-10N-34E
(Twp-Rge-Sec: ¼ ¼)

SPUD TIME: 3:30 pm

DATE: 8-9-12

DRILLING COMPANY: Pioneer

RIG #: 43

CALLER'S NAME: Mark (701)355-6852

COMPANY NAME: Fidelity

OTHER:

Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Fidelity Exploration and Production Company
Well Name/Number: Fee/71 Ranch 44-1H
Location: SE SE Section 1 T10N R34E
County: Rosebud, **MT; Field (or Wildcat)** W/C

Air Quality

(possible concerns)
Long drilling time: No, 20 to 30 days drilling time.
Unusually deep drilling (high horsepower rig): No, a triple drilling rig to drill to a 9,927'MD/5125' TVD single lateral horizontal Heath Formation well test.
Possible H2S gas production: Slight H2S possible.
In/near Class I air quality area: No class I air quality area, in the area of review.
Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
_X_ Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:

Comments: No special concerns – using a triple drilling rig to drill 9,927'MD/5125' TVD single lateral horizontal Heath Formation well test. No gas gathering system exists in this area. Associated sweet gas and H2S gas can be flared under Board Rule 36.22.1220, if no gathering systems are in close proximity to this well.

Water Quality

(possible concerns)

Salt/oil based mud: No, surface hole will be drilled with freshwater. Main hole will be drilled with inhibited freshwater and inhibited freshwater drilling mud. Horizontal lateral will be drilled with inhibited freshwater mud system.
High water table: No high water table in the area of review.
Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage West Blacktail Creek, also an ephemeral drainage, about 1/8 of a mile to the west and about 1/8 of a mile to the east from this location. A small stock pond lies within the same unnamed drainage about 1/4 of a mile to the north northwest from this location.
Water well contamination: No, closest water wells are none within a 1 mile radius from this location in any direction. This well will drill and set 9 5/8" surface casing to 660' and cement to surface. Well will be drill with inhibited freshwater based drilling fluids from base of surface casing to intermediate casing depth of TD of 5029'. Well will be drilled horizontally into the Heath Formation with a 6 1/4" hole and inhibited freshwater drilling fluids to 9,927'MD/5125' TVD and 4 ½" and 5 ½" casing liner will be run.
Porous/permeable soils: No, silty "Gumbo" clay soils.
Class I stream drainage: No Class I stream drainages.

Mitigation:
_X_ Lined reserve pit

_X_ Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
_X_ Off-site disposal of solids/**liquids** (in approved facility)
_X_ Other: Drill cuttings will be buried in the lined reserve pit and mixed off with dry subsoil. Reserve pit will be closed when dry. A minimum of four feet (4') dry subsoil and topsoil will cover the reserve pit.

Comments: Freshwater mud system to be used on surface hole. Inhibited freshwater mud system will be used out from under surface casing to 5029' TD intermediate casing hole. Inhibited freshwater drilling fluids will be used to drill the horizontal lateral to 9,927'MD/5125' TVD. Fluids in the lined reserve pit will be trucked to a permitted Class II Disposal. The reserve pit will be allowed to dry and then mixed buried with cuttings and subsoil with at least 4' of cover. No concerns.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No live water stream crossings.

High erosion potential: No, small cut, up to 8.3' and small fill, up to 3.5', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, a large location, 400X300' size required.

Damage to improvements: Slight, surface use is grass and sagebrush grazing land.

Conflict with existing land use/values: Slight

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
_X_ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be from existing county road, Edwards Road. About 350' of new road will be constructed into this location off the existing county road. Freshwater drill cuttings and mud solids will be buried in the lined reserve pit. Lined pit will backfilled with 4' of cover when dry. Drilling fluids will be trucked to a Class II Disposal around Sidney, Montana. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest no residences within about 1 mile radius from this location. The town of Ingomar, Montana is about 4.5 miles to the south from this location.

Possibility of H2S: Yes, slight chance of H2S.

Size of rig/length of drilling time: Triple derrick drilling rig, about 20 to 30 days drilling time.

Mitigation:

_X_ Proper BOP equipment
__ Topographic sound barriers

__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Operational BOP and adequate surface casing should mitigate any problems. (BOP's 5,000 psig annular, pipe and blind rams) rule 36.22.1014. No concerns.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No
Conflict with game range/refuge management: No
Threatened or endangered Species: Threatened or endangered species identified in this county are the Pallid Sturgeon, Interior Least Tern and the Black-Footed Ferret. Candidate species are the Greater Sage-Grouse and Sprague's Pipit. NH tracker website lists four (4) "Species of Concern" in T10N R34E. They are the Black-tailed Prairie Dog, Chestnut-collared Longspur, Greater Sage-Grouse and the Loggerheaded Shrike.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____

Comments: Private surface grazing land. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified.

Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____

Comments: Private surface grazing land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation

Comments: Well is a wildcat, until production is established, no social or economic impact can be assessed.

Remarks or Special Concerns for this site

Well is a 9,927'MD/5125' TVD single lateral horizontal Heath Formation well test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: August 7, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology GWIC website
(Name and Agency)
Rosebud County water wells
(subject discussed)
August 6, 2012
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Rosebud County
(subject discussed)

August 6, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T10N R34E
(subject discussed)

August 6, 2012
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: __ _____
Others present during inspection: __ _____

Montana Natural Heritage Program
Animal Species of Concern Report
This Report Generated on: 2012-08-06 Time:10:52:04
For the most current data, visit this link:
http://mtnhp.org/SpeciesOfConcern/?AorP=a

Species List Last Updated 06/07/2012
4 Species of Concern
Filtered by the following criteria:
Species = Mammals, Birds, Reptiles
Heritage State Rank = S1, S2, S3
Township = 10 N Range = 34 E

Use the tabs below to see the data sets

AnimalSubGroup	A ELCODE	SNAME	SCOMNAME	Alt A FAMILY	F_CommonName	G_RAN	S_RANK
Mammals (Mamma	AMAFB06010	Cynomys ludovicia	Black-tailed Prairie	Sciuridae	Squirrels	G4	S3
Birds (Aves)	ABPBXA6040	Calcarius ornatus	Chestnut-collared L	Calcariidae	Longspurs and Sno	G5	S2B
Birds (Aves)	ABNLC12010	Centrocercus uropl	Greater Sage-Grou	Phasianidae	Upland Game Birds	G3G4	S2
Birds (Aves)	ABPBR01030	Lanius ludovicianus	Loggerhead Shrike	Laniidae	Shrikes	G4	S3B

S_RANK_REASONS	USE	FS	BLM	CFWCS	COUNTY	SOC	Pcnt_Bi	Pcnt_MT	Short_Habitat
		SENSITIVE	SENSITIVE	1	Big Horn, Blaine, C	SOC	15	71	Grasslands
Species has a nega			SENSITIVE	3	Big Horn, Blaine, C	SOC	32	67	Grasslands
	C	SENSITIVE	SENSITIVE	1	Beaverhead, Big H	SOC	17	75	Sagebrush
			SENSITIVE	2	Big Horn, Blaine, B	SOC	4	100	Shrubland

County/Scientific Name	Common Name	Status
POWDER RIVER		
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
POWELL		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Anthus spragueii	Sprague's Pipit	C
Gulo gulo luscus	Wolverine	C
Pinus albicaulis	Whitebark Pine	C
PRAIRIE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Mustela nigripes	Black-footed Ferret	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
RAVALLI		
Salvelinus confluentus	Bull Trout	LT, CH
Coccyzus americanus	Yellow-billed cuckoo (western pop.)	C
Gulo gulo luscus	Wolverine	C
Pinus albicaulis	Whitebark Pine	C
RICHLAND		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
ROOSEVELT		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Anthus spragueii	Sprague's Pipit	C
ROSEBUD		
Mustela nigripes	Black-footed Ferret	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Centrocercus urophasianus	Greater Sage-Grouse	C
Anthus spragueii	Sprague's Pipit	C
Scaphirhynchus albus	Pallid Sturgeon	LE
SANDERS		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT
Salvelinus confluentus	Bull Trout	LT, CH
Gulo gulo luscus	Wolverine	C
Pinus albicaulis	Whitebark Pine	C
Silene spaldingii	Spalding's Campion	LT
SHERIDAN		
Charadrius melodus	Piping Plover	LT, CH
Grus americana	Whooping Crane	LE
Anthus spragueii	Sprague's Pipit	C

Page	:	1 of 1 07/19/2012 09:15:37	Ad Number	:	10528333
			Ad Key	:	
Order Number	:	20208655	Salesperson	:	IR19 - Inside Classified Sales - IR19
PO Number	:	Stacey Saltsman	Publication	:	Independent Record
Customer	:	60013317 Fidelity Exploration and Productio	Section	:	Class Section
Contact	:		Sub Section	:	Legal
Address1	:	1700 Lincoln Street, Suite 2800	Category	:	9999 Legals
Address2	:		Dates Run	:	07/23/2012-07/23/2012
City St Zip	:	Denver CO 80203	Days	:	1
Phone	:	(720) 917-3036	Size	:	2 x 4.66, 48 lines
Fax	:		Words	:	338
	:		Ad Rate	:	Legal Line
Printed By	:	Billie Jo Williams	Ad Price	:	181.44
Entered By	:	Billie Jo Williams	Amount Paid	:	0.00
			Amount Due	:	181.44
Keywords	:	BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF TH			
Notes	:				
Zones	:				

RECEIVED

JUL 25 2012

MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

BEFORE THE BOARD OF OIL AND GAS CONSERVATION
OF THE STATE OF MONTANA
NOTICE OF INTENTION TO APPLY
FOR PERMIT TO DRILL OIL AND GAS WELL

In the Matter of the application of
Fidelity Exploration & Production Company
for a Permit to Drill an oil and gas well.

1. Name and address of Applicant:
Fidelity Exploration & Production Company
1700 Lincoln St, Suite 2800
Denver, CO 80203

2. Legal Description including County and Approximate Footages of Surface Location of Proposed Oil and Gas Well:
(and projected bottom-hole location, if a directional or horizontal well)
Well Name: 71 Ranch 44-1H
SHL:
SESE, Section 1, Township 10 North, Range 34 East, 330' FSL 330' FEL
BHL:
NWNE, Section 1, Township 10 North, Range 34 East, 330' FNL 2310' FEL
Rosebud County

3. Total Depth Proposed to be Drilled:
MD: 9,720'
TVD: 5,087'

Notice is hereby given that an application for permit to drill an oil and gas well at the surface location set forth above to the depth as stated will be filed with the Montana Board of Oil and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an opportunity to be heard by the Montana Board of Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, ADDRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL, AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED UPON THE APPLICANT BY COPY MAILED OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE.

Montana Board of Oil and Gas Conservation
2535 St. Johns Avenue
Billings MT 59102
Office: (406) 656-0040
Fax: (406) 655-6015
July 23, 2012

AFFIDAVIT OF PUBLICATION
STATE OF MONTANA,
County of Lewis & Clark

Billie Jo Williams

Being duly sworn, deposes and says;

That she is the principal clerk of the Independent Record, a newspaper of general circulation published daily in the City of Helena, in the County of Lewis & Clark, State of Montana, and has charge of the advertisement therof:

That the Notice of Intention to Drill
71 Ranch 44-1H

a true copy of which is hearto annexed, was published in said newspaper on the following dates: viz.:

July 23, 2012

making in all 1 publication(s)

Billie Jo Williams

Subscribed and sworn to me this 23 day of July, 2012.

Colleen D. Simkins

Notary Public for the State of Montana
Printed Name: Colleen D. Simkins
Residing at Helena, Montana
My commission expires March 10, 2013

(Notary Seal)

COLLEEN D. SIMKINS
NOTARY PUBLIC for the
State of Montana
Residing at Helena, Montana
My Commission Expires
March 10, 2013

P-0021533

AFFIDAVIT of PUBLICATION No. 3023

STATE OF MONTANA)
)
County of ROSEBUD)

SHIRLEY BERTIN being first sworn, deposes and says: That she is and during the time hereinafter mentioned, has been *ASSISTANT BOOKKEEPER* of the *INDEPENDENT PRESS*, a weekly newspaper of general circulation, printed and published at Forsyth, in the said County and State. That the (attached on back -

Before the Board of Oil and Gas Conservation
of the State of Montana
Fidelity Exploration & Production Company
71 Ranch 44-1

a printed and true copy, cut from the columns of the said newspaper, of which is here unto annexed, was printed and published in the regular and entire issue of the weekly edition of said newspaper for 1 issues, commencing on the 26th day of July and ending on the 26th day of July, on the following dates, to wit.

July 26, 2012

The legal rate charged for the printing does not exceed the minimum going rate charged to any other advertiser for the same publication, set in the same size type and published of the same number of insertions.

Shirley F. Bertin

Subscribed and sworn to before me this 26th day of July, 2012

CHAUN SCOTT
NOTARY PUBLIC for the
State of Montana
Residing at Forsyth, Montana
My Commission Expires
August 14, 2014

CHAUN SCOTT NOTARIAL SEAL STATE OF MONTANA

C L Scott

P-0021534

BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

In the Matter of the application of Fidelity Exploration & Production Company for a Permit to Drill an oil and gas well.

NOTICE OF INTENTION TO APPLY FOR PERMIT TO DRILL OIL AND GAS WELL

1. Name and address of Applicant: Fidelity Exploration & Production Company

1700 Lincoln St, Suite 2800, Denver, CO 80203

2. Legal Description including County and Approximate Footages of Surface Location of Proposed Oil and Gas Well: (and projected bottom-hole location, if a directional or horizontal well) Well Name: 71 Ranch 44-1 H SHL: SESE, Section 1, Township 10 North, Range 34 East, 330' FSL 330' FEL BHL: NWNE, Section 1, Township 10 North, Range 34 East, 330' FNL 2310' FEL Rosebud County

3. Total Depth Proposed to be Drilled:

MD 9,720' TVD 5,087'

Notice is hereby given that an application for permit to drill an oil and gas well at the surface location set forth above to the depth as stated will be filed with the Montana Board of Oil and Gas Conservation. Pursuant to Rules 36.22.601 and 36.22.604, Administrative Rules of Montana, an interested party may demand an opportunity to be heard by the Montana Board of Oil and Gas Conservation concerning the application. SUCH DEMAND FOR HEARING MUST BE RECEIVED BY THE MONTANA BOARD OF OIL AND GAS CONSERVATION AT THE ADDRESS SET FORTH BELOW NO LATER THAN TEN (10) DAYS AFTER THE DATE OF PUBLICATION OF THIS NOTICE, OR THE APPLICATION WILL BE ACTED UPON BY THE BOARD'S PETROLEUM ENGINEER WITHOUT HEARING. A DEMAND MUST: (1) SET FORTH THE NAME, ADDRESS AND TELEPHONE NUMBER OF EACH INTERESTED PARTY, THEIR OWNERSHIP INTEREST IN THE LANDS SURROUNDING THE PROPOSED WELL, AND THE REASONS WHY A HEARING IS SOUGHT; (2) BE SERVED UPON THE APPLICANT BY COPY MAILED OR FAX TRANSMITTED TO THE ADDRESS SET FORTH ABOVE.

Montana Board of Oil and Gas Conservation
2535 St. Johns Avenue
Billings MT 59102
Office: (406) 656-0040
Fax: (406) 655-6015

Published July 26, 2012

FIDELITY
Exploration & Production Company

Fidelity Exploration & Production

Rosebud Co., MT
SESE Sec 1-T10N-R34E
71 Ranch 44-1H

Hz

Survey: Survey #1

Standard Survey Report

04 September, 2012

PHOENIX
TECHNOLOGY SERVICES

FIDELITY
Exploration & Production Company

Phoenix Technology Services
Survey Report

PHOENIX TECHNOLOGY SERVICES

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Hz		

Project Rosebud Co., MT

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Montana		

Site SESE Sec 1-T10N-R34E

Site Position:		**Northing:**	879,527.23 usft	**Latitude:**	46.64
From:	Lat/Long	**Easting:**	2,500,772.63 usft	**Longitude:**	-107.38
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	1.55 °

Well 71 Ranch 44-1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	879,527.23 usft	**Latitude:**	46° 38' 33.817 N
	+E/-W	0.0 usft	**Easting:**	2,500,772.63 usft	**Longitude:**	107° 22' 46.038 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,012.0 usft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010-14	07/19/12	10.80	71.44	55,735

Job Number Hz

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	336.71

Survey Program **Date** 09/04/12

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	9,900.0	Survey #1 (Hz)	MWD	

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	-3,030.0	0.0	0.0	0.0	0.00	0.00	0.00
683.0	0.00	0.00	683.0	-2,347.0	0.0	0.0	0.0	0.00	0.00	0.00
725.0	0.60	110.10	725.0	-2,305.0	-0.1	0.2	-0.2	1.43	1.43	0.00
1,154.0	0.50	96.60	1,154.0	-1,876.0	-1.1	4.2	-2.6	0.04	-0.02	-3.15
1,622.0	1.00	97.00	1,621.9	-1,408.1	-1.8	10.3	-5.7	0.11	0.11	0.09
2,096.0	1.00	73.20	2,095.9	-934.1	-1.1	18.3	-8.3	0.09	0.00	-5.02
2,571.0	1.50	59.00	2,570.8	-459.2	3.3	27.6	-7.9	0.12	0.11	-2.99

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Hz		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,046.0	1.50	53.50	3,045.6	15.6	10.2	37.9	-5.6	0.03	0.00	-1.16
3,512.0	2.00	74.70	3,511.4	481.4	16.0	50.7	-5.4	0.17	0.11	4.55
3,985.0	2.20	61.70	3,984.1	954.1	22.5	66.6	-5.7	0.11	0.04	-2.75
4,460.0	2.00	67.10	4,458.7	1,428.7	30.0	82.3	-5.0	0.06	-0.04	1.14
4,614.0	1.70	69.70	4,612.7	1,582.7	31.8	86.9	-5.1	0.20	-0.19	1.69
4,645.0	1.70	66.90	4,643.6	1,613.6	32.2	87.8	-5.1	0.27	0.00	-9.03
4,677.0	1.30	357.00	4,675.6	1,645.6	32.7	88.2	-4.8	5.47	-1.25	-218.44
4,709.0	4.30	328.20	4,707.6	1,677.6	34.1	87.5	-3.3	10.07	9.38	-90.00
4,740.0	7.50	337.40	4,738.4	1,708.4	37.0	86.2	-0.1	10.73	10.32	29.68
4,772.0	11.40	338.80	4,770.0	1,740.0	41.8	84.2	5.1	12.21	12.19	4.38
4,803.0	15.60	336.20	4,800.1	1,770.1	48.5	81.4	12.4	13.69	13.55	-8.39
4,835.0	19.40	333.00	4,830.6	1,800.6	57.2	77.3	22.0	12.25	11.88	-10.00
4,867.0	23.30	329.70	4,860.4	1,830.4	67.4	71.7	33.6	12.75	12.19	-10.31
4,898.0	26.90	328.10	4,888.5	1,858.5	78.6	64.9	46.6	11.82	11.61	-5.16
4,930.0	30.80	327.40	4,916.5	1,886.5	91.7	56.6	61.8	12.23	12.19	-2.19
4,962.0	35.00	327.60	4,943.4	1,913.4	106.4	47.3	79.0	13.13	13.13	0.63
4,993.0	39.50	327.40	4,968.1	1,938.1	122.2	37.2	97.5	14.52	14.52	-0.65
5,025.0	44.00	327.60	4,991.9	1,961.9	140.1	25.8	118.5	14.07	14.06	0.63
5,057.0	48.70	328.20	5,014.0	1,984.0	159.8	13.5	141.4	14.75	14.69	1.88
5,089.0	53.20	328.00	5,034.2	2,004.2	180.8	0.3	166.0	14.07	14.06	-0.63
5,120.0	58.00	328.00	5,051.7	2,021.7	202.5	-13.2	191.3	15.48	15.48	0.00
5,152.0	62.80	327.60	5,067.5	2,037.5	226.1	-28.0	218.7	15.04	15.00	-1.25
5,183.0	67.60	327.40	5,080.5	2,050.5	249.8	-43.2	246.5	15.49	15.48	-0.65
5,215.0	72.60	327.40	5,091.4	2,061.4	275.1	-59.4	276.2	15.63	15.63	0.00
5,247.0	77.60	327.30	5,099.6	2,069.6	301.2	-76.0	306.7	15.63	15.63	-0.31
5,278.0	79.70	328.20	5,105.7	2,075.7	326.9	-92.3	336.7	7.35	6.77	2.90
5,310.0	80.10	328.40	5,111.3	2,081.3	353.7	-108.8	367.9	1.39	1.25	0.63
5,342.0	80.40	328.40	5,116.7	2,086.7	380.5	-125.3	399.1	0.94	0.94	0.00
5,373.0	80.40	328.50	5,121.9	2,091.9	406.6	-141.3	429.3	0.32	0.00	0.32
5,405.0	82.50	328.60	5,126.7	2,096.7	433.6	-157.8	460.7	6.57	6.56	0.31
5,436.0	86.90	329.00	5,129.5	2,099.5	460.0	-173.8	491.2	14.25	14.19	1.29
5,468.0	89.10	329.60	5,130.6	2,100.6	487.5	-190.2	522.9	7.13	6.88	1.88
5,500.0	89.50	330.20	5,131.0	2,101.0	515.2	-206.2	554.7	2.25	1.25	1.88
5,524.0	89.90	331.20	5,131.1	2,101.1	536.1	-217.9	578.6	4.49	1.67	4.17
5,556.0	90.90	332.70	5,130.9	2,100.9	564.3	-233.0	610.5	5.63	3.13	4.69
5,581.0	90.50	332.40	5,130.6	2,100.6	586.5	-244.5	635.4	2.00	-1.60	-1.20
5,612.0	90.40	332.60	5,130.4	2,100.4	614.0	-258.8	666.3	0.72	-0.32	0.65
5,642.0	92.20	332.40	5,129.7	2,099.7	640.6	-272.7	696.2	6.04	6.00	-0.67
5,672.0	93.00	332.20	5,128.3	2,098.3	667.1	-286.6	726.1	2.75	2.67	-0.67
5,703.0	92.50	332.10	5,126.8	2,096.8	694.5	-301.1	757.0	1.64	-1.61	-0.32
5,733.0	92.40	332.10	5,125.6	2,095.6	721.0	-315.1	786.8	0.33	-0.33	0.00
5,764.0	93.40	332.00	5,124.0	2,094.0	748.4	-329.6	817.7	3.24	3.23	-0.32

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Hz		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,794.0	93.80	331.80	5,122.1	2,092.1	774.8	-343.7	847.5	1.49	1.33	-0.67
5,825.0	95.00	331.40	5,119.7	2,089.7	802.0	-358.4	878.3	4.08	3.87	-1.29
5,855.0	94.00	332.20	5,117.4	2,087.4	828.3	-372.5	908.1	4.26	-3.33	2.67
5,886.0	93.50	332.70	5,115.4	2,085.4	855.7	-386.9	939.0	2.28	-1.61	1.61
5,917.0	93.50	332.60	5,113.5	2,083.5	883.2	-401.1	969.8	0.32	0.00	-0.32
5,947.0	92.60	332.40	5,111.9	2,081.9	909.8	-414.9	999.7	3.07	-3.00	-0.67
5,978.0	92.00	332.00	5,110.6	2,080.6	937.2	-429.4	1,030.6	2.33	-1.94	-1.29
6,008.0	90.70	332.80	5,109.9	2,079.9	963.8	-443.2	1,060.5	5.09	-4.33	2.67
6,039.0	90.30	333.50	5,109.6	2,079.6	991.4	-457.2	1,091.4	2.60	-1.29	2.26
6,069.0	90.00	332.80	5,109.6	2,079.6	1,018.2	-470.8	1,121.4	2.54	-1.00	-2.33
6,099.0	91.00	334.10	5,109.3	2,079.3	1,045.0	-484.2	1,151.3	5.47	3.33	4.33
6,130.0	91.10	334.90	5,108.7	2,078.7	1,073.0	-497.5	1,182.3	2.60	0.32	2.58
6,160.0	90.70	333.00	5,108.3	2,078.3	1,099.9	-510.7	1,212.2	6.47	-1.33	-6.33
6,191.0	89.90	331.50	5,108.1	2,078.1	1,127.4	-525.2	1,243.2	5.48	-2.58	-4.84
6,221.0	88.20	329.70	5,108.6	2,078.6	1,153.5	-539.9	1,273.0	8.25	-5.67	-6.00
6,252.0	87.90	331.00	5,109.7	2,079.7	1,180.4	-555.2	1,303.8	4.30	-0.97	4.19
6,283.0	89.10	332.10	5,110.5	2,080.5	1,207.7	-570.0	1,334.6	5.25	3.87	3.55
6,314.0	90.60	333.20	5,110.5	2,080.5	1,235.2	-584.2	1,365.6	6.00	4.84	3.55
6,344.0	91.50	334.10	5,110.0	2,080.0	1,262.1	-597.5	1,395.5	4.24	3.00	3.00
6,375.0	91.00	335.80	5,109.3	2,079.3	1,290.2	-610.6	1,426.5	5.71	-1.61	5.48
6,405.0	90.90	335.60	5,108.8	2,078.8	1,317.5	-623.0	1,456.5	0.75	-0.33	-0.67
6,436.0	90.90	336.30	5,108.3	2,078.3	1,345.8	-635.6	1,487.5	2.26	0.00	2.26
6,466.0	90.20	335.40	5,108.0	2,078.0	1,373.2	-647.9	1,517.5	3.80	-2.33	-3.00
6,498.0	89.60	334.10	5,108.1	2,078.1	1,402.1	-661.5	1,549.4	4.47	-1.88	-4.06
6,529.0	89.60	335.10	5,108.3	2,078.3	1,430.1	-674.8	1,580.4	3.23	0.00	3.23
6,559.0	90.50	335.70	5,108.3	2,078.3	1,457.4	-687.3	1,610.4	3.61	3.00	2.00
6,589.0	90.10	334.90	5,108.1	2,078.1	1,484.7	-699.9	1,640.4	2.98	-1.33	-2.67
6,620.0	89.30	333.90	5,108.3	2,078.3	1,512.6	-713.3	1,671.4	4.13	-2.58	-3.23
6,650.0	89.10	333.90	5,108.7	2,078.7	1,539.6	-726.5	1,701.3	0.67	-0.67	0.00
6,681.0	90.40	335.60	5,108.9	2,078.9	1,567.6	-739.7	1,732.3	6.90	4.19	5.48
6,712.0	91.10	336.40	5,108.4	2,078.4	1,595.9	-752.3	1,763.3	3.43	2.26	2.58
6,743.0	90.80	336.00	5,107.9	2,077.9	1,624.3	-764.8	1,794.3	1.61	-0.97	-1.29
6,775.0	91.00	336.70	5,107.4	2,077.4	1,653.6	-777.6	1,826.3	2.27	0.63	2.19
6,837.0	89.00	334.30	5,107.4	2,077.4	1,710.0	-803.3	1,888.3	5.04	-3.23	-3.87
6,899.0	88.80	335.10	5,108.6	2,078.6	1,766.0	-829.8	1,950.2	1.33	-0.32	1.29
6,930.0	89.80	337.70	5,109.0	2,079.0	1,794.4	-842.2	1,981.2	8.99	3.23	8.39
6,992.0	88.60	337.60	5,109.9	2,079.9	1,851.8	-865.8	2,043.2	1.94	-1.94	-0.16
7,023.0	88.00	336.70	5,110.8	2,080.8	1,880.3	-877.8	2,074.2	3.49	-1.94	-2.90
7,054.0	89.40	337.40	5,111.5	2,081.5	1,908.9	-889.9	2,105.2	5.05	4.52	2.26
7,086.0	89.80	337.20	5,111.7	2,081.7	1,938.4	-902.3	2,137.2	1.40	1.25	-0.63
7,116.0	90.50	336.30	5,111.6	2,081.6	1,965.9	-914.1	2,167.2	3.80	2.33	-3.00

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Hz		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,147.0	90.90	337.40	5,111.3	2,081.3	1,994.4	-926.3	2,198.2	3.78	1.29	3.55
7,178.0	91.10	337.80	5,110.7	2,080.7	2,023.1	-938.1	2,229.2	1.44	0.65	1.29
7,209.0	90.80	336.90	5,110.2	2,080.2	2,051.7	-950.0	2,260.2	3.06	-0.97	-2.90
7,240.0	89.70	335.10	5,110.1	2,080.1	2,080.0	-962.7	2,291.2	6.80	-3.55	-5.81
7,271.0	89.10	333.40	5,110.4	2,080.4	2,107.9	-976.1	2,322.1	5.82	-1.94	-5.48
7,302.0	89.70	333.00	5,110.7	2,080.7	2,135.6	-990.1	2,353.1	2.33	1.94	-1.29
7,333.0	89.90	331.90	5,110.8	2,080.8	2,163.1	-1,004.4	2,384.0	3.61	0.65	-3.55
7,364.0	89.80	330.00	5,110.9	2,080.9	2,190.2	-1,019.5	2,414.8	6.14	-0.32	-6.13
7,396.0	89.90	329.40	5,111.0	2,081.0	2,217.8	-1,035.6	2,446.6	1.90	0.31	-1.88
7,427.0	90.90	329.90	5,110.8	2,080.8	2,244.6	-1,051.3	2,477.3	3.61	3.23	1.61
7,458.0	91.90	330.90	5,110.0	2,080.0	2,271.5	-1,066.6	2,508.1	4.56	3.23	3.23
7,489.0	91.60	332.00	5,109.1	2,079.1	2,298.7	-1,081.4	2,539.0	3.68	-0.97	3.55
7,520.0	91.80	332.00	5,108.1	2,078.1	2,326.1	-1,096.0	2,569.9	0.65	0.65	0.00
7,551.0	91.60	332.00	5,107.2	2,077.2	2,353.5	-1,110.5	2,600.8	0.65	-0.65	0.00
7,583.0	89.70	332.00	5,106.9	2,076.9	2,381.7	-1,125.5	2,632.6	5.94	-5.94	0.00
7,614.0	87.80	332.70	5,107.5	2,077.5	2,409.2	-1,139.9	2,663.5	6.53	-6.13	2.26
7,645.0	89.00	333.60	5,108.4	2,078.4	2,436.8	-1,153.9	2,694.5	4.84	3.87	2.90
7,676.0	90.80	335.40	5,108.5	2,078.5	2,464.8	-1,167.3	2,725.5	8.21	5.81	5.81
7,707.0	89.50	334.70	5,108.4	2,078.4	2,492.9	-1,180.3	2,756.4	4.76	-4.19	-2.26
7,739.0	89.90	336.20	5,108.5	2,078.5	2,522.0	-1,193.6	2,788.4	4.85	1.25	4.69
7,770.0	89.80	337.00	5,108.6	2,078.6	2,550.4	-1,205.9	2,819.4	2.60	-0.32	2.58
7,801.0	88.90	338.20	5,109.0	2,079.0	2,579.1	-1,217.7	2,850.4	4.84	-2.90	3.87
7,832.0	89.80	339.80	5,109.3	2,079.3	2,608.0	-1,228.9	2,881.4	5.92	2.90	5.16
7,863.0	89.80	339.70	5,109.4	2,079.4	2,637.1	-1,239.6	2,912.3	0.32	0.00	-0.32
7,894.0	90.20	340.00	5,109.4	2,079.4	2,666.2	-1,250.3	2,943.3	1.61	1.29	0.97
7,956.0	90.20	340.40	5,109.2	2,079.2	2,724.6	-1,271.3	3,005.2	0.65	0.00	0.65
8,050.0	89.90	340.80	5,109.1	2,079.1	2,813.2	-1,302.5	3,099.0	0.53	-0.32	0.43
8,143.0	89.50	340.40	5,109.6	2,079.6	2,900.9	-1,333.4	3,191.8	0.61	-0.43	-0.43
8,236.0	90.30	341.40	5,109.8	2,079.8	2,988.8	-1,363.8	3,284.5	1.38	0.86	1.08
8,330.0	90.50	342.90	5,109.1	2,079.1	3,078.3	-1,392.6	3,378.1	1.61	0.21	1.60
8,423.0	89.80	342.50	5,108.9	2,078.9	3,167.1	-1,420.3	3,470.6	0.87	-0.75	-0.43
8,516.0	89.80	343.50	5,109.2	2,079.2	3,256.0	-1,447.5	3,563.0	1.08	0.00	1.08
8,609.0	90.30	344.50	5,109.1	2,079.1	3,345.4	-1,473.1	3,655.3	1.20	0.54	1.08
8,702.0	90.00	343.60	5,108.9	2,078.9	3,434.8	-1,498.7	3,747.5	1.02	-0.32	-0.97
8,733.0	89.90	342.40	5,108.9	2,078.9	3,464.5	-1,507.7	3,778.3	3.88	-0.32	-3.87
8,764.0	89.80	341.80	5,109.0	2,079.0	3,494.0	-1,517.2	3,809.2	1.96	-0.32	-1.94
8,795.0	90.50	343.60	5,108.9	2,078.9	3,523.6	-1,526.5	3,840.0	6.23	2.26	5.81
8,826.0	89.80	343.20	5,108.8	2,078.8	3,553.3	-1,535.3	3,870.8	2.60	-2.26	-1.29
8,857.0	90.00	342.90	5,108.9	2,078.9	3,582.9	-1,544.4	3,901.6	1.16	0.65	-0.97
8,888.0	90.80	342.30	5,108.7	2,078.7	3,612.5	-1,553.6	3,932.4	3.23	2.58	-1.94
8,919.0	89.90	340.70	5,108.5	2,078.5	3,641.9	-1,563.5	3,963.3	5.92	-2.90	-5.16
8,950.0	89.80	341.00	5,108.6	2,078.6	3,671.2	-1,573.6	3,994.2	1.02	-0.32	0.97

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Exploration & Production Company

Phoenix Technology Services

Survey Report

PHOENIX TECHNOLOGY SERVICES

Database:	RMR Compass DB	**Local Co-ordinate Reference:**	Well 71 Ranch 44-1H
Company:	Fidelity Exploration & Production	**TVD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Project:	Rosebud Co., MT	**MD Reference:**	Fidelity E&P 71 Ranch 44-1H KBE @ 3030.0usft (Pioneer 43)
Site:	SESE Sec 1-T10N-R34E	**North Reference:**	True
Well:	71 Ranch 44-1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Job Number	Hz		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,981.0	90.20	341.40	5,108.6	2,078.6	3,700.5	-1,583.6	4,025.1	1.82	1.29	1.29
9,012.0	89.80	340.40	5,108.6	2,078.6	3,729.8	-1,593.8	4,056.1	3.47	-1.29	-3.23
9,043.0	89.90	341.40	5,108.6	2,078.6	3,759.1	-1,603.9	4,087.0	3.24	0.32	3.23
9,074.0	89.40	340.30	5,108.8	2,078.8	3,788.4	-1,614.1	4,117.9	3.90	-1.61	-3.55
9,106.0	89.30	339.80	5,109.2	2,079.2	3,818.5	-1,625.0	4,149.8	1.59	-0.31	-1.56
9,137.0	89.20	339.70	5,109.6	2,079.6	3,847.6	-1,635.7	4,180.8	0.46	-0.32	-0.32
9,167.0	89.80	340.00	5,109.9	2,079.9	3,875.7	-1,646.1	4,210.7	2.24	2.00	1.00
9,198.0	88.60	338.00	5,110.3	2,080.3	3,904.7	-1,657.2	4,241.7	7.52	-3.87	-6.45
9,229.0	90.10	339.90	5,110.7	2,080.7	3,933.6	-1,668.3	4,272.7	7.81	4.84	6.13
9,261.0	88.90	337.60	5,110.9	2,080.9	3,963.4	-1,679.9	4,304.7	8.11	-3.75	-7.19
9,292.0	89.00	337.80	5,111.5	2,081.5	3,992.1	-1,691.7	4,335.7	0.72	0.32	0.65
9,323.0	89.60	339.40	5,111.9	2,081.9	4,021.0	-1,703.0	4,366.6	5.51	1.94	5.16
9,354.0	89.30	339.20	5,112.2	2,082.2	4,049.9	-1,713.9	4,397.6	1.16	-0.97	-0.65
9,385.0	89.50	339.40	5,112.5	2,082.5	4,078.9	-1,724.9	4,428.6	0.91	0.65	0.65
9,416.0	89.20	339.30	5,112.9	2,082.9	4,108.0	-1,735.8	4,459.5	1.02	-0.97	-0.32
9,447.0	89.50	340.10	5,113.2	2,083.2	4,137.0	-1,746.6	4,490.5	2.76	0.97	2.58
9,479.0	89.30	340.00	5,113.5	2,083.5	4,167.1	-1,757.5	4,522.4	0.70	-0.63	-0.31
9,510.0	89.60	340.70	5,113.8	2,083.8	4,196.3	-1,767.9	4,553.4	2.46	0.97	2.26
9,541.0	89.10	340.30	5,114.2	2,084.2	4,225.5	-1,778.3	4,584.3	2.07	-1.61	-1.29
9,572.0	89.10	340.30	5,114.7	2,084.7	4,254.7	-1,788.7	4,615.2	0.00	0.00	0.00
9,603.0	89.40	341.10	5,115.1	2,085.1	4,284.0	-1,799.0	4,646.2	2.76	0.97	2.58
9,634.0	90.40	343.30	5,115.1	2,085.1	4,313.5	-1,808.4	4,677.0	7.80	3.23	7.10
9,665.0	90.80	343.80	5,114.8	2,084.8	4,343.2	-1,817.2	4,707.8	2.07	1.29	1.61
9,697.0	90.20	343.60	5,114.5	2,084.5	4,373.9	-1,826.2	4,739.6	1.98	-1.88	-0.63
9,728.0	90.20	344.10	5,114.4	2,084.4	4,403.7	-1,834.8	4,770.3	1.61	0.00	1.61
9,790.0	90.00	347.40	5,114.3	2,084.3	4,463.8	-1,850.1	4,831.5	5.33	-0.32	5.32
9,821.0	90.30	349.50	5,114.2	2,084.2	4,494.1	-1,856.3	4,861.9	6.84	0.97	6.77
9,843.0	90.20	350.10	5,114.1	2,084.1	4,515.8	-1,860.2	4,883.3	2.76	-0.45	2.73
Projection to Bit										
9,900.0	90.20	350.10	5,113.9	2,083.9	4,571.9	-1,870.0	4,938.8	0.00	0.00	0.00

Survey Annotations

Measured Depth ()	Vertical Depth ()	Local Coordinates +N/-S ()	Local Coordinates +E/-W ()	Comment
9,900.0	5,113.9	4,571.9	-1,870.0	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____

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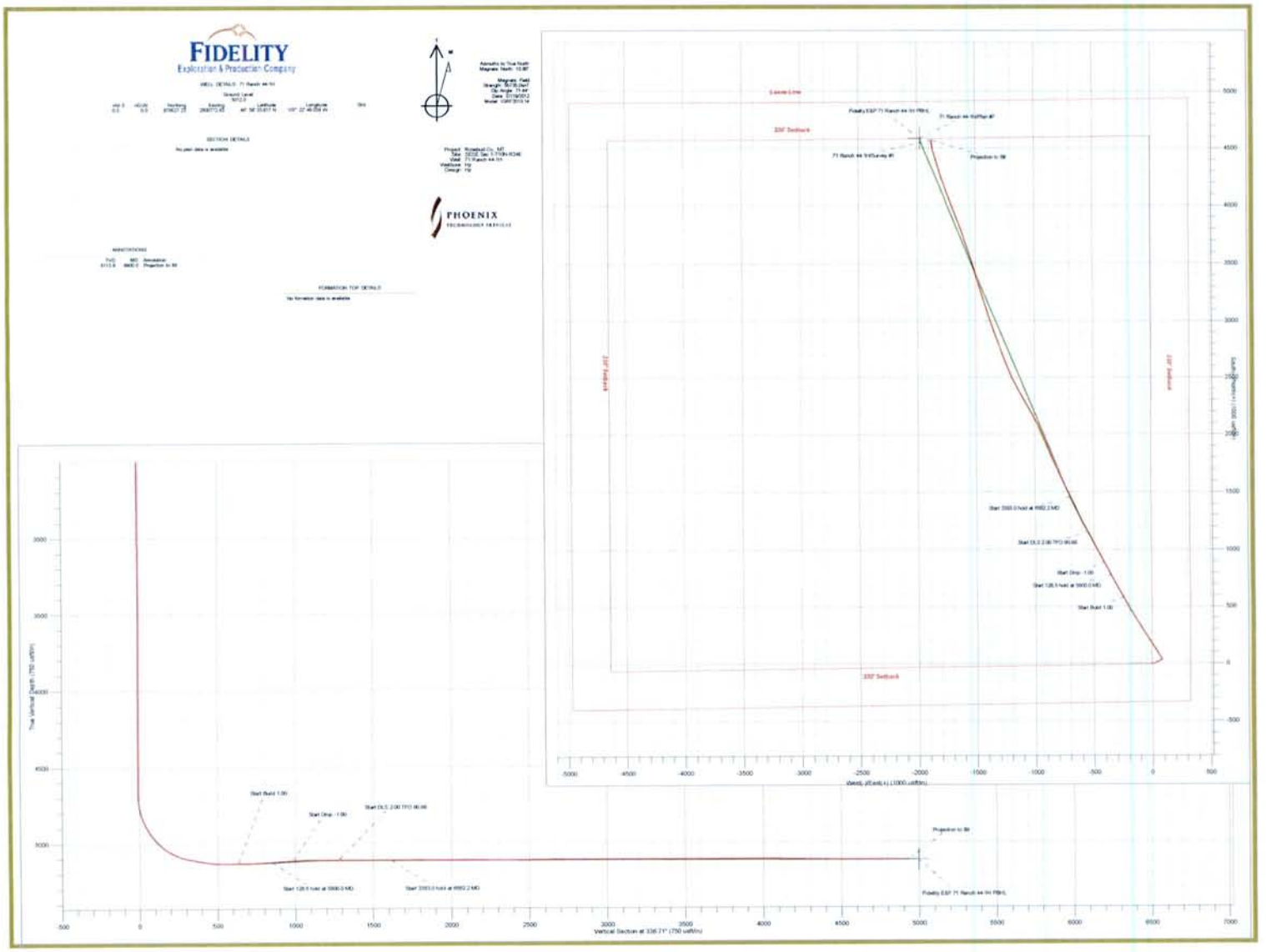

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Fidelity Exploration and Production Company

1700 Lincoln St. Suite 2800
Denver, CO 80203

FIDELITY
Exploration & Production Company
An MDU Resources Group company

Geological Well Report

71 Ranch 44-1H

Sec. 1-T10NN-R34EE
Rosebud County, Montana

August 14, 2012 – September 3, 2012

Prepared by: Nick Loundagin

Table of Contents

Well Data....3
Geological Summary....4
Typed Log....7
Daily Log of Operations....8
Sample Descriptions....9
Bit Record....26
Mud Record....27
Formation Tops....28
Daily Reports....29
Prognosis....48
Index Structure Map....51

WELL DATA

OPERATOR:	Fidelity Exploration & Production Co. 1700 Lincoln Street, Suite 2800 Denver, Colorado 80203
WELL NAME:	71 Ranch 44-1H
FIELD:	Wildcat, Rosebud County, Montana
API Number:	25-087-21738
ELEVATION:	Ground Level Graded: 3012' Kelly Bushing: 3030'
LOCATION:	Surface: 330' ~~FNL~~ FSL 330' FEL (SESE) Bottom Hole: 330' ~~FSL~~ FNL 2310' FEL (NWNE)
CONTRACTOR:	Pioneer Rig 43
SPUD:	August 9, 2012
DRILLING COMPL:	September 3, 2012
TOTAL DEPTH:	9900' MD
HOLE SIZE:	13.5" Surface, 8.75" Vertical and Build, 6." Lateral
DRILLING MUD:	Potassium Formate
OBJECTIVE:	Heath Carbonate

PERSONNEL:

Company Representative:	Dan Brewer, Mark Bercier
Weatherford Mudloggers:	Nick Loundagin, Clare Pitcher
Tool Pusher:	Dan Sargent, Shane Thompson, w/Pioneer Drilling
Directional Drillers:	Justin Berch, Trent Moench
MWD:	Graydaon Nodurft, Arthur Martin
Mud Engineer:	Mike Lindell

Geological Summary

The Fidelity Exploration and Production Company's 71 Ranch 44-1H well was drilled with a pilot hole that was immediately kicked off into the curve. After landing the curve a single lateral was drilled diagonally across one section targeting the Heath Carbonate. It was located in Section 3,T 11N, R33E, Rosebud County, Montana.

