ATTACHMENT 3

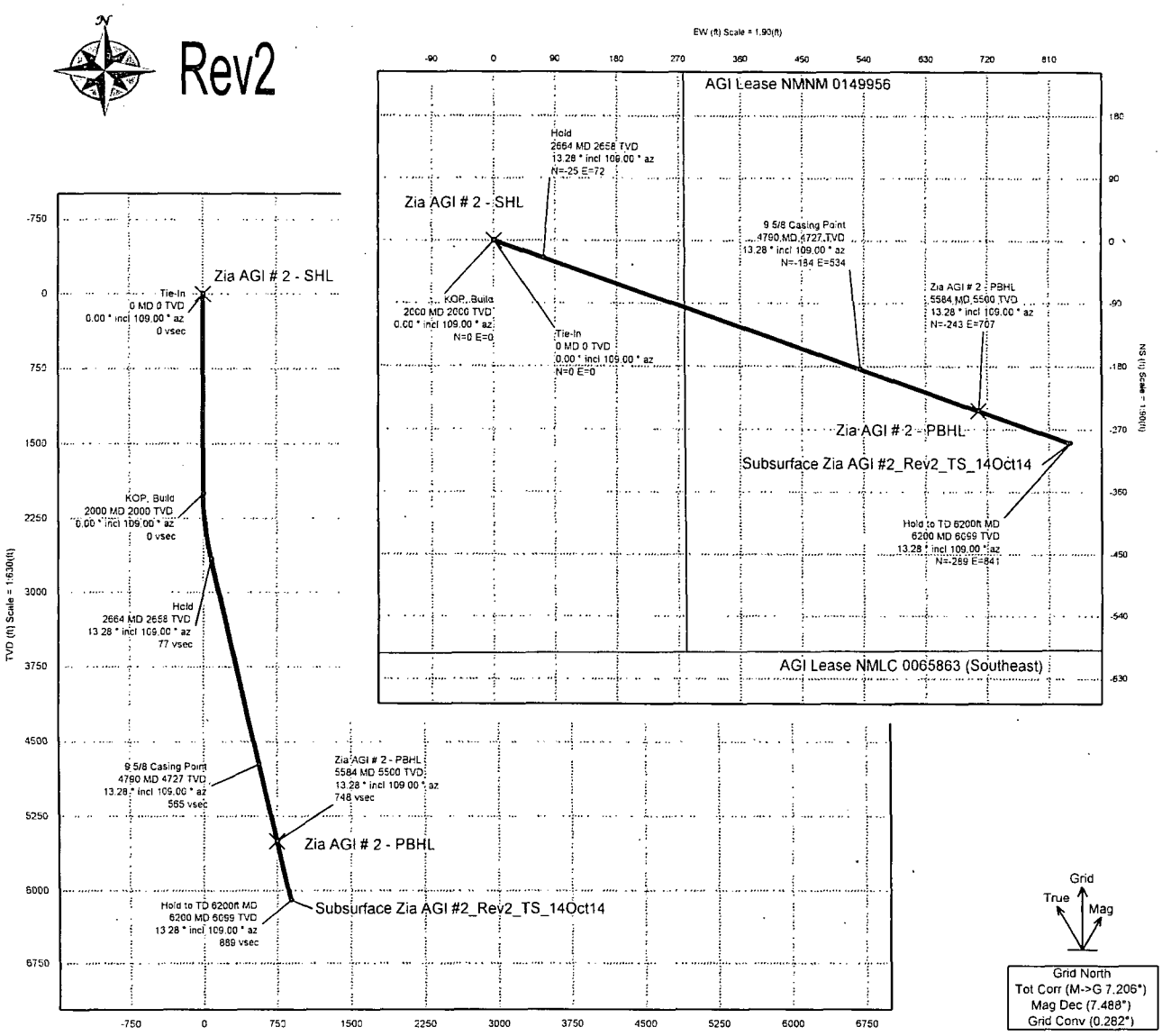
DIRECTIONAL PLAN

Zia

PATHFINDER
A Schlumberger Company

Borehole:	Well:	Field:	Structure:
Original Borehole	Subsurface AGI #2	NM Lea County (NAD 83)	Subsurface Zia AGI #2

Gravity & Magnetic Parameters				Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous		
Model:	BGGM 2014	Dip: 60.446°	Date: 14-Oct-2014	Lat:	N 32 38 38.27	Northing:	598400.5ftUS	Grid Conv: 0.2817°	Slot:	AGI # 2	TVD Ref: RKB(3572ft above MSL)
MagDec:	7.488°	FS: 48465.364nT	Gravity FS: 998.506mgn (9.80665 Based)	Lon:	W 103 48 40.02	Easting:	702077.9ftUS	Scale Fact: 0.99993858	Plan:	Subsurface Zia AGI #2_Rev2_TS_14Oct14	



