

SEP 06 2012

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

HOBBES OCD

State of New Mexico

SEP 05 2012

Energy Minerals and Natural Resources

RECEIVED

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

RECEIVED

Permit

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address McELVAIN ENERGY, INC. 1050 17th STREET SUITE 2500 DENVER, COLORADO, 80265		OGRID Number 22044
Property Code 39427		API Number 30-025-40741
Property Name SOUTH IRONHOUSE "33" STATE COM.		Well No. 1H

7 Surface Location

UL - Lot N	Section 33	Township 18S	Range 35E	Lot Idx	Feet from 225'	N/S Line SOUTH	Feet From 1360'	E/W Line WEST	County LEA
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8 Pool Information

SCHARB-BONE SPRING	55610
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Additional Well Information

9 Work Type N	10 Well Type O	11 Cable/Rotary ROTARY	12 Lease Type S	13 Ground Level Elevation 3913'
14 Multiple NO	15 Proposed Depth TVD-10,364'	16 Formation BONE SPRING	17 Contractor UNKNOWN	18 Spud Date WHEN APPROVED
Depth to Ground water 60'		Distance from nearest fresh water well 1/2 Mile		Distance to nearest surface water Unknown

19 Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
	26"	20"	CONDUCTOR	40'	Redi-mix	Surface
	17 1/2"	13 3/8"	54.5 & 48#	1875'	1400 Sx.	Surface
	12 1/4"	9 5/8"	40#	3800'	1000 Sx.	Surface
	8 3/4"	5 1/2"	17#	MD-14,834'	1900 Sx.	3500' FS
				TVD-10,364'		

Casing/Cement Program: Additional Comments

Conditions of Approval for Non-Standard Location
Intents of drill ONLY- CANNOT produce until the
Non Standard Location has been approved by OCD
Santa Fe Office

Permit Expires 2 Years From Approval

Used Blowout Prevention Program Unless Drilling Underway

Type	Working Pressure	Test Pressure	Manufacturer
13 5/8" Annular	3000 PSI	1500 Hi 250 Low	SHAFFER
11" double ram	5000 PSI	3000 Hi 250 Low	CAMERON

I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

I further certify that the drilling pit will be constructed according to NMOCD guidelines ☒ a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature:

Joe T. Janica

Printed name:

Joe T. Janica

Title:

Permit Eng.

E-mail Address: joejanica@valornet.com

Date: 09/06/12

Phone: 575-391-8503

OIL CONSERVATION DIVISION

Approved By:

Title:

Petroleum Engineer

Approved Date:

Expiration Date:

SEP 06 2012

Conditions of Approval Attached

1. Drill 26" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17½" hole to 1875'. Run and set 1875' of 13 3/8" casing as follows: 875' of 13 3/8" 54.5# J-55 ST&C, 1000' of 13 3/8" 48# H-40 ST&C casing. Cement with 1200 Sx. of Class "C" cement + 4% Bentonite, + 2% CaCl, + 0.25# LCM material, + defoamer, tail in with 200 Sx. of Class "C" cement + 2% CaCl + defoamer. Circulate cement to surface.
3. Drill 12½" hole to 3800'. Run and set 3800' of 9 5/8" 40# J-55 ST&C casing. Cement with 800 Sx. of Class "C" 35/65 POZ cement + 6% Bentonite, + 5% Salt, + defoamer, tail in with 200 Sx. of Class "C" cement + defoamer. Circulate cement to surface.
4. Drill 8 3/4" hole to 14,834'MD. Run and set 14,834' of 5½" casing as follows: 9500' of 5½" 17# HCP-110 LT&C, 5334' of 5½" 17# HCP-110 BT&C. Cement in 2 Stages with DV tool at 9000'±. Cement 1st stage with 1000 Sx. of Class "H" cement + Fluid loss additives, Retarders, and defoamer, Yield 1.68, cement 2nd stage with 800 Sx. of Class "H" cement + 50/50 POZ, + 10% Bentonite, + retarder, and defoamer, tail in 100 Sx. of Class "H" cement + defoamer Yield 1.18. Estimate top of cement 3500' from surface. All cement volumes will be determined by open hole logs.

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DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised July 18, 2010
Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-40741	Pool Code 55610	Pool Name SCHARB-BONE SPRING
Property Code 39427	Property Name SOUTH IRONHOUSE 33 STATE COM	Well Number 1H
OGRID No. 22044	Operator Name McELVAIN ENERGY, INC.	Elevation 3913'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	33	18 S	35 E		225	SOUTH	1360	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	33	18 S	35 E		460	NORTH	1780	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

PROPOSED BOTTOM HOLE LOCATION
 Lat - N 32°42'36.43"
 Long - W 103°27'54.76"
 NMSPCE - N 623166.343
 E 808354.676
 (NAD-83)

PROJECT AREA

PRODUCING AREA

SURFACE LOCATION
 Lat - N 32°41'51.00"
 Long - W 103°27'59.61"
 NMSPCE - N 618571.62
 E 807977.04
 (NAD-83)

POE 480' FSL

1380' FWL

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Joe T. Janica* Date: 09/06/12

Printed Name: Joe T. Janica

Email Address: joejanica@valornet.com

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

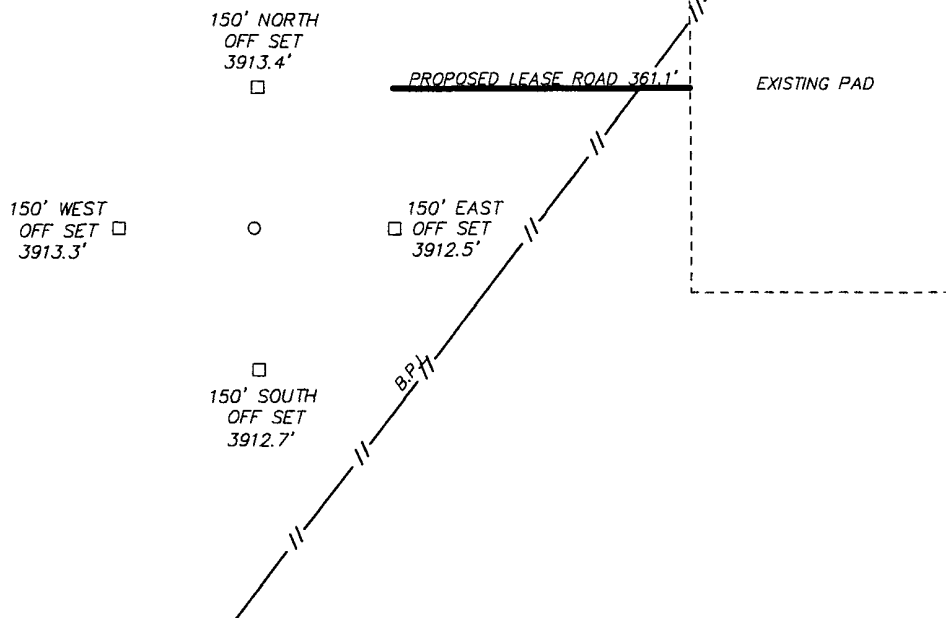
Date Surveyed: AUG 10 2012

Signature & Seal of Professional Surveyor: *Garly L. Jones*

Certificate No. Garly L. Jones 7977

BASIN SURVEYS 27226

SECTION 33, TOWNSHIP 18 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



McELVAIN OIL & GAS PROPERTIES
SOUTH IRONHOUSE 33 STATE COM #1H
ELEV. - 3913'

SURFACE LOCATION
Lat - N 32°41'51.00"
Long - W 103°27'59.61"
NMSPC- N 618571.62
E 807977.04
(NAD-83)

200 0 200 400 FEET
SCALE: 1" = 200'

Directions to Location:

