

Results of Directional Survey

API number:	30-025-41409		
OGRID:		Operator:	COG OPERATING LLC
		Property:	SNEED 9 FEDERAL COM # 2H

surface	ULSTR:	D	09	T 17S	R 32E
				990 FNL	150 FWL

BH Loc	ULSTR:	A	09	T 17S	R 32E
10186	MD	5661.4	TVD	938 FNL	393 FEL
				938 FNL	4887 FWL

Top Perf/OH	ULSTR:	D	09	T 17S	R 32E
5920	MD	5710.1	TVD	986 FNL	625 FWL

Bot Perf/OH	ULSTR:	A	09	T 17S	R 32E
10100	MD	5661.0	TVD	938 FNL	479 FEL
				938 FNL	4801 FWL

	MD	N/S	E/W	VD
	5907	3.01	461.93	5706.95
TOP PERFS/OH	5920	3.81	474.52	5710.10
	5939	4.98	492.91	5714.71
	10040	51.81	4591.30	5661.03
BOT PERFS/OH	10100	51.60	4651.30	5661.03
	10121	51.52	4672.30	5661.03

NEXT TO LAST	10121	51.52	4672.30	5661.03
LAST READING	10186	51.52	4737.29	5661.37
TD	10186	51.52	4737.29	5661.37

Surface Location	990	FN	150	FW
Projected BHL	938	FN	4887	FW
Location of				
Top Perfs/OH	986	FN	625	FW
Bottom Perfs/OH	938	FN	4801	FW

SUMMARY of Subsurface Locations

Surface Location	D-09-17S-32E	990	FN	150	FW	Vert. Depth
Top Perfs/OH	D-09-17S-32E	986	FN	625	FW	5710.10
Bottom Perfs/OH	A-09-17S-32E	938	FN	4801	FW	5661.03
Projected TD	A-09-17S-32E	938	FN	4887	FW	5661.37

SEP 26 2014



June 27, 2014

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

HOBBS OCD

SEP 02 2014

RECEIVED

Attn: Kanicia Castillo

RE: **Sneed 9 Federal Com No. 002H**

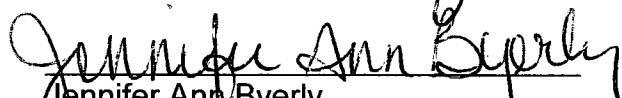
Please find enclosed a copy of the survey from 0.00' to 5,030.00' ran on the above referenced well.

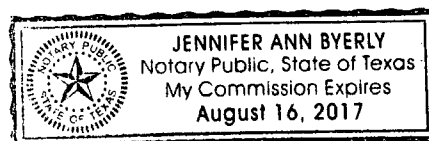
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 27 day of June, A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas



Company: COG OPERATING , LLC
Lease/Well: SNEED 9 FEDERAL COM /No. 002H



Rig Name: UNITED 43
State/County: NEW MEXICO /LEA
Latitude: 32.85, Longitude: -103.78
GRID North is 0.30 Degrees East of True North
VS-Azi: 0.00 Degrees



HOBBS OCD
SEP 02 2014
RECEIVED

Depth Reference : R.K.B = 14

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: sneed 9 federal com 2h -de_01.ut

