B&A Buys & Associates, Inc.
Environmental Consultants

2580 Creekview Road
Moab, Utah 84532
435/719-2018 435/719-2019 Fax

October 29, 2007

Mrs. Diana Mason
State of Utah
Division of Oil Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: Application for Permit to Drill—Fortuna (US) LP
Hogback Ridge 1-17-13N-7E
1,198' FNL & 421' FEL, NE/4 NE/4,
Section 17, T13N, R7E, SLB&M. Rich County, Utah

Dear Mrs. Mason:

On behalf of Fortuna (US) LP (Fortuna), Buys & Associates, Inc. respectfully submits the enclosed original and one copy of the Application for Permit to Drill (APD) for the above referenced Private surface and mineral vertical well. A request for exception to spacing (R649-3-3) is hereby requested based on topography since the well is located within 460' of the drilling unit boundary. Fortuna is the only owner and operator within 460' of the proposed well and all points along the intended well bore path. Included with the APD is the following supplemental information:

Exhibit "A" - Survey plats, layouts and photos of the proposed well site;

Exhibit "B" - Proposed location maps with access corridor;

Exhibit "C" - Drilling Plan with Drilling Program Attachments

Exhibit "D" - Surface Use Plan;

Exhibit "E" - Typical BOP and Choke Manifold diagram.

Please accept this letter as Fortuna's written request for confidential treatment of all information contained in and pertaining to this application.

Thank you very much for your timely consideration of this application. Please feel free to contact myself or Len Moriarity of Fortuna at 403-237-1448 if you have any questions or need additional information.

Sincerely,

Don Hamilton

Don Hamilton
Agent for Fortuna

cc: Len Moriarity, Fortuna

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DIV. OF OIL, GAS & MINING

CONFIDENTIAL

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐
(highlight changes)

APPLICATION FOR PERMIT TO DRILL

5. MINERAL LEASE NO: Patented	6. SURFACE: Fee
7. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A	
8. UNIT or CA AGREEMENT NAME: N/A	
9. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E	
10. FIELD AND POOL, OR WILDCAT: Wildcat	
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S	
12. COUNTY: Rich	13. STATE: UTAH

1A. TYPE OF WORK: DRILL ☑ REENTER ☐ DEEPEN ☐

B. TYPE OF WELL: OIL ☐ GAS ☑ OTHER _____ SINGLE ZONE ☐ MULTIPLE ZONE ☑

2. NAME OF OPERATOR: Fortuna (US) LP

3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary, STATE AB ZIP T2P 5C5 PHONE NUMBER: (403) 237-1448

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: 1,198' FNL & 421' FEL, 486075X 41.872529 4635424Y -111.167807
AT PROPOSED PRODUCING ZONE:

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 8.58 miles northeast of Laketown, Utah.

15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET)	16. NUMBER OF ACRES IN LEASE:	17. NUMBER OF ACRES ASSIGNED TO THIS WELL:
421'	320	40
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET)	**19. PROPOSED DEPTH:**	**20. BOND DESCRIPTION:**
None	12,143	33632617
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.):	**22. APPROXIMATE DATE WORK WILL START:**	**23. ESTIMATED DURATION:**
6,725' GR	12/15/2007	115 days

24. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT
17-1/2"	13-3/8"	K-55	68#	1,500	see Drilling Plan
12-1/4"	9-5/8"	L-80	43.5#	4,050	see Drilling Plan
8-3/4"	7"	L-80	26#	10,350	see Drilling Plan
6-1/8"	5"	L-80	26#	12,143	See Drilling Plan

25. **ATTACHMENTS**

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:

☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
☐ EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER
☑ COMPLETE DRILLING PLAN
☐ FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Fortuna (US) LP

SIGNATURE Don Hamilton DATE 10/29/2007

(This space for State use only)

Rod Schnell 403 237-7413 rschnell@talisman-energy.com
Black Berry: 403-813-1867

API NUMBER ASSIGNED: 43-033-30062

Approved by the
Utah Division of
Oil, Gas and Mining

hyphen

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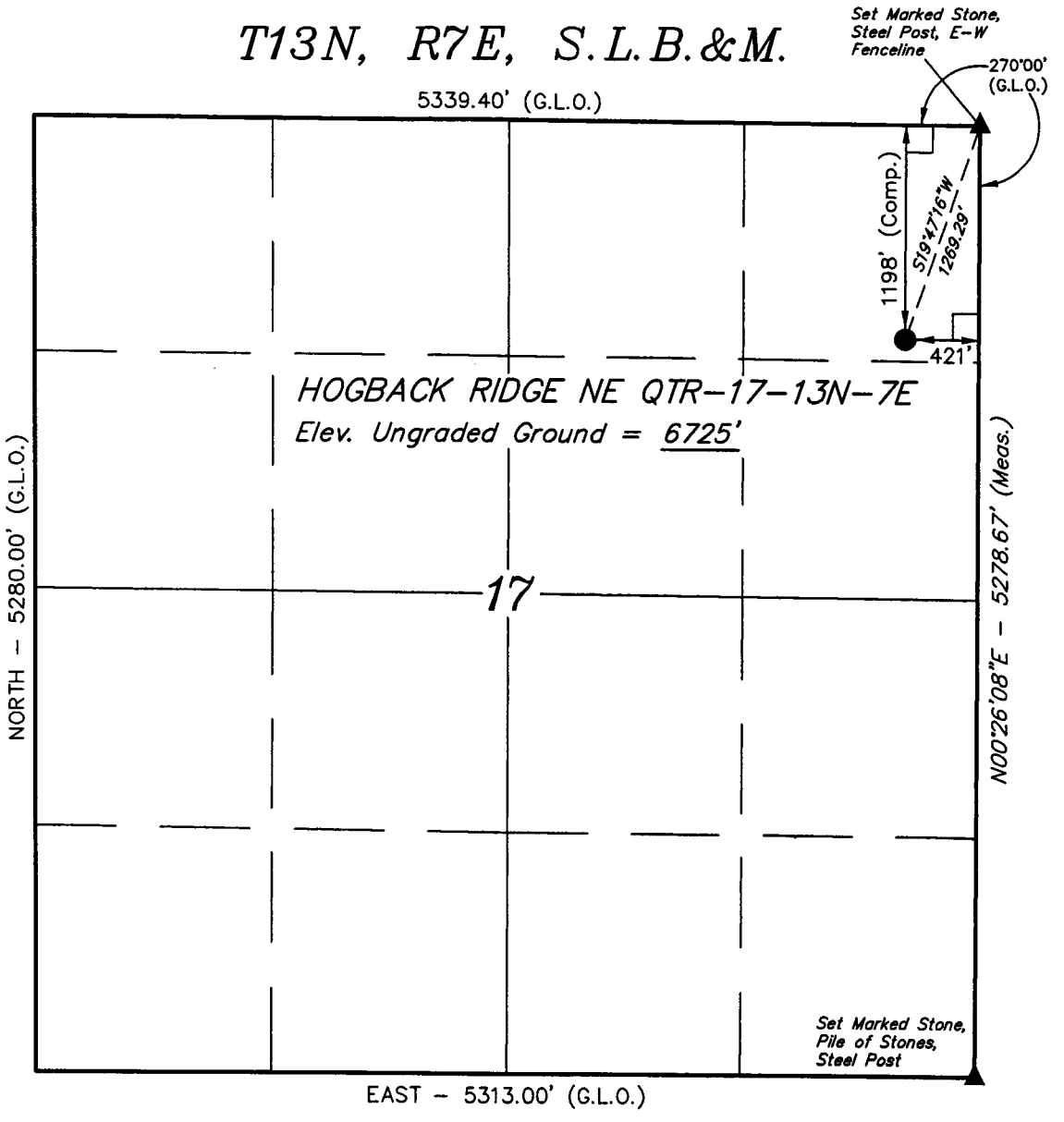
(11/2001) (See Instructions on Reverse Side)

Date: 01-06-08

By: _____

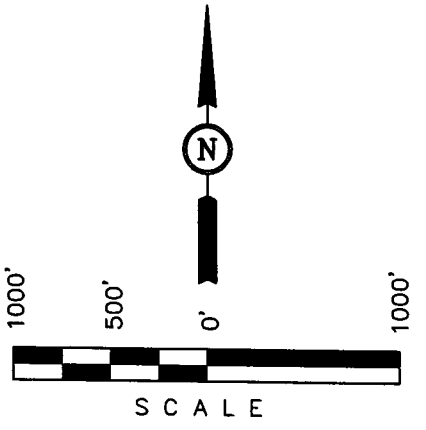
FORTUNA (US) L.P.

Well location, HOGBACK RIDGE NE QTR-17-13N-7E, located as shown in the NE 1/4 NE 1/4 of Section 17, T13N, R7E, S.L.B.&M., Rich County, Utah.



BASIS OF ELEVATION

SPOT ELEVATION LOCATED IN THE NW 1/4 OF SECTION 16, T13N, R7E, 6th P.M., TAKEN FROM THE SAGE CREEK QUADRANGLE, UTAH, RICH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6686 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(NAD 83)
LATITUDE = 41°52'21.15" (41.872542)
LONGITUDE = 111°10'06.54" (111.168483)
(NAD 27)
LATITUDE = 41°52'21.37" (41.872603)
LONGITUDE = 111°10'03.83" (111.167731)

LEGEND:

└ = 90° SYMBOL
● = PROPOSED WELL HEAD.
▲ = SECTION CORNERS LOCATED.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

SCALE	DATE SURVEYED:	DATE DRAWN:
1" = 1000'	09-23-07	09-26-07
PARTY: J.F. R.H. P.M.	REFERENCES: G.L.O. PLAT	
WEATHER: WARM	FILE: FORTUNA (US) L.P.	

Fortuna (US) LP, Rich Country, Utah, Hogback Ridge 1-17-13N-7E

Surface Hole 17 ½', 0-1500' with 13 3/8" casing

Hole Size	17 1/2"
Hole Depth	**0-1500 ft**
Casing Size	13 3/8""
Drift	12.259"
Casing Weight	68 lb/ft
Casing Grade	K-55
Coupling	BTC
Burst Pressure	3450 psi
Collapse Pressure	1950 psi
Pipe Strength	1069000 LB
Capacity	0.84ft3/ft

Fresh water native mud Interval 1	**Mud Wt. ppg**	**Visc. Sec/qt**	**YP lb/100ft²**	**Filtrate Ml**	**Cl⁻ (mg/l)**	**hardness(mg/l)**	**pH**	**LGS (% by Vol.)**
0' to 1,500' Drill: 17-1/2" Hole Days: 15	**8.6 to 8.9**	**30 to 50**	**8 to 10**	**15 to 30**	**≤ 6,000**	**≤ 120**	**9.0 to 10.0**	**<6**

Cement for surface 13 3/8"

Job Excess 100 %

Fluid 1: Water Spacer
FRESH WATER

Fluid Density:	8.34ppg
Fluid Volume:	40 bbl

Fluid 2: Lead Cement
VARICEM RS1 CEMENT
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

Fluid Density:	12.30ppg
Slurry Yield:	2.36 ft^3/sk
Total Mixing Fluid:	13.46Gal/sk
Top of Fluid:	0 ft
Calculated Fill:	1000 ft
Volume:	247.44 bbl
Calculated Sacks:	588.93 skst
Proposed Sacks:	590 sks

Fluid 3: Tail Cement
Premium Cement
94 lbm/sk Premium Cement (Cement)
2 % Calcium Chloride (Accelerator)

Fluid Density:	15.80ppg
Slurry Yield:	1.17 ft^3/sk
Total Mixing Fluid:	5.02 Gal/sk
Top of Fluid:	1000 ft
Calculated Fill:	500 ft
Volume:	130.31 bbl
Calculated Sacks:	628.01 sks
Proposed Sacks:	630 sks

Fluid 4: Water Spacer
Water Displacement

Fluid Density:	8.34ppg
Fluid Volume:	218.00 bbl

Centralizer program
- 1 centralizer on shoe track
- 1 centralizer every 4th joint thereafter (9 centralizers)

Intermediate hole 1500-4050', 12 ¼" hole 9 5/8"casing to be tied back to surface

Hole Size	12 1/4"
Hole Depth	**1500-4050 ft**
Casing Size	9 5/8"
Drift	8.599"
Casing Weight	43.5 lb/ft
Casing Grade	L-80
Coupling	LTC
Burst Pressure	6330 psi
Collapse Pressure	3810 psi
Pipe Strength	1005000 LB
Capacity	0.42 ft3/ft

Interval 2 Modified Coredril-N OBM	**Mud Wt. ppg**	**Visc. Sec/ Qt.**	**YP lb/100ft²**	**LIME ppb**	**HTHP Ml**	**Elect Stab Volts**	**TES Salinity PPM**	**O/W Ratio**	**LGS ppb**
1,500' to 4,050'	**8.0**	**40**	**8**	**2**	**10**	**800**	**300K**	**98/2**	**40**
Drill: 12-1/4" Hole	**to**	**to**	**to**	**to**	**to**	**to**	**to**	**to**	**or**
Days: 45	**8.5**	**55**	**15**	**4**	**20**	**1200**	**350K**	**95/5**	**less**

Cement for 9 5/8" intermediate casing

Job Excess 50 %
Fluid 1: Water Based Spacer
MUD FLUSH

Fluid Density: 8.40ppg
Fluid Volume: 40 bbl

Fluid 2: Lead Cement
ECONOCEM RS4 SYSTEM
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

Fluid Density: 10.50ppg
Slurry Yield: 4.12 ft^3/sk
Total Mixing Fluid: 26.01Gal/sk
Top of Fluid: 0 ft
Calculated Fill: 2500 ft
Volume: 173.27 bbl
Calculated Sacks: 236.30 sks
Proposed Sacks: 240 sks

Fluid 3: Tail Cement
ECONOCEM RS2 SYSTEM
0.2 % HR-5 (Retarder)

Fluid Density: 14.20ppg
Slurry Yield: 1.26 ft^3/sk
Total Mixing Fluid: 5.54 Gal/sk
Top of Fluid: 2500 ft
Calculated Fill: 1550 ft
Volume: 132.97 bbl
Calculated Sacks: 592.03 sks
Proposed Sacks: 595 sks

Fluid 4: Water Spacer
Water Displacement

Fluid Density: 8.34lbm/gal
Fluid Volume: 298.29 bbl

Centralizer program

- 1 centralizer on shoe track
- 1 centralizer every 3rd joint thereafter (33 centralizers)

Production Liner #1, 4050-10350', 8 ½" hole with 7" liner with 250' overlap

Hole Size	8 1/2"
Hole Depth	**4050-10350 ft**
Casing Size	7"
Drift	6.151"
Casing Weight	26 lb/ft
Casing Grade	L-80
Coupling	BTC
Burst Pressure	7240 psi
Collapse Pressure	5410 psi
Pipe Strength	604000 LB
Capacity	0.21 ft3/ft

Fresh water BARAZAN/PAC-R Interval 3	**Mud Wt. ppg**	**Visc. Sec/qt**	**YP lb/100ft²**	**API Filt. Ml**	**Cl⁻ mg/l**	**hardness(mg/l)**	**pH**	**LGS (% by Vol.)**
4,050' to 10,350' Drill: 8-1/2" Hole Days: 60	**8.6 to 8.9**	**32 to 45**	**4 to 8**	**10 or less**	**≤ 6,000**	**≤ 250**	**10.0 to 10.5**	**<3**

Cement #1 liner

Job Excess 20 %
Fluid 1: Water Spacer
TUNED SPACER
92 lbm/bbl Barite (Heavy Weight Additive)

Fluid Density: 10.50ppg
Fluid Volume: 40 bbl

Fluid 2: Lead Cement
ECONOCEM RS3 SYSTEM
0.5 % HR-5 (Retarder)

Fluid Density: 14.20ppg
Slurry Yield: 1.31 ft^3/sk
Total Mixing Fluid: 5.81 Gal/sk
Top of Fluid: 3850 ft
Calculated Fill: 6500 ft
Volume: 179.18 bbl
Calculated Sacks: 766.79 sks
Proposed Sacks: 770 sks

Fluid 3: Mud
Mud Displacement

Fluid Density: 9.10ppg
Fluid Volume 314.03 bbl

Centralizer program

- 1 centralizer on shoe track
- 1 centralizer every 3rd joint thereafter (54 centralizers)

Production Liner #2, 10350-12143', 6 1/8' hole, 5" flush liner with 200' overlap

Hole Size	6 1/8"
Hole Depth	**10350-12143 ft**
Casing Size	5" flush joint
Drift	4.151"
Casing Weight	18 lb/ft
Casing Grade	L-80
Coupling	VAM FJL
Burst Pressure	10140 psi
Collapse Pressure	10490 psi
Pipe Strength	422000 LB
Capacity	0.10 ft3/ft

Fresh water BARAZAN/PAC-R Lime/Polymer Interval 4	**Mud Wt. ppg**	**Visc. Sec/qt**	**YP lb/100ft²**	**API Filt. ml**	**Cl⁻ mg/l**	**hardness(mg/l)**	**pH**	**LGS (% by Vol.)**
10,350' to 12,123' Drill: 6-1/8" Hole Days: 30	**8.6 to 8.9**	**32 to 45**	**4 to 8**	**14 or less**	**≤ 6,000**	**≤ 250**	**10.5 to 11.0**	**<3**

Cement # 2 liner

Job Excess 20 %
Fluid 1: Water Spacer
TUNED SPACER
120 lbm/bbl Barite (Heavy Weight Additive)

Fluid Density: 11 lbm/gal
Fluid Volume: 20 bbl

Fluid 2: Lead Cement
EXPANDACEM RS1 SYSTEM
0.5 % HR-5 (Retarder)

Fluid Density: 15.60ppg
Slurry Yield: 1.56 ft^3/sk
Total Mixing Fluid: 6.46 Gal/sk
Top of Fluid: 9800 ft
Calculated Fill: 2343 ft
Volume: 35.27 bbl
Calculated Sacks: 126.69 sks
Proposed Sacks: 130 sks

Fluid 3: Mud
Displacement Fluid

Fluid Density: 9.50ppg
Fluid Volume 214.26 bbl

Centralizer program
- 1 centralizer on shoe track
- 1 centralizer every 3rd joint thereafter (16 centralizers)

SURFACE DAMAGE AND RELEASE AGREEMENT

This Surface Damage and Release Agreement ("**Agreement**") is made and entered into this 15 day of November, 2007, by and between Richland & Grazing Partnership Inc., a Utah Corporation ("**Owner**"), and Fortuna (US) L.P. or its assigns, ("**Operator**"); sometimes referred to each as a "Party" or collectively as the "Parties."