0.6 MILES AFTER MILE MARKER 27 ON HIGHWAY 529
TURN NORTH ON EXISTING LEASE ROAD.

McELVAIN ENERGY, INC

REF: SOUTH IRONHOUSE 33 STATE COM #1H / WELL PAD TOPO

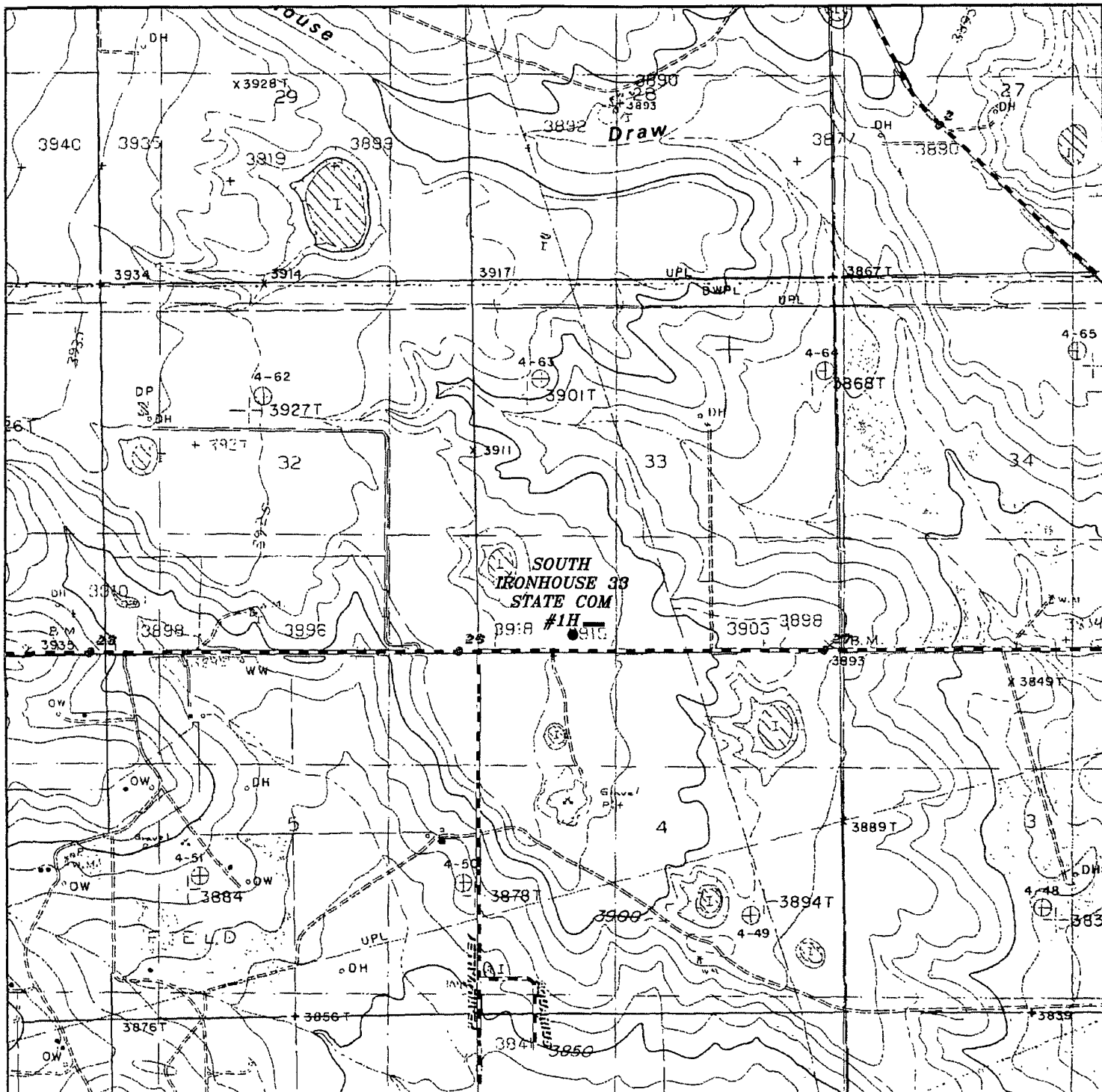
THE SOUTH IRONHOUSE 33 STATE COM #1 LOCATED 225'
FROM THE SOUTH LINE AND 1360' FROM THE WEST LINE OF
SECTION 33, TOWNSHIP 18 SOUTH, RANGE 35 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

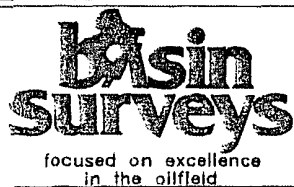
W.O. Number: 27226 Drawn By: D. JONES

Date: 06-19-2012 Disk: DAJ 27226

Survey Date: 06-14-2012 Sheet 1 of 1 Sheets



SOUTH IRONHOUSE 33 STATE COM #1H
 Located 225' FSL and 1360' FWL
 Section 33, Township 18 South, Range 35 East,
 N.M.P.M., Lea County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

W.O. Number: DAJ 27226

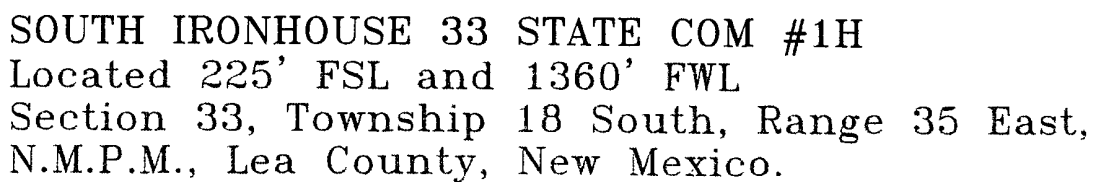
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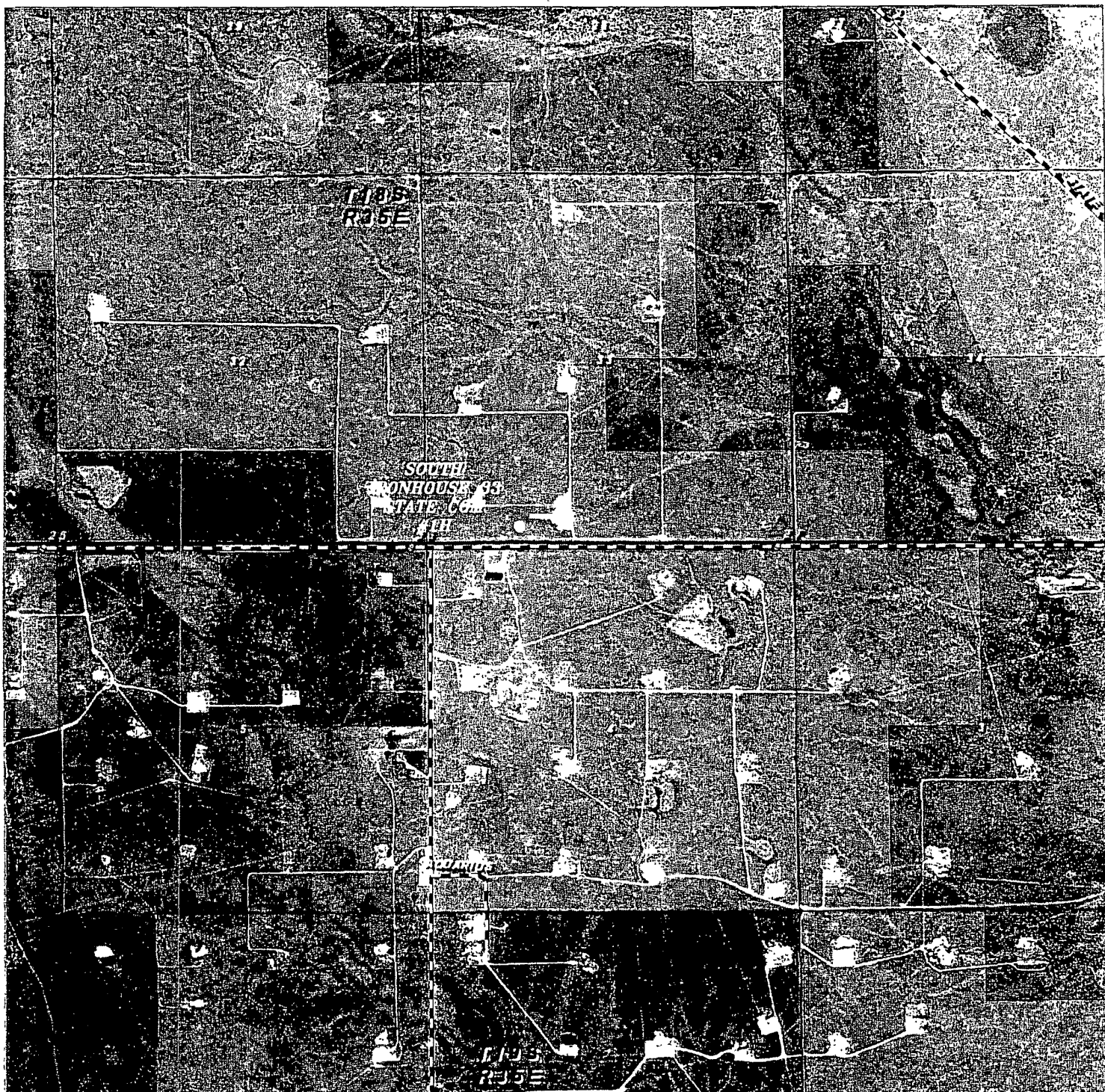
Scale: 1" = 2000'