Minimum Curvature Method

Report Date/Time: 6/27/2014 / 13:38

VES Survey International

(432) 563-5444

West Texas

Surveyor: Javier Estrada

Sneed 9 Federal Com No. 002H / API 30-025-41409

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.71	72.25	100.00	0.19	0.59	0.19	0.62	72.25	0.71
200.00	0.89	61.35	199.99	0.75	1.86	0.75	2.01	68.06	0.23
300.00	0.77	63.55	299.98	1.42	3.14	1.42	3.45	65.68	0.12
400.00	0.59	78.52	399.97	1.82	4.25	1.82	4.63	66.80	0.25
500.00	0.47	64.86	499.97	2.10	5.13	2.10	5.54	67.75	0.18
600.00	0.83	65.17	599.96	2.58	6.16	2.58	6.68	67.29	0.37
700.00	0.92	70.31	699.95	3.15	7.57	3.15	8.20	67.40	0.11
800.00	0.95	83.71	799.93	3.51	9.15	3.51	9.80	68.99	0.22
900.00	0.77	101.98	899.92	3.46	10.63	3.46	11.18	71.95	0.32
1000.00	0.70	98.97	999.92	3.23	11.89	3.23	12.32	74.80	0.08
1100.00	0.86	83.21	1099.91	3.22	13.24	3.22	13.62	76.31	0.27
1200.00	0.83	89.45	1199.90	3.32	14.71	3.32	15.08	77.29	0.10
1300.00	0.58	74.97	1299.89	3.46	15.93	3.46	16.30	77.75	0.31
1400.00	0.74	36.40	1399.88	4.11	16.80	4.11	17.30	76.25	0.46
1500.00	0.86	56.03	1499.87	5.05	17.81	5.05	18.51	74.16	0.30
1600.00	0.52	37.31	1599.86	5.83	18.70	5.83	19.59	72.68	0.41
1700.00	0.93	14.65	1699.86	6.97	19.18	6.97	20.41	70.02	0.49
1800.00	1.28	38.13	1799.84	8.63	20.07	8.63	21.85	66.74	0.56

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	1.70	42.59	1899.80	10.60	21.76	10.60	24.21	64.04	0.44
2000.00	2.07	48.12	1999.75	12.89	24.11	12.89	27.34	61.86	0.41
2100.00	1.84	42.78	2099.69	15.28	26.55	15.28	30.63	60.08	0.29
2200.00	1.86	48.87	2199.64	17.53	28.86	17.53	33.77	58.73	0.20
2300.00	1.50	55.75	2299.60	19.34	31.17	19.34	36.68	58.19	0.41
2400.00	0.97	67.36	2399.57	20.40	33.04	20.40	38.83	58.31	0.58
2500.00	0.59	87.92	2499.56	20.75	34.34	20.75	40.12	58.86	0.47
2600.00	0.44	113.57	2599.56	20.61	35.20	20.61	40.79	59.65	0.27
2700.00	0.20	188.44	2699.56	20.29	35.53	20.29	40.91	60.27	0.43
2800.00	0.25	267.21	2799.56	20.11	35.29	20.11	40.62	60.32	0.28
2900.00	0.32	275.50	2899.56	20.13	34.80	20.13	40.20	59.96	0.08
3000.00	0.24	319.39	2999.56	20.31	34.39	20.31	39.94	59.43	0.22
3100.00	0.19	258.99	3099.56	20.44	34.09	20.44	39.75	59.05	0.22
3200.00	0.52	252.62	3199.55	20.27	33.50	20.27	39.16	58.82	0.33
3300.00	0.61	260.39	3299.55	20.05	32.54	20.05	38.22	58.36	0.12
3400.00	0.89	272.87	3399.54	20.00	31.23	20.00	37.09	57.37	0.32
3500.00	0.85	284.51	3499.53	20.23	29.74	20.23	35.96	55.78	0.18
3600.00	0.65	290.33	3599.52	20.61	28.49	20.61	35.16	54.12	0.22
3700.00	0.50	289.34	3699.51	20.95	27.55	20.95	34.61	52.75	0.15
3800.00	0.48	273.99	3799.51	21.12	26.72	21.12	34.06	51.68	0.13
3900.00	0.57	257.68	3899.51	21.04	25.82	21.04	33.31	50.81	0.17
4000.00	0.75	267.84	3999.50	20.91	24.68	20.91	32.35	49.72	0.21
4100.00	0.81	259.20	4099.49	20.76	23.33	20.76	31.23	48.34	0.13
4200.00	0.79	273.78	4199.48	20.67	21.95	20.67	30.15	46.72	0.20
4300.00	0.71	259.05	4299.47	20.60	20.66	20.60	29.17	45.08	0.21
4400.00	0.58	255.91	4399.47	20.36	19.56	20.36	28.23	43.85	0.14
4500.00	0.52	232.18	4499.46	19.96	18.71	19.96	27.36	43.16	0.23
4600.00	0.72	206.28	4599.46	19.11	18.08	19.11	26.31	43.40	0.34
4700.00	0.80	201.04	4699.45	17.89	17.55	17.89	25.06	44.44	0.11
4800.00	0.50	223.12	4799.44	16.92	16.99	16.92	23.98	45.13	0.39
4900.00	0.43	248.30	4899.44	16.46	16.35	16.46	23.20	44.80	0.22
5000.00	0.49	240.79	4999.43	16.11	15.62	16.11	22.44	44.12	0.09
5030.00	0.24	228.04	5029.43	16.01	15.46	16.01	22.26	44.01	0.86