The 71 Ranch 44-1H well was spudded at on 8/9/12. Mudlogging services consisted of a two-person unit logging from 3820' in the Rierdon Formation until the end of the well. A Tooke DAQ computerized gas detector with chromatograph was used for gas detection. Two sets of lagged samples in thirty foot intervals were collected & saved to be archived. A vertical hole was drilled to a depth of 4670' on 8/16/12. The curve/build section was kicked off at at the TD depth of the vertical hole, 4670' MD on 8/18/2012 and landed at 5580' MD, 5130' TVD on 8/23/2012. 7" casing was set at 5550' MD. The shoe was drilled out and drilling of the lateral began on 8/26/2012. It was drilled to a total measured depth of 9900' on 9/3/2012, 8 days after the spud date. 9 5/8" surface casing was set at 271' and 7" Intermediate casing was set at 5550'.

Vertical Hole **Surface to 4670' MD**

Rierdon Formation

Mud logging services began at 3820' TVD, not allowing for a top of the Rierdon formation to be determined. The proposed top was 4423'. In this area the Rierdon contained abundant limestone with small amounts of interbedded anhydrite in the upper reaches, while shales with small amounts of limestone dominated the lower portion of the formation. The limestones were light to dark gray, occasionally tan to cream colored, moderately firm, mudstone, microcrystalline – cryptocrystalline, sub earthy texture, very argillaceous with shale laminations. Anhydrite within the formation was white to cream colored and amorphous. The shales were gray to dark gray, firm to very firm, hard in part, platy, earthy texture, very sandy with scattered sub angular grains and moderately to very calcareous.

Piper Formation

With no corresponding gamma, the mud logger picked the top of the piper at 4540' TVD. the top of the Piper was not able to fully be determined. The,assumed, upper portion of the Piper consisted of red-brown, soft-moderately firm, block – sub platy, argillaceous, earthy textured very calcareous shales with small amounts of light gray, soft to moderately firm, mudstone, microcrystalline, earthy textured, argillaceous limestones. The middle to lower portions of the Piper was composed of limestone with thinly interbedded shales. Both lithologies within this portion of the Piper were similar to those in the upper reaches. However, limestone became the dominant lithology moving down through the Piper.

Curve **4670' MD to 5580' MD**

The curve was kicked off at 4670' within the Piper Formation. The curve was complete in 5 days with on run using a 2.38 degree bend motor with and 8 3/4" PDC bit. Although the tops of the

Tyler and Heath formations came in, on average, 97.5' high to the prognosis, the top of the Heath came in just 22' high and the Dolomite target 7' high. Due to the natural correction of the stratigraphic thickness it was only required the bit be rotated within a small portion of the curve, ~120', until the marker benches were identified. Upon penetrating the overlying marker benches (A,B and C benches) while in rotation, hard sliding began in order to land the bit as close to the target Dolomite, D bench, as possible. The curve was landed at 5580' MD, with and inclination of 90.5° and a TVD of 5130' (17' below the top of the target dolomite).

Amsden Formation

The Amsden limestone came in at 44681' TVD, 14' low to the prognosis. The colors ranged from offwhite to very light gray. Traces of tan were also observed. The hardness remained moderately firm and the crystal size ranged from micro to very fine while occasionally being cryptocrystalline. The texture was earthy to waxy and the argillaceous content varied from none to slight. Some pale yellow fluorescence was observed with no cut. Throughout the Amsden there were thinly interbedded shales and trace dolomite. The shales ranged in color for light to dark gray, it was slightly argillaceous and weakly to moderately calcareous. The small amounts of dolomite were hard, microcrystalline, non porous and green brown in appearance.

Tyler Formation

The Tyler shale came in at 4661' TVD, 105' high to the prognosis. The colors included medium to dark to very dark gray, medium red to red brown and trace tan. There was also a trace of white to offwhite claystone. The limestones at the top of the Tyler were moderately soft to firm, platy to sub platy, sandy in part and was ver argillaceous. The shale was moderately soft to moderately firm, sub flaky to sub blocky, silty in part and had predominately earthy to silty texture. No fluorescence or cut was observed. Midway through the Tyler sand stone stringers were detected among the shale. The sand stone was dark brown, friable to moderately soft. The grain size varied from lower very fine to lower fine. It was well sorted, very argillaceous and moderately calcareous.

Heath Formation

The Heath formation came in at 4720', 90' higher than projected. The shale was a typically red brown and occasionally gray to dark gray. It was moderately soft to moderately firm, platy to sub blocky. It was non calcareous, predominantly silty with texture that ranged from predominantly earthy to silty and occasionally smooth. The Heath also contained claystone that was dark brown to red brown, moderately soft and weakly calcareous. Sandstones strigers within the lower portion of the heath formation were dark brown and moderately soft to fir. The grain size varied from fine to very fine grained. It was well sorted, very argillaceous and moderately calcareous. The lowere sandstones and shales graded into a sandy, slight argillaceous limestone that was light gray in appearance. The limestones were soft to slightly firm, sub platy to sublocky and had a microcrystalline to cryptocrystalline grain size.

Heath Carbonate

The Heath Carbonate came in 22 feet high and largely consisted of limestone, but also contained benches of anhydrite and dolomite with shales interbedded throughout. Limestone were typically gray to dark gray, microcrystalline to cryptocrystalline, moderately firm to

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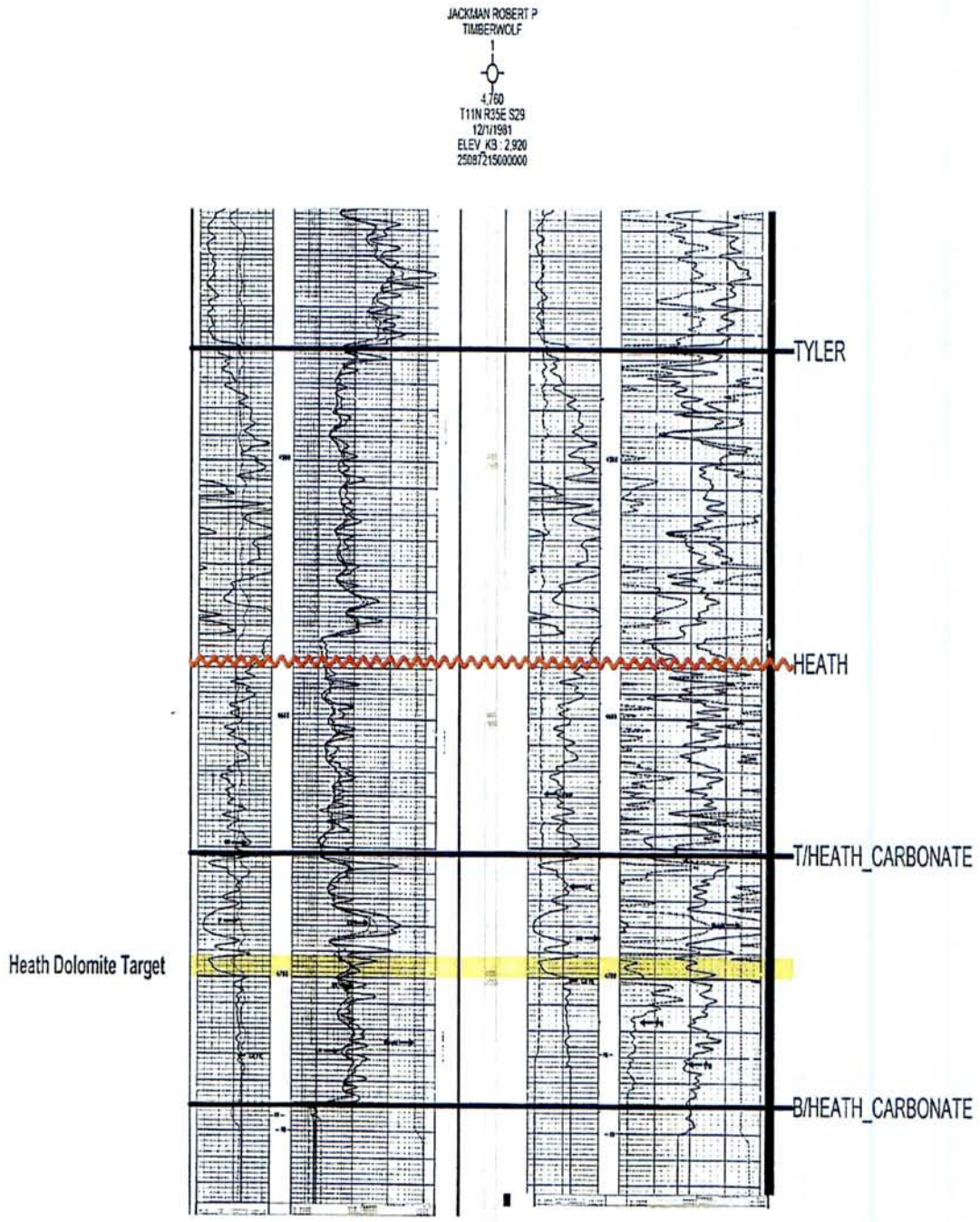
moderately hard with no visible porosity. The "dolomite" bench did not come in as a pure dolomite like expected, but was more of a dolomitic limestone. Within the log it was portrayed as a dolomite in order portray the orginal prognosis and ovoid confusion. It was gray brown in color, dense, microcrystalline in composition and displayed a faint trace of oil, showing pale green fluorescence and very slight green milky green cut.

Lateral

The lateral portion of the 71 Ranch 44-1H well was started on 8/26/2012 and was drilled out from casing at 5500' MD with and inclination of 90.5°. Immediately after coming of the shoe, 17' TVD below the target, samples were composed of a pure shale that constituted the lower portion of the Heath Carbonate. Within this shale ROP was very low, ~4' ft/hr. After a mere 56' of drilling, a trip out of the hole was completed to remove the two reamers that had been placed on the initial BHA for the lateral. However, drilling without reamers did not drastically increase the ROP. Drilling remained in the single digits, approximately 6 ft/hr. However, with the second BHA the bit was brought up 3 degrees and 10' TVD placing it near the target zone. Again, because of a slow ROP, a trip out of the hole was done to replace the bit and motor. The new BHA was used from the depth it was put into the hole,5821;, until the end of the lateral,9900'. With the new BHA, the bit was brought up and through the target zone and leveled off just below the C bench. Within this zone it was possible to rotate at >100 ft/hr. When in this zone, the bit simply bounced around between two benches, allowing for a good average inclination. After multiple slides, the bit was brought down into the target zone at 6900' MD. Samples within this zone consisted of a dolomitic limestone that had only weak to moderate oil shows. The bit remained within the target zone until ~7450' MD at which point the bit came back out the target zone and into the shale between the C and D benches. From this point on, multiple slides were made to get the bit back down into the target zone, but the bit preferred to remain just below the C bench regardless of sliding. Eventually it was decided to just leave the bit in this stratigraphic location until TD at 9900'. TD was reached at 12:50 on 8/3/2012

TYPED LOG



Daily Log of Operations

DATE	DEPTH	FOOTAGE	DAY	FORMATION	OPERATIONS
6/17/2012	3900'	0	1	Morrison	Weatherford SLS on site. Began Logging at 3900'. Reached KOP triped out for tools
6/18/2012	4250	350	2	Rierdon	Assembled new BHA, TOH and began drilling curve
6/19/2012	4423	173	3	Amsden	Got Kicked off-drilled ahead within lateral throughout the day/night
6/20/2012	4777	354	4	Tyler	Drilling ahead within curve
6/21/2012	5237	460	5	Heath	Drilled through Heath A,B,C,D. Building angle to get back to target.
6/22/2012	5500	263	6	Heath	Drilled ahead in curve. Landed curve at 5500' MD-TOH-TIH for wiper run
6/23/2012	5500	0	7	Heath	Completed wiper run, begin casing hole
6/24/2012	5500	0	8	Heath	Completed casing, cemented, rebuilding stands
6/25/2012	5500	0	9	Heath	Rebuilt stands, BOP, picked up tools, TIH, began drilling lateral
6/26/2012	5730	230	10	Heath	Continued to drill lateral and try to drop angle. Looking for Target
6/27//2012	6442	712	11	Heath	Drilled ahead in lateral, maintaining inclination. TOH for new motor.
6/28/2012	6827	385	12	Heath	TIH-resumed drilling. Deflected off D bench while building angle
6/29/2012	7359	532	13	Heath	Drilled ahead within lateral, began slidding to get into bench above-entered bench
6/30/2012	7884	525	14	Heath	Drilled ahead in lateral, maintaining inclination in oil bearing zone
7/1/2012	8665	781	15	Heath	Drilled ahead in later. Had to trip out for new motor. Got back to bottom-resumed drillings
7/2/2012	8973	308	16	Heath	Got back to bottom and resumed drilling ahead in lateral. Reached TD of 9470 at 20:10. Began circulating
7/3/2012	9470	497	17	Heath	Tripped out of hole. Weatherford SLS released.

SAMPLE DESCRIPTIONS

Begin collecting 30' samples at 3820'

PILOT HOLE SAMPLES

3820-3850: SHALE: gray, black, occasionally red, soft to moderately firm, block to splintery, occasionally argillaceous, non to weakly calcareous, waxy, NOSFC.

3850-3880: SHALE: gray to balck, occasionally redy, soft to moderately firm, blocky to splintery, occasionally argillaceous, non to weakly calcareous, waxy, occasional SANDSTONE: white to light gray, earthy, very fine grained, very well sorted, clay filling, siliceous cement, disseminated pyrite, NOSFC

3880-3910: SHALE: gray to balck, occasionally redy, soft to moderately firm, blocky to splintery, occasionally argillaceous, non to weakly calcareous, waxy, occasional SANDSTONE: white to light gray, earthy, very fine grained, very well sorted, clay filling, siliceous cement,NOSFC

3910-3940: SHALE: gray to balck, occasionally redy, soft to moderately firm, blocky to splintery, occasionally argillaceous, non to weakly calcareous, waxy, SANDSTONE: white to light gray, earthy, very fine grained, very well sorted, clay filling, siliceous cement, disseminated pyrite, NOSFC

3940-3970: SANDSTONE: light gray, occasionally white, salt and pepper coloring, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments, SHALE: gray, black, occasionally red to purple, soft to moderately firm, blocky to splintery, non to weakly calcareous, waxy. NOSFC

3970-4000: SANDSTONE: light gray, occasionally white, salt and pepper coloring, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments, SHALE: gray, black, occasionally red to purple, soft to moderately firm, blocky to splintery, non to weakly calcareous, waxy. NOSFC

4000-4030: SANDSTONE: light gray, occasionally white, salt and pepper coloring, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments, SHALE: gray, black, occasionally red to purple, soft to moderately firm, blocky to splintery, non to weakly calcareous, waxy. NOSFC

4030-4060: SHALE: gray, black, occasionally red to purple, soft to moderately firm, blocky to splintery, silty, non calcareous, waxy to earthy, SANDSTONE: light gray, occasionally white, salt and pepper appearance, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments. NOSFC

4060-4090: SHALE: gray, black, occasionally red to purple, soft to moderately firm, blocky to splintery, silty, non calcareous, waxy to earthy, SANDSTONE: light gray, occasionally white, salt and pepper appearance, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments. NOSFC

4090-4120: SHALE: light to medium gray, black, soft to moderately firm, blocky to splintery, silty, non calcareous, waxy to earthy, SANDSTONE: light gray, occasionally white, salt and pepper appearance, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments. NOSFC

4120-4150: SHALE: light to medium gray, black, soft to moderately firm, blocky to splintery, silty, non calcareous, waxy to earthy, SANDSTONE: light gray, occasionally white, salt and pepper appearance, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments. NOSFC

4150-4180: SHALE: light to medium gray, black, soft to moderately firm, blocky to splintery, silty, non calcareous, waxy to earthy, SANDSTONE: light gray, occasionally white, salt and pepper appearance, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments. NOSFC

4180-4210: SHALE: light to medium gray, black, soft to moderately firm, blocky to splintery, silty, non calcareous, waxy to earthy, SANDSTONE: light gray, occasionally white, salt and pepper appearance, earthy, very fine grained, very well sorted, clay filling, siliceous cement, lithic fragments. NOSFC

4210-4240: SANDSTONE: white to off white, well sorted, fine grained, sub angular, slightly friable, strong calcareous cement, glauconitic, SHALE: very light gray to medium gray, moderately firm, blocky, sandy, occasional SILTSTONE: red to brown, sandy. NOSFC

4240-4270: LIMESTONE: light to medium gray, moderately firm to very firm, microcrystalline mudstone, blocky, silty, SANDSTONE: white to off white, well sorted, fine grained, sub angular grains, friable, strong calc cement, glauconitic. NOSFC

4270-4300: LIMESTONE: light to medium gray, moderately firm to very firm, microcrystalline mudstone, blocky, silty, SANDSTONE: white to off white, well sorted, fine grained, sub angular grains, friable, strong calc cement, glauconitic. NOSFC

4300-4330: LIMESTONE: light to medium gray, moderately firm to very firm, microcrystalline mudstone, blocky, sandy, occasional SANDSTONE: white to off white, well sorted, fine grained, sub angular grains, friable, strong calc cement, glauconitic. NOSFC

4330-4360: LIMESTONE: light to medium gray, moderately firm to very firm, microcrystalline mudstone, blocky, sandy, occasional SANDSTONE: white to off white, well sorted, fine grained, sub angular grains, friable, strong calc cement, glauconitic. NOSFC

4360-4390: LIMESTONE: light to medium gray, moderately firm to very firm, microcrystalline mudstone, blocky, sandy, occasional SANDSTONE: white to off white, well sorted, fine grained, sub angular grains, friable, strong calc cement, glauconitic. NOSFC

4390-4420: LIMESTONE: light to medium gray, moderately firm to very firm, microcrystalline mudstone, blocky, sandy, occasional SANDSTONE: white to off white, well sorted, fine grained, sub angular grains, friable, strong calc cement, glauconitic. NOSFC

4420-4450: LIMESTONE: light to medium to dark gray, microcrystalline mudstone, moderately firm to very firm, blocky, sandy, occasional SHALE: red to brown, splintery, very hard, silty, moderately calcareous. NOSFC

4450-4480: LIMESTONE: medium to dark green gray, microcrystalline mudstone, moderately firm to very firm, blocky, sandy, occasional SHALE: red to brown, splintery, very hard, silty, moderately calcareous. NOSFC

4480-4510: LIMESTONE: medium to dark green gray, microcrystalline mudstone, moderately firm to very firm, blocky, sandy, occasional SHALE: red to brown, splintery, very hard, silty, moderately calcareous. NOSFC

4510-4540: SHALE: red to brown, very soft to moderately firm, blocky, earthy, moderately calcareous, silty, occasional LIMESTONE: light gray to gray, cryptocrystalline mudstone, blocky, moderately firm to hard, argillaceous. NOSFC

4540-4570: SHALE: red to brown, very soft to moderately firm, blocky, earthy, moderately calcareous, silty, occasional LIMESTONE: light gray to gray, cryptocrystalline mudstone, blocky, moderately firm to hard, argillaceous. NOSFC

4570-4600: LIMESTONE: mottled gray to brown gray, off white, waxy, cryptocrystalline mudstone, blocky, moderately firm to hard, occasionally argillaceous. NOSFC

4600-4630: LIMESTONE: mottled gray to brown gray, off white, waxy, cryptocrystalline mudstone, blocky, moderately firm to hard, occasionally argillaceous. NOSFC

4630-4660: LIMESTONE: mottled gray to brown gray, off white, waxy, cryptocrystalline mudstone, blocky, moderately firm to hard, occasionally argillaceous. NOSFC

Curve Samples

4660-4690: SHALE: Dark to medium gray, very hard, platy to flakey, silty, ARRAGONITE: white, massive-amorphous, cryptocrystalline, moderately firm, trace CLAYSTONE: red to brown, very soft, amorphous, sandy, NOSFC

4690-4720: ARRAGONITE: whit to pink, massive, amorphous, cryptocrystalline, moderately firm, trace SHALE: dark to medium gray, very hard, platy to flakey, silty, trace CLAYSTONE: red brown, very soft, sandy

4720-4750: SHALE: dark to medium gray, hard, platy to flakey, silty, weakly to moderately calcareous, ARRAGONITE: whit to pink, massive, amorphous, cryptocrystalline, moderately firm, trace CLAYSTONE: red to brown, very soft, sandy

4750-4780: ARRAGONITE: whit to pink, massive, amorphous cryptocrystalline moderately firm, trace LIMESTONE: white, very firm, microcrystalline, platy, trace SHALE: dark to medium gray, hard, platy, argillaceous, moderately calcareous, NOSFC.

4780-4810: LIMESTONE: white to light brown, very firm, microcrystalline, platy to splintery, trace ARRAGONITE: white to pink, massive, amorphous, cryptocrystalline, moderately firm, trace SHALE: dartk to medium gray, hard, platy, argillaceous, moderately calcareous, NOSFC.

4810-4840: ARRAGONITE: whit to pink, massive, amorphous cryptocrystalline moderately firm, trace LIMESTONE: white, very firm, microcrystalline, platy, trace SHALE: dark to medium gray, hard, platy, argillaceous, moderately calcareous, NOSFC.

4840-4870: CLAYSTONE: red to brown, very soft, amorphous, sandy, ARRAGONITE: white to pink, massive, amorphous, cryptocrystalline, moderately firm, trace LIMESTONE: white, very firm, microcrystalline, platy, trace SHALE: dark to medium gray, hard, platy to flakey, silty, weakly to moderately calcareous, NOSFC.

4870-4900: LIMESTONE: white to light brown, very firm, microcrystalline, platy to splintery, trace ARRAGONITE: as above, trace SHALE: as above, NOSFC.

4900-4930: SHALE: dark gray, hard, blocky, very argillaceous, weakly calcareous, occasional LIEMSTONE: white to medium gray, firm, microcrystalline mudstone, sub blocky to platy, NOSFC.

4930-4960: SHALE: dark gray, red, hard, blocky, very argillaceous, silty in part, weakly calcareous, occasional LIMESTONE: white to medium gray, firm, microcrystalline mudstone, sub block to platy, NOSFC.

4960-4990: SHALE: dark gray, red, hard, blocky, very argillaceous, silty in part, weakly calcareous, occasional LIMESTONE: white to medium gray, firm, microcrystalline mudstone, sub blocky to platy, occasional CLAYSTONE: red to brown, very soft, amorphous, sandy, NOSFC.

4990-5020: LIMESTONE: light to medium gray, firm, microcrystalline mudstone, sub blocky to platy, SHALE: dark gray, hard, flakey, weakly calcareous, occasional SHALE: red, amorphous, very soft, sandy, moderately calcareous, NOSFC.

5020-5050: LIMESTONE: light to medium gray, firm, microcrystalline mudstone, platy to splintery, argillaceous, SHALE: black, dark gray, bladed to platy, very hard, calcareous, silty, NOSFC.

5050-5080: LIEMSTONE: light to medium gray, firm, microcrystalline mudstone, platy to splintery, argillaceous, SHALE: black, dark gray, platy to occasionally blocky, very hard, calcareous, silty, NOSFC.

5080-5110: LIMESTNE: light to medium gray, firm, microcrystalline mudstone, block to sub platy, very argillaceous, SHALE: black, dark gray, bladed to platy, very hard, calcareous, silty, NOSFC.

5110-5140: LIMESTNE: light to medium gray, firm, microcrystalline mudstone, block to sub platy, very argillaceous, SHALE: black, dark gray, bladed to platy, very hard, calcareous, silty, NOSFC.

5140-5170: SHALE: black, dark gray, bladed to platy, very hard, calcareous, silty, occasional LIMESTONE: light to medium gray, firm, microcrystalline mudstone, blocky to sub platy, very argillaceous, Very slow strong even milky green cut in dry cuttings, no streaming cut.

5170-5200: SHALE: black, dark gray, bladed to platy, very hard, calcareous, silty, occasional LIMESTONE: white, light to medium gray, firm, microcrystalline mudstone, blocky to sub platy, very argillaceous. Very slow strong even milky green cut in dry cuttings, no streaming cut.

5200-5230: SHALE: black, dark gray, bladed to platy, very hard, calcareous, silty, occasional LIMESTONE: white, light to medium gray, firm, microcrystalline mudstone, blocky to sub platy, very argillaceous. Very slow strong even milky green cut in dry cuttings, no streaming cut.

5230-5260: SHALE: black, fissle, very soft, very calcareous, silty, abundant calcite fragments. Slow weak milky green cut in dry cuttings, no streaming cut.

5260-5290: SHALE: black, fissile, soft to moderately firm, weakly calcareous, silty in part, abundant calcite fragment, LIMESTONE: light gray, firm, cryptocrystalline, blocky, very argillaceous, NOSFC.

5290-5320: SHALE: black, fissile, soft to moderately firm, weakly calcareous, silty in part, abundant calcite fragment, LIMESTONE/DOLOMITE: light gray, firm, cryptocrystalline, blocky, very argillaceous, dolomitic. Very slow weak to moderate even milky green cut in dry cuttings, no streaming cut.

5320-5350: SHALE: black, fissile, soft to moderately firm, weakly calcareous, silty in part, abundant calcite fragment, LIMESTONE/DOLOMITE: light gray, firm, cryptocrystalline, blocky, very argillaceous, dolomitic. Very slow weak to moderate even milky green cut in dry cuttings, no streaming cut.

5350-5380: SHALE: black, fissile, soft to moderately firm, weakly calcareous, silty in part, abundant calcite fragments, LIMESTONE: light gray, firm, cryptocrystalline, blocky, very argillaceous, trace pyrite. In dry cutting faint slow streaming green cut.

5380-5410: SHALE: black, fissile, soft to moderately firm, weakly calcareous, silty in part, abundant calcite fragments, MUDSTONE: gray, blocky, microcrystalline, hard, LIMESTONE: light gray, firm cryptocrystalline, blocky, very argillaceous, trace pyrite. In dry cuttings, faint slow streaming green cut.

5410-5440: SHALE: black, fissile, soft to moderately firm, weakly calcareous, silty in part, abundant calcite fragments, MUDSTONE: gray, blocky, microcrystalline, hard, LIMESTONE: light gray, firm cryptocrystalline, blocky, very argillaceous, trace pyrite. In dry cuttings, faint slow streaming green cut.

5440-5470: SHALE: black, fissile, soft to moderately firm, weakly calcareous, silty in part, abundant calcite fragments, MUDSTONE: gray, blocky, microcrystalline, hard, LIMESTONE: light gray, firm cryptocrystalline, blocky, very argillaceous, trace pyrite. In dry cuttings, faint slow streaming green cut.

5470-5500: SHALE: black, fissile, soft to moderately firm, moderately calcareous, silty in part, abundant calcite fragments, MUDSTONE: gray, blocky, microcrystalline, hard, LIMESTONE: light gray, firm, cryptocrystalline, blocky, very argillaceous, trace pyrite. In dry cuttings faint slow green streaming cut.

5500-5530: SHALE: black, fissile, soft to moderatel firm, moderately calcareous, silty in part, abundant calcite fragments, MUDSTONE: gray, blocky, microcrystalline, hard, trace LIMESTONE: as above. In dry suttings faint slow green streaming green cut.

5530-5560: SHALE: black, platy to sub blocky, moderately calcareous, silty, abundant calcite fragments, NOSFC.

Lateral Samples

5560-5590: SHALE: black, platy to sub blocky, moderately calcareous, silty, abundant calcite fragments, NOSFC.

5590-5620: SHALE: black, platy to sub blocky, moderately calcareous, silty, abundant calcite fragments, NOSFC.

5620-5650: SHALE: black, firm to hard, platy, microcrystalline, silty in part, ASHPHALT: black, amorphous, ASHPALT produces rapidly streaming bright whit/blue cut

5650-5680: SHALE: dark gray, firm to hard, platy to flakey, finely laminated, silty in part, very calcareous, NOSFC.

5680-5710: SHALE: dark gray, hard, platy to flakey, finely laminated, very limey, in wet cuttings strong green streaming cut

5710-5740: SHALE: dark gray to balck, hard, platy to flakey, finely laminated, very limey, NOSFC

5740-5770: MUDSTONE: light gray, firm to hard, platy to flakey, cryptocrystalline, dense, silty in part, non calcareous, SHALE: dark gray to black, hard, platy to flakey, very limey, NOSFC.

5770-5800: SHALE: black, hard, blocky to flakey, silty, moderately calcareous, MUDSTONE: light to medium gray, firm to hard, blocky, microcrystalline, non calcareous, NOSFC.

5800-5830: SHALE: black, hard, blocky to flakey, silty, moderately calcareous, MUDSTONE: light to medium gray, firm to hard, blocky, microcrystalline, non calcareous, NOSFC.

5830-5860: SHALE: black, very hard, blocky to flakey, silty, non calcareous, MUDSTONE: light to medium gray, firm to hard, blocky, microcrystalline, non calcareous, NOSFC.

5860-5890: COAL: black, blky, soft, SHALE: black, firm, platy to flakey, finely laminated, moderately calcareous, euhedral calcite filled fractures, MUDSTONE: As Above, abundant pyrite. In dry cuttings fast even strong milky green cut with occasional strong green streaming cut.

5890-5920: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE/DOLOMITE: light gray, microcrystalline, massive. In dry cuttings slow, moderate, even milky green cut with no streaming cut

5920-5950: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, abundant calcite fragments and calcite filled fractures, trace pyrite, trace LIMESTONE/DOLOMITE. In dry cuttings slow, moderate, even milky green cut with no streaming cut.

5950-5980: SHALE: black, moderately firm, platy-firm, finely laminated, very calcareous, trace pyrite, abundant calcite fragments and calcite filled fractures, trace LIMESTONE/DOLOMITE. In dry cuttings very faint slow even milky green cut.

5980-6010: SHALE: black, moderately firm platy to flakey, finely laminated, very calcareous, trace pyrite, abundant calcite fragments and calcite filled fractures, trace LIMESTONE/DOLOMITE. In dry cuttings very slow moderate even milky green cut.

6010-6040: SHALE: black, firm to hard, platy to flakey, finely laminated, moderately calcareous, calcite filled fractures, COAL: black, blocky soft, trace LIMESTONE/DOLOMITE. In dry cuttings slow weak milky green cut.

6040-6070: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, moderately calcareous, trace COAL: black, blocky, soft, trace LIMESTONE/DOLOMITE. In dry cuttings very slow weak faint milky white cut.

6070-6100: LIMESTONE: dark gray to black, microcrystalline mudstone, calc filled fractures, SHALE: black, moderately firm to hard, platy to flakey, finely laminate, very calcareous, trace pyrite moderately calcareous. In dry cuttings slow moderately strong milky white cut.

6100-6130: LIMESTONE: dark gray to black, microcrystalline mudstone, calcite filled fractures, SHALE: black,moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, moderately calcareous. In dry cuttings slow moderate milky green cut.

6130-6160: LIMESTONE: dark gray to black, microcrystalline mudstone, calcite filled fractures, SHALE: black,moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, moderately calcareous. In dry cuttings slow moderate milky green cut.

6160-6190: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, moderately calcareous, LIMESTONE: dark gray to black, microcrystalline mudstone, calcite filled fractures. In dry cuttings slow moderate even milky green cut.

6190-6220: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, moderately calcareous, LIMESTONE: dark gray to black, microcrystalline mudstone, calcite filled fractures. In dry cuttings slow moderate even milky green cut.

6220-6250: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures. In dry cuttings slow moderate even milky green cut with streaming green cut.

6250-6280: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures. In dry cuttings slow moderate even milky green cut with streaming green cut.

6280-6310: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE: dark gray to black, microcrystalline mudstone, occasional

calcite filled fractures. In dry cuttings slow moderate even milky green cut with streaming green cut.

6310-6340: LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, trace SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite. In dry cuttings slow moderate even milky green cut with slow green streaming green cut.

6340-6370: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, trace pyrite, moderately calcareous, LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, trace MUDSTONE: gray, very hard, microcrystalline. In dry cuttings weak to moderate even milky green cut with slow green streaming cut.

6370-6400: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, trace MUDSTONE: gray, very hard, microcrystalline. In dry cuttings weak to moderate even green cut with slow green streaming cut.

6400-6430: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, trace MUDSTONE: gray, very hard, microcrystalline. In dry cuttings moderate even green cut with slow green streaming cut.

6430-6460: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, trace MUDSTONE: gray, very hard, microcrystalline. In dry cuttings moderate to strongeven green cut with slow green streaming cut.

6460-6490: LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, slow streaming pale green cut, SHALE: black, moderately fir to hard, platy to flakey, finely laminated, trace pyrite, moderately calcareous. In dry cuttings slow moderate to strong even milky green cut with green streaming cut.

6490-6520: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, LIMESTONE: dark gray to black, microcrystalline mudstone, occ calcite fille fractures. In dry cuttings slow moderate even milky green cut with streaming green cut.

6520-6550: LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite. In dry cuttings slow moderate to strong even milky green cut with green streaming cut.

6550-6580: LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, occasional MUDSTONE: in dry cuttings slow weak to moderate even milky green cut with no streaming cut.

6580-6610: LIMESTONE: dark gray to black, microcrystalline mudstone, occasional calcite filled fractures, SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite. In dry cuttings slow moderately even milky green cut with streaming green cut.

6610-6640: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, occasional calcite filled fractures, trace MUDSTONE: gray, very hard, microcrystalline, trace LIMESTONE. In dry cuttings slow moderate even green cut with no streaming cut.

6640-6670: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace pyrite, occasional calcite filled fractures, trace MUDSTONE: gray, very hard, microcrystalline. In dry cuttings slow moderate green cut, no streaming cut.

6670-6700: SHALE: black, hard, platy to flakey, finely laminated, moderately calcareous, occasional calcite filled fractures, trace MUDSTONE, trace LIMESTONE. In dry cuttings slow faint green cut, no streaming cut.

6700-6730: SHALE: black, hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragment. In dry cuttings slow green cut, no streaming cut.

6730-6760: SHALE: black, hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragment. In dry cuttings slow green cut, no streaming cut.

6760-6790: SHALE: black, hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragment, tracy pyrite. In dry cuttings slow green cut, no streaming cut.

6790-6820: SHALE: black, firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragment, calcite filled fractures, trace pyrite. In dry cuttings slow green cut, no streaming cut.

6820-6850: SHALE: black, firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragment, calcite filled fractures, trace pyrite. In dry cuttings slow green cut, no streaming cut.

6850-6880: SHALE: black, firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragment, calcite filled fractures, trace pyrite. In dry cuttings slow green cut, no streaming cut.

6880-6910: SHALE: black, firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, some calcite filled fractures, trace pyrite, trace LIMESTONE. In dry cuttings, very slow green cut, no streaming cut. Thin spotty moderate residual ring.

6910-6940: SHALE: black, firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, some calcite filled fractures, trace pyrite, trace LIMESTONE: light gray, microcrystalline, dense. In dry cuttings, very slow very faint green cut with no streaming cut. Thin spotty moderate residual ring.

6940-6970: SHALE: black, firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, some calcite filled fractures, trace pyrite, trace MUDSTONE: dark gray, dense. In dry cuttings, very slow very faint green cut with no streaming cut. Thin spotty moderate residual ring.

6970-7000: LIMESTONE/DOLOMITE: light gray, microcrystalline, dense, dolomitic/limey, no vis por, SHALE: black, firm to moderately hard, very calcareous, some calcite fragments, calcite

filled fractures, trace pyrite. In dry cuttings thin spotty moderately strong residual ring. No cut and no streaming cut.

7000-7030: LIMESTONE/DOLOMITE: medium to dark gray, microcrystalline, dense, dolomitic/limey, no vis porosity, SHALE: black, firm to moderately hard, very calcareous, some calcite fragments, calcite filled fractures, trace pyrite. In dry cuttings thin spotty moderately strong residual ring. No cut and no streaming cut.

7030-7060: LIMESTONE/DOLOMITE: medium to dark gray, microcrystalline, dense, dolomitic/limey, no visible porosity, SHALE: black, firm very calcareous, trace pyrite. NOSFC.

7060-7090: LIMESTONE/DOLOMITE: medium to dark gray, microcrystalline, dense, dolomitic/limey, no visible porosity, SHALE: black, firm very calcareous, trace pyrite. NOSFC.

7090-7120: SHALE: black, hard, blocky to flakey, silty, moderately calcareous, MUDSTONE: light to medium gray, firm to hard, blocky, microcrystalline, non calcareous, trace DOLOMITE/LIMESTONE: as above. NOSFC.

7120-7150: SHALE: black, hard, blocky to flakey, silty, calcareous, MUDSTONE: light to medium gray, firm to hard, blocky, microcrystalline, non Calcareous, trace DOLOMITE/LIMESTONE: as above. NOSFC.

7150-7180: SHALE: black, hard, flakey to platy, finely laminated, moderately calcareous, MUDSTONE: light to medium gray, hard, microcrystalline, non calcareous, trace DOLOMITE/LIMESTONE: as above. In dry cuttings slow pale green cut, no streaming cut. Moderate, green residual ring.

7180-7210: SHALE: black, hard, flakey to platy, finely laminated, moderately calcareous, trace DOLOMITE/LIMESTONE: as above, MUDSTONE: light to medium gray, hard, microcrystalline, non calcareous. In dry cuttings slow pale green cut, no streaming cut, moderate residual ring.

7210-7240: SHALE: black, hard, flakey to platy, finely laminated, non calcareous, disseminated pyrite, LIMESTONE: medum gray, microcrystalline, sucrosic, trace MUDSTONE: light to medium gray, non calcareous. NOSFC

7240-7270: SHALE: black, hard, flakey to platy, finely laminated, non calcareous, disseminated pyrite, DOLOMITE/LIMESTONE: medium gray, microcrystalline, sucrosic, trace MUDSTONE: light to medium gray, non calcareous, NOSFC.

7270-7300: MUDSTONE: light to medium gray, very hard, microcrystalline, non calcareous, SHALE: black, hard, flakey to platy, finely laminated, non calcareous, disseminated pyrite, trace DOLOMITE/LIMESTONE: medium gray, microcrystalline, sucrosic. In dry cuttings, very slow, very faint green cut with residual ring.

