

Results of Directional Survey

API number:	30-025-40530		
OGRID:		Operator:	EOG RESOURCES INC
		Property:	VACA 24 FEDERAL COM # 3H

surface	ULSTR:	N	24	T	25S	R	33E
				50	FSL	1390	FWL

BH Loc	ULSTR:	L	13	T	25S	R	33E
16900	MD	9426.4	TVD	2403	FSL	1423	FWL
				7683	FSL		

Top Perf/OH	ULSTR:	N	24	T	25S	R	33E
9645	MD	9461.8	TVD	439	FSL	1379	FWL

Bot Perf/OH	ULSTR:	L	13	T	25S	R	33E
16786	MD	9427.5	TVD	2289	FSL	1261	FWL
				7569	FSL		

	MD	N/S	E/W	VD
	9626	370.53	-10.64	9457.19
TOP PERFS/OH	9645	388.96	-11.23	9461.77
	9658	401.57	-11.64	9464.90
	16729	7461.83	-129.91	9428.02
BOT PERFS/OH	16786	7518.82	-128.78	9427.49
	16824	7556.81	-128.02	9427.13

NEXT TO LAST	16858	7590.81	-127.59	9426.80
LAST READING	16900	7632.80	-127.22	9426.37
TD	16900	7632.80	-127.22	9426.37

Surface Location	50	FS	1390	FW
Projected BHL	7683	FS	1263	FW
Location of				
Top Perfs/OH	439	FS	1379	FW
Bottom Perfs/OH	7569	FS	1261	FW

SUMMARY of Subsurface Locations

Surface Location	N-24-25S-33E	50	FS	1390	FW	Vert. Depth
Top Perfs/OH	N-24-25S-33E	439	FS	1379	FW	9461.77
Bottom Perfs/OH	L-13-25S-33E	7569	FS	1261	FW	9427.49
Projected TD	L-13-25S-33E	7683	FS	1263	FW	9426.37

EOG Vaca 24 Fed Com #3H Gyro+MWD 0'-16900'MD Survey Geodetic Report



(Def Survey)

Report Date: November 20, 2012 - 09:41 AM
Client: Eog Resources
Field: NM Lea County (NAD 27)
Structure / Slot: EOG Vaca 24 Fed Com #3H / EOG Vaca 24 Fed Com #3H
Well: EOG Vaca 24 Fed Com #3H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: EOG Vaca 24 Fed Com #3H Gyro+MWD 0'-16900'MD
Survey Date: October 26, 2012
Tort / AHD / DDI / ERD Ratio: 182.997' / 7801.114 ft / 6.406' / 0.823
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 6' 31.60262", W 103° 31' 46.70354"
Location Grid N/E Y/X: N 404224.300 ftUS, E 748849.700 ftUS
CRS Grid Convergence Angle: 0.4272°
Grid Scale Factor: 0.99998002