RECITALS:

A. Owner is the surface owner of certain lands located in Rich County, Utah as more specifically described on Exhibit "A" attached hereto ("**Lands**");

B. Operator has acquired rights to a lease or leases covering all or portions of the oil and gas estate beneath the Lands or lands pooled or included in a spacing unit therewith (each a **"Lease,"** collectively, the **"Leases"**).

C. The Leases authorize the Operator to drill or cause to be drilled an oil and/or gas well or wells on the Lands (**"Wells"**). In order for Operator to construct well-site(s) ("**Well-Site(s)**") and drill, complete, produce, maintain, and operate the Wells and all facilities associated therewith, including, but not limited to, access roads ("**Access Roads**"), pipelines ("**Pipelines**"), flow lines, separators, tank batteries, and any other facilities or property necessary for Operator to conduct operations on the Wells (each a "**Facility**," collectively, the "**Facility**"), it is necessary that Operator enter and utilize a portion of the surface of the Lands,

D. Owner and Operator desire to establish terms for surface damages that may result from Operator's construction, operation, and maintenance of the Wells, Well-site(s), Access Roads, Pipelines, and Facilities on the Lands and any other matters relating to Operator's use of the Lands.

NOW THEREFORE, for and in consideration of the sum of TEN DOLLARS ($10.00) and more and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Owner recognizes Operator's existing rights as set forth above and does hereby grant to Operator and its successors and assigns, rights to construct, operate, and maintain the Wells, Well-site(s), Access Roads, Pipelines, and Facilities, together with the unimpeded right of egress and ingress for oil and gas operations across the Lands depicted and described on the plat attached hereto as Exhibit "A", and incorporated into this Agreement by reference insofar as Owner has the right to do so and further agree as follows:

1. LOCATION, WIDTH AND SCOPE OF ACCESS ROAD & PIPELINE.

The approximate location of the Wells will be within the drilling windows established by the Utah Division of Oil, Gas and Mining ("**DOGM**") or drilling units established by the Utah Board of Oil, Gas and Mining. Operator agrees to notify Owner of its intent to construct Well-site(s), Access Roads, Pipelines, and Facilities on the Lands in advance of submitting any applications for permit to drill or construct. Operator and Owner will cooperate to locate such Well-site(s), Access Roads, Pipelines and Facilities at locations consistent with topographical and geological imperatives while at the same time attempting to accommodate Owner's use of the Lands.

This paragraph shall not be construed in any way as granting Owner a veto over Operator's proposed locations. Operator agrees not to use any more of the surface of the Lands than is reasonably necessary to conduct its operations. Notwithstanding any other provision contained herein, this Agreement only allows three (3) disturbances: One Well-Site of no greater than four (4) acres; One Access Road; and One Pipeline. The width of all Access Roads and temporary ground placement for all Pipelines shall be no greater than feet (') in width. Operator shall not expand beyond the foregoing unless this Agreement is modified in writing and signed by both parties.

2. CONDUCT OF OPERATIONS.

Operator's operations on the Lands will be conducted pursuant to the terms of the Leases, this Agreement, the rules and regulations of the DOGM, and the accepted standards, customs, and usages in the industry for a prudent Operator.

3. COMPENSATION AMOUNT.

Operator will pay Owner the sum of four thousand U.S. dollars (U.S. $4,000.00) per Well-Site location (*not to exceed four (4) acres*) and for the associated Facilities prior to the commencement of construction of the Well-Site(s) location and the actual drilling operations for each Well. It is understood and agreed that in the event multiple Wells are drilled from the same Well-Site location, only one U.S. $4,000.00 payment will be due for the Well-Site, unless it exceeds four (4) acres. Additionally, Operator shall pay to Owner an annual road access fee of ten dollars (U.S. $10.00) per lineal rod for the use of existing Access Roads on the Lands from the Well-Site(s) to the County road and a one time road construction fee of twenty dollars (U.S. $20.00) per lineal rod for newly constructed Access Roads on the Lands from the Well-Site(s) to the County road and thereafter an annual road access fee of ten U.S. dollars (U.S. $10.00) per lineal rod for Access Roads utilized by Operator on the Lands from the Well-Site(s) to the County road. For greater clarity, the Operator shall not pay an annual road access fee for use of any portion of County roads on the Lands and all annual road access fees shall only apply to that portion of any Access Roads from the County road to the Well-Site(s). Commencing the 15 day of November 20 07 and every fifth year anniversary thereafter, annual road access fees paid by Operator to Owner shall be increased by four (4%) non-compounded percent points for the next five year period until such time as this Agreement is terminated. If the Access Roads are used to access more then one Well Site, the Operator will pay the Owner an additional flat fee of $ 50.00 per year for each new additional Well Site whereby the Operator utilizes the Access Road to access the new Well Site(s). In addition, Operator shall pay an annual access fee of ten U.S. dollars (U.S. $10.00) per lineal rod for a pipeline which Operator constructs on the Lands. Operator shall provide Owner with a plat showing the planned location and length of all Access Roads and Pipelines prior to their construction, first use or improvement. Payment of U.S. $ 200.00 is hereby acknowledged by Owner as complete compensation for the first annual payment and as consideration for Operator's (or its respective lessees, tenants, or assigns) use of the Lands for the purposes enumerated in this Agreement and as a release by Owner of any and all damages caused or created by reason of the reasonable and customary ingress, egress, rights-of-way, drilling, completion, production and maintenance operations associated with the Wells, Pipelines

and Facilities. Such damages will include, without limitation, damage to trees, timber, growing crops, and other vegetation being cultivated on the Lands, cropland, the removal, transportation and care of livestock, re-seeding, construction and use of Access Roads and Pipelines and the preparation and use of the Well-site(s) and associated Facilities, but does not include injury or death to livestock. In the event Owner owns less than the entire undivided fee-simple estate in and to the Lands, then the compensation provided for herein shall be paid to Owner in the proportion which Owner's interest bears to the whole undivided fee. Annual payments totaling $ 200.00 hereafter shall be due on November 15 of each subsequent year hereafter.

4. ADDITIONAL SURFACE PROVISIONS AND ACCESS ROADS.

With respect to its operations on the Lands, Operator will comply with the following provisions:

A. Access Roads and Well-Sites:

(i) Operator will use reasonable commercial efforts to ensure that all of its vehicles accessing the Lands on its behalf remain on the Access Roads.

(ii) Operator will stockpile and save any topsoil removed while constructing the Well-Sites for rehabilitation or re-seeding as reasonably directed by Owner. Operator shall also re-seed around roadway and pipeline corridors and use its reasonable commercial efforts to control noxious weeds.

(iii) Operator will maintain all Access Roads in good repair and condition during such time as Operator is conducting operations on the Lands and will use its reasonable commercial efforts to control dust from the Well-site(s), Access Roads and existing roads utilized by Operator.

(iv) Operator will install and maintain any livestock guards and crossings along the Access Road, and will consult with Owner before installation.

B. Surface Restoration:

Upon permanent cessation of Operator's operations on the Lands, all areas thereof occupied or utilized by Operator will be restored by Operator to as near their original condition as reasonably practicable unless other arrangements are made with Owner in writing.

C. Other:

(i) Operator will install culverts on the Lands that may be necessary to maintain present drainage and irrigation otherwise affected by its operations on the Lands.

(ii) If by reason of the activities of the Operator, including, but not limited to, drilling, completing, equipping, and operating of the Wells, there is unanticipated damage to personal property of the Owner, including, but

not limited to, reservoirs, irrigation wells, fences, culverts, bridges, pipelines, ditches, or irrigation systems, Operator will repair or replace such items after consultation with and to the reasonable satisfaction of the Owner. Owner will notify Operator of any items damaged after the Well's construction and Operator will repair or replace such items within 30 days after consultation with the Owner

(iii) Operator agrees that all trash, refuse pipe, equipment, liquids, chemicals, or other materials brought on the Lands by the Operator or by persons entering upon the Lands at the Operator's request that are not necessary for continued operations of the Wells or Pipelines will be timely removed and disposed away from the Lands after the completion of the Wells. No such items will be burned or buried on the Lands.

(iv) If Operator has equipment on site that is available, Operator or Owner may contract for the use of the equipment to make improvements (e.g., reservoirs) for Owner's ranching operation at a reasonable cost not to include any mobilization charge for the equipment, all at the Operator's sole discretion.

D. Owner's Right to Enjoyment:

Owner shall have the right to use and enjoy said Owner's Land, provided, however, that the exercise of such use and enjoyment shall not unreasonably interfere with the rights of Operator herein and held and enjoyed by Operator under and in accordance with the terms of the Leases.

5. DEFAULT AND RIGHT TO CURE.

In the event of alleged default by Operator in the payment of any of the sums herein above provided to be made, in obligations to be performed, or any other terms, conditions or covenants of this Agreement, Owner will notify Operator, by certified mail, return receipt requested, of the alleged default. Operator will have 30 business days from receipt of the written notification in which to either commence to cure such default or to dispute or otherwise respond to the notification.

Except as otherwise agreed in writing, no waiver by Owner of any breach by the Operator of any of its obligations, agreements, or covenants hereunder will be deemed to be a waiver of any subsequent or continuing breach of the same, nor will any forbearance by Owner to seek a remedy for any breach by the Operator be denied to be a waiver by Owner of its rights or remedies with respect to such breach; however, in no event will Operator be liable for additional payment for reasonably anticipated damages to the Lands caused by Operator's oil and gas operations or operations ancillary thereto, and in no event will Operator be liable for consequential damages.

6. INDEMNITY/RELEASE.

Operator agrees to indemnify and hold Owner harmless from any and all claims, damages (except such damages as released herein) and causes of action arising out of and caused

by Operator's operations on the Lands that maybe asserted by any of Operator's agents, employees, subcontractors, contractors or persons entering upon the Lands at the request of Operator. In addition, Operator agrees to indemnify and hold Owner harmless from any claim, damage or cause of action that may be asserted by any third-party utilizing Access Roads used or improved by Operator During the term of this Agreement, Operator shall maintain, with financially sound and reputable insurance companies or associations, insurance in an amount which a reasonable, prudent operator would deem sufficient to satisfy all damages and indemnity claims of Owners that might arise

7. NOTICE FOR ADDITIONAL OPERATIONS.

Operator will comply with DOGM rules and regulations requiring that advance notice be provided to Owner for subsequent operations on the Wells, including, but not limited to, reworking operations thereon.

8. NOTICES.

Notices, reports and other communications required or permitted by this Agreement to be given or sent by one Party to the other shall, except where otherwise provided herein, be in writing and delivered by hand, or mailed postage prepaid, or transmitted by facsimile to the addresses as follows:

Owner
Richland & Grazing Partnership Inc.
c/o B. Reed Groll
Box 14
Randolff, UT
84064
Phone (435) 793-5655

Operator
Fortuna (US) L.P.
3400, 888 – 3rd Street SW
Calgary, Alberta, Canada
T2P 5C5
Attention: Senior Manager, Land
Fax: 1-403-693-2536

Hand delivered notices shall be conclusively deemed to have been received when actually delivered. If a notice is mailed by prepaid post, it shall be conclusively deemed to have been received by the addressee on the seventh day following the mailing thereof. Notices transmitted by facsimile shall be conclusively deemed to have been received when actually delivered if during a business day. If facsimile is not delivered during a business day such notice shall be conclusively deemed to have been received by addressee at the commencement of the next business day. When any disruption of the postal system is in effect or threatened, notices shall be hand delivered or sent by facsimile.

9. BINDING EFFECT.

The covenants and conditions herein contained and all of the provisions of this Agreement will inure to the benefit of and will be binding upon the Parties hereto, their respective heirs, representatives, successors, or assigns, Owner agrees to contact any and all tenants of the Lands or any other third parties utilizing the surface of the Lands that may be affected by Operator's activities on the Lands. It will be Owner's sole responsibility to advise such third parties of the existence of this Agreement and Operator's right to utilize the surface of the Lands pursuant to this Agreement and for the

payment of any consideration, if any, due such third party from Owner. Owner shall advise Operator of the particulars relating to any such occupant.

10. CONFIDENTIALITY.

The Parties agree to keep the terms and conditions of this Agreement confidential and will not disclose such matters to any third party without the advance written consent of the other, or if ordered to do so in a legal or regulatory proceeding. While the specific terms hereof are to remain confidential between the Parties, Operator may record a Memorandum of Agreement in Rich County, Utah disclosing only that the parties have entered into a Surface Damage Agreement covering the Lands which contains provisions for the granting of well-sites, access roads, pipelines, and associated facilities. In the event said Memorandum of Agreement is placed of record, upon termination of this Agreement, or the Lease between the Parties, Operator shall record a notice that this Agreement has terminated

11. CONFLICT WITH OIL AND GAS LEASE.

In the event there is a conflict between the terms of this Agreement and the terms of that certain Oil and Gas Lease granted by Owner to Operator, then the provisions of the Oil and Gas Lease shall prevail.

12. ENTIRE AGREEMENT.

This instrument contains the entire agreement between the Parties and may not be modified orally or in any other manner other than by agreement in writing signed by all Parties or their respective successors or assigns.

13. TERM.

This Agreement will remain in full force and effect for so long as Operator has the right to conduct oil and gas operations on the Lands pursuant to the Leases; provided, however, that the termination of this Agreement will not relieve the Parties from their respective obligations or liabilities arising herein prior to such termination.

14. COUNTERPARTS.

This Agreement maybe executed by facsimile, in counterparts, each of which will be considered an original and enforceable against either Party.

15. GOVERNING LAW AND VENUE.

Agreement will be governed by construed and enforced in accordance with the laws of Utah. Any civil action based upon an alleged breach of this Agreement shall be filed and prosecuted in a state or federal court located in the State of Utah. Each party to this Agreement consents to the jurisdiction of the courts specified in the preceding sentence and agrees not to raise any objection to the venue of any civil action in either of those courts. Each Party irrevocably waives its right to a jury trial with respect to the matters contained herein.

16. SEVERABILITY.

If any provision if this Agreement is held invalid or unenforceable, the remainder of this Agreement shall continue in full force and effect.

17. SUCCESSORS.

This Agreement constitutes a covenant running with the Lands and will be binding upon and inure to the benefit of, and be enforceable by, the Parties and their respective successors, administrators, trustees, executors and assigns.

18. AUTHORITY OF SIGNATORIES.

The signatories below declare, warrant and represent that they have the authority to enter into this Agreement on behalf of their respective principals, if any.

19. ATTORNEY'S FEES AND COSTS.

The Parties agree that the prevailing Party in any action resulting from a substantial breach of this Agreement will be entitled to its reasonable attorney's fees and costs incurred therein.

IN WITNESS WHEREOF, the Parties have set their hands, the day and year first written above.

FORTUNA (US) L.P.:

By: _____

Its: Scott Solpie
Senior Manager, Land

By: _____

Its: Boss Deutscher
Team Lead Exploration.

