

NWNT GAS CO
GEOTH WELL PERMIT NO 66



United States
Department of the Interior

U.S. GEOLOGICAL SURVEY

Geothermal District Office: Reno Santa Rosa Salt Lake City Eastern

INSPECTION RESULTS: Date Completed: 6/15/79 State: OR
Date Warning Issued: / / AGS No: _____
Date Operations Suspended: / / APD No: _____
Date Operations Resumed: / / Dist No: _____
Target Date for Corrections: / /

Type: Detailed Satisfactory
 Random Unsatisfactory

Inspector: T. H. HUDSON Prof. Time: 1 days 8 hrs
Tech. Time: / days / hrs
ID: USFS Permit No: 11 Well No: 13
Lessee: PRE-LSE Operator: NWG. CORP. Contractor: AM. DR. DRGG.

Steam Water Rock Test
 Active
 Shut-in

Rig Type: TH-100 Range: 2500 Rep: J. MEYER Rep: G. SKYLES

Type Well:	<input type="checkbox"/> Drilling	<input checked="" type="checkbox"/> Temp. Grad.	<input type="checkbox"/> Observation	<input type="checkbox"/> Production	<input type="checkbox"/> Injection	<input type="checkbox"/> Work-Over
Spud Date:	/ /	6/6/79	/ /	XX/XX/XX	/ /	/ /
Completed:	/ /	/ /	/ /	/ /	/ /	/ /
Suspended:	/ /	/ /	/ /	/ /	/ /	/ /
Converted:	/ /	/ /	/ /	/ /	/ /	/ /
Abandoned:	/ /	/ /	/ /	/ /	/ /	/ /
	mo day yr	mo day yr	mo day yr	mo day yr	mo day yr	mo day yr

S = Satisfactory U = Unsatisfactory N/A = Not Applicable

PROPOSED DEPTH: 2000' 8" CASING @ 200 W/10054
INSPECTION CHECKLIST FOR BLOWOUT PREVENTION EQUIPMENT

S	U	N/A	Tested to:	for:	Passed	Failed	Closing Time:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Annular Preventer	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Blind Rams	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Pipe Rams	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Drill Collar Rams	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Kelly Cock	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Standpipe Valves	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Choke Manifold Valves	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Kill Line Valves	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Slab Gate	PSI	___ Mins.	<input type="checkbox"/>	___ Mins. ___ Secs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. Rotating Head				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. Banjo Box				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Safety Chain on Rotary Hose				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. Internal BOP				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14. Accumulator Pressure: Before Operation _____ PSI After Operation _____ PSI				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15. Choke in Mantfold: <input type="checkbox"/> Variable or Size in Left: _____ Size in Right: _____				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. Blowout Prevention Equipment: <input type="checkbox"/> fails to conform to specification <input type="checkbox"/> conforms to specifications <input type="checkbox"/> with no exception <input checked="" type="checkbox"/> with the following approved exceptions: NOT YET INSTALLED				

VERBAL PERMISSION TO DRILL TO 500' PRIOR TO B.O.P. INSTALLATION & INSPECTION

WELL LOCATION: SW 1/4 NW 1/4 SEC. 14, T35, R8E, MB, CLACKAMAS COUNTY, OREGON



United States
Department of the Interior

U.S. GEOLOGICAL SURVEY

Geothermal District Office: Reno Santa Rosa Salt Lake City Eastern

INSPECTION RESULTS: Date Completed.....: 06/20/79 State: OR
 Date Warning Issued.....: _____ AGS No: _____
 Date Operations Suspended...: _____ APD No: _____
 Date Operations Resumed....: _____ Dist No: _____
 Target Date for Corrections: _____

Type:

- Detailed Satisfactory
 Random Unsatisfactory

Inspector: C.D. Morgan Prof. Time: _____ days _____ hrs
 Tech. Time: 4 days 10 hrs
 Permit Lease No: 11 Well No: 13

Field ID: U.S.F.S. Steam Water Rock Test
 Unit Active Shut-in
 Lessee: Pre-lease Operator: N.W. Gas Corp. Contractor: Am. Dr. Drlg.

