

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

March 6, 2017

Cimarex Energy Co.

HOBBS OCD
JUL 06 2017
RECEIVED

Re:

6, 24S, 33E, Lea NM
N 32.25306 W -103.60944

CLIENT: Cimarex Energy Co.
WELL: Tres Equis State 6H
FIELD: Bone Spring West

RIG: Cactus 163
COUNTY: Lea
API NO: 30-025-43506
JOB NO: 16MLD1876

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Beau Prather FS	Tres Equis State 6H Original Hole	10282.00 Ft to 15677.00 Ft	February 13, 2017 to February 23, 2017	SlimPulse TelePacer

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Dana Carlos
Field Service Manager

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:
6, 24S, 33E, Lea NM
N 32.25306 W -103.60944

I, Beau Prather certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of February 13, 2017 through February 23, 2017, conduct or supervise the taking of the SlimPulse & TelePacer surveys from a depth of 10282.00 feet to a depth of 15677.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Cimarex Energy Co. for the Tres Equis State 6H Well (Original Hole) API No. 30-025-43506 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By
Beau Prather
FS

JENNIFER ALLEMAND
Notary Public
State of Colorado
Notary ID # 20164047962
My Commission Expires 12-20-2020

Subscribed and Sworn to before me this ____ 24th ____ day of ____ February ____ (month) ____ 2017 ____ (yr)

My Commission expires:

12-20-20

J. Allemand

(signature)

Notary Public

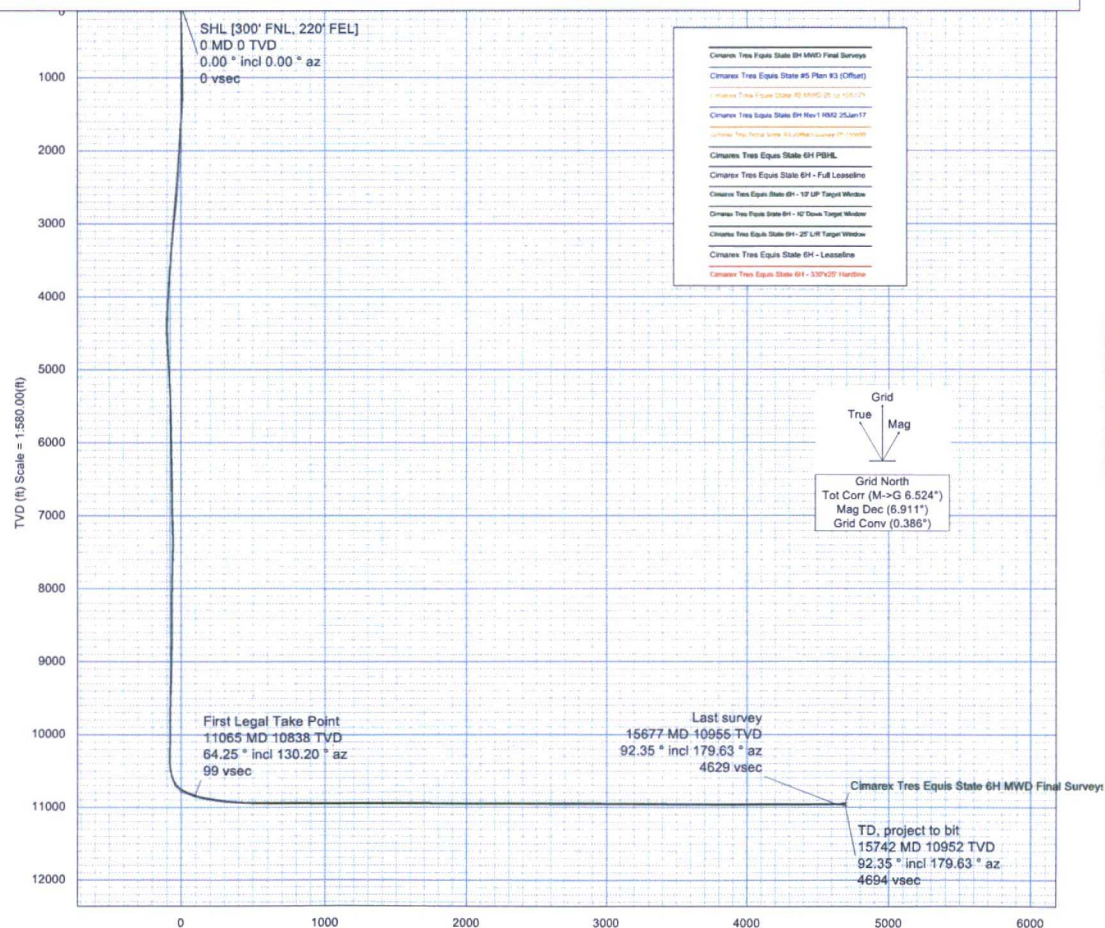
Adams Colorado

(County State)