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 358.954° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Rotary Table
TVD Reference Elevation: 3369.400 ft above
Seabed / Ground Elevation: 3339.400 ft above
Magnetic Declination: 7.491°
Total Gravity Field Strength: 999.1605 mgn (9.8 based)
Total Magnetic Field Strength: 48403.685 nT
Magnetic Dip Angle: 60.013°
Declination Date: October 26, 2012
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.4272°
Total Corr Mag North->Grid North: 7.0636°
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	0.00	0.00	0.00	0.00	0.00	N/A	404224.30	748849.70	N 32° 6' 31.60"	W 103° 31' 46.70"
	100.00	0.31	0.04	100.00	0.27	0.27	0.00	0.31	404224.57	748849.70	N 32° 6' 31.61"	W 103° 31' 46.70"
	200.00	0.17	101.01	200.00	0.51	0.51	0.15	0.38	404224.81	748849.85	N 32° 6' 31.61"	W 103° 31' 46.70"
	300.00	0.08	138.28	300.00	0.43	0.43	0.34	0.12	404224.73	748850.04	N 32° 6' 31.61"	W 103° 31' 46.70"
	400.00	0.18	338.27	400.00	0.52	0.53	0.33	0.26	404224.83	748850.03	N 32° 6' 31.61"	W 103° 31' 46.70"
	500.00	0.18	18.26	500.00	0.82	0.82	0.32	0.12	404225.12	748850.02	N 32° 6' 31.61"	W 103° 31' 46.70"
	600.00	0.14	345.41	600.00	1.08	1.09	0.34	0.10	404225.39	748850.04	N 32° 6' 31.61"	W 103° 31' 46.70"
	700.00	0.16	36.44	700.00	1.31	1.32	0.39	0.13	404225.62	748850.09	N 32° 6' 31.62"	W 103° 31' 46.70"
	800.00	0.18	25.31	800.00	1.56	1.57	0.54	0.04	404225.87	748850.24	N 32° 6' 31.62"	W 103° 31' 46.70"
	900.00	0.28	33.19	900.00	1.91	1.92	0.74	0.10	404226.22	748850.44	N 32° 6' 31.62"	W 103° 31' 46.69"
	1000.00	0.23	25.05	1000.00	2.29	2.31	0.96	0.06	404226.61	748850.66	N 32° 6' 31.63"	W 103° 31' 46.69"
	1100.00	0.22	21.26	1099.99	2.65	2.67	1.11	0.02	404226.97	748850.81	N 32° 6' 31.63"	W 103° 31' 46.69"
	1247.00	0.70	80.22	1246.99	3.04	3.08	2.10	0.42	404227.38	748851.80	N 32° 6' 31.63"	W 103° 31' 46.68"
	1342.00	0.70	72.10	1341.98	3.30	3.36	3.22	0.10	404227.66	748852.92	N 32° 6' 31.64"	W 103° 31' 46.67"
	1437.00	0.35	36.55	1436.98	3.70	3.77	3.95	0.49	404228.07	748853.65	N 32° 6' 31.64"	W 103° 31' 46.66"
	1531.00	0.70	63.89	1530.97	4.17	4.25	4.64	0.45	404228.55	748854.34	N 32° 6' 31.64"	W 103° 31' 46.65"
	1626.00	1.14	56.95	1625.96	4.92	5.03	5.95	0.48	404229.32	748855.65	N 32° 6' 31.65"	W 103° 31' 46.63"
	1725.00	1.32	65.26	1724.94	5.90	6.04	7.81	0.26	404230.34	748857.51	N 32° 6' 31.66"	W 103° 31' 46.61"
	1820.00	1.67	63.65	1819.91	6.93	7.11	10.04	0.37	404231.41	748859.74	N 32° 6' 31.67"	W 103° 31' 46.59"
	1914.00	1.32	61.87	1913.88	8.01	8.23	12.23	0.38	404232.53	748861.93	N 32° 6' 31.68"	W 103° 31' 46.56"
	2009.00	1.23	68.46	2008.85	8.86	9.12	14.14	0.18	404233.42	748863.84	N 32° 6' 31.69"	W 103° 31' 46.54"
	2104.00	1.14	67.70	2103.83	9.56	9.85	15.96	0.10	404234.15	748865.66	N 32° 6' 31.70"	W 103° 31' 46.52"
	2198.00	1.58	65.91	2197.80	10.41	10.74	18.01	0.47	404235.04	748867.71	N 32° 6' 31.71"	W 103° 31' 46.49"
	2293.00	1.32	62.75	2292.77	11.40	11.77	20.18	0.29	404236.07	748869.88	N 32° 6' 31.72"	W 103° 31' 46.47"
	2389.00	1.58	64.63	2388.74	12.44	12.85	22.36	0.28	404237.15	748872.06	N 32° 6' 31.73"	W 103° 31' 46.44"
	2483.00	1.49	59.14	2482.71	13.58	14.03	24.58	0.18	404238.33	748874.28	N 32° 6' 31.74"	W 103° 31' 46.42"
	2578.00	1.93	66.81	2577.67	14.79	15.29	27.11	0.52	404239.59	748876.81	N 32° 6' 31.75"	W 103° 31' 46.39"
