Drilling Report
Z & S Construction Co., Inc.
Recla #1
SE1 Sec. 9 - T19S - R 44W
Malheur County, Oregon

4-26-82
Drove to location. Checked with lawyer, Butler and Looney P.C. Checked with planning commission. Checked with George Recla, Landowner. Everything was O.K. Was given the go ahead to drill. Landowner will furnish water for $500.00. Land damages at $1,000.00 per location. Chandler and Associates Rig #1 started arriving at 1:00p.m. today.

4-27-82
Lined up fuel for rig with Chevron D.B. Anderson. Started rigging up Rig #1 today. Chandler and Associates Rig #1 Tool Pusher - D.L. Fladeland

4-28-82
Rigging up. Derrick up at 2:00 p.m. Pumped water in pits.

4-29-82
Water tank filled half full. Pumped reserve pit full of water. Rigged up rat hole digger. Start digging rat and mouse hole at 1:00 p.m. Spudded George Recla #1 at 4:00 p.m.

4-30-82

5-1-82
Two days from spud, depth at 633'. Bit #1 RPM 85, wt 15/20, pump pressure 500, liner 51', deviation 3/4" - 17' 10 a.m. 1° - 351 3/4" - 539° 1° - 625' Ran 1 - R-6/8 guide shoe, 5 - centralizers and 16 joints 24 lb. 8-5/8 casing. Total on hook 609'. Set at 619'. Cemented with 450 sacks 3% cal chloride cement in place at 7:40 p.m. with good returns.

5-2-82
Three days from spud date. Wait on cement. Niggle up B.G.D. Wait on state geologist 4 hours. Tested all B.G.D. equipment. Blind runs ok. Pipe runs ok. Rotating seal ok. Drilling to 7.5' Bit #2, size 7-7/8", MFG Smith Type D10.

5-3-82
Four days from spud date. Drilling at 1312' Deviation 1° - 801', 1° - 1108', 1° - 1138' Bit #2 to 1138'. At 801' wt 0.4 vis 50% shale line to med. gray 50% sand stone. RPM 82 Liner 51' S.P.M. 63 trip in with Bit #3 at 10:00 p.m. Bit #3 7-7/8" MFG STC Type D10.

5-4-82
Five days from spud date. 4:30 a.m. drilling at 1412'. Formation set for 1112' 8.0 Vis 55 lb. At 5:00 a.m. trip out with Bit #3. Ran all 10 centralizers. Heave out for fence. Break in Bit #4 and drilling ahead. Bit #4 Size 7-7/8" MFG STC.

5-5-82
Six days from spud date. 6:30 a.m. drilling at 1512'. Formation 1112' 8.0 Vis 55 lb. 818 RPM 61 wt. on bit 8,000. Pump pressure 500, liner size 56' MFG STC. Schneider to watch progress today.
**DRILLING REPORT**

**Z & S Construction**

Recla No. 1  
SEL Sec. 9-T10S-R-44W  
Muhleur County, Oregon

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**Date**

3-6-82  

Seven days from spud, depth 2321 at 6:00 A.M., made 809' in 24 hrs.  
Operation tripping, formation-sandstone & basalt. Mud weight 8.8,  
Vis 35, pump PSI 1000, SPM 65, Liner size 5 3/4, stroke 16', bit wt.  
20 to 35,000, RPM 64. 20 drill collars 86 1/8'. Bit #4-7 7/8 -533, in  
at 1368 = out at 2321, made 956' in 51 3/4 hrs., a rerun. T. G. G.  
Deviation at 1822 - 15', 2221 at 20', operation: Drilling 24 hrs.  
Survey 1 3/4 hrs. Mud log report: chromatograph gas show = 3 units at  
1900', Methane CH4, Hotwire 2 units, Background gas - Hotwire (total)  
trace 1 unit, methane (c) trace 2 units, 1500-1710 Volcanic basalt (bk)  
6 shale light grey-green.  
1710-2030-s.s., very colored, prud, Gn, bk, & brn-volcanics, clear-  
white qtz, very coarse grain S.B. ang P srt unconsolidated 2030-2280  
volcanics basalt & white tuff 2310-5.S, sh. clr. unconsolidated quartz.  

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5-7-82  

Eight days from spud, depth 2597 at 6:00 A.M., made 276' in 24 hrs.,  
operation: drilling, formations volcanics shale, M.W. 8.8, Vis. 34,  
Ph 9.5, solids 3, sand 3, P V 4, YP 4, pump PSI 1000#, SPM 65, Liner  
size 5 3/4, Stroke 16, bit wt. 20 to 35,000, RPM 65. D.C. 20-64', Drig.  
3 to 4 min. per ft. Operations: drilling 21 hrs., trip 2 1/2 hrs. Rig  
service 1/2 hr. Mud log report: Gas show @ 2316-2318, Hotwire-7 units  
total gas, chromatograph-6 units Methane, trace Ethane, 2 units propane.  
Background gas- 1-2 units, Hotwire Chromatograph- 1-2 units Methane  
Lithology: 2320-2460 Volc - Vocol, Fred, Blk, Gy, Orng w incr amt uncons  
qtz C-Vc Gr W Tr sh. Gy-6m  
2460-2580 Volc s sh-Gy-4n, Brn, Alt, Ash Sft W Blk basalt HD also mix  
amts qtz w h-clr Vc-GR Anq.  
Lithology: 2320-2460 Volc, var colors predominate blk, gy, orange with  
increased amounts unconsolidated quartz, cl.-very coarse grained with  
trace of shale light grey-green.  
Note: quartz in sample decreased between changes. 2460-2580 volcanics  
with some shale. Volcanics grey to green to brown, altered ash (shaly  
like). Soft with black basalt hard, also increased amounts of quartz  
white to clear, very coarse grained angular.  