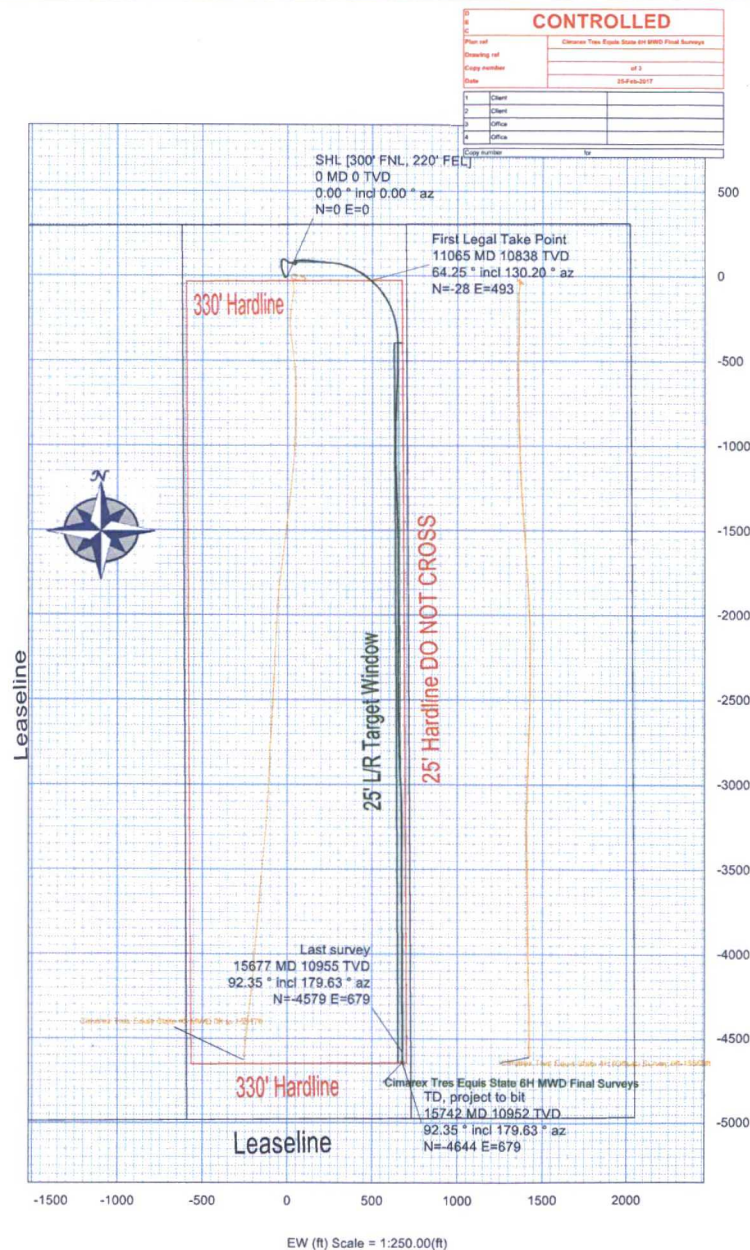
Borehole:		Well:		Field:		Structure:	
Original Borehole		Cimarex Tres Equis State 6H		NM Lea County (NAD 83)		Cimarex Tres Equis State 6H	
Gravity & Magnetic Parameters				Surface Location		Miscellaneous	
Model:	HDGM 2016	Dip:	60.651°	Date:	02-Feb-2017	NAD83 New Mexico State Plane, Eastern Zone, US Feet	
MagDec:	6.911°	FS:	48195.517nT	Gravity FS:	998.439mgal (9.80665 Based)	Lat:	N 32 15 11.30
						Lon:	W 103 36 33.91
						Northing:	450579.98US
						Eastings:	765126.48US
						Grid Conv:	0.3863°
						Scale Fact:	0.99996645
				TVD Ref:		RKB(3670ft above MSL)	
				Plan:		Cimarex Tres Equis State 6H MWD Final Surveys	

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [300' FNL, 220' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First Legal Take Point	11065.00	64.25	130.20	10837.82	99.17	-28.12	493.01	10.79
Last survey	15677.00	92.35	179.63	10955.01	4629.20	-4579.13	679.07	1.61
TD, project to bit	15742.00	92.35	179.63	10952.35	4693.52	-4644.07	679.49	0.00



NS (ft) Scale = 1:250.00(ft)



Cimarex Tres Equis State 6H MWD Final Surveys Survey Geodetic Report

(Def Survey)