Date: 06-19-2012



**McELVAIN
 ENERGY, INC**





SOUTH IRONHOUSE 33 STATE COM #1H
 Located 225' FSL and 1360' FWL
 Section 33, Township 18 South, Range 35 East,
 N.M.P.M., Lea County, New Mexico.



focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 593-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

W.O. Number DAD 21226

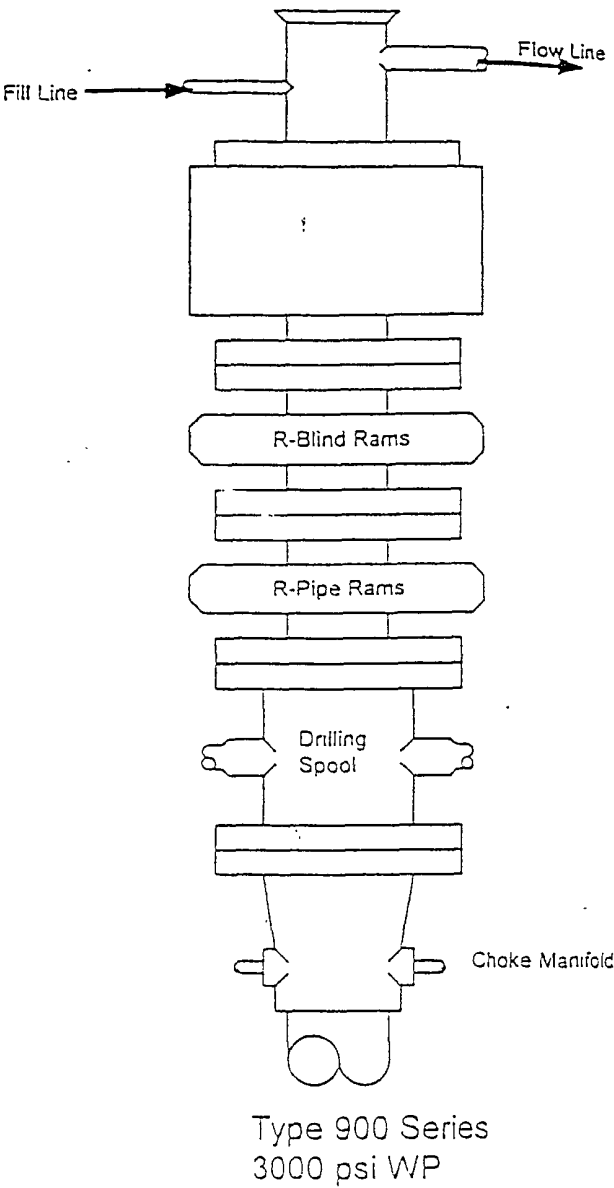
Scale: 1" = 2000'