7300-7330: DOLOMITE/LIMESTONE: light gray, mudstone, microcrystalline, sucrosic, SHALE: black, moderately firm, platy to flakey, finely laminated, non calcareous. In dry cuttings, very slow, very faint green cut with residual ring.

7330-7360: DOLOMITE/LIMESTONE: light gray, mudstone, microcrystalline, sucrosic, MUDSTONE: light gray, non calcareous, SHALE: black, moderately firm, platy to flakey, finely

laminated, non calcareous, trace pyrite. In dry cuttings, very slow faint green cut with residual ring.

7360-7390: SHALE: black, moderately firm, platy to flakey, calcareous, trace pyrite, DOLOMITE/LIMESTONE: light gray wackestone, microcrystalline, sucrosic. NOSFC.

7390-7420: DOLOMITE/LIMESTONE: light gray, wackestone, microcrystalline, sucrosic, argillaceous, SHALE: black, moderately fir, platy to flakey, non calcareous, trace pyrite. In dry cuttings, very slow, faint green cut with residual ring, no streaming cut.

7420-7450: SHALE: black, hard, platy to flakey, finely laminated, calcareous, DOLOMITE/LIMESTONE: light gray, wackestone, microcrystalline, sucrosic argillaceous, MUDSTONE: light gray, non calcareous, trace pyrite. In dry cuttings very faint, slow green cut with no streaming cut.

7450-7480: SHALE: black, moderately firm, blocky to platy, finely laminated, very calcareous, calcite fragment, trace coal. In wet cuttings slow moderate even milky green cut with spotty green residual ring.

7480-7510: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, pyrite, calcite fragmentes, pyrite and calcite filled fractures. In wet cuttings slow even milky green cut with no streaming cut. Spotty green residual ring.

7510-7540: Shale: black, firm, platy to flakey, finely laminated, calcareous, calcite fragment, trace pyrite, abundant calcite fragment. In wet cuttings very slow faint green cut with residual ring. No streaming cut.

7540-7570: limestone: light gray, mudstone, microcrystalline, sucrosic, SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, calcite fragments, trace pyrite. In wet cuttings, even green streaming cut with green residual ring.

7570-7600: LIMESTONE/DOLOMITE: light gray, microcrystalline, sucrosic, SHALE: black, firm, platy to flakey, finely laminated, some calcite fragments. NOSFC.

7600-7630: LIMESTONE/DOLOMITE: light gray, microcrystalline, sucrosic, SHALE: black, firm, platy to flakey, finely laminated, some calcite fragments. NOSFC

7630-7660: LIMESTONE/DOLOMITE: light gray, microcrystalline, sucrosic, SHALE: black, firm, platy to flakey, finely laminated, some calcite fragments. Very slow cloudy weak green cut in dry cutting, moderately thinc even residual ring.

7660-7690: SHALE: black, firm, platy, finelylaminated, non calcareous, LIMESTONE/DOLOMITE: light to dark gray, sucrosics, wackestone to mudstone, silt, trace MUDSTONE: light gray, hard, NOSFC.

7690-7720: SHALE: black, firm, splintery to flakey, finely laminated, silty, non calcareous, trace calcite in fractures, LIMESTONE/DOLOMITE: medium to dark gray, sucrosic, mudstone, silty. In dry cuttings slow very faint green cut.

7720-7750: SHALE: black, firm, splintery to flakey, finely laminated, silty, moderately calcareous, trace calcite in fractures, LIMESTONE/DOLOMITE: medium to dark gray, sucrosic mudstone, silty. In dry cuttings slow very faint green cut.

7750-7780: SHALE: black, firm, splintery to flakey, finely laminated, silty, moderately calcareous, LIMESTONE/DOLOMITE: medium to dark gray, massive, mudstone, silty. In dry cuttings slow milky green cutgreen residual ring.

7780-7810: SHALE: black, firm, splintery to flakey, finely laminated, silty, moderately calcareous, MUDSTONE: medium gray, massive, silty in part, trace pyrite. In dry cuttings slow even milky green cut with residual ring. No streaming cut.

7810-7840: SHALE: black, firm, platy to flakey, finely laminated, silty, moderately calcareous, abundant disseminated pyrited. In dry cuttings, green cut with residual ring, no streaming cut.

7840-7870: SHALE: black, firm, platy to flakey, finely laminated, abundant calcite fragments, calcite filled fractures. In dry cuttings slow milky green cut with spotty green residual ring. No streaming cut.

7870-7900: SHALE: black, firm, platy to flakey, finely laminated, abundant calcite fragments, calcite filled fractures. In dry cuttings slow moderate milky green cut with spotty green residual ring, no streaming cut.

7900-7930: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, very calcareous, calcite filled fractures. In dry cuttings, slow, faint even milky green cut with spotty residual ring. No streaming cut.

7930-7960: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, very calcareous, calcite filled fractures, trace SILTSTONE. In dry cuttings, slow fain even milky green cut with residual ring. No streaming cut.

7990-8020: SHALE: black, firm, platy to flakey, finely laminated, very calcareous, calcite filled fractures, trace LIMESTONE/DOLOMITE. NOSFC.

8020-8050: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, calcite filled fractures. Trace LIMESTONE/DOLOMITE. In wet cuttings, very slow faint green cut with spotty residual ring. No streaming cut.

8050-8080: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, occasional calcite filled fractures, trace LIMESTONE/DOLOMITE. In wet cuttings, very faint, very slow green cut. No residual ring and no streaming cut.

8080-8110: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, calcite filled fractures, trace pyrite, trace LIMESTONE/DOLOMTE. NOSFC.

8110-8140: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, calcite filled fracutes, trace pyrite. In dry cuttings, very slow faint green cut with poor residual ring. No streaming cut.

8140-8170: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, calcite filled fractures, trace pyrite. In dry cuttings slow milky green even cut with spotty residual ring. No streaming cut.

8170-8200: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, some calcite filled fractures, trace pyrite, trace LIMESTONE/DOLOMITE. In dry cuttings, slow miky green even cut with spotty residual ring. No streaming cut.

8200-8230: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, some calcite filled fractures, abundant calcite framnet. In dry cuttings, slow even milky green cut with spotty residual ring. No streaming cut.

8230-8260: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, some calcited filled fractures, trace LIMESTONE/DOLOMITE. In dry cuttings very slow weak green cut with spotty residual ring. No streaming cut.

8260-8290: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, occasional calcite filled fractures, trace calcite fragmentes, trayce pyrite. In dry cuttings, slow even milky green cut with sptty green residual ring. No streaming cut.

8290-8320: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments. In dry cuttings slow even ilky green cut with spotty green residual ring. No streaming cut.

8320-8350: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, occasional calcite fragments, calcite filled fractures, trace pyrite. In dry cuttings slow moderate milky green cut with spotty residual ring. No streaming cut.

8350-8380: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, occasional calcite fragments, calcite filled fractures with trace pyrite. In dry cuttings, slow moderate even milky green cut with spotty residual ring. No streaming cut.

8380-8410: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, calcite filled fractures, trace pyrite. In dry cuttings slow moderate even milky green cut with spotty residual ring. No streaming cut.

8410-8440: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, calcite filled fractures, trace pyrite. In dry cuttings, slow strong even milky green cut with spotty residual ring. No streaming cut.

8440-8470: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, calcite filled fractures. In wet cuttings very slow weak green cut. No residual ring. No streaming cut.

8470-8500: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, calcite filled fractures, occasional calcite fragment, trace pyrite. In dry cutting very slow pale milky green cut, moderate green residual ring.

8500-8530: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, occasional calcite fragments, calcite filled fractures, trace pyrite. Very slow pale milky green cut. Moderate green residual ring.

8530-8560: SHALE: black, moderately frim, platy to flakey, finely laminated, very calcareous to limey, very silty, occasional calcite fragments, occasional calcite filled fractures, trace pyrite. In dry cutting slow pale green cut. Moderate green residual ring.

8560-8590: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous to limesy, very silty, occasional calcite fragments, occasional calcite filled fractures, trace pyrite, trace LIMESTONE: dark gray to black, blocky, firm, microcrystalline mudstone, very argillaceous. In dry cuttings very slow weak green cut with no streaming cut.

8590-8620: SHALE: black, moderately firm to hard, platy to flakey, very calcareous, occasional calcite fragments, trace SILTSTONE: light gray, moderately firm, blocky, calcareous, trace LIMESTONE/DOLOMITE: medium to dark gray, dense, microcrystalline, NOSFC.

8620-8650: SHALE: black, moderately ard, platy to flakey, very calcareous, some calcite fragments, calcite filled fractures. In dry cuttings weak green cut.

8650-8680: SHALE: black, moderately firm to moderately hard, platy to flakey, very calcareous, occasional calcite fragments, trace SILTSTONE: light gray,pyrite, trace LIMESTONE/DOLOMITE: medium dark gray, dense. In dry cuttings weak green cut.

8680-8710: SHALE: black, moderately firm to hard, platy to flakey, finely laminated, very calcareous, trace LIMESTONE/DOLOMITE: medium to dark gray, microcrystalline, slow very pale milky green cut. In dry cuttings weak green cut with moderate residual ring.

8710-8740: SHALE: black, firm to hard, platy to flakey, finely laminated, very calcareous, silty. In dry cuttings very weak green cut, moderate residual ring.

8740-8770: SHALE: black, moderately hard to hard, flaky to splintery, silty, LIMESTONE: medium to dark gray, microcrystalline mudstone, very argillaceous, trace MUDSTONE: light to medium gray, hard, non calcareous. In dry cuttings very slow very weak green cut, weak residual ring.

8770-8800: SHALE: black, moderately hard to hard, flaky to splintery, silty, LIMESTONE: medium to dark gray, microcrystalline mudstone, very argillaceous, trace MUDSTONE: light to medium gray, hard, non calcareous. In dry cuttings very slow very weak green cut, weak residual ring

8800-8830: SHALE: black, moderately hard to hard, flaky to splintery, silty, LIMESTONE: medium to dark gray, microcrystalline mudstone, very argillaceous, trace MUDSTONE: light to medium gray, hard, non calcareous. In dry cuttings very slow very weak green cut, weak residual ring

8830-8860: SHALE: black, moderately hard to hard, flaky to splintery, silty, LIMESTONE: medium to dark gray, microcrystalline mudstone, very argillaceous, trace MUDSTONE: light to medium gray, hard, non calcareous. In dry cuttings very slow very weak green cut, weak residual ring

8860-8890: SHALE: black, moderately hard to hard, flakey to splintery, silty, LIMESTONE: medium to dark gray, microcrystalline mudstone, very argillaceous, trace MUDSTONE: light to

medium gray, hard, microcrystalline, non calcareous. In dry cuttings very slow very weak pale green cut. Weak residual ring. No streaming cut.

8890-8920: SHALE: black, moderately firm, platy to flakey, very calcareous, calcite filled fractures, trace pyrite, occasionally very limey. In dry cuttings very slow weak light green cut with weak spotty residual ring. No streaming cut.

8920-8950: SHALE: black, moderately firm, platy to flakey, very calcareous, calcite filled fractures, trace pyrite, occasionally very limey. NOSFC.

8950-8980: SHALE: black, moderately firm to moderately hard, platy to flakey, finely laminated, very calcareous. In dry cuttings, slow even moderate milky green cut with spotty residual ring. No streaming cut.

8980-9010: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, very calcareous, some calcite fragments, trace pyrite. In dry cuttings slow weak green cut with faint spotty residual ring. No streaming cut.

9010-9040: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, very calcareous, occasional calcite fragments, trace pyrite, very limey. In dry cuttings, slow even moderate mily green cut with spotty green residual ring. No streaming cut.

9040-9070: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, trace pyrite. In dry cuttings very slow very weak milky green cut. No streaming cut.

9070-9100: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, occasional calcite filled fractures, trace pyrite, very limey. In dry cuttings very slow weak milky green cut. No streaming cut.

9100-9130: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, calcite filled fractures with pyrite. In dry cuttings very slow weak milky green cut, no streaming cut.

9130-9160: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, occasional calcite fragments,occasional calcite filled fractures with trace pyrite, occasional limey. In dry cuttings produce slow weak to moderate milkey green cut. No streaming cut. Moderate residual ring.

9160-9190: SHALE: black, moderately firm, platy to flakey, finely laminated, very calcareous, occasional calcite fragments,occasional calcite filled fractures with trace pyrite, occasional limey. In dry cuttings produce slow weak to moderate milkey green cut. No streaming cut. Moderate residual ring.

9190-9220: SHALE: black, moderately firm to moderately hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, calcite filled fractures, trace pyrite, occasionally limey. In dry cuttings very slow very weak green cut. No streaming cut, weak to moderate residual ring.

9220-9250: SHALE: black, moderately firm to moderately hard, platy to flakey, finely laminated, very calcareous, abundant calcite fragments, calcite filled fractures, trace pyrite, occasionally

limey. In dry cuttings very slow very weak green cut. No streaming cut, weak to moderate residual ring.

9250-9280: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, calcareous, calcite filled fractures, trace LIMESTONE: as above, trace MUDSTONE: as above. In dry cuttings slow moderate milky green cut, no streaming cut, moderate residual ring.

9280-9310: SHALE: black, firm to moderately hard, platy to flakey, finely laminated, calcareous, calcite filled fractures, trace LIMESTONE: as above, trace MUDSTONE: as above. In dry cuttings slow moderate milky green cut, no streaming cut, moderate residual ring.

9310-9340: SHALE: black, firm to moderately hard, blocky to platy to flakey, finely laminated, very calcareous, silty, trace LIMESTONE: as above. In dry cuttings very slow moderate to strong green cut, no streaming cut. Moderate residual ring.

9340-9370: SHALE: black, firm to moderately hard, blocky to platy to flakey, finely laminated, very calcareous, sillty, LIMESTONE: light to dark gray, massive microcrystalline mudstone, silty. In dry cuttings very slow moderate green cut, no streaming cut. Moderate residual ring.

9370-9400: SHALE: Black, firm to moderately hard, blocky to platy, finely laminated, very calcareous, silty, MUDSTONE: light to medium gray, hard, microcrystalline, non calcareous. In dry cuttings very slow moderate murky green cut. No streaming cut, weak moderate residual ring.

9400-9430: SHALE: black, firm to moderately hard, blocky to platy, finely laminated, very calcareous, silty, MUDSTONE: medium to dark gray, very hard, microcrystalline, non calcareous, occasional LIMESTONE: medium gray, massive, microcrystalline, sandy. In dry cuttings slow moderate milky green cut, no streaming cut, very bright green residual ring.

9430-9460: SHALE: black, firm to moderately hard, blocky to platy, finely laminated, very calcareous, silty, MUDSTONE: medium to dark gray, very hard microcrystalling, non calcareous, occasional LIMESTONE: medium gray, massive, microcrystalline, sandy. In dry cuttings slow weak to moderate milky green cut. No streaming cut. Very bright residual ring.

9460-9490: SHALE: black, firm to moderately hard, platy, finely laminated, moderately calcareous, silty, occasional MUDSTONE: as above, occasional LIMESTONE: as above. In dry cuttings slow weak milky green cut. No streaming cut, bright even residual ring.

9490-9520: SHALE: black, firm to moderately hard, platy, finely laminated, moderately calcareous, silty, occasional MUDSTONE: as above, occasional LIMESTONE: as above. In dry cuttings slow weak milky green cut. No streaming cut, bright even residual ring.

9520-9550: LS/DOL: medium gray, massive, microcrystalline, sandy, SHALE: black, firm to moderately hard, blocky to platy, finely laminated, very calcareous, silty, trace MUDSTONE: medium to dark gray, very hard, microcrystalline, non calcareous. In dry cuttings moderate green milky cut. No streaming cut.

9550-9580: LS/DOL: medium gray, massive, microcrystalline, sandy, SHALE: black, firm to moderately hard, blocky to platy, finely laminated, very calcareous, silty, trace MUDSTONE: medium to dark gray, very hard, microcrystalline, non calcareous. In dry cuttings moderate green milky cut. No streaming cut.

9580-9610: SHALE: black, firm, platy to flakey, finely laminated, very calcareous, silty, LIMESTONE/DOLOMITE: medium to dark gray, wackestone, microcrystalline, sucrosic. In dry cuttings moderate even milky green cut with residual ring. No streaming cut.

9610-9640: SHALE: black, firm, platy to flakey, finely laminated, very calcareous, silty, occasional calcite fragments. In dry cuttings, moderate even milky green cut with spotty residual ring. No streaming cut.

9640-9670: SHALE: black, firm, platy to flakey, finely laminated, very calcareous, occasional calcite fragments, calcite filled fractures, trace pyrite, occasionally lime. In dry cuttings, even milky green cut with spotty residual ring. No streaming cut.

9670-9700: SHALE: black, firm, platy to flakey, very calcareous, occasional calcite fragments, calcite filled fractures, trace pyrite, trace LIMESTONE: dark gray, microcrystalline. In dry cuttings, moderate even milky green cut with spotty residual ring. No streaming cut.

9700-9730:SHALE: black, firm, platy to flakey, very calcareous, abundant calcite fragments. In dry cuttings, moderate even milky green cut with spotty residual ring. No streaming cut.

9730-9760: SHALE: black, moderately firm, platy to flakey, very calcareous, abundant calcite fragments. In dry cuttings, even moderate milky green cut with spotty residual ring. No streaming cut.

9760-9790: SHALE: black, moderately firm, platy to flakey, very calcareous, abundant calcite fragments, calcaite filled fractures. In dry cuttings, even strong milky green cut with spotty residual ring. No streaming cut.

9790-9820: SHALE: black, firm, platy to flakey, very calcareous, occasional calcite fragments, occasional calcite filled fractures. In dry cuttings, even strong milky green cut with spotty residual ring. No streaming cut.

9820-9850: SHALE: black, moderately firm, platy to flakey, very calcareous, abundant calcite fragments, trace pyrite. In dry cuttings, even strong milky green cut with spotty residual ring. No streaming cut.

9850-9880: SHALE: black, moderately firm, platy to flakey, very calcareous, occasional calcite fragments, occasional calcite filled fractures, trace pyrite. In dry cuttings moderate to strong even milky green cut with no streaming cut. Strong spotty green residual ring.

9880-9900(TD): SHALE: black, moderately firm, platy to flakey, very calcareous, occasional calcite fragments, trace pyrite. In dry cuttings moderate to strong even milky green cut with no streaming cut. Strong spotty green residual ring.

BIT RECORD

BIT #	BIT SIZE	BIT MFG.	BIT TYPE	SERIAL #	JET SIZE	FTGE	HOURS RUN	FT/HR	WOB	RPM	Section	MM Bend N/A
1	8.75	Baker	PDC	72057	4x13/4x15	3987	125.67	64.6	55-120	30-65	pilot	
2	8.75	Baker	PDC	7139012	3x20/2x16	910	173.83	9.8	0-150	25-60	curve	
3	6	Baker	PDC	7027614	5x18	56	26.75	4.9	0-106	25-60	lateral	
4	6	Baker	PDC	7027614	5x18	185	43.33	6.9	0-155	60-60	lateral	
5	6	Smith	PDC	JD3187	3x16/2x14	4079	153.92	35.7	0-155	55-60	lateral	

MUD REPORT

Date	Depth	WT	VIS	PV	YP	GELS	ES	CHLOR	SOL	OWR	COST	NOTE
7/15/2012	3450	9.3	42	7	9	5/11	N/A	800	8.5	.5/91	30042.51	
7/16/2012	4670	9.45	45	8	18	9/20	N/A	800	9.3	.5/90	41732.24	
7/17/2012												NO REPORT
7/18/2012												NO REPORT
7/19/2012	4725	9.4	44	8	13	11/20	N/A	700	7.9	.5/91	60933.68	
7/20/2012	4900	9.4	43	7	13	11/19	N/A	700	8.7	.5/90.5	69942.51	
7/21/2012	5045	9.3	42	11	13	11/21	N/A	700	N/A	.5/90.5	76224.10	
7/22/2012	5205	9.3	44	11	15	11/20	N/A	700	8.5	.5/91	84804.05	
7/23/2012	5489	9.6	43	12	14	9/18	N/A	800	9.1	1/89	95138.25	
7/24/2012	5585	9.7	43	12	13	9/19	N/A	700	9.3	1.5/88	104300.37	
7/25/2012												NO REPORT
7/26/2012	5595	9.3	43	12	11	8/14	N/A	700	5.7	2/91	118920.11	
7/27/2012	5650	9.4	40	11	11	8/13	N/A	700	6.8	2/90	127205.47	
7/28/2012	5796	10.5	40	12	14	6/16	N/A	700	6.6	2/86	141626.65	
7/29/2012	5856	10.6	42	17	17	7/13	N/A	800	5.9	2/86	145888.00	
7/30/2012	6714	10.5	42	17	17	7/15	N/A	800	6.6	2/86	154411.33	
7/31/2012												NO REPORT
8/1/2012	7825	10.5	44	19	18	8/24	N/A	750	6.5	2.5/85.5	176625.63	
8/2/2012	8904	10.5	48	17	18	8/28	N/A	850	7.1	2.5/85	185608.52	
8/3/2012	9607	10.6	48	21	18	8/29	N/A	850	7.6	2.5/84.5	192627.26	

Formation Tops

Fidelity Exploration and Production Co. FEP Grebe 31-33H					GR=3135 KB=3153
Formation/Zone	Prog TVD	Prog Subsea	Est. Interval Thickness	Mudlogger Pick TVD	Comments
Bearpaw		Surf			
Judith River	2625	528	659		
Eagle	1966	1187	721		
Niobrara	1245	1908	325		
Greenhorn	920	2233	453		
Mowry	467	2686	455		
Muddy	12	3141	90		
Dakota	-78	3231	410		
Lakota	-488	3641	118		
Morrison	-606	3759	328		
Rierdon	-934	4087	200		Began Collecting Samples at 4100'
Piper	-1134	4287	143	4230	
Amsden	-1277	4430	162	4477	
Tyler	-1439	4592	152	4603	
Heath	-1591	4744	117	4711	
Heath Carbonate Top	-1708	4861	44	4903	
Heath Dolomite Target	-1752	4905	53	4940	
Heath Carbonate Base	-1805	4958			
	Target reservoir highlighted in green				

Morning Reports

Weatherford®

Surface Logging Systems Report # 1

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	16-Aug-12	
DEPTH YESTERDAY	3,457	TODAY @ 4:30 am	4,670	24 HOURS:	1,213
STATUS:	TOOH @ KOP	AVERAGE DRILL RATE min/ft:	1.2	FT/HR	51.0
FORMATION DRILLING NOW:	Piper	TOPPED AT:	4903'		
PROJECTED FORM. TOPS:	Amsden - 4764'				
BACKGROUND GAS:	105-125u	TRIP GAS:	167u		
CONNECTION GAS:	341u	MAX GAS:	309u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 4670': 90% Limestone, 10% Shale

LS: gry- brwn gry to off wht, wxy, crpxl mudstn, blky, mod frm-hard, occ arg, asst LCM NOSFC.

Weatherford SLS began logging at 3820'. KOP of 4670' MD in the vertical hole was reached at 1 a.m this morning. Currently we are tripping out of the hole for new tools.

Mud Wt. 9.4 VIS 45

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	2	$4,000.00
		Total	$6,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Surface Logging Systems

Report # 2

Fidelity E&P

WELL NAME	71 Ranch 44-1H	Date:	17-Aug-12
DEPTH YESTERDAY	4,670	TODAY @ 4:30 am 4,670	24 HOURS: 0
STATUS:	TOOH @ KOP	AVERAGE DRILL RATE min/ft: 0.0	FT/HR 0.0
FORMATION DRILLING NOW:	Piper	TOPPED AT:	4903'
PROJECTED FORM. TOPS:	Amsden - 4764'		
BACKGROUND GAS:	0	TRIP GAS:	0
CONNECTION GAS:	0	MAX GAS:	0

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 4670': 90% Limestone, 10% Shale

LS: gry- brwn gry to off wht, wxy, crpxl mudstn, blky, mod frm-hard, occ arg, asst LCM NOSFC.

At 7:40 a.m yestrerday while trippping out of the hole for the new BHA, the goose neck on the top drive was damaged. We are still waiting on parts to arrive.

Mud Wt. 9.4 VIS 45

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	3	$6,000.00
		Total	$8,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 3

Fidelity E&P

WELL NAME	71 Ranch 44-1H	Date:	18-Aug-12		
DEPTH YESTERDAY	4,670	TODAY @ 4:30 am	4,670	24 HOURS:	0
STATUS:	TOOH @ KOP	AVERAGE DRILL RATE min/ft:	0.0	FT/HR	0.0
FORMATION DRILLING NOW:	Piper	TOPPED AT:	4903'		
PROJECTED FORM. TOPS:	Amsden - 4764'				
BACKGROUND GAS:	0	TRIP GAS:	0		
CONNECTION GAS:	0	MAX GAS:	0		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 4670': 90% Limestone, 10% Shale

LS: gry- brwn gry to off wht, wxy, crpxl mudstn, blky, mod frm-hard, occ arg, asst LCM. NOSFC.

The part for the top drive arrived and was installed. Currently, we are waiting on personnel to inspect the the top drive.
Mud Wt. 9.4 VIS 45

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	4	$8,000.00
		Total	$10,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 4

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	19-Aug-12	
DEPTH YESTERDAY	4,670	TODAY @ 4:30 am	4,732	24 HOURS:	62
STATUS:	TOOH @ KOP	AVERAGE DRILL RATE min/ft:	5.0	FT/HR	12.0
FORMATION DRILLING NOW:	Piper	TOPPED AT:	4903'		
PROJECTED FORM. TOPS:	Amsden - 4764'				
BACKGROUND GAS:	15-18	TRIP GAS:	1322u		
CONNECTION GAS:	33u	MAX GAS:	33u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 4720': 50% Anhydrite, 40% shale, 10% siltstone

ANHY: wht-pink/wht, massive-amph, crpxl, mod frm, tr SH: dk-med gry, v hrd, pity-flky, sil, tr CLYSTN: red-brn, vsft/gumbo, amph, sndy

Fixed top drive and tripped back into hole. We got back to bottom at 22:25 yesterday, and began drilling the curve.
Mud Wt. 9.3 VIS 41
Last Survey @ 4645' INC 1.7, AZM 66.9, TVD 4643.65

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	5	$10,000.00
		Total	$12,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 5

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	20-Aug-12	
DEPTH YESTERDAY	4,732	TODAY @ 4:30 am	4,902	24 HOURS:	170
STATUS:	TOOH @ KOP	AVERAGE DRILL RATE min/ft:	8.5	FT/HR	7.1
FORMATION DRILLING NOW:	Piper		TOPPED AT:	4903'	
PROJECTED FORM. TOPS:	Amsden - 4764'				
BACKGROUND GAS:	20-25		TRIP GAS:	N/A	
CONNECTION GAS:	102u		MAX GAS:	47u	

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 4900': 50% limestone, 35% shale, 15% arragonite

LS: wht-lt brwn, v frm, micxln, plty-spintry, tr ARRGRN: A/A, SH: A/A. NOSFC.

Continued to drill ahead within curve
Mud Wt. 9.3 VIS 42
Last Survey @ 4835' INC 19.4, AZM 333, TVD 4830.66

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	6	$12,000.00
		Total	$14,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 6

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	21-Aug-12	
DEPTH YESTERDAY	4,902	TODAY @ 4:30 am	5,049	24 HOURS:	147
STATUS:	Drilling Curve	AVERAGE DRILL RATE min/ft:	9.8	FT/HR	6.1
FORMATION DRILLING NOW:	Heath	TOPPED AT:	4943		
PROJECTED FORM. TOPS:	Heath Carbonate - 5088'				
BACKGROUND GAS:	15-18u	TRIP GAS:	N/A		
CONNECTION GAS:	46-93u	MAX GAS:	62u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5050': 100% Shale

SH: blk, dk gray, bladed-plty, v hrd, v calc, slty, NOSFC

Drilling ahead within curve
Mud Wt. 9.3 VIS 42
Last Survey @ 4933' INC 39.5, AZM 327.4, TVD 4868.08

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	7	$14,000.00
		Total	$16,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 7

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	22-Aug-12	
DEPTH YESTERDAY	5,049	TODAY @ 4:30 am	5,210	24 HOURS:	161
STATUS:	Drilling Curve	AVERAGE DRILL RATE min/ft:	8.9	FT/HR	6.7
FORMATION DRILLING NOW:	Heath	TOPPED AT:	4955		
PROJECTED FORM. TOPS:	Heath Carbonate - 5088'				
BACKGROUND GAS:	20-25u	TRIP GAS:	N/A		
CONNECTION GAS:	195u	MAX GAS:	62u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5210': 95% Shale, 5% limestone

SH: blk, dk gray, bladed-plty, v hrd, calc, slty, occ LS: wht, lt-med gry, firm, micrxln mudstn, blky-sub plty, v arg, NOSFC.

Drilling ahead within curve
Mud Wt. 9.3 VIS 45
Last Survey @ 5152' INC 62.8, AZM 327.6, TVD 45067.5

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	8	$16,000.00
		Total	$18,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 8

Fidelity E&P

WELL NAME	71 Ranch 44-1H	Date:	23-Aug-12		
DEPTH YESTERDAY	5,210	TODAY @ 4:30 am	5,501	24 HOURS:	291
STATUS:	Drilling Curve	AVERAGE DRILL RATE min/ft:	4.9	FT/HR	12.1
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066		
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	20-22u	TRIP GAS:	N/A		
CONNECTION GAS:	104u	MAX GAS:	64u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5480': 80% shale, 15% mudstone, 5% limestone
SH: blk, fissle, sft-mod frm, w calc, slty ip, abt calc frags, MUDSTN: gry, blky, micxl, hrd, LS: lt gry, frm crypxln, blky, v arg, tr drusy PY, dry cuttings produce faint slow strmng grn/yel cut.

Drilling ahead within curve
Mud Wt. 9.6 VIS 43
Last Survey @ 5405' INC 82.5, AZM 328.6, TVD 5126.67

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	9	$18,000.00
		Total	$20,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 9

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	24-Aug-12	
DEPTH YESTERDAY	5,501	TODAY @ 4:30 am	5,580	24 HOURS:	79
STATUS:	running casing	AVERAGE DRILL RATE min/ft:	2.4	FT/HR	25.0
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066		
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	20-22u	TRIP GAS:	276u		
CONNECTION GAS:	96u	MAX GAS:	56u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5580': 100% shale

SH: blk, plty-sub blky, mod calc, silty, abt calc frags, NOSFC

Running Casing
Mud Wt. 9.6 VIS 43
Last Survey @ 5524' Inc 89.9, Azm 331.2 TVD 5131.17

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	10	$20,000.00
		Total	$22,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 10

Fidelity E&P

WELL NAME	71 Ranch 44-1H	Date:	25-Aug-12
DEPTH YESTERDAY	5,560	TODAY @ 4:30 am 5,560	24 HOURS: 0
STATUS:	Wating for Cement to dry	AVERAGE DRILL RATE min/ft: 0.0	FT/HR 0.0
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066
PROJECTED FORM. TOPS:			
BACKGROUND GAS:	10-15u	TRIP GAS:	201u
CONNECTION GAS:	N/A	MAX GAS:	179u

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5580': 100% shale

SH: blk, plty-sub blky, mod calc, silty, abt calc frags, NOSFC.

Waiting on cement to dry
Mud Wt. 9.6 VIS 43
Last Survey @ 5524' Inc 89.9, Azm 331.2 TVD 5131.17

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	11	$22,000.00
		Total	$24,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 11

Fidelity E&P

WELL NAME	71 Ranch 44-1H	Date:	26-Aug-12
DEPTH YESTERDAY	5,580	TODAY @ 4:30 am 5,597	24 HOURS: 17
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft: 15.0	FT/HR 4.0
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066
PROJECTED FORM. TOPS:			
BACKGROUND GAS:	5-10u	TRIP GAS:	40u
CONNECTION GAS:	N/A	MAX GAS:	21u

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5590': 100% shale

SH: blk, plty-sub blky, mod calc, silty, abt calc frags, NOSFC.

Got to bottom at 2:45 this morning, drilled out the shoe and began drilling the lateral.
Mud Wt. 9.3 VIS 41
Last Survey @ 5524' Inc 89.9, Azm 331.2 TVD 5131.17

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	12	$24,000.00
		Total	$26,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 12

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	27-Aug-12	
DEPTH YESTERDAY	5,597	TODAY @ 4:30 am	5,668	24 HOURS:	71
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft:	12.0	FT/HR	5.0
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066		
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	5-12u	TRIP GAS:	32u		
CONNECTION GAS:	259	MAX GAS:	36u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5650': 100% shale

SH: blk, frm-hrd, plty, micxl, slty ip. ASPH: blk, amorph, ASPH produces rapidly streaming bright wht/blu cut

At 14:30 yesterday we tripped out of the hole to remove the reamer in hopes of increasing ROP. We got back to bottom at 21:30 and resumened drilling the lateral ROP has increased in the last 20 feet drilled.

Mud Wt. 9.4 VIS 39

Last Survey @ 5612' Inc 90.4, Azm 332.6 TVD 5130.4

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	13	$26,000.00
		Total	$28,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 13

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	28-Aug-12	
DEPTH YESTERDAY	5,668	TODAY @ 4:30 am	5,801	24 HOURS:	133
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft:	10.9	FT/HR	5.5
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066		
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	15-18u	TRIP GAS:	98u		
CONNECTION GAS:	57u	MAX GAS:	30u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5800': 85% shale, 15% mudstone

SH: blk, hrd, blky-flky, sil, slty, mod calc, MUDSTN: lt-med gry, frm-hrd, sub plty-flky, micxl, non calc, NOSFC

Continued to drill ahead within the lateral all day. At 18:00 we pulled back to the shoe to condition the mud. We got back to bottom at1:30 this mornig and continue to drill ahead within the lateral.

Mud Wt.10.5 VIS 44

Last Survey @ 5733' Inc 92.4, Azm 332.1 TVD 5125.58

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	14	$28,000.00
		Total	$30,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 14

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	29-Aug-12	
DEPTH YESTERDAY	5,801	TODAY @ 4:30 am	5,858	24 HOURS:	57
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft:	17.1	FT/HR	3.5
FORMATION DRILLING NOW:	Heath Carbonate		TOPPED AT:	5066	
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	14-16u		TRIP GAS:	45u	
CONNECTION GAS:	N/A		MAX GAS:	56u	

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 5860': 75% Shale, 25% mudstone

SH: blk, v hrd, blky-flky, slty, non calc, MUDSTN: lt-med gry, frm-hrd, blky, micxl, non calc NOSFC

Tripped out of the hole at 09:40 for a new bit and motor. We got back to bottom at 22:15 and resumed drilling the lateral.
Mud Wt.10.6 VIS 42
Last Survey @ 5794' Inc 93.8, Azm 331.8 TVD 5122.13

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	15	$30,000.00
		Total	$32,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 15

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	30-Aug-12	
DEPTH YESTERDAY	5,858	TODAY @ 4:30 am	6,735	24 HOURS:	877
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft:	0.7	FT/HR	81.8
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066		
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	35-45u	TRIP GAS:	N/A		
CONNECTION GAS:	86u	MAX GAS:	145u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 6700': 100% Shale

SH: blk, hrd, pity-flky, f lam, calc, occ calc in fract, tr MUDSTN, tr LS

Drilled ahead within lateral and got up above the D bench. ROP has increased drastically to 80+ ft/hr.
Mud Wt.10.6 VIS 41
Last Survey @ 5794' Inc 93.8, Azm 331.8 TVD 5122.13

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	16	$32,000.00
		Total	$34,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 16

Fidelity E&P

WELL NAME	71 Ranch 44-1H	Date:	31-Aug-12
DEPTH YESTERDAY	6,735	TODAY @ 4:30 am 7,299	24 HOURS: 564
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft: 2.3	FT/HR 26.5
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066
PROJECTED FORM. TOPS:			
BACKGROUND GAS:	10-13u	TRIP GAS:	N/A
CONNECTION GAS:	141u	MAX GAS:	99u

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 7300': 60% Shale, 40% Mudstone

SH: blk, hrd, flky-plty, f lam, non calc, f dis py, MUDSTN: lt-med gry, v hrd, micxl, non calc, NOSFC.

Drilled ahead within lateral. The bit fell out the bottom of the target zone-working on building inc to get back into the zone.
Mud Wt.10.5 VIS 4543
Last Survey @ 7240' Inc 89.7, Azm 335.1 TVD 5110.08

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	17	$34,000.00
		Total	$36,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Report # 17

Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	1-Sep-12	
DEPTH YESTERDAY	7,299	TODAY @ 4:30 am	7,833	24 HOURS:	534
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft:	2.6	FT/HR	23.0
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:		5066	
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	109u	TRIP GAS:		N/A	
CONNECTION GAS:	251u	MAX GAS:		410u	

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 7810': 60% Shale, 40% Mudstone

SH: blk, frm, splty-flky, f lam, slty, mildly calc, MUDSTN: med gry, mas, slty ip, tr pyr.

Continued to drill ahead within lateral
Mud Wt.10.5 VIS 45
Last Survey @ 7770' Inc 89.8, Azm 337 TVD 5108.65

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	18	$36,000.00
		Total	$38,000.00

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Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

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Fidelity E&P

WELL NAME	71 Ranch 44-1H		Date:	2-Sep-12	
DEPTH YESTERDAY	7,833	TODAY @ 4:30 am	8,908	24 HOURS:	1,075
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft:	1.2	FT/HR	51.0
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:		5066	
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	30-80u	TRIP GAS:		N/A	
CONNECTION GAS:	299u	MAX GAS:		242u	

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 8890': 90% shale, 5% limestone, 5% mudstone
SH: blk, sli hrd-hrd, flky-splty, slty, LS: med-dk gry, micxl mas mudstn, v arg, tr MUDSTN: lt-med gry, hrd, micxl, non calc, in dry cuttings v slow v weak pale grn cut, weak resid ring

Drilling ahead within lateral
Mud Wt.10.5 VIS 49
Last Survey @ 8826' Inc 89.8, Azm 343.2 TVD 5108.86

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	19	$38,000.00
		Total	$40,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

Weatherford®

Surface Logging Systems

Report # 19

Fidelity E&P

WELL NAME	71 Ranch 44-1H	Date:	3-Sep-12		
DEPTH YESTERDAY	8,904	TODAY @ 4:30 am	9,616	24 HOURS:	712
STATUS:	Drilling lateral	AVERAGE DRILL RATE min/ft:	1.8	FT/HR	33.0
FORMATION DRILLING NOW:	Heath Carbonate	TOPPED AT:	5066		
PROJECTED FORM. TOPS:					
BACKGROUND GAS:	89-93u	TRIP GAS:	N/A		
CONNECTION GAS:	974u	MAX GAS:	3590u		

DEPTH		UNITS OF GAS			DRILL RATE (ft/hr)			LITH
Beginning	Ending	Before	During	After	Before	During	After	Rock Type

Lithology @ 9580': 60% Limestone/Dolomite 40% shale
LS/DOL: med gry, mas, micxl, sndy, SH: blk, frm-sli hrd, blky-plty, f lam, v calc, slty, tr MUDSTN: med-dk gry, v hrd, micxl, non calc, in dry cuttings mod grn milky cut, no strmng cut,

Continued to drill ahead within lateral
Mud Wt.10.5 VIS 45
Last Survey @ 9541' Inc 89.1, Azm 340.3 TVD 5114.21

Costs

Item	Cost	Number	Sub Total
Rig up/down	$2,000.00	1	$2,000.00
2 man/day	$2,000.00	20	$40,000.00
		Total	$42,000.00

Show Report - Chromat Data

Begin Depth	Total Gas units	C1 ppm	C2 ppm	C3 ppm	C4 ppm

FIDELITY
Exploration & Production Company

Geologic Prognosis (8/05/12)

Operator's Name: Fidelity Exploration & Production Co.

Target Horizon: Heath Carbonate

Well Name: 71 Ranch 44-1H

Drilling Contractor: Pioneer #43 KB: 18'

County / State: Rosebud, Montana
Gr: 3012 (graded)
KB: 3030

Company Man Contact: Dan Drewer: (701) 355-6852
Mark Berciers: Same Phone #

Location: TBD

SHL: 330' FSL 330' FEL (SESE)	**Section 1 T10N-R34E**	**Lat. TBD Long. TBD**
BHL: 330' FNL 2310' FEL (NWNE)	**Section 1 T10N-R34E**	**Lat. TBD Long. TBD**
(BHL fotages ar hard lines)		**NAD27 UTM ZONE 13**

Classificatioins: Exploratory (**X**) Development ( ) State ( ) Federal ( ) Fee ( ) **Proposed Total Depth:**

GEOLOGICAL MARKERS

Fidelity Exploration and Production Co. FEP Grebe 31-33H					GR=3135 KB=3153
Formation/Zone	Prog TVD	Prog Subsea	Est. Interval Thickness	Mudlogger Pick TVD	Comments
Bearpaw		Surf			
Judith River	882	2148	659		
Eagle	1541	1489	721		
Niobrara	2262	768	325		
Greenhorn	2587	443	453		
Mowry	3040	-10	455		
Muddy	3495	-465	90		
Dakota	3585	-555	410		
Lakota	3995	-965	73		
Morrison	4068	-1038	355		
Rierdon	4423	-1393	168		
Piper	4591	-1561	173		
Amsden	4764	-1734	176	4770	
Tyler	4940	-1910	93	4835	
Heath	5033	-2003	55	4943	
Heath Carbonate Top	5088	-2058	32	5066	
Heath Dolomite Target	5120	-2090	60	5113	
Heath Carbonate Base	5180	-2150			
	Target reservoir highlighted in green				

Possible Drilling Hazards: Mowry Shale can swell and fall into the hole.

