

## COMPLETION DIAGRAM OF WELL HA # 2 ZH

RIG: J T ANGEL

DATE: 11.07.09

Sr No	DESCRIPTION	MAKE	SIZE	LENGTH	DEPTH KB in M	DIAGRAM	DEPTH TH in M	ANGLE	CASINGS
1	KB			16.50					
2	TUBING HANGER	BHEL	3E	0.40					
3	TUBINGS 15 NOS	MSL	3E	141.45					
4	SGL		3E	9.50			30" CSG- 157M		
5	F/C	PARVEEN	3E	1.16			20" CSG- 303 M		
6	SSSV (QN, 2.812") S/EQ	W/FORD	3E	1.67	169.01		152.51	0°	
7	F/C	PARVEEN	3E	1.16					13 3/8" - J-55,61 PPF
8	TUBINGS 54 NOS	MSL	3E	510.29					13 3/8" SHOE-1099.63M
9	SGL		3E	9.29					
10	MMG-1	W/FORD	3E	2.60	691.42		674.92	33°	
11	TUBINGS 46 NOS	MSL	3E	433.63					9 5/8", N-80, 43.5 PPF
12	SGL		3E	9.50					9 5/8" SHOE-1737M
13	MMG-2	W/FORD	3E	2.59	1137.15		1120.65	30°	95/8" WHIPSTOCK
14	TUBINGS 33 NOS	MSL	3E	310.25					TOP OF WINDOW-1174M
15	SGL		3E	9.50					BOTTOM OF WINDOW-1177.7M
16	MMG-3	W/FORD	3E	2.59	1459.49		1442.99	44°	
17	TUBINGS 18 NOS	MSL	3E	168.76					7" SHOE 1790M.
18	SGL		3E	9.50					7" H/T-1067M
19	MMG-4	W/FORD	3E	2.60	1640.34		1623.84	42°	7" WHIPSTOCK
20	SGL	MSL	3E	9.10					TOP OF WINDOW-1706M
21	3Ex7" H/PKR	BOTIL	3Ex7"	2.21	1652.04		1635.54	42°	BOTTOM OF WINDOW-1708.3M
22	SGL	MSL	3E	9.56					COMPLETION FLUID:-
23	L/ N ( 2.75" WXN )	PARVEEN	3E	0.36	1663.81				8.6 PPG BRINE
24	TUBING 04 NOS	MSL	3E	37.36					
25	SGL		3E	9.22					
26	SHEAR OUT SAFETY JOINT	APEX	3E	0.41	1710.75				
27	X/O -3EBx2EP - 1 NO			0.40					
28	2E PERF. TUBING 14 NOS	MSL	2E	129.48					
29	BULL NOSE PERF. TBG 01 NO	MSL	2E	9.00	1850.04				

6" DRAIN HOLE FROM 1708 M TO 1895. M.

GLV DESIGN :- ALL DEPTHS ARE W.R.T. RKB 36.8 M

SL NO.	DEPTH m	PORT	PTRO	PTRC
MMG - I	694	12/64"	816	850
MMG - II	1133	16/64"	807	865
MMG - III	1454	16/64"	804	860
MMG - IV	1640	20/64"	CV	

JOB SUMMARY:-

Kill the well . P/O old completion string. Changed B & C section well head . Set 9 5/8" whipstock and cut window from 1173.9 m to 1177.7m . Drilled 8 1/2" hole from 1178m to 1790m. RIH 7" liner. Carried out CBL,VDL under pressure. Set 7" whipstock and c