Vertical Section (ft) Azim = 109.002° Scale = 1:630(ft) Origin = 0N/-S, 0E/-W

Surface Location										
Northing:	598400.5	Easting:	702077.9	Latitude:	N 32 38 38.27	Longitude:	W 103 48 40.02	VSec Azimuth:	109.002	
Target Description			Grid Coord						Local Coord	
Target Name	Shape	Dimension	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)
Zia AGI # 2 - SHL	Point	N/A	N 32 38 38.27	W 103 48 40.02	598400.50	702077.90	0.00	0.00	0.00	0.00
AGI Lease NMLC 0065863 (North)	Polyline	N/A	N 32 47 39.87	W 105 48 36.84	655906.93	87486.48	3572.00	-599862.77	57510.07	-614630.34
AGI Lease NMNM 0149956	Polyline	N/A	N 32 47 39.87	W 105 48 36.84	655906.93	87486.48	3572.00	-599862.77	57510.07	-614630.34
AGI Lease NMLC 0065863 (Southeast)	Polyline	N/A	N 32 47 39.87	W 105 48 36.84	655906.93	87486.48	3572.00	-599862.77	57510.07	-614630.34
Zia AGI # 2 - PBHL	Point	N/A	N 32 38 35.83	W 103 48 31.77	598157.10	702784.70	5500.00	747.58	-243.42	706.85

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie-In	0.00	0.00	109.00	0.00	0.00	0.00	0.00	
KOP, Build	2000.00	0.00	109.00	2000.00	0.00	0.00	0.00	0.00
Hold	2664.21	13.28	109.00	2658.28	76.66	-24.96	72.48	2.00
9 5/8 Casing Point	4789.82	13.28	109.00	4727.01	565.08	-183.99	534.29	0.00
Zia AGI # 2 - PBHL	5584.06	13.28	109.00	5500.00	747.58	-243.42	706.84	0.00
Hold to TD 6200ft MD	6200.00	13.28	109.00	6099.46	889.11	-289.50	840.66	0.00

DEC CONTROLLED

Plan ref	~~Subsurface Zia AGI # 2_Rev2_TS_14Oct14~~
Drawing ref	
Copy number	of 3
Date	14-Oct-2014

1	Originator	
2	DE Sign Off Authority	
3	D&M Line Manager	
4	Client	

Copy number for

Schlumberger

Subsurface Zia AGI #2_Rev2_TS_14Oct14 Proposal Geodetic Report

(Non-Def Plan)

Report Date:	October 14, 2014 - 01:26 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Zia	**Vertical Section Azimuth:**	109.002 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Subsurface Zia AGI #2 / AGI # 2	**TVD Reference Datum:**	RKB
Well:	Subsurface AGI #2	**TVD Reference Elevation:**	3572.000 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3547.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.488 °
Survey Name:	Subsurface Zia AGI #2_Rev2_TS_14Oct14	**Total Gravity Field Strength:**	998.5063mgn (9.80665 Based)
Survey Date:	July 16, 2014	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	13.284 ° / 869.114 ft / 4.079 / 0.146	**Total Magnetic Field Strength:**	48465.364 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.446 °
Location Lat / Long:	N 32° 38' 38.27374", W 103° 48' 40.01814"	**Declination Date:**	October 14, 2014
Location Grid N/E Y/X:	N 598400.500 ftUS, E 702077.900 ftUS	**Magnetic Declination Model:**	BGGM 2014
CRS Grid Convergence Angle:	0.2817 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993868	**Grid Convergence Used:**	0.2817 °
Version / Patch:	2.7.1043.0	**Total Corr Mag North->Grid North:**	7.2067 °
		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 ° ' ")
Tie-In	0.00	0.00	109.00	0.00	0.00	0.00	0.00	N/A	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
KOP, Build	2000.00	0.00	109.00	2000.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
Hold	2664.21	13.28	109.00	2658.28	76.66	-24.96	72.48	2.00	598375.54	702150.37	N 32 38 38.02	W 103 48 39.17
9 5/8 Casing Point	4789.82	13.28	109.00	4727.01	565.08	-183.99	534.29	0.00	598216.52	702612.15	N 32 38 36.43	W 103 48 33.78
Zia AGI # 2 - PBHL	5584.06	13.28	109.00	5500.00	747.58	-243.42	706.84	0.00	598157.10	702784.70	N 32 38 35.83	W 103 48 31.77
Hold to TD 6200ft MD	6200.00	13.28	109.00	6099.46	889.11	-289.50	840.66	0.00	598111.02	702918.51	N 32 38 35.37	W 103 48 30.20

Survey Type: Non-Def Plan

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	25.000	1/100.000	30.000	30.000	SLB_MWD-POOR-Depth Only	Original Borehole / Subsurface Zia AGI #2_Rev2_TS_14Oct14
	1	25.000	2000.000	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Subsurface Zia AGI #2_Rev2_TS_14Oct14
	1	2000.000	6200.000	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Subsurface Zia AGI #2_Rev2_TS_14Oct14

Schlumberger

Subsurface Zia AGI #2_Rev2_TS_14Oct14 Proposal Geodetic Report

(Non-Def Plan)