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND

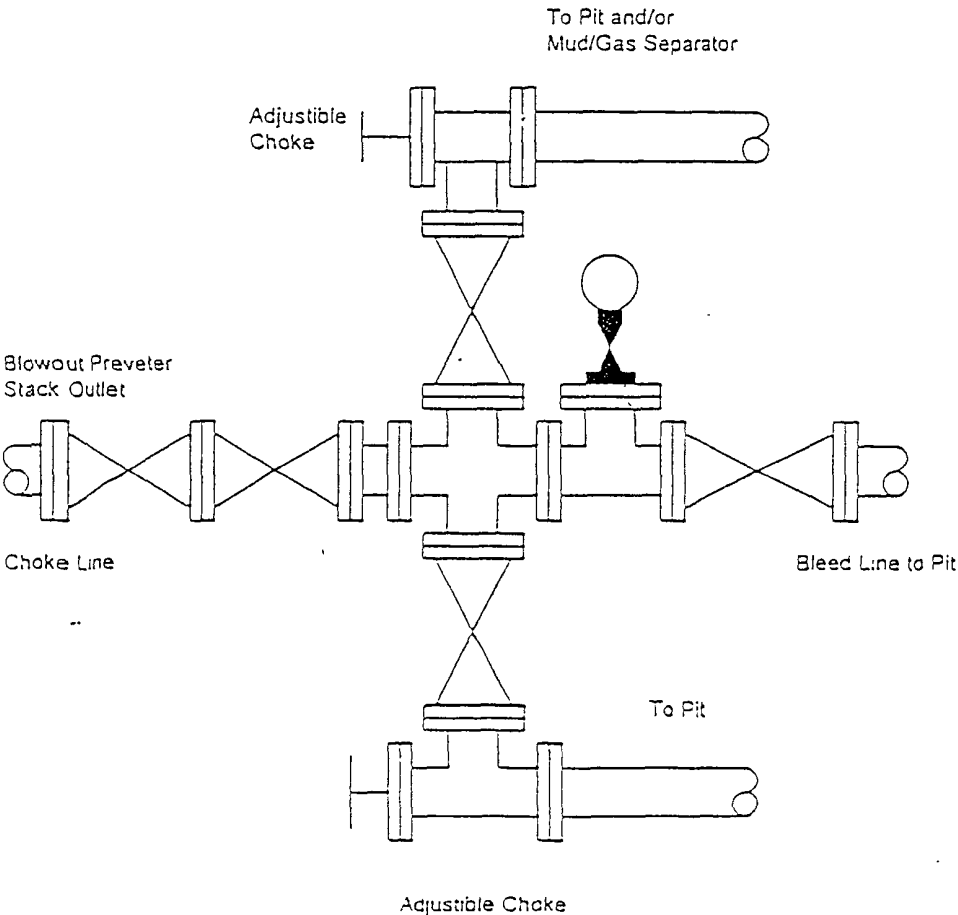
McELVAIN
 ENERGY, INC

BLOWOUT PREVENTER SYSTEM

3000 PSI WORKING PRESSURE

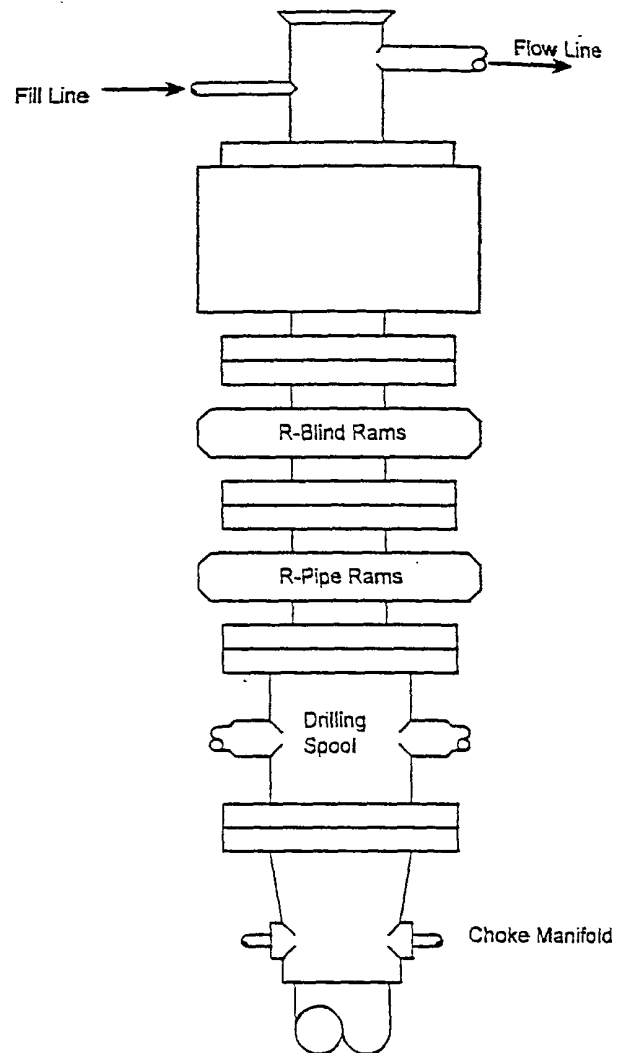


Choke Manifold Assembly for 3M WP System



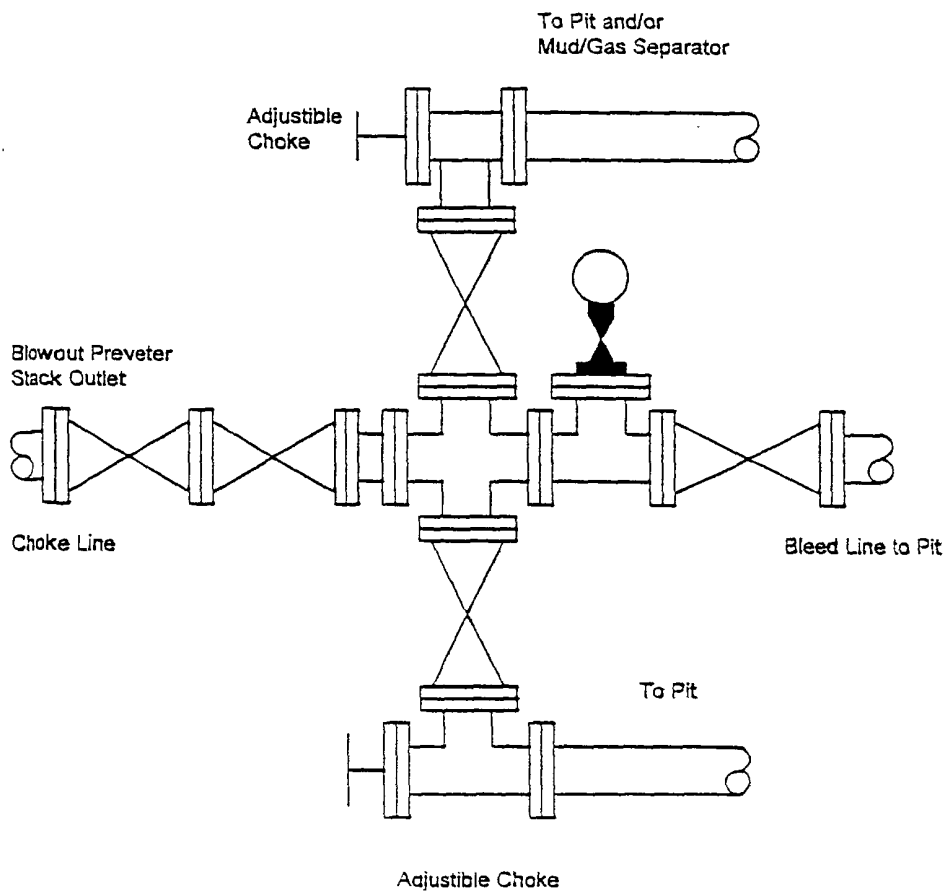
BLOWOUT PREVENTER SYSTEM

5000 PSI



Type 1500 SERIES
5000 psi WP

Choke Manifold Assembly for 5M WP System



McElvain Energy, Inc.

REV 1

PATHFINDER
A Schlumberger Company

WELL	McElvain South Ironhouse 33 State 1H (Preferred)	FIELD	Lea County, NM (NAD 83)	STRUCTURE	RIG TBD						
<table border="1"> <tr> <td colspan="2"> Logistic Parameters Model: 800M 2+11 Dip: 6 x 3 Ang. Ch.: 7.537 PS </td> <td colspan="2"> Drift Location Date: August 21, 2012 User: M. H. 11 41 11.993 Lat: 36 00 27.54 N Lon: 106 00 27.54 W Easting: 467977.81 Northing: 419977.81 Utm Zone: 18Q UTM Datum: NAD83 Grid Contour: 100000000 Scale Factor: 1.00000001 </td> <td colspan="2"> Measurements Date: South Ironhouse 33 State 1H Plan: Rev: see IR33-11 T13 Bar: Grey Date: August 21, 2012 6x-25.516 (shave 6x5) </td> </tr> </table>						Logistic Parameters Model: 800M 2+11 Dip: 6 x 3 Ang. Ch.: 7.537 PS		Drift Location Date: August 21, 2012 User: M. H. 11 41 11.993 Lat: 36 00 27.54 N Lon: 106 00 27.54 W Easting: 467977.81 Northing: 419977.81 Utm Zone: 18Q UTM Datum: NAD83 Grid Contour: 100000000 Scale Factor: 1.00000001		Measurements Date: South Ironhouse 33 State 1H Plan: Rev: see IR33-11 T13 Bar: Grey Date: August 21, 2012 6x-25.516 (shave 6x5)	
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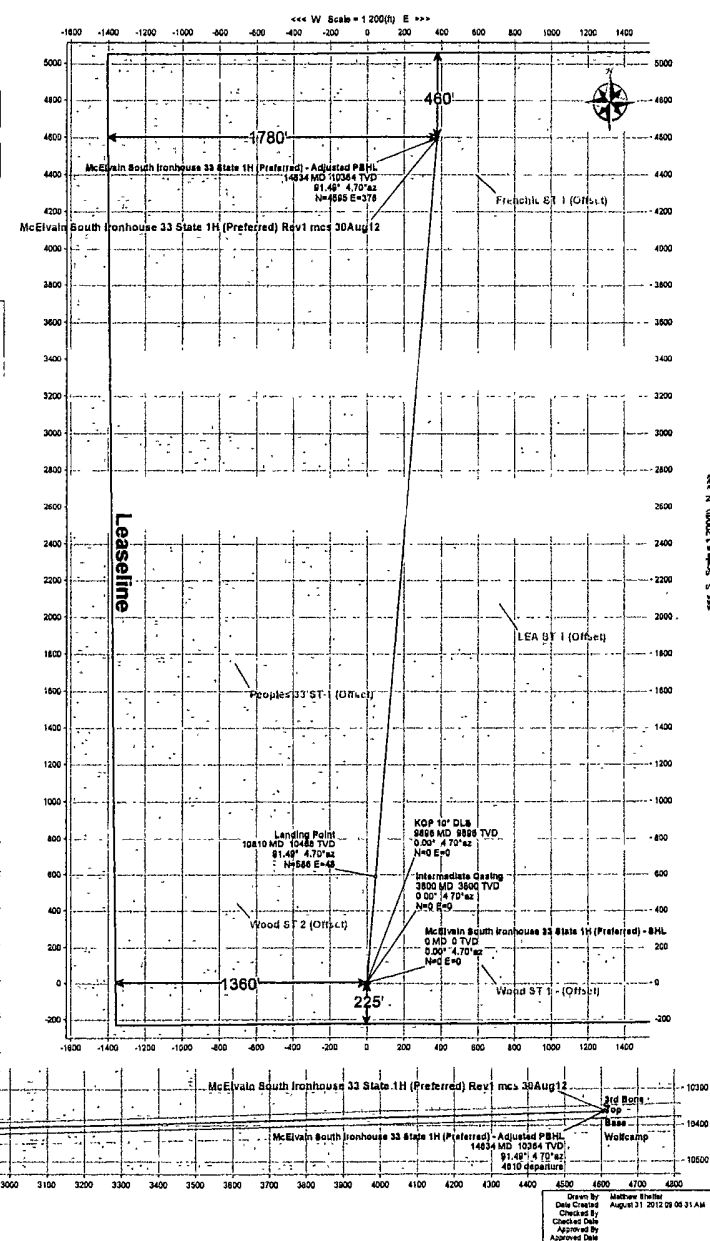
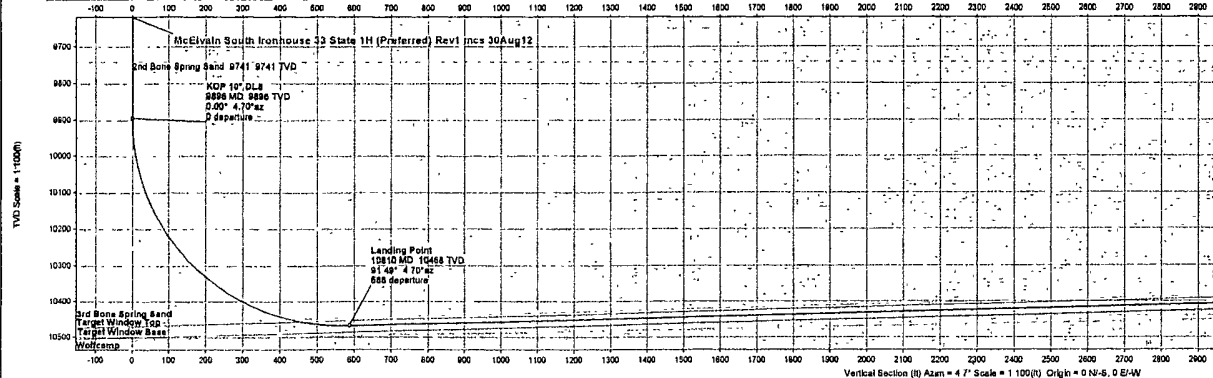
Legend