	2672.00	1.93	59.39	2671.61	16.17	16.72	29.93	0.27	404241.02	748879.63	N 32° 6' 31.77"	W 103° 31' 46.35"
	2767.00	1.06	56.17	2766.58	17.44	18.02	32.03	0.92	404242.32	748881.73	N 32° 6' 31.78"	W 103° 31' 46.33"
	2862.00	1.41	70.59	2861.56	18.28	18.90	33.87	0.49	404243.20	748883.56	N 32° 6' 31.79"	W 103° 31' 46.31"
	2957.00	1.85	73.06	2956.52	19.07	19.74	36.43	0.47	404244.04	748886.13	N 32° 6' 31.80"	W 103° 31' 46.28"
	3052.00	1.06	67.81	3051.49	19.81	20.52	38.71	0.84	404244.82	748888.41	N 32° 6' 31.80"	W 103° 31' 46.25"
	3147.00	0.88	75.33	3146.48	20.29	21.03	40.23	0.23	404245.33	748889.93	N 32° 6' 31.81"	W 103° 31' 46.23"
	3242.00	1.85	78.85	3241.45	20.74	21.51	42.44	1.02	404245.81	748892.14	N 32° 6' 31.81"	W 103° 31' 46.21"
	3337.00	2.73	74.29	3336.37	21.58	22.42	46.13	0.95	404246.72	748895.83	N 32° 6' 31.82"	W 103° 31' 46.17"
	3431.00	1.49	76.82	3430.30	22.40	23.31	49.47	1.32	404247.61	748899.17	N 32° 6' 31.83"	W 103° 31' 46.13"
	3526.00	1.58	95.74	3525.27	22.51	23.46	51.98	0.54	404247.76	748901.68	N 32° 6' 31.83"	W 103° 31' 46.10"
	3621.00	0.44	61.38	3620.26	22.52	23.50	53.60	1.31	404247.80	748903.30	N 32° 6' 31.83"	W 103° 31' 46.08"
	3716.00	0.79	105.80	3715.25	22.50	23.50	54.55	0.60	404247.80	748904.25	N 32° 6' 31.83"	W 103° 31' 46.07"
	3811.00	0.53	117.14	3810.24	22.10	23.12	55.57	0.30	404247.42	748905.27	N 32° 6' 31.83"	W 103° 31' 46.06"
	3906.00	0.79	97.90	3905.24	21.79	22.83	56.61	0.36	404247.13	748906.31	N 32° 6' 31.82"	W 103° 31' 46.04"
	4000.00	1.41	77.14	3999.22	21.93	23.00	58.38	0.77	404247.30	748908.08	N 32° 6' 31.83"	W 103° 31' 46.02"
	4095.00	0.53	68.28	4094.21	22.32	23.42	59.93	0.94	404247.72	748909.63	N 32° 6' 31.83"	W 103° 31' 46.00"
	4191.00	0.18	85.64	4190.20	22.49	23.60	60.49	0.38	404247.90	748910.19	N 32° 6' 31.83"	W 103° 31' 46.00"
	4285.00	0.88	107.46	4284.20	22.27	23.39	61.33	0.76	404247.69	748911.03	N 32° 6' 31.83"	W 103° 31' 45.99"
	4381.00	1.85	112.69	4380.17	21.41	22.57	63.46	1.02	404246.87	748913.16	N 32° 6' 31.82"	W 103° 31' 45.96"
	4475.00	2.02	109.82	4474.12	20.21	21.43	66.42	0.21	404245.72	748916.12	N 32° 6' 31.81"	W 103° 31' 45.93"
	4570.00	1.49	96.35	4569.07	19.45	20.72	69.22	0.70	404245.02	748918.92	N 32° 6' 31.80"	W 103° 31' 45.90"
	4664.00	1.32	107.14	4663.04	18.96	20.27	71.47	0.33	404244.57	748921.17	N 32° 6' 31.80"	W 103° 31' 45.87"
	4759.00	1.32	128.15	4758.02	17.93	19.27	73.38	0.51	404243.57	748923.08	N 32° 6' 31.79"	W 103° 31' 45.85"
	4854.00	1.67	138.55	4852.99	16.18	17.55	75.15	0.46	404241.85	748924.85	N 32° 6' 31.77"	W 103° 31' 45.83"
	4949.00	1.58	150.70	4947.95	13.97	15.38	76.71	0.37	404239.67	748926.41	N 32° 6' 31.75"	W 103° 31' 45.81"
	4997.00	1.49	149.62	4995.93	12.85	14.26	77.35	0.20	404238.56	748927.05	N 32° 6' 31.74"	W 103° 31' 45.80"
	5112.00	0.88	143.28	5110.91	10.82	12.26	78.64	0.54	404236.56	748928.33	N 32° 6' 31.72"	W 103° 31' 45.79"
	5207.00	0.88	275.90	5205.90	10.32	11.75	78.35	1.70	404236.05	748928.04	N 32° 6' 31.71"	W 103° 31' 45.79"
	5302.00	1.06	276.35	5300.89	10.52	11.92	76.75	0.19	404236.22	748926.45	N 32° 6' 31.71"	W 103° 31' 45.81"
	5397.00	1.06	268.96	5395.87	10.63	12.01	75.00	0.14	404236.31	748924.69	N 32° 6' 31.72"	W 103° 31' 45.83"
	5493.00	0.97	273.09	5491.86	10.69	12.03	73.30	0.12	404236.33	748922.99	N 32° 6' 31.72"	W 103° 31' 45.85"
	5588.00	1.23	271.60	5586.84	10.80	12.11	71.47	0.28	404236.40	748921.17	N 32° 6' 31.72"	W 103° 31' 45.87"

