

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-8181 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-8178 Fax: (505) 334-8170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, N.M. 87505

AS DRILLED PLAT

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 35070	² Pool Code 71599 / 72319	³ Pool Name BASIN DAKOTA / BLANCO MESA VERDE
⁴ Property Code 31728	⁵ Property Name HARDIE	⁶ Well Number 2N
⁷ GRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 6399

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	28	29 N	8 W		2363	SOUTH	1694	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

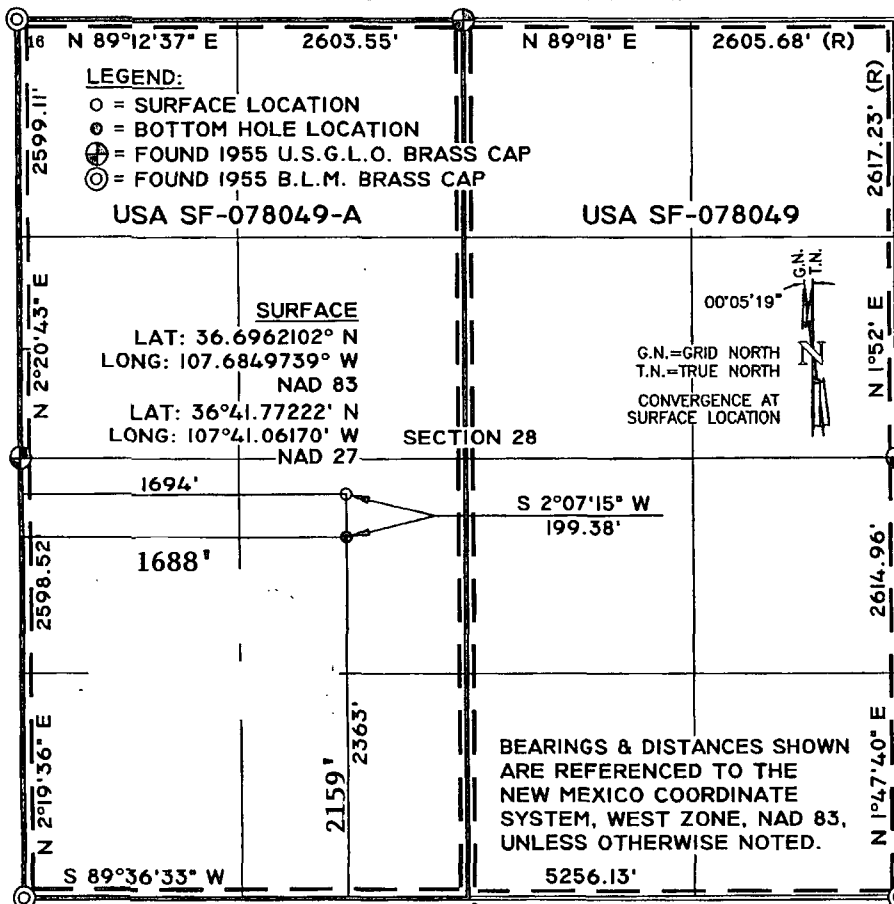
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	28	29 N	8 W		2159'	SOUTH	1688'	WEST	SAN JUAN

¹² Dedicated Acres 320 (W/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
---	-------------------------------	----------------------------------	-------------------------

RCVD APR 24 '13
OIL CONS. DIV.

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

DIST. 3



¹⁷ 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.

Arleen White 4/24/13
Signature Date

Arleen White
Printed Name

E-mail Address

¹⁸ 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.

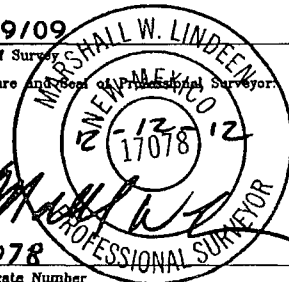
4/29/09

Date of Survey
Signature and Seal of Professional Surveyor

17078

17078

17078
Certificate Number



PC

Operator CONOCOPHILLIPS COMPANY	Legal WellName HARDIE #2N	API / UWI 3004535070	County SAN JUAN	State/Province NEW MEXICO
Surface Legal Location 028-029N-008W-K	N/S Dist (ft) 2,363.00	N/S Ref FSL	E/W Dist (ft) 1,694.00	E/W Ref FWL

