WOLVERTON 13-31
AMERICAN QUASAR PETROLEUM
1800' FEL 1100' FNL, NW4 NE4 Sec. 13, T10S-R3W
Marion County, OR Elev: 233.28' GR KB 243.78'
Drilg Contr: Graham Rig #1

WOLVERTON 13-31
(3600'Spencer-WC)
8/26/81 FIRST REPORT. 1 day. Drilg volcanics @ 120', @ 130', 46' in 5½ hrs. Ran bit #1 (12¾" Smith DJJ s/n MM163) in @ 54', bit has dril'd 66' in 5½ hrs. Moved in & RU Graham Rig #1. Spud @ 12:30 am 8/26/81. Ran 43' of 12¾" conductor, set w/4 yds Ready-mix. Drilg wt 5½#; RPM 80.

8/27/81 2 days. TD 523', dril'd 403' of volcanics, tuff & silt., making wiper trip. MW 9.1; vis 45; WL 10; pH 9.5. Survey: 16° @ 286'. Bit #1 has dril'd 483' in 231 hrs. Drilg wt 12½#; RPM 100.

8/28/81 3 days. Circ, cond mud @ 897', dril'd 374' in 20 hrs. MW 9.1; vis 65; WL 16; pH 10. Survey: 3¾° @ 641'. Plg'd bit #1 @ 648'; bit dril'd 608' in 30 hrs. Dull grade: 4-4-1. Ran bit #2 (12¾" Smith DJJ no s/n) in @ 648', bit has dril'd 249' in 131 hrs. Circ & cond mud due to clobbered cond. Drilg wt 14½#; RPM 90.

8/29/81 4 days. TD 897'. NU BOPE. MW 9.2; vis 65; WL 10; pH 9.5. Circ & cond mud, TOH, RU csg crews, ran 21 ils 8-5/8 2¾" K55 STC w/shoe & insert float. Landed @ 895' KB, cmd'd w/245 sx Class G w/8% gel, 3% salt, followed by 150 sx Class G, 2% CaCl2. Plg'd down @ 11:30 am 8/28/81. WOC 12 hrs, NU BOPE, now prep to press tst.

8/30/81 5 days. Trpg for bit @ 1500, dril'd 605' in 18 hrs. MW 9.4; vis 44; WL 7.2; pH 10. Survey: 3¾° @ 950'; 3° @ 1349'. Fin NU, press tst'd to 1200 psi, TIH w/bit #3 (7-7/8" DTJ s/n BX3266) in @ 895', bit has dril'd 605' in 18 hrs. Tagged cmd @ 830', BGG incr from 1 to 30 units @ 1318', incr to 45 units, then declined to 8 units, incr to 55 units @ 1445', raised MW from 9.2 to 9.4 ppg, BGG declined. Now trpg for bit #4.

8/31/81 6 days. TD 1530', dril'd 30' of sd & sh in 1 hr. Wkg: stuck pipe. MW 9.8; vis 50; WL 6; pH 10. Bit #4 has dril'd 30' in 1 hr. Found hole sloughing on TIH w/bit #4, raised wt to 9.8; circ & cond hole, hole clean, no problems, dril'd from 1500-1530', made connection, OP stuck, now WO free-point truck.

9/1/81 7 days. TD 1530', HO back-off truck. MW 9.8; vis 50; WL 6; pH 10. WO McCullough back-off truck, truck blew engine before reaching location, now WO 2nd back-off truck.

9/2/81 8 days. TD 1530', circ & cond. MW 10.5; vis 58; WL 4; pH 9.5. WO wireline truck, RU & freepoint, indicated btm DC stuck, 2nd DC partially stuck, BO @ 1483', left 2 6" DC's plus bit in hole. TOH, make up fsg tools, TIH, hit bridge @ 1310', att to circ thru bridge w/o success, TOH, PU bit RR #3 (7-7/8" Smith DTJ s/n BX3266) TIH, hit bridge @ 1310', wsh & RM to 1340', shale still sloughing, raised MW to 10.2, rmd from 1310-1340', raised MW to 10.5 ppg, now circ & cond, att to clean out bridge.

9/3/81 9 days. TD 1530', circ & cleaning out to top of fish. MW 12.4; vis 140; WL 5.6; pH 9. Wsh & RM from 1310-1330', raised MW to 12.4 ppg, TOH, PU bit #6 (7-7/8" Smith DTJ s/n BX3485) TIH, hit bridge @ 1310', raised vis to 140, wsh & RM from 1310-1419'. Shale has appeared to have stopped sloughing.
WOVERTON 13-31  
(3500' Spencer-HC)  
Marion Co., Oregon  
East Albany Prosp.