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Sneed 9 Federal Com Well No. 2H
Project:	Lea County, New Mexico	TVD Reference:	RKB=4082+13.5 @ 4095.50usft (United #43)
Site:	Sneed 9 Federal Com	MD Reference:	RKB=4082+13.5 @ 4095.50usft (United #43)
Well:	Sneed 9 Federal Com Well No. 2H	North Reference:	Grid
Wellbore:	Original hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original hole	Database:	EDM 5000.1 Ddatabase

Project: Lea County, New Mexico			
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site						Sneed 9 Federal Com																				
Site Position:			Northing:			674,688.50			usft			Latitude:			32.85357497											
From:		Map		Easting:			670,216.50			usft			Longitude:			-103.77904584										
Position Uncertainty:			0.00			usft			Slot Radius:			13-3/16			"			Grid Convergence:			0.30			°		

Well	Sneed 9 Federal Com Well No. 2H					
Well Position	+N-S	0.00 usft	Northing:	674,688.50 usft	Latitude:	32.85357497
	+E-W	0.00 usft	Easting:	670,216.50 usft	Longitude:	-103.77904584
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	4,082.00 usft

Wellbore	Original hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/16/2014	7.37	60.66	48,675

Design:	Surveys Original hole			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	89.79



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Well:	Sneed 9 Federal Com Well No. 2H	North Reference:	Grid
Wellbore:	Original hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original hole	Database:	EDM 5000.1 Database

Survey/Program		Date	6/24/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	5,030.00	Gyro (Original hole)	NS-GYRO-MS	North sensing gyrocompassing m/s	
5,086.00	10,186.00	MWD (Original hole)	MWD	MWD - Standard	

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	674,688.50	670,216.50	
100.00	0.71	72.25	100.00	0.19	0.59	0.71	0.59	674,688.69	670,217.09	
Gyro										
200.00	0.89	61.35	199.99	0.75	1.86	0.23	1.86	674,689.25	670,218.36	
300.00	0.77	63.55	299.98	1.42	3.14	0.12	3.15	674,689.92	670,219.64	
400.00	0.59	78.52	399.97	1.82	4.25	0.25	4.26	674,690.32	670,220.75	
500.00	0.47	64.86	499.97	2.10	5.13	0.17	5.13	674,690.60	670,221.63	
600.00	0.83	65.17	599.96	2.58	6.16	0.36	6.16	674,691.08	670,222.66	
700.00	0.92	70.31	699.95	3.15	7.57	0.12	7.58	674,691.65	670,224.07	
800.00	0.95	83.71	799.93	3.51	9.15	0.22	9.16	674,692.01	670,225.65	
900.00	0.77	101.98	899.92	3.47	10.63	0.33	10.64	674,691.97	670,227.13	
1,000.00	0.70	98.97	999.92	3.23	11.89	0.08	11.90	674,691.73	670,228.39	
1,100.00	0.86	83.21	1,099.91	3.22	13.24	0.27	13.25	674,691.72	670,229.74	
1,200.00	0.83	89.45	1,199.90	3.32	14.71	0.10	14.72	674,691.82	670,231.21	
1,300.00	0.58	74.97	1,299.89	3.46	15.92	0.31	15.93	674,691.96	670,232.42	
1,400.00	0.74	36.40	1,399.88	4.11	16.79	0.46	16.81	674,692.61	670,233.29	
1,500.00	0.86	56.03	1,499.87	5.05	17.80	0.30	17.82	674,693.55	670,234.30	
1,600.00	0.52	37.31	1,599.86	5.83	18.70	0.40	18.72	674,694.33	670,235.20	
1,700.00	0.93	14.65	1,699.86	6.98	19.18	0.49	19.20	674,695.48	670,235.68	
1,800.00	1.28	38.13	1,799.84	8.64	20.07	0.57	20.10	674,697.14	670,236.57	
1,900.00	1.70	42.59	1,899.80	10.61	21.77	0.44	21.80	674,699.11	670,238.27	