OWNERS:

By: B Reed Groll
Title President
Name: B Reed Groll

By: _____
Title _____
Name: _____

Execution page to a Surface Damage and Release Agreement dated the 15 day of, November 2007 between Fortuna (US) L.P., and ~~H B & H Ranching, Inc~~ Richland Grazing Partnership Inc, a Utah Corporation.

ACKNOWLEDGMENT

Province
~~STATE~~ OF Alberta)
: ss.
Country
~~COUNTY~~ OF Canada.)

The foregoing instrument was acknowledged before me this 10 day of Dec., 2007, by Scott Sobe ; Ross Deutscher of Fortuna.

NOTARY PUBLIC
Residing at: Calgary, Alberta. Canada.

My Commission Expires:

At the Pleasure of her Majesty Queen Elizabeth II

RONI N. HAUGEN
Barrister & Solicitor

CORPORATE ACKNOWLEDGEMENT

STATE OF Utah)
) ss.
COUNTY OF Rich)

The foregoing instrument was acknowledged before me this 15th day of November, 2007, by B Reed Carroll, of Rich County Utah, on behalf of said corporation.

NOTARY PUBLIC
REBECCA THOMSON
125 North Main
Randolph, UT 84064
My Commission Expires
January 30, 2011
STATE OF UTAH

WITNESS my hand and official seal.

1-30-2011
My Commission Expires

R L Thomson
Notary Public
Residing at: Randolph

SURFACE DAMAGE AND RELEASE AGREEMENT

This Surface Damage and Release Agreement ("**Agreement**") is made and entered into this 15 day of November, 2007, by and between B & H Ranching, Inc., a Utah Corporation ("**Owner**"), and Fortuna (US) L.P. or its assigns, ("**Operator**"); sometimes referred to each as a "Party" or collectively as the "Parties."

RECITALS:

A. Owner is the surface owner of certain lands located in Rich County, Utah as more specifically described on Exhibit "A" attached hereto ("**Lands**");

B. Operator has acquired rights to a lease or leases covering all or portions of the oil and gas estate beneath the Lands or lands pooled or included in a spacing unit therewith (each a **"Lease,"** collectively, the **"Leases"**).

C. The Leases authorize the Operator to drill or cause to be drilled an oil and/or gas well or wells on the Lands (**"Wells"**). In order for Operator to construct well-site(s) ("**Well-Site(s)**") and drill, complete, produce, maintain, and operate the Wells and all facilities associated therewith, including, but not limited to, access roads ("**Access Roads**"), pipelines ("**Pipelines**"), flow lines, separators, tank batteries, and any other facilities or property necessary for Operator to conduct operations on the Wells (each a "**Facility**," collectively, the "**Facility**"), it is necessary that Operator enter and utilize a portion of the surface of the Lands,

D. Owner and Operator desire to establish terms for surface damages that may result from Operator's construction, operation, and maintenance of the Wells, Well-site(s), Access Roads, Pipelines, and Facilities on the Lands and any other matters relating to Operator's use of the Lands.

NOW THEREFORE, for and in consideration of the sum of TEN DOLLARS ($10.00) and more and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Owner recognizes Operator's existing rights as set forth above and does hereby grant to Operator and its successors and assigns, rights to construct, operate, and maintain the Wells, Well-site(s), Access Roads, Pipelines, and Facilities, together with the unimpeded right of egress and ingress for oil and gas operations across the Lands depicted and described on the plat attached hereto as Exhibit "A", and incorporated into this Agreement by reference insofar as Owner has the right to do so and further agree as follows:

1. LOCATION, WIDTH AND SCOPE OF ACCESS ROAD & PIPELINE.

The approximate location of the Wells will be within the drilling windows established by the Utah Division of Oil, Gas and Mining ("**DOGM**") or drilling units established by the Utah Board of Oil, Gas and Mining. Operator agrees to notify Owner of its intent to construct Well-site(s), Access Roads, Pipelines, and Facilities on the Lands in advance of submitting any applications for permit to drill or construct. Operator and Owner will cooperate to locate such Well-site(s), Access Roads, Pipelines and Facilities at locations consistent with topographical and geological imperatives while at the same time attempting to accommodate Owner's use of the Lands.

This paragraph shall not be construed in any way as granting Owner a veto over Operator's proposed locations. Operator agrees not to use any more of the surface of the Lands than is reasonably necessary to conduct its operations. Notwithstanding any other provision contained herein, this Agreement only allows three (3) disturbances: One Well-Site of no greater than four (4) acres; One Access Road; and One Pipeline. The width of all Access Roads and temporary ground placement for all Pipelines shall be no greater than feet (') in width. Operator shall not expand beyond the foregoing unless this Agreement is modified in writing and signed by both parties.

2. CONDUCT OF OPERATIONS.

Operator's operations on the Lands will be conducted pursuant to the terms of the Leases, this Agreement, the rules and regulations of the DOGM, and the accepted standards, customs, and usages in the industry for a prudent Operator.

3. COMPENSATION AMOUNT.

Operator will pay Owner the sum of four thousand U.S. dollars (U.S. $4,000.00) per Well-Site location (*not to exceed four (4) acres*) and for the associated Facilities prior to the commencement of construction of the Well-Site(s) location and the actual drilling operations for each Well. It is understood and agreed that in the event multiple Wells are drilled from the same Well-Site location, only one U.S. $4,000.00 payment will be due for the Well-Site, unless it exceeds four (4) acres. Additionally, Operator shall pay to Owner an annual road access fee of ten dollars (U.S. $10.00) per lineal rod for the use of existing Access Roads on the Lands from the Well-Site(s) to the County road and a one time road construction fee of twenty dollars (U.S. $20.00) per lineal rod for newly constructed Access Roads on the Lands from the Well-Site(s) to the County road and thereafter an annual road access fee of ten U.S. dollars (U.S. $10.00) per lineal rod for Access Roads utilized by Operator on the Lands from the Well-Site(s) to the County road. For greater clarity, the Operator shall not pay an annual road access fee for use of any portion of County roads on the Lands and all annual road access fees shall only apply to that portion of any Access Roads from the County road to the Well-Site(s). Commencing the 15 day of November 2007 and every fifth year anniversary thereafter, annual road access fees paid by Operator to Owner shall be increased by four (4%) non-compounded percent points for the next five year period until such time as this Agreement is terminated. If the Access Roads are used to access more then one Well Site, the Operator will pay the Owner an additional flat fee of $150.00 per year for each new additional Well Site whereby the Operator utilizes the Access Road to access the new Well Site(s). In addition, Operator shall pay an annual access fee of ten U.S. dollars (U.S. $10.00) per lineal rod for a pipeline which Operator constructs on the Lands. Operator shall provide Owner with a plat showing the planned location and length of all Access Roads and Pipelines prior to their construction, first use or improvement. Payment of U.S. $14,600.00 is hereby acknowledged by Owner as complete compensation for the first annual payment and as consideration for Operator's (or its respective lessees, tenants, or assigns) use of the Lands for the purposes enumerated in this Agreement and as a release by Owner of any and all damages caused or created by reason of the reasonable and customary ingress, egress, rights-of-way, drilling, completion, production and maintenance operations associated with the Wells, Pipelines

and Facilities. Such damages will include, without limitation, damage to trees, timber, growing crops, and other vegetation being cultivated on the Lands, cropland, the removal, transportation and care of livestock, re-seeding, construction and use of Access Roads and Pipelines and the preparation and use of the Well-site(s) and associated Facilities, but does not include injury or death to livestock. In the event Owner owns less than the entire undivided fee-simple estate in and to the Lands, then the compensation provided for herein shall be paid to Owner in the proportion which Owner's interest bears to the whole undivided fee. Annual payments totaling $ 4,290.00 hereafter shall be due on Jan 15 of each subsequent year hereafter.

4. ADDITIONAL SURFACE PROVISIONS AND ACCESS ROADS.

With respect to its operations on the Lands, Operator will comply with the following provisions:

A. Access Roads and Well-Sites:

(i) Operator will use reasonable commercial efforts to ensure that all of its vehicles accessing the Lands on its behalf remain on the Access Roads.

(ii) Operator will stockpile and save any topsoil removed while constructing the Well-Sites for rehabilitation or re-seeding as reasonably directed by Owner. Operator shall also re-seed around roadway and pipeline corridors and use its reasonable commercial efforts to control noxious weeds.

(iii) Operator will maintain all Access Roads in good repair and condition during such time as Operator is conducting operations on the Lands and will use its reasonable commercial efforts to control dust from the Well-site(s), Access Roads and existing roads utilized by Operator.

(iv) Operator will install and maintain any livestock guards and crossings along the Access Road, and will consult with Owner before installation.

B. Surface Restoration:

Upon permanent cessation of Operator's operations on the Lands, all areas thereof occupied or utilized by Operator will be restored by Operator to as near their original condition as reasonably practicable unless other arrangements are made with Owner in writing.

C. Other:

(i) Operator will install culverts on the Lands that may be necessary to maintain present drainage and irrigation otherwise affected by its operations on the Lands.

(ii) If by reason of the activities of the Operator, including, but not limited to, drilling, completing, equipping, and operating of the Wells, there is unanticipated damage to personal property of the Owner, including, but

not limited to, reservoirs, irrigation wells, fences, culverts, bridges, pipelines, ditches, or irrigation systems, Operator will repair or replace such items after consultation with and to the reasonable satisfaction of the Owner. Owner will notify Operator of any items damaged after the Well's construction and Operator will repair or replace such items within 30 days after consultation with the Owner

(iii) Operator agrees that all trash, refuse pipe, equipment, liquids, chemicals, or other materials brought on the Lands by the Operator or by persons entering upon the Lands at the Operator's request that are not necessary for continued operations of the Wells or Pipelines will be timely removed and disposed away from the Lands after the completion of the Wells. No such items will be burned or buried on the Lands.

(iv) If Operator has equipment on site that is available, Operator or Owner may contract for the use of the equipment to make improvements (e.g., reservoirs) for Owner's ranching operation at a reasonable cost not to include any mobilization charge for the equipment, all at the Operator's sole discretion.

D. Owner's Right to Enjoyment:

Owner shall have the right to use and enjoy said Owner's Land, provided, however, that the exercise of such use and enjoyment shall not unreasonably interfere with the rights of Operator herein and held and enjoyed by Operator under and in accordance with the terms of the Leases.

5. DEFAULT AND RIGHT TO CURE.

In the event of alleged default by Operator in the payment of any of the sums herein above provided to be made, in obligations to be performed, or any other terms, conditions or covenants of this Agreement, Owner will notify Operator, by certified mail, return receipt requested, of the alleged default. Operator will have 30 business days from receipt of the written notification in which to either commence to cure such default or to dispute or otherwise respond to the notification.

Except as otherwise agreed in writing, no waiver by Owner of any breach by the Operator of any of its obligations, agreements, or covenants hereunder will be deemed to be a waiver of any subsequent or continuing breach of the same, nor will any forbearance by Owner to seek a remedy for any breach by the Operator be denied to be a waiver by Owner of its rights or remedies with respect to such breach; however, in no event will Operator be liable for additional payment for reasonably anticipated damages to the Lands caused by Operator's oil and gas operations or operations ancillary thereto, and in no event will Operator be liable for consequential damages.

6. INDEMNITY/RELEASE.

Operator agrees to indemnify and hold Owner harmless from any and all claims, damages (except such damages as released herein) and causes of action arising out of and caused

by Operator's operations on the Lands that maybe asserted by any of Operator's agents, employees, subcontractors, contractors or persons entering upon the Lands at the request of Operator. In addition, Operator agrees to indemnify and hold Owner harmless from any claim, damage or cause of action that may be asserted by any third-party utilizing Access Roads used or improved by Operator During the term of this Agreement, Operator shall maintain, with financially sound and reputable insurance companies or associations, insurance in an amount which a reasonable, prudent operator would deem sufficient to satisfy all damages and indemnity claims of Owners that might arise

7. NOTICE FOR ADDITIONAL OPERATIONS.

Operator will comply with DOGM rules and regulations requiring that advance notice be provided to Owner for subsequent operations on the Wells, including, but not limited to, reworking operations thereon.

8. NOTICES.

Notices, reports and other communications required or permitted by this Agreement to be given or sent by one Party to the other shall, except where otherwise provided herein, be in writing and delivered by hand, or mailed postage prepaid, or transmitted by facsimile to the addresses as follows:

Owner
B & H Ranching, Inc.
c/o Burdette Weston

PO Box 13
Laketown, UT

84038
Phone (435) 757-1250
Fax; (435) 946-8646

Operator
Fortuna (US) L.P.
3400, 888 – 3rd Street SW
Calgary, Alberta, Canada
T2P 5C5
Attention: Senior Manager, Land
Fax: 1-403-693-2536

Hand delivered notices shall be conclusively deemed to have been received when actually delivered. If a notice is mailed by prepaid post, it shall be conclusively deemed to have been received by the addressee on the seventh day following the mailing thereof. Notices transmitted by facsimile shall be conclusively deemed to have been received when actually delivered if during a business day. If facsimile is not delivered during a business day such notice shall be conclusively deemed to have been received by addressee at the commencement of the next business day. When any disruption of the postal system is in effect or threatened, notices shall be hand delivered or sent by facsimile.

9. BINDING EFFECT.

The covenants and conditions herein contained and all of the provisions of this Agreement will inure to the benefit of and will be binding upon the Parties hereto, their respective heirs, representatives, successors, or assigns, Owner agrees to contact any and all tenants of the Lands or any other third parties utilizing the surface of the Lands that

may be affected by Operator's activities on the Lands. It will be Owner's sole responsibility to advise such third parties of the existence of this Agreement and Operator's right to utilize the surface of the Lands pursuant to this Agreement and for the payment of any consideration, if any, due such third party from Owner. Owner shall advise Operator of the particulars relating to any such occupant.

10. CONFIDENTIALITY.

The Parties agree to keep the terms and conditions of this Agreement confidential and will not disclose such matters to any third party without the advance written consent of the other, or if ordered to do so in a legal or regulatory proceeding. While the specific terms hereof are to remain confidential between the Parties, Operator may record a Memorandum of Agreement in Rich County, Utah disclosing only that the parties have entered into a Surface Damage Agreement covering the Lands which contains provisions for the granting of well-sites, access roads, pipelines, and associated facilities. In the event said Memorandum of Agreement is placed of record, upon termination of this Agreement, or the Lease between the Parties, Operator shall record a notice that this Agreement has terminated

11. CONFLICT WITH OIL AND GAS LEASE.

In the event there is a conflict between the terms of this Agreement and the terms of that certain Oil and Gas Lease granted by Owner to Operator, then the provisions of the Oil and Gas Lease shall prevail.

12. ENTIRE AGREEMENT.

This instrument contains the entire agreement between the Parties and may not be modified orally or in any other manner other than by agreement in writing signed by all Parties or their respective successors or assigns.

13. TERM.

This Agreement will remain in full force and effect for so long as Operator has the right to conduct oil and gas operations on the Lands pursuant to the Leases; provided, however, that the termination of this Agreement will not relieve the Parties from their respective obligations or liabilities arising herein prior to such termination.

14. COUNTERPARTS.

This Agreement maybe executed by facsimile, in counterparts, each of which will be considered an original and enforceable against either Party.

15. GOVERNING LAW AND VENUE.

Agreement will be governed by construed and enforced in accordance with the laws of Utah. Any civil action based upon an alleged breach of this Agreement shall be filed and prosecuted in a state or federal court located in the State of Utah. Each party to this Agreement consents to the jurisdiction of the courts specified in the preceding sentence

and agrees not to raise any objection to the venue of any civil action in either of those courts. Each Party irrevocably waives its right to a jury trial with respect to the matters contained herein.

16. SEVERABILITY.

If any provision if this Agreement is held invalid or unenforceable, the remainder of this Agreement shall continue in full force and effect.

17. SUCCESSORS.

This Agreement constitutes a covenant running with the Lands and will be binding upon and inure to the benefit of, and be enforceable by, the Parties and their respective successors, administrators, trustees, executors and assigns.

18. AUTHORITY OF SIGNATORIES.

The signatories below declare, warrant and represent that they have the authority to enter into this Agreement on behalf of their respective principals, if any.

19. ATTORNEY'S FEES AND COSTS.

The Parties agree that the prevailing Party in any action resulting from a substantial breach of this Agreement will be entitled to its reasonable attorney's fees and costs incurred therein.

IN WITNESS WHEREOF, the Parties have set their hands, the day and year first written above.

FORTUNA (US) L.P.:

By: _____

Its: Scott Sobiq Senior Manager, Land

By: _____

Its: Ross Deutscher Team Lead Exploration

OWNERS:

By: B & H Ranching

Title President

Name: Burdette N. Hunter

_____

By: _____
Title _____
Name: _____

Execution page to a Surface Damage and Release Agreement dated the 15 day of, November 2007 between Fortuna (US) L.P., and B & H Ranching, Inc, a Utah Corporation.