Offset Wells

Well Name: Magelsen #1	API: 25-087-05153	Loc: NWNW Sec 31-T11N-R35E
Operator: New Drilling	Tests:	IP:
Completion Date:	Comments: 1956 Amsden & Lakota Test	

Well Name: magelsen #2	API: 05-087-05172	Loc: NWNE Sec 30-T11N-R35E
Operateor:	Tests:	IP:
Completion Date:	Comments: 1959 Amsden test	

Horizontal Well Detail

Estimated Overall Lateral Dip Angle = 89.94 (5' down dip at BHL)

ESTIMATED AZIMUTHAL ORIENTATION = 338° (N22W)

Azimuthal control is critical. Total VS azimuth cannot be greater than 3°

Regional Structural Dip top of the Heath Carbonate: ~.6° @ azimuth 230° (S50W)
Strike: ~320 (N20W)
Comments: Well to be drilled roughly strike parallel SE to NW

ESTIMATED OVERALL DIP OF LATERAL HOLE = 89.94° (90 – arc tan [5'/4500])

Lateral Length: Estimated at 5050' from SHL to TD at BHL **down-dip.Target at BHL estimated to be 5' TVD Deepet than SHL. Estimated lateral length from landing to TD = 4500'**
Total Depth: Estimated to be -2095' TVDSS, 5' deeper than at Heath Dolomite Interval Target location at SHL
No Pilot Hole Total Depth:
Horizontal Hole Total Depth: ~5125' TVD, 9620'MD

TESTING AND CORING

Wireline Logging: Schlumbeger	**Well Site Geology: Weatherfor Logging**
Contact: N/A	**Supervisor Contact:** Ryan Schaefer **E-mail:** ryan.schaefer2@weatherford.com **Phone: (303) 825-6558 Cell (303) 579 3770**
Alt. Contact: N/A	**Lead Well Site Geologist:** Nick Loundagin **E-mail:**Nicholas.loundagin@weatherford.com **Phone:** Rig (701) 355-6899

Whole Core Cutting:	**Whole Core Onsite Collection:**
Contact: No Whole Core is Planned **E-mail:** **Phone:**	**Contact:** No Whole Core is Planned **E-mail:** **Phone:**

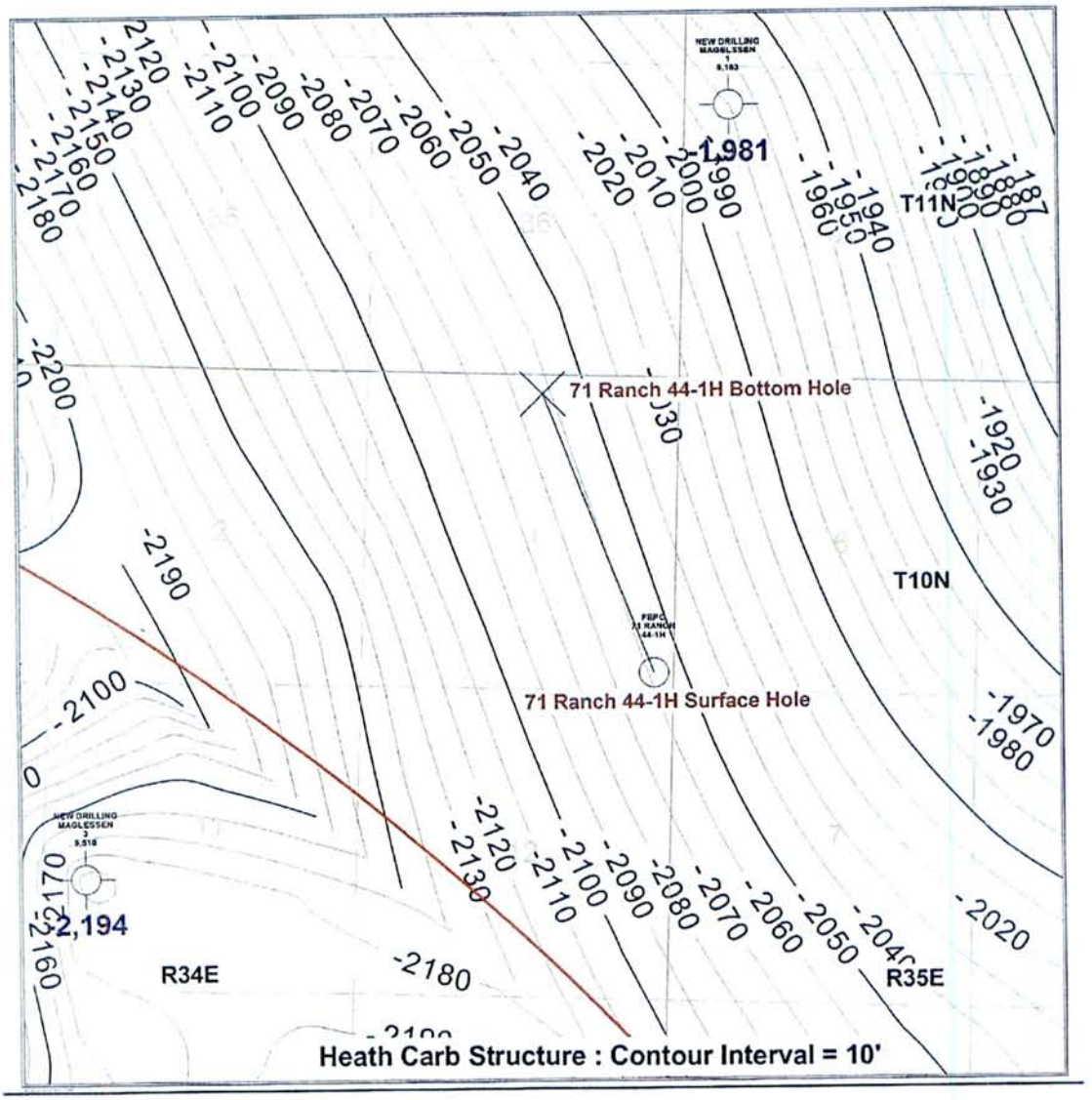
Wireline Logging		Well Site Geology			
Log Type		**Samples and Drilling Time Control**			
No Vertical Logs Anticipated		**Company**	**Feet/Sample**	**Interval**	**Drilling Control**
No Lateral Logs Anticipated		Weatherford	30' samples	Morrison to Amsden (KOP)	N/A
		Weatherford	30' samples	KOP to Lateral TD	N/A

Whole Core Cutting/Acquisition		**Whole Core Onsite Handling**	
No whole Core is Planned		No Whole Core is Planned	**Drilling Control**
No whole Core is Planned		No Whole Core is Planned	

Preliminary Log, Drlg. Samples, Core, etc. Distribution List

Contact	Phone	Logs	Mailing Address E-mail
Stacey Saltsman	Work 720-917-3036 Cell 7203538903 Fax303-893-1964	**3 Final Print Well Logs** **3 Final Mud Logs** **3 DST Reports** **3 Final Geo-Eng Reports** **2 Final Paper Directional Survey Data (Within 30 days of Well Completion)**	Fidelity E&P Co. 1700 Lincoln Suite 2800 Denver, Colorado 80203 Stacey.saltsman@fidelityepco.com
Phillip Johnson **Contact**	Work 720-917-3035 Cell 303-895-1382	**Whole Cor Chips**	
Barron Gimza	Work 720-931-9622 Cell 303-956-5642 Fax 303-893-1964	**2 Final Print Well Logs** **2 Final Mud Logs-Daily Mud Logs** **2DST Reports**	Fidelity E&P Co. 1700 Lincoln Suite 2800 Denver, Colorado 80203 Barron.gmaza@fidelityepco.com
Adam VanHolland	Work 720-956-5779 Cell 720-940-0394	**2Final Geo-Eng Reports** **Daily Drilling Reports** **Logs (LAS-TIF)**	Adam.vanholland@fidelityepco.com
Christina Morris	Work 720-956-5776		Christina.morris@fideltyepco.com

INDEX STRUCTURE MAP



PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	1 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Thursday, August 09, 2012 at 0000 to Thursday, August 09, 2012 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM		
End Depth	0.00	Circulating Hours	0.00	RAB	0	SPP	0	FlowRate	0 - 0	0		
Total Drilled:	0.00	Avg. Total ROP:	NA	**Mud Data**								
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type				PV	0	SOLID	0	
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°	0	
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°	0	
Below Rotary Hrs.	0.00	Percent Slide:	NA	Chlorides	0	WL	0			Oil %	0	

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

N/A

Signature:

Incl. In:	89.9	Azm. In:	331.2	Incl. Out:	93.4	Azm. Out:	332

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
9-Aug-12	06:00	24:00	18.00	0	0	Standby	Standby

CONFIDENTIAL

RECEIVED

JUN 2 6 2013

MONTANA BOARD OF OIL & GAS CONSERVATION

08721738

P-0021594

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	2 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Friday, August 10, 2012 at 0000 to Friday, August 10, 2012 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00
End Depth	0.00	Circulating Hours	0.00
Total Drilled:	0.00	Avg. Total ROP:	NA
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	0.00	Percent Slide:	NA

Drilling Parameters

WOB	0	Pick UP	0	Slack Off	0	SPM	
RAB	0	SPP	0	FlowRate	0 - 0	0	

Mud Data

Type				PV	0	SOLID	0
Weight	0	GAS	0	YP	0	BHT°	0
Viscosity	0	SAND	0	PH	0	Flow T°	0
Chlorides	0	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix
Geologist:	
Company Man:	Mark / Dan

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

N/A

Signature:

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
10-Aug-12	00:00	24:00	24.00	0	0	Standby	Standby

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	3 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Saturday, August 11, 2012 at 0000 to Saturday, August 11, 2012 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00
End Depth	0.00	Circulating Hours	0.00
Total Drilled:	0.00	Avg. Total ROP:	NA
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	0.00	Percent Slide:	NA

Drilling Parameters

WOB	0	Pick UP	0	Slack Off	0	SPM	
RAB	0	SPP	0	FlowRate	0 - 0	0	

Mud Data

Type				PV	0	SOLID	0
Weight	0	GAS	0	YP	0	BHT°	0
Viscosity	0	SAND	0	PH	0	Flow T°	0
Chlorides	0	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix
Geologist:	
Company Man:	Mark / Dan

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

N/A

Signature:

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Aug-12	00:00	24:00	24.00	683	683	Standby	Standby

08721738

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	4 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Sunday, August 12, 2012 at 0000 to Sunday, August 12, 2012 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00
End Depth	0.00	Circulating Hours	0.00
Total Drilled:	0.00	Avg. Total ROP:	NA
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	0.00	Percent Slide:	NA

Drilling Parameters

WOB	0	Pick UP	0	Slack Off	0	SPM	
RAB	0	SPP	0	FlowRate	0 - 0		0

Mud Data

Type				PV	0	SOLID	0
Weight	0	GAS	0	YP	0	BHT°	0
Viscosity	0	SAND	0	PH	0	Flow T°	0
Chlorides	0	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix
Geologist:	Weatherford
Company Man:	Mark / Dan

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

N/A

Signature:

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Aug-12	00:00	24:00	24.00	683	683	Standby	Standby

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	5 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Monday, August 13, 2012 at 0000 to Monday, August 13, 2012 at 2400

DRILLING SUMMARY

Start Depth	683.00	Rotary Hours	16.08
End Depth	2319.00	Circulating Hours	1.33
Total Drilled:	1636.00	Avg. Total ROP:	101.72
Total Rotary Drilled:	1636.00	Avg. Rotary ROP:	101.72
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	100.00
Below Rotary Hrs.	20.50	Percent Slide:	.00

Drilling Parameters

WOB	8	Pick UP	102	Slack Off	94	SPM	
RAB	97	SPP	1150	FlowRate	0 - 415	120	

Mud Data

Type	Water Base Mud			PV	0	SOLID	0
Weight	9	GAS	0	YP	0	BHT°	0
Viscosity	31	SAND	0	PH	0	Flow T°	0
Chlorides	0	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix
Geologist:	Weatherford
Company Man:	Mark / Dan

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

BHA

BHA # 1:RMBM568X, 7/8; 5.0 stg. 3.0 deg. Adj., 6 1/2" 10' NM Pony, NMDC, Gap Sub, NMDC,

Signature:

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Aug-12	00:00	03:30	3.50	683	683	Standby	Standby
13-Aug-12	03:30	04:30	1.00	683	683	Change BHA	Change BHA
13-Aug-12	04:30	06:15	1.75	683	683	TIH	TIH
13-Aug-12	06:15	07:35	1.33	683	683	Circulating	Circulating/ Drill float and shoe.
13-Aug-12	07:35	08:35	1.00	683	772	Drilling	Drilling
13-Aug-12	08:35	08:40	0.08	772	772	Survey & Conn.	Survey & Conn.@725' Inc 0.6° Azm 110.1°
13-Aug-12	08:40	11:00	2.33	772	1201	Drilling	Drilling - (WOB:8;GPM :390;RPM:30)
13-Aug-12	11:00	11:05	0.08	1201	1201	Survey & Conn.	Survey & Conn.@1154' Inc 0.5° Azm 96.6°
13-Aug-12	11:05	14:50	3.75	1201	1669	Drilling	Drilling - (WOB:8;GPM :390;RPM:30)
13-Aug-12	14:50	14:55	0.08	1669	1669	Survey & Conn.	Survey & Conn.@1622' Inc 1° Azm 97°
13-Aug-12	14:55	20:40	5.75	1669	2143	Drilling	Drilling - (WOB:8;GPM :390;RPM:30)
13-Aug-12	20:40	20:45	0.08	2143	2143	Survey & Conn.	Survey & Conn.@2096' Inc 1° Azm 73.2°
13-Aug-12	20:45	24:00	3.25	2143	2319	Drilling	Drilling - (WOB:8;GPM :390;RPM:30)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	6 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Tuesday, August 14, 2012 at 0000 to Tuesday, August 14, 2012 at 2400

DRILLING SUMMARY

Start Depth	2319.00	Rotary Hours	20.75
End Depth	3147.00	Circulating Hours	2.50
Total Drilled:	828.00	Avg. Total ROP:	39.90
Total Rotary Drilled:	828.00	Avg. Rotary ROP:	39.90
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	100.00
Below Rotary Hrs.	24.00	Percent Slide:	.00

Drilling Parameters

WOB	12	Pick UP	102	Slack Off	94	SPM			
RAB	97	SPP	1150	FlowRate	420 - 420	120			

Mud Data

Type	Water Base Mud			PV	0	SOLID	0
Weight	9.5	GAS	0	YP	0	BHT°	0
Viscosity	60	SAND	0	PH	0	Flow T°	0
Chlorides	0	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix
Geologist:	Weatherford
Company Man:	Mark / Dan

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

BHA

BHA # 1:RMBM568X, 7/8; 5.0 stg. 3.0 deg. Adj., 6 1/2" 10' NM Pony, NMDC, Gap Sub, NMDC,

Signature:

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Aug-12	00:00	10:30	10.50	2319	2618	Drilling	Drilling - (WOB:8;GPM :390;RPM:30)
14-Aug-12	10:30	10:35	0.08	2618	2618	Survey & Conn.	Survey & Conn.@2571' Inc 1.5° Azm 59°
14-Aug-12	10:35	17:40	7.08	2618	2996	Drilling	Drilling - (WOB:12;GPM :420;RPM:65)
14-Aug-12	17:40	19:00	1.33	2996	2996	Circulating	Circulating- Lost Returns
14-Aug-12	19:00	19:20	0.33	2996	2996	POOH	POOH 3 Stands
14-Aug-12	19:20	20:30	1.17	2996	2996	Circulating	Circulating- Build Mud
14-Aug-12	20:30	20:50	0.33	2996	2996	TIH	TIH
14-Aug-12	20:50	22:55	2.08	2996	3093	Drilling	Drilling - (WOB:12;GPM :420;RPM:65)
14-Aug-12	22:55	24:00	1.08	3093	3147	Drilling	Drilling - (WOB:12;GPM :420;RPM:65)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	7 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Wednesday, August 15, 2012 at 0000 to Wednesday, August 15, 2012 at 2400

DRILLING SUMMARY

Start Depth	3147.00	Rotary Hours	24.00
End Depth	4634.00	Circulating Hours	0.00
Total Drilled:	1487.00	Avg. Total ROP:	61.96
Total Rotary Drilled:	1487.00	Avg. Rotary ROP:	61.96
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	100.00
Below Rotary Hrs.	24.00	Percent Slide:	.00

Drilling Parameters

WOB	8	Pick UP	128	Slack Off	120	SPM	
RAB	125	SPP	1150	FlowRate	310 - 310	90	

Mud Data

Type	Water Base Mud			PV	7	SOLID	8.5
Weight	9.3	GAS	0	YP	9	BHT°	109
Viscosity	42	SAND	1	PH	0	Flow T°	88
Chlorides	800	WL	8.6			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

BHA

BHA # 1:RMBM568X, 7/8; 5.0 stg. 3.0 deg. Adj., 6 1/2" 10' NM Pony, NMDC, Gap Sub, NMDC,

Signature:

Incl. In:	1.5	Azm. In:	53.5	Incl. Out:	1.5	Azm. Out:	53.5

GENERAL COMMENT

EM tool would not give us a survey from 3200 ft on. We will drill to KOP point then on the way back in to build curve; shoot surveys every 500 ft.

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-12	00:00	24:00	24.00	3147	4634	Drilling	Drilling - (WOB:12;GPM :420;RPM:65)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	8 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Thursday, August 16, 2012 at 0000 to Thursday, August 16, 2012 at 2400

DRILLING SUMMARY

Start Depth	4634.00	Rotary Hours	0.92
End Depth	4670.00	Circulating Hours	0.83
Total Drilled:	36.00	Avg. Total ROP:	39.27
Total Rotary Drilled:	36.00	Avg. Rotary ROP:	39.27
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	100.00
Below Rotary Hrs.	24.00	Percent Slide:	.00

Drilling Parameters

WOB	12	Pick UP	128	Slack Off	120	SPM	
RAB	125	SPP	1150	FlowRate	420 - 420		90

Mud Data

Type	Water Base Mud			PV	7	SOLID	8.5
Weight	9.3	GAS	0	YP	9	BHT°	109
Viscosity	42	SAND	1	PH	0	Flow T°	88
Chlorides	800	WL	8.6			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

BHA

BHA # 1:RMBM568X, 7/8; 5.0 stg. 3.0 deg. Adj., 6 1/2" 10' NM Pony, NMDC, Gap Sub, NMDC,

Signature:

Incl. In:	1.5	Azm. In:	53.5	Incl. Out:	1.5	Azm. Out:	53.5

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Aug-12	00:00	00:55	0.92	4634	4670	Drilling	Drilling - (WOB:12;GPM :420;RPM:65)
16-Aug-12	00:55	01:45	0.83	4670	4670	Circulating	Circulating
16-Aug-12	01:45	05:30	3.75	4670	4670	POOH	POOH
16-Aug-12	05:30	06:30	1.00	4670	4670	Other	Other/Lay down tools
16-Aug-12	06:30	24:00	17.50	4670	4670	Rig repair	Rig repair/ waiting on top drive parts.

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	9 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Friday, August 17, 2012 at 0000 to Friday, August 17, 2012 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00
End Depth	0.00	Circulating Hours	0.00
Total Drilled:	0.00	Avg. Total ROP:	NA
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	0.00	Percent Slide:	NA

Drilling Parameters

WOB	12	Pick UP	128	Slack Off	120	SPM	
RAB	125	SPP	1150	FlowRate	420 - 420		90

Mud Data

Type	Water Base Mud			PV	7	SOLID	8.5
Weight	9.3	GAS	0	YP	9	BHT°	109
Viscosity	42	SAND	1	PH	0	Flow T°	88
Chlorides	800	WL	8.6			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Jason Robinett
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 1:RMBM568X, 7/8; 5.0 stg. 3.0 deg. Adj., 6 1/2" 10' NM Pony, NMDC, Gap Sub, NMDC,

Signature:

Incl. In:	1.5	Azm. In:	53.5	Incl. Out:	1.5	Azm. Out:	53.5

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Aug-12	00:00	24:00	24.00	4670	4670	Standby	Standby

08721738

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	10 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Saturday, August 18, 2012 at 0000 to Saturday, August 18, 2012 at 2400

DRILLING SUMMARY

Start Depth	4670.00	Rotary Hours	0.00
End Depth	4685.00	Circulating Hours	5.08
Total Drilled:	15.00	Avg. Total ROP:	9.00
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	15.00	Avg. Slide ROP:	9.00
Slide Hours:	1.67	Percent Rotary:	.00
Below Rotary Hrs.	14.00	Percent Slide:	100.00

Drilling Parameters

WOB	12	Pick UP	128	Slack Off	120	SPM	
RAB	125	SPP	1150	FlowRate	420 - 420		90

Mud Data

Type	Water Base Mud			PV	7	SOLID	8.5
Weight	9.3	GAS	0	YP	9	BHT°	109
Viscosity	42	SAND	1	PH	0	Flow T°	88
Chlorides	800	WL	8.6			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

Signature:

BHA

BHA # 2:DP 505F 3x20-2x16's, 7/8; 5.0stg.2.38 deg. Fixed, NM Pony, UBHO, NM Pony, NMDC, NMDC, 10 Stds Push Pipe, 11 Stds HWDP, 9 jts. 6" DC,

Incl. In:	1.5	Azm. In:	53.5	Incl. Out:	1.7	Azm. Out:	69.7

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Aug-12	00:00	10:00	10.00	4670	4670	Standby	Standby
18-Aug-12	10:00	10:10	0.17	4670	4670	Change BHA	Change BHA
18-Aug-12	10:10	10:45	0.58	4670	4670	Rig repair	Try to Fix Torque Gauges
18-Aug-12	10:45	12:45	2.00	4670	4670	TIH	Finish P/U BHA # 2
18-Aug-12	12:45	15:30	2.75	4670	4670	TIH	TIH
18-Aug-12	15:30	16:25	0.92	4670	4670	Circulating	Circulating
18-Aug-12	16:25	18:10	1.75	4670	4670	TIH	TIH
18-Aug-12	18:10	22:20	4.17	4670	4670	Circulating	Circulating/ Wash to Bottom
18-Aug-12	22:20	24:00	1.67	4670	4685	Sliding	Sliding

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	11 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Sunday, August 19, 2012 at 0000 to Sunday, August 19, 2012 at 2400

DRILLING SUMMARY

Start Depth	4685.00	Rotary Hours	0.00
End Depth	4883.00	Circulating Hours	1.17
Total Drilled:	198.00	Avg. Total ROP:	9.07
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	198.00	Avg. Slide ROP:	9.07
Slide Hours:	21.83	Percent Rotary:	.00
Below Rotary Hrs.	24.00	Percent Slide:	100.00

Drilling Parameters

WOB	12	Pick UP	175	Slack Off	150	SPM	
RAB	155	SPP	1150	FlowRate	420 - 420		120

Mud Data

Type	Water Base Mud			PV	8	SOLID	8.5
Weight	9.4	GAS	0	YP	13	BHT°	109
Viscosity	44	SAND	0.25	PH	0	Flow T°	111
Chlorides	700	WL	8.8			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

Signature:

BHA

BHA # 2:DP 505F 3x20-2x16's, 7/8; 5.0stg.2.38 deg. Fixed, NM Pony, UBHO, NM Pony, NMDC, NMDC, 10 Stds Push Pipe, 11 Stds HWDP, 9 jts. 6" DC,

Incl. In:	1.7	Azm. In:	69.7	Incl. Out:	15.6	Azm. Out:	336.2

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Aug-12	00:00	00:50	0.83	4685	4701	Sliding	Sliding
19-Aug-12	00:50	01:00	0.17	4701	4701	Survey & Conn.	Survey & Conn.@4645' Inc 1.7° Azm 66.9°
19-Aug-12	01:00	04:55	3.92	4701	4733	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
19-Aug-12	04:55	05:00	0.08	4733	4733	MWD Survey	MWD Survey@4677' Inc 1.3° Azm 357°
19-Aug-12	05:00	09:30	4.50	4733	4765	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
19-Aug-12	09:30	09:40	0.17	4765	4765	MWD Survey	MWD Survey@4709' Inc 4.3° Azm 328.2°
19-Aug-12	09:40	12:00	2.33	4765	4796	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
19-Aug-12	12:00	12:35	0.58	4796	4796	Rig Service-Inhole	Rig Service-Inhole
19-Aug-12	12:35	12:40	0.08	4796	4796	Survey & Conn.	Survey & Conn.@4740' Inc 7.5° Azm 337.4°
19-Aug-12	12:40	14:35	1.92	4796	4828	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
19-Aug-12	14:35	14:45	0.17	4828	4828	MWD Survey	MWD Survey@4772' Inc 11.4° Azm 338.8°
19-Aug-12	14:45	19:00	4.25	4828	4860	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
19-Aug-12	19:00	19:10	0.17	4860	4860	MWD Survey	MWD Survey@4804' Inc 15.6° Azm 336.2°
19-Aug-12	19:10	20:30	1.33	4860	4875	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
19-Aug-12	20:30	21:15	0.75	4875	4875	Rig repair	Rig repair/ Work on Pumps
19-Aug-12	21:15	24:00	2.75	4875	4883	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	12 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Monday, August 20, 2012 at 0000 to Monday, August 20, 2012 at 2400

DRILLING SUMMARY

Start Depth	4883.00	Rotary Hours	0.00
End Depth	5023.00	Circulating Hours	0.42
Total Drilled:	140.00	Avg. Total ROP:	6.29
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	140.00	Avg. Slide ROP:	6.29
Slide Hours:	22.25	Percent Rotary:	.00
Below Rotary Hrs.	24.00	Percent Slide:	100.00

Drilling Parameters

WOB	16	Pick UP	175	Slack Off	150	SPM	
RAB	155	SPP	1150	FlowRate	420 - 420		120

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Trent Moench / Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

BHA

BHA # 2:DP 505F 3x20-2x16's, 7/8; 5.0stg.2.38 deg. Fixed, NM Pony, UBHO, NM Pony, NMDC, NMDC, 10 Stds Push Pipe, 11 Stds HWDP, 9 jts. 6" DC,

Signature:

Incl. In:	15.6	Azm. In:	336.2	Incl. Out:	35	Azm. Out:	327.6

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
20-Aug-12	00:00	01:20	1.33	4883	4891	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
20-Aug-12	01:20	01:35	0.25	4891	4891	Survey & Conn.	Survey & Conn.@4835' Inc 19.4° Azm 333°
20-Aug-12	01:35	08:30	6.92	4891	4923	Sliding	Sliding - (WOB:12;GPM :420;TFO:325)
20-Aug-12	08:30	08:40	0.17	4923	4923	MWD Survey	MWD Survey@4867' Inc 23.3° Azm 329.7°
20-Aug-12	08:40	12:05	3.42	4923	4954	Sliding	Sliding - (WOB:12;GPM :420;TFO:0)
20-Aug-12	12:05	12:15	0.17	4954	4954	Other	Change out shaker screens
20-Aug-12	12:15	12:20	0.08	4954	4954	MWD Survey	MWD Survey@4898' Inc 26.9° Azm 328.1°
20-Aug-12	12:20	19:05	6.75	4954	4980	Sliding	Sliding - (WOB:12;GPM :420;TFO:0)
20-Aug-12	19:05	19:40	0.58	4980	4980	Rig repair	Attempt 2 Pumps
20-Aug-12	19:40	21:05	1.42	4980	4986	Sliding	Sliding - (WOB:14;GPM :420;TFO:0)
20-Aug-12	21:05	21:25	0.33	4986	4986	Survey & Conn.	Survey & Conn.@4930' Inc 30.8° Azm 327.4°
20-Aug-12	21:25	23:00	1.58	4986	5018	Sliding	Sliding - (WOB:14;GPM :420;TFO:0)
20-Aug-12	23:00	23:10	0.17	5018	5018	MWD Survey	MWD Survey@4962' Inc 35° Azm 327.6°
20-Aug-12	23:10	24:00	0.83	5018	5023	Sliding	Sliding - (WOB:25;GPM :420;TFO:0)

08721738

P-0021605

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	13 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Tuesday, August 21, 2012 at 0000 to Tuesday, August 21, 2012 at 2400

DRILLING SUMMARY

Start Depth	5023.00	Rotary Hours	0.00
End Depth	5170.00	Circulating Hours	1.17
Total Drilled:	147.00	Avg. Total ROP:	6.44
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	147.00	Avg. Slide ROP:	6.44
Slide Hours:	22.83	Percent Rotary:	.00
Below Rotary Hrs.	24.00	Percent Slide:	100.00

Drilling Parameters

WOB	14	Pick UP	175	Slack Off	150	SPM	
RAB	155	SPP	1500	FlowRate	420 - 500		170

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

Signature:

BHA

BHA # 2:DP 505F 3x20-2x16's, 7/8; 5.0stg.2.38 deg. Fixed, NM Pony, UBHO, NM Pony, NMDC, NMDC, 10 Stds Push Pipe, 11 Stds HWDP, 9 jts. 6" DC,

Incl. In:	35	Azm. In:	327.6	Incl. Out:	53.2	Azm. Out:	328

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
21-Aug-12	00:00	04:35	4.58	5023	5049	Sliding	Sliding - (WOB:25;GPM :420;TFO:0)
21-Aug-12	04:35	04:45	0.17	5049	5049	MWD Survey	MWD Survey@4993' Inc 39.5° Azm 327.4°
21-Aug-12	04:45	11:00	6.25	5049	5081	Sliding	Sliding - (WOB:25;GPM :420;TFO:0)
21-Aug-12	11:00	11:30	0.50	5081	5081	Rig Service-Inhole	Rig Service-Inhole
21-Aug-12	11:30	11:35	0.08	5081	5081	MWD Survey	MWD Survey@5025' Inc 44° Azm 327.6°
21-Aug-12	11:35	15:20	3.75	5081	5113	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)
21-Aug-12	15:20	15:30	0.17	5113	5113	MWD Survey	MWD Survey@5057' Inc 48.7° Azm 328.2°
21-Aug-12	15:30	20:00	4.50	5113	5145	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)
21-Aug-12	20:00	20:10	0.17	5145	5145	MWD Survey	MWD Survey@5089' Inc 53.2° Azm 328°
21-Aug-12	20:10	20:15	0.08	5145	5145	Circulating	SPR
21-Aug-12	20:15	24:00	3.75	5145	5170	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	14 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Wednesday, August 22, 2012 at 0000 to Wednesday, August 22, 2012 at 2400

DRILLING SUMMARY

Start Depth	5170.00	Rotary Hours	3.50
End Depth	5429.00	Circulating Hours	8.08
Total Drilled:	259.00	Avg. Total ROP:	16.80
Total Rotary Drilled:	127.00	Avg. Rotary ROP:	36.29
Total Drilled Sliding:	132.00	Avg. Slide ROP:	11.08
Slide Hours:	11.92	Percent Rotary:	49.03
Below Rotary Hrs.	24.00	Percent Slide:	50.97

Drilling Parameters

WOB	14	Pick UP	175	Slack Off	150	SPM	
RAB	155	SPP	1500	FlowRate	500 - 500		170

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683

BHA

BHA # 2:DP 505F 3x20-2x16's, 7/8; 5.0stg.2.38 deg. Fixed, NM Pony, UBHO, NM Pony, NMDC, NMDC, 10 Stds Push Pipe, 11 Stds HWDP, 9 jts. 6" DC,

Signature:

Incl. In:	53.2	Azm. In:	328	Incl. Out:	80.4	Azm. Out:	328.4

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
22-Aug-12	00:00	00:35	0.58	5170	5176	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)
22-Aug-12	00:35	00:50	0.25	5176	5176	Survey & Conn.	Survey & Conn.@5120' Inc 58° Azm 328°
22-Aug-12	00:50	04:25	3.58	5176	5208	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)
22-Aug-12	04:25	04:35	0.17	5208	5208	MWD Survey	MWD Survey@5152' Inc 62.8° Azm 327.6°
22-Aug-12	04:35	08:55	4.33	5208	5239	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)
22-Aug-12	08:55	09:05	0.17	5239	5239	MWD Survey	MWD Survey@5183' Inc 67.6° Azm 327.4°
22-Aug-12	09:05	10:05	1.00	5239	5256	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)
22-Aug-12	10:05	10:45	0.67	5256	5256	Circulating	Circulating
22-Aug-12	10:45	12:15	1.50	5256	5271	Sliding	Sliding - (WOB:14;GPM :500;TFO:0)
22-Aug-12	12:15	12:20	0.08	5271	5271	Survey & Conn.	Survey & Conn.@5215' Inc 72.6° Azm 327.4°
22-Aug-12	12:20	12:50	0.50	5271	5271	Rig Service-Inhole	Rig Service-Inhole
22-Aug-12	12:50	13:50	1.00	5271	5271	Circulating	Circulating
22-Aug-12	13:50	15:05	1.25	5271	5303	Drilling	Drilling - (WOB:12;GPM :420;RPM:65)
22-Aug-12	15:05	15:10	0.08	5303	5303	MWD Survey	MWD Survey@5247' Inc 77.6° Azm 327.7°
22-Aug-12	15:10	15:45	0.58	5303	5303	Circulating	Circulating
22-Aug-12	15:45	15:55	0.17	5303	5308	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
22-Aug-12	15:55	16:40	0.75	5308	5308	Circulating	Circulating

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
22-Aug-12	16:40	17:00	0.33	5308	5323	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
22-Aug-12	17:00	17:30	0.50	5323	5323	Circulating	Circulating
22-Aug-12	17:30	17:45	0.25	5323	5334	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
22-Aug-12	17:45	17:50	0.08	5334	5334	MWD Survey	MWD Survey@5278' Inc 79.7° Azm 328.2°
22-Aug-12	17:50	18:25	0.58	5334	5334	Circulating	Circulating
22-Aug-12	18:25	18:40	0.25	5334	5349	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
22-Aug-12	18:40	19:20	0.67	5349	5349	Circulating	Circulating
22-Aug-12	19:20	19:45	0.42	5349	5366	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
22-Aug-12	19:45	20:30	0.75	5366	5366	Circulating	Circulating
22-Aug-12	20:30	20:40	0.17	5366	5366	Survey & Conn.	Survey & Conn.@5310' Inc 80.1° Azm 328.4°
22-Aug-12	20:40	21:05	0.42	5366	5381	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
22-Aug-12	21:05	21:40	0.58	5381	5381	Circulating	Circulating
22-Aug-12	21:40	22:05	0.42	5381	5398	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
22-Aug-12	22:05	22:10	0.08	5398	5398	MWD Survey	MWD Survey@5342' Inc 80.4° Azm 328.4°
22-Aug-12	22:10	23:05	0.92	5398	5398	Circulating	Circulating
22-Aug-12	23:05	24:00	0.92	5398	5429	Sliding	Sliding - (WOB:14;GPM :500;TFO:10R)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	15 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Thursday, August 23, 2012 at 0000 to Thursday, August 23, 2012 at 2400

DRILLING SUMMARY

Start Depth	5429.00	Rotary Hours	6.25
End Depth	5580.00	Circulating Hours	4.33
Total Drilled:	151.00	Avg. Total ROP:	17.26
Total Rotary Drilled:	115.00	Avg. Rotary ROP:	18.40
Total Drilled Sliding:	36.00	Avg. Slide ROP:	14.40
Slide Hours:	2.50	Percent Rotary:	76.16
Below Rotary Hrs.	24.00	Percent Slide:	23.84

Drilling Parameters

WOB	7	Pick UP	175	Slack Off	150	SPM	
RAB	155	SPP	1500	FlowRate	500 - 500		170

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 2:DP 505F 3x20-2x16's, 7/8; 5.0stg.2.38 deg. Fixed, NM Pony, UBHO, NM Pony, NMDC, NMDC, 10 Stds Push Pipe, 11 Stds HWDP, 9 jts. 6" DC,

Signature:

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Incl. In:	80.4	Azm. In:	328.4	Incl. Out:	89.9	Azm. Out:	331.2

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
23-Aug-12	00:00	00:10	0.17	5429	5429	MWD Survey	MWD Survey@5373' Inc 80.4° Azm 328.5°
23-Aug-12	00:10	00:15	0.08	5429	5429	Circulating	SPR
23-Aug-12	00:15	00:45	0.50	5429	5461	Sliding	Sliding - (WOB:14;GPM :500;TFO:10R)
23-Aug-12	00:45	01:00	0.25	5461	5461	Survey & Conn.	Survey & Conn.@5405' Inc 82.5° Azm 328.6°
23-Aug-12	01:00	02:20	1.33	5461	5487	Drilling	Drilling - (WOB:10;GPM :500;RPM:25)
23-Aug-12	02:20	04:00	1.67	5487	5487	Work Pipe	Work Pipe
23-Aug-12	04:00	04:20	0.33	5487	5492	Drilling	Drilling - (WOB:7;GPM :500;RPM:25)
23-Aug-12	04:20	04:30	0.17	5492	5492	Circulating	Circulating
23-Aug-12	04:30	04:40	0.17	5492	5492	MWD Survey	MWD Survey@5436' Inc 86.9° Azm 329°
23-Aug-12	04:40	06:00	1.33	5492	5524	Drilling	Drilling - (WOB:7;GPM :500;RPM:25)
23-Aug-12	06:00	06:15	0.25	5524	5524	Circulating	Circulating
23-Aug-12	06:15	06:25	0.17	5524	5524	MWD Survey	MWD Survey@5468' Inc 89.1° Azm 329.6°
23-Aug-12	06:25	08:45	2.33	5524	5556	Drilling	Drilling - (WOB:7;GPM :500;RPM:25)
23-Aug-12	08:45	08:55	0.17	5556	5556	Survey & Conn.	Survey & Conn.@5500' Inc 89.5° Azm 330.2°
23-Aug-12	08:55	10:55	2.00	5556	5560	Sliding	Sliding - (WOB:14;GPM :500;TFO:10R)
23-Aug-12	10:55	11:50	0.92	5560	5580	Drilling	Drilling - (WOB:7;GPM :500;RPM:25)
23-Aug-12	11:50	11:55	0.08	5580	5580	MWD Survey	MWD Survey@5524' Inc 89.9° Azm 331.2°

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Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
23-Aug-12	11:55	13:20	1.42	5580	5580	Circulating	Circulating
23-Aug-12	13:20	16:20	3.00	5580	5580	Short Trip	Short Trip
23-Aug-12	16:20	18:10	1.83	5580	5580	Circulating	Circulating
23-Aug-12	18:10	24:00	5.83	5580	5580	POOH	POOH

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	16 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Friday, August 24, 2012 at 0000 to Friday, August 24, 2012 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00
End Depth	0.00	Circulating Hours	0.00
Total Drilled:	0.00	Avg. Total ROP:	NA
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	2.50	Percent Slide:	NA

Drilling Parameters

WOB	7	Pick UP	175	Slack Off	150	SPM	
RAB	155	SPP	1500	FlowRate	500 - 500		170

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 2:DP 505F 3x20-2x16's, 7/8; 5.0stg.2.38 deg. Fixed, NM Pony, UBHO, NM Pony, NMDC, NMDC, 10 Stds Push Pipe, 11 Stds HWDP, 9 jts. 6" DC,

Signature:

Incl. In:	89.9	Azm. In:	331.2	Incl. Out:	89.9	Azm. Out:	331.2

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
24-Aug-12	00:00	01:30	1.50	5580	5580	POOH	
24-Aug-12	01:30	02:30	1.00	5580	5580	Other	L/D BHA #2
24-Aug-12	02:30	24:00	21.50	5580	5580	Standby	Run 7" Casing

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	17 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Saturday, August 25, 2012 at 0000 to Saturday, August 25, 2012 at 2400

DRILLING SUMMARY

Start Depth	5580.00	Rotary Hours	1.42
End Depth	5580.00	Circulating Hours	0.67
Total Drilled:	0.00	Avg. Total ROP:	.00
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	.00
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	9.50	Percent Slide:	NA

Drilling Parameters

WOB	7	Pick UP	0	Slack Off	0	SPM	
RAB	0	SPP	0	FlowRate	0 - 500	0	

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 3:DP505FX, 5", 6/7, 8.0stg., 3.0deg Adj., NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 2 Jts. DP, Reamer, 2 Jts. DP, Reamer, 2 Jts. DP, 54 Stds Push Pipe DP,

Signature:

Incl. In:	89.9	Azm. In:	331.2	Incl. Out:	89.9	Azm. Out:	331.2

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
25-Aug-12	00:00	14:30	14.50	5580	5580	Standby	Standby
25-Aug-12	14:30	16:00	1.50	5580	5580	Change BHA	Change BHA
25-Aug-12	16:00	21:00	5.00	5580	5580	TIH	TIH
25-Aug-12	21:00	22:25	1.42	5580	5580	Drilling Cement	Drilling - (WOB:7;GPM :500;RPM:25)
25-Aug-12	22:25	23:05	0.67	5580	5580	Circulating	Circulating
25-Aug-12	23:05	24:00	0.92	5580	5580	Rig repair	Rig repair

08721738

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	18 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Sunday, August 26, 2012 at 0000 to Sunday, August 26, 2012 at 2400