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 ° ' ")
	5682.00	1.14	285.75	5680.82	11.11	12.39	69.57	0.32	404236.69	748919.26	N 32 6 31.72	W 103 31 45.89
	5777.00	1.14	281.53	5775.80	11.59	12.83	67.73	0.09	404237.13	748917.43	N 32 6 31.72	W 103 31 45.92
	5872.00	1.23	285.75	5870.78	12.09	13.30	65.82	0.13	404237.60	748915.52	N 32 6 31.73	W 103 31 45.94
	5967.00	1.32	277.31	5965.76	12.55	13.71	63.76	0.22	404238.01	748913.45	N 32 6 31.73	W 103 31 45.96
	6062.00	1.14	282.41	6060.74	12.93	14.06	61.75	0.22	404238.36	748911.45	N 32 6 31.74	W 103 31 45.98
	6157.00	1.14	275.55	6155.72	13.26	14.35	59.88	0.14	404238.65	748909.58	N 32 6 31.74	W 103 31 46.01
	6252.00	1.06	284.43	6250.70	13.60	14.66	58.09	0.20	404238.96	748907.79	N 32 6 31.74	W 103 31 46.03
	6346.00	1.23	281.97	6344.68	14.06	15.09	56.26	0.19	404239.39	748905.96	N 32 6 31.75	W 103 31 46.05
	6441.00	1.06	275.11	6439.66	14.38	15.38	54.39	0.23	404239.68	748904.09	N 32 6 31.75	W 103 31 46.07
	6536.00	1.14	276.96	6534.64	14.61	15.57	52.58	0.09	404239.87	748902.28	N 32 6 31.75	W 103 31 46.09
	6631.00	1.41	271.95	6629.62	14.80	15.72	50.47	0.31	404240.02	748900.17	N 32 6 31.75	W 103 31 46.12
	6725.00	1.41	272.13	6723.59	14.92	15.81	48.16	0.00	404240.11	748897.86	N 32 6 31.76	W 103 31 46.14
	6820.00	1.32	278.54	6818.57	15.17	16.01	45.91	0.19	404240.31	748895.61	N 32 6 31.76	W 103 31 46.17
	6915.00	1.32	268.79	6913.54	15.35	16.15	43.73	0.24	404240.45	748893.43	N 32 6 31.76	W 103 31 46.19
	7010.00	1.32	278.54	7008.52	15.53	16.29	41.56	0.24	404240.59	748891.26	N 32 6 31.76	W 103 31 46.22
	7105.00	1.32	277.93	7103.49	15.88	16.60	39.39	0.01	404240.90	748889.09	N 32 6 31.76	W 103 31 46.24
	7200.00	1.23	276.26	7198.47	16.18	16.87	37.29	0.10	404241.17	748886.99	N 32 6 31.77	W 103 31 46.27
	7294.00	1.41	268.87	7292.44	16.31	16.95	35.13	0.26	404241.25	748884.83	N 32 6 31.77	W 103 31 46.29
	7389.00	1.41	265.53	7387.41	16.24	16.84	32.80	0.09	404241.14	748882.50	N 32 6 31.77	W 103 31 46.32
	7484.00	1.32	266.41	7482.39	16.12	16.68	30.54	0.10	404240.98	748880.24	N 32 6 31.77	W 103 31 46.35
	7579.00	1.32	262.28	7577.36	15.94	16.46	28.37	0.10	404240.76	748878.07	N 32 6 31.76	W 103 31 46.37
	7674.00	1.32	259.29	7672.34	15.63	16.11	26.21	0.07	404240.41	748875.91	N 32 6 31.76	W 103 31 46.40
	7769.00	1.23	251.21	7767.31	15.14	15.58	24.17	0.21	404239.88	748873.87	N 32 6 31.76	W 103 31 46.42
	7863.00	0.97	234.33	7861.29	14.38	14.79	22.57	0.44	404239.09	748872.27	N 32 6 31.75	W 103 31 46.44
	7958.00	0.70	234.42	7956.28	13.59	13.99	21.44	0.28	404238.29	748871.14	N 32 6 31.74	W 103 31 46.45
	8053.00	0.88	232.75	8051.28	12.83	13.21	20.39	0.19	404237.51	748870.09	N 32 6 31.73	W 103 31 46.47
	8089.00	0.70	231.70	8087.27	12.54	12.90	20.00	0.50	404237.20	748869.69	N 32 6 31.73	W 103 31 46.47
	8184.00	0.70	220.89	8182.26	11.75	12.11	19.16	0.14	404236.41	748868.86	N 32 6 31.72	W 103 31 46.48
	8278.00	0.70	224.84	8276.26	10.93	11.26	18.38	0.05	404235.56	748868.08	N 32 6 31.71	W 103 31 46.49
	8373.00	0.70	217.46	8371.25	10.07	10.39	17.62	0.09	404234.69	748867.32	N 32 6 31.70	W 103 31 46.50
	8467.00	0.53	200.49	8465.25	9.22	9.53	17.12	0.26	404233.83	748866.82	N 32 6 31.70	W 103 31 46.50
	8562.00	0.70	195.13	8560.24	8.25	8.56	16.81	0.19	404232.86	748866.51	N 32 6 31.69	W 103 31 46.51
	8657.00	0.79	199.88	8655.23	7.08	7.38	16.44	0.11	404231.68	748866.14	N 32 6 31.67	W 103 31 46.51
	8753.00	0.79	203.84	8751.22	5.86	6.15	15.94	0.08	404230.45	748865.64	N 32 6 31.66	W 103 31 46.52
	8848.00	0.70	197.77	8846.21	4.72	5.00	15.50	0.13	404229.30	748865.20	N 32 6 31.65	W 103 31 46.52
	8924.00	0.70	195.22	8922.21	3.83	4.11	15.24	0.04	404228.41	748864.94	N 32 6 31.64	W 103 31 46.53
	8961.00	0.44	275.20	8959.21	3.63	3.91	15.04	2.05	404228.21	748864.74	N 32 6 31.64	W 103 31 46.53
	8993.00	2.99	339.80	8991.19	4.43	4.70	14.63	8.84	404229.00	748864.33	N 32 6 31.65	W 103 31 46.53
	9025.00	6.42	345.78	9023.08	6.96	7.22	13.90	10.81	404231.52	748863.60	N 32 6 31.67	W 103 31 46.54
	9057.00	10.55	347.18	9054.72	11.58	11.81	12.81	12.92	404236.11	748862.51	N 32 6 31.72	W 103 31 46.55