9/4/81  10 days.  TD 1530'.  Jarring on fish.  MH 12.4; vis 185;
WL 4.0; pH 9.  W&R to top of fish @ 1438'.  Circ & cond. hole.
Short tripped, W&R to top of fish, circ & cond hole, POH; PU
jars, bumper sb, TIH, washed to top of fish, circ & cond, engage
fish, attempt to jar fish loose, jars failed, POH, replaced

9/5/81  11 days.  TD 1530', circ, WO Halliburton.  MH 12.4;
vis 185; WL 4; pH 9.  Backed off fish, POH, PU HP, TIH, att
wsh over, could not get WO pipe over collars, cutting collar
@ less than 1' per hr.  POH, BD HP, TIH open-ended to top of
fish @ 1438', circ & WO Halliburton.
9/6/81  12 days.  WOC.  TD 1530', PBD 910', HD Halliburton.
could not contact Halliburton, Halliburton did not show up.  Called BJ out of Rio Vista,
CA, WO BJ 11 hrs.  Spat 200 sx class 6 plug, 2% CaCl2 from 1444-865', POH, PU DC's & bit,
TIH, wsh from 865-910', now WOC.
9/7/81  13 days.  WOC.  PBD 1020', fin WO cmtr, wshd from 925-
1020', cmtr is granular, is not set up.  Now WOC.

9/8/81  14 days.  PTD 910', WOC.  TIH w/Dyna-drill, att to
kick off @ 1200', time drill w/o success, POH, BD tools, TIH
open ended, set 150 sx class 6 plug w/32 CaCl2, POH, PU bit &
DC's, TIH, top of cmtr 855', wsh & RR to 910', now prep to TOH,

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9/9/81  15 days.  TOH @ 1,023, drld 83' in 8 hrs.  MH 11;
vis 100; WL 5; pH 10.  WOC, drld cmtr from 850-940', TOH,
WO cross-over sub, PU Dyna-drill, TIH w/bt #7 (7-7/8' Smith
DTJ s/n BX3733) Drdl from 940-1023', hole appears to have
sidetracked, now TOH.  Bit #7 drld 83' in 6 hrs.  Drlg wt 10MA;
RPM 300.

9/10/81  16 days.  Drlg silt. & clty @ 1590', drld 567' in 15;
hrs.  MH 11; vis 95; WL 5.6; pH 11.  Survey: 41' @ 1200'; 3';
@ 1437'; 2-3/4' @ 1570'.  POH, LD Dyna-drill, PU bit, TIH,
rmd kick-off, drld from 1023-1590', no problems.  Drlg wt
16MA; RPM 95.

9/11/81  17 days.  Drlg volcanic clty & sand stringers & 1810',
drld 220' in 14 hrs.  MH 11.4; vis 95; WL 4.4; pH 9.  Survey:
3' @ 1801'.  Pld bit #8 @ 1699', bit drld 676' in 20-3/4 hrs.
Dull grade: 6-4-1.  Ran bit #9 (7-7/8' Smith DTJ s/n BX3394)
in @ 1699', out @ 1801', bit drld 202' in 8 hrs.  Dull grade:
3-4-1.  Ran bit #10 (7-7/8' Smith DTJ s/n UN8290) in @ 1801',
has bit drld 9' in 1 hr.  BGG increased from 11-100 units @ 1633',
drld back to 50 units, increased to 90 units
from 1638-45'.  Drdp back, now carrying 3 units BGG.  Drlg wt
16MA; RPM 90.

9/13/81  19 days.  Wrkg stuck drill string @ 2063', drld 31' in 11 hrs.
MH 11.6; vis 105; WL 4; pH 9.  Pld bit #12 (7-7/8' Smith DTJ s/n BT 007) in @ 2032',
has bit drld 31' in 1 hr.  TIH w/bt #12, rmd from 1685-1770', TIH, wshd 40' to btm, circ btm up, drld to 2063', start short trp, pld
into tight spot @ 1972', now circ, wrkg stuck drill string, WO free-point truck.