Rig Type: TH-100 Range: 2500 Rep: John Hook Rep: Gene Skyles

Type Well: Drilling Temp. Grad. Observation Production Injection Work-Over

Spud Date:	<u>1/1/79</u>	<u>06/06/79</u>	<u>1/1/79</u>	<u>XX/XX/XX</u>	<u>1/1/79</u>	<u>1/1/79</u>
Completed:	<u>1/1/79</u>	<u>06/06/79</u>	<u>1/1/79</u>	<u>XX/XX/XX</u>	<u>1/1/79</u>	<u>1/1/79</u>
Suspended:	<u>1/1/79</u>	<u>06/06/79</u>	<u>1/1/79</u>	<u>XX/XX/XX</u>	<u>1/1/79</u>	<u>1/1/79</u>
Converted:	<u>1/1/79</u>	<u>06/06/79</u>	<u>1/1/79</u>	<u>XX/XX/XX</u>	<u>1/1/79</u>	<u>1/1/79</u>
Abandoned:	<u>1/1/79</u>	<u>06/06/79</u>	<u>1/1/79</u>	<u>XX/XX/XX</u>	<u>1/1/79</u>	<u>1/1/79</u>
	mo day yr	mo day yr	mo day yr	mo day yr	mo day yr	mo day yr

S = Satisfactory U = Unsatisfactory N/A = Not Applicable

Proposed T.D.: 2,000' 8" casing at 200'

INSPECTION CHECKLIST FOR BLOWOUT PREVENTION EQUIPMENT

- | S | U | N/A | | Tested to: | for: | Passed | Failed | Closing Time: |
|-------------------------------------|--------------------------|-------------------------------------|---|------------|-------------|--------------------------|--------------------------|-------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. Annular Preventer | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. Blind Rams | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. Pipe Rams | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. Drill Collar Rams | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. Kelly Cock | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. Standpipe Valves | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. Choke Manifold Valves | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. Kill Line Valves | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. Slab Gate | _____ PSI | _____ Mins. | <input type="checkbox"/> | <input type="checkbox"/> | _____ Mins. _____ Secs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. Rotating Head | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. Banjo Box | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12. Safety Chain on Rotary Hose | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13. Internal BOP | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14. Accumulator Pressure: Before Operation _____ PSI | | | | | |
| | | | After Operation _____ PSI | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15. Choke in Manifold: <input type="checkbox"/> Variable or Size in Left: _____ Size in Right: _____ | | | | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16. Blowout Prevention Equipment: | | | | | |
| | <input type="checkbox"/> | | <input type="checkbox"/> fails to conform to specification | | | | | |
| | <input type="checkbox"/> | | <input type="checkbox"/> conforms to specifications | | | | | |
| | | <input type="checkbox"/> | <input type="checkbox"/> with no exception | | | | | |
| | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> with the following approved exceptions: <u>8 5/8" X 24" nip. w/2-2"</u> | | | | | |

valves installed below slab gate valve. This was previously approved by T.H. Hudson in lieu of the conventional B.O.P. equipment. Installation made with drill bit at 470 foot depth.

INSPECTION CHECKLIST FOR BLOWOUT PREVENTION EQUIPMENT (Side 2)

S U N/A

- 17. Choke Line installation
- 18. Hand Wheel installation and bracing
- 19. BOPE Drills held at specified intervals and results logged
- 20. Mud Monitoring Equipment and Alarms working
- 21. Rams can be locked in closed position from outside substructure
- 22. All outlets equipped with high pressure fittings
- 23. Large capacity relief lines used to hold down surface casing pressure
- 24. Valve operation
- 25. Handles installed and within easy reach
- 26. Blowout Preventors properly braced
- 27. Bolts in all bolt holes
- 28. All bolts have nuts
- 29. All threads filled
- 30. All choke lines and emergency flowline tied into mud gas separator
- 31. Gas separated from the mud safely discharged or flared
- 32. Separate fill-up and kill lines
- 33. Specified procedure for hole filling
- 34. Crew instruction as to procedures during trip if swabbing or lost circulation is detected
- 35. Crew instruction on proper emergency back-up operation of Blowout Prevention system using nitrogen bottles

Problems/Comments: Well location: SW 1/4 NW 1/4, Sec. 14, T.35 N., R.8 E.
Clackamas County, Oregon