Report Date: February 25, 2017 - 09:58 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Tres Equis State 6H / Cimarex Tres Equis State 6H
Well: Cimarex Tres Equis State 6H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Tres Equis State 6H MWD Final Surveys
Survey Date: February 02, 2017
Tort / AHD / DDI / ERD Ratio: 230.197 ° / 5401.527 ft / 6.252 / 0.493
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 15' 11.30191", W 103° 36' 33.90562"
Location Grid N/E Y/X: N 456579.900 ftUS, E 765126.400 ftUS
CRS Grid Convergence Angle: 0.3863 °
Grid Scale Factor: 0.99996645
Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 171.679 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3670.000 ft above MSL
Seabed / Ground Elevation: 3647.000 ft above MSL
Magnetic Declination: 6.911 °
Total Gravity Field Strength: 998.4387mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48195.517 nT
Magnetic Dip Angle: 60.051 °
Declination Date: February 02, 2017
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.3863 °
Total Corr Mag North->Grid North: 6.5242 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [300' FNL, 220' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	456579.90	765126.40	N 32 15 11.30	W 103 36 33.91
	198.00	1.10	231.53	197.99	0.95	-1.18	-1.49	0.56	456578.72	765124.91	N 32 15 11.29	W 103 36 33.92
	240.00	1.10	226.42	239.98	1.39	-1.71	-2.10	0.23	456578.19	765124.30	N 32 15 11.29	W 103 36 33.93
	302.00	1.10	233.03	301.97	2.02	-2.48	-3.00	0.20	456577.42	765123.40	N 32 15 11.28	W 103 36 33.94
	392.00	1.10	230.73	391.95	2.88	-3.55	-4.36	0.05	456576.35	765122.04	N 32 15 11.27	W 103 36 33.96
	482.00	1.19	230.43	481.93	3.81	-4.69	-5.75	0.10	456575.21	765120.65	N 32 15 11.26	W 103 36 33.97
	572.00	1.19	233.64	571.91	4.73	-5.84	-7.22	0.07	456574.06	765119.18	N 32 15 11.24	W 103 36 33.99
	662.00	1.33	227.91	661.89	5.75	-7.09	-8.75	0.21	456572.81	765117.65	N 32 15 11.23	W 103 36 34.01
	753.00	1.41	230.03	752.87	6.92	-8.52	-10.39	0.10	456571.38	765116.01	N 32 15 11.22	W 103 36 34.03
	844.00	1.41	228.93	843.84	8.12	-9.97	-12.10	0.03	456569.93	765114.31	N 32 15 11.20	W 103 36 34.05
	938.00	1.41	224.61	937.81	9.44	-11.56	-13.78	0.11	456568.34	765112.62	N 32 15 11.19	W 103 36 34.07
	1033.00	0.49	299.52	1032.80	9.90	-12.19	-14.95	1.44	456567.71	765111.45	N 32 15 11.18	W 103 36 34.08
	1128.00	0.62	300.45	1127.79	9.32	-11.73	-15.75	0.14	456568.17	765110.65	N 32 15 11.19	W 103 36 34.09
	1222.00	0.62	289.39	1221.79	8.77	-11.30	-16.67	0.13	456568.60	765109.73	N 32 15 11.19	W 103 36 34.10
	1317.00	0.49	293.62	1316.78	8.32	-10.97	-17.53	0.14	456568.93	765108.88	N 32 15 11.19	W 103 36 34.11
	1410.00	1.72	348.88	1409.77	6.71	-9.44	-18.16	1.61	456570.46	765108.24	N 32 15 11.21	W 103 36 34.12
	1505.00	1.90	346.76	1504.72	3.72	-6.51	-18.79	0.20	456573.39	765107.61	N 32 15 11.24	W 103 36 34.12
	1600.00	1.90	344.96	1599.67	0.59	-3.45	-19.56	0.06	456576.45	765106.84	N 32 15 11.27	W 103 36 34.13
	1696.00	1.72	343.24	1695.62	-2.42	-0.54	-20.39	0.20	456579.36	765106.01	N 32 15 11.30	W 103 36 34.14
	1791.00	1.81	335.75	1790.58	-5.27	2.20	-21.42	0.26	456582.10	765104.98	N 32 15 11.33	W 103 36 34.15
	1886.00	1.90	338.44	1885.53	-8.25	5.03	-22.61	0.13	456584.93	765103.79	N 32 15 11.35	W 103 36 34.17
	1981.00	2.03	336.85	1980.47	-11.41	8.04	-23.85	0.15	456587.94	765102.55	N 32 15 11.38	W 103 36 34.18
	2076.00	2.12	340.46	2075.41	-14.76	11.24	-25.10	0.17	456591.14	765101.30	N 32 15 11.41	W 103 36 34.20
	2171.00	2.21	341.26	2170.34	-18.28	14.63	-26.28	0.10	456594.53	765100.12	N 32 15 11.45	W 103 36 34.21
	2266.00	2.21	342.14	2265.27	-21.89	18.11	-27.43	0.04	456598.01	765098.97	N 32 15 11.48	W 103 36 34.22
	2361.00	2.21	342.45	2360.20	-25.51	21.60	-28.54	0.01	456601.50	765097.86	N 32 15 11.52	W 103 36 34.24
	2456.00	2.43	341.74	2455.12	-29.30	25.26	-29.73	0.23	456605.16	765096.67	N 32 15 11.55	W 103 36 34.25