9/12/81  18 days.  Drlg volcanics, silt. & clty & interbedded ss
@ 2032', drld 222' in 204 hrs.  MH 11.6; vis 105; WL 4.1; pH 9.
Survey: 3' @ 1827'.  Bit #10 was pld @ 1827', bit drld 36' in
61 hrs.  Dull grade: 6-4-1.  Ran bit #11 (7-7/8' Smith F3 s/n
AKB862) in @ 1827', bit has drld 195' in 16 hrs.  BGG 6-10 units.

Have had numerous BGG incr ranging from 33 units @ 1845 to 88 units @ 2010'.  Drlg wt 16MA;
RPM 60.
9/13/81  19 days.  Wrkg stuck drill string @ 2063', drld 31' in 11 hrs.
MH 11.6; vis 105; WL 4; pH 9.  Pld bit #12 (7-7/8' Smith DTJ s/n BT 007) in @ 2032',
has bit drld 31' in 1 hr.  TIH w/bt #12, rmd from 1685-1770', TIH, wshd 40' to btm, circ btm up, drld to 2063', start short trp, pld
into tight spot @ 1972', now circ, wrkg stuck drill string, WO free-point truck.
WOLVERTON 13-31
AMERICAN QUASAR PETROLEUM
1800' FEL 1100' FNL, NW NE; Sec. 13, T1OS-R3W
Marion County, OR Elev: 233.28' GR KB 243.78'
Drilq Contr: Graham Rig #1

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/14/81 20 days. TD 2061, 1,705 ft, PH 8.5; No back-off truck, ran free-point, backed off @ 1722. PHM, No PH tools, will engage fish & hit to jar fish loose.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/15/81 21 days. TD 2063, 1,915 ft. PHM, circ btm up @ top of fish, engaged fish, wk'd stuck pipe & circ. Could not work fish down hole, spot 2000 gal. diesel w/115 gal. E2-sport from 1909-1600'; let soak 3 hrs. wk'd pipe, bumped fish down, wk'd pipe thru tight spot, PHM, LD fish & PH tools, PHM w/bit #12.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/16/81 22 days. Drilg fragmented volcanics @ 2252, dril 189' in 11 hr. hrs. PH 11.6; vis 118; WL 4.2; PH 8.5. Had numerous BGG incr last 24 hrs. Max BGG 24 units. BGG 12 units. DRIL wt 124#; RPM 90.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/17/81 23 days. Drilg @ 2450', dril 198' of sd, silt, & sly in 1 24 hr. hrs. PH 11.6; vis 220; WL 4.2; PH 8.5. Survey: 24° 0'. Pld bit #12 (correction s/n 9007) @ 2373', bit dril 256' in 21 hr. hrs. Cond: 6-5-1. Ran bit #13 (5-7-8° Reed FP30 s/n 167736) bit has dril 77' in 33 hr. Cond: 83 units BGG increases @ 2252-2265'; 2300-2301' & 2320-2500'. DRIL wt 144#; RPM 90.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/18/81 24 days. Rep rig. TD 2568', dril 118' of cly & silt. in 10 hr. hrs. PH 11.6; vis 200; WL 4.2; PH 8.5. Pld bit #12 @ 2568', bit dril 105' in 14 hrs. Dull grade: 6-3-1. New rep rotary drive. Had numerous shows last 24 hrs. Max BGG 20 units. Est. Cost: IDC $397,760 ($59,835 mud)

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/19/81 25 days. TD 2568', rep rig. Replaced rotary drive engine, new rep hydraulic pmp.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/20/81 76 days. DRIL @ 2850', dril 282' of cly, silt. & sq in 9 hr. hrs. Survey: 1-3-4° @ 2633', fin rep rig. PHM w/bit #14 (7-7-8° Reed Y123 s/n 945579) bit has dril 282' in 92 hr. DRIL wt 204#; RPM 90.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/21/81 27 days. DRIL @ 3030', dril 180' of cly & silt in 15 hr. hrs. PH 11.6; vis 145; WL 4.1; PH 8.5. Survey: 3° @ 2019'. Pld bit #14 @ 2897', bit dril 333' in 15 hr. hrs. Cond: 6-6-1. Ran bit #15 (7-7-8° Reed Y123 s/n 943132) bit has dril 133' in 7 hr. hrs. BGG 5-10 units. TG 47 units. DRIL wt 154#; RPM 90.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/22/81 28 days. DRIL @ 3225', dril 185' of cly & silt. in 11 hr. hrs. PH 11.6; vis 20; WL 4; PH 8.5. Pld bit #15 @ 3185', bit dril 286' in 17 hr. hrs. Cond: 6-6-1. Ran RR#6 (7-7-8° Smith B73 s/n DX34285) bit has dril 42' in 2 hr. hrs. BGG 5 units; TG 45 units. DRIL wt 104#; RPM 100.