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Sneed 9 Federal Com Well No. 2H
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Site:	Sneed 9 Federal Com	MD Reference:	RKB=4082+13.5 @ 4095.50usft (United #43)
Well:	Sneed 9 Federal Com Well No. 2H	North Reference:	Grid
Wellbore:	Original hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original hole	Database:	EDM 5000.1 Ddatabase

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
2,000.00	2.07	48.12	1,999.75	12.91	24.11	0.41	24.16	674,701.41	670,240.61	
2,100.00	1.84	42.78	2,099.69	15.29	26.55	0.29	26.60	674,703.79	670,243.05	
2,200.00	1.86	48.87	2,199.64	17.54	28.86	0.20	28.93	674,706.04	670,245.36	
2,300.00	1.50	55.75	2,299.60	19.34	31.17	0.41	31.24	674,707.84	670,247.67	
2,400.00	0.97	67.36	2,399.57	20.40	33.03	0.58	33.10	674,708.90	670,249.53	
2,500.00	0.59	87.92	2,499.56	20.75	34.32	0.47	34.40	674,709.25	670,250.82	
2,600.00	0.44	113.57	2,599.56	20.61	35.19	0.27	35.27	674,709.11	670,251.69	
2,700.00	0.20	188.44	2,699.56	20.29	35.52	0.43	35.59	674,708.79	670,252.02	
2,800.00	0.25	267.21	2,799.56	20.10	35.27	0.29	35.35	674,708.60	670,251.77	
2,900.00	0.32	275.50	2,899.56	20.12	34.78	0.08	34.85	674,708.62	670,251.28	
3,000.00	0.24	319.39	2,999.56	20.31	34.36	0.22	34.44	674,708.81	670,250.86	
3,100.00	0.19	258.99	3,099.56	20.43	34.06	0.22	34.14	674,708.93	670,250.56	
3,200.00	0.52	252.62	3,199.55	20.27	33.47	0.33	33.54	674,708.77	670,249.97	
3,300.00	0.61	260.39	3,299.55	20.04	32.51	0.12	32.58	674,708.54	670,249.01	
3,400.00	0.89	272.87	3,399.54	19.99	31.21	0.32	31.28	674,708.49	670,247.71	
3,500.00	0.85	284.51	3,499.53	20.22	29.72	0.18	29.79	674,708.72	670,246.22	
3,600.00	0.65	290.33	3,599.52	20.60	28.47	0.21	28.54	674,709.10	670,244.97	
3,700.00	0.50	289.34	3,699.51	20.94	27.52	0.15	27.60	674,709.44	670,244.02	
3,800.00	0.48	273.99	3,799.51	21.11	26.69	0.13	26.77	674,709.61	670,243.19	
3,900.00	0.57	257.68	3,899.51	21.04	25.79	0.17	25.87	674,709.54	670,242.29	
4,000.00	0.75	267.84	3,999.50	20.91	24.65	0.21	24.73	674,709.41	670,241.15	
4,100.00	0.81	259.20	4,099.49	20.75	23.30	0.13	23.38	674,709.25	670,239.80	
4,200.00	0.79	273.78	4,199.48	20.66	21.92	0.20	22.00	674,709.16	670,238.42	
4,300.00	0.71	259.05	4,299.47	20.59	20.62	0.21	20.70	674,709.09	670,237.12	
4,400.00	0.58	255.91	4,399.47	20.35	19.52	0.13	19.60	674,708.85	670,236.02	
4,500.00	0.52	232.18	4,499.46	19.95	18.67	0.23	18.75	674,708.45	670,235.17	
4,600.00	0.72	206.28	4,599.46	19.11	18.04	0.34	18.11	674,707.61	670,234.54	