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	2551.00	2.43	340.46	2550.03	-33.26	29.07	-31.03	0.06	456608.97	765095.37	N 32 15 11.59	W 103 36 34.26
	2645.00	2.43	340.24	2643.95	-37.16	32.83	-32.37	0.01	456612.72	765094.03	N 32 15 11.63	W 103 36 34.28
	2740.00	2.52	341.96	2738.86	-41.20	36.71	-33.70	0.12	456616.61	765092.70	N 32 15 11.67	W 103 36 34.30
	2835.00	2.52	345.44	2833.77	-45.33	40.71	-34.87	0.16	456620.61	765091.53	N 32 15 11.71	W 103 36 34.31
	2929.00	2.61	347.78	2927.68	-49.52	44.81	-35.84	0.15	456624.70	765090.56	N 32 15 11.75	W 103 36 34.32
	3024.00	2.83	348.57	3022.57	-54.02	49.22	-36.77	0.23	456629.12	765089.63	N 32 15 11.79	W 103 36 34.33
	3119.00	2.12	355.40	3117.48	-58.12	53.27	-37.37	0.81	456633.17	765089.03	N 32 15 11.83	W 103 36 34.34
	3214.00	2.21	357.69	3212.41	-61.69	56.85	-37.59	0.13	456636.75	765088.81	N 32 15 11.87	W 103 36 34.34
	3309.00	2.30	358.71	3307.34	-65.41	60.59	-37.70	0.10	456640.48	765088.70	N 32 15 11.90	W 103 36 34.34
	3403.00	2.43	2.50	3401.26	-69.23	64.46	-37.66	0.22	456644.36	765088.74	N 32 15 11.94	W 103 36 34.34
	3499.00	2.30	3.29	3497.18	-73.12	68.42	-37.46	0.14	456648.32	765088.94	N 32 15 11.98	W 103 36 34.34
	3593.00	2.21	6.51	3591.10	-76.72	72.10	-37.15	0.17	456652.00	765089.25	N 32 15 12.02	W 103 36 34.33
	3689.00	2.03	5.63	3687.04	-80.16	75.63	-36.77	0.19	456655.53	765089.63	N 32 15 12.05	W 103 36 34.33
	3783.00	2.03	2.32	3780.98	-83.41	78.95	-36.54	0.12	456658.85	765089.86	N 32 15 12.09	W 103 36 34.32
	3878.00	1.81	359.41	3875.93	-86.55	82.14	-36.49	0.25	456662.03	765089.91	N 32 15 12.12	W 103 36 34.32
	3972.00	1.72	355.27	3969.88	-89.43	85.03	-36.62	0.17	456664.92	765089.78	N 32 15 12.15	W 103 36 34.33
	4067.00	2.12	30.10	4064.83	-92.23	87.97	-35.85	1.27	456667.86	765090.55	N 32 15 12.17	W 103 36 34.32
	4161.00	2.12	26.88	4158.77	-95.01	91.02	-34.20	0.13	456670.92	765092.20	N 32 15 12.20	W 103 36 34.30
	4257.00	2.12	36.62	4254.70	-97.72	94.03	-32.33	0.37	456673.93	765094.07	N 32 15 12.23	W 103 36 34.27
	4352.00	2.21	82.45	4349.64	-98.94	95.68	-29.47	1.78	456675.58	765096.93	N 32 15 12.25	W 103 36 34.24
	4447.00	2.61	93.55	4444.56	-98.47	95.79	-25.50	0.65	456675.69	765100.91	N 32 15 12.25	W 103 36 34.19
	4542.00	2.52	95.36	4539.46	-97.53	95.46	-21.26	0.13	456675.36	765105.14	N 32 15 12.25	W 103 36 34.15
	4637.00	3.23	108.49	4634.34	-95.83	94.42	-16.64	1.01	456674.31	765109.76	N 32 15 12.24	W 103 36 34.09
	4731.00	2.43	131.67	4728.23	-93.11	92.25	-12.64	1.47	456672.15	765113.76	N 32 15 12.22	W 103 36 34.05
	4826.00	2.61	130.16	4823.14	-89.95	89.52	-9.48	0.20	456669.41	765116.92	N 32 15 12.19	W 103 36 34.01
	4912.00	2.43	128.06	4909.05	-87.16	87.13	-6.55	0.24	456667.03	765119.85	N 32 15 12.16	W 103 36 33.98
	5006.00	2.30	124.36	5002.97	-84.44	84.84	-3.42	0.21	456664.73	765122.98	N 32 15 12.14	W 103 36 33.94
	5100.00	2.21	124.75	5096.90	-81.92	82.74	-0.38	0.10	456662.64	765126.02	N 32 15 12.12	W 103 36 33.90
	5195.00	2.21	125.63	5191.83	-79.40	80.63	2.62	0.04	456660.53	765129.02	N 32 15 12.10	W 103 36 33.87