Survey Data						
Date	MD (ftKB)	Incl(°)	Azm (°)	Method	Survey Company	
1/17/2013	128.00	1.00	227.10	Inc-Drop	Mo Te Drilling Inc	
1/17/2013	234.00	0.50	227.10	Inc-Drop	Mo Te Drilling Inc	
2/16/2013	269.00	0.81	227.10	IncAzi-MWD	Scientific Drilling	
2/16/2013	331.00	1.44	206.81	IncAzi-MWD	Scientific Drilling	
2/16/2013	392.00	2.26	191.17	IncAzi-MWD	Scientific Drilling	
2/16/2013	454.00	3.51	181.39	IncAzi-MWD	Scientific Drilling	
2/16/2013	515.00	4.71	176.21	IncAzi-MWD	Scientific Drilling	
2/16/2013	577.00	5.78	173.06	IncAzi-MWD	Scientific Drilling	
2/16/2013	639.00	7.09	174.78	IncAzi-MWD	Scientific Drilling	
2/16/2013	699.00	8.41	178.10	IncAzi-MWD	Scientific Drilling	
2/16/2013	760.00	9.52	179.40	IncAzi-MWD	Scientific Drilling	
2/16/2013	820.00	9.57	179.32	IncAzi-MWD	Scientific Drilling	
2/17/2013	884.00	10.55	178.82	IncAzi-MWD	Scientific Drilling	
2/17/2013	946.00	11.39	180.24	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,010.00	11.38	179.67	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,072.00	11.23	178.96	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,135.00	11.37	179.69	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,198.00	11.50	179.21	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,261.00	11.21	178.92	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,325.00	11.44	178.29	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,387.00	11.34	178.28	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,451.00	10.61	180.83	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,513.00	8.67	186.95	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,576.00	6.50	184.27	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,640.00	4.47	181.69	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,703.00	2.64	188.38	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,766.00	1.43	207.60	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,830.00	1.68	203.44	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,893.00	0.76	228.74	IncAzi-MWD	Scientific Drilling	
2/17/2013	1,956.00	0.41	320.66	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,019.00	0.45	346.01	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,082.00	0.31	317.16	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,145.00	0.26	319.42	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,208.00	0.34	325.88	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,271.00	0.38	296.28	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,334.00	0.38	313.88	IncAzi-MWD	Scientific Drilling	

I, the undersigned, certify that I acting in my capacity as _____ for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.

Subscribed and sworn to me this _____

Notary Public in and for San Juan County, New Mexico

My Commission expires _____

Survey Data						
Date	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company	
2/17/2013	2,398.00	0.33	280.59	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,461.00	0.20	311.84	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,524.00	0.23	266.22	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,651.00	0.14	39.79	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,714.00	0.21	37.14	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,778.00	0.17	337.59	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,841.00	0.14	324.00	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,905.00	0.20	10.59	IncAzi-MWD	Scientific Drilling	
2/17/2013	2,967.00	0.24	7.38	IncAzi-MWD	Scientific Drilling	
2/17/2013	3,031.00	0.10	141.29	IncAzi-MWD	Scientific Drilling	
2/17/2013	3,094.00	0.14	93.02	IncAzi-MWD	Scientific Drilling	
2/17/2013	3,158.00	0.15	25.07	IncAzi-MWD	Scientific Drilling	
2/17/2013	3,195.00	0.33	170.46	IncAzi-MWD	Scientific Drilling	
2/17/2013	3,250.00	0.33	170.46	Projection	Scientific Drilling	
2/27/2013	7,437.00	1.25		Inc-WL	Phoenix Services LLC	

I, the undersigned, certify that I acting in my capacity as Drilling Engineer for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.



Subscribed and sworn to me this 4/12/13



Notary Public in and for San Juan County, New Mexico

My Commission expires 5/26/15



RCVD APR 24 '13
OIL CONS. DIV.
DIST. 3

ConocoPhillips

SJB (NM West)
SEC 28-T29N-R8W
Hardie 2N

OH 30-045-35070

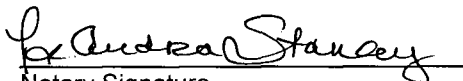
Design: OH

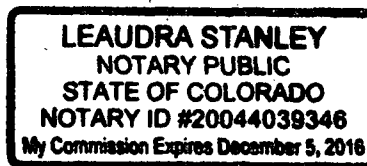
Standard Survey Report

25 February, 2013

This survey is correct to the best of my knowledge and is supported by actual field data.

Notarized this date 25th of February, 2013.