[illegible]

Targets													
Name		Latitude	Longitude	Northing	Easting	NS	EW	TVD	SSTVD	Shape	Dip		
3rd Bone Spring Sand	N	32 41 51 003	W 103 27 59 618	618571.62	807977.04	0.00	0.00	10481.00	6530.00	FORMATION_PLANE	1.48		
Target Window Top	N	32 41 51.003	W 103 27 59 618	618571.62	807977.04	0.00	0.00	10469.00	6538.00	FORMATION_PLANE	1.53		
Target Window Base	N	32 41 51.003	W 103 27 59 618	618571.62	807977.04	0.00	0.00	10501.00	6570.00	FORMATION_PLANE	1.48		
Wolfcamp	N	32 41 51 003	W 103 27 59 618	618571.62	807977.04	0.00	0.00	10506.00	6575.00	FORMATION_PLANE	1.06		
PBHL	N	32 42 36 433	W 103 27 54.759	823166.34	808354.68	4594.78	377.64	10383.50	6432.50	POINT	0.00		

Critical Points

Comments	Survey MD	Inc	Azim	TVD	SSTVD	VS	NS	EW	Longitude	Latitude	Easting	Northing	DLS	Tool Face
SHL	0.00	0.00	4.70	0.00	-3931.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Russell	1855.00	0.00	4.70	1855.00	-2075.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Salt	3031.00	0.00	4.70	3031.00	-900.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Yates	3350.00	0.00	4.70	3350.00	-581.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Intermediate Casing	3800.00	0.00	4.70	3800.00	-131.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Seven Rivers	4298.00	0.00	4.70	4298.00	365.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Queen	4648.00	0.00	4.70	4646.00	715.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Penrose	4906.00	0.00	4.70	4906.00	975.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
San Andres	5408.00	0.00	4.70	5406.00	1475.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Deleware	5591.00	0.00	4.70	5591.00	1660.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
1st Delaware Sand	5631.00	0.00	4.70	5631.00	1700.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
2nd Delaware Sand	5701.00	0.00	4.70	5701.00	1770.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Bone Spring	7581.00	0.00	4.70	7581.00	3550.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
1st Bone Spring Sand	9201.00	0.00	4.70	9201.00	5270.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
2nd Bone Spring Sand	9741.00	0.00	4.70	9741.00	5810.00	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
KOP 10" DLS	9895.00	0.00	4.70	9895.00	5964.50	0.00	0.00	0.00	W 103 27 59.618 N	32 41 51.003	807977.04	818571.62	0.00	4.70
Landing Point	10810.41	91.49	4.70	10468.26	6537.26	587.87	585.98	48.16	W 103 27 58.999 N	32 41 56.786	808025.20	819157.50	10.00	-30.12
FBHL	14834.18	81.48	4.70	10363.60	6432.50	4610.27	464.79	377.64	W 103 27 54.759 N	32 42 36.433	808354.60	823166.34	0.00	



McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12
Proposal Report
(Def Plan)



Report Date:	August 31, 2012 - 08 58 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	McElvain Energy, Inc	Vertical Section Azimuth:	4.689 ° (Grid North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	McElvain South Ironhouse 33 State 1H (Preferred) / McElvain South Ironhouse 33 State 1H (Preferred)	TVD Reference Datum:	RKB
Well:	McElvain South Ironhouse 33 State 1H (Preferred)	TVD Reference Elevation:	3931.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3913.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.512 °
Survey Name:	McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12	Total Field Strength:	48790.144 nT
Survey Date:	August 22, 2012	Magnetic Dip Angle:	60.573 °
Tort / AHD / DDI / ERD Ratio:	91.493 ° / 4610.269 ft / 5.776 / 0.440	Declination Date:	August 22, 2012
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Declination Model:	BGM 2011
Location Lat / Long:	N 32° 41' 51.00269", W 103° 27' 59.61822"	North Reference:	Grid North
Location Grid N/E Y/X:	N 618571 620 ftUS, E 807977.040 ftUS	Grid Convergence Used:	0.468 °
CRS Grid Convergence Angle:	0.46825941 °	Total Corr Mag North->Grid North:	7.044 °
Grid Scale Factor:	0.99999051	Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Closure Azimuth (°)	Closure (ft)	DLS (°/100ft)	TF (°)
McElvain South Ironhouse 33 State 1H (Preferred) - SHL	0.00	0.00	4.70	0.00	-3931.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	N/A	4.7M
Rustler	1856.00	0.00	4.70	1856.00	-2075.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Salt	3031.00	0.00	4.70	3031.00	-900.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Yates	3350.00	0.00	4.70	3350.00	-581.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Intermediate Casing	3800.00	0.00	4.70	3800.00	-131.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Seven Rivers	4296.00	0.00	4.70	4296.00	365.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Queen	4646.00	0.00	4.70	4646.00	715.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Penrose	4906.00	0.00	4.70	4906.00	975.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
San Andres	5406.00	0.00	4.70	5406.00	1475.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Delaware	5591.00	0.00	4.70	5591.00	1660.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
1st Delaware Sand	5631.00	0.00	4.70	5631.00	1700.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
2nd Delaware Sand	5701.00	0.00	4.70	5701.00	1770.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northlng (ftUS)	Eastlng (ftUS)	Closure Azimuth (°)	Closure (ft)	DLS (°/100ft)	TF (°)
Bone Spring	7581.00	0.00	4.70	7581.00	3650.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
1st Bone Spring Sand	9201.00	0.00	4.70	9201.00	5270.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
2nd Bone Spring Sand	9741.00	0.00	4.70	9741.00	5810.00	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
KOP 10" DLS	9895.50	0.00	4.70	9895.50	5964.50	0.00	0.00	0.00	618571.62	807977.04	0.00	0.00	0.00	4.7M
Landing Point	10810.41	91.49	4.70	10468.26	6537.26	587.87	585.89	48.16	618157.50	808025.20	4.70	587.87	10.00	30.12L
McElvain South Ironhouse 33 State 1H (Preferred) - Adjusted PBHL	14834.18	91.49	4.70	10363.50	6432.50	4610.27	4594.78	377.64	623166.34	808354.68	4.70	4610.27	0.00	

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
	0.000	18.000	1/100.000	SLB_MWD-STD-Depth Only	Original Borehole / McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12
	18.000	14834.177	1/100.000	SLB_MWD-STD	Original Borehole / McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12

McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12
Proposal Report
(Def Plan)