	5290.00	2.30	126.16	5286.76	-76.79	78.44	5.64	0.10	456658.33	765132.04	N 32 15 12.08	W 103 36 33.83
	5385.00	1.72	106.91	5381.70	-74.85	76.90	8.55	0.93	456656.80	765134.95	N 32 15 12.06	W 103 36 33.80
	5479.00	1.81	102.59	5475.65	-73.72	76.16	11.35	0.17	456656.06	765137.74	N 32 15 12.05	W 103 36 33.77
	5575.00	1.81	103.60	5571.61	-72.61	75.48	14.30	0.03	456655.37	765140.70	N 32 15 12.05	W 103 36 33.73
	5669.00	1.81	104.48	5665.56	-71.48	74.76	17.18	0.03	456654.65	765143.58	N 32 15 12.04	W 103 36 33.70
	5763.00	1.81	104.17	5759.51	-70.34	74.02	20.06	0.01	456653.92	765146.45	N 32 15 12.03	W 103 36 33.67
	5858.00	1.50	109.11	5854.47	-69.19	73.25	22.69	0.36	456653.15	765149.08	N 32 15 12.03	W 103 36 33.64
	5953.00	1.10	106.91	5949.45	-68.23	72.58	24.73	0.42	456652.47	765151.13	N 32 15 12.02	W 103 36 33.61
	6047.00	1.02	105.89	6043.43	-67.50	72.08	26.40	0.09	456651.98	765152.80	N 32 15 12.01	W 103 36 33.59
	6142.00	1.02	110.39	6138.42	-66.75	71.56	28.01	0.08	456651.46	765154.41	N 32 15 12.01	W 103 36 33.57
	6238.00	0.88	105.89	6234.40	-66.04	71.06	29.52	0.17	456650.96	765155.92	N 32 15 12.00	W 103 36 33.56
	6332.00	1.02	101.09	6328.39	-65.46	70.70	31.03	0.17	456650.60	765157.43	N 32 15 12.00	W 103 36 33.54
	6427.00	0.88	101.71	6423.38	-64.93	70.39	32.58	0.15	456650.29	765158.97	N 32 15 12.00	W 103 36 33.52
	6521.00	0.88	93.77	6517.37	-64.53	70.19	34.00	0.13	456650.09	765160.40	N 32 15 11.99	W 103 36 33.50
	6616.00	0.80	105.72	6612.36	-64.11	69.97	35.37	0.20	456649.86	765161.77	N 32 15 11.99	W 103 36 33.49
	6711.00	0.71	114.62	6707.35	-63.52	69.54	36.54	0.16	456649.44	765162.94	N 32 15 11.99	W 103 36 33.47
	6806.00	0.62	119.95	6802.34	-62.88	69.04	37.52	0.11	456648.94	765163.92	N 32 15 11.98	W 103 36 33.46
	6901.00	0.62	133.96	6897.34	-62.16	68.43	38.34	0.16	456648.32	765164.74	N 32 15 11.98	W 103 36 33.45
	6996.00	0.71	145.51	6992.33	-61.22	67.59	39.04	0.17	456647.48	765165.44	N 32 15 11.97	W 103 36 33.45
	7091.00	0.71	148.90	7087.32	-60.15	66.60	39.68	0.04	456646.49	765166.08	N 32 15 11.96	W 103 36 33.44
	7185.00	0.80	161.24	7181.32	-58.97	65.48	40.19	0.20	456645.37	765166.59	N 32 15 11.95	W 103 36 33.43
	7280.00	0.88	157.63	7276.31	-57.61	64.17	40.68	0.10	456644.07	765167.08	N 32 15 11.93	W 103 36 33.43
	7374.00	0.49	93.64	7370.30	-56.83	63.48	41.36	0.85	456643.38	765167.76	N 32 15 11.93	W 103 36 33.42
	7468.00	1.10	32.08	7464.29	-57.43	64.22	42.24	1.03	456644.12	765168.64	N 32 15 11.93	W 103 36 33.41
	7562.00	1.02	32.48	7558.28	-58.75	65.69	43.17	0.09	456645.59	765169.56	N 32 15 11.95	W 103 36 33.40
	7657.00	0.80	30.58	7653.26	-59.91	66.97	43.96	0.23	456646.87	765170.36	N 32 15 11.96	W 103 36 33.39
	7752.00	1.02	37.01	7748.25	-61.02	68.22	44.80	0.25	456648.12	765171.20	N 32 15 11.97	W 103 36 33.38
	7847.00	0.80	29.79	7843.24	-62.13	69.47	45.64	0.26	456649.37	765172.04	N 32 15 11.99	W 103 36 33.37
	7942.00	0.80	39.61	7938.23	-63.10	70.56	46.40	0.14	456650.45	765172.79	N 32 15 12.00	W 103 36 33.36