Notary Signature
County of Mesa
State of Colorado





Project: SJB (NM West)
Site: SEC 28-T29N-R8W
Well: Hardie 2N
Wellbore: OH
Design: OH



Scientific Drilling

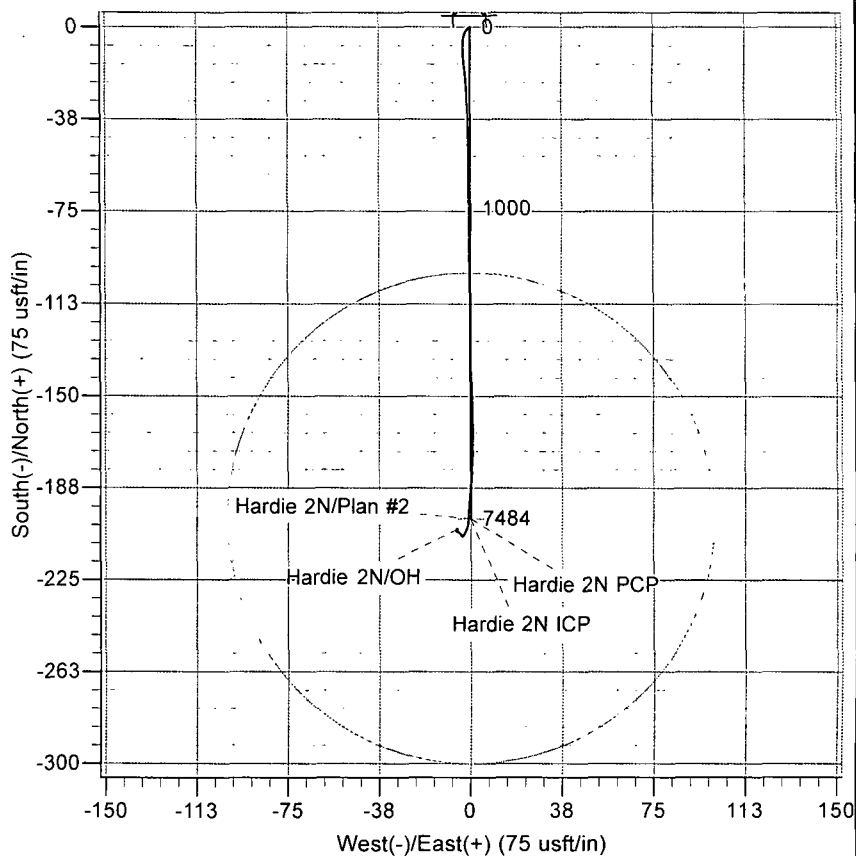
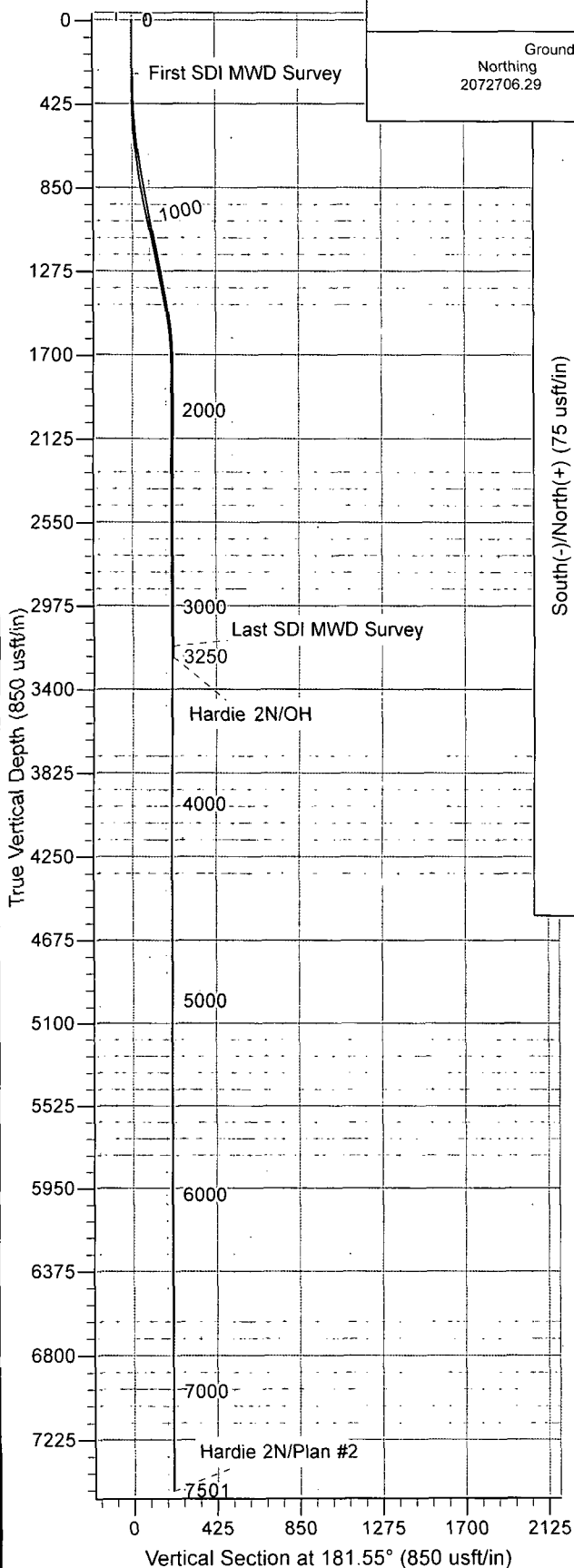