Report Date:	August 31, 2012 - 09:01 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	McElvain Energy, Inc.	Vertical Section Azimuth:	4.899 ° (Grid North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	McElvain South Ironhouse 33 State 1H (Preferred) / McElvain South Ironhouse 33 State 1H (Preferred)	TVD Reference Datum:	RKB
Well:	McElvain South Ironhouse 33 State 1H (Preferred)	TVD Reference Elevation:	3931.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3913.000 ft above MSL
UWI / AP#:	Unknown / Unknown	Magnetic Declination:	7.512 °
Survey Name:	McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12	Total Field Strength:	48790.144 nT
Survey Date:	August 22, 2012	Magnetic Dip Angle:	80.573 °
Tort / AHD / DDI / ERD Ratio:	91.493 ° / 4610.269 ft / 5.778 / 0.440	Declination Date:	August 22, 2012
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Declination Model:	BGGM 2011
Location Lat / Long:	N 32° 41' 51.00289", W 103° 27' 59.81622"	North Reference:	Grid North
Location Grid N/E Y/X:	N 818571.620 ftUS, E 807977.040 ftUS	Grid Convergence Used:	0.486 °
CRS Grid Convergence Angle:	0.46825941 °	Total Corr Mag North->Grid North:	7.044 °
Grid Scale Factor:	0.99999051	Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure Azimuth (°)	Closure (ft)	DeltaMD (ft)
McElvain South Ironhouse 33 State 1H (Preferred) - SHL	0.00	0.00	4.70	0.00	-3931.00	0.00	0.00	0.00	N/A	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	N/A
	100.00	0.00	4.70	100.00	-3931.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	100.00
	200.00	0.00	4.70	200.00	-3731.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	200.00
	300.00	0.00	4.70	300.00	-3631.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	300.00
	400.00	0.00	4.70	400.00	-3531.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	400.00
	500.00	0.00	4.70	500.00	-3431.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	500.00
	600.00	0.00	4.70	600.00	-3331.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	600.00
	700.00	0.00	4.70	700.00	-3231.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	700.00
	800.00	0.00	4.70	800.00	-3131.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	800.00
	900.00	0.00	4.70	900.00	-3031.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	900.00
	1000.00	0.00	4.70	1000.00	-2931.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1000.00
	1100.00	0.00	4.70	1100.00	-2831.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1100.00
	1200.00	0.00	4.70	1200.00	-2731.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1200.00
	1300.00	0.00	4.70	1300.00	-2631.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1300.00
	1400.00	0.00	4.70	1400.00	-2531.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1400.00
	1500.00	0.00	4.70	1500.00	-2431.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1500.00
	1600.00	0.00	4.70	1600.00	-2331.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1600.00
	1700.00	0.00	4.70	1700.00	-2231.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1700.00
	1800.00	0.00	4.70	1800.00	-2131.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1800.00
Rustler	1856.00	0.00	4.70	1856.00	-2075.00	0.00	0.00	0.00	0.00	818571.62	807977.04	N 32 41 51.00	W 103 27 59.82	0.00	0.00	1856.00

McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12
Proposal Report
(Def Plan)



Report Date:	August 31, 2012 - 09:01 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	McElvain Energy, Inc.	Vertical Section Azimuth:	4 899 ° (Grid North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	McElvain South Ironhouse 33 State 1H (Preferred) / McElvain South Ironhouse 33 State 1H (Preferred)	TVD Reference Datum:	RKB
Well:	McElvain South Ironhouse 33 State 1H (Preferred)	TVD Reference Elevation:	3931.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3913.000 ft above MSL
UWI / APW:	Unknown / Unknown	Magnetic Declination:	7.512 °
Survey Name:	McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12	Total Field Strength:	48790.144 nT
Survey Date:	August 22, 2012	Magnetic Dip Angle:	80.573 °
Tort / AHD / DDI / ERD Ratio:	91 493 ° / 4510.288 ft / 5.778 / 0.440	Declination Date:	August 22, 2012
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Declination Model:	BGGM 2011
Location Lat / Long:	N 32° 41' 51.00289", W 103° 27' 59.61822"	North Reference:	Grid North
Location Grid N/E Y/X:	N 618571.620 NUS, E 807977.040 NUS	Grid Convergence Used:	0.468 °
CRS Grid Convergence Angle:	0.46825941 °	Total Corr Mag North->Grid North:	7.044 °
Grid Scale Factor:	0.99999051	Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (NUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure Azimuth (°)	Closure (ft)	DeltaMD (ft)
McElvain South Ironhouse 33 State 1H (Preferred) - SHL	0.00	0.00	4.70	0.00	-3931.00	0.00	0.00	0.00	N/A	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	N/A
	100.00	0.00	4.70	100.00	-3831.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	100.00
	200.00	0.00	4.70	200.00	-3731.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	200.00
	300.00	0.00	4.70	300.00	-3631.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	300.00
	400.00	0.00	4.70	400.00	-3531.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	400.00
	500.00	0.00	4.70	500.00	-3431.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	500.00
	600.00	0.00	4.70	600.00	-3331.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	600.00
	700.00	0.00	4.70	700.00	-3231.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	700.00
	800.00	0.00	4.70	800.00	-3131.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	800.00
	900.00	0.00	4.70	900.00	-3031.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	900.00
	1000.00	0.00	4.70	1000.00	-2931.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1000.00
	1100.00	0.00	4.70	1100.00	-2831.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1100.00
	1200.00	0.00	4.70	1200.00	-2731.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1200.00
	1300.00	0.00	4.70	1300.00	-2631.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1300.00
	1400.00	0.00	4.70	1400.00	-2531.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1400.00
	1500.00	0.00	4.70	1500.00	-2431.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1500.00
	1600.00	0.00	4.70	1600.00	-2331.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1600.00
	1700.00	0.00	4.70	1700.00	-2231.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1700.00
	1800.00	0.00	4.70	1800.00	-2131.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1800.00
Rustler	1856.00	0.00	4.70	1856.00	-2075.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1856.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure Azimuth (°)	Closure (ft)	DeltaMD (ft)
	1900.00	0.00	4.70	1900.00	-2031.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	1900.00
	2000.00	0.00	4.70	2000.00	-1931.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2000.00
	2100.00	0.00	4.70	2100.00	-1831.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2100.00
	2200.00	0.00	4.70	2200.00	-1731.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2200.00
	2300.00	0.00	4.70	2300.00	-1631.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2300.00
	2400.00	0.00	4.70	2400.00	-1531.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2400.00
	2500.00	0.00	4.70	2500.00	-1431.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2500.00
	2600.00	0.00	4.70	2600.00	-1331.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2600.00
	2700.00	0.00	4.70	2700.00	-1231.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2700.00
	2800.00	0.00	4.70	2800.00	-1131.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2800.00
	2900.00	0.00	4.70	2900.00	-1031.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	2900.00
	3000.00	0.00	4.70	3000.00	-931.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3000.00
Salt	3031.00	0.00	4.70	3031.00	-900.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3031.00
	3100.00	0.00	4.70	3100.00	-831.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3100.00
	3200.00	0.00	4.70	3200.00	-731.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3200.00
	3300.00	0.00	4.70	3300.00	-631.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3300.00
Yates	3350.00	0.00	4.70	3350.00	-581.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3350.00
	3400.00	0.00	4.70	3400.00	-531.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3400.00
	3500.00	0.00	4.70	3500.00	-431.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3500.00
	3600.00	0.00	4.70	3600.00	-331.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3600.00
	3700.00	0.00	4.70	3700.00	-231.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3700.00
Intermediate Casing	3800.00	0.00	4.70	3800.00	-131.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3800.00
	3900.00	0.00	4.70	3900.00	-31.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	3900.00
	4000.00	0.00	4.70	4000.00	69.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4000.00
	4100.00	0.00	4.70	4100.00	169.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4100.00
	4200.00	0.00	4.70	4200.00	269.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4200.00
Seven Rivers	4296.00	0.00	4.70	4296.00	365.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4296.00
	4300.00	0.00	4.70	4300.00	369.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4300.00
	4400.00	0.00	4.70	4400.00	469.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4400.00
	4500.00	0.00	4.70	4500.00	569.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4500.00
	4600.00	0.00	4.70	4600.00	669.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4600.00
Queen	4646.00	0.00	4.70	4646.00	715.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4646.00
	4700.00	0.00	4.70	4700.00	769.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4700.00
	4800.00	0.00	4.70	4800.00	869.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4800.00
	4900.00	0.00	4.70	4900.00	969.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4900.00
	4906.00	0.00	4.70	4906.00	975.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	4906.00
Penrose	5000.00	0.00	4.70	5000.00	1069.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5000.00
	5100.00	0.00	4.70	5100.00	1169.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5100.00
	5200.00	0.00	4.70	5200.00	1269.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5200.00
	5300.00	0.00	4.70	5300.00	1369.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5300.00
	5400.00	0.00	4.70	5400.00	1469.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5400.00
San Andras	5406.00	0.00	4.70	5406.00	1475.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5406.00
	5500.00	0.00	4.70	5500.00	1569.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5500.00
Delaware	5591.00	0.00	4.70	5591.00	1660.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5591.00
	5600.00	0.00	4.70	5600.00	1669.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5600.00
	5631.00	0.00	4.70	5631.00	1700.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5631.00
1st Delaware Sand	5700.00	0.00	4.70	5700.00	1769.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5700.00