Report Date:	October 14, 2014 - 01:25 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Zia	**Vertical Section Azimuth:**	109.002 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Subsurface Zia AGI #2 / AGI # 2	**TVD Reference Datum:**	RKB
Well:	Subsurface AGI #2	**TVD Reference Elevation:**	3572.000 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3547.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.488 °
Survey Name:	Subsurface Zia AGI #2_Rev2_TS_14Oct14	**Total Gravity Field Strength:**	998.5063mgn (9.80665 Based)
Survey Date:	July 16, 2014	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	13.284 ° / 889.114 ft / 4.079 / 0.146	**Total Magnetic Field Strength:**	48465.364 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.446 °
Location Lat / Long:	N 32° 38' 38.27374", W 103° 48' 40.01814"	**Declination Date:**	October 14, 2014
Location Grid N/E Y/X:	N 598400.500 ftUS, E 702077.900 ftUS	**Magnetic Declination Model:**	BGGM 2014
CRS Grid Convergence Angle:	0.2817 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993868	**Grid Convergence Used:**	0.2817 °
Version / Patch:	2.7.1043.0	**Total Corr Mag North->Grid North:**	7.2067 °
		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 ° ' ")
Tie-In	0.00	0.00	109.00	0.00	0.00	0.00	0.00	N/A	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	100.00	0.00	109.00	100.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	200.00	0.00	109.00	200.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	300.00	0.00	109.00	300.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	400.00	0.00	109.00	400.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	500.00	0.00	109.00	500.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	600.00	0.00	109.00	600.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	700.00	0.00	109.00	700.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	800.00	0.00	109.00	800.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	900.00	0.00	109.00	900.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1000.00	0.00	109.00	1000.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1100.00	0.00	109.00	1100.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1200.00	0.00	109.00	1200.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1300.00	0.00	109.00	1300.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1400.00	0.00	109.00	1400.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1500.00	0.00	109.00	1500.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1600.00	0.00	109.00	1600.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1700.00	0.00	109.00	1700.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1800.00	0.00	109.00	1800.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	1900.00	0.00	109.00	1900.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
KOP, Build	2000.00	0.00	109.00	2000.00	0.00	0.00	0.00	0.00	598400.50	702077.90	N 32 38 38.27	W 103 48 40.02
	2100.00	2.00	109.00	2099.98	1.75	-0.57	1.65	2.00	598399.93	702079.55	N 32 38 38.27	W 103 48 40.00
	2200.00	4.00	109.00	2199.84	6.98	-2.27	6.60	2.00	598398.23	702084.50	N 32 38 38.25	W 103 48 39.94
	2300.00	6.00	109.00	2299.45	15.69	-5.11	14.84	2.00	598395.39	702092.74	N 32 38 38.22	W 103 48 39.84
	2400.00	8.00	109.00	2398.70	27.88	-9.08	26.36	2.00	598391.42	702104.26	N 32 38 38.18	W 103 48 39.71
	2500.00	10.00	109.00	2497.47	43.52	-14.17	41.15	2.00	598386.33	702119.05	N 32 38 38.13	W 103 48 39.54
	2600.00	12.00	109.00	2595.62	62.60	-20.38	59.19	2.00	598380.12	702137.09	N 32 38 38.07	W 103 48 39.33
Hold	2664.21	13.28	109.00	2658.28	76.66	-24.96	72.48	2.00	598375.54	702150.37	N 32 38 38.02	W 103 48 39.17
	2700.00	13.28	109.00	2693.11	84.88	-27.64	80.25	0.00	598372.86	702158.15	N 32 38 38.00	W 103 48 39.08
	2800.00	13.28	109.00	2790.43	107.86	-35.12	101.98	0.00	598365.38	702179.87	N 32 38 37.92	W 103 48 38.83