ACKNOWLEDGMENT

Province RM
PROVINCE OF Alberta)
: ss.
County RM
COUNTY OF Canada)

The foregoing instrument was acknowledged before me this 10 day of Dec., 2007, by Scott Sabe, Ross Deutscher of Fortuna.

NOTARY PUBLIC
Residing at: Calgary Alberta Canada

My Commission Expires:

At the Pleasure of her Majesty Queen Elizabeth II

RONI N. HAUGEN
Barrister & Solicitor

CORPORATE ACKNOWLEDGEMENT

STATE OF Utah)
) ss.
COUNTY OF Rich)

The foregoing instrument was acknowledged before me this 15th day of November, 2007, by Burdette W. Weston, of B&H Ranching Co, Inc, on behalf of said corporation.

WITNESS my hand and official seal.

10-23-09
My Commission Expires

Pennie G. Hutchinson
Notary Public
Residing at: Randolph Utah

NOTARY PUBLIC
PENNIE G HUTCHINSON
125 N Main St. PO Box 56
Randolph, Utah 84064
My Commission Expires
October 23, 2009
STATE OF UTAH

Drilling Program
Hogback Ridge 1-17-13N-7E
Rich County, Utah

Location: Surface and Target: N41 ° 52' 21.15", W111 ° 10' 06.54"
Field: Hogback Ridge
Elevation: 6725' Ground Elevation; 6725' Graded Elevation; 6755' Kelly Bushing
API Number:
Objective: Vertical drilled in the Mission Canyon, Total depth 20' in the Lodgepole.

1. Electric Log Formation Tops:

FORMATION	TVD	MD
Surface Wasatch	0	0
Twin Creek	1000	1000
Gypsum Springs	2533	2533
Nuggut**	2808	2808
Ankareh	4033	4033
Thaynes	5708	5708
Fault	7133	7133
Thaynes	7133	7133
Woodside	8943	8943
Dinwoody**	9558	9558
Phosphoria	10208	10208
Weber	10658	10658
Mission Canyon*	11513	11513
Lodgepole	12123	12123
TD	12143	12143

2. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL-GAS BEARING FORMATIONS:

Surface to NUGGET 2808'+/-, MD	Water
Nugget 2808'-4033', MD	Gas/Oil bearing (sweet)
Dinwoody 9558'-10208', MD	Gas bearing
Mission Canyon 11513'-12123', MD	Gas bearing

3. OPERATOR'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

A. Surface BOPE requirements (minimum): 13-5/8" 5000 psig rated BOPE including double gate with blind and pipe rams, drilling spool with 3" outlets (choke and kill lines configured as per the attached diagram), spherical. Closing unit will comply with BLM specifications. BOP kill line (2 inch minimum) shall run to the outer edge of the substructure and be unobstructed. All lines will be staked down prior to drilling the surface casing plug. BOPE will be tested with a registered pressure testing company to 250 psig low and 5000 psig high (annular to 2500 psig). Casing will be tested to 70% of rated burst pressure. Testing of BOPE will be after 10hours WOC time, drill out to be after 24 hours WOC. Testing of BOPE every 30 days and if any seal is broken.

Intermediate BOPE requirements (minimum): 11" 5,000 psig rated BOPE including double gate with blind and pipe rams, drilling spool with 3" outlets (choke and kill lines configured as per the attached diagram), double gate with blind and pipe rams, spherical. A hydraulic valve and a remote, operated hydraulic choke are required. Closing unit will comply with BLM specifications. BOPE will be tested with a registered pressure testing company to 250 psig low and 5,000 psig high (annular to 2500psig). Casing will be tested to 70% of rated burst pressure. Testing of BOPE will be after 10hours WOC time, drill out to be after 24 hours WOC. Retest the BOPE every 30 days and if any seal is broken.

Both choke manifold and BOPE accumulator will be in compliance with Onshore Order Number 2

B. All pressure control equipment will be installed, tested and operated in compliance with 43 CFR Part 3160 of the Federal Register.

C. Pit volumes will be visually monitored. A flow indicator with a floor monitor panel will be utilized. PVT will be installed by 1500'.

D. See Exhibit "C".

4. CASING AND CEMENTING PROGRAM:

A. All casing run and set will be new or used inspected. Laboratory tests will be run on the water and cement prior to the cementing operations. BLM will be notified 24 hours prior to running and cementing all casing. All joints will be inspected for damaged threads and full length drift run. Threads will be cleaned and a thread compound applied as the casing is run. Wet and dry cement samples of the cement will be obtained.

B. All casing strings below the conductor shall be pressure tested to 0.22 psi/ft or 1500 psi whichever is greater, but not to exceed 70% of the internal yield of the casing.

C. **Surface Casing**: 17 ½"hole 0-1500'

1500' +/-, 13-3/8", 682#/ft. K-55. BT&C. Collapse 1950 PSI Burst 3450 PSI Tension 1,069K

WATER SPACER:
Water Spacer, Fluid Density 8.34 lbm/gal, Fluid Volume 40 bbl.

LEAD CEMENT: 590sks Varocem (TM) Cement 94lb/sks, 0.125 lmb/sk Poly-E-Flake, 0.25 lmb/sk Kwik Seal (12.3 ppg, yield 2.36 ft3/sk)

TAIL CEMENT: 630sks Class G Cement 94lb/sks, and 2% Calcuim Chloride, (15.8 ppg, yield 1.17 ft3/sk)

MUD: Mud Displacement, Fluid Density 8.3 lbm/gal, Fluid Volume 218 bbl.

As Per Halliburton cementing program

TOP OUT CEMENT: 200 sx Premium Cement, 94 lbm/sk Premium Cement (Cement-api), 2% Calcium Chloride (Accelerator), Fluid Weight 15.80 lbm/gal. Slurry Yield 1.15 ft^3/sk. Total Mixing Fluid 4.99 Gal/sk. If needed

D. **Intermediate Casing**: 12 ¼" hole 1500'-4050'

4,050'+/-, 9-5/8", 43.5#/ft., L-80. LT&C. Collapse 3810 PSI. Burst 6330 PSI Tension 691K

NOTE: Plan on cement returns to surface with 50% excess

WATER SPACER: Fresh Water. Fluid Density 8.4lbm/gal, Fluid Volume 40bbl.

LEAD CEMENT: 240sks Varocem (TM) Cement SR4, 94lb/sks, 0.125 lmb/sk Poly-E-Flake, 0.25 lmb/sk Kwik Seal (10.4 ppg, yield 4.12 ft3/sk)

TAIL CEMENT: 580sks Varocem (TM) Cement SR2, 94lb/sks, 0.7% HaladR-322 , 0.15% Versaset, 0.2% HR-5 retarder, and 3 lmb/sk Silicalite

MUD: Mud Displacement, Fluid Density 8.34 ppg, Fluid Volume 294.56 bbl.

E. **Production Liner Casing #1**: 8 ¾" hole from 4050'-10350'

Cement volume will be calculated to fill 400 feet into the intermediate casing at 4050'.

6,700'±, 7", 26lb/ft., L-80, BT&C, Collapse 5410 PSI, Burst 7240 PSI, Tension 604K

NOTE: Set 200' inside the 9 5/8" intermediate casing shoe at 4,050' MD.

Push Mud, Fluid Density 10.5ppg, Fluid Volume 40 bbl, 92 lbm/bbl barite

LEAD CEMENT: 350 sacks Varocem (TM) Cement SR4, 94lb/sks, 0.125 lmb/sk Poly-E-Flake, 0.25 lmb/sk Kwik Seal (10.4 ppg, yield 4.12 ft3/sk)

TAIL CEMENT: 119 sacks, Class G Cement 94lb/ft, 0.2% anti foaming agent, 0.3% TIC dispersant, 0.3% wide temperature range retarder, and 0.3% UNIFLAC-S

NOTE: The actual cement volume will be based on hole caliper plus 20% excess.

F. **Production Liner Casing #2**: Drill 6 1/8" hole from 10350'-12143'

Cement volume will be calculated to fill 400 feet into the production liner #1 at 10350'.

2,000'±, 5", 26lb/ft., L-80, VAM FJL, Collapse 10,490 PSI, Burst 10,140 PSI, Tension 422K

NOTE: Set 200' inside the 7" production casing #1 shoe at 10,350' MD

Push Mud, Fluid Density 9.0ppg, Fluid Volume 2100 gal.

LEAD CEMENT: 538 sacks, Class G Cement 62lb/ft, LITEPOZ 3 extender 24 lb/sk, 8% Bentonite Extender, 0.4% wide temperature range retarder, 0.2% anti foaming agent, and 0.2% Antisettling agent.

TAIL CEMENT: 119 sacks, Class G Cement 94lb/ft, 0.2% anti foaming agent, 0.3% TIC dispersant, 0.3% wide temperature range retarder, and 0.3% UNIFLAC-S

NOTE: The actual cement volume will be based on hole caliper plus 40% excess.

5. DRILLING MUD PROGRAM:

A. A fresh water system will be used to drill the surface. The rig will then switch the system to an oil based mud system for drilling the intermediate hole. The main hole will be drilled with water/polymer system. The mud system will employ solids control with mechanical cleaning. A centrifuge will be used with a mud cleaner, de-sander and de-silter to mechanically remove drill solids. Fluid retained on the drill cuttings will be pumped back into the active system after the cuttings are allowed to separate the fluid off. Adjustments will be made as the well bore conditions dictate and for anticipated drilling activities such as running casing, logging, testing, etc. Maximum anticipated mud weight is 8.5 ppg with formation pressures to be 8.3 ppg or 0.43 psi/ft gradient. Barite will be used for weighting material and adequate stocks of will be stored on site to support a 2 ppg increase at all times during the

drilling operation. Sack barite will be used for weight up, also will be used for pills. The primary concern is with lost circulation and potential for H2S in the system.

B. A pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more that 20 feet of new hole.

C. A mechanical device as a backup as well as electronic mud monitoring of PVT, stroke counter and flow show will be used.

6. TESTING, LOGGING AND CEMENTING PROGRAM:

A. The primary objective is the Nugget and Dinwoody formation and the secondary formation is the Mission Canyon.

B. One 60' core will be cut in the Nugget and Dinwoody. If core look good a DST will be run on the Nugget; No other DST are expected, however an unexpected show of interest may dictate otherwise. Fortuna Energy will inform the authorized official of any DST.

C. Intermediate hole: Dip meter (Hex Dip), Gamma Ray, Sonic and Neutron-Density from intermediate casing point to surface casing

Main hole: Dip meter (FMI), Laterlog, Sonic, Gamma Ray and Neutron-Density from TD to intermediate casing.

7. ABNORMAL PRESSURE OR TEMPERATURE:

A. The drilling supervisor will monitor for drilling breaks, mud losses or gains, gas increases, and drilling mud temperature increases to anticipate potential increases in bottom hole pressures. If significant increases in bottom hole pressures are anticipated; all drilling breaks greater than 5 feet will be circulated and observed for flow prior to drilling ahead. Kill procedures best suited for the abnormal pressure situation will be employed. After setting surface casing, pit drills will be held to ensure the rig crews are familiar with their individual responsibilities and achieve a closed in time of less than 2 minutes. Periodic pit drills will be held thereafter and if new crew members are hired. All detection devices will be in place and working from 1500' to TD.

B. Anticipated bottom hole pressure is 4200 psig or 0.405 psig/ft based on offset DST's from American Quasar, #1-20 Hogback Ridge, 20-13N-7E. .434 psig DST @ 10,200

C. A detailed H2S Contingency Plan is attached. 5M Stack

8. OTHER INFORMATION:

A. Anticipated starting date will be upon approval. The drilling and completion operations should be completed within 115 days after spudding the well.

Attachments:

1. Drilling Mud Program
2. Cementing Program
3. Drilling bit proposals
4. Well head schematic and installation
5. H2S Emergency Response Plan
6. Fortuna telephone list and emergency numbers
7. Regulatory agency personnel and telephone numbers

Fortuna (US) LP

Hogback Ridge

17 – 13 N – 7 E

Rich County, Utah

Sour Gas Well

Emergency Response Plan

(Addendum to H_2S Contingency Plan)

September 18, 2007

SURFACE USE PLAN

Attachment for Permit to Drill

Name of Operator:	Fortuna (US) LP
Address:	3400, 888 - 3rd. Street S.W., Calgary, AB. T2P 5C5
Well Location:	Hogback Ridge 1-17-13N-7E 1,198' FNL & 421' FEL, NE/4 NE/4, Section 17, T13N, R7E, SLB&M Rich County, Utah

The dirt contractor will be provided with an approved copy of this document prior to initiating construction. The well site and access road is located on Private surface and Private mineral.

1. **Existing Roads**

   a. The proposed well site is located approximately 8.58 miles northeast of Laketown, Utah.

   b. The use of roads under State Road Department maintenance is necessary to access the Hogback Ridge project area. An encroachment to leave the County maintained six-mile creek road is necessary and will be applied for and approved during with the state approval process.

   c. We do not plan to change, alter or improve upon any other existing state or county roads.

   d. All existing roads will be maintained and kept in good repair during all phases of operation.

   e. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.

   f. A private surface use agreement is required and pending at this time for use of the existing road from the six-mile creek Rich County road to the well site.

2. **Planned Access Roads**

   a. From the existing native surfaced six-mile creek Rich County road an existing ranch road is proposed for upgrade traveling west 0.9 miles. From that point

new access road is proposed traveling 0.4 miles northwest then 0.3 miles southeast. The access consists of 0.9 miles of two-track upgrade and 0.7 miles of new disturbance that crosses no significant drainages.

b. A road design plan is not anticipated at this time.

c. The proposed access road will consist of a 24' travel surface within a 30' disturbed area across Private surface.

d. Planned access does not cross federal or State lands.

e. A maximum grade of 10% will be maintained throughout the project with no major cuts and fills anticipated.

f. No turnouts are proposed since the access road is only 1.5 miles long and adequate site distance exists in all directions.

g. Several low water crossings and no culverts are anticipated. Adequate drainage structures will be incorporated into the remainder of the road.

h. No surfacing material will come from federal or State lands.

i. Two cattle guards are anticipated at this time as reflected within Exhibit 'B' Topo B.

j. Surface disturbance and vehicular travel will be limited to the approved location access road.

k. The operator will be responsible for all maintenance of the access road including drainage structures.

3. **Location of Existing Wells**

a. See Exhibit "B". There are no proposed and no existing wells within a one mile radius of the proposed location.

4. **Location of Existing and/or Proposed Facilities**

   a. If the well is deemed productive a sundry notice reflecting the production site layout will be submitted for approval

   b. Rehabilitation of all pad areas not used for production facilities will be made in accordance with DOGM stipulations.

   c. A gas pipeline is not associated with this application but will be applied for at a later date if production is achieved.

5. **Location and Type of Water Supply**

   a. Water to be used for drilling will be obtained through a direct purchase from Larry D. Johnson, P.O. Box 177 ; Randolph UT 84064 out of an irrigation water well located in Sec. 31, T13N, R8E, SLB&M.

   b. Water Right # 23-1628 (Claim # A29882) (Change # pending transfer of the water right from Larry's deceased parents to Larry).

   c. A temporary change of water has been prepared and is pending submission to the Utah State Engineers Office at this time.

   d. Fortuna proposes to utilize up to 3 acre feet of water from this diversion under the existing water right.

   e. No water pipelines will be laid for this well. Water for this will be hauled by truck on the road(s) shown in Exhibit B.

   f. No water well will be drilled for this well.

6. **Source of Construction Materials**

   a. Any necessary construction materials needed will be obtained locally from a private source and hauled to the location on existing roads.

7. **Methods for handling waste disposal**

   a. A small reserve pit will be constructed with a minimum of one-half the total depth below the original ground surface on the lowest point within the pit. The pit will be lined with a synthetic liner. Three sides of the reserve pit will

be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.

b. Following drilling, the liquid waste will be evaporated from the pit and the pit backfilled and returned to natural grade. No liquid hydrocarbons will be discharged to the reserve pit or location.

c. In the event fluids are produced, any oil will be retained in tanks until sold and any water produced will be retained until its quality can be determined. The quality and quantity of the water will determine the method of disposal.

d. Trash will be contained in a portable metal container and will be hauled from location periodically and disposed of at an approved disposal site. Chemical toilets will be placed on location and sewage will be disposed of at an appropriate disposal site.

8. **Ancillary Facilities**

a. We anticipate no need for ancillary facilities with the exception of trailers to be located on the drill site.