Comments	MD (ft)	Incl (°)	Azin Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLB (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')	Closure Azimuth (°)	Closure (ft)	DeltaMD (ft)
2nd Delaware Sand	5701.00	0.00	4.70	5701.00	1770.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5701.00
	5800.00	0.00	4.70	5800.00	1869.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5800.00
	5900.00	0.00	4.70	5900.00	1969.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	5900.00
	6000.00	0.00	4.70	6000.00	2069.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6000.00
	6100.00	0.00	4.70	6100.00	2169.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6100.00
	6200.00	0.00	4.70	6200.00	2269.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6200.00
	6300.00	0.00	4.70	6300.00	2369.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6300.00
	6400.00	0.00	4.70	6400.00	2469.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6400.00
	6500.00	0.00	4.70	6500.00	2569.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6500.00
	6600.00	0.00	4.70	6600.00	2669.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6600.00
	6700.00	0.00	4.70	6700.00	2769.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6700.00
	6800.00	0.00	4.70	6800.00	2869.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6800.00
	6900.00	0.00	4.70	6900.00	2969.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	6900.00
	7000.00	0.00	4.70	7000.00	3069.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7000.00
	7100.00	0.00	4.70	7100.00	3169.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7100.00
	7200.00	0.00	4.70	7200.00	3269.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7200.00
	7300.00	0.00	4.70	7300.00	3369.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7300.00
	7400.00	0.00	4.70	7400.00	3469.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7400.00
	7500.00	0.00	4.70	7500.00	3569.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7500.00
Borie Spring	7581.00	0.00	4.70	7581.00	3650.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7581.00
	7600.00	0.00	4.70	7600.00	3659.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7600.00
	7700.00	0.00	4.70	7700.00	3769.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7700.00
	7800.00	0.00	4.70	7800.00	3869.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7800.00
	7900.00	0.00	4.70	7900.00	3969.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	7900.00
	8000.00	0.00	4.70	8000.00	4069.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8000.00
	8100.00	0.00	4.70	8100.00	4169.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8100.00
	8200.00	0.00	4.70	8200.00	4269.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8200.00
	8300.00	0.00	4.70	8300.00	4369.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8300.00
	8400.00	0.00	4.70	8400.00	4469.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8400.00
	8500.00	0.00	4.70	8500.00	4569.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8500.00
	8600.00	0.00	4.70	8600.00	4669.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8600.00
	8700.00	0.00	4.70	8700.00	4769.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8700.00
	8800.00	0.00	4.70	8800.00	4869.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8800.00
	8900.00	0.00	4.70	8900.00	4969.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	8900.00
	9000.00	0.00	4.70	9000.00	5069.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9000.00
	9100.00	0.00	4.70	9100.00	5169.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9100.00
	9200.00	0.00	4.70	9200.00	5269.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9200.00
1st Bone Spring Sand	9201.00	0.00	4.70	9201.00	5270.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9201.00
	9300.00	0.00	4.70	9300.00	5369.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9300.00
	9400.00	0.00	4.70	9400.00	5469.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9400.00
	9500.00	0.00	4.70	9500.00	5569.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9500.00
	9600.00	0.00	4.70	9600.00	5669.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9600.00
	9700.00	0.00	4.70	9700.00	5769.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9700.00
2nd Bone Spring Sand	9741.00	0.00	4.70	9741.00	5810.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9741.00
	9800.00	0.00	4.70	9800.00	5869.00	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9800.00
KOP 10' DLB	9895.50	0.00	4.70	9895.50	5964.50	0.00	0.00	0.00	0.00	618571.62	807977.04	N 32 41 51.00	W 103 27 59.62	0.00	0.00	9895.50