1	<b>Workover duration:</b> 14 06 09 - 13 07 09
2	<b>Purpose of workover:</b> LDST
3	<b>Previous workover history:</b>
	<p><b>1st WOJ : OCT.'93</b> The well was completed as a producer in Nov. 1984 and kept closed due to high GOR from March'1987. Subsequent to commencement of water injection in the platform. Well ceased to flow. During WOJ added interval H3A (1653-63) @ 4 SPF and reperforated the interval (1663-83) @ # SPF. Completed 2.7/8" single with GL.</p> <p><b>2nd WOJ : Sept.'94</b> Worked over for water shut off. Recorded PLT on 14.8.94 showing water from 1672-83m. During WOJ hole cleared to 1724m. Recorded corrosion survey. Set C/R at 1672m. 10 bbls squeezed and drilled C/R. Sq. another 36 bbls in 2 attempts by setting C/R at 1673m. twice sqzd. total 46 bbls. reperforated (1653-71) @ 4 SPF. Completed 2.7/8" single with GL. packer failed. Recompleted with new packer.</p> <p><b>3rd WOJ : Feb.02 - March ' 02</b> Total loss. Stabilized. Recovered only 69 nos. of tubings of 3.1/2" and 24 nos. of 2.7/8" recovered wire and grab. All 2.7/8" tubings had vertical slots. Recovered 400m of wire. RIH O/S to 1230m (through fish top was supposed to be at 880m. Recovered 114m of fish and 8m wire. REcovered 74.5m of fish in 2 nd attempt. Called off fishing. Cleared up to 1230m. RIH 2.7/8" tubing with GLV.</p>
4	<p><b>Brief History</b></p> <p>Bulldozed with S/W. Placed LCM pill no.3 S/loss 40 BPH. Schl 2.1/4" dummy up to 1232m. Punctured tbg at 1228m. N/dn X-mas tree. N/Up BOP. Cut tbg at 1227m. Cir. S/loss 60 BPH. POOH 2.7/8" tbg up to cut point. RIH 5" OEDP up to 1226m. S/loss 60 BPH. C/out cmt plug job as per plan. P/Out RIH 8.1/2" bit. Cleared and washed down to 1135m. Drilled cmt 1135m to 1190m. Tested Cmt plug at 400 psi ok. P/out bit N/Dn BOP. N/Dn C-section W/H. N/Up BHEL C-section. N/Up BOP. Tested BOP all ok. N/Up BHEL B-section. RIH 9.5/8" spear cut and redress 9.5/8" csg. Installed primary &amp; secondary seal Installed c-section. Tested at 3000 psi ok. Tested BOP all ok. RIH 8.1/2" T/Mill with 9.5/8" scraper and tagged cmt at 1190m. P/Out T/Mill. Schl. RIH CCL log up to 1190m. RIH whipstock with MWD assly.set W/Stock at 1181m. Milled 9.5/8" csg window from 1173.9-1177.7m. 8.1/2" bit rate hole 1177.7-1181.6m</p> <p>RIH and drill 8.1/2" bit hole from 1181 m to 1790m TD. Schl. PEX log tool H/up 1710m. No further success. Up log from 1707.5m to 1179m. RIH 8.1/2" bit, cleared up to btm P/out schl. C/out logging PEX, HRLA &amp; DTC from 1790m to 1179m. P/out RIH 8.1/2" bit and washed down up to 1790m. P/out Lowered 7" liner p to btm 1790m. Shoe at 1789.5m, L/C 1764m. H/T-1067m. C/out cmt job. P/out RIH 8.1/2" bit, washed down 830m to 960m. Drilled cmt upto 1067m p/out. RIH 6" bit washed down upto 1764m. p/out Rih 6" bit with stabiliser upto 1079m. p/out. Rih 8 1/8" T/mill &amp; dressed H/Top at 1067m. p/out. Rih 9 5/8"x 7" scraper 1746m. p/out. Recorded CBL-VDL-CCL-GR log from 1758m to 1065m. p/out. w.on 7" whipstock &amp; Heli too &amp; SRDH tool. from 03/07 to 04/07. Rih weather ford MWD gauge mill assly , recorded GR log 1685m to 1735m. p/out. Rih 7" smith whipstock &amp; set at Rih 6" SRDH assly , drilled 6" SRDH from 1709m to 1895m As per massage Terminated drilling. Made wiper trip upto 1726m.</p> <p>Rih 7" x 9 5/8" T/scraper upto 1700m .H/Top. C/O to 8.6ppg brine. p/out scraper. Rih 2 7/8" perforated tbg. Rih 3 1/2" completion string Landed T/H . Tested at 2000psi ok. N/Dn BOP. N/up X-mass tree. Rih &amp; set wire line surge plug at 163.8m. Set 7" hy packer at 1652m. at 2500psi ok. Tested annulus at 1000psi ok. p/out w/line. Flowed back well to burner. GIP- 1000psi, THP- 100psi. Salinity - 22000 as NaCl. Skidded to well no - HA = 5 14 07 09</p>

5	<b>Perforation Details:</b>
	6" Drain hole from 1708m to 1895m.
6	<b>Job Plan :</b>
1	Subdue the well with sea water. Puncture the tubing 4m above the packer and circulate. Cut tubing 5m above the packer (Packer depth: 1232m). P/O old completion string
2	Place cement plug above the cut point. RIH with 8-1/2" bit to tag/clear cement up to 1190m. Test cement plug to 1000 psi. Place top cement plug and change well head. Clear up to 1190m.)
3	Scrap the well. Record the CCL-GR log. Run window mill and set 9 5/8" whip stock at 1185 (approx). Mill the window
4	Drill 8 1/2" hole as per the plan up to the Basement with LWD. Lower and cement 7" liner up the bottom.
5	Record CBL-VDL-USIT log.
6	Based on logs, drill 6" drain hole
7	Complete and activate the well with 3 1/2" tubing and gas lift.
7	<b>Job summary:</b>
1	Bulldozed with s/w. Schl. Punctured tbg at 1228m. Cut tbg 1227m. S/loss 60 BPH. POOH old c/string up to cut point.
2	RIH OEDP and c/out cmt plug job at 1226 as per plan. 8.1/2" bit cleared and washed down up to 1135m.
3	Drilled cmt from 1135m to 1190m. Tested cmt plug at 400 psi ok.
4	N/Dn BOP. N/Dn C-section W/H. N/Up BHEL c-section. N/up BOP & tested all ok redress 9.5/8" csg.
5	Installed primary and secondary seal and c-section. Tested at 3000 psi ok. Tested BOP all ok.
6	8.1/2" T/Mill with 9.5/8" scraper and tagged cmt 1190m & recorded CCL log. Set Whipstock at 1181m. Milled window from 1173.9-1177.7m. Drilled 2m rat hole. Slide/drilled 8.1/2" bit hole from 1181 to 1790m. TD. Schl
7	Recorded up log from 1707m to 1179m. PEX-HRLA-DTC log 1790-1179m.
8	8.1/2" bit washed down up to 1790m. Lowered 7" liner up to 1790m. Shoe at 1789.5m L/C 1764m. H/T
9	1067m c/o cmt. Job.
10	8.1/2" bit drilled cmt from 830 to 1067m. Washed down up to 1764m. 8.1/2" mill dressed 6" bit H/T 1067m.
11	9.5/8" x 7" scrapped well up to 1746m. Schl. Recorded CBL-VDL-CCL-GR 1758m-1065m.
12	7" smith whipstock set at
13	Drilled 6" SRDH from 1709m to 1895m. As per message terminated drilling. Made wiper trip. 7" x 9.5/8"
14	scrapped well upto 1700m. c/o to 8.6 ppg brine.
15	RIH 2.7/8" perforated tbg. Well completed with 3.1/2" completion string. Set 7" hyd. Packer at 1652 at 2500
16	psi. Tested annulus at 1000 psi ok.