9. **Well-site Layout**

a. Available topsoil will be removed from the location and stockpiled. The location of the rig, reserve and blooie pits, and drilling support equipment will be located as shown on Exhibit "A", Figure 1 (Location Layout).

b. A blooie pit will be located 100' from the drill hole. A line will be placed on the surface from the center hole to the blooie pit. The blooie pit will not be lined, but will be fenced on four sides to protect livestock/wildlife.

c. Access to the well pad will be as shown on the location layout.

d. Natural runoff will be diverted around the well pad as shown on the location layout.

10. **Plans for Restoration of Surface**

a. All surface areas not required for producing operations will be graded to as near original condition as possible and contoured to maintain possible erosion to a minimum.

b. Available topsoil will be stockpiled and will be evenly distributed over the disturbed areas and the area will be reseeded as prescribed by the landowner.

c. Pits and any other area that would present a hazard to wildlife or livestock will be fenced off when the rig is released and removed.

d. Any oil accumulation on the pit will be removed or overhead flagged as dictated by then existing conditions.

e. Rehabilitation will commence following completion of the well. Holes will be filled immediately upon release of the drilling rig from the location. If the well-site is to be abandoned, all disturbed areas will be re-contoured to the natural contour as is possible.

11. **Surface Ownership**

a. Surface Ownership – B&H Ranching Inc c/o Burdette Weston, Lake town Utah; 435-946-8648 (home); 435-757-1250 (mobile)

b. The operator shall contact the surface representative and the Division of Oil, Gas and Mining 48 hours prior to beginning construction activities.

12. **Other Information**:

a. The primary surface use is wildlife habitat and grazing. The nearest dwelling is in over 5 miles east of the proposed location. The nearest live water is the intermittent North Fork of Six Mile Creek 0.8 miles east.

b. If there is snow on the ground when construction begins, it will be removed before the soil is disturbed, and piled downhill from the topsoil stockpile location.

c. The back-slope and fore-slope will be constructed no steeper than 3:l.

d. All equipment and vehicles will be confined to the access road and well pad.

e. A complete copy of the approved Application for Permit to Drill (APD) including conditions and stipulations and the surface use agreement shall be on the well-site during construction and drilling operations.

f. There will be no deviation from the proposed drilling and/or workover program without prior approval from the Division of Oil, Gas & Mining.

13. **Company Representative**

Len Moriarity
Fortuna (US) LP
3400, 888 - 3rd. Street S.W.,
Calgary, AB. T2P 5C5
1-403-237-1448

Company Agent
Don Hamilton
Buys & Associates, Inc
2580 Creekview Road;
Moab, Utah 84532
435-718-2018

14. **Certification**

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed by Fortuna (US) LP and its subcontractors in conformity with this plan and the terms and conditions under which it is approved.

10-29-07
Date

Don Hamilton
Don Hamilton
Agent for Fortuna (US) LP

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1.0 Introduction

It is the policy of Fortuna (US) LP "Fortuna" to provide a safe and healthy work environment for all its employees as well as contractors that work on Fortuna (US) LP leases. It is Fortuna's intent to protect from harm any neighboring Public to any well operational activities.

The following is a Sour Gas Emergency Response Plan (ERP) for the Fortuna (US) LP 17 – 13N – 7E well. The ERP document provides the personnel working on the project directions on what emergency response process and actions to follow in the event of an emergency situation including a well control problem that could lead to an uncontrolled gas release. Personnel with response roles must review and be familiar with their response duties as well as the emergency safety equipment.

All personnel and visitors on site need to be familiar with the potential hazards and emergency warning system on site and be familiar with what protective actions and/or response action might need to be taken in the event of an emergency situation.

The purpose of this plan is to act as a guideline for personnel working on the wellsite in the event of potential or actual sour gas release and to comply with the "Onshore Oil and Gas Order # 6, Hydrogen Sulfide Operations'.

The Site Specific well ERP will be supported by Fortuna (US) LP Corporate ERP.

Terminology

- Sour Gas is also referred to as Hydrogen Sulfide Gas or H_2S Gas

2.0 Program and Well Specific Information

2.1 Well Information

- Classification: H_2S Gas Well:
-
- Target Formation (s): Dinwoody
- Maximum H_2S Concentration:
  - Weber up to 21.5%
- Sour Gas Formation Names and H_2S Concentration:
  - Dinwoody 02.00%
  - Phosphoria 12.59%
  - Weber 21.5%
  - Mission Canyon 19.5%
  - Lodgepole Not expected to be productive
- Total Maximum H_2S Release Rate: 2.48 m^3/sec
- True Vertical Depth: 11960 Feet (Estimated)
- Measure Hole Depth: 12,335.4 Feet (Estimated)
- Rig Move Date: Early November
- Drilling Spud Date: Mid November (Approximately)
- Drilling Rig: TBD
- Drilling Program Duration: TBD Days (Estimated)
- Number of Days in H_2S Formations +/- 30 Days
- Completion Date: TBD
- Completion and Testing: TBA
- Completion Program Duration: TBA

(TBA=To Be Announced, TBD=To Be Determined)

2.2 On-Site Personnel

On-Site Personnel numbers may vary but at a minimum while drilling and working in the sour formation will include the following:

Position	Numbers
Drilling On-Site Supervisor	1
Tool-Pusher	1
Rig Crew	5
Geologist	1
Drilling Mud Technician	1
Safety Representative(s)	1

2.3 Communication Equipment

Wellsite will be equipped with satellite phone(s) as cell communication is limited in certain areas. On-Site Supervisor vehicle could also be equipped with satellite phone.

Cell phones will also be available on site but user will have to travel down the access road to receive a signal

2.4 Emergency Planning Zone (EPZ)

The Emergency Planning Area/Emergency Planning Zone is 2.66 Miles, which defines the 100-ppm H_2S radius around the wellsite.

The EPZ is:

- Calculated for a continuous, un-ignited release of sour gas at the highest release rate formation
- The area within pre-defined radius around the well that could be affected by a sour gas release.
- The area that will be managed under unified command for Public safety and could require restricting access to the area by roadblocks, sheltering or evacuation.
- Pre-determined area of planning where the Public use, residence and facilities locations within the area has been pre-determined.

Emergency Planning Zone (EPZ) (Cont'd)

Area of actual impact from Hydrogen Sulfide (H_2S) or Sulfur Dioxide (SO_2) can verify and has to be determined by gas monitoring. Concentration levels will vary depending on actual release rates, H_2S concentration, terrain/topographic features, atmospheric conditions, and wind direction.

If the sour gas releasing from a well is ignited than the potential risk to Public and responders health is the SO_2 concentration.

2.2 Area Land Use and Public Information

Primary land use within the EPZ is for grazing leases and recreational use by the Public.

Public Conditions:
None of the following conditions apply as per Onshore Oil and Gas Operations Order # 6; Hydrogen Sulfide Operations, Public Protection Applicable Criteria

a. The 100 ppm radius of exposure is greater than 50 feet and includes any occupied residence, school, church, park, school bus stop, place of business, or other areas where Public could reasonably be expected to frequent; or
b. The 500 ppm radius of exposure is greater than 50 feet and includes any part of a Federal, State, County, or municipal road or highway owned and principally maintained for Public use; or
c. The 100 ppm radius of exposure is equal to or greater than 3,000 feet where facilities or roads are principally maintained for Public use

2.3 Directions to Well Location

Well is located in the NE corner of Utah in Rich County.

Directions to location are from Evanston, Wyoming, traveling north on Highway # 16 40.5 miles across Utah State Line to the Sage Creek Junction/Highway # 30 intersection. Continue North on Highway # 16 for 5.1 miles and turn right or westerly direction on to gravel road. Drive 4 miles and enter onto lease road and travel approximately 2 miles to Hogback Ridge well location.

2.4 Well Site Survey Plan and Top Map
(See Section 12: Survey Plans and Maps)

2.5 Emergency Response Map for the EPZ Area
(See Section 12: Survey Plans and Maps)

3.0 Emergency Preparedness

3.1 Purpose

Preparedness means any and all measures taken to prevent, prepare for, respond, mitigate, and recover from an emergency, crisis incident, and/or accident.

This Preparedness section will focus on the step to be taken to prepare for and be ready to manage operational potential emergencies situations with an effective response. The steps to be managed in this section will support the readiness and effectiveness of the Response Action Plans outline in the following section.

3.2 Emergency Response Documents

Have the following documents on the jobsite/wellsite for reference and training purpose.

- Hogback Ridge Emergency Response Plan (ERP)
- MSDS' forms for all controlled products on site

3.3 Public Safety and Emergency Planning Zone (EPZ)

Personnel working on and traveling to and from the location need to assist in Public Protection by being aware of the Transient (Public recreational users, and industry) activities both on roads and off-road areas within the Emergency Planning Zone (EPZ).

A gate will be located at the start of the lease access road and will be locked to prevent Public from using road.

The Public activities should be monitored daily before entering and while drilling or working in the sour formation that could result in exposures off site in the event of a sour gas release.

The Emergency Planning Zone may be varied in radius size depending on the formations potential release rate and sour gas content. For this location the maximum EPZ is 2.66-mile radius and includes the area with this radius.

3.4 Well Location Layout and Safety Setup

1. All respiratory protective equipment and H_2S detection equipment will be rigged up prior to 1000 feet above the first anticipated sour zone. The rig crews and other service personnel will be trained prior to this time. All rig crews will be trained and all safety equipment in place and functioning, (See section: 3.5 Training)

2. The drilling rig will be situated on location to allow for the prevailing winds to blow across the rig toward the circulation tanks or at right angles to the lines from the Blowout Preventer (B.O.P.s) to the circulation tanks.

3. The entrance to the location is designed so that it can be barricaded if a hydrogen sulfide emergency condition arises. An auxiliary exit route will be available so that incase of emergency, a shift in wind direction would not prevent escape from the location.

4. A minimum of 2 safe briefing areas (SBA) shall be designated for assembly of personnel during emergency conditions. These will be located at least 150 ft. or as practical, from the wellbore and in such a location that at least one area will be upwind of the well at all times. Upon recognition of an emergency situation, all personnel will be trained to assemble at the designated briefing area for instructions.

5. Smoking areas will be established and "No Smoking" signs will be posted around the location.

6. Reliable 24 hour telephone communications will be available at the drilling foremen's office.

7. A mud-gas separator will be rigged up and manifold to the choke system.

8. All equipment that might come in to contact with hydrogen sulfide - drill pipe, drill stem test tools, blowout preventers, casing, choke system will meet Fortuna (US) LP metallurgy requirements for H_2S service.

Well Location Layout and Safety Setup (Cont'd)

9. The drilling rig will have a continuous electronic H_2S detection system that automatically with activate visible and audible alarms if hydrogen sulfide is detected. The visible light will activate if 10 ppm H_2S is present. The audible siren will activate if 15 ppm H_2S or higher concentration is present. There will be at least 4 H_2S sensors in place on the drilling rig. They will be located to detect the presence of hydrogen sulfide in areas where it is most likely to come to surface. The sensor head locations will be: 1) rig floor by driller's console, 2) substructure area near the bell nipple, 3) the shale shaker, 4) the mud mixing area. Additional sensors will be positioned at the discretion of the drilling foreman. At least 1 light and 1 siren will be placed on the rig to indicate the presence of hydrogen sulfide. The light and siren will be strategically placed to be visible to all personnel on the drill site. Additional alarm lights & sirens may be added to ensure that all personnel on the drill site are able to notice the alarms at any time.

10. The H_2S detection equipment will be calibrated as recommended by the manufacturer. Calibration records will be maintained on location.

11. At least 4 windsocks will be placed around the drill site to ensure that everyone on the drilling location can readily determine wind direction. One windsock will be mounted on or near the rig floor to be readily visible to rig crews when tripping pipe.

12. All respiratory protective equipment will be NIOSH/MSHA approved positive pressure type and maintained according to manufacturer's guidelines. All breathing air used for this equipment will be Compressed Gas Association (CGA) type Grade D type breathing air.

13. Both 30-minute self-contained breathing apparatuses (SCBA) and workline units with escape cylinders will be available on location. There will be sufficient numbers of this supplied air breathing equipment on location to ensure that all essential personnel on location have 1 piece of equipment available to them. All respiratory protective equipment will use nose cups to prevent fogging in temperatures below 32 F. Spectacle kits will be available for personnel that require corrective lenses when working under mask.

14. Electric explosion- proof ventilating fans (bug blowers) will be available to provide air movement in enclosed areas where gas might accumulate.

15. H_2S drills will be conducted at least weekly to ensure that all well site personnel are competent in emergency donning procedures. These drills will be recorded in the driller's log, as well as in the safety trailer logbook.

16. Electronic voice-mikes will be available upon request for essential personnel to use when working under mask to facilitate communication.

Well Location Layout and Safety Setup (Cont'd)

17. Additional breathing equipment will be provided upon request for non routine operations that require additional service personnel on the well location to ensure that all personnel on the well location have a dedicated supplied air respirator.

18. Location access will be monitored and controlled during "non-routine" operations such as perforating, pressurized pumping, and well testing. The number of personnel on location will be restricted to "essential" personnel only.

19. The site set up and equipment will comply with the Onshore Oil and Gas order #6, Hydrogen Sulfide Operations

20. Workers on site have access to the color flag warning system to be set up in the event of an emergency situation and is used to notify personnel approaching the drill site to warn of operating conditions on the wellsite and access restriction. System is in compliance with BLM Order #6. Hydrogen Sulfide Operations.

Flag meaning:
Green Flag - Potential Danger
Yellow Flag – Moderate Danger
Red Flag – Extreme Danger/ Do not approach if red flag is flying.

3.5 Training

All personnel who come onto the location must be properly trained in hydrogen sulfide, nitrogen, oxygen deficient atmospheres safety. The personnel shall carry documentation with them indicating that the training has occurred within the previous 12 months. All training will comply with federal and state regulatory guidelines.
Training topics shall include at a minimum:

1. Hazards and characteristics of hydrogen sulfide, nitrogen, and oxygen deficient atmospheres and symptoms of exposure to these gases.
2. Proper use, care and limitations of respiratory protective equipment with hands on practice.
3. Use of both fixed and portable detection toxic gas equipment.
4. Work practices to reduce opportunities for toxic gas exposure as well as confined space procedures.
5. First aid for toxic gas exposure and resuscitation equipment
6. The Buddy System
7. Flag Warning System
8. Site Emergency warning system/Sirens
9. Emergency evacuation procedures/Muster Point Location
10. A review of the emergency response plan for the well

4.0 Operations Personnel Responsibilities

4.1 Purpose

In order to assure proper execution of the emergency response plan, it is essential that the Fortuna (US) LP On-Site Supervisor, Drilling and Completion Representatives and Personnel are aware of their operational responsibility as it relates to potential emergency situations and response requirements.

4.2 Plan/Response Activation

Supervisor(s) are clear on who has the authority to activate the ERP. The Fortuna (US) LP On-Site Supervisor or designate will activate the ERP and will assume the role of On-Scene Commander.

Fortuna On-Site Supervisor/Representative or alternates:

1. Fortuna (US) LP representative on location – if unable to perform his/her duties
2. Alternate Fortuna (US) LP representative - if unable to perform his/her duties
3. Rig Tool-Pusher/Supervisor –if unable to perform his/ her duties
4. Safety consultant representative- if available

4.3 Personnel Responsibilities

A. All Personnel

1. Always be alert for possible H_2S alarms- both audible and visual.
2. Be familiar with location of Safe Briefing Areas (SBA) and protective breathing equipment.
3. Develop a continuous awareness of wind direction. Be aware of prevailing wind direction as well as nearby uphill areas, should there be no wind.
4. Familiarize yourself with nearest escape routes for safe evacuation
5. Should H_2S alarm sound, DON'T PANIC - Remain calm and follow instructions of person in charge.

All Personnel (Cont'd)

6. If the H_2S alarms sound:
   a) Essential personnel shall don the appropriate respiratory protective equipment and follow company procedures. Essential personnel will continue to wear respiratory protective equipment until the area is deemed safe (H_2S concentration less than 10 PPM).
   b) Non-essential personnel shall evacuate to the appropriate safe briefing area using escape-breathing systems. Wait there for further instructions from Fortuna (US) LP drilling representative.
   c) Initiate rescue protocol if necessary - following training procedures.

