

APPENDIX 'A'
HEATER DESIGN DATA

<u>HEATER SIZE</u>	<u>WELLSITE 'A'</u>	<u>WELLSITE 'B'</u>
Gas rate (Max.)	4.0	15.0
(MMSCFD) (Min.)	1.0	5.0
Gas Gravity	0.71	0.71
(Air = 1.0)		
Condensate Rate	40	40
(Bbl/MMCF)		
Water Rate	3	3
(Bbl/MMCF)		
Inlet Pressure		
(Max.)	2300	2300
(Normal)	1000	1000
Outlet Pressure		
(Max.)	1150	1150
(Normal)	600	600
Inlet Temp.		
(Min.)	40	40
(Normal)	70	80
Outlet Temp.		
(Max.)	120	120
(Normal)	100	100
Preheat Coil		
(Size)	3"	4"
(Sch.)	80	80
Preheat Coil		
(Size)	3"	4"
(Sch.)	80	80

Willis Choke
(Size)

M-2

M-3

Disc
Material

Tungsten
Carbide

Tungsten
Carbide

Hole Size

2 - 3/4"

2 - 1 3/16"

Number of Units

5

3

APPENDIX 'C'

INDIRECT FIRED LINE HEATER DATA SHEET

WELLSITE "B" (QTY 3)

1. Make of heater ALCO GAS & OIL
2. Model No. or Style. Model #60
3. Size and rating of coil flanges. 4" 1500#/600#
4. Shell size: length and diameter ft. ins./ins. 60 O.D. x 40'0"
5. Skid size: length and width ft. ins./ins. 12'0" x 48'0"
6. Nominal Heater rating BTU/hr (50/50 eg. water) 4,500,000 BTU/hr.
7. Firetube size: 24" O.D.
8. Nominal Firetube Area (Ft²) 452.1
9. Maximum Flux Rate (BTU/hr²). @ design duty 9940
(including 5% losses)
10. Maximum working pressure of coils. 2300#/1150# @ 200°F.
11. Equivalent length and diameter of coil for pressure drop calculations ft./ins 969' -4" XH
12. Calculated maximum pressure drop psi. 40
13. Pipe coil data, per section.

Preheat coil

Size (O.D.) ins.	4.5
W.T. ins.	.337
Length ft. ins.	487'3"
Area ft. ²	574

Reheat coil

Size (O.D.) ins.	4.5
W.T. ins.	.337
Length ft ins	243'10"
Area ft	287.3

14. Maximum bath operating temperature °F. 205
15. Bath capacity Imp. Gal 3490
16. Estimated shopping weight 44,000 lbs.