	9088.00	14.86	348.24	9084.96	18.26	18.47	11.37	13.92	404242.77	748861.07	N 32 6 31.78	W 103 31 46.57
	9120.00	18.55	347.98	9115.60	27.30	27.47	9.47	11.53	404251.77	748859.17	N 32 6 31.87	W 103 31 46.59
	9151.00	21.46	349.73	9144.73	37.74	37.88	7.43	9.58	404262.18	748857.13	N 32 6 31.98	W 103 31 46.61
	9183.00	24.71	352.72	9174.16	50.17	50.28	5.54	10.79	404274.58	748855.24	N 32 6 32.10	W 103 31 46.63
	9215.00	27.44	355.71	9202.90	64.18	64.27	4.14	9.47	404288.57	748853.84	N 32 6 32.24	W 103 31 46.65
	9248.00	30.69	355.80	9231.74	80.18	80.25	2.96	9.85	404304.55	748852.66	N 32 6 32.40	W 103 31 46.66
	9278.00	33.33	355.71	9257.18	96.06	96.11	1.78	8.80	404320.41	748851.48	N 32 6 32.55	W 103 31 46.67
	9308.00	35.96	355.89	9281.86	113.09	113.12	0.53	8.77	404337.41	748850.23	N 32 6 32.72	W 103 31 46.69
	9341.00	39.92	355.89	9307.88	133.34	133.35	-0.92	12.00	404357.65	748848.78	N 32 6 32.92	W 103 31 46.70
	9373.00	43.62	355.18	9331.74	154.62	154.60	-2.59	11.66	404378.89	748847.11	N 32 6 33.13	W 103 31 46.72
	9405.00	47.57	355.10	9354.13	177.42	177.37	-4.52	12.35	404401.67	748845.18	N 32 6 33.36	W 103 31 46.74
	9436.00	52.23	356.06	9374.09	201.09	201.01	-6.34	15.22	404425.30	748843.36	N 32 6 33.59	W 103 31 46.76
	9468.00	56.72	358.26	9392.68	227.11	227.01	-7.62	15.10	404451.31	748842.08	N 32 6 33.85	W 103 31 46.77
	9500.00	60.50	359.40	9409.35	254.42	254.32	-8.17	12.20	404478.61	748841.53	N 32 6 34.12	W 103 31 46.78
	9531.00	64.37	359.23	9423.69	281.90	281.79	-8.50	12.49	404506.08	748841.20	N 32 6 34.39	W 103 31 46.78
	9563.00	67.71	358.87	9436.68	311.14	311.02	-8.99	10.49	404535.32	748840.71	N 32 6 34.68	W 103 31 46.78
	9594.00	70.96	358.35	9447.62	340.14	340.02	-9.69	10.60	404564.31	748840.01	N 32 6 34.97	W 103 31 46.79
	9626.00	74.22	358.08	9457.19	370.66	370.53	-10.64	10.22	404594.82	748839.06	N 32 6 35.27	W 103 31 46.80
	9658.00	77.91	358.26	9464.90	401.71	401.57	-11.64	11.54	404625.86	748838.06	N 32 6 35.58	W 103 31 46.80
	9689.00	80.90	358.87	9470.60	432.18	432.03	-12.40	9.84	404656.32	748837.30	N 32 6 35.88	W 103 31 46.81
	9721.00	83.80	358.87	9474.86	463.89	463.73	-13.02	9.06	404688.02	748836.68	N 32 6 36.19	W 103 31 46.81
	9753.00	86.97	359.84	9477.43	495.78	495.62	-13.38	10.36	404719.91	748836.32	N 32 6 36.51	W 103 31 46.82
	9784.00	88.99	0.63	9478.53	526.76	526.60	-13.25	7.00	404750.89	748836.45	N 32 6 36.81	W 103 31 46.81
	9802.00	89.11	0.65	9478.82	544.75	544.60	-13.05	0.68	404768.89	748836.65	N 32 6 36.99	W 103 31 46.81
	9897.00	89.66	0.42	9479.84	639.70	639.59	-12.17	0.63	404863.87	748837.53	N 32 6 37.93	W 103 31 46.79
	9993.00	90.00	0.02	9480.13	735.68	735.59	-11.80	0.55	404959.87	748837.90	N 32 6 38.88	W 103 31 46.78
	10088.00	90.24	359.99	9479.93	830.66	830.59	-11.79	0.25	405054.87	748837.91	N 32 6 39.82	W 103 31 46.77
	10182.00	90.72	359.67	9479.14	924.65	924.58	-12.07	0.61	405148.86	748837.63	N 32 6 40.75	W 103 31 46.76
	10276.00	90.79	0.32	9477.90	1018.62	1018.57	-12.08	0.70	405242.85	748837.62	N 32 6 41.68	W 103 31 46.76
	10371.00	90.93	0.09	9476.48	1113.59	1113.56	-11.74	0.28	405337.84	748837.96	N 32 6 42.62	W 103 31 46.74
	10467.00	91.14	0.10	9474.74	1209.56	1209.55	-11.58	0.22	405433.82	748838.12	N 32 6 43.57	W 103 31 46.73
	10562.00	90.28	359.06	9473.57	1304.54	1304.53	-12.27	1.42	405528.81	748837.43	N 32 6 44.51	W 103 31 46.73
	10657.00	90.17	359.37	9473.19	1399.54	1399.52	-13.58	0.35	405623.79	748836.12	N 32 6 45.45	W 103 31 46.74
	10752.00	90.24	359.46	9472.85	1494.53	1494.52	-14.55	0.12	405718.79	748835.16	N 32 6 46.39	W 103 31 46.74
	10847.00	90.07	357.94	9472.60	1589.53	1589.49	-16.70	1.61	405813.76	748833.00	N 32 6 47.33	W 103 31 46.76
	10942.00	90.10	358.15	9472.46	1684.52	1684.44	-19.94	0.22	405908.70	748829.76	N 32 6 48.27	W 103 31 46.79
	11037.00	90.31	358.18	9472.12	1779.51	1779.39	-22.98	0.22	406003.65	748826.72	N 32 6 49.21	W 103 31 46.82
	11132.00	90.38	357.17	9471.54	1874.48	1874.30	-26.84	1.07	406098.56	748822.86	N 32 6 50.15	W 103 31 46.85
	11227.0											