B. Fortuna (US) LP Foreman

1. The Fortuna (US) LP Supervisor will confirm that all personnel on location at any time are trained in H_2S safety and aware of above list of duties.
2. The Fortuna (US) LP Supervisor will ensure that all personnel observe all safety and emergency procedures.
3. The Fortuna (US) LP Supervisor will make an effort to keep the number of personnel on location to a minimum and to ensure that only essential personnel are on location during sour gas and critical operations.
4. Should and emergency situation exist, the Fortuna (US) LP foreman will:
   a) Assess the situation and advise all personnel by appropriate means of communication.
   b) Be responsible for determining that the extreme danger condition is warranted and the red flag shall be posted at location entrance.
   c) Go to safe briefing area and give clear instructions relative to hazard on location, and actions for personnel to follow.
   d) Notify company and regulatory groups of current situation outlined in company protocol. Follow appropriate emergency procedures for emergency services notification.
   e) Instruct Toolpusher/Rig Supervisor to take action to control and reduce the H_2S hazard.
   f) Ensure that essential personnel are properly protected with supplied air breathing equipment and that non-essential personnel are in a "poison gas free" area.
   g) Be responsible for authorizing evacuation of persons/ residents in the area surrounding the drilling location.
   h) Commence on any ignition procedures if ignition criteria are met.
   i) Assume the role of the On-Scene Commander.

C. Rig Supervisor- Tool-Pusher

1. If the Fortuna (US) LP foreman is unable to perform his/ her duties, and the alternate foreman is unable or unavailable to perform his duties, the drilling rig tool-pusher will assume command of wellsite operations and all responsibilities listed above for drilling foreman.

2. Ensure that all rig personnel are properly trained to work in H_2S environment and fully understand purpose of H_2S alarms, and actions to take when alarms activate. Ensure that all crew personnel understand the buddy system, safe briefing areas, and individual duties as well as emergency evacuation procedures.

3. Should an extreme danger operational condition arise, the rig tool-pusher shall assist the Fortuna (US) LP foreman by:

   a) Proceeding to the rig floor and assist in supervising rig operations.
   b) Ensure that only essential working personnel remain hazardous area.
   c) Ensure that all crewmembers that remain in hazardous area, wear respiratory protective equipment until notified that area is clear of "toxic" gases.
   d) Assign rig crewmember or other service representative to block entrance to location. No unauthorized personnel will be allowed entry to location.
   e) Help to determine hazardous "danger zones" on location using portable detection equipment and position electric fans to move gas in any high concentration areas.

D. Safety Consultant

1. During normal operations (no H_2S present), the safety consultant will be responsible for the following:
    a) Ensure that all wellsite safety equipment is in place and operational.
    b) Ensure that all wellsite personnel are familiar with location safety layout and operation of all safety equipment.
    c) Assist the Fortuna (US) LP foreman in performing weekly H_2S drills for location personnel.

2. When an operational condition is classified as extreme danger, the safety consultant will be responsible for the following:
    a) Account for all wellsite personnel
    b) Assess any injuries and direct first aid measure.
    c) Ensure that all safety and monitoring equipment is functioning properly and available.
    d) Monitor the safety of wellsite personnel
    e) Maintain a close communication with Fortuna (US) LP foreman.
    f) Be prepared to assist Fortuna (US) LP foreman with support for rig crew or other personnel using breathing equipment.
    g) Be prepared to assist Fortuna (US) LP foreman with emergency procedures including possible well ignition.
    h) Be prepared to assist with the evacuation of any area residents; or other personnel working in the immediate area.
    i) Be prepared to assume role as Site Safety as pat of the response organization
    j) Have gas monitoring and SCBA equipment ready and be prepared to assist with implementing a safe ignition if required.

E. Off-Site Manager (Drilling or Completion)

1. The Fortuna (US) LP Off-Site Manger will be responsible for notifying and maintaining contact with Drilling/Completion Manager as well as other company supervisory personnel.
2. Maintain communication with the Fortuna (US) LP foreman to proceed with any other assistance that might be required.
3. Travel to wellsite if appropriate.
4. Assist Fortuna (US) LP foreman with all other notifications - both company and regulatory.

5.0 Command Organization and Responsibilities

5.1 Command and Control

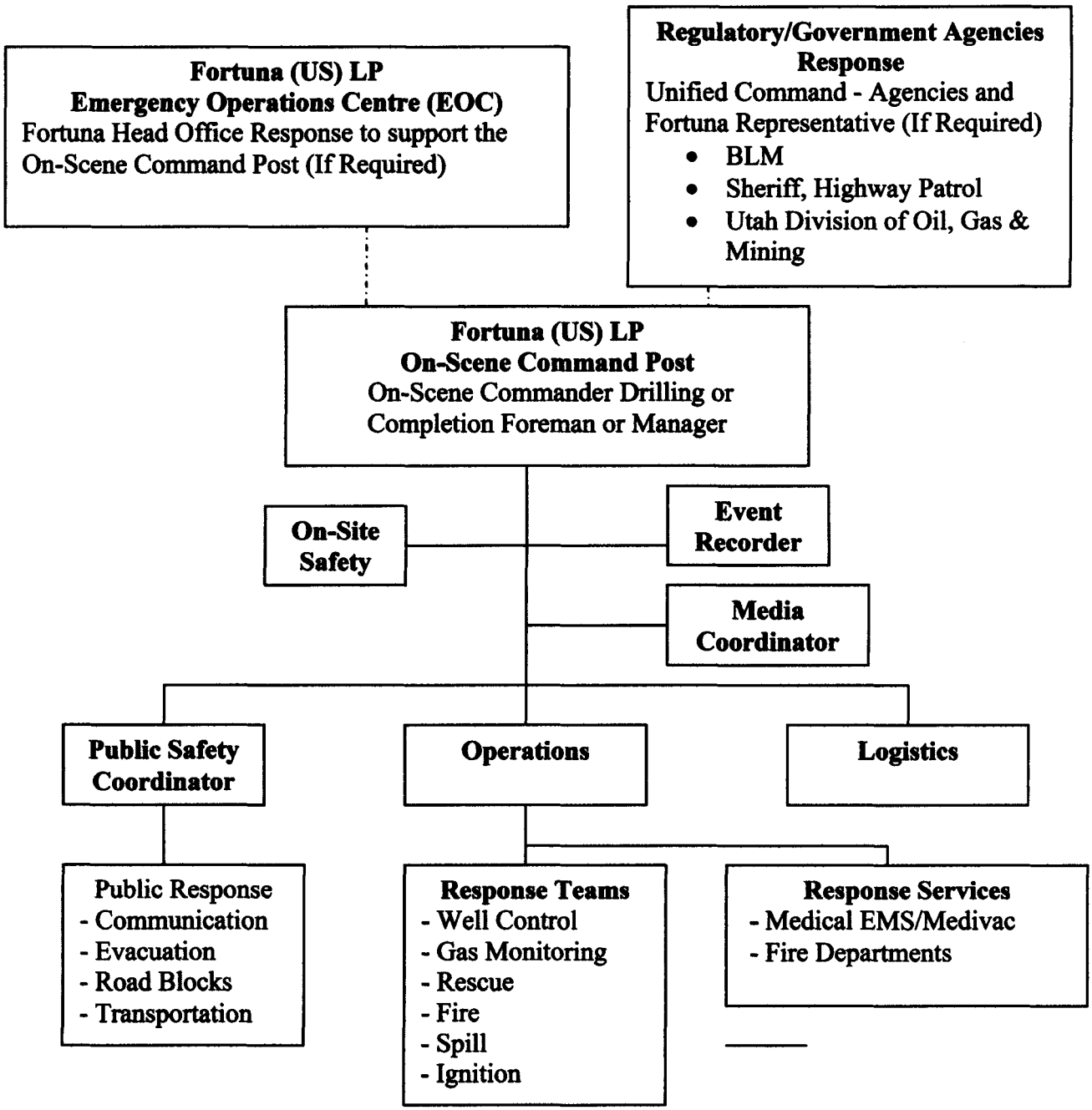
The Fortuna command and control system follows the criteria similar to the Incident Command System (ICS):

- An all-risk system that is flexible and adaptable to any level of emergency.\
- Assigns overall authority to one individual
- Provides structured authority, roles and responsibility during emergencies
- Consist of actions that provide command and control of personnel, facilities, equipment and communication
- Designed to be activated for all emergencies, regardless of size, from the time an incident occurs until the requirement for management and operations no longer exists
- Can be expanded or contracted depending on the changing conditions of the emergency
- Fortuna Site Forman in the event of an emergency situation assumes the role On-Scene Commander and takes command and control of the Command Post and response requirements

5.2 Organizational Overview

Chart 1: Provides an overview of the potential response organization, roles and services that could be activated to support any type of emergency situation that could during drilling and completion operations. (See Chart 1: on next page)

Chart 1: Potential Command Organizations for a Sour Gas Well



5.3 Organizational Responsibilities

Fortuna Emergency Operations Centre (EOC)

Provide support to the On-Scene Command Post including technical information, health and safety information, personnel and equipment as required. The Fortuna (US) LP EOC is activated depending on the emergency response requirements. Initially the support is provided by the Fortuna (US) LP Off-Site Manager

Regulatory/Government Agencies Response

Response could be activated to support response requirements off-site or could include the wellsite if the agencies determine the company is not demonstrating a response capable of dealing with the emergency situation.

The agencies work with the industry operator under Unified Command/Joint Command.

The agencies response could include access restriction, highway closures, law enforcement, Public safety (Shelter/Evacuation), medical/medivac service, off site emergencies such as Search and Rescue, Wild Fire Control etc.

5.4 On-Scene Command Post (OSCP)

OSCP is established by the On-Scene Commander and is the location of the On-Scene Command and Control Organization. The OSCP is located in a safe secure area near the incident site.

It has the responsibility to manage all on-scene tactical response actions.

There can be only one OSCP to provide a safe centralized location to manage the emergency incident under a unified/joint command system with appropriate government agencies.

5.5 On-Scene Command Roles and Responsibilities

On-Scene Commander (OSC)

The Drilling or Completion On-Site Supervisor assumes the On-Scene Commander (OSC) role. For a Level II or III emergencies the Off-Site Manager could be activated to site to take over the OSC role and allow the Drilling or Completion to focus on well control issues.

The On-Scene Commander (OSC) is responsible to manage the On-Scene Command Post (OSCP) activities and the implementation of a safe and effective on-scene tactical response.

- Assess Situation
- Assign reconnaissance of incident
- Classifies incident as Alert or Level I, II or II
- Makes appropriate internal and external notification
- Establishes OSCP in a safe location near incident site
- Establishes a safe staging area
- Appoints a Safety Person
- Assign personnel i.e. rig crew to continue with source control such as managing the well control situation.
- Appoint Command Staff and co-ordinate staff activities
- Establish Unified/Joint Command with government agencies
- Conduct scheduled briefing session with Command Staff and the Head Office EOC Command or Off-Site Manager
- Ensure adequate planning meeting are conducted
- Ensure completion of Site Specific Safety Plan
- Develop and Incident Action Plan
- Initiates/approve request for resources, personnel and equipment, early on to address potential emergency situations
- Initiate Public communication and safety response
- Ensure adequate air monitoring capability
- Address media requirements with Off-Site Manager and/or Public Affairs Representative.

Safety

The On-Site Safety Person will be assumed by the Safety Representative. This position could be complemented with the Fortuna (US) LP safety person if activated to site.

The On-Site Safety Person responsibility is to focus on the safety aspects of the response and monitors and corrects unsafe acts including halting unsafe activities if necessary.

- Obtain briefing from OSC
- Keep OSC updated on activities
- Attend Briefing and Planning sessions Review Incident Action Plan from a safety perspective
- Identify hazards and hazardous situation
- Identify unsafe situations
- Stop unsafe acts/responses
- Establishes hazard zones, access and egress routes and alternate muster points
- Ensure scene integrity is maintained for follow up investigation(s)
- Complete and administer the Site Specific Safety Plan
- Maintain a detailed activity log

Event Recorder

The Event Recorder role can be assumed by any person available on site. If no one is available than the OSC completes role as required.

The Event Recorder responsibilities are to document the overall OSCP information including recording of the Command Staff and Head Office EOC briefing sessions. This position is appointed by and reports to OSC.

- Records response information regarding incident details and Command Staff activities
- Support status board and map information
- Maintain a detailed activity log

Staging

The Staging Leader role can be assumed by any person available on site and will usually not be activated unless a significant amount of resources (personnel, equipment and/or supplies) have been order to site.

The Staging Leader is responsible to manage all emergency stand-by resources located at the staging area.

- Assigned by and obtain briefing from OSC or Operations Section Chief if established
- Establishes staging area and layout
- Initiate staging check in/out logs
- Stages resources in an orderly condition
- Report resource status changes as required
- Direct resources to the scene as requested
- Maintain a detailed activity log

Media Coordinator

The Media Coordinator is usually activated from head office only in the event that the incident/event has local or state news implications.

The Media Coordinator also referred to as the Public Information Officer is a member of the Command Staff and is responsible for all media associated activities.

- Obtain briefing from OSC
- Liaison with Public agency Public Information Officer(s)
- Establish a media reception location if required
- Co-ordinates news media releases and activities with the Head Office Public Affairs Representative.
- Maintain a detailed activity log

Public Safety

The Public Safety Coordinator position can be assumed by the geologist or be carried out by the OSC if there is minimum Public activities, residents, and/or facilities near the operating site or within the EPZ area.

The Public Safety Coordinator is responsible for communicating and directing Public response activities. Also to address Public concerns as it relates to their well being and the health and safety issues and to keep On-Scene Commander briefed on activities

- Assigned by and obtain briefing from the OSC
- Co-ordinates activities with potential impacted Public
- Co-ordinates activities with other Public safety government agencies
- Informs Public of all situations that could be perceived to be harm full
- Contacts Public by phone and/or face to face
- Co-ordinates safe search and evacuation of potential Public residence and transients in the area
- Notifies and direct Public to shelter or evacuate
- Ensures evacuation receiving centers have been established if required
- Inform school and school transportation companies attended by children living near the incident site
- Maintain detail Public status tracking record
- Maintain a detail activity log

Logistics

Logistics can be assumed by any person available on site and will usually not be activated unless a significant amount of resources (personnel, equipment and/or supplies) have been order to site.

The Logistics Person is responsible for providing resources to support the emergency response. Logistics helps to develop and implement the Incident Action Plan.

- Obtain briefing from OSC
- Orders resources as requested by Command Staff
- Tracks progress of ordered resources transport to staging area
- Brief Command Staff on status of resources ordered and availability i.e. estimated time of arrival (ETA)
- Estimated needs to support an ongoing emergency response
- Maintain a detailed activity log

Operations

The Operations Role is activated in the event that the response personnel reporting to the OSC exceed the span of control (3 to 5 reports). An alternate Drilling/Completion On-Site Supervisor may assume this position.

The Operations Person is responsible for the management of all on-scene emergency response and cleanup activities. Initiates and directs scene activities within the boundaries of the Incident Action Plan. Operations keeps the On-Scene Commander informed of all activities, and pro-actively orders resources.

- Assigned by and obtain briefing from OSC
- Work closely with Safety Officer to ensure that hazard zones are established before taking emergency action
- Create and supervises all operational/tactical response and clean up activities
- Initiate request for operational resources via Logistic Section Chief
- Brief OSC and staff on operational response and incident status
- Maintain a detailed activity log

Response Services

Out-side services such as Medical/Medivac, Fire Departments, Spill Service Contractors, Hazmat Services and Environment Clean Up Services that could be required to support an emergency response.

Response Teams

Hands on tactical response to control well control problems, fire response, high angle rescue, rescue of injured person(s), medical/first aid to injured person(s), spill product containment and recovery, and scene security.

6.0 Classification of Emergencies

6.1 Purpose

Classifying incidents provides a phases approach to an emergency. It also aligns with the Fortuna Corporate Plan and is familiar with head office drilling and completion management who will be activated to support the site emergency response. The Level of Emergency outlines the severity of the incident and its potential impact on People, Property, Environment and Reputation. It is important that the On-Site Supervisor or On-Scene Commander determine the Level of Incident and its potential Level early on in the response. The Levels need to be adjusted depending on the emergency situation/status.

When the On-Site Supervisor is unsure of the situation then the communication should take place with the Off-Site Manager.

The complexity of the response or the response duration is determined by the classification of an incident but also by the incident situation and the emergency issues and tactical response requirements and the availability of resources both personnel and equipment.

6.2 Emergency Alert and Levels Overview

Corporate Levels of Emergencies are levels that provide the Corporation an understanding on the emergency and its potential impacts due to any emergency situation both Corporate Business and Reputation impacts and Operational impacts.

The location, involvement of particular stakeholders, and timing could cause the incident to be to be defined at a higher level.

Potential incident impacts need to consider both "actual" and/or "perceived" impacts when responding to peoples needs.

TABLE 1: CRITERIA MATRIX FOR CLASSIFYING INCIDENTS
Provides a guide for how to classify the emergency situation and type of emergencies into Alert or Levels of emergencies

8.0 Emergency Response Actions Plan

8.1 All Risk Action Plan

Objective: To protect and minimize impacts on **People** (Workers/ Responders/ Public), **Property** (Assets, Business and Operations), **Environment** and **Reputation.**

Strategy: To quickly initiate emergency mitigation measures, determine potential for escalation of situation and commence emergency remedial measures to contain, isolate and minimize human and environmental impacts. Response action checklist provides a guide to follow to assist with implementing response actions but response actions are not limited to this list.