DRILLING SUMMARY

Start Depth	5580.00	Rotary Hours	12.67
End Depth	5642.00	Circulating Hours	1.33
Total Drilled:	62.00	Avg. Total ROP:	4.33
Total Rotary Drilled:	58.00	Avg. Rotary ROP:	4.58
Total Drilled Sliding:	4.00	Avg. Slide ROP:	2.40
Slide Hours:	1.67	Percent Rotary:	93.55
Below Rotary Hrs.	24.00	Percent Slide:	6.45

Drilling Parameters

WOB	24	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1100	FlowRate	0 - 280	96	

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 4:DP505FX, 5", 6/7, 8.0stg., 3.0deg Adj., NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP,

Signature:

Incl. In:	89.9	Azm. In:	331.2	Incl. Out:	90.5	Azm. Out:	332.4

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
26-Aug-12	00:00	02:30	2.50	5580	5580	Rig repair	Rig repair
26-Aug-12	02:30	02:50	0.33	5580	5580	Drilling Cement	Drilling - (WOB:7;GPM :500;RPM:25)
26-Aug-12	02:50	08:40	5.83	5580	5613	Drilling	Drilling - (WOB:7;GPM :500;RPM:25)
26-Aug-12	08:40	08:55	0.25	5613	5613	Survey & Conn.	Survey & Conn.@5556' Inc 90.9° Azm 332.7°
26-Aug-12	08:55	14:30	5.58	5613	5636	Drilling	Drilling - (WOB:16;GPM :280;RPM:60)
26-Aug-12	14:30	15:10	0.67	5636	5636	Circulating	Circulating
26-Aug-12	15:10	17:20	2.17	5636	5636	POOH	POOH
26-Aug-12	17:20	18:45	1.42	5636	5636	Change BHA	Change BHA
26-Aug-12	18:45	20:45	2.00	5636	5636	TIH	TIH
26-Aug-12	20:45	21:15	0.50	5636	5636	Circulating	Circulating
26-Aug-12	21:15	22:10	0.92	5636	5638	Drilling	Drilling - (WOB:20;GPM :280;RPM:60)
26-Aug-12	22:10	22:20	0.17	5638	5638	MWD Survey	MWD Survey@5581' Inc 90.5° Azm 332.4°
26-Aug-12	22:20	24:00	1.67	5638	5642	Sliding	Sliding - (WOB:14;GPM :500;TFO:45R)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	19 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Monday, August 27, 2012 at 0000 to Monday, August 27, 2012 at 2400

DRILLING SUMMARY

Start Depth	5642.00	Rotary Hours	14.25
End Depth	5790.00	Circulating Hours	3.58
Total Drilled:	148.00	Avg. Total ROP:	9.02
Total Rotary Drilled:	146.00	Avg. Rotary ROP:	10.25
Total Drilled Sliding:	2.00	Avg. Slide ROP:	.92
Slide Hours:	2.17	Percent Rotary:	98.65
Below Rotary Hrs.	24.00	Percent Slide:	1.35

Drilling Parameters

WOB	15	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1425	FlowRate	280 - 290		99

Mud Data

Type	Water Base Mud			PV	7	SOLID	9
Weight	9.4	GAS	0	YP	13	BHT°	119
Viscosity	43	SAND	0.25	PH	0	Flow T°	116
Chlorides	700	WL	9			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Dan Brewer

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 4:DP505FX, 5", 6/7, 8.0stg., 3.0deg Adj., NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP,

Signature:

Incl. In:	90.5	Azm. In:	332.4	Incl. Out:	92.5	Azm. Out:	332.1

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
27-Aug-12	00:00	02:10	2.17	5642	5644	Sliding	Sliding - (WOB:14;GPM :500;TFO:45R)
27-Aug-12	02:10	02:15	0.08	5644	5644	Circulating	SPR
27-Aug-12	02:15	04:55	2.67	5644	5669	Drilling	Drilling - (WOB:7;GPM :280;RPM:60)
27-Aug-12	04:55	05:05	0.17	5669	5669	MWD Survey	MWD Survey@5612' Inc 90.4° Azm 332.6°
27-Aug-12	05:05	06:10	1.08	5669	5699	Drilling	Drilling - (WOB:15;GPM :280;RPM:60)
27-Aug-12	06:10	06:20	0.17	5699	5699	Survey & Conn.	Survey & Conn.@5642' Inc 92.2° Azm 332.4°
27-Aug-12	06:20	07:05	0.75	5699	5699	Other	Trouble Shoot Mud Pump
27-Aug-12	07:05	07:55	0.83	5699	5729	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
27-Aug-12	07:55	08:00	0.08	5729	5729	MWD Survey	MWD Survey@5672' Inc 93° Azm 332.2°
27-Aug-12	08:00	12:50	4.83	5729	5760	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
27-Aug-12	12:50	13:00	0.17	5760	5760	MWD Survey	MWD Survey@5703' Inc 92.5° Azm 332.1°
27-Aug-12	13:00	17:50	4.83	5760	5790	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
27-Aug-12	17:50	19:40	1.83	5790	5790	Backreaming	Pull up past shoe
27-Aug-12	19:40	22:45	3.08	5790	5790	Other	Condition Mud
27-Aug-12	22:45	24:00	1.25	5790	5790	Reaming	Wash to Bottom

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	20 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Tuesday, August 28, 2012 at 0000 to Tuesday, August 28, 2012 at 2400

DRILLING SUMMARY

Start Depth	5790.00	Rotary Hours	9.67
End Depth	5843.00	Circulating Hours	1.83
Total Drilled:	53.00	Avg. Total ROP:	5.48
Total Rotary Drilled:	53.00	Avg. Rotary ROP:	5.48
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	100.00
Below Rotary Hrs.	24.00	Percent Slide:	.00

Drilling Parameters

WOB	15	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1550	FlowRate	290 - 290		99

Mud Data

Type	Water Base Mud			PV	12	SOLID	12
Weight	10.5	GAS	0	YP	14	BHT°	123
Viscosity	36	SAND	0.25	PH	9.4	Flow T°	122
Chlorides	700	WL	7.4			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Mark Bercier

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 5:MDSi 613 QUPX, 5", 6/7, 8.0stg., 3.0deg Adj, NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP,

Signature:

Incl. In:	92.5	Azm. In:	332.1	Incl. Out:	93.4	Azm. Out:	332

GENERAL COMMENT

POOH to change bit. Picked up new motor per company man request. Swapped out tools in 1 Hour, then waiting on bit to show up. The closest truck broke down and the other one was coming from Casper.

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
28-Aug-12	00:00	01:20	1.33	5790	5790	Reaming	Wash to Bottom
28-Aug-12	01:20	01:30	0.17	5790	5790	Survey & Conn.	Survey & Conn.@5733' Inc 92.4° Azm 332.1°
28-Aug-12	01:30	09:20	7.83	5790	5821	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
28-Aug-12	09:20	09:30	0.17	5821	5821	MWD Survey	MWD Survey@5764' Inc 93.4° Azm 332°
28-Aug-12	09:30	09:50	0.33	5821	5821	Circulating	Circulating
28-Aug-12	09:50	13:05	3.25	5821	5821	POOH	POOH
28-Aug-12	13:05	14:05	1.00	5821	5821	Change BHA	Change to BHA # 5; Bit and Motor
28-Aug-12	14:05	18:00	3.92	5821	5821	Other	WAITING ON BIT TO SHOW UP
28-Aug-12	18:00	18:20	0.33	5821	5821	Other	M/U BIT
28-Aug-12	18:20	22:00	3.67	5821	5821	TIH	TIH
28-Aug-12	22:00	23:00	1.00	5821	5836	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
28-Aug-12	23:00	23:10	0.17	5836	5836	Other	Chk Shot @ 5779 Inc 93.4 Azm 331.7
28-Aug-12	23:10	24:00	0.83	5836	5843	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	21 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Wednesday, August 29, 2012 at 0000 to Wednesday, August 29, 2012 at 2400

DRILLING SUMMARY

Start Depth	5843.00	Rotary Hours	14.42
End Depth	6371.00	Circulating Hours	1.75
Total Drilled:	528.00	Avg. Total ROP:	25.14
Total Rotary Drilled:	447.00	Avg. Rotary ROP:	31.01
Total Drilled Sliding:	81.00	Avg. Slide ROP:	12.30
Slide Hours:	6.58	Percent Rotary:	84.66
Below Rotary Hrs.	24.00	Percent Slide:	15.34

Drilling Parameters

WOB	7	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1550	FlowRate	280 - 290		99

Mud Data

Type	Water Base Mud			PV	12	SOLID	12
Weight	10.5	GAS	0	YP	14	BHT°	123
Viscosity	36	SAND	0.25	PH	9.4	Flow T°	122
Chlorides	700	WL	7.4			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Mark Bercier

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 5:MDSi 613 QUPX, 5", 6/7, 8.0stg., 3.0deg Adj, NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP,

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JUN 2 6 2013
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Signature:

Incl. In:	93.4	Azm. In:	332	Incl. Out:	89.8	Azm. Out:	332.6

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
29-Aug-12	00:00	02:20	2.33	5843	5851	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
29-Aug-12	02:20	02:30	0.17	5851	5851	Survey & Conn.	Survey & Conn.@5794' Inc 93.8° Azm 331.8°
29-Aug-12	02:30	07:00	4.50	5851	5863	Sliding	Sliding - (WOB:24;GPM :280;TFO:17R)
29-Aug-12	07:00	09:55	2.92	5863	5882	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
29-Aug-12	09:55	10:10	0.25	5882	5882	Survey & Conn.	Survey & Conn.@5825' Inc 95° Azm 331.4°
29-Aug-12	10:10	10:20	0.17	5882	5893	Sliding	Sliding - (WOB:24;GPM :280;TFO:180)
29-Aug-12	10:20	13:05	2.75	5893	5912	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
29-Aug-12	13:05	13:10	0.08	5912	5912	MWD Survey	MWD Survey@5855' Inc 94° Azm 332.2°
29-Aug-12	13:10	14:10	1.00	5912	5929	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
29-Aug-12	14:10	14:15	0.08	5929	5929	MWD Survey	MWD Survey@5886' Inc 93.5° Azm 332.7°
29-Aug-12	14:15	14:30	0.25	5929	5943	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
29-Aug-12	14:30	14:35	0.08	5943	5943	MWD Survey	MWD Survey@5886' Inc 93.5° Azm 332.7°
29-Aug-12	14:35	15:00	0.42	5943	5955	Sliding	Sliding - (WOB:20;GPM :280;TFO:180)
29-Aug-12	15:00	15:15	0.25	5955	5974	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
29-Aug-12	15:15	15:20	0.08	5974	5974	Survey & Conn.	Survey & Conn.@5917' Inc 93.5° Azm 332.6°
29-Aug-12	15:20	15:50	0.50	5974	5974	Rig Service-Inhole	Rig Service-Inhole
29-Aug-12	15:50	16:10	0.33	5974	5995	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)

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Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
29-Aug-12	16:10	16:15	0.08	5995	5995	MWD Survey	MWD Survey@5947' Inc 92.6° Azm 332.4°
29-Aug-12	16:15	16:30	0.25	5995	6005	Sliding	Sliding - (WOB:20;GPM :280;TFO:180)
29-Aug-12	16:30	16:40	0.17	6005	6005	MWD Survey	MWD Survey@5947' Inc 92.6° Azm 332.4°
29-Aug-12	16:40	17:10	0.50	6005	6035	Drilling	Drilling - (WOB:15;GPM :290;RPM:60)
29-Aug-12	17:10	17:15	0.08	6035	6035	MWD Survey	MWD Survey@5978' Inc 92° Azm 332°
29-Aug-12	17:15	17:45	0.50	6035	6065	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	17:45	17:55	0.17	6065	6065	Survey & Conn.	Survey & Conn.@6008' Inc 90.7° Azm 332.8°
29-Aug-12	17:55	18:25	0.50	6065	6096	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	18:25	18:35	0.17	6096	6096	MWD Survey	MWD Survey@6039' Inc 90.3° Azm 333.5°
29-Aug-12	18:35	18:55	0.33	6096	6126	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	18:55	19:00	0.08	6126	6126	MWD Survey	MWD Survey@6069' Inc 90° Azm 332.8°
29-Aug-12	19:00	19:25	0.42	6126	6156	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	19:25	19:35	0.17	6156	6156	Survey & Conn.	Survey & Conn.@6099' Inc 91° Azm 334.1°
29-Aug-12	19:35	20:00	0.42	6156	6187	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	20:00	20:05	0.08	6187	6187	MWD Survey	MWD Survey@6130' Inc 91.1° Azm 334.9°
29-Aug-12	20:05	20:45	0.67	6187	6234	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	20:45	20:50	0.08	6234	6234	MWD Survey	MWD Survey@6191' Inc 89.9° Azm 331.5°
29-Aug-12	20:50	21:00	0.17	6234	6248	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	21:00	21:10	0.17	6248	6248	Survey & Conn.	Survey & Conn.@6191' Inc 89.9° Azm 331.5°
29-Aug-12	21:10	21:45	0.58	6248	6259	Sliding	Sliding - (WOB:20;GPM :280;TFO:175R)
29-Aug-12	21:45	21:55	0.17	6259	6278	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	21:55	22:05	0.17	6278	6278	MWD Survey	MWD Survey@6221' Inc 88.2° Azm 329.7°
29-Aug-12	22:05	22:25	0.33	6278	6288	Sliding	Sliding - (WOB:10;GPM :280;TFO:90R)
29-Aug-12	22:25	22:45	0.33	6288	6309	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	22:45	22:50	0.08	6309	6309	MWD Survey	MWD Survey@6252' Inc 87.9° Azm 331°
29-Aug-12	22:50	23:10	0.33	6309	6340	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	23:10	23:20	0.17	6340	6340	Survey & Conn.	Survey & Conn.@6283' Inc 89.1° Azm 332.1°
29-Aug-12	23:20	23:30	0.17	6340	6350	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
29-Aug-12	23:30	23:35	0.08	6350	6350	Other	Chk Shot @ 6293 Inc 89.8 Azm 332.6
29-Aug-12	23:35	23:55	0.33	6350	6365	Sliding	Sliding - (WOB:10;GPM :280;TFO:30R)
29-Aug-12	23:55	24:00	0.08	6365	6371	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	22 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Thursday, August 30, 2012 at 0000 to Thursday, August 30, 2012 at 2400

DRILLING SUMMARY

Start Depth	6371.00	Rotary Hours	15.50
End Depth	7235.00	Circulating Hours	2.17
Total Drilled:	864.00	Avg. Total ROP:	42.32
Total Rotary Drilled:	768.00	Avg. Rotary ROP:	49.55
Total Drilled Sliding:	96.00	Avg. Slide ROP:	19.53
Slide Hours:	4.92	Percent Rotary:	88.89
Below Rotary Hrs.	24.00	Percent Slide:	11.11

Drilling Parameters

WOB	7	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1550	FlowRate	280 - 290		99

Mud Data

Type	Water Base Mud			PV	12	SOLID	12
Weight	10.5	GAS	0	YP	14	BHT°	123
Viscosity	36	SAND	0.25	PH	9.4	Flow T°	122
Chlorides	700	WL	7.4			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Mark Bercier

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 5:MDSi 613 QUPX, 5", 6/7, 8.0stg., 3.0deg Adj, NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP

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Signature:

Incl. In:	89.8	Azm. In:	332.6	Incl. Out:	90.9	Azm. Out:	337.4

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
30-Aug-12	00:00	00:05	0.08	6371	6371	MWD Survey	MWD Survey@6314' Inc 90.6° Azm 333.2°
30-Aug-12	00:05	00:25	0.33	6371	6401	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	00:25	00:30	0.08	6401	6401	MWD Survey	MWD Survey@6344' Inc 91.5° Azm 334.1°
30-Aug-12	00:30	00:45	0.25	6401	6432	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	00:45	00:55	0.17	6432	6432	Survey & Conn.	Survey & Conn.@6375' Inc 91° Azm 335.8°
30-Aug-12	00:55	01:10	0.25	6432	6462	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	01:10	01:15	0.08	6462	6462	MWD Survey	MWD Survey@6405' Inc 90.9° Azm 335.6°
30-Aug-12	01:15	01:30	0.25	6462	6493	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	01:30	01:35	0.08	6493	6493	MWD Survey	MWD Survey@6436' Inc 90.9° Azm 336.3°
30-Aug-12	01:35	01:50	0.25	6493	6523	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	01:50	02:00	0.17	6523	6523	Survey & Conn.	Survey & Conn.@6466' Inc 90.2° Azm 335.4°
30-Aug-12	02:00	02:15	0.25	6523	6555	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	02:15	02:20	0.08	6555	6555	MWD Survey	MWD Survey@6498' Inc 89.6° Azm 334.1°
30-Aug-12	02:20	02:40	0.33	6555	6567	Sliding	Sliding - (WOB:10;GPM :280;TFO:100R)
30-Aug-12	02:40	02:50	0.17	6567	6586	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	02:50	02:55	0.08	6586	6586	MWD Survey	MWD Survey@6529' Inc 89.6° Azm 335.1°
30-Aug-12	02:55	03:10	0.25	6586	6616	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
30-Aug-12	03:10	03:20	0.17	6616	6616	Survey & Conn.	Survey & Conn.@6559' Inc 90.5° Azm 335.7°
30-Aug-12	03:20	03:35	0.25	6616	6646	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	03:35	03:40	0.08	6646	6646	MWD Survey	MWD Survey@6589' Inc 90.1° Azm 334.9°
30-Aug-12	03:40	03:50	0.17	6646	6677	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	03:50	03:55	0.08	6677	6677	MWD Survey	MWD Survey@6620' Inc 89.3° Azm 333.9°
30-Aug-12	03:55	04:25	0.50	6677	6692	Sliding	Sliding - (WOB:10;GPM :280;TFO:40R)
30-Aug-12	04:25	04:40	0.25	6692	6707	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	04:40	04:55	0.25	6707	6738	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	04:55	05:00	0.08	6738	6738	MWD Survey	MWD Survey@6681' Inc 90.4° Azm 335.6°
30-Aug-12	05:00	05:30	0.50	6738	6750	Sliding	Sliding - (WOB:10;GPM :280;TFO:60R)
30-Aug-12	05:30	05:40	0.17	6750	6769	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	05:40	05:45	0.08	6769	6769	MWD Survey	MWD Survey@6712' Inc 91.1° Azm 336.4°
30-Aug-12	05:45	06:00	0.25	6769	6800	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	06:00	06:10	0.17	6800	6800	Survey & Conn.	Survey & Conn.@6743' Inc 90.8° Azm 336°
30-Aug-12	06:10	06:30	0.33	6800	6832	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	06:30	06:35	0.08	6832	6832	MWD Survey	MWD Survey@6775' Inc 91° Azm 336.7°
30-Aug-12	06:35	07:05	0.50	6832	6844	Sliding	Sliding - (WOB:10;GPM :280;TFO:80R)
30-Aug-12	07:05	07:35	0.50	6844	6894	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	07:35	07:45	0.17	6894	6894	Survey & Conn.	Survey & Conn.@6837' Inc 89° Azm 334.3°
30-Aug-12	07:45	08:00	0.25	6894	6909	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	08:00	08:25	0.42	6909	6921	Sliding	Sliding - (WOB:10;GPM :280;TFO:95R)
30-Aug-12	08:25	08:45	0.33	6921	6941	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	08:45	09:35	0.83	6941	6951	Sliding	Sliding - (WOB:10;GPM :280;TFO:85R)
30-Aug-12	09:35	09:45	0.17	6951	6956	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	09:45	09:55	0.17	6956	6956	MWD Survey	MWD Survey@6899' Inc 88.8° Azm 335.1°
30-Aug-12	09:55	10:30	0.58	6956	6987	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	10:30	10:40	0.17	6987	6987	Survey & Conn.	Survey & Conn.@6930' Inc 89.8° Azm 337.7°
30-Aug-12	10:40	12:25	1.75	6987	7049	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	12:25	12:35	0.17	7049	7049	MWD Survey	MWD Survey@6992' Inc 88.6° Azm 337.6°
30-Aug-12	12:35	13:25	0.83	7049	7061	Sliding	Sliding - (WOB:10;GPM :280;TFO:60R)
30-Aug-12	13:25	13:50	0.42	7061	7080	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	13:50	13:55	0.08	7080	7080	Survey & Conn.	Survey & Conn.@7023' Inc 88° Azm 336.7°
30-Aug-12	13:55	14:20	0.42	7080	7080	Rig Service-Inhole	Rig Service-Inhole
30-Aug-12	14:20	14:35	0.25	7080	7095	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	14:35	15:20	0.75	7095	7105	Sliding	Sliding - (WOB:10;GPM :280;TFO:15R)
30-Aug-12	15:20	15:30	0.17	7105	7111	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	15:30	15:35	0.08	7111	7111	MWD Survey	MWD Survey@7054' Inc 89.4° Azm 337.4°
30-Aug-12	15:35	16:25	0.83	7111	7143	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	16:25	16:35	0.17	7143	7143	MWD Survey	MWD Survey@7086' Inc 89.8° Azm 337.2°
30-Aug-12	16:35	17:00	0.42	7143	7158	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	17:00	17:10	0.17	7158	7158	MWD Survey	MWD Survey@7086' Inc 89.8° Azm 337.2°
30-Aug-12	17:10	17:25	0.25	7158	7159	Sliding	Sliding - (WOB:10;GPM :280;TFO:15R)
30-Aug-12	17:25	18:50	1.42	7159	7173	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	18:50	19:00	0.17	7173	7173	Survey & Conn.	Survey & Conn.@7116' Inc 90.5° Azm 336.3°
30-Aug-12	19:00	22:25	3.42	7173	7204	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	22:25	22:30	0.08	7204	7204	MWD Survey	MWD Survey@7147' Inc 90.9° Azm 337.4°
30-Aug-12	22:30	23:00	0.50	7204	7214	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
30-Aug-12	23:00	23:10	0.17	7214	7214	Other	Chk Shot @ 7157 Inc 91.0 Azm 337.8

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
30-Aug-12	23:10	24:00	0.83	7214	7235	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	23 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Friday, August 31, 2012 at 0000 to Friday, August 31, 2012 at 2400

DRILLING SUMMARY

Start Depth	7235.00	Rotary Hours	8.75
End Depth	7714.00	Circulating Hours	2.58
Total Drilled:	479.00	Avg. Total ROP:	23.37
Total Rotary Drilled:	354.00	Avg. Rotary ROP:	40.46
Total Drilled Sliding:	125.00	Avg. Slide ROP:	10.64
Slide Hours:	11.75	Percent Rotary:	73.90
Below Rotary Hrs.	24.00	Percent Slide:	26.10

Drilling Parameters

WOB	38	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1550	FlowRate	280 - 290		99

Mud Data

Type	Water Base Mud			PV	12	SOLID	12
Weight	10.5	GAS	0	YP	14	BHT°	123
Viscosity	36	SAND	0.25	PH	9.4	Flow T°	122
Chlorides	700	WL	7.4			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Mark Bercier

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 5:MDSi 613 QUPX, 5", 6/7, 8.0stg., 3.0deg Adj, NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP

RECEIVED
JUN 2 6 2013
MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS

Signature:

Incl. In:	90.9	Azm. In:	337.4	Incl. Out:	89	Azm. Out:	333.6

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
31-Aug-12	00:00	00:10	0.17	7235	7235	MWD Survey	MWD Survey@7178' Inc 91.1° Azm 337.8°
31-Aug-12	00:10	00:55	0.75	7235	7266	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	00:55	01:05	0.17	7266	7266	Survey & Conn.	Survey & Conn.@7209' Inc 90.8° Azm 336.9°
31-Aug-12	01:05	01:30	0.42	7266	7276	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	01:30	01:35	0.08	7276	7276	Other	Chk Shot @ 7219 Inc 90.5 Azm 336.3
31-Aug-12	01:35	04:20	2.75	7276	7291	Sliding	Sliding - (WOB:10;GPM :280;TFO:90R)
31-Aug-12	04:20	04:40	0.33	7291	7297	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	04:40	04:45	0.08	7297	7297	MWD Survey	MWD Survey@7240' Inc 89.7° Azm 335.1°
31-Aug-12	04:45	06:00	1.25	7297	7328	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	06:00	06:10	0.17	7328	7328	MWD Survey	MWD Survey@7271' Inc 89.1° Azm 333.4°
31-Aug-12	06:10	07:00	0.83	7328	7338	Sliding	Sliding - (WOB:10;GPM :280;TFO:50R)
31-Aug-12	07:00	07:40	0.67	7338	7359	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	07:40	07:50	0.17	7359	7359	Survey & Conn.	Survey & Conn.@7302' Inc 89.7° Azm 333°
31-Aug-12	07:50	08:40	0.83	7359	7374	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	08:40	09:25	0.75	7374	7386	Sliding	Sliding - (WOB:10;GPM :280;TFO:50R)
31-Aug-12	09:25	09:35	0.17	7386	7390	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	09:35	09:45	0.17	7390	7390	MWD Survey	MWD Survey@7333' Inc 89.9° Azm 331.9°

08721738

P-0021621

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
31-Aug-12	09:45	10:20	0.58	7390	7421	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	10:20	10:30	0.17	7421	7421	MWD Survey	MWD Survey@7364' Inc 89.8° Azm 330°
31-Aug-12	10:30	11:05	0.58	7421	7435	Sliding	Sliding - (WOB:10;GPM :280;TFO:30R)
31-Aug-12	11:05	11:25	0.33	7435	7453	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	11:25	11:30	0.08	7453	7453	Survey & Conn.	Survey & Conn.@7396' Inc 89.9° Azm 329.4°
31-Aug-12	11:30	11:50	0.33	7453	7453	Rig Service-Inhole	Rig Service-Inhole
31-Aug-12	11:50	12:05	0.25	7453	7468	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	12:05	12:40	0.58	7468	7485	Sliding	Sliding - (WOB:10;GPM :280;TFO:60R)
31-Aug-12	12:40	12:50	0.17	7485	7485	MWD Survey	MWD Survey@7427' Inc 90.9° Azm 329.9°
31-Aug-12	12:50	13:20	0.50	7485	7515	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	13:20	13:30	0.17	7515	7515	MWD Survey	MWD Survey@7458' Inc 91.9° Azm 330.9°
31-Aug-12	13:30	14:05	0.58	7515	7527	Sliding	Sliding - (WOB:10;GPM :280;TFO:60R)
31-Aug-12	14:05	14:35	0.50	7527	7546	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	14:35	14:45	0.17	7546	7546	Survey & Conn.	Survey & Conn.@7489' Inc 91.6° Azm 332°
31-Aug-12	14:45	15:05	0.33	7546	7566	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	15:05	15:10	0.08	7566	7566	MWD Survey	MWD Survey@7520' Inc 91.8° Azm 332°
31-Aug-12	15:10	16:00	0.83	7566	7577	Sliding	Sliding - (WOB:10;GPM :280;TFO:120R)
31-Aug-12	16:00	16:10	0.17	7577	7577	MWD Survey	MWD Survey@7520' Inc 91.8° Azm 332°
31-Aug-12	16:10	16:45	0.58	7577	7598	Drilling	Drilling - (WOB:7;GPM :290;RPM:60)
31-Aug-12	16:45	17:25	0.67	7598	7608	Sliding	Sliding - (WOB:38;GPM :290;TFO:140R)
31-Aug-12	17:25	17:35	0.17	7608	7608	MWD Survey	MWD Survey@7551' Inc 91.6° Azm 332°
31-Aug-12	17:35	18:00	0.42	7608	7640	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
31-Aug-12	18:00	18:10	0.17	7640	7640	Survey & Conn.	Survey & Conn.@7583' Inc 89.7° Azm 332°
31-Aug-12	18:10	18:25	0.25	7640	7650	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
31-Aug-12	18:25	18:30	0.08	7650	7650	Other	Chk Shot @7593 Inc 89.3 Azm 332.3
31-Aug-12	18:30	20:20	1.83	7650	7662	Sliding	Sliding - (WOB:38;GPM :290;TFO:150R)
31-Aug-12	20:20	20:30	0.17	7662	7671	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
31-Aug-12	20:30	20:40	0.17	7671	7671	MWD Survey	MWD Survey@7614' Inc 87.8° Azm 332.7°
31-Aug-12	20:40	20:50	0.17	7671	7671	Circulating	Attempt to slide can't get pipe to bottom
31-Aug-12	20:50	21:15	0.42	7671	7702	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
31-Aug-12	21:15	21:20	0.08	7702	7702	MWD Survey	MWD Survey@7645' Inc 89° Azm 333.6°
31-Aug-12	21:20	21:40	0.33	7702	7702	Circulating	Orient hard to get to bottom
31-Aug-12	21:40	24:00	2.33	7702	7714	Sliding	Sliding - (WOB:38;GPM :290;TFO:60R)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	24 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Saturday, September 01, 2012 at 0000 to Saturday, September 01, 2012 at 2400

DRILLING SUMMARY

Start Depth	7714.00	Rotary Hours	12.50
End Depth	8866.00	Circulating Hours	1.08
Total Drilled:	1152.00	Avg. Total ROP:	58.83
Total Rotary Drilled:	1078.00	Avg. Rotary ROP:	86.24
Total Drilled Sliding:	74.00	Avg. Slide ROP:	10.45
Slide Hours:	7.08	Percent Rotary:	93.58
Below Rotary Hrs.	24.00	Percent Slide:	6.42

Drilling Parameters

WOB	34	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1550	FlowRate	290 - 290		99

Mud Data

Type	Water Base Mud			PV	12	SOLID	12
Weight	10.5	GAS	0	YP	14	BHT°	123
Viscosity	36	SAND	0.25	PH	9.4	Flow T°	122
Chlorides	700	WL	7.4			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Mark Bercier

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 5:MDSi 613 QUPX, 5", 6/7, 8.0stg., 3.0deg Adj, NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP,

RECEIVED
JUN 2 6 2013
MONTANA BOARD OF OIL & GAS CONSERVATION • BILLIN

Signature:

Incl. In:	89	Azm. In:	333.6	Incl. Out:	90.5	Azm. Out:	343.6

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Sep-12	00:00	00:20	0.33	7714	7720	Sliding	Sliding - (WOB:38;GPM :290;TFO:60R)
1-Sep-12	00:20	00:30	0.17	7720	7733	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	00:30	00:40	0.17	7733	7733	Survey & Conn.	Survey & Conn.@7676' Inc 90.8° Azm 335.4°
1-Sep-12	00:40	00:50	0.17	7733	7733	Other	Switch Pumps
1-Sep-12	00:50	01:00	0.17	7733	7736	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	01:00	01:10	0.17	7736	7736	Other	Switch Pumps
1-Sep-12	01:10	01:30	0.33	7736	7764	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	01:30	01:35	0.08	7764	7764	MWD Survey	MWD Survey@7707' Inc 89.5° Azm 334.7°
1-Sep-12	01:35	02:50	1.25	7764	7781	Sliding	Sliding - (WOB:38;GPM :290;TFO:90R)
1-Sep-12	02:50	03:10	0.33	7781	7796	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	03:10	03:15	0.08	7796	7796	MWD Survey	MWD Survey@7739' Inc 89.9° Azm 336.2°
1-Sep-12	03:15	04:15	1.00	7796	7808	Sliding	Sliding - (WOB:38;GPM :290;TFO:90R)
1-Sep-12	04:15	04:30	0.25	7808	7827	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	04:30	04:35	0.08	7827	7827	Other	Switch Pumps
1-Sep-12	04:35	04:45	0.17	7827	7827	Survey & Conn.	Survey & Conn.@7770' Inc 89.8° Azm 337°
1-Sep-12	04:45	05:05	0.33	7827	7858	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	05:05	05:10	0.08	7858	7858	MWD Survey	MWD Survey@7801' Inc 88.9° Azm 338.2°

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P-0021623

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Sep-12	05:10	05:30	0.33	7858	7889	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	05:30	05:35	0.08	7889	7889	MWD Survey	MWD Survey@7832' Inc 89.8° Azm 339.8°
1-Sep-12	05:35	05:55	0.33	7889	7920	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	05:55	06:05	0.17	7920	7920	Survey & Conn.	Survey & Conn.@7863' Inc 89.8° Azm 339.7°
1-Sep-12	06:05	06:30	0.42	7920	7951	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	06:30	06:35	0.08	7951	7951	MWD Survey	MWD Survey@7894' Inc 90.2° Azm 340°
1-Sep-12	06:35	07:10	0.58	7951	8013	Drilling	Drilling - (WOB:15;GPM :290;RPM:55)
1-Sep-12	07:10	07:25	0.25	8013	8013	Survey & Conn.	Survey & Conn.@7956' Inc 90.2° Azm 340.4°
1-Sep-12	07:25	08:20	0.92	8013	8107	Drilling	Drilling - (WOB:7;GPM :290;RPM:55)
1-Sep-12	08:20	08:35	0.25	8107	8107	Survey & Conn.	Survey & Conn.@8050' Inc 89.9° Azm 340.8°
1-Sep-12	08:35	09:25	0.83	8107	8200	Drilling	Drilling - (WOB:7;GPM :290;RPM:55)
1-Sep-12	09:25	09:35	0.17	8200	8200	Survey & Conn.	Survey & Conn.@8143' Inc 89.5° Azm 340.4°
1-Sep-12	09:35	10:30	0.92	8200	8293	Drilling	Drilling - (WOB:7;GPM :290;RPM:55)
1-Sep-12	10:30	10:35	0.08	8293	8293	Survey & Conn.	Survey & Conn.@8236' Inc 90.3° Azm 341.4°
1-Sep-12	10:35	11:05	0.50	8293	8293	Rig Service-Inhole	Rig Service-Inhole
1-Sep-12	11:05	12:00	0.92	8293	8387	Drilling	Drilling - (WOB:7;GPM :290;RPM:55)
1-Sep-12	12:00	12:10	0.17	8387	8387	Survey & Conn.	Survey & Conn.@8330' Inc 90.5° Azm 342.9°
1-Sep-12	12:10	13:15	1.08	8387	8480	Drilling	Drilling - (WOB:7;GPM :290;RPM:55)
1-Sep-12	13:15	13:25	0.17	8480	8480	Survey & Conn.	Survey & Conn.@8423' Inc 89.8° Azm 342.5°
1-Sep-12	13:25	14:25	1.00	8480	8573	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	14:25	14:35	0.17	8573	8573	Survey & Conn.	Survey & Conn.@8516' Inc 89.8° Azm 343.5°
1-Sep-12	14:35	14:50	0.25	8573	8590	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	14:50	15:40	0.83	8590	8605	Sliding	Sliding - (WOB:38;GPM :290;TFO:96R)
1-Sep-12	15:40	15:55	0.25	8605	8605	Rig repair	Pump Issues
1-Sep-12	15:55	16:35	0.67	8605	8654	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	16:35	17:25	0.83	8654	8664	Sliding	Sliding - (WOB:38;GPM :290;TFO:95L)
1-Sep-12	17:25	17:30	0.08	8664	8666	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	17:30	17:40	0.17	8666	8666	Survey & Conn.	Survey & Conn.@8609' Inc 90.3° Azm 344.5°
1-Sep-12	17:40	18:25	0.75	8666	8726	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	18:25	18:30	0.08	8726	8726	Other	Chk Shot @ Inc 88.5 Azm 342.0
1-Sep-12	18:30	18:40	0.17	8726	8726	Other	Switch Pumps
1-Sep-12	18:40	20:40	2.00	8726	8736	Sliding	Sliding - (WOB:34;GPM :290;TFO:85L)
1-Sep-12	20:40	21:00	0.33	8736	8759	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	21:00	21:10	0.17	8759	8759	Survey & Conn.	Survey & Conn.@8702' Inc 90° Azm 343.6°
1-Sep-12	21:10	21:40	0.50	8759	8790	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	21:40	21:45	0.08	8790	8790	MWD Survey	MWD Survey@8733' Inc 89.9° Azm 342.4°
1-Sep-12	21:45	22:10	0.42	8790	8821	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	22:10	22:15	0.08	8821	8821	MWD Survey	MWD Survey@8764' Inc 89.8° Azm 341.8°
1-Sep-12	22:15	22:40	0.42	8821	8852	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	22:40	22:55	0.25	8852	8852	Survey & Conn.	Survey & Conn.@8795' Inc 90.5° Azm 343.6°
1-Sep-12	22:55	23:05	0.17	8852	8862	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
1-Sep-12	23:05	23:10	0.08	8862	8862	Other	Chk Shot 8805 Inc 90.5 Azm 344
1-Sep-12	23:10	24:00	0.83	8862	8866	Sliding	Sliding - (WOB:34;GPM :290;TFO:90L)

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	25 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Sunday, September 02, 2012 at 0000 to Sunday, September 02, 2012 at 2400

DRILLING SUMMARY

Start Depth	8866.00	Rotary Hours	10.08	WOB	9	Pick UP	164	Slack Off	155	SPM	
End Depth	9473.00	Circulating Hours	2.08	RAB	160	SPP	1550	FlowRate	290 - 290		99
Total Drilled:	607.00	Avg. Total ROP:	30.35								
Total Rotary Drilled:	528.00	Avg. Rotary ROP:	52.36	Type	Water Base Mud			PV	12	SOLID	12
Total Drilled Sliding:	79.00	Avg. Slide ROP:	7.97	Weight	10.5	GAS	0	YP	14	BHT°	123
Slide Hours:	9.92	Percent Rotary:	86.99	Viscosity	36	SAND	0.25	PH	9.4	Flow T°	122
Below Rotary Hrs.	24.00	Percent Slide:	13.01	Chlorides	700	WL	7.4			Oil %	0

Drilling Parameters

Mud Data

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Mark Bercier

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 5:MDSi 613 QUPX, 5", 6/7, 8.0stg., 3.0deg Adj, NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP,

Signature:

Incl. In:	90.5	Azm. In:	343.6	Incl. Out:	89.2	Azm. Out:	339.2

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
2-Sep-12	00:00	02:50	2.83	8866	8877	Sliding	Sliding - (WOB:34;GPM :290;TFO:90L)
2-Sep-12	02:50	03:10	0.33	8877	8883	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	03:10	03:15	0.08	8883	8883	MWD Survey	MWD Survey@8826' Inc 89.8° Azm 343.2°
2-Sep-12	03:15	03:30	0.25	8883	8898	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	03:30	03:40	0.17	8898	8898	Other	Chk Shot 8841 Inc 89.6 Azm 342.5
2-Sep-12	03:40	05:10	1.50	8898	8910	Sliding	Sliding - (WOB:34;GPM :290;TFO:100L)
2-Sep-12	05:10	05:15	0.08	8910	8914	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	05:15	05:20	0.08	8914	8914	MWD Survey	MWD Survey@8857' Inc 90° Azm 342.9°
2-Sep-12	05:20	05:40	0.33	8914	8945	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	05:40	05:55	0.25	8945	8945	Survey & Conn.	Survey & Conn.@8888' Inc 90.8° Azm 342.3°
2-Sep-12	05:55	06:20	0.42	8945	8976	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	06:20	06:25	0.08	8976	8976	MWD Survey	MWD Survey@8919' Inc 89.9° Azm 340.7°
2-Sep-12	06:25	08:10	1.75	8976	8992	Sliding	Sliding - (WOB:34;GPM :290;TFO:100L)
2-Sep-12	08:10	08:20	0.17	8992	9007	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	08:20	08:30	0.17	9007	9007	MWD Survey	MWD Survey@8950' Inc 89.8° Azm 341°
2-Sep-12	08:30	08:45	0.25	9007	9038	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	08:45	09:00	0.25	9038	9038	Survey & Conn.	Survey & Conn.@8981' Inc 90.2° Azm 341.4°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
2-Sep-12	09:00	09:25	0.42	9038	9069	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	09:25	09:35	0.17	9069	9069	MWD Survey	MWD Survey@9012' Inc 89.8° Azm 340.4°
2-Sep-12	09:35	10:25	0.83	9069	9081	Sliding	Sliding - (WOB:34;GPM :290;TFO:90L)
2-Sep-12	10:25	10:40	0.25	9081	9081	Rig repair	Pump Issues
2-Sep-12	10:40	10:55	0.25	9081	9100	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	10:55	11:05	0.17	9100	9100	MWD Survey	MWD Survey@9043' Inc 89.9° Azm 341.4°
2-Sep-12	11:05	11:15	0.17	9100	9110	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	11:15	12:15	1.00	9110	9122	Sliding	Sliding - (WOB:34;GPM :290;TFO:100L)
2-Sep-12	12:15	12:20	0.08	9122	9131	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	12:20	12:25	0.08	9131	9131	Survey & Conn.	Survey & Conn.@9074' Inc 89.4° Azm 340.3°
2-Sep-12	12:25	12:55	0.50	9131	9131	Rig Service-Inhole	Rig Service-Inhole
2-Sep-12	12:55	13:15	0.33	9131	9163	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	13:15	13:20	0.08	9163	9163	MWD Survey	MWD Survey@9106' Inc 89.3° Azm 339.8°
2-Sep-12	13:20	14:05	0.75	9163	9166	Sliding	Sliding - (WOB:34;GPM :290;TFO:100L)
2-Sep-12	14:05	14:20	0.25	9166	9194	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	14:20	14:30	0.17	9194	9194	MWD Survey	MWD Survey@9137' Inc 89.2° Azm 339.7°
2-Sep-12	14:30	15:45	1.25	9194	9207	Sliding	Sliding - (WOB:34;GPM :290;TFO:0)
2-Sep-12	15:45	16:20	0.58	9207	9224	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	16:20	16:30	0.17	9224	9224	Survey & Conn.	Survey & Conn.@9167' Inc 89.8° Azm 340°
2-Sep-12	16:30	16:45	0.25	9224	9255	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	16:45	16:55	0.17	9255	9255	MWD Survey	MWD Survey@9198' Inc 88.6° Azm 338°
2-Sep-12	16:55	17:15	0.33	9255	9286	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	17:15	17:20	0.08	9286	9286	MWD Survey	MWD Survey@9229' Inc 90.1° Azm 339.9°
2-Sep-12	17:20	17:45	0.42	9286	9318	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	17:45	18:05	0.33	9318	9318	Rig repair	Pump Issues
2-Sep-12	18:05	18:10	0.08	9318	9318	Survey & Conn.	Survey & Conn.@9261' Inc 88.9° Azm 337.6°
2-Sep-12	18:10	19:00	0.83	9318	9349	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	19:00	19:05	0.08	9349	9349	MWD Survey	MWD Survey@9292' Inc 89° Azm 337.8°
2-Sep-12	19:05	20:00	0.92	9349	9380	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	20:00	20:05	0.08	9380	9380	MWD Survey	MWD Survey@9323' Inc 89.6° Azm 339.4°
2-Sep-12	20:05	21:10	1.08	9380	9411	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	21:10	21:25	0.25	9411	9411	Survey & Conn.	Survey & Conn.@9354' Inc 89.3° Azm 339.2°
2-Sep-12	21:25	21:40	0.25	9411	9416	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	21:40	21:45	0.08	9416	9416	Other	Switch pumps
2-Sep-12	21:45	22:40	0.92	9416	9442	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	22:40	22:45	0.08	9442	9442	MWD Survey	MWD Survey@9385' Inc 89.5° Azm 339.4°
2-Sep-12	22:45	23:55	1.17	9442	9473	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
2-Sep-12	23:55	24:00	0.08	9473	9473	MWD Survey	MWD Survey@9416' Inc 89.2° Azm 339.3°