Comments	MD (ft)	Incl (°)	Azin Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')	Closure Azimuth (°)	Closure (ft)	DeltaMD (ft)
	9900.00	0 45	4.70	9900.00	9989.00	0 02	0 02	0.00	10.00	818571.84	807977.04	N 32 41 51.00	W 103 27 59.82	4 70	0.02	4.50
	10000.00	10.45	4.70	9989.42	8088.42	9.50	9.47	0.78	10.00	818581.09	807977.82	N 32 41 51.10	W 103 27 59.81	4.70	9.50	104.50
	10100.00	20 45	4.70	10085.69	8184.69	38.11	35.89	2.98	10.00	818907.91	807980.00	N 32 41 51.38	W 103 27 59.58	4.70	38.11	204.50
	10200.00	30.45	4.70	10185.87	8254.87	78.03	78.78	6.47	10.00	818850.38	807983.51	N 32 41 51.78	W 103 27 59.53	4.70	78.03	304.50
	10300.00	40.45	4.70	10287.23	8338.23	138.95	138.49	11.22	10.00	818708.11	807988.28	N 32 41 52.35	W 103 27 59.47	4.70	138.95	404.50
	10400.00	50.45	4.70	10337.29	8408.29	208.13	207.43	17.05	10.00	818778.04	807994.09	N 32 41 53.05	W 103 27 59.40	4.70	208.13	504.50
	10500.00	60.45	4.70	10393.83	8482.93	290.38	289.41	23.79	10.00	818861.03	808000.83	N 32 41 53.88	W 103 27 59.31	4.70	290.38	604.50
	10600.00	70.45	4.70	10435.43	8504.43	381.23	379.95	31.23	10.00	818951.56	808008.27	N 32 41 54.78	W 103 27 59.22	4.70	381.23	704.50
	10700.00	80.45	4.70	10480.52	8529.52	477.90	478.29	39.15	10.00	819047.91	808016.19	N 32 41 55.71	W 103 27 59.11	4.70	477.90	804.50
	10800.00	90.45	4.70	10488.44	8537.44	577.48	575.52	47.31	10.00	819147.13	808024.35	N 32 41 56.69	W 103 27 59.01	4.70	577.48	904.50
	10810.41	91.49	4.70	10488.28	8537.28	587.87	585.89	48.16	10.00	819157.50	808025.20	N 32 41 56.80	W 103 27 59.00	4.70	587.87	914.91
	10900.00	91.49	4.70	10485.93	8534.93	677.43	675.15	55.50	0 00	819248.78	808032.53	N 32 41 57.68	W 103 27 58.90	4.70	677.43	89.59
	11000.00	91.49	4.70	10483.33	8532.33	777.39	774.78	63.88	0 00	819348.39	808040.72	N 32 41 58.68	W 103 27 58.80	4.70	777.39	189.59
	11100.00	91.49	4.70	10480.73	8529.73	877.36	874.41	71.87	0.00	819448.02	808048.91	N 32 41 59.65	W 103 27 58.69	4.70	877.36	289.59
	11200.00	91.49	4.70	10458.13	8527.13	977.32	974.04	80.08	0.00	819545.65	808057.10	N 32 42 0.63	W 103 27 58.59	4.70	977.32	389.59
	11300.00	91.49	4.70	10455.52	8524.52	1077.29	1073.67	88.25	0 00	819645.28	808065.29	N 32 42 1.62	W 103 27 58.48	4.70	1077.29	489.59
	11400.00	91.49	4.70	10452.92	8521.92	1177.26	1173.30	98.44	0.00	819744.91	808073.48	N 32 42 2.60	W 103 27 58.38	4.70	1177.26	589.59
	11500.00	91.49	4.70	10450.32	8519.32	1277.22	1272.93	104.83	0 00	819844.54	808081.87	N 32 42 3.59	W 103 27 58.27	4.70	1277.22	689.59
	11600.00	91.49	4.70	10447.72	8516.72	1377.19	1372.58	112.82	0.00	819944.18	808089.88	N 32 42 4.57	W 103 27 58.17	4.70	1377.19	789.59
	11700.00	91.49	4.70	10445.11	8514.11	1477.15	1472.19	121.01	0.00	820043.79	808098.05	N 32 42 5.58	W 103 27 58.06	4.70	1477.15	889.59
	11800.00	91.49	4.70	10442.51	8511.51	1577.12	1571.82	129.20	0.00	820143.42	808108.24	N 32 42 6.54	W 103 27 57.98	4.70	1577.12	989.59
	11800.00	91.49	4.70	10439.91	8508.91	1677.09	1671.45	137.39	0.00	820243.05	808114.42	N 32 42 7.53	W 103 27 57.85	4.70	1677.09	1089.59
	12000.00	91.49	4.70	10437.31	8506.31	1777.05	1771.08	145.57	0 00	820342.88	808122.81	N 32 42 8.51	W 103 27 57.75	4.70	1777.05	1189.59
	12100.00	91.49	4.70	10434.70	8503.70	1877.02	1870.71	153.76	0.00	820442.31	808130.80	N 32 42 9.50	W 103 27 57.64	4.70	1877.02	1289.59
	12200.00	91.49	4.70	10432.10	8501.10	1978.99	1970.34	161.95	0.00	820541.94	808138.99	N 32 42 10.48	W 103 27 57.53	4.70	1978.99	1389.59
	12300.00	91.49	4.70	10429.50	8498.50	2078.95	2069.87	170.14	0.00	820641.57	808147.18	N 32 42 11.47	W 103 27 57.43	4.70	2078.95	1489.59
	12400.00	91.49	4.70	10426.89	8495.89	2178.92	2169.80	178.33	0.00	820741.20	808155.37	N 32 42 12.45	W 103 27 57.32	4.70	2178.92	1589.59
	12500.00	91.49	4.70	10424.29	8493.29	2278.88	2269.23	186.52	0.00	820840.83	808163.58	N 32 42 13.44	W 103 27 57.22	4.70	2278.88	1689.59
	12600.00	91.49	4.70	10421.69	8490.69	2378.85	2368.86	194.71	0.00	820940.45	808171.74	N 32 42 14.42	W 103 27 57.11	4.70	2378.85	1789.59
	12700.00	91.49	4.70	10419.08	8488.08	2478.82	2468.49	202.90	0.00	821040.08	808179.93	N 32 42 15.41	W 103 27 57.01	4.70	2478.82	1889.59
	12800.00	91.49	4.70	10416.48	8485.48	2578.78	2568.12	211.08	0 00	821139.71	808188.12	N 32 42 16.39	W 103 27 56.90	4.70	2578.78	1989.59
	12900.00	91.49	4.70	10413.88	8482.88	2678.75	2667.75	219.27	0.00	821239.34	808196.31	N 32 42 17.38	W 103 27 56.80	4.70	2678.75	2089.59
	13000.00	91.49	4.70	10411.27	8480.27	2778.71	2767.38	227.48	0.00	821338.97	808204.50	N 32 42 18.36	W 103 27 56.69	4.70	2778.71	2189.59
	13100.00	91.49	4.70	10408.67	8477.67	2878.68	2867.01	235.85	0.00	821438.60	808212.69	N 32 42 19.35	W 103 27 56.59	4.70	2878.68	2289.59
	13200.00	91.49	4.70	10406.06	8475.06	2978.65	2966.64	243.84	0.00	821538.23	808220.87	N 32 42 20.34	W 103 27 56.48	4.70	2978.65	2389.59
	13300.00	91.49	4.70	10403.46	8472.46	3078.61	3066.27	252.02	0.00	821637.86	808229.06	N 32 42 21.32	W 103 27 56.38	4.70	3078.61	2489.59
	13400.00	91.49	4.70	10400.86	8469.86	3178.58	3165.90	260.21	0.00	821737.49	808237.25	N 32 42 22.31	W 103 27 56.27	4.70	3178.58	2589.59
	13500.00	91.49	4.70	10398.25	8467.25	3278.54	3265.53	268.40	0.00	821837.12	808245.44	N 32 42 23.29	W 103 27 56.16	4.70	3278.54	2689.59
	13600.00	91.49	4.70	10395.65	8464.65	3378.51	3365.16	276.59	0.00	821936.74	808253.63	N 32 42 24.28	W 103 27 56.06	4.70	3378.51	2789.59
	13700.00	91.49	4.70	10393.04	8462.04	3478.48	3464.79	284.78	0.00	822036.37	808261.81	N 32 42 25.28	W 103 27 55.95	4.70	3478.48	2889.59
	13800.00	91.49	4.70	10390.44	8459.44	3578.44	3564.42	292.97	0.00	822136.00	808270.00	N 32 42 26.25	W 103 27 55.85	4.70	3578.44	2989.59
	13900.00	91.49	4.70	10387.83	8456.83	3678.41	3664.05	301.15	0.00	822235.63	808278.19	N 32 42 27.23	W 103 27 55.74	4.70	3678.41	3089.59
	14000.00	91.49	4.70	10385.23	8454.23	3778.38	3763.88	309.34	0.00	822335.26	808286.38	N 32 42 28.22	W 103 27 55.64	4.70	3778.38	3189.59
	14100.00	91.49	4.70	10382.63	8451.63	3878.34	3863.31	317.53	0.00	822434.89	808294.57	N 32 42 29.20	W 103 27 55.53	4.70	3878.34	3289.59
	14200.00	91.49	4.70	10380.02	8449.02	3978.31	3962.94	325.72	0 00	822534.52	808302.75	N 32 42 30.19	W 103 27 55.43	4.70	3978.31	3389.59
	14300.00	91.49	4.70	10377.42	8446.42	4078.27	4062.57	333.90	0.00	822634.15	808310.94	N 32 42 31.17	W 103 27 55.32	4.70	4078.27	3489.59
	14400.00	91.49	4.70	10374.81	8443.81	4178.24	4162.20	342.09	0.00	822733.78	808319.13	N 32 42 32.16	W 103 27 55.22	4.70	4178.24	3589.59
	14500.00	91.49	4.70	10372.21	8441.21	4278.21	4261.83	350.28	0 00	822833.41	808327.32	N 32 42 33.14	W 103 27 55.11	4.70	4278.21	3689.59

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLB (*/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure Azimuth (°)	Closure (ft)	DeltaMD (ft)
McElvain South Ironhouse 33 State 1H (Preferred) - Adjusted PBHL	14800.00	91.49	4.70	10389.60	8438.80	4378.17	4361.47	358.47	0.00	822933.04	808335.50	N 32 42 34.13	W 103 27 55.01	4.70	4378.17	3789.59
	14700.00	91.49	4.70	10387.00	8436.00	4478.14	4461.10	388.85	0.00	823032.86	808343.89	N 32 42 35.11	W 103 27 54.90	4.70	4478.14	3889.59
	14800.00	91.49	4.70	10384.39	8433.39	4578.10	4560.73	374.84	0.00	823132.29	808351.88	N 32 42 36.10	W 103 27 54.80	4.70	4578.10	3989.59
	14834.18	91.49	4.70	10383.50	8432.50	4610.27	4594.78	377.64	0.00	823188.34	808354.68	N 32 42 36.43	W 103 27 54.76	4.70	4610.27	4023.77

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95 000% Confidence 2.7955 sigma

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
	0.000	18.000	1/100.000	SLB_MWD-STD-Depth Only	Original Borehole / McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12
	18.000	14834.177	1/100.000	SLB_MWD-STD	Original Borehole / McElvain South Ironhouse 33 State 1H (Preferred) Rev1 mcs 30Aug12