Response Actions for Level I, II and III Emergency

None Fortuna Operational Emergency

- Notification of an Offsite Incident - Fortuna Site Supervisor when notified of an incident off-site determines it is not a result of the projects activities and assumes a support role and provides response assistance as can safely be provided without compromising the operational activities. Examples could be an incident near the well site such as a wild fire, Public accident on road or off road etc.

Level I Emergency

Fortuna Operational Emergency

Level I Response Actions

- Well control situation - Fortuna Site Supervisor initiate well control measures with drilling or completion personnel.
- Fortuna (US) LP Site Supervisor assumes role of On-Scene Commander (OSC).
- On-Scene Commander establish and activate an On-Scene Command Post (OSCP) in a safe strategic location near the emergency scene (e.g. wellsite trailer, off-site vehicle)
- Request that all none essential operation is terminated or cancelled such as delivery of none emergency or none well control materials.

Level I Response Actions (Cont'd)

- OSC establish Unified Command/Joint Command with government agencies as directed or required
- OSC actives response personnel and assigns personnel to Command Staff Roles and Response Roles as required
- OSC activate staging and a Staging Leader for the control of arriving responders, response services, and equipment. OSC inform Command Post Staff of the location.
- Conduct preliminary Hazard Assessment to determine actual or potential hazards associated with existing incident scene conditions.
- OSC briefs all site personnel about the emergency situation including wind sock locations, wind direction, safe egress routes, muster/briefing points and evacuation signals/sirens.
- Directs all non-essential personnel and vehicle of site
- Ensures all onsite vehicles are park in the direction of the egress road.
- Considers the requirement to park vehicle(s) with communication equipment off site to assist in evacuation and alternate communication incase the situation escalated rapidly preventing the removal of vehicles from the site.
- Establish the communication emergency channel
- Activates wellsite access Colored Flag warning system
- OSC informs Fortuna (US) LP Head Office Off-Site Manager of the emergency, hazards, proposed action plan and required response services.
- OSC or Logistics Person activates necessary response resources to implement established action plans.
- OSC or Logistics Person activates necessary response early on to support response requirements.
- OSC activates the following specific response depending on the emergency and response requirements and follow with specific Action Plan:
  - Worker Injury/Fatality
  - Public Protection
  - Ignition Plan
- OSC and Command Staff complete the following response processes:
  - Incident Action Plan. (OSC or Logistics Person pro-actively and early on orders required Response Resources (Personnel and Equipment))
  - Site Safety Plan.

Level I Response Actions (Cont'd)

- OSC, or activate Media Coordinator to manage and coordinates media representatives and manages media requirements which include communication strategy and information with the Fortuna head office and regulatory agencies.(If applicable)
- OSC to provide the following information to Fortuna Off-Site Manager and government agencies which is outlined as follow and by completing Emergency Incident Notification and Status Form which addresses (See Form):
  - Type of Emergency – Well Control, Injury/Fatality, Gas Release, Spill, Fire/Explosion, and Transportation.
  - Type of Containment.
  - Type of Product and Product Hazards.

Head Office Response

- Fortuna Off-Site Manager activates personnel to site, as required, to assist with the Command, Control, management and implementation of incident mitigation measure and/or to assist with maintaining and protecting wellsite assets.

Level II Emergency

Level II Response Actions

- Complete all actions established for Level I Response Actions
- OSC makes request to Fortuna (US) LP Off-Site Manager to activate the Head Office Emergency Operations Centre(EOC) (If required)
- Establish potential hazard and Emergency Planning Zone (EPZ) area.
- Activate Air Monitoring resources to record air quality readings and determine the hazard impact area. (If applicable)
- OSC or Operations Section Chief activates resources in conjunction with emergency response services (e.g. Sheriff Department, Highway State Troopers) to isolation potential hazards areas and/or the pre established EPZ.
- Request activation of Mutual Aid Agreement resources i.e. other Industry personnel with operations in the area. (if applicable)

Head Office Response

- Fortuna (US) LP Off-Site Manager activates the Head Office EOC as required to support the OSC and it response.
- EOC Emergency Manager assigns personnel to Command Staff Roles as required to support the On-Scene response and to response to any business impacts.
- Emergency Manager/ review requirement for a Fortuna (US) LP representative to be involved with Unified Command/Joint Command by attend the Regional/Local Government Command Post and/or EOC (If activated)

Level III Response Actions

- Complete all actions established for Level II Response Actions
- Increase extent of off-site air monitoring to record air quality readings and determine the area of hazard and safe areas where evacuation routes can be established. (If required)
- If required, protect the Public by:
  - Restricting access to the EPZ.
  - Initiating evacuation;
  - Implementing "sheltering in place" if applicable
  - Implementing full Public Response Action Plan
- Isolating or extinguishing on-site and off-site ignition sources if hazard is flammable
- OSC to authorize well ignition if Public is at risk from a well control issue which results in the uncontrolled release of a gas from the well

Head Office Response

- Continue with response actions as outlined for Level I and II Response Actions

Down Grading Emergency

Response Actions

- OSC in consultation with government agencies will review emergency incident and down grade or call down the Emergency if response actions have been effective in reducing or eliminating the emergency hazards and risks
- OSC informs Emergency Manager/EOC of Emergency status

- OSC commander and Emergency Manager follow through with Post-Emergency activities such as Response Evaluation and Critical Incident Stress Debriefing (CISD)

8.2 Injury/Fatality Response Action Plan

Objective: To preserve Personnel/Worker Health and Safety

Strategy: To provide a timely and effective response to preserve the life of an injured person, due to an on-site or off-site emergency.

Injury/Fatality Response Actions

- On-Scene Commander (OSC) or Operations Person follows threw with All Risk Action Plan Section 8.1 steps and activates the following response personnel:
  - Medical Leader if a person is know or suspected to be injured
  - Rescue Team when a person is missing or knocked down due to an emergency situation
  - Municipal emergency response services providers i.e. Medivac/EMS
- OSC to conduct Hazard Assessment, consider potential consequences and establish risk reduction measures prior to initiating any assistance.
- Response personnel don appropriate personal protective equipment (PPE)
- Rescue victim (s) if safe to do so, remove the victim to a safe location to prevent further harm.
- Provide resuscitation immediately to a person exposed to hydrogen sulfide gas
- Preserve emergency/accident site to allow for follow up investigations to be conducted.
- Provide Medical Aid/First as soon as safe to do so.
- Never assume Death: First Aid must be administered until a Professional takes over.
- For patient/victim confidentiality, only use landlines to communicate number of victim, names and conditions. Be prepared to provide the following information:
  - Mechanism of injury (What happened)- crushed by object, fall from height, fire/explosion, electrocution, toxic gas atmosphere or others.
  - Number of patients
  - Location, road directions and site longitude and latitude.
  - Patient Condition
  - Treatment given.

Injury/Fatality Response Actions (Cont'd)

- Minor injury - stabilized victim(s) may be transport to hospital with conveyance vehicle. If in doubt discuss with medical profession by contacting - Dialing 911or Local Hospital or Emergency Services for instructions on handling of the injured. Professional Medical Services will make final decision on transportation of patient by conveyance vehicle, ambulance or Air-Medivac Helicopter.
- Pro-actively orders Medical Service such as Ambulance/Medivac through Sheriff Dispatch.
- OSC makes appropriate notification as soon as possible. Serious Injury or Fatality contact UOSH (See Section 9: Contact Information)
- OSC contacts Fortuna (US) LP to make appropriate Next of Kin Notification for Fortuna personnel or to inform the contractor(s) of contract personnel to make the appropriate notifications.

8.3 Public Protection Action

Objective: To protect and minimize impacts on Public – people not directly part of work activities on the wellsite.

Strategy: To proactively address health and safety concerns and to take appropriate response actions to protect the Public from harm threw removing or reducing the hazards and to shelter and/or evacuate as required.

Definition:

- Public includes Residents and Transients
- Transient is anyone that could be in the area for farming, ranching, trapping, recreational use, or work that is not at a fixed facility (plant or residence).
- Industry

Public Perception of Risk/Concern

Response Actions

- OSC assume or activates the Public Safety Coordinator to manage the Public Safety issues and response requirements
- Public Safety Coordinator is responsibility is to communicate with concerned Public and/or manage Public protection response actions.
- Attend Command Staff briefing and continuously keep OSC informed of the Public status.
- Works with local government agencies, counties, municipality, law enforcement, local industry to manage Public Safety
- Request resources from OSC and/or Logistics Section Chief.
- Actions outlined are followed except when not applicable as per the event or emergency incident situation.
- OSC or Public Safety Coordinator understands Public Perception of Risk as outlined:
  Public maybe perceive they are at risk due to unplanned/unscheduled event or emergency situation that has no off-site risks/hazards. Events such as:
  - Sound - Noise heard off-site from explosion, impact accident, emergency sirens.
  - Sight – Visible off-site smoke or flame from fire or un-scheduled flaring, un-scheduled heavy traffic for the movement of materials.
  - Smell – Odors from site that are unusual and could be irritating or cause minor health effects (i.e. Asthma – breathing difficulties).

Response Actions (Cont'd)

- Communicate with Public by phone or visit to inform of emergency situation. (See Appendix Forms: Public Notification for Un-planned Flaring or Truck Traffic)
- Advice Public they may go indoors to reduce odors.
- Routinely keep Public updated as to the status of the incident and when the event/incident is over.
- Ensure applicable government agencies are notified

Public Safety and Health Risk

An emergency situation that potential could affect the Publics health and safety that requires immediate response actions.

Response Actions

- Contact Public by Phone and/or dispatch response personnel to inform the Public (Residents and Transients) of the situation and potential risk and if required what protective action to be taken.
- Level I Emergencies response actions are for:
  - Residents may voluntary precautionary evacuate or shelter in place
  - Transients to voluntary evacuate the potential designated hazard area or EPZ
  - Industry including, local rail companies and local utility companies to be aware of incident situation and to keep communication lines open. (If applicable)
  - Notify all identified hypersensitive individuals in EPZ if applicable when H_2S concentration are 1 part per million for 1 hour average (See Appendix Forms: Public Precautionary Evacuation Message)
- Level II and III Emergency response actions to notify residents to shelter or evacuate area if safe to do so. (See Appendix Forms: Public Evacuation Message and/or Public Shelter Message)
- Any Public contacted need to be updated on a regular basis to the status of the emergency situation and to be contacted when situation is over and conditions are safe.
- Dispatch response personnel to assist with transportation as requested
- Request the activation of Evacuee Reception Facility if required
- Dispatch personnel and helicopter(s) equipped with loud hailers to located Transients and direct them to leave the hazard area or EPZ

Response Actions (Cont'd)

- Contact Local Industry and including local rail lines and utility companies to inform of the emergency situation and if required what protective actions to be taken. (If applicable)
- Ensure egress roads are maintained to allow for Public vehicles evacuate the area.
- Ensure local/regional government agencies have been notified and if required activated to assist in the response for Public protection.
- Jointly coordinate all Public response actions with the applicable Local government agency(s)
- Issue Public advisory with coordination with local government agency - for Public that could be in the hazard area, Emergency Awareness Zone (EAZ) or beyond. The EPZ if required.
- Isolate area by activating Road Blocks or local law enforcement..
- Public medical aid assist requests coordinate response with local health authority and ambulance services or by dialing 911 or Sheriff Emergency Dispatch Numbers..
- Ensure that the evacuated residences properties are secured.
- Identify pets and live stock that needs to be cared for due to the evacuation and jointly coordinate animal care activities with the appropriate government agency and/or local veterinarian(s).
- Identify potential hazards and hazard area by requesting the OSC to dispatch air-monitoring teams and to inform of any areas with Lower Explosive Limit (LEL) and/or toxic gas reading such as H_2S and SO2.
- If local air traffic is at risk or interference to the response efforts s request the regulatory agencies to issue a Notice to Airman (NOTAM) to close the air space around the incident site.
- Coordinate with local authority to provide Public monitory assistance for out of pocket expenses.
- Evacuee return to area needs to be jointly coordinated with the appropriate government agencies.
- Coordinate a debriefing with the affected Public to identify any concerns and learning's.

7.3 Well Ignition Action Plan

Objective: To complete a safe and quick ignition of a sour gas release from a sour gas well when Public safety is at risk.

Strategy: Two reasons to ignite an un-controlled from a well are:

- Worker Safety, if during well control operations worker safety can not be assured due to excessive flammability/explosive risk from self ignition or excessive sour gas exposure, Fortuna may choose to ignite the well and adapt its well control operations appropriately.
- Public Safety, if igniting the well would provide a higher degree of Public safety to response to a H_2S vs. SO_2 release

Hydrogen Sulfide (H_2S) vs. Sulfur Dioxide (SO_2)

- H_2S is heavier than air, an H_2S plume disperses close to the ground surfaces and into low laying areas as flow rate and weather conditions dictate. H_2S dispersing low to the ground creates a more immediate hazard to Public in the vicinity of the wellsite and possible with in the EPZ
- Igniting the H_2S gas convert gas to SO_2 and the resulting fire and heat of combustion causes the SO_2 plume to disperse higher into the atmosphere which would likely reduce the H_2S concentration and result in a delay for the SO_2 to reach ground level.
- Responders will have more time to evacuate Public near the wellsite and within the EPZ. Responders will have time to set up air monitoring and to evacuate Public in a wider area depending on the SO_2 concentrations.

Authority for Well Ignition

- The Fortuna (US) LP Site Foreman or On-Scene Commander has the authority to initiate a sour gas well release if conditions warrant immediate ignition.
- If time permits the decision for ignition would be made jointly with the regulatory agency and be discussed with the Fortuna (US) LP Off-Site Manager.

Response Action

- OSC determines and authorizes the initiation of a gas release when all personnel on site have safely evacuated form the site to at least 200 or further of site up wind and up hill/slope and all personnel have been accounted for.
- OSC organizes an ignition team (minimum four people including Ignition Leader and site safety person) and briefs them on the safety plan, ignition process and equipment requirements.
- The OSC will monitor the gas release to determine if changing conditions warrant a delay of gas release ignition.
- OSC or Ignition Leader will stay in continues communication.
- Equipment requirement are
    - 1-12 gauge shot gun or flare gun with 24 flare shells
    - 1 portable gas detector for combustible gas and H_2S
    - Fire Retardant PPE
    - Self contained breathing apparatus (SCBA) for each member of the ignition and back up team
    - 4 (Minimum) – SCBA air cylinders
    - Vehicle with communication equipment
- Back Up members of the Ignition Team must don/wearing the SCBA but not go on air until they have to conduct a rescue. This is to preserve air for rescue operation.
- Ignition Team Back Up personnel will monitor the time Ignition Team is on air conducting the ignition process. Call Team back when air supply could be running low which will depend on the SCBA capacity.
- Safety person check gas detector and conducts a bump test to ensure gas detector is function properly.
- Two person of Ignition Team will stay in continuous communication with Ignition Team Back Up personnel while approaching the plume for ignition.
- Two Ignition Team members one with the ignition devise (person familiar with the operations and capabilities of the flare device) and the safety person carrying the portable gas monitory meter with SCBA and PPE will approach the well gas release from a up hill, up wind and conduct continuous gas readings. If gas reading show it is safe to proceed toward the well the team will stop approximately 160 meters from the gas plume and start firing flares at an angle of 45 to 70 degrees to the gas plume. Continue to advance forward to the well 5 steps as long as the gas monitoring show it safe to do so and fire flares again at gas plume. Continue the forward approach and firing flares at 5 step increments until ignition is achieved.
- After gas ignition the Ignition Team will back up to a safe distance to ensure ignition is sustained.
- After ignition the response teams have to monitor for SO2 concentrations.

9.0 Contact Information

9.1 Fortuna Contact

Fortuna (US) LP
888-3rd ST SW, Calgary Alberta, Canada T2P 5C5

Title	Name	Numbers
Drilling Superintendent	TBA	Office: Mobil:
Drilling Engineer	Rod Schnell	Office: 403-237-1413 Mobil: 403-813-3041
Drilling Foreman	TBA	Office Mobil: Satellite:
Completions Foreman	TBA	Office: Mobil: Satellite:
Safety Engineer	TBA	Office: Mobil:
On-Site Trailer	TBA	Cell Satellite: Land Line:

9.2 Government/Regulatory Agencies

Bureau of Land Management (BLM)

- **Contact for all incidence**

Salt Lake Field Office:	Phone	801-586-2401
2370 South 2300 West		
Salt Lake City, UT 84119		
BLM Ranger Mike Nelson:	Cell	_____

Rich County Sheriff

Emergency Dispatch Numbers:	935-793-2285
Randolph, Utah	935-793-2295
	935-793-1011
	or 911

Recommend to use the contact numbers. Contacting 911 # could result with being connecting with Wyoming Emergency Services. This well is located in Utah so request to be transferred to the Utah 911 or Emergency Services.

