214650	A	C	B	Elevation
	dh from 1200			
proj 25' S	65	1379		4049
	dl from 1000			
67 pp	2	1005	5	4395
	dh from 600			
proj 25' W	33	684		4690

44550

proj 25' S	52'	123	5201
Coller proj 14' S			

DDH-36

1,126,250	dh from 600	67°		(4768)
proj 50' E	52	733	122	4645
	dh from 800	67°		(4584)
pp	27	869	64	4520
proj 50' W	76	994	179	4405

DDH 37 (5607)

			A	B	ELEV
0 - 100 (50)	S59E	61	48.48	87.46 43.73	5519.54
100 - 300 S.P. (200)	S59E	61	96.96 ~~145.44~~ (48.48)	174.92 ~~267.00~~ (87.5)	5344.61 (5432.1)
300 - 500 (400)	S61E	63	90.80 ~~226.99~~ (45.40)	178.2 ~~445.50~~ (89.1)	5166.4 ~~5161.5~~ (5255.5)
500 - 700 (600)	S48E	62	93.90 ~~320.63~~ (46.95)	176.60 ~~618.06~~ (88.3)	4989.8 ~~4988.94~~ (5078.1)
700 - 900 (800)	S49E	63	90.8 ~~408.59~~ (45.4)	178.2 ~~801.91~~ (89.1)	4811.6 ~~4805.09~~ (4900.7)
900 - 1100 (1000)	S51E	64	87.70 ~~482.21~~ (43.9)	179.8 ~~988.67~~ (90.0)	4631.9 ~~4678.33~~ (4721.7)
1100 - 1204 (1200)	S44E	64	45.6 ~~527.80~~ (43.8)	93.5 ~~1087.11~~ (89.9)	4538.4 ~~4524.85~~ (4542.0)

45200	C (MD)	B (Elevation)
proj 25' S	(29.6) 1929.6	4785
PP	(123.2) 1023.2	4701
proj 25' N	(5.1) 1109.1	4624.

down hole from 100

	45400	C (md)	B (TVD)	Elevation
50' dh from 300	proj 25' S	203	90.2	5429
4'	PP	309	7.8	5337
44'	proj 25' N	397	86.3	5258

		DDH 37		C(md)	B(TVD)	Elevation
		45450				
		proj 25' S	Collar			5607
dh from 100 61° 5519	3	pp		106	5	5514
	51	proj 25' N		205	92	5427
		45250				
dh from 700 63° 4990	29	proj 25' S		764	57	4933
	66	pp		845	129	4861
dh from 900 64° 4812	13	proj 25' N		929	27	4785
		45350				
63° 5345		proj 25' S	dh from 300 54	419	106	5239
62° 5166		pp	dh from 500 11	523	21	5145
		proj 25' N	48	602	90	5076
		45300				
62°		proj 25' S	dh from 500 47	600	88	(5166) 5078
		pp	87	685	164	5002
63°		proj 25' N	dh from 700 28	762	55	(4990) 4935
		45150				
		proj 25' S	dh from 1100 6	64° 1114	12	(4632) 4620
		pp	38	1187	78	4554
		TD	46	1205	94	4538

1,127,250 E	dh from 1100	c(md) 64		Elevation (4632)
proj 50 E	16'	1136	33	4599
TP		1204		4538

1,126,750 E		c(md)	B(TVD)	
collar	dh from collar	61		(5607)
proj 50' W	24'	49	43	5564

DDH-38 (collar Elev. 5290) 5313

SURVEY PNT. / INTERVAL	Bearing	Inclin	HORIZON (COSINE)	ELEV True Vertical (SIN)	INTERVAL DISTANCE DOWNHOLE
0-100	S 31 E	-77	22.5'	5215.6 ~~5192.6~~	{100'}
100-300	S 31E	-76.5	46.7'	5021.1 ~~4998.1~~	{200'}
∨ 200			(23.34)	5117 (~~5095.4~~)	(100')
300-500	S 35E	-76.5	46.7'	4826.7 ~~4803.7~~	200'
∨ 400			(23.34)	4923.9 (~~4900.9~~)	(100')
500-700	S41 E	-77	45.0'	4631.8 ~~4608.8~~	200'
∨ 600			(22.5)	4729.3 (~~4706.3~~)	(100')
700-950	S40E	-76	60.5	4389.2 ~~4366.2~~	250'
∨ 800			(24.2)	4534.8 (~~4511.8~~)	(100')
950-1205	S47E	-77	(57.4')	4140.8 ~~4117.8~~	255'
∨ 1100			(33.7)	(146.2')	150'