WOLVERTON 13-31
(3600'Spencer-HC) Marion Co., Oregon East Albany Prosp.
9/23/81 29 days. DRIL @ 3520', dril 295' of cly, silt & sq in 15 hr. hrs. Pld RR#6 @ 3319', bit dril 136' in 31 hr. hrs. Cond: 6-4-1. Ran bit #16 (7-7-8° Reed Y123 s/n 918897) bit has dril 701' in 8 hr. hrs. BGG 8 units, average w/max of 70 units @ 3378'. DRIL wt 144#; RPM 110.
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AMERICAN QUASAR PETROLEUM
1800' FEL 1100' FNL, NW\NE Sec. 13, T10S-R3W
Marion County, OR Elev: 233.28' GR KB 243.78'
Dril Contr: Graham Rig #1

WOLVERTON 13-31
(3500' Spencer-WC)
Marion Co., Oregon
East Albany Prosp.

9/24/81 30 days. Dril @ 3804'. Drld 284' of sd, cly & silt. in 19 hrs. MW 11.6; vis 165; WL 4.0; ph 8.0. Pld bit #16 at 3718', bit dril 369' in 20 hrs. Cond: 6-6-1. Ran RR#6 (7-7/8"
Smith DTJ s/n DX3194) bit has dril 66' in 7½ hrs. BGG 6 units. TG 25 units. Max BGG 17 units @ 3545'. Dril wt 104#; RPM 100.

9/25/81 31 days. Dril @ 3968', dril 164' of sd, cly & silt in 16½ hrs. MW 11.6; vis 160; WL 3.8; ph 8.0. Pld RR#6 @ 3861', bit dril 143' in 12-3/4 hrs. Cond: 8-4-1. Ran bit #17 (7-7/8"
Reed H5512 s/n 954449) bit has dril 107' in 11 hrs. BGG 6 units; maximum BGG 20 units @ 3898; TG 21 units @ 3861'. Est Cost: TDC $474,195 ($68,475 mud)
TDC $ 13,470

9/26/81 32 days. Dril sd, cly & silt @ 4212', dril 244' in 15-3/4 hrs. MW 11.6; vis 118; WL 4.2; ph 8. Pld bit #17 @ 3980', bit dril 262' in 13 hrs. Dull grade: 5-4-1. Ran bit #18 (7-7/8" Reed Y120
s/n 168080) in @ 3980', has dril 232' in 13½ hrs. Dril wt 128#; RPM 100. GOG 8 units.

9/27 33 days. Trpg for bit @ 4402', dril 190' of sd, cly & siltst. in 16½ hrs. MW 11.6; vis 122; WL 5.2; ph 8. Pld bit #18 @ 4260', bit dril 280' in 18 hrs.

9/28/81 34 days. TOH to log. TD 4555'. Dril 153' of silt, cly & SS in 12 hrs. MW 11.6; vis 131; WL 4.2; ph 8. Bit #19 was pld @ 4402', bit dril 142' in 11½ hrs. Dull grade: 6-8-1. Ran bit #20 (7-7/8" Reed Y120 s/n 935095) in @ 4402', out @ 4555', bit 153' in 12 hrs. Circ & cond hole, short trpg, now POG for logs.

9/29/81 35 days. Longing w/Schlumberger. TD 4555'. MW 11.6;
vis 161; WL 4.2; ph 8. Pld bit #20 @ 4555', bit dril 153' in 12 hrs. Dull grade: 6-6-1. Logged w/Schlumberger, ran DIL,
Sonic, FDC, CNL, & Dipmeter from 4552-895', now run velocity surveys.

9/30/81 36 days. NO Schlumberger. TD 4555'. MW 11.6; vis
160; WL 4.4; ph 8. Fin run vel surveys, TII w/sidewall core, shot 6 shots, POG, check gun, right angle drive on Schlumberger, truck failed, now NO truck.

10/1/81 37 days. HOC 41' csg. TD 4555', PBTD 2456'. RU Schlumberger, RH w/sidewall core tool, stuck tool, shot 2 more shots, gun came free, fin shooting cores, shot 26 cores, rec 23, RD Schlumberger, TII, circ & cond, LD DP & DC's, RU & ran G3 its 41' 10.6" KSS STG csg. Total length of string 2495.95'
set @ 2495.95', float @ 2456.27. Cmtd w/420 sx Class G w/2% CaCl₂, plg down @ 4:30 am, 10/1/81. Now HOC. Had good returns throughout job.