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	8037.00	0.80	38.69	8033.22	-64.00	71.59	47.23	0.01	456651.48	765173.63	N 32 15 12.01	W 103 36 33.35
	8132.00	0.62	60.59	8128.21	-64.63	72.36	48.09	0.34	456652.25	765174.49	N 32 15 12.01	W 103 36 33.34
	8227.00	0.31	84.92	8223.21	-64.80	72.63	48.80	0.38	456652.53	765175.20	N 32 15 12.02	W 103 36 33.33
	8322.00	0.22	125.06	8318.21	-64.66	72.55	49.20	0.21	456652.45	765175.60	N 32 15 12.02	W 103 36 33.33
	8417.00	0.49	52.75	8413.21	-64.74	72.69	49.68	0.50	456652.59	765176.07	N 32 15 12.02	W 103 36 33.32
	8512.00	0.40	61.78	8508.20	-65.05	73.09	50.29	0.12	456652.99	765176.69	N 32 15 12.02	W 103 36 33.31
	8607.00	0.22	28.86	8603.20	-65.30	73.41	50.67	0.26	456653.31	765177.07	N 32 15 12.02	W 103 36 33.31
	8702.00	0.09	274.14	8698.20	-65.46	73.57	50.69	0.28	456653.47	765177.08	N 32 15 12.03	W 103 36 33.31
	8797.00	0.71	45.12	8793.20	-65.83	74.00	51.03	0.81	456653.89	765177.43	N 32 15 12.03	W 103 36 33.31
	8891.00	0.71	37.90	8887.19	-66.58	74.87	51.80	0.10	456654.76	765178.20	N 32 15 12.04	W 103 36 33.30
	8985.00	0.62	19.48	8981.19	-67.43	75.81	52.33	0.25	456655.70	765178.72	N 32 15 12.05	W 103 36 33.29
	9080.00	0.49	8.64	9076.18	-68.28	76.69	52.56	0.18	456656.59	765178.96	N 32 15 12.06	W 103 36 33.29
	9175.00	0.62	313.27	9171.18	-69.07	77.45	52.25	0.56	456657.34	765178.64	N 32 15 12.06	W 103 36 33.29
	9270.00	1.02	310.98	9266.17	-70.11	78.35	51.23	0.42	456658.25	765177.63	N 32 15 12.07	W 103 36 33.30
	9366.00	1.33	325.79	9362.15	-71.76	79.83	49.96	0.45	456659.73	765176.36	N 32 15 12.09	W 103 36 33.32
	9460.00	1.02	325.52	9456.13	-73.50	81.43	48.87	0.33	456661.32	765175.27	N 32 15 12.10	W 103 36 33.33
	9554.00	0.62	324.99	9550.12	-74.70	82.53	48.11	0.43	456662.43	765174.51	N 32 15 12.12	W 103 36 33.34
	9649.00	0.71	353.68	9645.11	-75.75	83.54	47.75	0.36	456663.43	765174.15	N 32 15 12.13	W 103 36 33.34
	9744.00	0.31	29.88	9740.11	-76.54	84.35	47.81	0.52	456664.24	765174.21	N 32 15 12.13	W 103 36 33.34
	9839.00	0.22	274.45	9835.11	-76.78	84.58	47.76	0.47	456664.48	765174.16	N 32 15 12.14	W 103 36 33.34
	9934.00	1.19	255.41	9930.10	-76.71	84.35	46.62	1.04	456664.25	765173.02	N 32 15 12.13	W 103 36 33.36
	10029.00	1.81	267.35	10025.07	-76.75	84.03	44.17	0.73	456663.93	765170.57	N 32 15 12.13	W 103 36 33.38
	10124.00	1.90	275.86	10120.02	-77.29	84.12	41.10	0.30	456664.02	765167.50	N 32 15 12.13	W 103 36 33.42
	10215.00	2.03	273.57	10210.97	-77.99	84.38	37.99	0.17	456664.27	765164.39	N 32 15 12.13	W 103 36 33.46
	10250.00	1.97	271.11	10245.94	-78.22	84.43	36.77	0.30	456664.32	765163.17	N 32 15 12.13	W 103 36 33.47
	10282.00	0.74	15.03	10277.94	-78.50	84.64	36.28	7.08	456664.53	765162.68	N 32 15 12.14	W 103 36 33.48
	10313.00	4.08	74.87	10308.91	-78.81	85.12	37.39	12.14	456665.02	765163.79	N 32 15 12.14	W 103 36 33.46
	10345.00	8.59	81.82	10340.70	-78.94	85.76	40.86	14.27	456665.65	765167.26	N 32 15 12.15	W 103 36 33.42
	10377.00	12.83	83.87	10372.14	-78.80	86.48	46.76	13.30	456666.37	765173.16	N 32 15 12.15	W 103 36 33.35
	10409.00	17.14	85.73	10403.04	-78.33	87.21	55.00	13.55	456667.10	765181.40	N 32 15 12.16	W 103 36 33.26
	10440.00	21.09	86.86	10432.33	-77.50	87.85	65.13	12.80	456667.75	765191.53	N 32 15 12.17	W 103 36 33.14
	10472.00	24.72	88.41	10461.80	-76.20	88.35	77.57	11.50	456668.25	765203.97	N 32 15 12.17	W 103 36 33.00
	10503.00	28.17	90.30	10489.55	-74.34	88.49	91.37	11.45	456668.39	765217.77	N 32 15 12.17	W 103 36 32.83
	10535.00	31.26	92.19	10517.34	-71.69	88.14	107.23	10.09	456668.03	765233.62	N 32 15 12.17	W 103 36 32.65
	10567.00	34.80	92.87	10544.17	-68.40	87.36	124.65	11.12	456667.26	765251.04	N 32 15 12.16	W 103 36 32.45
	10599.00	37.45	93.81	10570.01	-64.59	86.26	143.48	8.46	456666.16	765269.87	N 32 15 12.15	W 103 36 32.23
	10630.00	40.15	95.02	10594.17	-60.30	84.76	162.84	9.05	456664.66	765289.24	N 32 15 12.13	W 103 36 32.00
	10661.00	43.41	95.73	10617.28	-55.41	82.82	183.40	10.63	456662.72	765309.80	N 32 15 12.11	W 103 36 31.76
	10693.00	47.60	95.66	10639.71	-49.88	80.56	206.11	13.09	456660.45	765332.50	N 32 15 12.09	W 103 36 31.50
	10725.00	51.90	94.75	10660.38	-44.17	78.35	230.43	13.61	456658.24	765356.82	N 32 15 12.06	W 103 36 31.22
	10757.00	54.89	94.44	10679.46	-38.43	76.29	256.03	9.38	456656.19	765382.42	N 32 15 12.04	W 103 36 30.92
	10788.00	56.35	97.04	10696.96	-32.21	73.73	281.48	8.37	456653.62	765407.87	N 32 15 12.01	W 103 36 30.62
	10819.00	57.10	101.27	10713.98	-24.43	69.60	307.06	11.66	456649.50	765433.45	N 32 15 11.97	W 103 36 30.32
	10851.00	58.04	106.24	10731.15	-14.28	63.18	333.28	13.43	456643.07	765459.67	N 32 15 11.90	W 103 36 30.02
	10882.00	58.44	110.26	10747.47	-2.49	54.92	358.30	11.10	456634.82	765484.69	N 32 15 11.82	W 103 36 29.73
	10914.00	58.84	114.52	10764.13	11.46	44.52	383.56	11.44	456624.41	765509.95	N 32 15 11.72	W 103 36 29.44
	10945.00	59.39	119.24	10780.05	26.79	32.49	407.28	13.19	456612.39	765533.66	N 32 15 11.60	W 103 36 29.16
	10977.00	59.93	123.16	10796.22	44.37	18.19	430.89	10.71	456598.08	765557.28	N 32 15 11.45	W 103 36 28.89
	11009.00	60.94	126.11	10812.01	63.33	2.37	453.79	8.62	456582.27	765580.17	N 32 15 11.30	W 103 36 28.62
	11040.00	62.69	127.74	10826.65	82.74	-14.05	475.63	7.30	456565.85	765602.01	N 32 15 11.13	W 103 36 28.37
First Legal Take Point	11065.00	64.25	130.20	10837.82	99.17	-28.12	493.01	10.79	456551.78	765619.39	N 32 15 10.99	W 103 36 28.17
	11072.00	64.69	130.88	10840.83	103.93	-32.22	497.81	10.79	456547.68	765624.19	N 32 15 10.95	W 103 36 28.11
	11104.00	66.95	134.88	10853.95	126.68	-52.09	519.19	13.41	456527.81	765645.57	N 32 15 10.75	W 103 36 27.86
	11136.00	69.39	139.85	10865.85	151.21	-73.94	539.29	16.31	456505.96	765665.67	N 32 15 10.53	W 103 36 27.63
	11167.00	72.03	144.33	10876.09	176.65	-97.02	557.26	16.08	456482.88	765683.64	N 32 15 10.30	W 103 36 27.42
	11199.00	74.16	147.30	10885.40	204.19	-122.35	574.45	11.10	456457.56	765700.83	N 32 15 10.05	W 103 36 27.23
	11231.00	76.31	150.80	10893.56	232.75	-148.88	590.36	12.53	456431.03	765716.74	N 32 15 9.79	W 103 36 27.04