dh from 700	76°						
#9 ~~70~~	744,400 N	proj 25' S	737.2 ~~741.3~~	36 ~~40.1~~	(4631) ~~4568.7~~	4595
#43 ~~49.5~~		pp	878 ~~879.8~~	172 ~~174.5~~	~~4434.3~~	4458
dh from 950	77°					
#6 ~~7~~		proj 25'N	998.9	97.6	(4389) ~~4318.6~~	4341
dh from 100	76.5					
22 ~~22.5~~	744,500 N	proj 25's	194 ~~196.4~~	91.6 ~~93.73~~	(5216) ~~5098.9~~	5124
dh from 300	76.5					
6 ~~6~~		pp	325.7	24.99	(5021) ~~4973.1~~	4996
36 ~~36.3~~		proj 25'N	~~457.6~~ 454.2	~~153.3~~ 150	~~4844.8~~	4871

744,550

collar proj 14 S

77°	pp	dh from collar 16	71	69	5244
76.5	proj 25'N	dh from 100 22	194	92	5124
744450					
76.5°	proj 25'S	dh from 300 36	454	150	4871
77°	pp	dh from 500 22	598	95	4734
76°	proj 25'N	dh from 700 9	737	36	4596

D	B (hori. dist.) dh from 950	C (md)	B (TVD)	Elevation
77° 744350 4389				
proj 25' S	.70	994	433	4346
pp	.54	1190	233	4156
TD proj 2' N	.57	1203	247	4142

190	
003	
7	
tr	12
tr	17
3	3
tr	3
3	6
3	9
3	tr
3	3
6	3
3	6
3	3
17	3
330	3 460

(715945.
1126435)

DDH 4D (5522)

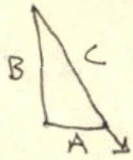
				A	B	(ELEV.)
0 - 25		125	45 ✓	17.68	17.68	5504.32
25 - 75 (50)	(50)	555E	44.5 ✓	35.66	35.05	5469.27
75 - 200 (100)	(125)	553E	45 ✓	88.39	88.39	5380.88
200 - 400 (300)	(200)	546E	45 ✓	141.42	141.42	5239.46
400 - 575 (500)	(175)	360E	44 ✓	125.88	121.57	5117.89
575 - 670 (650)	(95)	559E	45 ✓	67.18	67.18	5050.71

		C (mo)	B (elevation)
	45800		
	proj 25' S	250.9	5345
	PP	300.4	5340
	proj 25' N	351.3	5274
down hole from 400' elk 44° 5239			
	45700		
48'	proj 25' S	467 ~~458~~	5143 ~~5198~~
down hole from 575' elk 45° 5179 — 101	PP	540	5141
27'	proj 25' N	613	5090
up hole from 25'	45900		
21' elk from 75	proj 25' S	45	5490
17'	PP	99	5452
53'	proj 25' N	150	5416

DDH - 40 5522

dh from 75		C(md)	B (TVD)	Elevation
	454850			
53	proj 25' S	150	53	5416
86 from 200	pp	197	86	5383
37	proj 25' N	252	37	5344
up hole from 400 45 5239	454750			
36'	proj 25' S	349	36	5275
0 down hole from 400 44	pp	400	0	5239
48'	proj 25' N	467	46	5193
down hole from 575	454650			
26'	proj 25' S	612	26	5092
	bh proj 4' S	670	—	5051

	1,126,750 E	dh from 400	C(md) 44°	B(TVD)	(5239)
	proj 50' E	84' dh from 575	517 45°	81	5158 (5118)
	pp	16	598	16	5102
	TD	66	668	66	5052