	2900.00	13.28	109.00	2887.76	130.84	-42.60	123.71	0.00	598357.90	702201.60	N 32 38 37.85	W 103 48 38.57
	3000.00	13.28	109.00	2985.08	153.81	-50.08	145.43	0.00	598350.42	702223.32	N 32 38 37.77	W 103 48 38.32
	3100.00	13.28	109.00	3082.40	176.79	-57.56	167.16	0.00	598342.94	702245.05	N 32 38 37.70	W 103 48 38.07
	3200.00	13.28	109.00	3179.73	199.77	-65.05	188.88	0.00	598335.46	702266.77	N 32 38 37.62	W 103 48 37.81
	3300.00	13.28	109.00	3277.05	222.75	-72.53	210.61	0.00	598327.98	702288.50	N 32 38 37.55	W 103 48 37.56
	3400.00	13.28	109.00	3374.38	245.73	-80.01	232.34	0.00	598320.50	702310.22	N 32 38 37.47	W 103 48 37.31
	3500.00	13.28	109.00	3471.70	268.70	-87.49	254.06	0.00	598313.01	702331.95	N 32 38 37.40	W 103 48 37.05
	3600.00	13.28	109.00	3569.03	291.68	-94.97	275.79	0.00	598305.53	702353.67	N 32 38 37.32	W 103 48 36.80
	3700.00	13.28	109.00	3666.35	314.66	-102.45	297.51	0.00	598298.05	702375.39	N 32 38 37.25	W 103 48 36.54
	3800.00	13.28	109.00	3763.67	337.64	-109.94	319.24	0.00	598290.57	702397.12	N 32 38 37.17	W 103 48 36.29
	3900.00	13.28	109.00	3861.00	360.62	-117.42	340.97	0.00	598283.09	702418.84	N 32 38 37.10	W 103 48 36.04
	4000.00	13.28	109.00	3958.32	383.59	-124.90	362.69	0.00	598275.61	702440.57	N 32 38 37.02	W 103 48 35.78
	4100.00	13.28	109.00	4055.65	406.57	-132.38	384.42	0.00	598268.13	702462.29	N 32 38 36.95	W 103 48 35.53
	4200.00	13.28	109.00	4152.97	429.55	-139.86	406.14	0.00	598260.65	702484.02	N 32 38 36.87	W 103 48 35.28
	4300.00	13.28	109.00	4250.30	452.53	-147.34	427.87	0.00	598253.16	702505.74	N 32 38 36.80	W 103 48 35.02
	4400.00	13.28	109.00	4347.62	475.51	-154.83	449.60	0.00	598245.68	702527.47	N 32 38 36.72	W 103 48 34.77
	4500.00	13.28	109.00	4444.94	498.49	-162.31	471.32	0.00	598238.20	702549.19	N 32 38 36.64	W 103 48 34.52
	4600.00	13.28	109.00	4542.27	521.46	-169.79	493.05	0.00	598230.72	702570.92	N 32 38 36.57	W 103 48 34.26
	4700.00	13.28	109.00	4639.59	544.44	-177.27	514.77	0.00	598223.24	702592.64	N 32 38 36.49	W 103 48 34.01
9 5/8 Casing Point	*4789.82*	*13.28*	*109.00*	*4727.01*	*565.08*	*-183.99*	*534.29*	*0.00*	*598216.52*	*702612.15*	*N 32 38 36.43*	*W 103 48 33.78*
	4800.00	13.28	109.00	4736.92	567.42	-184.75	536.50	0.00	598215.76	702614.37	N 32 38 36.42	W 103 48 33.75
	4900.00	13.28	109.00	4834.24	590.40	-192.24	558.23	0.00	598208.28	702636.09	N 32 38 36.34	W 103 48 33.50
	5000.00	13.28	109.00	4931.56	613.38	-199.72	579.95	0.00	598200.80	702657.81	N 32 38 36.27	W 103 48 33.25
	5100.00	13.28	109.00	5028.89	636.35	-207.20	601.68	0.00	598193.31	702679.54	N 32 38 36.19	W 103 48 32.99
	5200.00	13.28	109.00	5126.21	659.33	-214.68	623.40	0.00	598185.83	702701.26	N 32 38 36.12	W 103 48 32.74
	5300.00	13.28	109.00	5223.54	682.31	-222.16	645.13	0.00	598178.35	702722.99	N 32 38 36.04	W 103 48 32.49
	5400.00	13.28	109.00	5320.86	705.29	-229.64	666.86	0.00	598170.87	702744.71	N 32 38 35.97	W 103 48 32.23
	5500.00	13.28	109.00	5418.19	728.27	-237.13	688.58	0.00	598163.39	702766.44	N 32 38 35.89	W 103 48 31.98
Zia AGI # 2 - PBHL	5584.06	13.28	109.00	5500.00	747.58	-243.42	706.84	0.00	598157.10	702784.70	N 32 38 35.83	W 103 48 31.77
	5600.00	13.28	109.00	5515.51	751.25	-244.61	710.31	0.00	598155.91	702788.16	N 32 38 35.82	W 103 48 31.73
	5700.00	13.28	109.00	5612.83	774.22	-252.09	732.03	0.00	598148.43	702809.89	N 32 38 35.74	W 103 48 31.47
	5800.00	13.28	109.00	5710.16	797.20	-259.57	753.76	0.00	598140.95	702831.61	N 32 38 35.67	W 103 48 31.22
	5900.00	13.28	109.00	5807.48	820.18	-267.05	775.49	0.00	598133.46	702853.34	N 32 38 35.59	W 103 48 30.96
	6000.00	13.28	109.00	5904.81	843.16	-274.53	797.21	0.00	598125.98	702875.06	N 32 38 35.52	W 103 48 30.71
	6100.00	13.28	109.00	6002.13	866.14	-282.02	818.94	0.00	598118.50	702896.79	N 32 38 35.44	W 103 48 30.46
Hold to TD 6200ft MD	6200.00	13.28	109.00	6099.46	889.11	-289.50	840.66	0.00	598111.02	702918.51	N 32 38 35.37	W 103 48 30.20