Azimuths to True North
Magnetic North: 9.70°

Magnetic Field
Strength: 50493.6snT
Dip Angle: 63.38°
Date: 02/11/2013
Model: BGGM2012

WELL DETAILS: Hardie 2N

Ground Level: GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Northing 2072706.29 Easting 543674.46 Latitude 36° 41' 46.333 N Longitude 107° 41' 3.702 W



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Hardie 2N, True North
Vertical (TVD) Reference: GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Calculation Method: Minimum Curvature
Local North: True

PROJECT DETAILS: SJB (NM West)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico West 3003

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well Hardie 2N
Project:	SJB (NM West)	TVD Reference:	GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Site:	SEC 28-T29N-R8W	MD Reference:	GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Well:	Hardie 2N	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Farmington 5000 DB

Project	SJB (NM West), San Juan County, New Mexico, S-Type MV/DK Wells		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		Using geodetic scale factor

Site	SEC 28-T29N-R8W		
Site Position:		Northing:	2,071,226.74 usft
From:	Lat/Long	Easting:	542,660.35 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	36° 41' 31.717 N
		Longitude:	107° 41' 16.182 W
		Grid Convergence:	0.09 °

Well	Hardie 2N, 2363' FSL & 1694' FWL		
Well Position	+N/-S	0.0 usft	Northing: 2,072,706.29 usft
	+E/-W	0.0 usft	Easting: 543,674.46 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	36° 41' 46.333 N
		Longitude:	107° 41' 3.702 W
		Ground Level:	6,399.0 usft

Wellbore	OH		
----------	----	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	02/11/2013	9.70	63.38	50,494

Design	OH		
--------	----	--	--

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	181.55

Survey Program		Date 02/25/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
269.0	3,250.0	Survey #1 - SDI MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
269.0	0.81	227.10	269.0	-1.3	-1.4	1.3	0.30	0.30	0.00
First SDI MWD Survey									
331.0	1.44	206.81	331.0	-2.3	-2.1	2.3	1.19	1.02	-32.73
392.0	2.26	191.17	391.9	-4.2	-2.6	4.2	1.57	1.34	-25.64
454.0	3.51	181.39	453.9	-7.2	-2.9	7.3	2.16	2.02	-15.77
515.0	4.71	176.21	514.7	-11.6	-2.8	11.7	2.06	1.97	-8.49
577.0	5.78	173.06	576.4	-17.3	-2.3	17.3	1.79	1.73	-5.08
639.0	7.09	174.78	638.1	-24.2	-1.5	24.2	2.14	2.11	2.77
699.0	8.41	178.10	697.5	-32.2	-1.1	32.3	2.32	2.20	5.53
760.0	9.52	179.41	757.8	-41.7	-0.9	41.7	1.85	1.82	2.15