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 ° ' ")
	11607.00	90.89	355.69	9467.38	2348.97	2348.33	-56.68	0.61	406572.58	748793.03	N 32 6 54.84	W 103 31 47.16
	11702.00	90.65	355.59	9466.11	2443.80	2443.05	-83.90	0.27	406667.29	748785.80	N 32 6 55.78	W 103 31 47.23
	11797.00	90.31	354.98	9465.31	2538.61	2537.72	-71.71	0.74	406761.96	748778.00	N 32 6 56.72	W 103 31 47.32
	11891.00	89.97	356.89	9465.08	2632.47	2631.48	-78.37	2.06	406855.72	748771.33	N 32 6 57.65	W 103 31 47.39
	11986.00	90.38	357.43	9464.79	2727.42	2726.36	-83.08	0.71	406950.60	748766.63	N 32 6 58.59	W 103 31 47.43
	12081.00	90.31	356.57	9464.22	2822.37	2821.23	-88.05	0.91	407045.47	748761.65	N 32 6 59.53	W 103 31 47.48
	12176.00	90.27	356.92	9463.74	2917.29	2916.07	-93.44	0.37	407140.31	748756.26	N 32 7 0 47	W 103 31 47.54
	12271.00	89.76	357.76	9463.71	3012.25	3010.97	-97.85	1.03	407235.20	748751.85	N 32 7 1 40	W 103 31 47.58
	12366.00	89.93	358.76	9463.97	3107.25	3105.92	-100.73	1.07	407330.16	748748.97	N 32 7 2 34	W 103 31 47.61
	12460.00	90.83	0.17	9463.35	3201.24	3199.92	-101.61	1.78	407424.14	748748.09	N 32 7 3 27	W 103 31 47.61
	12555.00	90.07	0.45	9462.60	3296.21	3294.91	-101.10	0.85	407519.14	748748.60	N 32 7 4 21	W 103 31 47.59
	12650.00	90.17	1.54	9462.40	3391.14	3389.89	-99.45	1.15	407614.12	748750.25	N 32 7 5 15	W 103 31 47.57
	12745.00	90.62	1.93	9461.75	3486.03	3484.85	-96.57	0.63	407709.07	748753.13	N 32 7 6 09	W 103 31 47.52
	12839.00	91.03	1.74	9460.39	3579.90	3578.79	-93.56	0.48	407803.01	748756.14	N 32 7 7 02	W 103 31 47.48
	12935.00	90.93	2.91	9458.75	3675.72	3674.69	-89.67	1.22	407898.91	748760.03	N 32 7 7 97	W 103 31 47.43
	13030.00	90.62	3.22	9457.47	3770.47	3769.55	-84.59	0.46	407993.77	748765.11	N 32 7 8 91	W 103 31 47.36
	13125.00	90.48	1.80	9456.55	3865.28	3864.45	-80.43	1.50	408088.67	748769.27	N 32 7 9 85	W 103 31 47.30
	13219.00	90.58	1.54	9455.69	3959.17	3958.41	-77.69	0.30	408182.62	748772.01	N 32 7 10 78	W 103 31 47.26
	13314.00	89.21	0.64	9455.86	4054.10	4053.39	-75.88	1.73	408277.60	748773.82	N 32 7 11 72	W 103 31 47.23
	13409.00	90.76	1.92	9455.88	4149.01	4148.36	-73.76	2.12	408372.57	748775.94	N 32 7 12 66	W 103 31 47.20
	13504.00	90.28	1.19	9455.02	4243.91	4243.32	-71.18	0.92	408467.53	748778.52	N 32 7 13 60	W 103 31 47.16
	13600.00	90.45	359.50	9454.41	4339.88	4339.31	-70.61	1.77	408563.52	748779.10	N 32 7 14 55	W 103 31 47.15
	13694.00	90.76	358.93	9453.42	4433.87	4433.30	-71.89	0.69	408657.50	748777.81	N 32 7 15 48	W 103 31 47.16
	13788.00	90.24	358.31	9452.60	4527.86	4527.27	-74.16	0.86	408751.47	748775.54	N 32 7 16 41	W 103 31 47.17
	13883.00	91.03	358.86	9451.54	4622.86	4622.23	-76.50	1.01	408846.43	748773.20	N 32 7 17 35	W 103 31 47.19
	13978.00	90.96	358.47	9449.89	4717.84	4717.19	-78.72	0.42	408941.39	748770.99	N 32 7 18 29	W 103 31 47.21
	14073.00	90.93	358.03	9448.33	4812.82	4812.13	-81.62	0.46	409036.33	748768.09	N 32 7 19 23	W 103 31 47.24
	14263.00	90.72	355.76	9445.59	5002.67	5001.82	-91.91	1.20	409226.01	748757.80	N 32 7 21 10	W 103 31 47.34
	14358.00	90.82	353.89	9444.32	5097.41	5096.42	-100.47	1.97	409320.61	748749.23	N 32 7 22 04	W 103 31 47.43
	14452.00	91.00	354.16	9442.82	5191.05	5189.90	-110.26	0.35	409414.08	748739.44	N 32 7 22 97	W 103 31 47.54
	14547.00	90.93	353.84	9441.22	5285.66	5284.35	-120.35	0.55	409508.53	748729.35	N 32 7 23 90	W 103 31 47.84
	14642.00	90.52	353.70	9440.02	5380.25	5378.76	-130.82	0.44	409602.94	748718.88	N 32 7 24 84	W 103 31 47.76
	14737.00	89.66	353.60	9439.87	5474.84	5473.18	-141.33	0.91	409697.36	748708.37	N 32 7 25 77	W 103 31 47.87
	14832.00	89.45	353.59	9440.61	5569.43	5567.58	-151.93	0.22	409791.76	748697.77	N 32 7 26 71	W 103 31 47.99
	14927.00	89.62	355.06	9441.38	5664.11	5662.11	-161.32	1.56	409886.28	748688.38	N 32 7 27 64	W 103 31 48.09
	15022.00	90.07	356.04	9441.64	5758.94	5756.82	-168.69	1.14	409980.99	748681.01	N 32 7 28 58	W 103 31 48.17
	15117.00	90.27	356.85	9441.36	5853.85	5851.64	-174.58	0.88	410075.81	748675.12	N 32 7 29 52	W 103 31 48.23
	15211.00	90.07	357.24	9441.08	5947.80	5945.51	-179.43	0.47	410169.68	748670.27	N 32 7 30 45	W 103 31 48.27
	15306.00	89.86	357.98	9441.13	6042.77	6040.43	-183.39	0.81	410264.59	748666.31	N 32 7 31 39	W 103 31 48.31
	15402.00	89.66	359.44	9441.54	6138.76	6136.40	-185.55	1.54	410360.56	748664.15	N 32 7 32 34	W 103 31 48.33
	15496.00	90.03	0.57	9441.79	6232.75	6230.40	-185.54	1.26	410454.56	748664.16	N 32 7 33 27	W 103 31 48.32
	15591.00	90.34	1.62	9441.48	6327.68	6325.38	-183.73	1.15	410549.54	748665.98	N 32 7 34 21	W 103 31 48.29
	15686.00	90.45	2.22	9440.83	6422.55	6420.32	-180.55	0.64	410644.48	748669.16	N 32 7 35 15	W 103 31 48.25
	15781.00	90.83	2.58	9439.77	6517.37	6515.23	-176.57	0.55	410739.39	748673.14	N 32 7 36 09	W 103 31 48.19
	15875.00	90.79	2.83	9438.44	6611.16	6609.12	-172.13	0.27	410833.27	748677.57	N 32 7 37 01	W 103 31 48.13
	15970.00	90.62	4.02	9437.27	6705.86	6703.94	-166.46	1.27	410928.09	748683.25	N 32 7 37 55	W 103 31 48.06
	16065.00	90.93	4.89	9435.99	6800.41	6798.64	-159.08	0.97	411022.79	748690.62	N 32 7 38 89	W 103 31 47.96
	16160.00	91.10	4.08	9434.30	6894.96	6893.34	-151.65	0.87	411117.48	748698.05	N 32 7 39 83	W 103 31 47.87
	16255.00	90.69	1.58	9432.82	6989.72	6988.20	-146.96	2.67	411212.35	748702.74	N 32 7 40 76	W 103 31 47.81
	16349.00	90.82	2.95	9431.58	7083.55	7082.12	-143.25	1.46	411306.26	748708.46	N 32 7 41 69	W 103 31 47.76
	16443.00	90.89	2.93	9430.34	7177.32	7175.99	-138.43	0.14	411400.13	748711.28	N 32 7 42 62	W 103 31 47.69
	16539.00	90.45	1.94	9429.39	7273.13	7271.89	-134.35	1.06	411496.03	748715.35	N 32 7 43 57	W 103 31 47.64
	16634.00	90.34	1.03	9428.73	7368.04	7366.86	-131.89	0.96	411591.00	748717.82	N 32 7 44 51	W 103 31 47.60
	16729.00	90.52	1.36	9428.02	7462.96	7461.83	-129.91	0.40	411685.97	748719.80	N 32 7 45 45	W 103 31 47.57
	16824.00	90.55	0.92	9427.13	7557.89	7556.81	-128.02	0.46	411780.94	748721.69	N 32 7 46 39	W 103 31 47.54
	16858.00	90.58	0.51	9426.80	7591.87	7590.81	-127.59	1.21	411814.94	748722.11	N 32 7 46 73	W 103 31 47.53
	16900.00	90.58	0.51	9426.37	7633.85	7632.80	-127.22	0.00	411856.94	748722.49	N 32 7 47 14	W 103 31 47.52