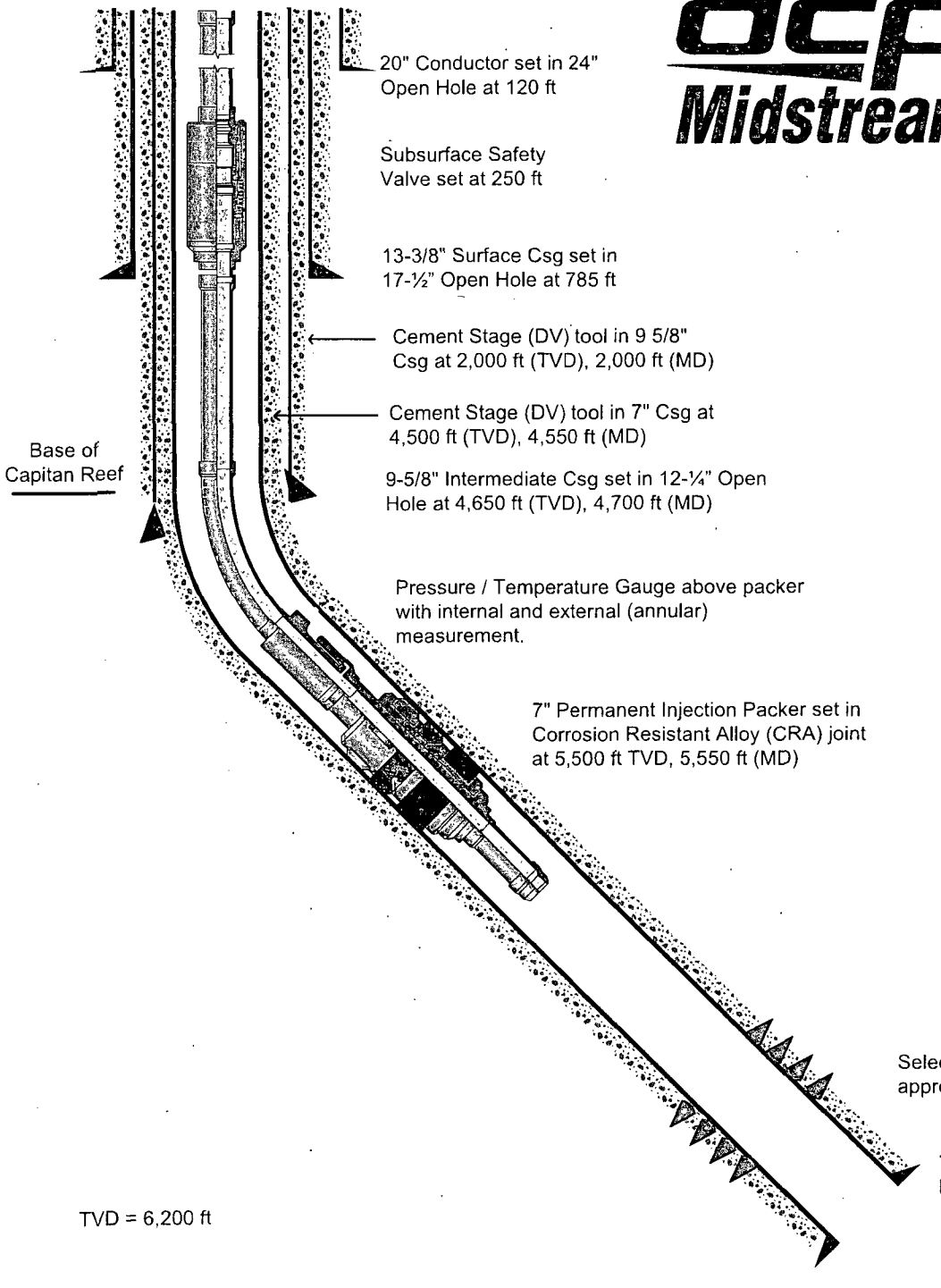
Survey Type: Non-Def Plan

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

Survey Program:

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 ° ' ")

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	25.000	1/100.000	30.000	30.000	SLB_MWD-POOR-Depth Only	Original Borehole / Subsurface Zia AGI #2_Rev2_TS_14Oct14
	1	25.000	2000.000	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Subsurface Zia AGI #2_Rev2_TS_14Oct14
	1	2000.000	6200.000	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Subsurface Zia AGI #2_Rev2_TS_14Oct14



dcp Midstream℠

DCP MIDSTREAM, LP
ZIA AGI #2

Location:	1,900 FSL & 950' FWL
STR	S19-T19S-R32E
County, St.:	LEA COUNTY, NEW MEXICO

CONDUCTOR PIPE
20" Conductor set at 120 ft.
Cemented to surface

SURFACE CASING
13-3/8", 48#, J55, ST&C set at 785 ft MD
Cemented to surface

INTERMEDIATE CASING
9-5/8", 40#, J55, LT&C set at 4,700 ft MD (4,650 ft TVD)
Cemented to surface

PRODUCTION CASING:
7 5/8", 29.7#, HCL-80 LT&C, from surface to 300 ft MD (300 ft TVD)
7", 26#, HCL-80 LT&C, from 300 ft to 5,320 ft MD (5,220 ft TVD)
7", 26#, 28Cr, VAM-TOP from 5,320 ft to 5,620 ft MD (5,220 ft to 5,520 ft TVD)
7", 26#, HCL-80 LT&C, from 5,620 to 6,300 ft MD (5,520 to 6,200 ft TVD)
Cemented to surface

PACKER:
Permanent injection packer with Incaloy components set in Corrosion Resistant Alloy (CRA) csg at 5,550 ft MD (5,450 ft TVD)

TUBING:
Subsurface Safety Valve at 250 ft MD (250 ft TVD)
3-1/2", 9.3#/ft, L80 (fiberglass lined) from surface to 5,550 ft MD (5,450 ft TVD)
Premium thread utilizing metal to metal sealing in collars

BOTTOM HOLE LOCATION AT 5,500 FT (TVD):
245' South and 706' East of surface location