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	Report Time:	2400	26 of 26
Company:	Fidelity E & P	API JOB #		
LOCATION:	Rosebud Co., MT	WORK ORDER#		
RIG NAME:	Pioneer 43	FIELD:		
STATE:	MT	Township:	Melstone	
COUNTY:	Rosebud	SECT\RANGE:	1	34E
WELL NAME:	71 Ranch 44-1H			

From Monday, September 03, 2012 at 0000 to Monday, September 03, 2012 at 2400

DRILLING SUMMARY

Start Depth	8866.00	Rotary Hours	10.08
End Depth	9473.00	Circulating Hours	2.08
Total Drilled:	607.00	Avg. Total ROP:	30.35
Total Rotary Drilled:	528.00	Avg. Rotary ROP:	52.36
Total Drilled Sliding:	79.00	Avg. Slide ROP:	7.97
Slide Hours:	9.92	Percent Rotary:	86.99
Below Rotary Hrs.	24.00	Percent Slide:	13.01

Drilling Parameters

WOB	9	Pick UP	164	Slack Off	155	SPM	
RAB	160	SPP	1550	FlowRate	290 - 290		99

Mud Data

Type	Water Base Mud			PV	12	SOLID	12
Weight	10.5	GAS	0	YP	14	BHT°	123
Viscosity	36	SAND	0.25	PH	9.4	Flow T°	122
Chlorides	700	WL	7.4			Oil %	0

PERSONNEL

Lead Directional :	Justin Bertch
Second Directional :	Mark Hesla
MWD Operator1	Graydon Nodurft
MWD Operator2	Brad Martin
Directional Company:	Phoenix Technology Services
Geologist:	Weatherford
Company Man:	Mark Bercier

CASING

Size	Lb/ft	Set Depth
9 5/8	36	683
7	23	5550

BHA

BHA # 5:MDSi 613 QUPX, 5", 6/7, 8.0stg., 3.0deg Adj, NM Pony, UBHO, NM Pony, NMDC, NMDC, X/O, 56 Stds Push Pipe DP,

Signature:

Incl. In:	89.2	Azm. In:	339.2	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
3-Sep-12	00:00	01:00	1.00	9473	9504	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
3-Sep-12	01:00	01:10	0.17	9504	9504	Survey & Conn.	Survey & Conn.@9447' Inc 89.5° Azm 340.1°
3-Sep-12	01:10	02:00	0.83	9504	9536	Drilling	Drilling - (WOB:9;GPM :290;RPM:55)
3-Sep-12	02:00	02:05	0.08	9536	9536	MWD Survey	MWD Survey@9479' Inc 89.3° Azm 340°
3-Sep-12	02:05	03:00	0.92	9536	9567	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	03:00	03:05	0.08	9567	9567	MWD Survey	MWD Survey@9510' Inc 89.6° Azm 340.7°
3-Sep-12	03:05	04:10	1.08	9567	9598	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	04:10	04:25	0.25	9598	9598	Survey & Conn.	Survey & Conn.@9541' Inc 89.1° Azm 340.3°
3-Sep-12	04:25	05:20	0.92	9598	9629	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	05:20	05:25	0.08	9629	9629	MWD Survey	MWD Survey@9572' Inc 89.1° Azm 340.3°
3-Sep-12	05:25	06:15	0.83	9629	9660	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	06:15	06:20	0.08	9660	9660	MWD Survey	MWD Survey@9603' Inc 89.4° Azm 341.1°
3-Sep-12	06:20	06:55	0.58	9660	9691	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	06:55	07:05	0.17	9691	9691	Survey & Conn.	Survey & Conn.@9634' Inc 90.4° Azm 343.3°
3-Sep-12	07:05	07:35	0.50	9691	9722	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	07:35	07:45	0.17	9722	9722	MWD Survey	MWD Survey@9665' Inc 90.8° Azm 343.8°
3-Sep-12	07:45	08:20	0.58	9722	9754	Drilling	Drilling - (WOB:9; :290;RPM:55)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
3-Sep-12	08:20	08:25	0.08	9754	9754	Survey & Conn.	Survey & Conn.@9697' Inc 90.2° Azm 343.6°
3-Sep-12	08:25	08:40	0.25	9754	9762	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	08:40	09:40	1.00	9762	9763	Sliding	Sliding - (WOB:34; :290;TFO:0)
3-Sep-12	09:40	09:55	0.25	9763	9785	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	09:55	10:05	0.17	9785	9785	Survey & Conn.	Survey & Conn.@9728' Inc 90.2° Azm 344.1°
3-Sep-12	10:05	10:55	0.83	9785	9847	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	10:55	11:15	0.33	9847	9847	MWD Survey	MWD Survey@9790' Inc 90° Azm 347.4°
3-Sep-12	11:15	12:00	0.75	9847	9878	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	12:00	12:10	0.17	9878	9878	Survey & Conn.	Survey & Conn.@9821' Inc 90.3° Azm 349.5°
3-Sep-12	12:10	12:45	0.58	9878	9900	Drilling	Drilling - (WOB:9; :290;RPM:55)
3-Sep-12	12:45	12:50	0.08	9900	9900	MWD Survey	MWD Survey@9843' Inc 90.2° Azm 350.1°
3-Sep-12	12:50	14:00	1.17	9900	9900	Circulating	Circulating
3-Sep-12	14:00	22:00	8.00	9900	9900	POOH	POOH
3-Sep-12	22:00	23:00	1.00	9900	9900	POOH	L/D BHA # 5
3-Sep-12	23:00	24:00	1.00	9900	9900	Standby	Standby

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745
Company:	Fidelity E & P
LOCATION:	Rosebud Co., MT
RIG NAME:	Pioneer 43
STATE:	MT
COUNTY:	Rosebud
WELL NAME:	71 Ranch 44-1H

FIELD:		
Township:	Melstone	
SECT\RANGE:	1	34E

COMMENT

BHA Summary Report for JOB

#	TIME IN - OUT			DEPTHs		Footage			ROP			RPM	FLOW	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide		Rate	IN	OUT	IN	OUT	SO	PU	RAB
1	13-Aug-12 @ 04:30	18-Aug-12 @ 10:10	125.67	683.0	4670.0	3987.0		3987.0	64.57	64.6		30-65	310-420	.0	.0	.0	.0	55-120	55-128	55-125
				Hours>		61.75														

#	TIME IN - OUT			DEPTHs		Footage			ROP			RPM	FLOW	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide		Rate	IN	OUT	IN	OUT	SO	PU	RAB
2	18-Aug-12 @ 10:10	25-Aug-12 @ 16:00	173.83	4670.0	5580.0	242.0	668.0	910.0	9.81	24.8	8.0	0-65	420-500	.0	.0	.0	.0	120-150	128-175	125-155
				Hours>		9.75	83.00	92.75												

BHA Summary Report for JOB

#	TIME IN - OUT			DEPTHs		Footage			ROP			RPM	FLOW	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide		Rate	IN	OUT	IN	OUT	SO	PU	RAB
3	25-Aug-12 @ 16:00	26-Aug-12 @ 18:45	26.75	5580.0	5636.0	56.0		56.0	4.91	4.9		25-60	0-500	.0	.0	.0	.0	0-106	0-120	0-112
				Hours>		11.42														

#	TIME IN - OUT			DEPTHs		Footage			ROP			RPM	FLOW	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide		Rate	IN	OUT	IN	OUT	SO	PU	RAB
4	26-Aug-12 @ 18:45	28-Aug-12 @ 14:05	43.33	5636.0	5821.0	179.0	6.0	185.0	6.89	7.8	1.6	60-60	280-290	.0	.0	.0	.0	106-155	120-164	112-160
				Hours>		23.00	3.83	26.83												

#	TIME IN - OUT			DEPTHs		Footage			ROP			RPM	FLOW	Incl.		Azimuth		Weight Ranges		
	Time IN	Time Out	Hrs.	IN	OUT	Rotary	Slide	Total	AVG.	Rotary	Slide		Rate	IN	OUT	IN	OUT	SO	PU	RAB
5	28-Aug-12 @ 14:05	03-Sep-12 @ 24:00	153.92	5821.0	9900.0	3623.0	456.0	4079.0	35.70	49.6	11.1	55-60	280-290	.0	.0	.0	.0	155-155	164-164	160-160
				Hours>		73.00	41.25	114.25												

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P-0021630

Well Information

BHA # 1

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	**FIELD:**	
Company:	Fidelity E & P	**Township:**	Melstone
LOCATION:	Rosebud Co., MT	**SECT. RANGE:**	1 34E
RIG NAME:	Pioneer 43	**Lead DD:**	Justin Bertch
STATE:	MT	**Co. Man:**	Dan Brewer
COUNTY:	Rosebud	**BHA TYPE:**	
WELL NAME:	71 Ranch 44-1H		

BHA Summary Information

TIME IN - OUT		Rotary Hours	61.75	Start Depth	683.00	RPM Range	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	66.42 / 4.67	End Depth	4670.00		
13-Aug-12 @ 04:30	18-Aug-12 @ 10:10	Slide Hours	.00	Percent Rotary:	100.00	30 -65	310 -420
		Below Rotary Hrs.	91.67	Percent Slide:	.00		

Total Drilled:	3987.00	**Avg. Total ROP:**	64.57	**Incl.**		**Azimuth**	
Total Rotary Drilled:	3987.00	**Avg. Rotary ROP:**	64.57	**IN**	**OUT**	**IN**	**OUT**
Total Drilled Sliding:	.00	**Avg. Slide ROP:**	NA	.0	.0	.00	.00

SPP	700 -1150	Weights	SO	55 -120	PU	55 -128	RAB	55 -125	Reason POOH	

Bit Data

OTHER	RMBM568X
Type Bit	PDC
TFA	1.208

JETS					
13	13	13	13	15	
15	15	15	0	0	

Bit Coding							IADC#
IR	OR	DL	Loc	BS	G	ODL	
0	0						

Bit Drop: 104 PSI @ 420 GPM

MOTOR DATA

7/8; 5.0 Stg. 3.0 Deg. Adj. .28 Rpg.

Model:	24X	Pad OD	
MFG.	Phoenix		7 1/8
Bend °	1.5	Stator/Rotor	7/8
Bit to Bend	6.55	Motor Diff	
Rev/GAL	0.28		
NB Stab	0		
Rotor Jet	0		

Sensor Offsets

Sensor	0	Sonic	0
Gamma	0	DNSC	689
Restiv	0	GYRO	0

Mud Data

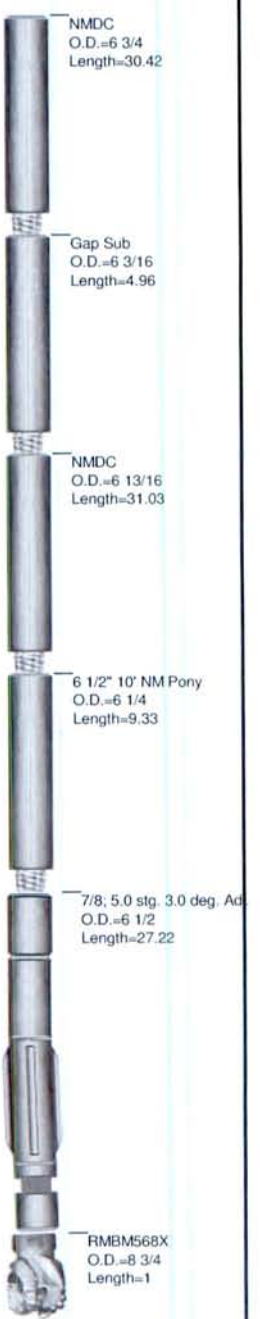
Type	Water Base Mud						
WT	9.3	**GAS**	0	**Solids**	8.5		
Vis	42	**SAND**	1	**T °**	88		
PV	7	**PH**	0	**Chlor**	800		
YP	9	**WL**	8.6	**Oil %**	0		
				BHT°	109		

PUMPS	PUMP1	PUMP1
NAME		
Model		
Type		
Liner	.00	.00
Stroke	.00	.00
Efficency	.00	.00

Comments

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	RMBM568X	72057		8 3/4	1.00	1.00	4 1/2 REGP
2	7/8; 5.0 stg. 3.0 deg. Adj.	NES675-430		6 1/2	27.22	28.22	4 1/2 XHB
3	6 1/2" 10' NM Pony	NESPC650-338	2 13/16	6 1/4	9.33	37.55	4 1/2 XHB
4	NMDC	NESNM675-513	2 7/8	6 13/16	31.03	68.58	4 1/2 XHB
5	Gap Sub	DG650116	2 13/16	6 3/16	4.96	73.54	4 1/2 XHB
6	NMDC	NESNM675-325	2 13/16	6 3/4	30.42	103.96	4 1/2 XHB



Well Information

BHA # 2

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	**FIELD:**	
Company:	Fidelity E & P	**Township:**	Melstone
LOCATION:	Rosebud Co., MT	**SECT. RANGE:**	1 34E
RIG NAME:	Pioneer 43	**Lead DD:**	Justin Bertch
STATE:	MT	**Co. Man:**	Dan Brewer
COUNTY:	Rosebud	**BHA TYPE:**	Steerable Assembly
WELL NAME:	71 Ranch 44-1H		

BHA Summary Information

TIME IN - OUT		Rotary Hours	9.75	Start Depth	4670.00	RPM Range	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	113.00 / 20.25	End Depth	5580.00		
18-Aug-12 @ 10:10	25-Aug-12 @ 16:00	Slide Hours	83.00	Percent Rotary:	26.59	0 -65	420 -500
		Below Rotary Hrs.	137.83	Percent Slide:	73.41		

Total Drilled:	910.00	**Avg. Total ROP:**	9.81	**Incl.**		**Azimuth**	
Total Rotary Drilled:	242.00	**Avg. Rotary ROP:**	24.82	**IN**	**OUT**	**IN**	**OUT**
Total Drilled Sliding:	668.00	**Avg. Slide ROP:**	8.05	.0	.0	.00	.00

SPP	1150 -1500	Weights	SO	120 -150	PU	128 -175	RAB	125 -155	Reason POOH	TD

Bit Data

BAKER DP 505F 3x20-2x16's

Type Bit	PDC
TFA	1.312

JETS					
20	20	20	16	16	
0	0	0	0	0	

Bit Coding: IADC#

IR	OR	DL	Loc	BS	G	ODL
0	0					

Bit Drop: 126 PSI @ 500 GPM

MOTOR DATA

6 3/4;7/8;5.0stg;.28revs;2.38fixed bend

Model: 24X		Pad OD	
MFG. Phoenix		7 5/16	
Bend °	2.38	Stator/Rotor	7/8
Bit to Bend	5.5	Motor Diff	
Rev/GAL	0.28		
NB Stab	0		
Rotor Jet	0		

Sensor Offsets

Sensor	56	Sonic	0
Gamma	0	DNSC	4670
Restiv	0	GYRO	0

Mud Data

Type: Water Base Mud

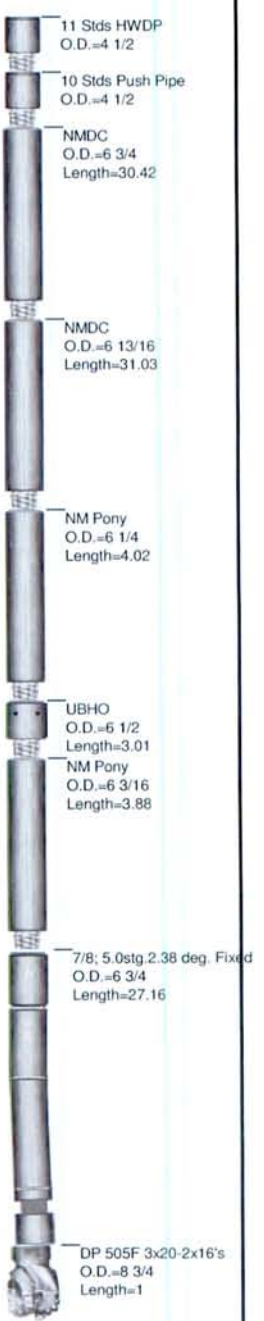
WT	9.4	GAS	0	Solids	9		
Vis	43	SAND	0.25	T °	116		
PV	7	PH	0	Chlor	700		
YP	13	WL	9	Oil %	0		
				BHT°		119	

PUMPS	PUMP1	PUMP1
NAME		
Model		
Type		
Liner	.00	.00
Stroke	.00	.00
Efficency	.00	.00

Comments

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	DP 505F 3x20-2x16's	7139012		8 3/4	1.00	1.00	4 1/2 REGP
2	7/8; 5.0stg.2.38 deg. Fixed	NES675-192		6 3/4	27.16	28.16	4 1/2 XHB
3	NM Pony	NESPC625-014	2 13/16	6 3/16	3.88	32.04	4 1/2 XHB
4	UBHO	NESMS650-827	2 11/16	6 1/2	3.01	35.05	4 1/2 XHB
5	NM Pony	NESPC650-547	2 13/16	6 1/4	4.02	39.07	4 1/2 XHB
6	NMDC	NESNM675-513	2 7/8	6 13/16	31.03	70.10	4 1/2 XHB
7	NMDC	NESNM675-325	2 13/16	6 3/4	30.42	100.52	4 1/2 XHB
8	10 Stds Push Pipe	Rig 3		4 1/2	948.34	1048.86	4 1/2 XHB
9	11 Stds HWDP	Rig 2		4 1/2	1,007.22	2056.08	4 1/2 XHB
10	9 jts. 6" DC	Rig 1		6	272.93	2329.01	4 1/2 XH



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P-0021632

Well Information

BHA # 3

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	**FIELD:**	
Company:	Fidelity E & P	**Township:**	Melstone
LOCATION:	Rosebud Co., MT	**SECT. RANGE:**	1 34E
RIG NAME:	Pioneer 43	**Lead DD:**	Justin Bertch
STATE:	MT	**Co. Man:**	Dan Brewer
COUNTY:	Rosebud	**BHA TYPE:**	Steerable Assembly
WELL NAME:	71 Ranch 44-1H		

BHA Summary Information

TIME IN - OUT		Rotary Hours	13.17	Start Depth	5580.00	RPM Range	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	14.50 / 1.33	End Depth	5636.00		
25-Aug-12 @ 16:00	26-Aug-12 @ 18:45	Slide Hours	.00	Percent Rotary:	100.00	25 -60	0 -500
		Below Rotary Hrs.	26.75	Percent Slide:	.00		

Total Drilled:	56.00	**Avg. Total ROP:**	4.25	**Incl.**		**Azimuth**	
Total Rotary Drilled:	56.00	**Avg. Rotary ROP:**	4.25	**IN**	**OUT**	**IN**	**OUT**
Total Drilled Sliding:	.00	**Avg. Slide ROP:**	NA	.0	.0	.00	.00

SPP	0 -1100	Weights	SO	0 -106	PU	0 -120	RAB	0 -112	Reason POOH	

Bit Data

BAKER DP505FX

Type Bit	PDC
TFA	1.242

JETS					
18	18	18	18	18	
0	0	0	0	0	

Bit Coding							IADC#
IR	OR	DL	Loc	BS	G	ODL	
0	0						

Bit Drop: 140 PSI @ 500 GPM

MOTOR DATA

5, 6/7; 8.0 Stg. 3.0 Deg. Adj. .86 Rpg.

Model: 24x		Pad OD
MFG. Phoenix		5 1/4
Bend °	1.5	Stator/Rotor 6/7
Bit to Bend	5.44	Motor Diff
Rev/GAL	0.86	
NB Stab	0	
Rotor Jet	0	

Sensor Offsets

Sensor	57	Sonic	0
Gamma	44.27	DNSC	5580
Restiv	0	GYRO	0

Mud Data

Type Water Base Mud

WT	9.4	GAS	0	Solids	9		
Vis	43	SAND	0.25	T °	116		
PV	7	PH	0	Chlor	700		
YP	13	WL	9	Oil %	0		
				BHT°	119		

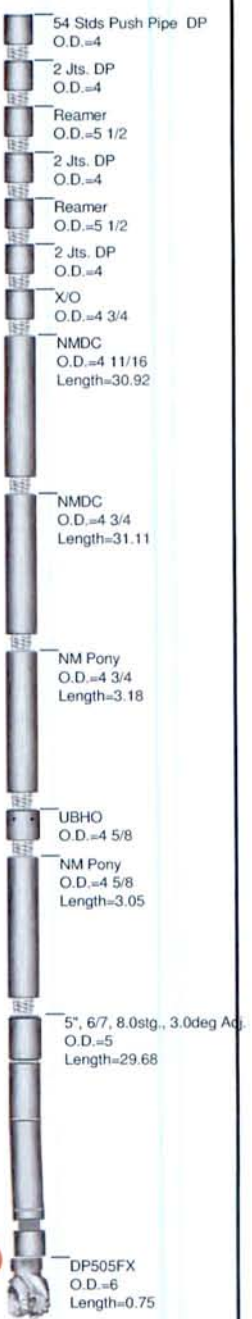
PUMPS	PUMP1	PUMP1
NAME		
Model		
Type		
Liner	.00	.00
Stroke	.00	.00
Efficency	.00	.00

Comments

Pulled to take off Reamers. All cutters on reamers got destroyed in casing. L/D reamers pulled up and checked bit. Bit was in good shape.

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	DP505FX	7027614		6	0.75	0.75	3 1/2 REGP
2	5", 6/7, 8.0stg., 3.0deg Adj.	GX-500-404		5	29.68	30.43	3 1/2 IFB
3	NM Pony	NESPC475-256	2 11/16	4 5/8	3.05	33.48	3 1/2 IFB
4	UBHO	NESMS475-456	2 11/16	4 5/8	3.02	36.50	3 1/2 IFB
5	NM Pony	NESPC475-059	2 11/16	4 3/4	3.18	39.68	3 1/2 IFB
6	NMDC	NESNM475-551	2 11/16	4 3/4	31.11	70.79	3 1/2 IFB
7	NMDC	NESNM475-378	2 11/16	4 11/16	30.92	101.71	3 1/2 IFB
8	X/O	Rig 4	2 1/2	4 3/4	2.69	104.40	XT39B
9	2 Jts. DP	Rig 8		4	62.23	166.63	XT39B
10	Reamer	Rig 6	2 7/8	5 1/2	2.63	169.26	XT39B
11	2 Jts. DP	Rig 9		4	62.30	231.56	XT39B
12	Reamer	Rig 7	2 7/8	5 1/2	2.63	234.19	XT39B
13	2 Jts. DP	Rig 10		4	62.12	296.31	XT39B
14	54 Stds Push Pipe DP	Rig 5		4	5,041.64	5337.95	XT39B



Winsurv2 BHA Report - License:NP3173

08721738

Well Information

BHA # 4

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	**FIELD:**	
Company:	Fidelity E & P	**Township:**	Melstone
LOCATION:	Rosebud Co., MT	**SECT. RANGE:**	1 34E
RIG NAME:	Pioneer 43	**Lead DD:**	Justin Bertch
STATE:	MT	**Co. Man:**	Mark Bercier
COUNTY:	Rosebud	**BHA TYPE:**	Steerable Assembly
WELL NAME:	71 Ranch 44-1H		

BHA Summary Information

TIME IN - OUT		Rotary Hours	23.00	Start Depth	5636.00	RPM Range	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	32.92 / 6.08	End Depth	5821.00		
26-Aug-12 @ 18:45	28-Aug-12 @ 14:05	Slide Hours	3.83	Percent Rotary:	96.76	60 -60	280 -290
		Below Rotary Hrs.	43.33	Percent Slide:	3.24		

Total Drilled:	185.00	**Avg. Total ROP:**	6.89	**Incl.**		**Azimuth**	
Total Rotary Drilled:	179.00	**Avg. Rotary ROP:**	7.78	**IN**	**OUT**	**IN**	**OUT**
Total Drilled Sliding:	6.00	**Avg. Slide ROP:**	1.57	.0	.0	.00	.00

SPP	1100 -1425	Weights	SO	106 -155	PU	120 -164	RAB	112 -160	Reason POOH	

Bit Data

BAKER DP505FX

Type Bit	PDC
TFA	1.242

JETS					
18	18	18	18	18	
0	0	0	0	0	

Bit Coding		IADC#				
IR	OR	DL	Loc	BS	G	ODL
0	0					

Bit Drop: 53 PSI @ 290 GPM

MOTOR DATA

5, 6/7; 8.0 Stg. 3.0 Deg. Adj. .83 Rpg.

Model: 24x	Pad OD
MFG. Phoenix	5 1/2
Bend ° 1.5	Stator/Rotor 6/7
Bit to Bend 5.44	Motor Diff
Rev/GAL 0.86	
NB Stab 0	
Rotor Jet 0	

Sensor Offsets

Sensor	57	Sonic	0
Gamma	44.27	DNSC	5636
Restiv	0	GYRO	0

Mud Data

Type Water Base Mud

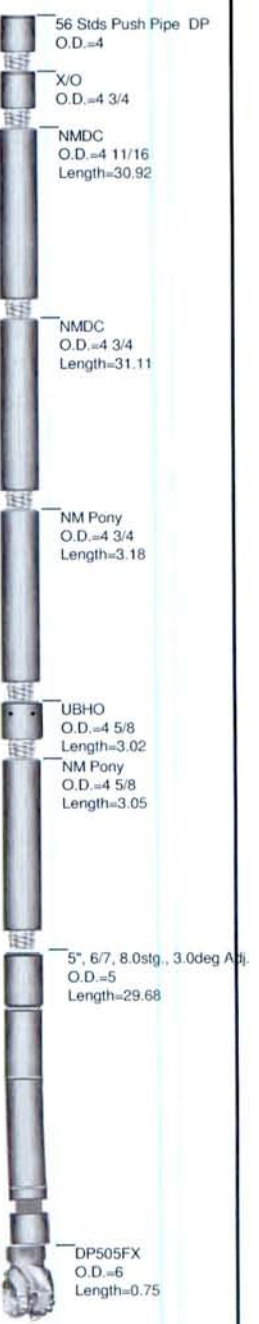
WT	10.5	GAS	0	Solids	9		
Vis	36	SAND	0.25	T °	116		
PV	7	PH	0	Chlor	700		
YP	13	WL	9	Oil %	0	BHT°	119

PUMPS	PUMP1	PUMP1
NAME		
Model		
Type		
Liner	.00	.00
Stroke	.00	.00
Efficency	.00	.00

Comments

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	DP505FX	7027614		6	0.75	0.75	3 1/2 REGP
2	5", 6/7, 8.0stg., 3.0deg Adj.	GX-500-404		5	29.68	30.43	3 1/2 IFB
3	NM Pony	NESPC475-256	2 11/16	4 5/8	3.05	33.48	3 1/2 IFB
4	UBHO	NESMS475-456	2 11/16	4 5/8	3.02	36.50	3 1/2 IFB
5	NM Pony	NESPC475-059	2 11/16	4 3/4	3.18	39.68	3 1/2 IFB
6	NMDC	NESNM475-551	2 11/16	4 3/4	31.11	70.79	3 1/2 IFB
7	NMDC	NESNM475-378	2 11/16	4 11/16	30.92	101.71	3 1/2 IFB
8	X/O	Rig 4	2 1/2	4 3/4	2.69	104.40	XT39B
9	56 Stds Push Pipe DP	Rig 5		4	5,228.29	5332.69	XT39B



Winsurv2 BHA Report - License:NP3173

08721738

P-0021634

Well Information

BHA # 5

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	**FIELD:**	
Company:	Fidelity E & P	**Township:**	Melstone
LOCATION:	Rosebud Co., MT	**SECT. RANGE:**	1 34E
RIG NAME:	Pioneer 43	**Lead DD:**	Justin Bertch
STATE:	MT	**Co. Man:**	Mark Bercier
COUNTY:	Rosebud	**BHA TYPE:**	Steerable Assembly
WELL NAME:	71 Ranch 44-1H		

BHA Summary Information

TIME IN - OUT		Rotary Hours	73.00	Start Depth	5821.00	RPM Range	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	126.00 / 11.75	End Depth	9900.00		
28-Aug-12 @ 14:05	03-Sep-12 @ 24:00	Slide Hours	41.25	Percent Rotary:	88.82	55 -60	280 -290
		Below Rotary Hrs.	152.92	Percent Slide:	11.18		

Total Drilled:	4079.00	**Avg. Total ROP:**	35.70	**Incl.**		**Azimuth**	
Total Rotary Drilled:	3623.00	**Avg. Rotary ROP:**	49.63	**IN**	**OUT**	**IN**	**OUT**
Total Drilled Sliding:	456.00	**Avg. Slide ROP:**	11.05	.0	.0	.00	.00

SPP	1425 -1550	Weights	SO	155 -155	PU	164 -164	RAB	160 -160	Reason POOH	TD

Bit Data

SMITH — MDSi 613 QUPX

Type Bit	PDC
TFA	1.04

JETS					
16	16	16	14	14	
14	0	0	0	0	

Bit Coding							IADC#
IR	OR	DL	Loc	BS	G	ODL	
0	0						

Bit Drop: 75 PSI @ 290 GPM

MOTOR DATA

5, 6/7; 8.0 Stg. 3.0 Deg. Adj. .86 Rpg.

Model: 24x		Pad OD	
MFG. Phoenix		5 3/8	
Bend °	1.5	Stator/Rotor	6/7
Bit to Bend	5.3	Motor Diff	
Rev/GAL	0.86		
NB Stab	0		
Rotor Jet	0		

Sensor Offsets

Sensor	57	Sonic	0
Gamma	44	DNSC	5821
Restiv	0	GYRO	0

Mud Data

Type Water Base Mud

WT	10.5	GAS	0	Solids	12		
Vis	36	SAND	0.25	T °	122		
PV	12	PH	9.4	Chlor	700		
YP	14	WL	7.4	Oil %	0	BHT°	123

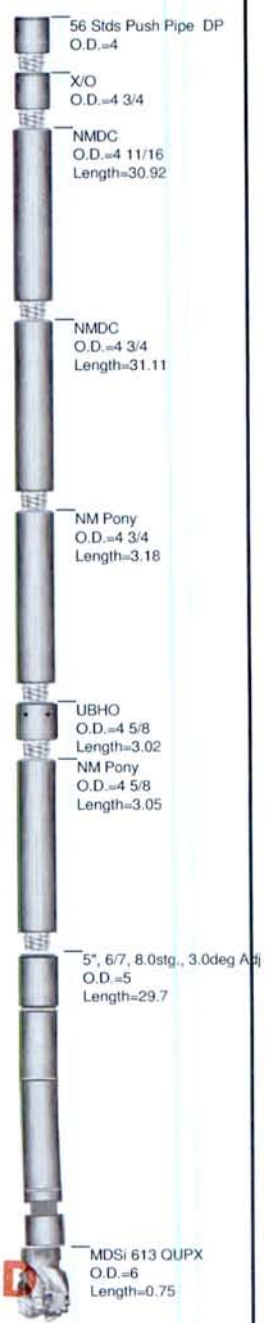
PUMPS	PUMP1	PUMP1
NAME		
Model		
Type		
Liner	.00	.00
Stroke	.00	.00
Efficency	.00	.00

Comments

BHA # 5 did well. 125 hours on motor.

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	MDSi 613 QUPX	JD3187		6	0.75	0.75	3 1/2 REGP
2	5", 6/7, 8.0stg., 3.0deg Adj	24XH12754		5	29.70	30.45	3 1/2 IFB
3	NM Pony	NESPC475-256	2 11/16	4 5/8	3.05	33.50	3 1/2 IFB
4	UBHO	NESMS475-456	2 11/16	4 5/8	3.02	36.52	3 1/2 IFB
5	NM Pony	NESPC475-059	2 11/16	4 3/4	3.18	39.70	3 1/2 IFB
6	NMDC	NESNM475-551	2 11/16	4 3/4	31.11	70.81	3 1/2 IFB
7	NMDC	NESNM475-378	2 11/16	4 11/16	30.92	101.73	3 1/2 IFB
8	X/O	Rig 4	2 1/2	4 3/4	2.69	104.42	XT39B
9	56 Stds Push Pipe DP	Rig 5		4	5,228.29	5332.71	XT39B



08721708

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745
Company:	Fidelity E & P
LOCATION:	Rosebud Co., MT
RIG NAME:	Pioneer 43
STATE:	MT
COUNTY:	Country
WELL NAME:	71 Ranch 44-1H

FIELD:	
Township:	Melstone
Range	34E

MOTOR INFORMATION

Desc: 7/8; 5.0 Stg. 3.0 Deg. Adj. .28 Rpg.
Bent Hsg/Sub: 1.5 / 0 Bit to Bend: 6.55
Pad OD: 7 1/8 NB Stab:

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	13-Aug	Drilling	07:35	08:35	1.00	683	772	89	8	89.0	30	0	390	700		0.59	108.85	0.04	
1	13-Aug	Drilling	08:40	11:00	2.33	772	1201	429	8	183.9	30	0	390	700		0.55	96.67	0.11	
1	13-Aug	Drilling	11:05	14:50	3.75	1201	1669	468	8	124.8	30	0	390	700		0.99	94.69	0.09	
1	13-Aug	Drilling	14:55	20:40	5.75	1669	2143	474	8	82.4	30	0	390	1150		1.05	71.20	0.12	
1	13-Aug	Drilling	20:45	24:00	3.25	2143	2319	176	8	54.2	30	0	390	1150		1.23	65.10	0.12	
1	14-Aug	Drilling	00:00	10:30	10.50	2319	2618	299	12	28.5	65	0	420	1150		1.50	58.46	0.03	
1	14-Aug	Drilling	10:35	17:40	7.08	2618	2996	378	12	53.4	65	0	420	1150		1.50	54.08	0.03	
1	14-Aug	Drilling	20:50	22:55	2.08	2996	3093	97	12	46.6	65	0	420	1150		1.54	56.22	0.17	
1	14-Aug	Drilling	22:55	24:00	1.08	3093	3147	54	12	49.8	65	0	420	1150		1.59	59.17	0.17	
1	15-Aug	Drilling	00:00	24:00	24.00	3147	4634	1487	8	62.0	45	0	310	1150		1.70	67.89	0.27	
1	16-Aug	Drilling	00:00	00:55	0.92	4634	4670	36	12	39.3	65	0	420	1150		1.20	13.98	5.47	

Total Drilled:	3987	Avg. Total ROP:	64.57	DEPTH% - TIME %	
Total Rotary Drilled:	3987	Avg. Rotary ROP:	64.57	Percent Rotary:	100.00 - 100.00
Total Drilled Sliding:	0	Avg. Slide ROP:	NA	Percent Slide:	.00 - .00

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745
Company:	Fidelity E & P
LOCATION:	Rosebud Co., MT
RIG NAME:	Pioneer 43
STATE:	MT
COUNTY:	Country
WELL NAME:	71 Ranch 44-1H

FIELD:	
Township:	Melstone
Range	34E

MOTOR INFORMATION

Desc: 6 3/4;7/8;5.0stg;.28revs;2.38fixed bend
Bent Hsg/Sub: 2.3 AKO / 0 Bit to Bend: 5.5
Pad OD: 7 5/16 NB Stab:

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Aug	Sliding	22:20	24:00	1.67	4670	4685	15	12	9.0	0	0	420	1150	325	1.99	341.89	10.07	
2	19-Aug	Sliding	00:00	00:50	0.83	4685	4701	16	12	19.2	0	0	420	1150	325	3.51	330.76	10.07	
2	19-Aug	Sliding	01:00	04:55	3.92	4701	4733	32	12	8.2	0	0	420	1150	325	6.77	336.08	10.73	
2	19-Aug	Sliding	05:00	09:30	4.50	4733	4765	32	12	7.1	0	0	420	1150	325	10.55	338.58	12.21	
2	19-Aug	Sliding	09:40	12:00	2.33	4765	4796	31	12	13.3	0	0	420	1150	325	14.55	336.71	13.26	
2	19-Aug	Sliding	12:40	14:35	1.92	4796	4828	32	12	16.7	0	0	420	1150	325	18.54	333.61	12.64	
2	19-Aug	Sliding	14:45	19:00	4.25	4828	4860	32	12	7.5	0	0	420	1150	325	22.44	330.33	12.75	
2	19-Aug	Sliding	19:10	20:30	1.33	4860	4875	15	12	11.3	0	0	420	1150	325	24.23	329.24	11.82	
2	19-Aug	Sliding	21:15	24:00	2.75	4875	4883	8	12	2.9	0	0	420	1150	325	25.16	328.82	11.82	
2	20-Aug	Sliding	00:00	01:20	1.33	4883	4891	8	12	6.0	0	0	420	1150		26.09	328.43	11.82	
2	20-Aug	Sliding	01:35	08:30	6.92	4891	4923	32	12	4.6	0	0	420	1150		29.95	327.54	12.23	
2	20-Aug	Sliding	08:40	12:05	3.42	4923	4954	31	12	9.1	0	0	420	1150		33.95	327.55	13.13	
2	20-Aug	Sliding	12:20	19:05	6.75	4954	4980	26	14	3.9	0	0	420	1150		37.61	327.48	14.52	
2	20-Aug	Sliding	19:40	21:05	1.42	4980	4986	6	14	4.2	0	0	420	1150		38.48	327.44	14.52	
2	20-Aug	Sliding	21:25	23:00	1.58	4986	5018	32	25	20.2	0	0	420	1150		43.02	327.56	14.07	
2	20-Aug	Sliding	23:10	24:00	0.83	5018	5023	5	16	6.0	0	0	420	1150		43.72	327.59	14.07	
2	21-Aug	Sliding	00:00	04:35	4.58	5023	5049	26	25	5.7	0	0	420	1150		47.52	328.06	14.75	
2	21-Aug	Sliding	04:45	11:00	6.25	5049	5081	32	14	5.1	0	0	500	1500		52.07	328.05	14.07	
2	21-Aug	Sliding	11:35	15:20	3.75	5081	5113	32	14	8.5	0	0	500	1500		56.92	328.00	15.48	
2	21-Aug	Sliding	15:30	20:00	4.50	5113	5145	32	14	7.1	0	0	500	1500		61.75	327.68	15.04	
2	21-Aug	Sliding	20:15	24:00	3.75	5145	5170	25	14	6.7	0	0	500	1500		65.59	327.48	15.49	
2	22-Aug	Sliding	00:00	00:35	0.58	5170	5176	6	14	10.3	0	0	500	1500		66.52	327.44	15.49	
2	22-Aug	Sliding	00:50	04:25	3.58	5176	5208	32	14	8.9	0	0	500	1500		71.51	327.40	15.63	
2	22-Aug	Sliding	04:35	08:55	4.33	5208	5239	31	14	7.2	0	0	500	1500		76.35	327.63	15.65	
2	22-Aug	Sliding	09:05	10:05	1.00	5239	5256	17	14	17.0	0	0	500	1500		78.21	327.85	6.96	
2	22-Aug	Sliding	10:45	12:15	1.50	5256	5271	15	14	10.0	0	0	500	1500	10R	79.23	328.09	6.96	