10/2/81 38 days. Set Slips @ 8:00 am 10/1/81 w/224# on slips. Turned to Production Dept. for completion. DRPD
FROM DRLG REPORT.

Est Cost: TDC $759,408 ($80,010 mud) ICC: $11,975
TDC $13,470 TCC: $13,200
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1800' FEL 1100' FNL, NW/NE 4 Sec. 13, T105-R3W
Marion County, OR Elev: 233.28' GR KB 243.78'
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WOLVERTON 13-31
Marion County, OR
10/3/81 - RU GO, run CBL log, showed very poor bonding over
most of the interval. RD GO. NU BOP's and change rams. RU
GO & perf 4 holes @2100' for block sqz. Set retnr @2085'.

PU stinger for retainer & RIH on 2 3/8" tbl, wait 1 hr on cent.
10/4 /81 - Mix & pump 75 sx G w/2% KCl. Broke at 2800 psi,
pumped cent @1½ BPM, 2400 psi. Pumped last 10 cu ft in 10 min stages. Sqz to 3500
psi. PO of retnr, reversed clean, POH. TOH w/tbg. RU & perf @2020, 4 SPF for block
sqz. Set retnr @1950'. TIH w/tbg & stinger. Mix & pump 75 sx G w/2% KCl. Stage last
15 cu ft in 10 min stages. Sqz to 4000 psi, PO of retnr, RU DC's, 3 7/8" bit & RIH on
2 7/8" tbl. Drill on retnr @1985'.

10/5/81 - Drill cent & retnr to 2021', fell free. TIH & tag
retnr @2085'. Circ hole clean, press test 1500 psi, OK. TOH, LD excess tbl & DC. RU
1964-2000'. PU Baker model R w/f nipple. TIH & set pkr @1976'. ND BOP's, NU tree.
Swabbing well down @ report time. Prep to perf.

WOLVERTON 13-31
Marion County, OR
10/6/81 - Swab well down to 1750'. RU GO, perf 2060-62
w/1 11/16" thru tbl gun, 4 SPF. FL incrsd to 1500'. Perf
2044-51 w/gun as stinger. RD GO. We'l had 100 psi SITP,
opened well, would not flow. RU to swab, IFL 1000'. Swab 9½ hrs, FL 1976', rec 10
BO. Apparently load wtr w/small gas show, gas would burn. Slight vacuum on back-
side, indicating a possible pkr leak. 8¾ hr SITP 175 psi, built up as follows: 1 hr
35 psi, 2 hr 75, 3 hr 80, 4 hr 90, 5 hr 120, 6 hr 145, 7 hr 160, 8 hr 175. Prep to
acdz.

WOLVERTON 13-31
Marion County, OR
10/7/81 - SITP 180 psi. Open well, blew down in 5 min. RU
swab, FL 1200', swab down to 1900'. RU Halliburton & acdz
w/1000 gals 12-3 (HCl-HF) acid w/CLA-STA II & inhibitors.
Formation broke @1200 psi. Max inj press 2600 psi, min inj press 2000, avg press 2200
psi @½ BPH. Pumped 24 bbls acid & 8 BW. ISI 1800, 5 min 1100, 10 min 600. Swab 14
hrs, rec load plus 10 BW, FL 1900'. Stop swabbing, wait 1 hr, FL 900'. Well is making
trace of gas, will burn (6" vertical flame at end of the flare line, will not register
on 1/8" orifice). CORRECTION TO 10/6/81 REPORT: Rec 10 BW, not 10 BO as reported,
after swabbing 9½ hrs.

WOLVERTON 13-31
Marion County, OR
10/8/81 - FL 900', swab 4 hrs, rec 10 BW, FL 1900'. Chlorides
15,000 ppm, load 2% KC1 (20,000). Load hole w/3% KC1 wrt.
POH w/pkr. RIH open ended, spot 20 sx cent plug 1970-1720.
POH to 1200', WOC 4 hrs, RIH, tag plug @1864'. POH & LD tblg to 288'. Spot 20 sx plug.
POH & LD tblg. ND wellhead, release rig 10 PM 10/7/81. Well P&A. FINAL REPORT.