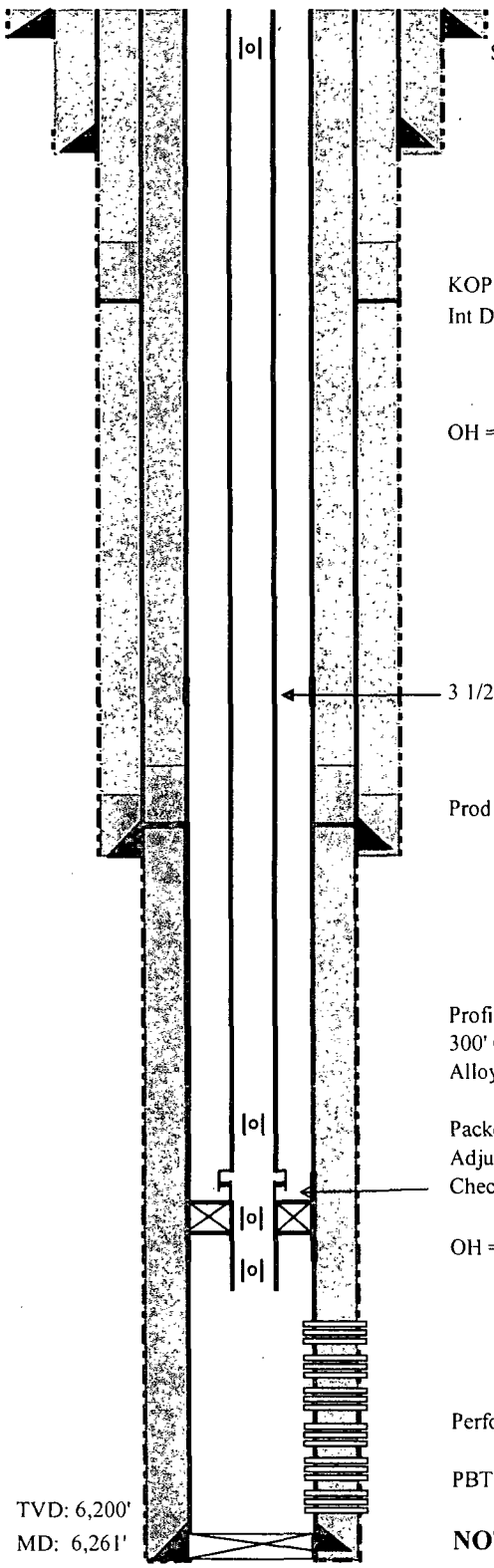
PB PARSONS BRINCKERHOFF

GEOLEX
INCORPORATED

FIGURE 10: DCP Zia AGI #2
PROPOSED WELL DESIGN **DCP Midstream Services**

Location: DCP Zia AGI #2
STR Section 19, T19S-R32E
County, St.: Lea County, New Mexico

+/-15.36 DEGREE SLANT



CONDUCTOR CASING
20" Conductor at 120'

SURFACE CASING
13 3/8", 48.00#/ft, H40, STC at 785'

INTERMEDIATE CASING:
9 5/8", 40.0 #/ft, J55, LTC at 4,716'

PRODUCTION CASING:
7", 26 #/ft, HCL-80, LTC to 5,240'
7", 26 #/ft, CRA, USF to 5,540'*
7", 26 #/ft, HCL-80, USF to 6,261' (MTD)*

TUBING:
3 1/2", 9.3#/ft, L-80 TTS8* (Fiberglass Lined) Tbg at 5,390'
+ 3 jts 3 1/2", 9.3#/ft, CRA Prem (Fiberglass Lined) Tbg

ANNULAR FLUID:
Diesel Fuel from top of packer to surface

PACKER:
Permanent Production Packer @ 5,485' MD
Adj. Choke (if needed, placed in nipple below packer)
Check valve (if needed, placed in nipple below packer)