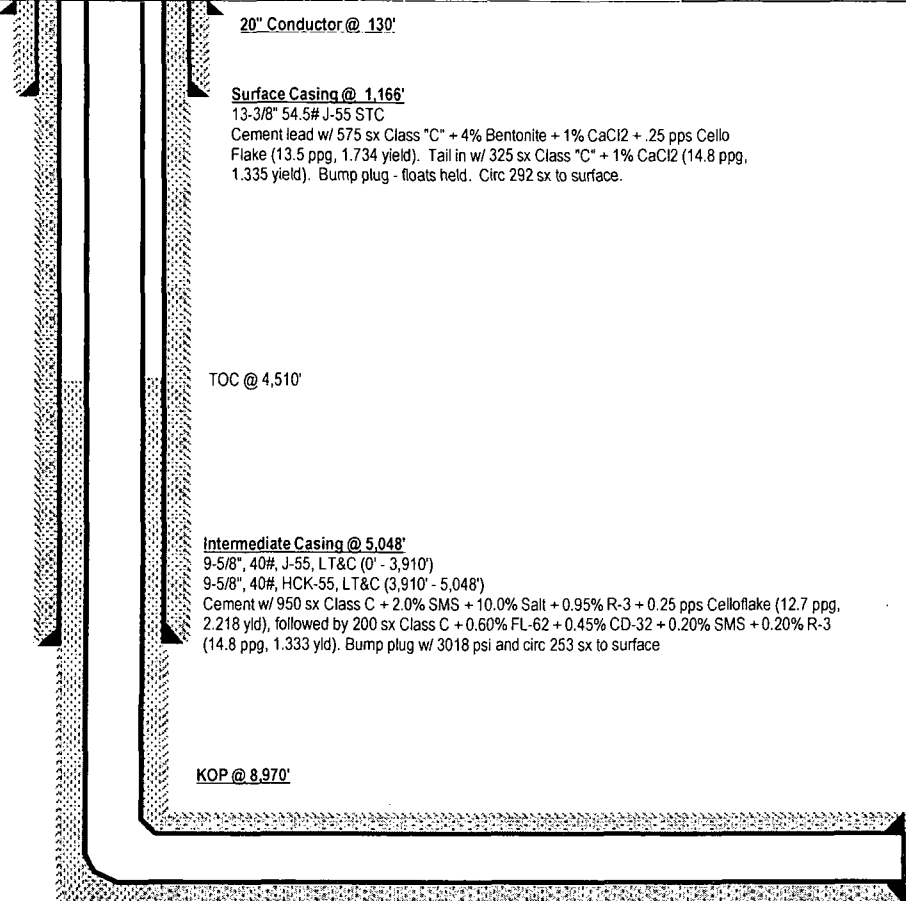
Survey Type: Def Survey

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)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	30.000		Act Sins	30.000	30.000	SLB_NSG+MSHOT-Depth Only
	30.000	1100.000		Act Sins	30.000	30.000	SLB_NSG+MSHOT
	1100.000	16858.000		Act Sins	30.000	30.000	SLB_MWD-STD
	16858.000	16900.000		Act Sins	30.000	30.000	SLB_BLIND+TREND

CURRENT WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: API: 30-025-40530 AFE: 104813 SPUD: 10/24/12 @ 07:00 hrs FRR: 11/14/12 @ 23:30 hrs RIG: Cactus #123	Vaca 24 Fed Com #3H Red Hills(Bone Spring) Field Lea County, New Mexico	SURF: 50' FSL & 1390' FWL LOC: Sec. 24 SURVEY: T-25-S, R-33-E GL: 3339.4' KB: 3369.4' ZERO: 30.0' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
2,000'	Rustler - 1040' Top Salt - 1440'			20" Conductor @ 130'		17-1/2"	8.6	FW		N/A	
3,000'				Surface Casing @ 1,166' 13-3/8" 54.5# J-55 STC Cement lead w/ 575 sx Class "C" + 4% Bentonite + 1% CaCl2 + .25 pps Cello Flake (13.5 ppg, 1.734 yield). Tail in w/ 325 sx Class "C" + 1% CaCl2 (14.8 ppg, 1.335 yield). Bump plug - floats held. Circ 292 sx to surface.		12-1/4"	9.0		86		
5,000'	Base Salt - 4900' Lamar - 5160' Bell Canyon - 5190'			TOC @ 4,510'		10.0					
6,000'	Cherry Canyon - 6200'			Intermediate Casing @ 5,048' 9-5/8", 40#, J-55, LT&C (0' - 3,910') 9-5/8", 40#, HCK-55, LT&C (3,910' - 5,048') Cement w/ 950 sx Class C + 2.0% SMS + 10.0% Salt + 0.95% R-3 + 0.25 pps Celloflake (12.7 ppg, 2.218 yld), followed by 200 sx Class C + 0.60% FL-62 + 0.45% CD-32 + 0.20% SMS + 0.20% R-3 (14.8 ppg, 1.333 yld). Bump plug w/ 3018 psi and circ 253 sx to surface		10.2		Brine		NA	
7,000'				KOP @ 8,970'		8.4				117	
8,000'	Brushy Canyon - 7780'					8-3/4"		WBM		N/A	
9,000'	Bone Spring Lime - 9280'										
10,000'				Production Casing @ 16,883' MD, 9,427' TVD (MJ @ 8760') 5-1/2" 17# HCP-110 LTC Cement w/ 350 sx 60:40:0 Class C + 15.0 pps BA-90 + 4.0% MPA-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.80% ASA-301 + 3.10% R-21 + 8.0 pps LCM-1 (10.8 ppg, 3.681 yld), followed by 400 sx 50:50:10 Class H + 0.80% FL-52 + 0.30% ASA-301 + 0.50% SMS + 2.0% Salt + 0.05% R-21 + 3.0 pps LCM-1 + 0.25 pps Celloflake (11.8 ppg, 2.38 yld), followed by 1775 sx 50:50:2 Class H + 0.65% FL-52 + 0.50% CD-32 + 0.40% SMS + 2.0% Salt + 0.15% R-3 (14.2 ppg, 1.281 yld). Overdisplace w/ 4 bbls, floats held. Did not circ cement to surface			9.3				
11,000'									140		