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well Hardie 2N
Project:	SJB (NM West)	TVD Reference:	GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Site:	SEC 28-T29N-R8W	MD Reference:	GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Well:	Hardie 2N	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Farmington 5000 DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
820.0	9.57	179.32	816.9	-51.7	-0.7	51.7	0.09	0.08	-0.15
884.0	10.55	178.82	879.9	-62.9	-0.6	62.9	1.54	1.53	-0.78
946.0	11.39	180.24	940.8	-74.7	-0.5	74.6	1.42	1.35	2.29
1,010.0	11.38	179.67	1,003.6	-87.3	-0.5	87.3	0.18	-0.02	-0.89
1,072.0	11.23	178.96	1,064.3	-99.4	-0.3	99.4	0.33	-0.24	-1.15
1,135.0	11.37	179.69	1,126.1	-111.8	-0.2	111.8	0.32	0.22	1.16
1,198.0	11.50	179.21	1,187.9	-124.3	0.0	124.2	0.26	0.21	-0.76
1,261.0	11.21	178.92	1,249.6	-136.7	0.2	136.6	0.47	-0.46	-0.46
1,325.0	11.44	178.29	1,312.4	-149.2	0.5	149.2	0.41	0.36	-0.98
1,387.0	11.34	178.28	1,373.2	-161.5	0.8	161.4	0.16	-0.16	-0.02
1,451.0	10.61	180.83	1,436.0	-173.7	0.9	173.6	1.37	-1.14	3.98
1,513.0	8.67	186.95	1,497.1	-184.0	0.3	183.9	3.53	-3.13	9.87
1,576.0	6.50	184.27	1,559.6	-192.3	-0.6	192.2	3.49	-3.44	-4.25
1,640.0	4.47	181.69	1,623.3	-198.4	-0.9	198.3	3.19	-3.17	-4.03
1,703.0	2.64	188.38	1,686.2	-202.3	-1.2	202.2	2.97	-2.90	10.62
1,766.0	1.43	207.60	1,749.1	-204.4	-1.8	204.4	2.18	-1.92	30.51
1,830.0	1.68	203.44	1,813.1	-206.0	-2.5	206.0	0.43	0.39	-6.50
1,893.0	0.76	228.74	1,876.1	-207.1	-3.2	207.1	1.66	-1.46	40.16
1,956.0	0.41	320.66	1,939.1	-207.2	-3.6	207.2	1.39	-0.56	145.91
2,019.0	0.45	346.01	2,002.1	-206.8	-3.8	206.8	0.31	0.06	40.24
2,082.0	0.31	317.16	2,065.1	-206.4	-4.0	206.5	0.37	-0.22	-45.79
2,145.0	0.26	319.42	2,128.1	-206.2	-4.2	206.2	0.08	-0.08	3.59
2,208.0	0.34	325.88	2,191.1	-205.9	-4.4	206.0	0.14	0.13	10.25
2,271.0	0.38	296.28	2,254.1	-205.7	-4.7	205.7	0.30	0.06	-46.98
2,334.0	0.38	313.88	2,317.1	-205.4	-5.1	205.5	0.18	0.00	27.94
2,398.0	0.33	280.59	2,381.1	-205.3	-5.4	205.3	0.33	-0.08	-52.02
2,461.0	0.20	311.84	2,444.1	-205.2	-5.7	205.2	0.30	-0.21	49.60
2,524.0	0.23	266.22	2,507.1	-205.1	-5.9	205.2	0.27	0.05	-72.41
2,588.0	0.08	329.60	2,571.1	-205.1	-6.0	205.1	0.32	-0.23	99.03
2,651.0	0.14	39.79	2,634.1	-205.0	-6.0	205.1	0.22	0.10	111.41
2,714.0	0.21	37.14	2,697.1	-204.8	-5.9	204.9	0.11	0.11	-4.21
2,778.0	0.17	337.59	2,761.1	-204.6	-5.8	204.7	0.30	-0.06	-93.05
2,841.0	0.14	324.00	2,824.1	-204.5	-5.9	204.6	0.08	-0.05	-21.57
2,905.0	0.20	10.56	2,888.1	-204.3	-5.9	204.4	0.23	0.09	72.75
2,967.0	0.24	7.38	2,950.1	-204.1	-5.9	204.2	0.07	0.06	-5.13
3,031.0	0.10	141.29	3,014.1	-204.0	-5.8	204.1	0.50	-0.22	209.23
3,094.0	0.14	93.02	3,077.1	-204.0	-5.7	204.1	0.17	0.06	-76.62
3,158.0	0.15	25.07	3,141.1	-204.0	-5.6	204.0	0.25	0.02	-106.17
3,195.0	0.33	170.46	3,178.1	-204.0	-5.6	204.1	1.25	0.49	392.88
Last SDI MWD Survey									
3,250.0	0.33	170.46	3,233.1	-204.3	-5.5	204.4	0.00	0.00	0.00

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well Hardie 2N
Project:	SJB (NM West)	TVD Reference:	GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Site:	SEC 28-T29N-R8W	MD Reference:	GL 6399' & RKB 15' @ 6414.0usft (AWS 711)
Well:	Hardie 2N	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Farmington 5000 DB

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
269.0	269.0	-1.3	-1.4	First SDI MWD Survey
3,195.0	3,178.1	-204.0	-5.6	Last SDI MWD Survey

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------