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	22-Aug	Drilling	13:50	15:05	1.25	5271	5303	32	10	25.6	25	4400	500	1500		80.01	328.36	1.39	
2	22-Aug	Drilling	15:45	15:55	0.17	5303	5308	5	10	30.0	25	4400	500	1500		80.08	328.39	1.39	
2	22-Aug	Drilling	16:40	17:00	0.33	5308	5323	15	10	45.0	25	4400	500	1500		80.22	328.40	0.94	
2	22-Aug	Drilling	17:30	17:45	0.25	5323	5334	11	10	44.0	25	4400	500	1500		80.33	328.40	0.94	
2	22-Aug	Drilling	18:25	18:40	0.25	5334	5349	15	10	60.0	25	4400	500	1500		80.40	328.42	0.32	
2	22-Aug	Drilling	19:20	19:45	0.42	5349	5366	17	10	40.8	25	4400	500	1500		80.40	328.48	0.32	
2	22-Aug	Drilling	20:40	21:05	0.42	5366	5381	15	10	36.0	25	4400	500	1500		80.93	328.53	6.57	
2	22-Aug	Drilling	21:40	22:05	0.42	5381	5398	17	10	40.8	25	4400	500	1500		82.04	328.58	6.57	
2	22-Aug	Sliding	23:05	24:00	0.92	5398	5429	31	14	33.8	25	4400	500	1500	10R	85.91	328.91	14.25	
2	23-Aug	Sliding	00:15	00:45	0.50	5429	5461	32	14	64.0	25	4400	500	1500	10R	88.62	329.47	7.13	
2	23-Aug	Drilling	01:00	02:20	1.33	5461	5487	26	7	19.5	25	4400	500	1500		89.34	329.96	2.25	
2	23-Aug	Drilling	04:00	04:20	0.33	5487	5492	5	7	15.0	25	4400	500	1500		89.40	330.05	2.25	
2	23-Aug	Drilling	04:40	06:00	1.33	5492	5524	32	7	24.0	25	4400	500	1500		89.90	331.20	4.49	
2	23-Aug	Drilling	06:25	08:45	2.33	5524	5556	32	7	13.7	25	4400	500	1500		90.90	332.70	5.63	
2	23-Aug	Sliding	08:55	10:55	2.00	5556	5560	4	14	2.0	25	4400	500	1500	45R	90.84	332.65	2.00	
2	23-Aug	Drilling	10:55	11:50	0.92	5560	5580	20	7	21.8	25	4400	500	1500		90.52	332.41	2.00	

Total Drilled:	910	**Avg. Total ROP:**	9.81		**DEPTH% - TIME %**
Total Rotary Drilled:	242	**Avg. Rotary ROP:**	24.82	**Percent Rotary:**	26.59 - 10.51
Total Drilled Sliding:	668	**Avg. Slide ROP:**	8.05	**Percent Slide:**	73.41 - 89.49

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745	**FIELD:**	
Company:	Fidelity E & P	**Township:**	Melstone
LOCATION:	Rosebud Co., MT	**Range**	34E
RIG NAME:	Pioneer 43		
STATE:	MT		
COUNTY:	Country		
WELL NAME:	71 Ranch 44-1H		

MOTOR INFORMATION

Desc: 5, 6/7; 8.0 Stg. 3.0 Deg. Adj. .86 Rpg.
Bent Hsg/Sub: 1.5 / 0 **Bit to Bend: 5.44**
Pad OD: 5 1/4 **NB Stab:**

Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	26-Aug	Drilling	02:50	08:40	5.83	5580	5613	33	16	5.7	60	0	280	1100		90.46	332.59	6.04	
3	26-Aug	Drilling	08:55	14:30	5.58	5613	5636	23	20	4.1	60	0	280	1100		91.84	332.44	6.04	

Total Drilled:	56	**Avg. Total ROP:**	4.25	**DEPTH% - TIME %**	
Total Rotary Drilled:	56	**Avg. Rotary ROP:**	4.25	**Percent Rotary:**	100.00 - 100.00
Total Drilled Sliding:	0	**Avg. Slide ROP:**	NA	**Percent Slide:**	.00 - .00

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745
Company:	Fidelity E & P
LOCATION:	Rosebud Co., MT
RIG NAME:	Pioneer 43
STATE:	MT
COUNTY:	Country
WELL NAME:	71 Ranch 44-1H

FIELD:	
Township:	Melstone
Range	34E

MOTOR INFORMATION

Desc: 5, 6/7; 8.0 Stg. 3.0 Deg. Adj. .83 Rpg.
Bent Hsg/Sub: 1.5 / 0 Bit to Bend: 5.44
Pad OD: 5 1/2 NB Stab:

Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	26-Aug	Drilling	21:15	22:10	0.92	5636	5638	2	7	2.2	60	0	280	1100		91.96	332.43	6.04	
4	26-Aug	Sliding	22:20	24:00	1.67	5638	5642	4	24	2.4	60	0	280	1100	17R	92.20	332.40	6.04	
4	27-Aug	Sliding	00:00	02:10	2.17	5642	5644	2	24	0.9	60	0	280	1200	17R	92.25	332.39	2.75	
4	27-Aug	Drilling	02:15	04:55	2.67	5644	5669	25	15	9.4	60	0	280	1200		92.92	332.22	2.75	
4	27-Aug	Drilling	05:05	06:10	1.08	5669	5699	30	15	27.7	60	0	290	1425		92.56	332.11	1.64	
4	27-Aug	Drilling	07:05	07:55	0.83	5699	5729	30	15	36.0	60	0	290	1425		92.41	332.10	0.33	
4	27-Aug	Drilling	08:00	12:50	4.83	5729	5760	31	15	6.4	60	0	290	1425		93.27	332.01	3.24	
4	27-Aug	Drilling	13:00	17:50	4.83	5760	5790	30	15	6.2	60	0	290	1425		93.75	331.83	1.49	
4	28-Aug	Drilling	01:30	09:20	7.83	5790	5821	31	15	4.0	60	0	290	1425		94.85	331.45	4.08	

Total Drilled:	185	Avg. Total ROP:	6.89	DEPTH% - TIME %	
Total Rotary Drilled:	179	Avg. Rotary ROP:	7.78	Percent Rotary:	96.76 - 85.71
Total Drilled Sliding:	6	Avg. Slide ROP:	1.57	Percent Slide:	3.24 - 14.29

PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745
Company:	Fidelity E & P
LOCATION:	Rosebud Co., MT
RIG NAME:	Pioneer 43
STATE:	MT
COUNTY:	Country
WELL NAME:	71 Ranch 44-1H

FIELD:	
Township:	Melstone
Range	34E

MOTOR INFORMATION

Desc: 5, 6/7; 8.0 Stg. 3.0 Deg. Adj. .86 Rpg.
Bent Hsg/Sub: 1.5 / 0 Bit to Bend: 5.3
Pad OD: 5 3/8 NB Stab:

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	28-Aug	Drilling	22:00	23:00	1.00	5821	5836	15	15	15.0	60	0	290	1425		94.63	331.69	4.26	
5	28-Aug	Drilling	23:10	24:00	0.83	5836	5843	7	15	8.4	60	0	290	1550		94.40	331.88	4.26	
5	29-Aug	Drilling	00:00	02:20	2.33	5843	5851	8	15	3.4	60	0	290	1550		94.13	332.09	4.26	
5	29-Aug	Sliding	02:30	07:00	4.50	5851	5863	12	24	2.7	60	0	280	1550	180	93.87	332.33	2.28	
5	29-Aug	Drilling	07:00	09:55	2.92	5863	5882	19	15	6.5	60	0	290	1550		93.56	332.64	2.28	
5	29-Aug	Sliding	10:10	10:20	0.17	5882	5893	11	20	66.0	60	0	280	1550	180	93.50	332.68	0.32	
5	29-Aug	Drilling	10:20	13:05	2.75	5893	5912	19	15	6.9	60	0	290	1550		93.50	332.62	0.32	
5	29-Aug	Drilling	13:10	14:10	1.00	5912	5929	17	15	17.0	60	0	290	1550		93.14	332.52	3.07	
5	29-Aug	Drilling	14:15	14:30	0.25	5929	5943	14	7	56.0	60	0	290	1550		92.72	332.43	3.07	
5	29-Aug	Sliding	14:35	15:00	0.42	5943	5955	12	20	28.8	60	0	280	1550	180	92.45	332.30	2.33	
5	29-Aug	Drilling	15:00	15:15	0.25	5955	5974	19	7	76.0	60	0	290	1550		92.08	332.05	2.33	
5	29-Aug	Drilling	15:50	16:10	0.33	5974	5995	21	7	63.0	60	0	290	1550		91.26	332.45	5.09	
5	29-Aug	Sliding	16:15	16:30	0.25	5995	6005	10	20	40.0	60	0	280	1550	175R	90.83	332.72	5.09	
5	29-Aug	Drilling	16:40	17:10	0.50	6005	6035	30	7	60.0	60	0	290	1550		90.35	333.41	2.60	
5	29-Aug	Drilling	17:15	17:45	0.50	6035	6065	30	7	60.0	60	0	290	1550		90.04	332.89	2.54	
5	29-Aug	Drilling	17:55	18:25	0.50	6065	6096	31	7	62.0	60	0	290	1550		90.90	333.97	5.47	
5	29-Aug	Drilling	18:35	18:55	0.33	6096	6126	30	7	90.0	60	0	290	1550		91.09	334.80	2.60	
5	29-Aug	Drilling	19:00	19:25	0.42	6126	6156	30	7	72.0	60	0	290	1550		90.75	333.25	6.47	
5	29-Aug	Drilling	19:35	20:00	0.42	6156	6187	31	7	74.4	60	0	290	1550		90.00	331.69	5.48	
5	29-Aug	Drilling	20:05	20:45	0.67	6187	6234	47	7	70.5	60	0	290	1550		88.07	330.25	4.30	
5	29-Aug	Drilling	20:50	21:00	0.17	6234	6248	14	7	84.0	60	0	290	1550		87.94	330.83	4.30	
5	29-Aug	Sliding	21:10	21:45	0.58	6248	6259	11	10	18.9	60	0	280	1550	90R	88.17	331.25	5.25	
5	29-Aug	Drilling	21:45	21:55	0.17	6259	6278	19	7	114.0	60	0	290	1550		88.91	331.92	5.25	
5	29-Aug	Sliding	22:05	22:25	0.33	6278	6288	10	10	30.0	60	0	280	1550	30R	89.34	332.28	6.00	
5	29-Aug	Drilling	22:25	22:45	0.33	6288	6309	21	7	63.0	60	0	290	1550		90.36	333.02	6.00	
5	29-Aug	Drilling	22:50	23:10	0.33	6309	6340	31	7	93.0	60	0	290	1550		91.38	333.98	4.24	

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	29-Aug	Drilling	23:20	23:30	0.17	6340	6350	10	7	60.0	60	0	290	1550		91.40	334.43	5.71	
5	29-Aug	Sliding	23:35	23:55	0.33	6350	6365	15	10	45.0	60	0	280	1550	100R	91.16	335.25	5.71	
5	29-Aug	Drilling	23:55	24:00	0.08	6365	6371	6	7	72.0	60	0	290	1550		91.06	335.58	5.71	
5	30-Aug	Drilling	00:05	00:25	0.33	6371	6401	30	7	90.0	60	0	290	1550		90.91	335.63	0.75	
5	30-Aug	Drilling	00:30	00:45	0.25	6401	6432	31	7	124.0	60	0	290	1550		90.90	336.21	2.26	
5	30-Aug	Drilling	00:55	01:10	0.25	6432	6462	30	7	120.0	60	0	290	1550		90.29	335.52	3.80	
5	30-Aug	Drilling	01:15	01:30	0.25	6462	6493	31	7	124.0	60	0	290	1550		89.69	334.30	4.47	
5	30-Aug	Drilling	01:35	01:50	0.25	6493	6523	30	7	120.0	60	0	290	1550		89.60	334.91	3.23	
5	30-Aug	Drilling	02:00	02:15	0.25	6523	6555	32	7	128.0	60	0	290	1550		90.38	335.62	3.61	
5	30-Aug	Sliding	02:20	02:40	0.33	6555	6567	12	10	36.0	60	0	280	1550	40R	90.39	335.49	2.98	
5	30-Aug	Drilling	02:40	02:50	0.17	6567	6586	19	7	114.0	60	0	290	1550		90.14	334.98	2.98	
5	30-Aug	Drilling	02:55	03:10	0.25	6586	6616	30	7	120.0	60	0	290	1550		89.40	334.03	4.13	
5	30-Aug	Drilling	03:20	03:35	0.25	6616	6646	30	7	120.0	60	0	290	1550		89.13	333.90	0.67	
5	30-Aug	Drilling	03:40	03:50	0.17	6646	6677	31	7	186.0	60	0	290	1550		90.23	335.38	6.90	
5	30-Aug	Sliding	03:55	04:25	0.50	6677	6692	15	10	30.0	60	0	280	1550	60R	90.65	335.88	3.43	
5	30-Aug	Drilling	04:25	04:40	0.25	6692	6707	15	7	60.0	60	0	290	1550		90.99	336.27	3.43	
5	30-Aug	Drilling	04:40	04:55	0.25	6707	6738	31	7	124.0	60	0	290	1550		90.85	336.06	1.61	
5	30-Aug	Sliding	05:00	05:30	0.50	6738	6750	12	10	24.0	60	0	280	1550	80R	90.84	336.15	2.27	
5	30-Aug	Drilling	05:30	05:40	0.17	6750	6769	19	7	114.0	60	0	290	1550		90.96	336.57	2.27	
5	30-Aug	Drilling	05:45	06:00	0.25	6769	6800	31	7	124.0	60	0	290	1550		90.19	335.73	5.04	
5	30-Aug	Drilling	06:10	06:30	0.33	6800	6832	32	7	96.0	60	0	290	1550		89.16	334.49	5.04	
5	30-Aug	Sliding	06:35	07:05	0.50	6832	6844	12	10	24.0	60	0	280	1550	90R	88.98	334.39	1.33	
5	30-Aug	Drilling	07:05	07:35	0.50	6844	6894	50	7	100.0	60	0	290	1550		88.82	335.04	1.33	
5	30-Aug	Drilling	07:45	08:00	0.25	6894	6909	15	7	60.0	60	0	290	1550		89.12	335.94	8.99	
5	30-Aug	Sliding	08:00	08:25	0.42	6909	6921	12	10	28.8	60	0	280	1550	85R	89.51	336.95	8.99	
5	30-Aug	Drilling	08:25	08:45	0.33	6921	6941	20	7	60.0	60	0	290	1550		89.59	337.68	1.94	
5	30-Aug	Sliding	08:45	09:35	0.83	6941	6951	10	10	12.0	60	0	280	1550	60R	89.39	337.67	1.94	
5	30-Aug	Drilling	09:35	09:45	0.17	6951	6956	5	7	30.0	60	0	290	1550		89.30	337.66	1.94	
5	30-Aug	Drilling	09:55	10:30	0.58	6956	6987	31	7	53.1	60	0	290	1550		88.70	337.61	1.94	
5	30-Aug	Drilling	10:40	12:25	1.75	6987	7049	62	7	35.4	60	0	290	1550		89.17	337.29	5.05	
5	30-Aug	Sliding	12:35	13:25	0.83	7049	7061	12	10	14.4	60	0	280	1550	15R	89.49	337.36	1.40	
5	30-Aug	Drilling	13:25	13:50	0.42	7061	7080	19	7	45.6	60	0	290	1550		89.73	337.24	1.40	
5	30-Aug	Drilling	14:20	14:35	0.25	7080	7095	15	7	60.0	60	0	290	1550		90.01	336.93	3.80	
5	30-Aug	Sliding	14:35	15:20	0.75	7095	7105	10	10	13.3	60	0	280	1550	15R	90.24	336.63	3.80	
5	30-Aug	Drilling	15:20	15:30	0.17	7105	7111	6	7	36.0	60	0	290	1550		90.38	336.45	3.80	

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	30-Aug	Drilling	15:35	16:25	0.83	7111	7143	32	7	38.4	60	0	290	1550		90.85	337.26	3.78	
5	30-Aug	Drilling	16:35	17:00	0.42	7143	7158	15	7	36.0	60	0	290	1550		90.97	337.54	1.44	
5	30-Aug	Sliding	17:10	17:25	0.25	7158	7159	1	10	4.0	60	0	280	1550	90R	90.98	337.55	1.44	
5	30-Aug	Drilling	17:25	18:50	1.42	7159	7173	14	7	9.9	60	0	290	1550		91.07	337.74	1.44	
5	30-Aug	Drilling	19:00	22:25	3.42	7173	7204	31	7	9.1	60	0	290	1550		90.85	337.05	3.06	
5	30-Aug	Drilling	22:30	23:00	0.50	7204	7214	10	7	20.0	60	0	290	1550		90.62	336.61	6.80	
5	30-Aug	Drilling	23:10	24:00	0.83	7214	7235	21	7	25.2	60	0	290	1550		89.88	335.39	6.80	
5	31-Aug	Drilling	00:10	00:55	0.75	7235	7266	31	7	41.3	60	0	290	1550		89.20	333.67	5.82	
5	31-Aug	Drilling	01:05	01:30	0.42	7266	7276	10	7	24.0	60	0	290	1550		89.20	333.34	2.33	
5	31-Aug	Sliding	01:35	04:20	2.75	7276	7291	15	10	5.5	60	0	280	1550	50R	89.49	333.14	2.33	
5	31-Aug	Drilling	04:20	04:40	0.33	7291	7297	6	7	18.0	60	0	290	1550		89.60	333.06	2.33	
5	31-Aug	Drilling	04:45	06:00	1.25	7297	7328	31	7	24.8	60	0	290	1550		89.87	332.08	3.61	
5	31-Aug	Sliding	06:10	07:00	0.83	7328	7338	10	45	12.0	60	0	290	1550	50R	89.88	331.59	6.14	
5	31-Aug	Drilling	07:00	07:40	0.67	7338	7359	21	16	31.5	60	0	290	1550		89.82	330.31	6.14	
5	31-Aug	Drilling	07:50	08:40	0.83	7359	7374	15	16	18.0	60	0	290	1550		89.83	329.81	1.90	
5	31-Aug	Sliding	08:40	09:25	0.75	7374	7386	12	32	16.0	55	0	290	1550	30R	89.87	329.59	1.90	
5	31-Aug	Drilling	09:25	09:35	0.17	7386	7390	4	16	24.0	55	0	290	1550		89.88	329.51	1.90	
5	31-Aug	Drilling	09:45	10:20	0.58	7390	7421	31	16	53.1	55	0	290	1550		90.71	329.80	3.61	
5	31-Aug	Sliding	10:30	11:05	0.58	7421	7435	14	45	24.0	55	0	290	1550	60R	91.16	330.16	4.56	
5	31-Aug	Drilling	11:05	11:25	0.33	7435	7453	18	15	54.0	55	0	290	1550		91.74	330.74	4.56	
5	31-Aug	Drilling	11:50	12:05	0.25	7453	7468	15	15	60.0	55	0	290	1550		91.80	331.25	3.68	
5	31-Aug	Sliding	12:05	12:40	0.58	7468	7485	17	28	29.1	55	0	290	1550	90R	91.64	331.86	3.68	
5	31-Aug	Drilling	12:50	13:20	0.50	7485	7515	30	15	60.0	55	0	290	1550		91.77	332.00	0.65	
5	31-Aug	Sliding	13:30	14:05	0.58	7515	7527	12	32	20.6	55	0	290	1550	120R	91.75	332.00	0.65	
5	31-Aug	Drilling	14:05	14:35	0.50	7527	7546	19	15	38.0	55	0	290	1550		91.63	332.00	0.65	
5	31-Aug	Drilling	14:45	15:05	0.33	7546	7566	20	15	60.0	55	0	290	1550		90.71	332.00	5.94	
5	31-Aug	Sliding	15:10	16:00	0.83	7566	7577	11	38	13.2	55	0	290	1550	140R	90.06	332.00	5.94	
5	31-Aug	Drilling	16:10	16:45	0.58	7577	7598	21	15	36.0	55	0	290	1550		88.78	332.34	6.53	
5	31-Aug	Sliding	16:45	17:25	0.67	7598	7608	10	38	15.0	55	0	290	1550	150R	88.17	332.56	6.53	
5	31-Aug	Drilling	17:35	18:00	0.42	7608	7640	32	15	76.8	55	0	290	1550		88.81	333.45	4.84	
5	31-Aug	Drilling	18:10	18:25	0.25	7640	7650	10	15	40.0	55	0	290	1550		89.29	333.89	8.21	
5	31-Aug	Sliding	18:30	20:20	1.83	7650	7662	12	38	6.5	55	0	290	1550	60R	89.99	334.59	8.21	
5	31-Aug	Drilling	20:20	20:30	0.17	7662	7671	9	15	54.0	55	0	290	1550		90.51	335.11	8.21	
5	31-Aug	Drilling	20:50	21:15	0.42	7671	7702	31	15	74.4	55	0	290	1550		89.71	334.81	4.76	
5	31-Aug	Sliding	21:40	24:00	2.33	7702	7714	12	38	5.1	55	0	290	1550	90R	89.59	335.03	4.85	

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	1-Sep	Sliding	00:00	00:20	0.33	7714	7720	6	38	18.0	55	0	290	1550	90R	89.66	335.31	4.85	
5	1-Sep	Drilling	00:20	00:30	0.17	7720	7733	13	15	78.0	55	0	290	1550		89.82	335.92	4.85	
5	1-Sep	Drilling	00:50	01:00	0.17	7733	7736	3	15	18.0	55	0	290	1550		89.86	336.06	4.85	
5	1-Sep	Drilling	01:10	01:30	0.33	7736	7764	28	15	84.0	55	0	290	1550		89.82	336.85	2.60	
5	1-Sep	Sliding	01:35	02:50	1.25	7764	7781	17	38	13.6	55	0	290	1550	90R	89.48	337.43	4.84	
5	1-Sep	Drilling	02:50	03:10	0.33	7781	7796	15	15	45.0	55	0	290	1550		89.05	338.01	4.84	
5	1-Sep	Sliding	03:15	04:15	1.00	7796	7808	12	38	12.0	55	0	290	1550	96R	89.10	338.56	5.92	
5	1-Sep	Drilling	04:15	04:30	0.25	7808	7827	19	15	76.0	55	0	290	1550		89.65	339.54	5.92	
5	1-Sep	Drilling	04:45	05:05	0.33	7827	7858	31	15	93.0	55	0	290	1550		89.80	339.72	0.32	
5	1-Sep	Drilling	05:10	05:30	0.33	7858	7889	31	15	93.0	55	0	290	1550		90.14	339.95	1.61	
5	1-Sep	Drilling	05:35	05:55	0.33	7889	7920	31	15	93.0	55	0	290	1550		90.20	340.17	0.65	
5	1-Sep	Drilling	06:05	06:30	0.42	7920	7951	31	7	74.4	55	0	290	1550		90.20	340.37	0.65	
5	1-Sep	Drilling	06:35	07:10	0.58	7951	8013	62	7	106.3	55	0	290	1550		90.02	340.64	0.53	
5	1-Sep	Drilling	07:25	08:20	0.92	8013	8107	94	7	102.5	55	0	290	1550		89.65	340.55	0.61	
5	1-Sep	Drilling	08:35	09:25	0.83	8107	8200	93	7	111.6	55	0	290	1550		89.99	341.01	1.38	
5	1-Sep	Drilling	09:35	10:30	0.92	8200	8293	93	7	101.5	55	0	290	1550		90.42	342.31	1.61	
5	1-Sep	Drilling	11:05	12:00	0.92	8293	8387	94	7	102.5	55	0	290	1550		90.07	342.65	0.87	
5	1-Sep	Drilling	12:10	13:15	1.08	8387	8480	93	9	85.8	55	0	290	1550		89.80	343.11	1.08	
5	1-Sep	Drilling	13:25	14:25	1.00	8480	8573	93	9	93.0	55	0	290	1550		90.11	344.11	1.20	
5	1-Sep	Drilling	14:35	14:50	0.25	8573	8590	17	9	68.0	55	0	290	1550		90.20	344.30	1.20	
5	1-Sep	Sliding	14:50	15:40	0.83	8590	8605	15	28	18.0	55	0	290	1550	95L	90.28	344.46	1.20	
5	1-Sep	Drilling	15:55	16:35	0.67	8605	8654	49	9	73.5	55	0	290	1550		90.15	344.06	1.02	
5	1-Sep	Sliding	16:35	17:25	0.83	8654	8664	10	34	12.0	55	0	290	1550	85L	90.12	343.97	1.02	
5	1-Sep	Drilling	17:25	17:30	0.08	8664	8666	2	9	24.0	55	0	290	1550		90.12	343.95	1.02	
5	1-Sep	Drilling	17:40	18:25	0.75	8666	8726	60	9	80.0	55	0	290	1550		89.92	342.67	3.88	
5	1-Sep	Sliding	18:40	20:40	2.00	8726	8736	10	34	5.0	55	0	290	1550	90L	89.89	342.34	1.96	
5	1-Sep	Drilling	20:40	21:00	0.33	8736	8759	23	9	69.0	55	0	290	1550		89.82	341.90	1.96	
5	1-Sep	Drilling	21:10	21:40	0.50	8759	8790	31	9	62.0	55	0	290	1550		90.39	343.31	6.23	
5	1-Sep	Drilling	21:45	22:10	0.42	8790	8821	31	9	74.4	55	0	290	1550		89.91	343.26	2.60	
5	1-Sep	Drilling	22:15	22:40	0.42	8821	8852	31	9	74.4	55	0	290	1550		89.97	342.95	1.16	
5	1-Sep	Drilling	22:55	23:05	0.17	8852	8862	10	9	60.0	55	0	290	1550		90.13	342.80	3.23	
5	1-Sep	Sliding	23:10	24:00	0.83	8862	8866	4	34	4.8	55	0	290	1550	100L	90.23	342.73	3.23	
5	2-Sep	Sliding	00:00	02:50	2.83	8866	8877	11	34	3.9	55	0	290	1550	100L	90.52	342.51	3.23	
5	2-Sep	Drilling	02:50	03:10	0.33	8877	8883	6	9	18.0	55	0	290	1550		90.67	342.40	3.23	
5	2-Sep	Drilling	03:15	03:30	0.25	8883	8898	15	9	60.0	55	0	290	1550		90.51	341.78	5.92	

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	2-Sep	Sliding	03:40	05:10	1.50	8898	8910	12	34	8.0	55	0	290	1550	100L	90.16	341.16	5.92	
5	2-Sep	Drilling	05:10	05:15	0.08	8910	8914	4	9	48.0	55	0	290	1550		90.05	340.96	5.92	
5	2-Sep	Drilling	05:20	05:40	0.33	8914	8945	31	9	93.0	55	0	290	1550		89.82	340.95	1.02	
5	2-Sep	Drilling	05:55	06:20	0.42	8945	8976	31	9	74.4	55	0	290	1550		90.14	341.34	1.82	
5	2-Sep	Sliding	06:25	08:10	1.75	8976	8992	16	34	9.1	55	0	290	1550	90L	90.06	341.05	3.47	
5	2-Sep	Drilling	08:10	08:20	0.17	8992	9007	15	9	90.0	55	0	290	1550		89.86	340.56	3.47	
5	2-Sep	Drilling	08:30	08:45	0.25	9007	9038	31	9	124.0	55	0	290	1550		89.88	341.24	3.24	
5	2-Sep	Drilling	09:00	09:25	0.42	9038	9069	31	9	74.4	55	0	290	1550		89.48	340.48	3.90	
5	2-Sep	Sliding	09:35	10:25	0.83	9069	9081	12	34	14.4	55	0	290	1550	100L	89.38	340.19	1.59	
5	2-Sep	Drilling	10:40	10:55	0.25	9081	9100	19	9	76.0	55	0	290	1550		89.32	339.89	1.59	
5	2-Sep	Drilling	11:05	11:15	0.17	9100	9110	10	9	60.0	55	0	290	1550		89.29	339.79	0.46	
5	2-Sep	Sliding	11:15	12:15	1.00	9110	9122	12	34	12.0	55	0	290	1550	100L	89.25	339.75	0.46	
5	2-Sep	Drilling	12:15	12:20	0.08	9122	9131	9	9	108.0	55	0	290	1550		89.22	339.72	0.46	
5	2-Sep	Drilling	12:55	13:15	0.33	9131	9163	32	9	96.0	55	0	290	1550		89.72	339.96	2.24	
5	2-Sep	Sliding	13:20	14:05	0.75	9163	9166	3	34	4.0	55	0	290	1550		89.78	339.99	2.24	
5	2-Sep	Drilling	14:05	14:20	0.25	9166	9194	28	9	112.0	55	0	290	1550		88.75	338.26	7.52	
5	2-Sep	Sliding	14:30	15:45	1.25	9194	9207	13	34	10.4	55	0	290	1550		89.04	338.55	7.81	
5	2-Sep	Drilling	15:45	16:20	0.58	9207	9224	17	9	29.1	55	0	290	1550		89.86	339.59	7.81	
5	2-Sep	Drilling	16:30	16:45	0.25	9224	9255	31	9	124.0	55	0	290	1550		89.12	338.03	8.11	
5	2-Sep	Drilling	16:55	17:15	0.33	9255	9286	31	9	93.0	55	0	290	1550		88.98	337.76	0.72	
5	2-Sep	Drilling	17:20	17:45	0.42	9286	9318	32	9	76.8	55	0	290	1550		89.50	339.14	5.51	
5	2-Sep	Drilling	18:10	19:00	0.83	9318	9349	31	9	37.2	55	0	290	1550		89.35	339.23	1.16	
5	2-Sep	Drilling	19:05	20:00	0.92	9349	9380	31	9	33.8	55	0	290	1550		89.47	339.37	0.91	
5	2-Sep	Drilling	20:05	21:10	1.08	9380	9411	31	9	28.6	55	0	290	1550		89.25	339.32	1.02	
5	2-Sep	Drilling	21:25	21:40	0.25	9411	9416	5	9	20.0	55	0	290	1550		89.20	339.30	1.02	
5	2-Sep	Drilling	21:45	22:40	0.92	9416	9442	26	9	28.4	55	0	290	1550		89.45	339.97	2.76	
5	2-Sep	Drilling	22:45	23:55	1.17	9442	9473	31	9	26.6	55	0	290	1550		89.34	340.02	0.70	
5	3-Sep	Drilling	00:00	01:00	1.00	9473	9504	31	9	31.0	55	0	290	1550		89.54	340.56	2.46	
5	3-Sep	Drilling	01:10	02:00	0.83	9504	9536	32	9	38.4	55	0	290	1550		89.18	340.36	2.07	
5	3-Sep	Drilling	02:05	03:00	0.92	9536	9567	31	9	33.8	55	0	290	1550		89.10	340.30	0.00	
5	3-Sep	Drilling	03:05	04:10	1.08	9567	9598	31	9	28.6	55	0	290	1550		89.35	340.97	2.76	
5	3-Sep	Drilling	04:25	05:20	0.92	9598	9629	31	9	33.8	55	0	290	1550		90.24	342.95	7.80	
5	3-Sep	Drilling	05:25	06:15	0.83	9629	9660	31	9	37.2	55	0	290	1550		90.74	343.72	2.07	
5	3-Sep	Drilling	06:20	06:55	0.58	9660	9691	31	9	53.1	55	0	290	1550		90.31	343.64	1.98	
5	3-Sep	Drilling	07:05	07:35	0.50	9691	9722	31	9	62.0	55	0	290	1550		90.20	344.00	1.61	

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

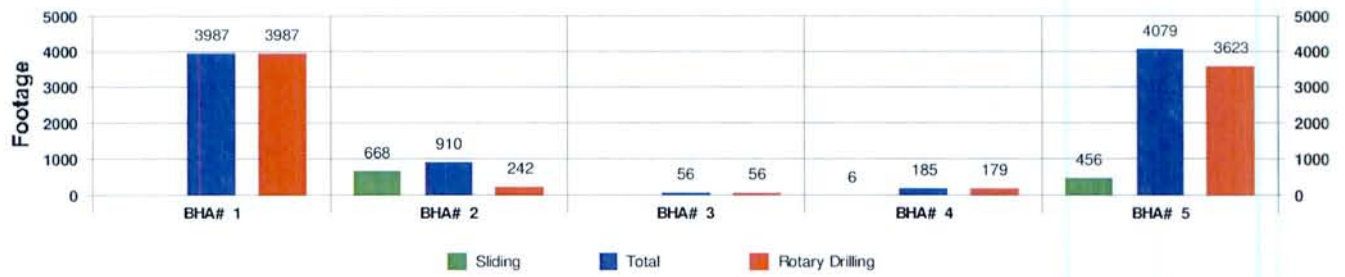
#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	3-Sep	Drilling	07:45	08:20	0.58	9722	9754	32	9	54.9	55	0	290	1550		90.12	345.48	5.33	
5	3-Sep	Drilling	08:25	08:40	0.25	9754	9762	8	9	32.0	55	0	290	1550		90.09	345.91	5.33	
5	3-Sep	Sliding	08:40	09:40	1.00	9762	9763	1	34	1.0	55	0	290	1550	180	90.09	345.96	5.33	
5	3-Sep	Drilling	09:40	09:55	0.25	9763	9785	22	9	88.0	55	0	290	1550		90.02	347.13	5.33	
5	3-Sep	Drilling	10:05	10:55	0.83	9785	9847	62	9	74.4	55	0	290	1550		90.20	350.10	0.00	
5	3-Sep	Drilling	11:15	12:00	0.75	9847	9878	31	9	41.3	55	0	290	1550		90.20	350.10	0.00	
5	3-Sep	Drilling	12:10	12:45	0.58	9878	9900	22	9	37.7	55	0	290	1550		90.20	350.10	0.00	

Total Drilled:	4079	**Avg. Total ROP:**	35.70	**DEPTH% - TIME %**
Total Rotary Drilled:	3623	**Avg. Rotary ROP:**	49.63	**Percent Rotary:** 88.82 - 63.89
Total Drilled Sliding:	456	**Avg. Slide ROP:**	11.05	**Percent Slide:** 11.18 - 36.11

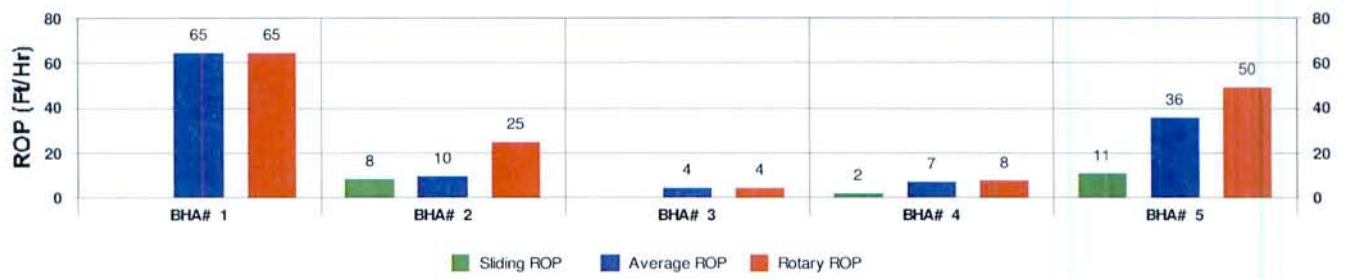
PHOENIX
TECHNOLOGY SERVICES

JOB NO.:	1220745	FIELD:		
Company:	Fidelity E & P	Township:	Melstone	
LOCATION:	Rosebud Co., MT	SECT\RANGE:	1	34E
RIG NAME:	Pioneer 43	COMMENT		
STATE:	MT			
COUNTY:	Rosebud			
WELL NAME:	71 Ranch 44-1H			

Footage Drilled with BHA



ROP vs BHA



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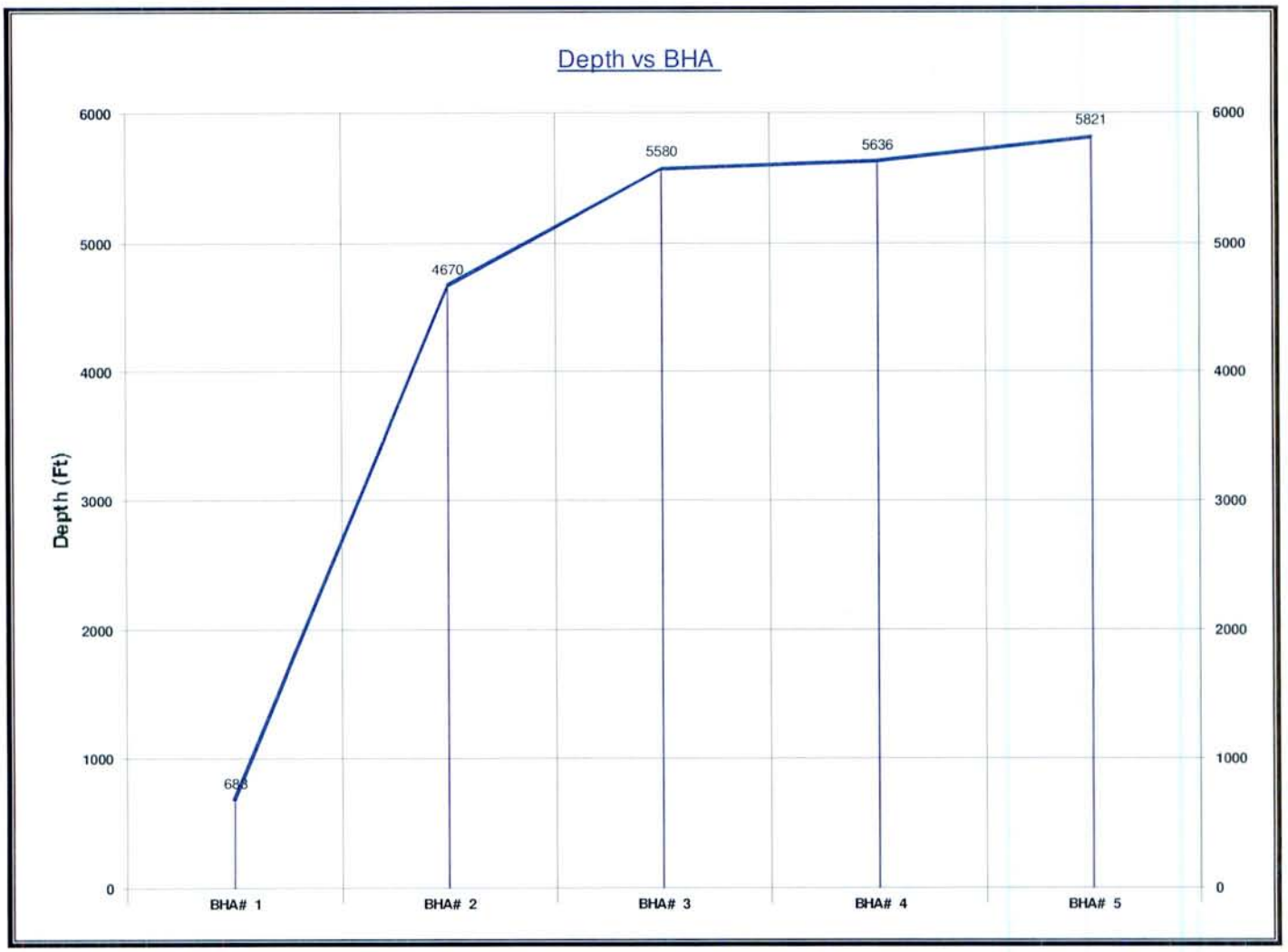