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	11262.00	76.34	155.05	10900.89	261.27	-175.69	604.06	13.32	456404.21	765730.44	N 32 15 9.52	W 103 36 26.89
	11294.00	75.05	159.41	10908.80	291.28	-204.28	616.07	13.80	456375.63	765742.44	N 32 15 9.24	W 103 36 26.75
	11325.00	75.11	163.52	10916.79	320.76	-232.67	625.58	12.81	456347.24	765751.96	N 32 15 8.96	W 103 36 26.64
	11357.00	77.76	166.85	10924.29	351.66	-262.74	633.53	13.07	456317.17	765759.91	N 32 15 8.66	W 103 36 26.55
	11388.00	81.85	169.81	10929.78	382.11	-292.61	639.70	16.20	456287.30	765766.07	N 32 15 8.36	W 103 36 26.48
	11420.00	85.73	172.92	10933.24	413.91	-324.05	644.47	15.50	456255.86	765770.85	N 32 15 8.05	W 103 36 26.43
	11452.00	88.28	176.00	10934.91	445.82	-355.85	647.55	12.48	456224.06	765773.93	N 32 15 7.74	W 103 36 26.39
	11483.00	88.14	178.78	10935.88	476.65	-386.80	648.96	8.97	456193.11	765775.34	N 32 15 7.43	W 103 36 26.38
	11521.00	88.49	179.01	10937.00	514.33	-424.78	649.69	1.10	456155.14	765776.07	N 32 15 7.06	W 103 36 26.37
	11613.00	89.31	180.18	10938.77	605.43	-516.75	650.35	1.55	456063.16	765776.72	N 32 15 6.15	W 103 36 26.37
	11708.00	89.24	182.64	10939.97	699.05	-611.71	648.01	2.59	455968.21	765774.38	N 32 15 5.21	W 103 36 26.41
	11803.00	89.28	183.54	10941.19	792.17	-706.56	642.89	0.95	455873.36	765769.26	N 32 15 4.27	W 103 36 26.48
	11898.00	89.28	181.84	10942.39	885.41	-801.45	638.43	1.79	455778.48	765764.81	N 32 15 3.33	W 103 36 26.53
	11992.00	88.25	180.41	10944.41	978.11	-895.40	636.58	1.87	455684.53	765762.96	N 32 15 2.40	W 103 36 26.56
	12086.00	88.62	180.12	10946.98	1071.02	-989.37	636.15	0.50	455590.57	765762.53	N 32 15 1.47	W 103 36 26.58
	12180.00	88.52	179.37	10949.33	1164.06	-1083.34	636.57	0.80	455496.60	765762.94	N 32 15 0.54	W 103 36 26.58
	12197.00	88.49	178.91	10949.77	1180.91	-1100.33	636.82	2.71	455479.61	765763.20	N 32 15 0.37	W 103 36 26.58
	12292.00	88.60	177.79	10952.18	1275.23	-1195.26	639.56	1.18	455384.68	765765.93	N 32 14 59.43	W 103 36 26.55
	12337.00	89.22	177.53	10953.04	1319.98	-1240.21	641.39	1.49	455339.73	765767.77	N 32 14 58.99	W 103 36 26.53
	12386.00	89.44	177.61	10953.61	1368.72	-1289.16	643.47	0.48	455290.78	765769.85	N 32 14 58.50	W 103 36 26.51
	12433.00	90.89	178.26	10953.48	1415.44	-1336.13	645.17	3.38	455243.81	765771.54	N 32 14 58.04	W 103 36 26.50
	12481.00	91.18	177.74	10952.61	1463.14	-1384.10	646.84	1.24	455195.85	765773.22	N 32 14 57.56	W 103 36 26.48
	12575.00	92.29	178.12	10949.76	1556.53	-1477.99	650.23	1.25	455101.96	765776.61	N 32 14 56.63	W 103 36 26.45
	12622.00	92.18	177.63	10947.93	1603.22	-1524.92	651.98	1.07	455055.03	765778.35	N 32 14 56.17	W 103 36 26.43
	12669.00	90.11	178.69	10946.99	1649.91	-1571.88	653.48	4.95	455008.07	765779.86	N 32 14 55.70	W 103 36 26.42
	12717.00	89.33	180.00	10947.23	1697.48	-1619.88	654.03	3.18	454960.08	765780.41	N 32 14 55.23	W 103 36 26.42
	12764.00	89.72	180.41	10947.62	1743.96	-1666.88	653.86	1.20	454913.08	765780.24	N 32 14 54.76	W 103 36 26.42
	12813.00	89.66	179.80	10947.88	1792.43	-1715.88	653.77	1.25	454864.08	765780.15	N 32 14 54.28	W 103 36 26.43
	12859.00	89.83	179.98	10948.09	1837.96	-1761.88	653.86	0.54	454818.09	765780.24	N 32 14 53.82	W 103 36 26.43
	12953.00	90.56	179.87	10947.77	1930.98	-1855.87	653.99	0.79	454724.09	765780.36	N 32 14 52.89	W 103 36 26.44
	13048.00	91.34	179.09	10946.19	2025.09	-1950.86	654.85	1.16	454629.11	765781.22	N 32 14 51.95	W 103 36 26.43
	13143.00	90.73	180.26	10944.47	2119.15	-2045.84	655.39	1.39	454534.14	765781.76	N 32 14 51.01	W 103 36 26.44