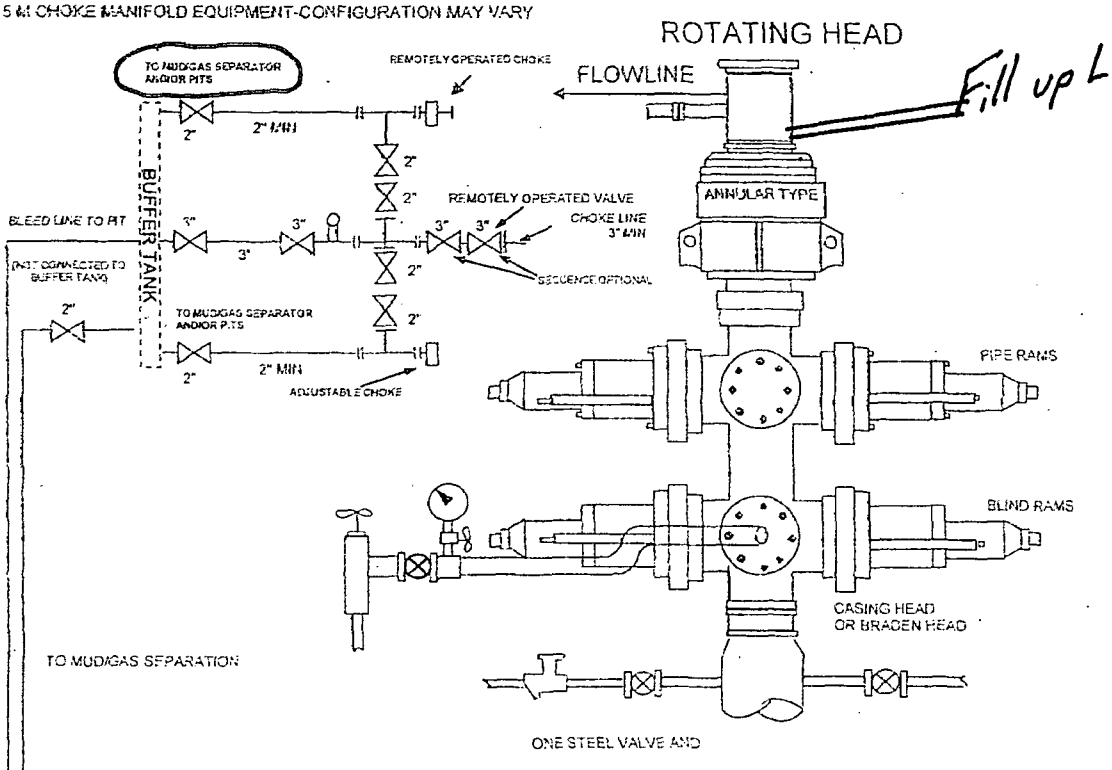
PERFORATIONS:	
Primary Targets:	**MD**
5,500'-6,000'	5,536' - 6,056'

*Other Premium thds are acceptable & CRA is Grade 3 or better equivalent (28cr, SM2535, etc)

Figure 3 BOP Diagram

* See COA

5-M WP BOPE WITH 5-M WP ANNULAR



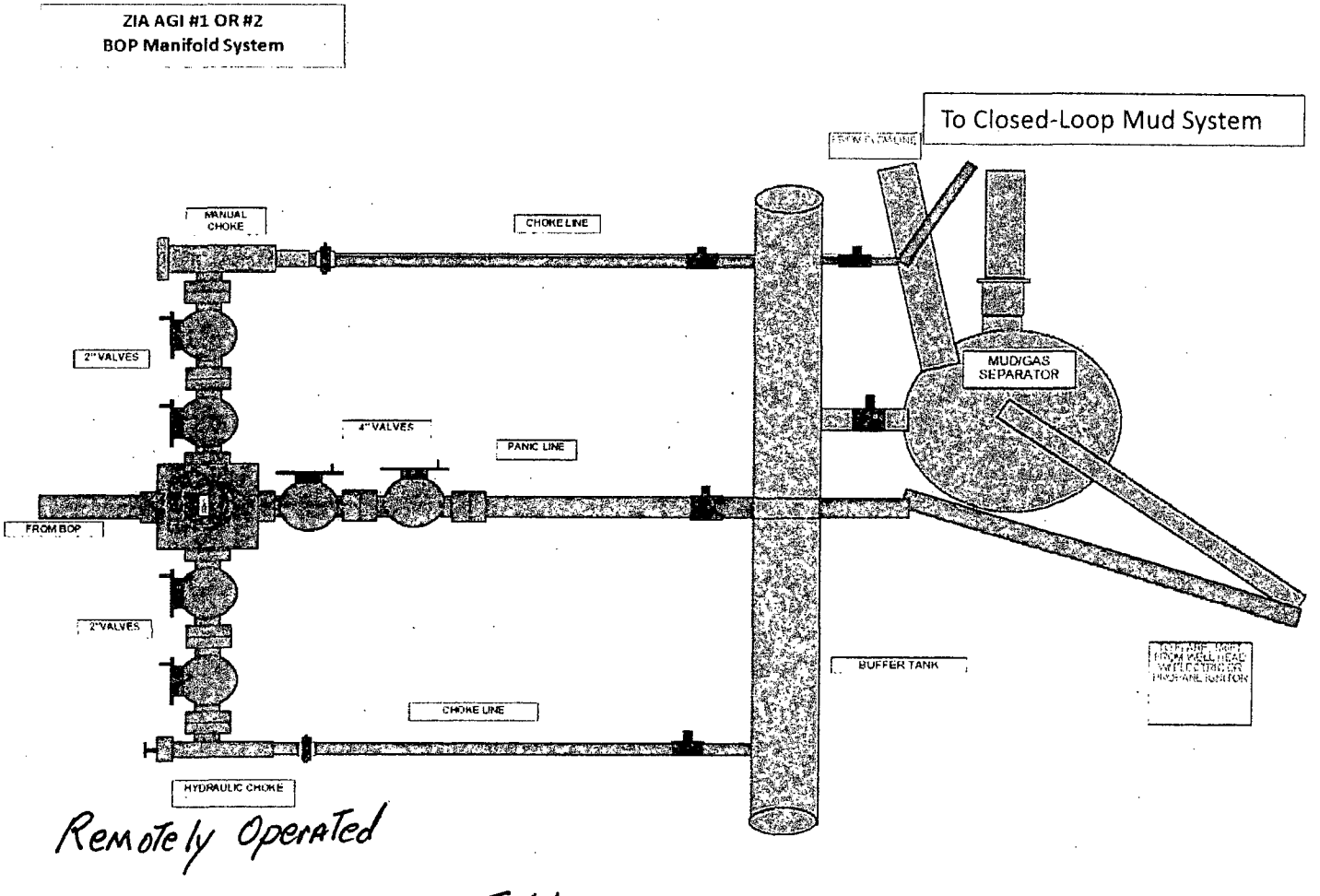
THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