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5-9-82  

Nine days from spud, depth 2870 at 6:00 A.M., made 266' in 24 hrs.,  
Operation drlg, formation shale and sandstone. M.W. 8.8 Vis 32, W.L. 14,  
Filtercage 2,52 Ph 10 solids 3.5 sand 3 PV 12, YP 8 Cl. Tr. chl. 1000  
Gel 2/6 pump PSI 900 Smp 64 liner size 5 3/4 stroke 16' Bit wt. 35,000  
RPM 63 Bit No. 5 7/8 SSW in at 2521, out at 2710, footage 389' in  
33 1/2 hrs. T S B G C 1 Bit #6 7/8 F-2 in at 2710, footage 100' in  
6 1/2 hrs. Operations: 20 hrs., drig. 4 hrs., trip Dev. 2170-20 Drig.  
break at 2809 to 2814, 2814 to 47, 2851 to 2854, 2858 to 2862 no shows.  
Mud log report: Gas shows @ 2875 & 2830. Hotwire 6 units Total Gas chroma-  
tograph 9 units Methane, trace Ethane, Background gas: Hotwire 3-4 units  
2850-2700 chromatograph 3-4 units Methane trace Ethane, Volcanic tuff  
various colors with basalt. Medium grey to black, trace quartz, very  
coarse grained pyrite and mica.  
2700-2730-shale-light grey-freen blacky non-cake, also tuff, white green  
and trace of basalt. 2730-2860 sand stone-white to clear coarse to very  
coarse grained. Angular to sub-angular unconsolidated with free pyrite  
and mica. Note: A gas show was observed in this zone. Break down above.  

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5-9-82  

Ten days from spud, drlg, at 3595 in basalt 60%, sandstone 30%, tough ash  
10%, made 725' in 24 hrs., M.W. 8.8, Vis 37, W.L. 9, Filtercage 1/32, ph  
9.5, sand 3 pump PSI-1000 SPM-64, Liner size 5 3/4, stroke 16', bit wt.  
35,000, RPM 60. D.C. 20-64', Bit No. 6 -F3 in at 2710, 885' in 27 hrs.,  
Dev. 3015-14 3461-21.0 drilling 5 to 6 min. per ft. Operation: 20 1/2 hrs.  
Drig., 1 hr. survey, install valve in flow line 2 hr. Mud Log Report:  
No gas shows, background gas Hot wire 2-4 units, chromatograph: 4 units  
Methane, trace of Ethane Lithology: 2860-3000-Volcanics basalt, black  
with tuff and ash, trace sandstone.
5-9-82 Con't.

3000-3440 Alternating from volcanic basalt and ash to a sandstone-white quartz coarse grained moderately sorted unconsolidated. No flourescency stain on cut.
3440-3590-sandstone as above then changing to a volcanic basalt with angular quartz, tuff ash

5-11-82

Twelve days from spud, depth 4520 made 553' in 24 hrs., operation drilling, formation tuff. M.W. 9.2, vis 42, WL 7, Filtercake 2, PH 9, sand 3/4, PV 11, pump PSI 1150, SPM 64, Liner size 5½, stroke 16', bit wt. 35,000, P.R.M. 63, cum. rot hrs. 127⅓, bit #6-7 7/8 P2 in at 2710 made 1810' in 70½ hrs., operation drilling-20½ hrs. circ. 3½ hrs., mud log report. No gas signs, background gas: hot line 3-5 units, total gas.
Chromatograph 4-6 units Methane, trace Ethane, Lithology 4160-41916 Volcanics: tuff-dark grey to green with ash white grey-green also basalt black to dark brown (platy and brittle)

5-12-82

Thirteen days from spud. Depth 4745 made 195 in 13 hrs., operation, cir to log, ran logs to 921', unable to get logs to go, came out, ran bit and drill pipe to 1002', did not touch a thing, rotated for 30 min., came out to log. Log stopped at 923', came out-released logers. Tripped in with drill pipe, came out laying down. Mud Loggers report.
No gas shows: background gas hot wire 4-5 units. Chromatograph-4-6 units methane, Lithology: 4516-4660. Volcanics: basalt black-dark brown also tuff grey-green-brown and ash, light grey-green. 4660-4694-sandstone, white to clear quartz, very coarse grain angular-subangular, poorly sorted unconsolidated poorly cemented and culgarious in part, no flourescence stain on cut. 4694-4743-volcanics: tuff and ash with some sandstone as above. No flourescence stain on cut.

5-13-82

Hug bottom of drill pipe at 673. Pumped 50 sx reg cement, let set for 4 hrs. Went down to tag plug, found plug at 642. Pumped 25 more sx cement, waited four hrs., found top of plug at 619. Pumped 50 sx of reg cement. Waited four hrs., found plug top at 470'. Layed down drill pipe and removed B.0. P., cut off casing 3' below surface. Put 15 sx cement in top of surface, 35½ to G.L. welded steal plate on top.