Drig Eng:

S. Brannan

Date:

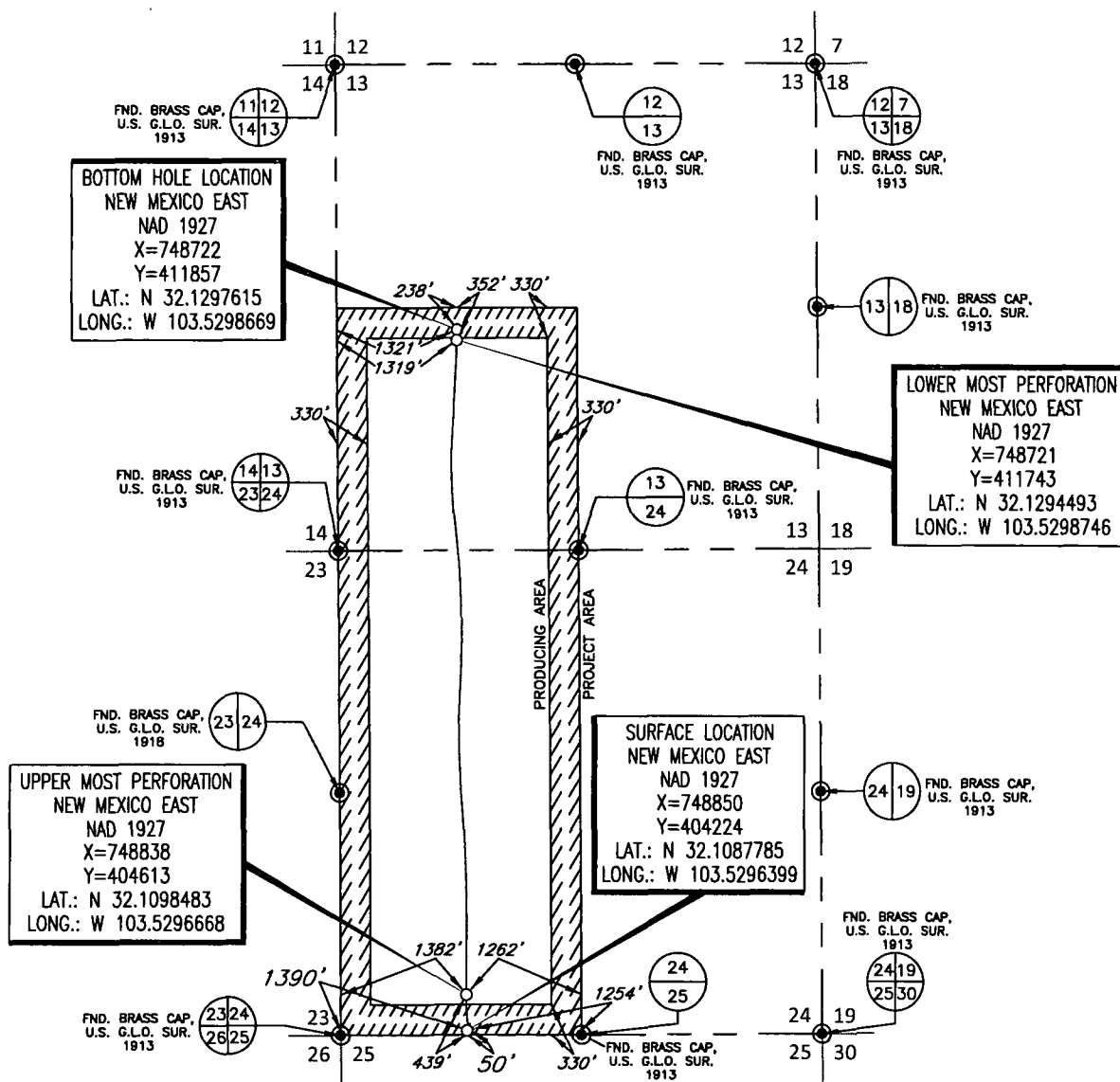
11/15/2012

Drig Eng: S. Brannan
 Date: 11/15/2012

SCALE 1" = 2000'
0' 1000' 2000'



SECTION 24, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, NEW MEXICO



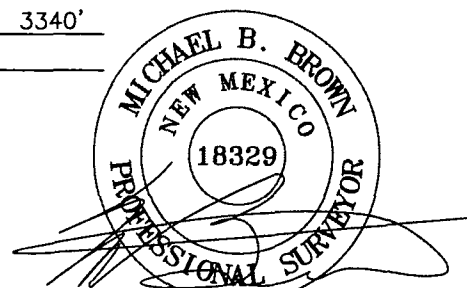
LEASE NAME & WELL NO.: VACA 24 FED COM #3H
SECTION 24 TWP 25-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3340'
DESCRIPTION 50' FSL & 1390' FWL

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

VACA 24 FED COM #3H AS-COMPLETED	REVISION:	
	INT	DATE
DATE: MARCH 15, 2013		
FILE: AD_VACA24FEDCOM_3H		
DRAWN BY: S.V.		
SHEET: 1 OF 1		



Michael Blake Brown, P.S. No. 18329
MARCH 15, 2013

TOPOGRAPHIC

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