A. One double gate Blowout preventer with lower pipe rams and upper blind rams, all hydraulically controlled.
B. Opening on preventers between rams to be flanged, studded or clamped and at least two inches in diameter.
C. All connections from operating manifold to preventers to be all steel hose or tube a mininum of one inch in diameter.
D. The available closing pressure shall be at least 15% in excess of that required with suffficient volume to operate (close, open, and re-close) the preventers.
E. All connections to and from preventers to have a pressure rating equivalent to that of the BOPs.
F. Manual controls to be installed before drilling cement plug.
G. Valve to control flow through drill pipe to be located on rig floor.
H. Chokes must be adjustable. Choke spool may be used between rams.

mud/gas separator See COA
Onshore Order 6

TO STEEL MUD TANKS 75 feet

BLEED LINE TO FLARE PIT OR 180 feet



5M

Figure 12: BOP Manifold Schematic

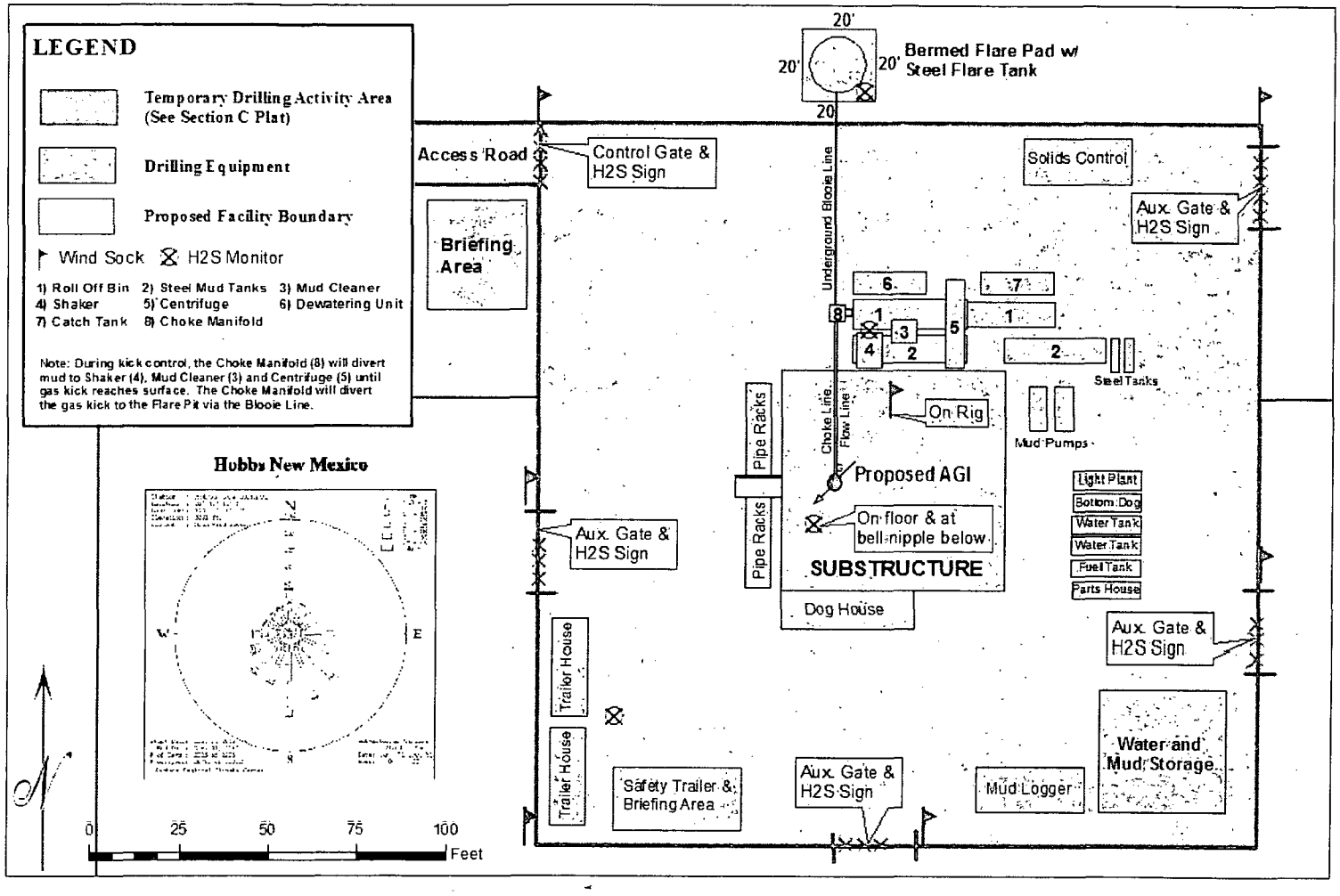


Figure 13: Site Plat Showing H2S Safety Features and Closed Loop System