$a^2 + b^2 = c^2$

D81-43

DDH-43 5385 (1000')			A	TVD B ⇒	ELEV.
✓0 - 25(25)	N27W	-42°	18.6	16.7	5368.0
✓25 - 75(50)	N27W	-42	37.2	33.5	5334.8
✓s.p. 50	"	"	(18.6)	(16.7)	(5351.3)
✓75 - 200(125)	N27W	-44.5	89.2	87.6	5247.2
✓s.p. 100	"	"	(17.8)	(17.5)	(5317.3)
✓200 - 400 (200)	N39W	-45°	141.4	141.4	5105.8
✓s.p. 300	"	"	(70.7)	(70.7)	(5176.5)
✓400 - 600 (200)	N48W	-46.5	137.7	145.1	4960.7
s.p. ✓500	"	"	(68.8)	(72.5)	(5033.2)
✓600 - 800 (200)	N50W	-48.5	132.5	149.8	4810.9
s.p. ✓700	"	"	(66.3)	(74.9)	(4885.8)
✓800 - 1000	N52W	-51	125.9	155.4	4655.5
s.p. 900			(62.9)	(77.7)	(4733.2)

45000 87'	TVD	MD	
proj 25 S 34'	33.4	8'/1239	5301
PP	4.9	7'/822	5329
proj 25 N 16'	15.7	22.4/474	5352

down hole from 800' tick (51°)

45400	C(md)	B	Elevation
101 proj 25 S	960	125	~~4530~~ 4686
61 PP	897	75	4580 4736
20' proj 25 N	832	25	4630 — 4786

downhole from 800 51°

45450			
125 bottom hole proj 9' N	999		4655
100 proj 25' N	959	123	4688

			C (MD)	B (TVD)	Elevation
44950					
	proj 25'S	34	46	31	5351
42°	pp	5	7	4	5381
	Collar 5' S		—	—	5385
45300					
		dh from 600			(4961)
48.5	proj 25' S	74	712	84	4877 —
	pp	35	653	40	4921
		dh from 400			(5106)
45	proj 25' N	133	588	133	4973
45200					
46.5		dh from 400			(5106)
	proj 25' S	60	487	63	5043
	pp	22	432	23	5083
45		dh from 200			(5247)
	proj 25' N	129	382	129	5118
45100					
		dh from 200			
	proj 25' S	65	292	65	5182
	pp	32	245	32	5215
	proj 25' N	2	203	2	5245
45150					
		dh from 200	45°		(5247)
	proj 25' S	129	382	129	5118
	pp	96	336	96	5151
	proj 25' N	63	289	63	5184
45350		dh from 600	48.5		(4961)
		74	712	84	4877
		112	769	127	4834
		dh from 800	51°		(4811)
		19	830	23	4788

P81-43

		C(md)	B(TVD)	Elevation
1,126,250				
	dh from 75	44.5		(5333)
proj 50' W	48	142	47	5288
	dh from 200	45°		(5247)
pp	47	266	47	5200
proj 50' E	129	382	129	5118

DDH-46 5385

①	0-50	S68E	-56	28.0	5343.5
SP	100			28.0	5302.1
②	50-150	S68E	-56	55.9	5260.6
	200			28.0	5219.2
③	150-300	S62E	-56	83.9	5136.3
	400			55.9	5053.4
④	300-500	S62E	-56	111.8	4970.5
	600			58.8	4889.6
⑤	500-700	S60E	-54	117.6	4808.7
	800			62.93	4731
⑥	700-1000	S59E	-51	188.8	4575.5
	1200			136.4	4429.3
⑦	1000-1300	S63E	-47	204.6	4356.1
	1400			70.1	4284.8
⑧	1300-1500	S62E	-45.5	140.2	4213.5
	1600			71.9	4144.0
⑨	1500-1634	S85E	-44	96.4	4120.4

		B	C
744600N	proj 25's	4482.7	1126.8
	pp.	4423.2	1208.2
	proj 25'N	4362.1	1291.8
744500N	proj 25's	4253.8	1443.4
	pp.	4137.2	1609.8
	T.D proj 2'N	4120.4	1634