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Site:	Sneed 9 Federal Com	MD Reference:	RKB=4082+13.5 @ 4095.50usft (United #43)
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Wellbore:	Original hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original hole	Database:	EDM 5000.1 Database

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
4,700.00	0.80	201.04	4,699.45	17.89	17.51	0.11	17.57	674,706.39	670,234.01	
4,800.00	0.50	223.12	4,799.44	16.92	16.96	0.39	17.02	674,705.42	670,233.46	
4,900.00	0.43	248.30	4,899.44	16.46	16.31	0.21	16.37	674,704.96	670,232.81	
5,000.00	0.49	240.79	4,999.43	16.12	15.59	0.08	15.65	674,704.62	670,232.09	
5,030.00	0.24	228.04	5,029.43	16.01	15.43	0.87	15.49	674,704.51	670,231.93	
5,086.00	0.40	171.90	5,085.43	15.74	15.37	0.59	15.43	674,704.24	670,231.87	
MWD surveys										
5,117.00	1.60	102.00	5,116.43	15.54	15.81	4.87	15.87	674,704.04	670,232.31	
5,148.00	3.90	95.30	5,147.39	15.36	17.29	7.48	17.34	674,703.86	670,233.79	
5,180.00	6.90	90.70	5,179.25	15.23	20.29	9.46	20.35	674,703.73	670,236.79	
5,212.00	10.00	89.70	5,210.89	15.22	24.99	9.70	25.05	674,703.72	670,241.49	
5,243.00	13.40	89.00	5,241.25	15.30	31.28	10.98	31.33	674,703.80	670,247.78	
5,275.00	16.50	88.60	5,272.16	15.48	39.53	9.69	39.59	674,703.98	670,256.03	
5,307.00	19.50	88.60	5,302.59	15.72	49.41	9.37	49.47	674,704.22	670,265.91	
5,338.00	22.50	89.00	5,331.53	15.95	60.52	9.69	60.58	674,704.45	670,277.02	
5,370.00	25.70	90.40	5,360.73	16.01	73.58	10.16	73.64	674,704.51	670,290.08	
5,402.00	28.90	93.50	5,389.17	15.48	88.25	10.94	88.30	674,703.98	670,304.75	
5,433.00	31.00	96.70	5,416.03	14.10	103.65	8.51	103.70	674,702.60	670,320.15	
5,465.00	32.70	98.80	5,443.21	11.81	120.38	6.34	120.42	674,700.31	670,336.88	
5,497.00	34.50	97.80	5,469.86	9.26	137.90	5.88	137.94	674,697.76	670,354.40	
5,528.00	37.00	96.70	5,495.02	6.98	155.87	8.33	155.89	674,695.48	670,372.37	
5,560.00	40.30	95.70	5,520.01	4.83	175.74	10.50	175.75	674,693.33	670,392.24	
5,592.00	44.00	95.70	5,543.73	2.69	197.10	11.56	197.11	674,691.19	670,413.60	
5,623.00	47.20	94.20	5,565.42	0.79	219.16	10.89	219.16	674,689.29	670,435.66	
5,655.00	49.80	92.50	5,586.62	-0.60	243.09	9.05	243.08	674,687.90	670,459.59	
5,687.00	51.90	90.40	5,606.82	-1.22	267.89	8.30	267.88	674,687.28	670,484.39	
5,718.00	53.80	89.00	5,625.54	-1.09	292.60	7.11	292.59	674,687.41	670,509.10	



Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well Sneed 9 Federal Com Well No: 2H
Project:	Lea County, New Mexico	TVD Reference:	RKB=4082+13.5 @ 4095.50usft (United #43)
Site:	Sneed 9 Federal Com	MD Reference:	RKB=4082+13.5 @ 4095.50usft (United #43)
Well:	Sneed 9 Federal Com Well No: 2H	North Reference:	Grid
Wellbore:	Original hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original hole	Database:	EDM 5000.1 Ddatabase