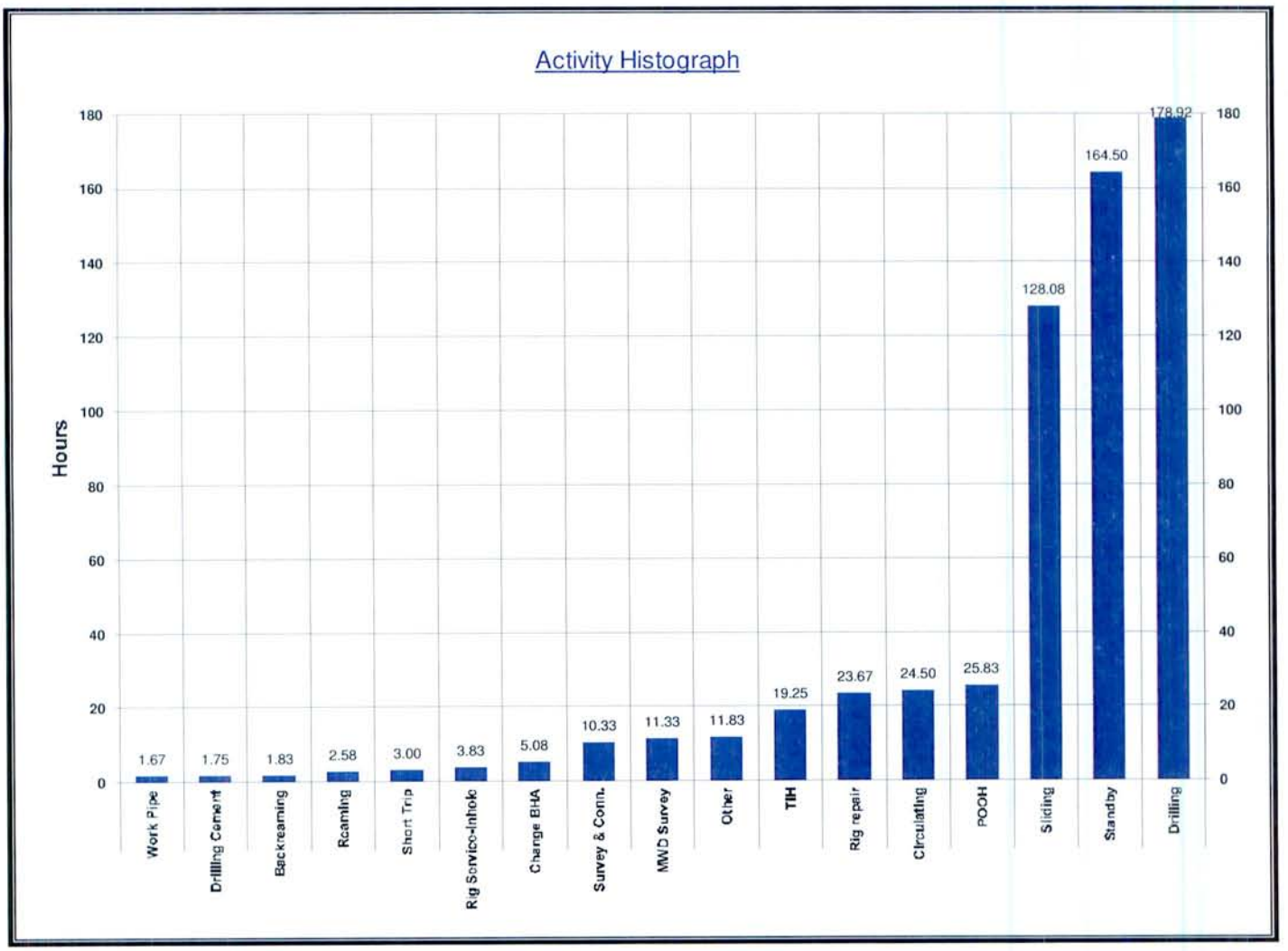

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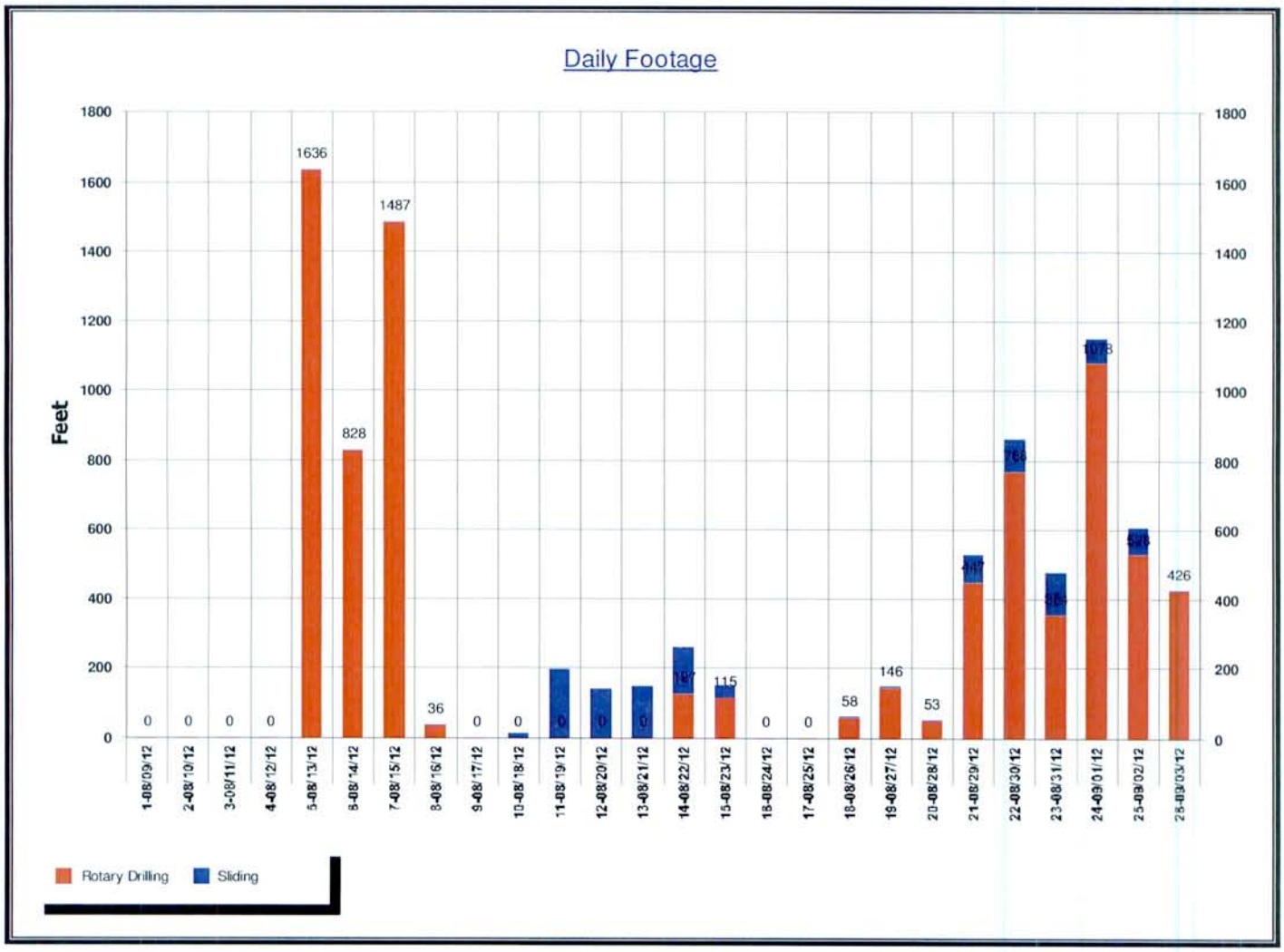

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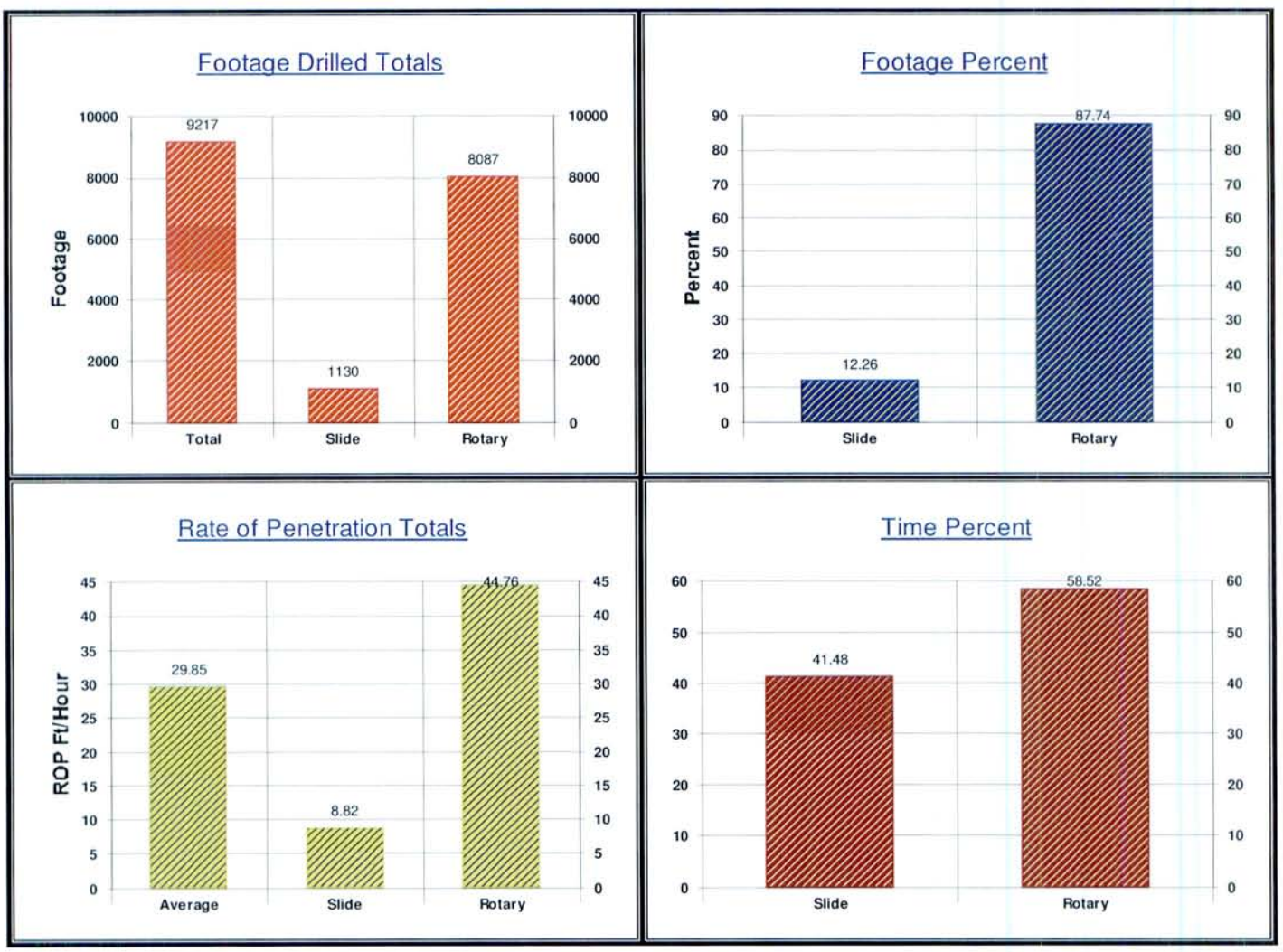

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PHOENIX TECHNOLOGY SERVICES

JOB NO.:	1220745
Company:	Fidelity E & P
LOCATION:	Rosebud Co., MT
RIG NAME:	Pioneer 43
STATE:	MT
COUNTY:	United States
WELL NAME:	71 Ranch 44-1H

FIELD:		
Township:	Melstone	
SECT\RANGE:	1	34E

Tool Utilization Report

Bits

7027614 - DP505FX

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
2	34.42	3.83	42.25	45.58	70.08	241.00	<< Summary for 7027614

7139012 - DP 505F 3x20-2x16's

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	9.75	83.00	108.67	111.42	173.83	910.00	
1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for 7139012

72057 - RMBM568X

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
1	61.75		66.42	66.42	125.67	3,987.00	
1	61.75	0.00	66.42	66.42	125.67	3,987.00	<< Summary for 72057

JD3187 - MDSi 613 QUPX

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
1	73.00	41.25	115.92	123.75	153.92	4,079.00	<< Summary for JD3187
5	**178.92**	**128.08**	**333.25**	**347.17**	**523.50**	**9,217.00**	<< Summary for Bits

DC

DG650116 - Gap Sub

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
1	61.75		66.42	66.42	125.67	3,987.00	
1	61.75	0.00	66.42	66.42	125.67	3,987.00	<< Summary for DG650116

Tool Utilization Report

NESNM475-378 - NMDC

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
3	107.42	45.08	158.17	169.33	224.00	4,320.00	<< Summary for NESNM475-378

NESNM475-551 - NMDC

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
3	107.42	45.08	158.17	169.33	224.00	4,320.00	<< Summary for NESNM475-551

NESNM675-325 - NMDC

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
1	61.75		66.42	66.42	125.67	3,987.00	
2	9.75	83.00	108.67	111.42	173.83	910.00	
2	71.50	83.00	175.08	177.83	299.50	4,897.00	<< Summary for NESNM675-325

NESNM675-513 - NMDC

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
1	61.75		66.42	66.42	125.67	3,987.00	
2	9.75	83.00	108.67	111.42	173.83	910.00	
2	71.50	83.00	175.08	177.83	299.50	4,897.00	<< Summary for NESNM675-513

NESPC475-059 - NM Pony

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
3	107.42	45.08	158.17	169.33	224.00	4,320.00	<< Summary for NESPC475-059

NESPC475-256 - NM Pony

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
3	11.42		14.50	14.50	26.75	56.00
4	23.00	3.83	27.75	31.08	43.33	185.00
5	73.00	41.25	115.92	123.75	153.92	4,079.00

Tool Utilization Report

3	107.42	45.08	158.17	169.33	224.00	4,320.00	<< Summary for NESPC475-256

NESPC625-014 - NM Pony

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	9.75	83.00	108.67	111.42	173.83	910.00	
1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for NESPC625-014

NESPC650-338 - 6 1/2" 10' NM Pony

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
1	61.75		66.42	66.42	125.67	3,987.00	
1	61.75	0.00	66.42	66.42	125.67	3,987.00	<< Summary for NESPC650-338

NESPC650-547 - NM Pony

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	9.75	83.00	108.67	111.42	173.83	910.00	
1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for NESPC650-547

Rig 1 - 9 jts. 6" DC

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	9.75	83.00	108.67	111.42	173.83	910.00	
1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for Rig 1
21	**725.42**	**595.33**	**1,441.67**	**1,500.08**	**2,267.83**	**37,778.00**	<< Summary for DC

Motors

24XH12754 - 5", 6/7, 8.0stg., 3.0deg Adj

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
1	73.00	41.25	115.92	123.75	153.92	4,079.00	<< Summary for 24XH12754

GX-500-404 - 5", 6/7, 8.0stg., 3.0deg Adj.

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
2	34.42	3.83	42.25	45.58	70.08	241.00	<< Summary for GX-500-404

NES675-192 - 7/8; 5.0stg.2.38 deg. Fixed

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	9.75	83.00	108.67	111.42	173.83	910.00

Tool Utilization Report

1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for NES675-192

NES675-430 - 7/8; 5.0 stg. 3.0 deg. Adj.

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
1	61.75		66.42	66.42	125.67	3,987.00	
1	61.75	0.00	66.42	66.42	125.67	3,987.00	<< Summary for NES675-430
5	**178.92**	**128.08**	**333.25**	**347.17**	**523.50**	**9,217.00**	<< Summary for Motors

Muleshoes

NESMS475-456 - UBHO

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
3	107.42	45.08	158.17	169.33	224.00	4,320.00	<< Summary for NESMS475-456

NESMS650-827 - UBHO

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	9.75	83.00	108.67	111.42	173.83	910.00	
1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for NESMS650-827
4	**117.17**	**128.08**	**266.83**	**280.75**	**397.83**	**5,230.00**	<< Summary for Muleshoes

Other

Rig 10 - 2 Jts. DP

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
1	11.42	0.00	14.50	14.50	26.75	56.00	<< Summary for Rig 10

Rig 2 - 11 Stds HWDP

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	9.75	83.00	108.67	111.42	173.83	910.00	
1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for Rig 2

Rig 3 - 10 Stds Push Pipe

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	9.75	83.00	108.67	111.42	173.83	910.00	
1	9.75	83.00	108.67	111.42	173.83	910.00	<< Summary for Rig 3

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P-0021656

Tool Utilization Report

Rig 5 - 54 Stds Push Pipe DP

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
3	107.42	45.08	158.17	169.33	224.00	4,320.00	<< Summary for Rig 5

Rig 6 - Reamer

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
1	11.42	0.00	14.50	14.50	26.75	56.00	<< Summary for Rig 6

Rig 7 - Reamer

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
1	11.42	0.00	14.50	14.50	26.75	56.00	<< Summary for Rig 7

Rig 8 - 2 Jts. DP

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
1	11.42	0.00	14.50	14.50	26.75	56.00	<< Summary for Rig 8

Rig 9 - 2 Jts. DP

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
1	11.42	0.00	14.50	14.50	26.75	56.00	<< Summary for Rig 9
10	**184.00**	**211.08**	**448.00**	**464.67**	**705.42**	**6,420.00**	<< Summary for Other

X-Overs

Rig 4 - X/O

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
3	11.42		14.50	14.50	26.75	56.00	
4	23.00	3.83	27.75	31.08	43.33	185.00	
5	73.00	41.25	115.92	123.75	153.92	4,079.00	
3	107.42	45.08	158.17	169.33	224.00	4,320.00	<< Summary for Rig 4
3	**107.42**	**45.08**	**158.17**	**169.33**	**224.00**	**4,320.00**	<< Summary for X-Overs

08721738

Sanjel

Pumping Service Report

9159226

Client Name	Well Name	JobDate	Call Sheet
Fidelity Explor. & Prod. Co.	71 Ranch 44-1H	August 10,2012	1011982
Client Representative	**Location**	**Job Type**	
Mr. Mark Bercier	Sec 1:T10N:R34E	Conductor / Surface Casing	

Well Profile

Well Type:	Oil		
Maximum Treating Pressure (psi):	---		
Predicted Bottom Hole Static Temperature (°F):	100.00	@	Aug 10,2012 02:22
Bottom Hole Circulating Temperature (°F):	---	@	--
Bottom Hole Logged Temperature (°F):	---	@	--

Open Hole

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
13.500	100.000	0.000	284.000	--	--

Casing

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Internal Yield Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
13.375	61.000	J-55	1,540.0	3,090.0	43.21	12.515	14.375	0.0	284.0

Products

Stage 1

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids:

Tail: 0.1 Sacks of 0:1:0 Type III, Density = 14.2 lb/gal, Volume Pumped = 0.1 (bbl)
Water Temperature(°F) = 80 , Bulk Temperature(°F) = 85 , Slurry Temperature(°F) = 0.1
+ 1 % of CaCl2 (Preblend),
+ 0.25 lb/sack of Polyflake (Preblend)

Fluid & Cement Data

Expected Cement Top: --

Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	--	--	--	Aug 09, 2012 10:40

Sanjel

Pumping Service Report

9159226

Units & Personnel

Units

Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
201009	PICKUP	3/4 Ton	449052	TRAILER	Bumper Pull	08/10/12 16:30	08/10/12 17:30
745030	TRACTOR 43	Twin	445030	TRAILER	Twin	08/10/12 16:30	08/10/12 17:30
746090	TRACTOR 43	Bulk	446090	TRAILER	Bulker	08/10/12 16:30	08/10/12 17:30

Crew and Bonuses

Employee	Start Shift	End Shift	Second Start Shift	Second End Shift
Merkel, Scott	08/10/2012 16:30	08/10/2012 17:30		
Hill, Justin	08/10/2012 16:30	08/10/2012 17:30		
Oswald, John	08/10/2012 16:30	08/10/2012 17:30		
Thomason, Jared	08/10/2012 16:30	08/10/2012 17:30		
Venn, Justin	08/10/2012 16:30	08/10/2012 17:30		

Treatment Reports & Remarks

Treatment Report

Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	Aug 10,2012 16:30	Arrive On Location	---	--	--	--	--	0.00
2	Aug 10,2012 16:35	JSA	---	--	--	--	--	0.00
	Remarks: Slips, trips, and falls, teamwork, spotting trucks							
3	Aug 10,2012 16:50	Tailgate Meeting	---	--	--	--	--	0.00
4	Aug 10,2012 16:55	Safety Meeting	---	--	--	--	--	0.00
5	Aug 10,2012 17:00	Sign-off on Safety	---	--	--	--	--	0.00
6	Aug 10,2012 17:25	Job Complete	---	--	--	--	--	0.00
	Remarks: Job Not Complete							
7	Aug 10,2012 17:27	Pre-Departure Meeting	---	--	--	--	--	0.00
8	Aug 10,2012 17:30	Leave Location	---	--	--	--	--	0.00

Did Float Hold:

Fluid Returns : Not Expected

Type :

Volume (bbl) :

Temperature (°F) : --

FDAS Functioning Correctly : Not Applicable

Was the Program Followed As Per Design? : No

Job Not Completed, could not get casing in the hole

Material Transfer Sheet Number

Material Transfer Sheet Number
30493

P-0021659

Sanjel

Pumping Service Report

9159227

Client Name	Well Name	JobDate	Call Sheet
Fidelity Explor. & Prod. Co.	71 Ranch 44-1H	August 11,2012	1012005
Client Representative	**Location**	**Job Type**	
Mr. Mark Bercier	Sec 1:T10N:R34E	Surface Casing	

Well Profile

Well Type:	Oil		
Maximum Treating Pressure (psi):	---		
Predicted Bottom Hole Static Temperature (°F):	100.00	@	--
Bottom Hole Circulating Temperature (°F):	---	@	--
Bottom Hole Logged Temperature (°F):	---	@	--

Open Hole

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
17.500	100.000	0.000	270.000	--	--

Casing

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Internal Yield Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
13.375	54.500	J-55	1,130.0	2,730.0	43.90	12.615	14.375	0.0	284.0
9.625	36.000	J-55	2,020.0	3,520.0	53.11	8.921	10.625	0.0	687.0

Products

Stage 1

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Tail: 405 Sacks of 0:1:0 Type III, Density = 14.2 lb/gal, Volume Pumped = 100 (bbl)
Water Temperature(°F) = 80 , Bulk Temperature(°F) = 70 , Slurry Temperature(°F) = 100
+ 1 % of CaCl2 (Preblend),
+ 0.25 lb/sack of Polyflake (Preblend)

Fluid & Cement Data

Expected Cement Top: --

Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	--	--	--	Aug 09, 2012 10:40

Attachment & Tools

Down Hole Tools

Tool Type	Depth (ft)	Supplier
Float Insert	652.000	Third Party

Sanjel

Pumping Service Report

9159227

Units & Personnel

Units

Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
201009	PICKUP	3/4 Ton	449052	TRAILER	Bumper Pull	08/11/12 02:00	08/11/12 09:15
745030	TRACTOR	43 Twin	445030	TRAILER	Twin	08/11/12 02:00	08/11/12 09:15
746117	TRACTOR	43 Bulk	446117	TRAILER	Bulker	08/11/12 02:00	08/11/12 09:15

Crew and Bonuses

Employee	Start Shift	End Shift	Second Start Shift	Second End Shift
Merkel, Scott	08/11/2012 02:00	08/11/2012 09:15		
Hill, Justin	08/11/2012 02:00	08/11/2012 09:15		
Oswald, John	08/11/2012 02:00	08/11/2012 09:15		
Thomason, Jared	08/11/2012 02:00	08/11/2012 09:15		
Venn, Justin	08/11/2012 02:00	08/11/2012 09:15		

Treatment Reports & Remarks

Volume To Formation

Stage/Plug/Treatment Interval Name	Volume To Formation (bbl)
Stage1	--

Treatment Report

Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	Aug 11,2012 02:00	Arrive On Location		--	--	--	--	0.00
2	Aug 11,2012 02:05	JSA		--	--	--	--	0.00
	Remarks: spotting trucks, teamwork, slips, trips, falls, pinch points							
3	Aug 11,2012 04:00	Rig In		--	--	--	--	0.00
4	Aug 11,2012 05:30	Safety Meeting		--	--	--	--	0.00
5	Aug 11,2012 06:07	Pressure Test		--	--	--	--	0.00
	Remarks: Pressure tested to 3000 psi							
6	Aug 11,2012 06:13	Pump	Water	2.00	150.0	--	20.00	20.00
7	Aug 11,2012 06:44	Mix Cement	0:1:0 Type III	3.00	80.0	--	100.00	120.00
	Remarks: 14.2 ppg							
8	Aug 11,2012 07:26	Displace Fluid	Water	3.50	100.0	--	39.00	159.00
9	Aug 11,2012 07:39	Hold Pressure		--	70.0	--	--	159.00
10	Aug 11,2012 08:09	Shut In-Well		--	65.0	--	--	159.00
11	Aug 11,2012 08:10	Job Complete		--	--	--	--	159.00
12	Aug 11,2012 08:11	Tailgate Meeting		--	--	--	--	159.00
13	Aug 11,2012 08:15	Rig Out		--	--	--	--	159.00
14	Aug 11,2012 09:00	Pre-Departure Meeting		--	--	--	--	159.00
15	Aug 11,2012 09:10	Sign-off on Safety		--	--	--	--	159.00
16	Aug 11,2012 09:30	Leave Location		--	--	--	--	159.00

P-0021661

Sanjel

Pumping
Service Report

9159227

Treatment Reports & Remarks

Did Float Hold:	Not Applicable
Fluid Returns :	Yes
Type :	Cement
Volume (bbl) :	60
Temperature (°F) :	90
FDAS Functioning Correctly :	Yes
Was the Program Followed As Per Design? :	Yes

Material Transfer Sheet Number

Material Transfer Sheet Number
30496

Sanjel

Pumping Service Report

9158063

Client Name	Well Name	JobDate	Call Sheet
Fidelity Explor. & Prod. Co.	71 Ranch 44-1H	August 12,2012	1012044
Client Representative	**Location**	**Job Type**	
Mr. Mark Bercier	Sec 1:T10N:R34E	Surface Casing	

Well Profile

Well Type:	Oil		
Maximum Treating Pressure (psi):	---		
Predicted Bottom Hole Static Temperature (°F):	100.00	@	--
Bottom Hole Circulating Temperature (°F):	---	@	--
Bottom Hole Logged Temperature (°F):	---	@	--

Open Hole

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
12.250	100.000	0.000	660.000	--	--

Casing

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Internal Yield Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
9.625	36.000	J-55	2,020.0	3,520.0	52.72	8.921	10.625	0.0	682.0

Products

Stage 1

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Lead 1: 85 Sacks of Control Set C, Density = 11.5 lb/gal, Volume Pumped = 38 (bbl)
Water Temperature(°F) = 75 , Bulk Temperature(°F) = 85 , Slurry Temperature(°F) = 90
+ 1 % of CaCl2 (Preblend),
+ 1 % of OGC-60 (Preblend),
+ 1 % of SMS (Preblend),
+ 0.25 lb/sack of Polyflake (Preblend)

Tail: 155 Sacks of 0:1:0 Type III, Density = 14.2 lb/gal, Volume Pumped = 40 (bbl)
Water Temperature(°F) = 75 , Bulk Temperature(°F) = 85 , Slurry Temperature(°F) = 90
+ 1 % of CaCl2 (Preblend),
+ 0.25 lb/sack of Polyflake (Preblend)

Fluid & Cement Data

Expected Cement Top: --

Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	--	--	--	Aug 09, 2012 10:40

Attachment & Tools

Down Hole Tools

Tool Type	Depth (ft)	Supplier
Float Insert	614.320	Third Party

Sanjel

Pumping Service Report

9158063

Units & Personnel

Units

Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
200575	PICKUP	3/4 Ton				08/12/12 08:45	08/12/12 12:30
740069	BODY JOB	C & A				08/12/12 08:45	08/12/12 12:30
746090	TRACTOR	Bulk	446090	TRAILER	Bulker	08/12/12 08:45	08/12/12 12:30

43
43

Crew and Bonuses

Employee	Start Shift	End Shift	Second Start Shift	Second End Shift
Plant, Thomas	08/12/2012 08:45	08/12/2012 12:30		
Power, Glen	08/12/2012 08:45	08/12/2012 12:30		
Beagley, Paul	08/12/2012 08:45	08/12/2012 12:30		
Wankel, Rock	08/12/2012 08:45	08/12/2012 12:30		
Venn, Justin	08/12/2012 08:45	08/12/2012 12:30		

Treatment Reports & Remarks

Volume To Formation

Stage/Plug/Treatment Interval Name	Volume To Formation (bbl)
Stage1	--

P-0021664

Sanjel

Pumping Service Report

9158063

Treatment Reports & Remarks

Treatment Report

Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	Aug 12,2012 08:45	Arrive On Location	---	--	--	--	--	0.00
2	Aug 12,2012 08:46	JSA	---	--	--	--	--	0.00
	Remarks: Spot and pre rig in JSA							
3	Aug 12,2012 09:00	Tailgate Meeting	---	--	--	--	--	0.00
4	Aug 12,2012 09:03	Rig In	---	--	--	--	--	0.00
5	Aug 12,2012 10:00	Safety Meeting	---	--	--	--	--	0.00
6	Aug 12,2012 10:15	Sign-off on Safety	---	--	--	--	--	0.00
7	Aug 12,2012 10:33	Forward Circulate	Water	2.50	25.0	--	2.00	2.00
8	Aug 12,2012 10:36	Pressure Test Lines	Water	--	--	--	--	2.00
	Remarks: Pressure test to 2700 psi.							
9	Aug 12,2012 10:38	Pump Preflush	Water	5.00	100.0	--	18.00	20.00
10	Aug 12,2012 10:45	Mix Cement	Control Set C	5.50	150.0	--	38.00	58.00
	Remarks: Lead cement @ 11.5 ppg. Yield 2.85 ftcubed/sack. Top is at surface							
11	Aug 12,2012 10:53	Mix Cement	0:1:0 Type III	3.50	100.0	--	40.00	98.00
	Remarks: Tail Cement @ 14.2 ppg. Yield 1.46 ftcubed/ sack Tail top @ 65.6'							
12	Aug 12,2012 11:04	Stop	0:1:0 Type III	--	0.0	--	--	98.00
13	Aug 12,2012 11:06	Drop Plug	---	--	0.0	--	--	98.00
14	Aug 12,2012 11:07	Displace Plug	Water	5.00	250.0	--	42.00	140.00
15	Aug 12,2012 11:17	Decrease Pump Rate	Water	2.00	240.0	--	5.50	145.50
16	Aug 12,2012 11:19	Stop	Water	--	240.0	--	--	145.50
17	Aug 12,2012 11:21	Pump	Water	1.75	700.0	--	0.20	145.70
18	Aug 12,2012 11:21	Bump Plug	Water	--	700.0	--	--	145.70
19	Aug 12,2012 11:23	Check Float	Water	--	0.0	--	--	145.70
	Remarks: Float held.							
20	Aug 12,2012 11:30	Rig Out	---	--	0.0	--	--	145.70
21	Aug 12,2012 12:15	Job Complete	---	--	--	--	--	145.70
22	Aug 12,2012 12:20	Pre-Departure Meeting	---	--	--	--	--	145.70
23	Aug 12,2012 13:00	Leave Location	---	--	--	--	--	145.70

Did Float Hold: Yes
Fluid Returns : Yes
Type : Cement
Volume (bbl) : 31.5
Temperature (°F) : 90
FDAS Functioning Correctly : Yes
Was the Program Followed As Per Design? : Yes

Material Transfer Sheet Number

Material Transfer Sheet Number
30001

Sanjel

Pumping
Service Report

9158063

Comments To Service Report
Job pumped as per customer request. Bumped plug

Sanjel

Pumping Service Report

9158068

Client Name	Well Name	JobDate	Call Sheet
Fidelity Explor. & Prod. Co.	71 Ranch 44-1H	August 24,2012	1012554
Client Representative	**Location**	**Job Type**	
Mr. Dan Brewer	Sec 1:T10N:R34E	Intermediate Casing	

Well Profile

Well Type:	Oil		
Maximum Treating Pressure (psi):	---		
Predicted Bottom Hole Static Temperature (°F):	140.00	@	--
Bottom Hole Circulating Temperature (°F):	115.00	@	--
Bottom Hole Logged Temperature (°F):	---	@	--

Open Hole

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
12.250	100.000	0.000	660.000	--	--
8.750	50.000	0.000	5,549.950	--	--

Casing

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Internal Yield Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
9.625	36.000	J-55	2,020.0	3,520.0	53.11	8.921	10.625	0.0	687.0
7.000	23.000	L-80	3,830.0	6,340.0	218.48	6.366	7.656	0.0	5,550.0

Products

Stage 1

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Lead 1: 170 Sacks of LiteFill 1500 MT, Density = 12.5 lb/gal, Volume Pumped = 65 (bbl)
Water Temperature(°F) = 80 , Bulk Temperature(°F) = 80 , Slurry Temperature(°F) = 84
+ 0.4 % of CFL-3 (Preblend),
+ 0.4 % of CFR-2 (Preblend),
+ 0.1 % of LTR (Preblend),
+ 0.25 lb/sack of Polyflake (Preblend)

Tail: 465 Sacks of 0-1-0 G, Density = 15.8 lb/gal, Volume Pumped = 97 (bbl)
Water Temperature(°F) = 80 , Bulk Temperature(°F) = 80 , Slurry Temperature(°F) = 89
+ 0.5 % of CFL-3 (Preblend),
+ 0.5 % of CFR-2 (Preblend),
+ 0.1 % of LTR (Preblend),
+ 0.25 lb/sack of Polyflake (Preblend)

Fluid & Cement Data

Expected Cement Top: --

Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	--	---	--	Aug 09, 2012 10:40

Attachment & Tools

Down Hole Tools

Tool Type	Depth (ft)	Supplier
Float Collar	5,505.300	Sanjel

Sanjel

Pumping Service Report

9158068

Units & Personnel

Units

Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
201009	PICKUP	3/4 Ton	449052	TRAILER	Bumper Pull	08/24/12 14:30	08/24/12 21:45
745030	TRACTOR	Twin	445030	TRAILER	Twin	08/24/12 14:30	08/24/12 21:45
746117	TRACTOR	Bulk	446117	TRAILER	Bulker	08/24/12 14:30	08/24/12 21:45
746095	TRACTOR	Bulk	446095	TRAILER	Bulker	08/24/12 14:30	08/24/12 21:45

43

Crew and Bonuses

Employee	Start Shift	End Shift	Second Start Shift	Second End Shift
Plant, Thomas	08/24/2012 14:30	08/24/2012 21:45		
Nansel, Thomas	08/24/2012 14:30	08/24/2012 21:45		
Power, Glen	08/24/2012 14:30	08/24/2012 21:45		
Billings, Todd	08/24/2012 14:30	08/24/2012 21:45		
Schreiber, Harry	08/24/2012 14:30	08/24/2012 21:45		
Rich, Ronald	08/24/2012 14:30	08/24/2012 21:45		

Treatment Reports & Remarks

Volume To Formation

Stage/Plug/Treatment Interval Name	Volume To Formation (bbl)
Stage1	--

Sanjel

Pumping Service Report

9158068

Treatment Reports & Remarks

Treatment Report

Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	Aug 24,2012 14:30	Arrive On Location	---	--	--	--	--	0.00
2	Aug 24,2012 15:00	Tailgate Meeting	---	--	--	--	--	0.00
3	Aug 24,2012 15:50	JSA	---	--	--	--	--	0.00
	Remarks: Spot and Pre rig in JSA							
4	Aug 24,2012 16:00	Rig In	---	--	--	--	--	0.00
5	Aug 24,2012 17:45	Safety Meeting	---	--	--	--	--	0.00
6	Aug 24,2012 18:00	Sign-off on Safety	---	--	--	--	--	0.00
7	Aug 24,2012 18:21	Forward Circulate	Water	2.00	200.0	--	2.00	2.00
8	Aug 24,2012 18:22	Pressure Test Lines	Water	--	--	--	--	2.00
	Remarks: Pressure test to 3000 psi.							
9	Aug 24,2012 18:23	Pump Preflush	Water	4.50	350.0	--	18.00	20.00
	Remarks: Mudd Flush							
10	Aug 24,2012 18:27	Pump Preflush	Water	4.50	350.0	--	10.00	30.00
	Remarks: Fresh water							
11	Aug 24,2012 18:35	Mix Cement	LiteFill 1500 MT	4.50	350.0	--	65.00	95.00
	Remarks: Lead cement @ 12.5 ppg.							
12	Aug 24,2012 18:50	Mix Cement	0-1-0 G	3.00	250.0	--	97.00	192.00
	Remarks: Tail cement @ 15.8 ppg.							
13	Aug 24,2012 18:30	Stop	0-1-0 G	--	0.0	--	--	192.00
14	Aug 24,2012 18:35	Drop Plug	---	--	--	--	--	192.00
15	Aug 24,2012 18:36	Displace Plug	Water	6.25	3,000.0	--	190.00	382.00
	Remarks: Pressured up and hit pressure trip.							
16	Aug 24,2012 20:05	Decrease Pump Rate	Water	2.00	1,350.0	--	26.60	408.60
17	Aug 24,2012 20:24	Bump Plug	Water	--	1,900.0	--	--	408.60
18	Aug 24,2012 20:24	Stop	---	--	1,900.0	--	--	408.60
19	Aug 24,2012 20:26	Check Float	Water	--	0.0	--	--	408.60
	Remarks: Float Held							
20	Aug 24,2012 20:30	Rig Out	---	--	--	--	--	408.60
21	Aug 24,2012 21:30	Job Complete	---	--	--	--	--	408.60
22	Aug 24,2012 21:45	Pre-Departure Meeting	---	--	--	--	--	408.60
23	Aug 24,2012 22:00	Leave Location	---	--	--	--	--	408.60

Did Float Hold: Yes

Fluid Returns : Yes

Type : Mud

Volume (bbl) : 7

Temperature (°F) : 95

FDAS Functioning Correctly : Yes

Was the Program Followed As Per Design? : Yes

Sanjel

Pumping
Service Report

9158068

Treatment Reports & Remarks

Material Transfer Sheet Number

Material Transfer Sheet Number
30025
30026
57002

Comments To Service Report

Job pumped as per customer request.

Sanjel

Pumping Service Report

9159819

Client Name	Well Name	JobDate	Call Sheet
Fidelity Explor. & Prod. Co.	71 Ranch 44-1H	September 08,2012	1013109
Client Representative	**Location**	**Job Type**	
Mr. Dan Brewer	Sec 1:T10N:R34E	Liner Casing	

Well Profile

Well Type:	Oil		
Maximum Treating Pressure (psi):	---		
Predicted Bottom Hole Static Temperature (°F):	140.00	@	--
Bottom Hole Circulating Temperature (°F):	140.00	@	--
Bottom Hole Logged Temperature (°F):	---	@	--

Open Hole

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
12.250	100.000	0.000	660.000	--	--
8.750	50.000	0.000	5,407.000	--	--
6.250	20.000	0.000	10,452.000	--	--

Casing

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Internal Yield Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
9.625	36.000	J-55	2,020.0	3,520.0	53.11	8.921	10.625	0.0	687.0
7.000	23.000	L-80	3,830.0	6,340.0	--	6.366	7.656	--	--
4.500	11.600	P-110	7,560.0	10,690.0	162.45	4.000	5.000	0.0	10,452.0

Products

Stage 1

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Tail: 585 Sacks of SanTail WB, Density = 13.5 lb/gal, Volume Pumped = 132 (bbl)
Water Temperature(°F) = 70 , Bulk Temperature(°F) = 80 , Slurry Temperature(°F) = 77
+ 1 % of CFL-4 (Preblend),
+ 0.5 % of CFR-2 (Preblend),
+ 0.2 % of CR-4 (Preblend),
+ 0.5 % of SMS (Preblend),
+ 0.5 % of LWA (Preblend)

Fluid & Cement Data

Expected Cement Top: --

Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	--	--	--	Aug 09, 2012 10:40

Attachment & Tools

Down Hole Tools

Tool Type	Depth (ft)	Supplier
Float Collar	10,417.000	Sanjel

Sanjel

Pumping Service Report

9159819

Units & Personnel

Units

Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
201009	PICKUP	3/4 Ton				09/08/12 02:30	09/08/12 18:30
43 745030	TRACTOR	Twin	445030	TRAILER	Twin	09/08/12 02:30	09/08/12 18:30
43 746117	TRACTOR	Bulk	446117	TRAILER	Bulker	09/08/12 02:30	09/08/12 18:30

Crew and Bonuses

Employee	Start Shift	End Shift	Second Start Shift	Second End Shift
Melchior, Brandon	09/08/2012 14:30	09/08/2012 18:30		
Hill, Justin	09/08/2012 14:30	09/08/2012 18:30		
Nansel, Thomas	09/08/2012 14:30	09/08/2012 18:30		
Marks, Justin	09/08/2012 14:30	09/08/2012 18:30		
Wankel, Rock	09/08/2012 14:30	09/08/2012 18:30		
Schreiber, Harry	09/08/2012 14:30	09/08/2012 18:30		

Treatment Reports & Remarks

Volume To Formation

Stage/Plug/Treatment Interval Name	Volume To Formation (bbl)
Stage1	--

Treatment Report

Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	Sep 08,2012 14:30	Arrive On Location	---	--	--	--	--	0.00
2	Sep 08,2012 14:31	JSA	---	--	--	--	--	0.00
	Remarks: Teamwork, Communication, slips, trips, and falls							
3	Sep 08,2012 14:35	Rig In	---	--	--	--	--	0.00
4	Sep 08,2012 15:30	Tailgate Meeting	---	--	--	--	--	0.00
5	Sep 08,2012 15:35	Safety Meeting	---	--	--	--	--	0.00
6	Sep 08,2012 15:45	Sign-off on Safety	---	--	--	--	--	0.00
7	Sep 08,2012 16:04	Pressure Test	---	--	--	--	--	0.00
	Remarks: Tested to 5000 psi							
8	Sep 08,2012 16:06	Pump	Water	2.00	600.0	--	20.00	20.00
	Remarks: Pre-flush							
9	Sep 08,2012 16:21	Mix Cement	SanTail WB	4.00	650.0	--	132.00	152.00
	Remarks: 13.5 ppg							
10	Sep 08,2012 16:54	Stop	---	--	--	--	--	152.00
11	Sep 08,2012 16:55	Drop Plug	---	--	--	--	--	152.00
12	Sep 08,2012 16:57	Displace Plug	Water	5.00	2,000.0	--	177.00	329.00
13	Sep 08,2012 17:31	Bump Plug	---	--	3,500.0	--	--	329.00
14	Sep 08,2012 17:33	Check Float	---	--	--	--	--	329.00
15	Sep 08,2012 17:35	Job Complete	---	--	--	--	--	329.00
16	Sep 08,2012 17:40	Rig Out	---	--	--	--	--	329.00
17	Sep 08,2012 18:20	Pre-Departure Meeting	---	--	--	--	--	329.00
18	Sep 08,2012 18:30	Leave Location	---	--	--	--	--	329.00

Sanjel

Pumping
Service Report

9159819

Treatment Reports & Remarks

Did Float Hold:	Yes
Fluid Returns :	Not Expected
Type :	
Volume (bbl) :	
Temperature (°F) :	--
FDAS Functioning Correctly :	Yes
Was the Program Followed As Per Design? :	Yes

Material Transfer Sheet Number

Material Transfer Sheet Number
30052

P-0021673