(OVER)

⑥	~~74~~ 71.5	744900 N	proj 25's	813.6	88.3	4720.4
	123		pp	895.4	151.9	4656.8
⑥	168		proj 25'N	966.95	207.5	4601.2
④	103	744800 N	proj 25's	484.2	152.7	4983.6
⑤	44.5		pp	575.7	61.2	4909.3
↓	92.5		proj 25'N	657.4	127.3	4843.2
②	25'	744900 N	proj 25's	94.7	37.1	5306.4
③	22.5'		pp	199.2	40.8	5219.8
↓	82'		proj 25'N	296.6	121.6	5139.0

744950

	Collar proj 5' N				5385
56°		dh from 50			
	proj 25'N	24	93	35	5308

744850

		dh from 150			
56° 5261	proj 25' S	82	297	122	5139
		dh from 300			
56° 5136	pp	52	393	77	5059
	proj 25'N	104	486	154	4982

744750

		dh from 500			
54°	proj 25' S	91	655	125	4845
		700			
51°	pp	23	736	28	4781
	proj 25 N	71	813	88	4721

2	-56	+50	- 5343.5
3	-56	+150	- 5260.6
4	-56	+300	- 5136.3
5	-54	+500	- 4970.5
6	-51	+700	- 4808.7

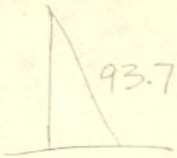
DDH-46

	744650	C(hori. dist.) dh from 700	A(md)	B(TVD)	Elevation
51° 4809	proj 25 S	167	965	206	4603
47° 4575		dh from 1000			
	pp	34	1050	36	4539
	proj 25 N	86	1126	92	4483

	744550				
		dh from 1300			
45.5	proj 25' S	1	1301 ~~1294~~		4356 ~~4362~~
4356	pp	53	1375	54	4302
	proj 25' N	105	1448	107	4249

	1,127,250				
		dh from 1500	44°		(4213)
	proj 50' E	35	1549	34	4179
	pp	85	1618	82	4131
	TD	96	1633	93	4120

	1,126,750				
		dh from 700	51		(4809)
	proj 50' E	1	702	1.	4808
	pp	58	792	72	4737
	proj 50' W	118	887	146	4663



			A	B	C
	DDH--47	S10°E -45	21.2	5403.8	30+ 5.8
①	0 - 30	S10E -43.5°	72.5	5335.0	
②	30 (60) 130				
③	130 (200) - 300	S12E -43°	124.3	5219.1	
④	300 (400) - 500	S11E -43.5	145	5081.4	
72.5 ⑤	500 (600) - 700	S11E -43.5	145	4943.7	
⑥	700 (800) - 900	S11E -42	~~[illegible]~~ 148.6	4809.9	
⑦	900 (1000) - 1200	S11E -41	226.4	~~4746.9~~ 4613.1	

+5.7 656.6

	A	B	C
745 250	Collar	5425	0
745 225	25.4	5400	35.8
745 200			

650

				B	C	
	dh from 1000					
	8	25 S	126301.5E	4835	862.3	28
162	44600	36 PP.	126304	4814	894.6	4
				4793.4		
	60	25N	126307	~~4790.8~~	925.2	19

down hole from 900

78	44500N	25'S	1003	4742	996.1
105		PP.	1039	4719	1027.2
129		25'N	1070	4698	1060.7

dh from 700

42°	22 120	44700N	proj 25'S	861.5	108.0	(4944) 4835.7
	49 145		PP	895.1	130.6	4813.1
	74 170		proj 25'N	928.8	153.1	4790.6

down hole from 500

66	- 44800N	proj 25's	591.2	62.6	5018.7
92		PP	627.1	87.3	4994.99
117		proj 25N	661.3	111.2	4970.2

down hole from 300

108	44900N	proj 25's	453.99	105.2	5114.7
136		PP	487.7	129.2	5090.9
175		proj 25'N	523.99	16.1	5065.6

down hole from 500

(OVER)