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
5,750.00	57.20	89.00	5,643.66	-0.63	318.96	10.62	318.96	674,687.87	670,535.46	
5,781.00	60.90	89.30	5,659.60	-0.24	345.54	11.96	345.54	674,688.26	670,562.04	
5,812.00	64.40	89.30	5,673.84	0.10	373.07	11.29	373.06	674,688.60	670,589.57	
5,844.00	68.10	88.60	5,686.73	0.64	402.35	11.73	402.35	674,689.14	670,618.85	
5,876.00	71.40	87.90	5,697.80	1.56	432.35	10.51	432.35	674,690.06	670,648.85	
5,880.00	71.77	87.72	5,699.07	1.70	436.14	10.30	436.15	674,690.20	670,652.64	
330 Hard line intercept @ 5880 MD										
5,907.00	74.30	86.50	5,706.95	3.01	461.93	10.30	461.94	674,691.51	670,678.43	
5,939.00	77.60	86.20	5,714.71	4.98	492.91	10.35	492.92	674,693.48	670,709.41	
5,971.00	81.30	86.90	5,720.57	6.88	524.30	11.76	524.33	674,695.38	670,740.80	
6,002.00	84.80	87.90	5,724.32	8.27	555.04	11.74	555.07	674,696.77	670,771.54	
6,034.00	88.50	88.60	5,726.19	9.25	586.96	11.77	586.99	674,697.75	670,803.46	
6,065.00	90.40	88.30	5,726.49	10.08	617.95	6.20	617.98	674,698.58	670,834.45	
6,159.00	90.60	88.30	5,725.67	12.87	711.90	0.21	711.95	674,701.37	670,928.40	
6,254.00	89.90	87.60	5,725.25	16.27	806.84	1.04	806.90	674,704.77	671,023.34	
6,349.00	93.30	87.60	5,722.60	20.25	901.71	3.58	901.78	674,708.75	671,118.21	
6,443.00	93.40	87.90	5,717.11	23.93	995.47	0.34	995.56	674,712.43	671,211.97	
6,538.00	90.30	87.90	5,714.04	27.41	1,090.35	3.26	1,090.44	674,715.91	671,306.85	
6,633.00	89.60	86.90	5,714.13	31.72	1,185.25	1.28	1,185.36	674,720.22	671,401.75	
6,728.00	91.10	90.40	5,713.54	33.96	1,280.20	4.01	1,280.32	674,722.46	671,496.70	
6,823.00	91.00	90.40	5,711.80	33.29	1,375.19	0.11	1,375.30	674,721.79	671,591.69	
6,917.00	90.60	90.00	5,710.49	32.97	1,469.18	0.60	1,469.29	674,721.47	671,685.68	
7,011.00	90.60	90.00	5,709.51	32.97	1,563.17	0.00	1,563.28	674,721.47	671,779.67	
7,106.00	91.50	87.90	5,707.77	34.71	1,658.13	2.40	1,658.25	674,723.21	671,874.63	
7,201.00	91.10	87.20	5,705.61	38.77	1,753.02	0.85	1,753.15	674,727.27	671,969.52	
7,295.00	90.40	88.30	5,704.38	42.46	1,846.94	1.39	1,847.08	674,730.96	672,063.44	
7,390.00	91.80	90.00	5,702.56	43.87	1,941.90	2.32	1,942.05	674,732.37	672,158.40	



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Site:	Sneed 9 Federal Com	MD Reference:	RKB=4082+13.5' @ 4095.50usft (United #43)
Well:	Sneed 9 Federal Com Well No. 2H	North Reference:	Grid
Wellbore:	Original hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original hole	Database:	EDM 5000.1 Database