	13238.00	88.99	180.34	10944.71	2213.07	-2140.83	654.89	1.83	454439.14	765781.27	N 32 14 50.07	W 103 36 26.45
	13332.00	90.00	180.96	10945.54	2305.92	-2234.82	653.82	1.26	454345.16	765780.20	N 32 14 49.14	W 103 36 26.47
	13427.00	89.38	179.32	10946.05	2399.88	-2329.81	653.59	1.85	454250.17	765779.97	N 32 14 48.21	W 103 36 26.48
	13521.00	89.66	179.29	10946.84	2493.04	-2423.80	654.73	0.30	454156.18	765781.11	N 32 14 47.27	W 103 36 26.47
	13616.00	90.22	179.51	10946.94	2587.18	-2518.80	655.73	0.63	454061.19	765782.10	N 32 14 46.33	W 103 36 26.47
	13710.00	90.95	179.44	10945.98	2680.31	-2612.79	656.59	0.78	453967.20	765782.96	N 32 14 45.40	W 103 36 26.47
	13805.00	89.27	178.46	10945.79	2774.54	-2707.77	658.33	2.05	453872.23	765784.70	N 32 14 44.46	W 103 36 26.45
	13899.00	88.88	178.14	10947.31	2867.90	-2801.71	661.12	0.54	453778.29	765787.49	N 32 14 43.54	W 103 36 26.43
	13994.00	88.88	178.42	10949.17	2962.25	-2896.65	663.97	0.29	453683.35	765790.34	N 32 14 42.60	W 103 36 26.40
	14088.00	89.55	176.97	10950.46	3055.72	-2990.57	667.75	1.70	453589.44	765794.12	N 32 14 41.67	W 103 36 26.37
	14184.00	88.66	177.67	10951.96	3151.24	-3086.45	672.24	1.18	453493.56	765798.61	N 32 14 40.72	W 103 36 26.32
	14278.00	88.38	178.78	10954.38	3244.60	-3180.37	675.15	1.22	453399.64	765801.52	N 32 14 39.79	W 103 36 26.29
	14373.00	88.27	180.96	10957.16	3338.58	-3275.32	675.36	2.30	453304.69	765801.74	N 32 14 38.85	W 103 36 26.30
	14468.00	90.28	180.64	10958.36	3432.37	-3370.30	674.04	2.14	453209.72	765800.41	N 32 14 37.91	W 103 36 26.32
	14563.00	90.50	180.49	10957.72	3526.22	-3465.29	673.10	0.28	453114.73	765799.47	N 32 14 36.97	W 103 36 26.34
	14658.00	90.06	179.50	10957.25	3620.22	-3560.29	673.11	1.14	453019.74	765799.48	N 32 14 36.03	W 103 36 26.35
	14753.00	90.11	179.10	10957.11	3714.38	-3655.28	674.27	0.42	452924.75	765800.64	N 32 14 35.09	W 103 36 26.34
	14847.00	89.66	179.66	10957.30	3807.54	-3749.28	675.28	0.76	452830.76	765801.66	N 32 14 34.16	W 103 36 26.34
	14942.00	88.60	178.93	10958.74	3901.68	-3844.26	676.45	1.35	452735.78	765802.83	N 32 14 33.22	W 103 36 26.33
	15036.00	89.22	179.67	10960.53	3994.84	-3938.23	677.60	1.03	452641.81	765803.98	N 32 14 32.29	W 103 36 26.33
	15131.00	89.61	180.16	10961.50	4088.85	-4033.23	677.74	0.66	452546.82	765804.12	N 32 14 31.35	W 103 36 26.33
	15226.00	89.55	179.66	10962.20	4182.87	-4128.22	677.89	0.53	452451.82	765804.27	N 32 14 30.41	W 103 36 26.34
	15320.00	90.34	179.95	10962.29	4275.92	-4222.22	678.21	0.90	452357.83	765804.59	N 32 14 29.48	W 103 36 26.34
	15416.00	90.95	179.52	10961.21	4370.97	-4318.21	678.66	0.78	452261.84	765805.03	N 32 14 28.53	W 103 36 26.34
	15511.00	91.01	179.72	10959.58	4465.05	-4413.20	679.29	0.22	452166.86	765805.66	N 32 14 27.59	W 103 36 26.34
	15606.00	91.57	180.47	10957.44	4559.00	-4508.17	679.13	0.99	452071.89	765805.50	N 32 14 26.65	W 103 36 26.35

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Last survey	15677.00	92.35	179.63	10955.01	4629.20	-4579.13	679.07	1.61	452000.93	765805.44	N 32 14 25.95	W 103 36 26.36
TD, project to bit	15742.00	92.35	179.63	10952.35	4693.52	-4644.07	679.49	0.00	451935.99	765805.86	N 32 14 25.30	W 103 36 26.36

Survey Type: Def Survey

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	23.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Tres Equis State 6H MWD Final Surveys
	1	23.000	23.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Tres Equis State 6H MWD Final Surveys
	1	23.000	15742.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Tres Equis State 6H MWD Final