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V-Sec (usft)	Northing (usft)	Easting (usft)	
7,485.00	91.70	90.00	5,699.66	43.87	2,036.86	0.11	2,037.01	674,732.37	672,253.36	
7,579.00	91.50	89.70	5,697.03	44.11	2,130.82	0.38	2,130.97	674,732.61	672,347.32	
7,674.00	91.70	89.30	5,694.38	44.94	2,225.78	0.47	2,225.93	674,733.44	672,442.28	
7,768.00	91.10	90.70	5,692.08	44.94	2,319.75	1.62	2,319.90	674,733.44	672,536.25	
7,863.00	91.10	90.70	5,690.26	43.78	2,414.73	0.00	2,414.87	674,732.28	672,631.23	
7,958.00	91.50	90.40	5,688.10	42.87	2,509.70	0.53	2,509.84	674,731.37	672,726.20	
8,053.00	91.30	90.70	5,685.78	41.96	2,604.66	0.38	2,604.80	674,730.46	672,821.16	
8,147.00	91.10	90.40	5,683.81	41.05	2,698.64	0.38	2,698.77	674,729.55	672,915.14	
8,242.00	91.30	90.00	5,681.82	40.72	2,793.62	0.47	2,793.75	674,729.22	673,010.12	
8,336.00	91.50	90.00	5,679.53	40.72	2,887.59	0.21	2,887.72	674,729.22	673,104.09	
8,431.00	90.80	89.70	5,677.62	40.97	2,982.57	0.80	2,982.70	674,729.47	673,199.07	
8,525.00	90.60	89.30	5,676.47	41.79	3,076.56	0.48	3,076.69	674,730.29	673,293.06	
8,620.00	90.30	88.60	5,675.73	43.53	3,171.54	0.80	3,171.68	674,732.03	673,388.04	
8,715.00	90.80	89.30	5,674.81	45.27	3,266.52	0.91	3,266.66	674,733.77	673,483.02	
8,810.00	90.60	89.00	5,673.65	46.68	3,361.50	0.38	3,361.65	674,735.18	673,578.00	
8,904.00	90.60	89.00	5,672.67	48.32	3,455.48	0.00	3,455.63	674,736.82	673,671.98	
8,999.00	90.10	90.00	5,672.09	49.15	3,550.47	1.18	3,550.63	674,737.65	673,766.97	
9,093.00	91.30	90.40	5,670.94	48.82	3,644.46	1.35	3,644.62	674,737.32	673,860.96	
9,188.00	91.10	90.00	5,668.95	48.49	3,739.44	0.47	3,739.60	674,736.99	673,955.94	
9,283.00	90.80	90.00	5,667.38	48.49	3,834.43	0.32	3,834.58	674,736.99	674,050.93	
9,377.00	90.80	89.00	5,666.06	49.31	3,928.42	1.06	3,928.57	674,737.81	674,144.92	
9,472.00	90.40	88.60	5,665.07	51.30	4,023.39	0.60	4,023.55	674,739.80	674,239.89	
9,567.00	90.40	89.00	5,664.40	53.29	4,118.37	0.42	4,118.53	674,741.79	674,334.87	
9,661.00	89.90	89.70	5,664.16	54.36	4,212.36	0.92	4,212.53	674,742.86	674,428.86	
9,756.00	89.70	89.30	5,664.49	55.19	4,307.35	0.47	4,307.53	674,743.69	674,523.85	
9,851.00	91.30	91.10	5,663.66	54.85	4,402.34	2.53	4,402.51	674,743.35	674,618.84	
9,945.00	90.80	91.10	5,661.94	53.05	4,496.31	0.53	4,496.47	674,741.55	674,712.81	



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Site:	Sneed 9 Federal Com	MD Reference:	RKB=4082+13.5 @ 4095.50usft (United #43)
Well:	Sneed 9 Federal Com Well No. 2H	North Reference:	Grid
Wellbore:	Original hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original hole	Database:	EDM 5000.1 Ddatabase

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V: Sec (usft)	Northing (usft)	Easting (usft)
10,040.00	90.30	90.40	5,661.03	51.81	4,591.30	0.91	4,591.46	674,740.31	674,807.80
10,121.00	89.70	90.00	5,661.03	51.52	4,672.30	0.89	4,672.45	674,740.02	674,888.80
10,186.00	89.70	90.00	5,661.37	51.52	4,737.29	0.00	4,737.45	674,740.02	674,953.79
Survey projected to 10186.00 MD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.00	100.00	0.19	0.59	Gyro
5,086.00	5,085.43	15.74	15.37	MWD surveys
5,880.00	5,699.07	1.70	436.14	330 Hard line intercept @ 5880 MD
10,186.00	5,661.37	51.52	4,737.29	Survey projected to 10186.00 MD