Emergency Dispatch will activated the following services as requested

- Rich County Sheriff
- State Trooper
- Ambulance Service
- Medical Helicopter - Air Med - Salt Lake City, UT
- Fire Department Police (Laketown and/or Randolf)
- Search and Rescue

Hospital

HCL Memorial Hospital Evanston, WY	307-789-3636

(Closest Hospital in Evanston, Wyoming is approximately 51.6 miles from wellsite)

Medical Helicopter

Air Med - Salt Lake City, UT	(800) 453-0120

Utah Division of Oil, Gas and Mining (801) 538-5340
(Web site: http://ogm.utah.gas/oilgas/) After Hours (801) 243-9466

IMMEDIATE NOTIFICATION - **MAJOR EVENTS***
THE DIVISION DOES NOT PROVIDE EMERGENCY RESPONSE FOR UNDESIRABLE EVENTS. ACTIVATE YOUR LOCAL EMERGENCY RESPONSE SYSTEM FIRST AS NEEDED.
Thereafter...
The division shall be notified immediately of all fires, leaks, breaks, spills, blowouts, and other undesirable events occurring at any oil or gas drilling,
producing, or transportation facility, or at any injection or disposal facility. CALL 801-538-5340.

AFTER HOURS...
For the reporting of MAJOR undesirable events* after DOGM office hours, CALL 801-243-9466. Minor events can be reported to the division the following morning (call 801-538-5340).

WRITTEN REPORT
Complete written reports of undesirable events should be submitted electronically on the Incident Report eForm NEW OR on a Form 9, Sundry Notices and Report on Wells OR by using the division's Incident Report Form, as soon as conclusive information is available.

*Definition of Major Event

- Leaks, breaks or spills which result in the discharge of more than 100 barrels of liquid.
- Equipment failures or accidents which result in the flaring, venting, or wasting of more than 500 Mcf of gas.
- Any fire which consumes the volumes shown above.
- Any spill, venting, or fire, regardless of the volume involved, which occurs in a sensitive area stipulated on the approval notice of the initial APD for a well, e.g., parks, recreation sites, wildlife refuges, lakes, reservoirs, streams, urban or suburban areas.
- Each accident which involves a fatal injury.
- Each blowout; loss of control of a well.

Rule Reference
Rule R649-3-32, Reporting of Undesirable Events (links to the Division of Administrative Rules web site)

Roles of the Division of Oil, Gas and Mining
The Division does not provide emergency response for undesirable events. During an undesirable event, the division's Oil and Gas Program -- so far as possible -- will perform the following roles:

- Be a central gathering point of information.
- Provide short-term guidance to operators and citizens.
- Provide long-term oversight to assure that remediation of the undesirable event is accomplished.

Labor Commission

- **Division Utah Occupational Safety and Health (UOSH)**
  Contact for Serious Injuries and Fatalities
  Office Hours: 801 530-6901
  After Hours: (Leave message to receive a call back)
  - Dan King, Compliance Supervisor Cell 435 241-0078
    E-mail: DLKing@utah.gov or
    Cell 801 381-2158
    Cell 801 971-2012

CHEMTREC (800) 424-9300

Contact CHEMTREC for transportation incident involving hazardous material/dangerous goods. Review Emergency Response Guidebook for assistance on what type of information could be requested and received from CHEMTREC

9.3 Contractors/Services

Safety Service

- Inter Mountain Safety Company 801 942-1713
  Salt Lake City, UT

10.0 Safety Equipment

Item Amount Description

Item	Amount	Description
1	1	Safety trailer with a cascade system of 10-300 cu. ft bottles of compressed breathing air complete with high-pressure regulators
		Low-pressure airline equipped with Hanson locking fittings. This airline will be rigged up with manifolds to supply breathing air to the rig floor, Substructure, derrick, shale shaker area, and mud mixing areas. Three high-pressure refill hoses will be attached to cascade systems
3	12	Scott 30 minute self-contained breathing apparatuses (SCBA).
4	12	Scott airline units with emergency escape cylinders.
5	1	4- Channel continuous electronic H_2S monitor with audible and visual alarms. 10 ppm for the low alarm and 15 ppm for The high alarm.
6	1	Sensitive potable hand operated pump type detection units with tubes for Hydrogen sulfide and sulfur dioxide.
7	1	oxygen resuscitator
8	1	trauma first aid kit
9	1	Stokes stretcher and one (1) KED.
10	4	windsocks
11	at least 1000 ft	well condition sign with 3 flag system
12	2	Safe Briefing Area (SBA) signs
13	1	fire blanket
14	1	set air splints
15	2	electric explosion proof fans (Upon Request) monitor calibration kit
16	1	monitor calibration kit
17	2	300 cu. ft. air bottles for the safe briefing area. 30 # fire extinguishers
18	2	30 # fire extinguishers
19	1	cellular phone for emergency response(upon request)
20	1	battery powered combustible gas meter

11.0 Forms

Emergency Incident Notification and Status Report Form

Incident Name: _____
Person Completing Document: Name _____
Position/Role _____, Contact # _____, Location _____
Report Date: _____, Time: _____(24 hour or am/pm), Report # _____

Notification of Incident Situation

Date: _____ Time: _____ (24 hour or am/pm)
Caller Name: _____ Contact Number: _____
Is Caller Safe? : _____ Does Caller Need Medical Attention? : _____
Callers Location: _____
Purpose of Call: _____
Type of Caller/Position (On-Scene Commander, Public, Resident within an EPZ, Industry Representative, Government, Employee/Company etc.)

_____

Have you contacted anyone else? If so who? : _____
(Note: Caller can be anyone reporting incident by Phone, Field Radio or in Person)

Incident Location and Access Route(s)

Location of Incident: LSD. ____ Section ____ Township ____ Range ____ W ____Mer.
Longitude_____ Latitude _____
Safe Access Route(s) Directions to Incident Site: _____

_____
Location of On-Scene Command Post (OSCP) _____
Location of Staging Area: _____
Location of Heli-pad: _____

Worker Safety

Is Accident Scene Isolated and Secured? _____
Are Site Workers Safe: _____ Yes, _____No (Explain) _____
_____
Has the accident site been evacuated? _____
Are All Worker Accounted For? _____ Yes, If No:
(**Note**: Do not report any numbers of missing, names of missing or injured persons over an un-secured communication system. Use phone line or runners to report information)
How many are still missing: _____#s
How many fatalities: _____ #s
How many are injured: _____#
Status of Injured Medical Care (On-Site First Aid, On-site Professional Care, Medi-vac by Air/Ambulance, Conveyance Vehicle): _____
_____
How is scene secured: (Barriers, Road Blocks, Response Personnel or Others)
_____
(**Note:** Attach a Site Map with drawing of Scene)

Public Safety

Public at risk from incident hazards (Toxic Gas H_2S etc, Explosive Gas HVP, LPG, Explosion (Describe): _____#s
What is the Potential Hazard Area: _____meters
What is the size of the EPZ (if applicable): _____ meters
How many Residences could be involved?: _____ #s
Access Roads been Secured (Road Barriers, Road Blocks Secured by Industry, RCMP, Highway Maintenance Contractor(s): _____
Have Public been Notified of incident?: _____
Have members of Public been Notified with a Precautionary Voluntary Evacuation Message (if applicable)?: _____ #s
Have Public/Residents been Evacuated: _____ #s
Have Public/Residents been Sheltered?: _____ #s
Has Local Industry been Notified?: _____ #s
Response Team(s) been Activated for Public Protection: _____ #s
Has Air Monitoring been Activated: _____ # of units
(**Note:** Attach an Emergency Response Map of Potential Impacted Area or EPZ.)

Emergency Incident Description

Type of Operations:

- ❑ Well Control (Drilling Rig/ Service Rig) (Sweet/Sour): _____
- ❑ Well Control (Testing/Completion)(Sweet/Sour): _____
- ❑ Facility (Sweet/Sour): _____
- ❑ Field Facility Pipeline (Sweet/Sour/HVP): _____
- ❑ Storage Cavern: _____
- ❑ Distribution Terminal: _____
- ❑ Office Facility: _____ Camp Facility: _____
- ❑ Transportation Incident (Land, Air or Water) (Type of Dangerous Goods and Type of Container, Crew Vehicle, Passenger Vehicle, Supply/Equipment Transportation)

_____
_____
_____

Type of Emergency

Type of Emergency:

- ❑ Gas Release:
- • Source (well, Pipeline, Vessel): _____
- • Type of Product(s): _____
- • Volumes: _____
- • Pressures and Release Rates: _____
- ❑ Product Spill:
- • Type of Container: _____
- • Type of Product: _____
- • Original Volume: _____
- • Estimated Spill Volume: _____
- ❑ Fire/Explosion: _____
- ❑ Injury/Fatality: _____
- ❑ Natural Event (Extreme Weather, Brush Fire, Tornado etc): _____

_____

- ❑ External Event (Bomb Threat, Sabotage, Act of Terrorism etc.) _____

_____

  - ➢ Overall Description of Emergency Incident (Describe accident/incident scene, Areas being impacted, Type of Impacts, General Topography and Demographics and provide Drawing of Site Map): _____

_____
_____
_____

Classification of Incident

Level Of Incident:

- ☐ Alert: _____
- ☐ Level Of Emergency (I, II or III): _____

Type of Impacts: Public (Worker, Responder. Public), Environmental (Soil, Water, Air), Property/Business or Reputation: _____

_____

Command and Control

- ☐ On-Scene Command Post (OSCP) Established and Location: _____

  _____
- • On-Scene Commander (OSC)/OSCP Name and Contact #: _____

  _____
- • OSCP Organization and Contract #s (**Note:** See attached OSCP Organization Diagram)
- ☐ Head Office Emergency Operations Centre (EOC) Established and Location:

  _____
- • Head Office Off-Site Manager/Head Office EOC Name and Contact #:

  _____
- • Corporate EOC Organization and Contact #s (**Note:** See attached Corporate EOC Organization Diagram)

- ☐ Local/Regional Government EOC Established and Location: _____

  _____
- ☐ Local/Regional Government EOC Leader Name and Contact #: _____

  _____
- ☐ State/Government EOC Established: _____

(**Note:** Attach a Site Map as Showing Location of OSCP and Staging Area, Hot , Warm and Cold Zone Locations)

Notification/Activation Status

Are All required Notification Completed
- ❑ Company: _____
- ❑ Contractor: _____
- ❑ Government: _____

(**Note:** Complete Attach Notification Report)

Weather Status and Forecast

Parameters	Current	6 Hours	12 Hours	24 –48 Hour	Comments
Temperature (Celsius)					
Wind Speed					
Wind Direction					
Characteristics (Sunny, Overcast, Raining, Foggy, Snow)					
Visibility					
Relative Humidity					
Precipitation					

Additional Information: _____
_____
_____
_____

Talisman Energy

Suite 3400, 888 - 3rd Street S.W.

Calgary, Alberta, Canada

Hogback Ridge 1-17-13N-7E

Section 17-T13N-R7E
Rich County, Utah

Drilling Fluids Proposal

Prepared For: Mr. Rod Schnell

October 16, 2007

Prepared by: Don Vesely
Principal Technical Professional, Baroid product service line, Halliburton
Casper, Wyoming
(307) 265-0180
donald.vesely@halliburton.com

HALLIBURTON
BAROID

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1.0 PROGRAM BRIEFING

This mud program is based on 3 wells drilled by American Quasar nearby this location including one well in the same section. Geology of all reference wells is similar to the proposed well. Well bore instability due to reactive shales is expected, and abnormal pressure should not be encountered. Severe deviation was seen on all reference wells with key seats and associated problems. Mud may require oil, lubricants or both.

1. Possible fractured zones and sliding ledges possible. This is a seismic active area and hole instability problems and bridges have been linked to minor tremors in the area.
2. Bit balling and lost circulation in the surface hole.
3. Possibility of lost circulation anytime the mud weight exceeds 9.2 ppg. Normal pore pressure in this area is 8.3 ppg or less, and fracture gradient more resembles a propagation gradient, since formations are already naturally fractured.
4. Anhydrite may be present in the twin Creek-Gyp springs zone and other zones.
5. Hydrogen Sulfide

The following program is recommended:

0 – 1,500'	-	F.W. LSND
1,500' – 4,050'	-	8.0-8.5 ppg COREDRIL-N diesel OBM
4,050' – 10,350'	-	FW BARAZAN/PAC-R
10,350' – 12,123'	-	Lime/Polymer

Mud cost for OBM is roughly $165/bbl including diesel, and assuming 600 bbls of losses, mixing and rental charges, the OBM section is estimated at $116,500.

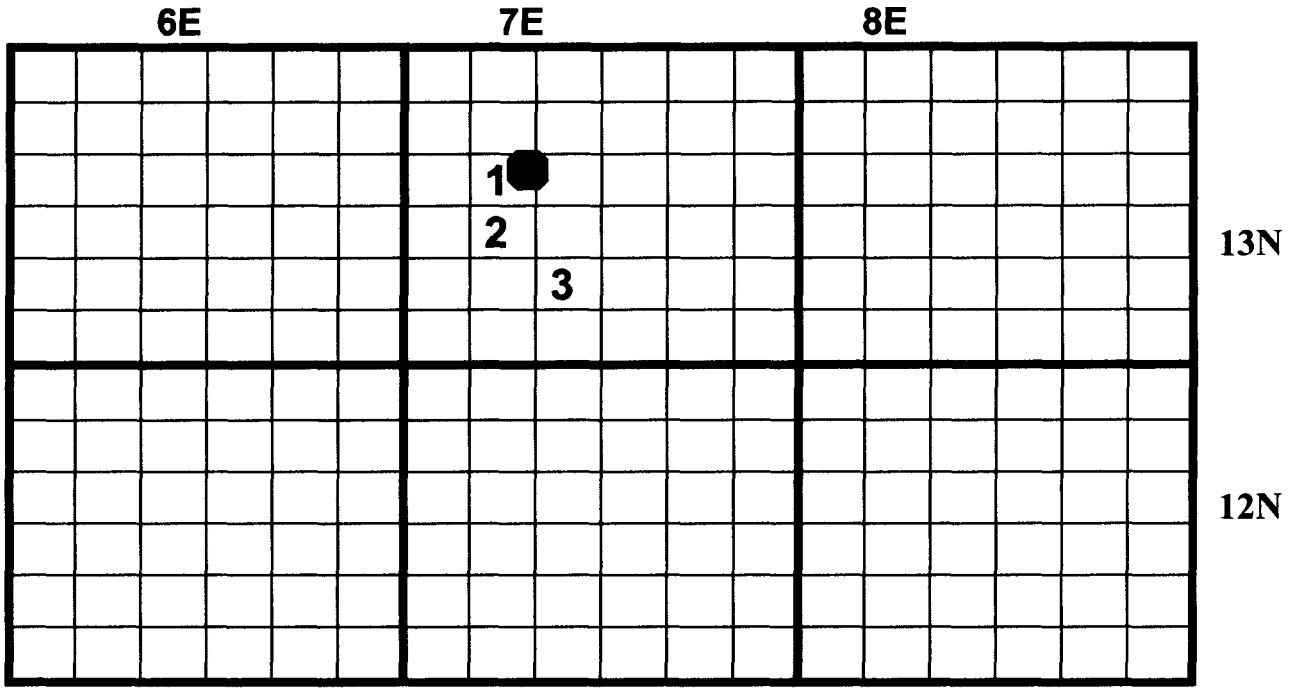
Some consideration should be given to reducing casing/hole sizes and drilling 1,500'-TD with OBM.

In addition to the recommended mud systems, we suggest the use of (2) flowline cleaners, (2) high volume centrifuges and (1) mud cleaner.

Using this approach, we estimate this well can be drilled in 140 total days for total mud cost of $500,000.

2.0 Reference Well Map

Talisman Hogback Ridge 1-17-13N-7E



KEY

1)American Quasar Hogback Ridge 17-1 Sec 17-T13N-R7E
2)American Quasar 20-1 Hogback Sec 20-T13N-R7E
3)American Quasar 28-1 Hogback Ridge Sec 28-T13N-R7E

3.0 Summary Of Reference Wells

WELL	YEAR	DEPTH	DAYS	MAX MW	CASING	MUD TYPES
1.) American Quasar Hogback Ridge 17-1 Sec 17-T13N-R7E	**1978**	**10,732'**	**121.48**	**9.2**	**20"@60' 13-3/8"@598' 9-5/8"@6,095'**	**0-600' Spud Mud 600'-10,732' Disp. FCL. 7,650' Diesel added 8,450' Soltex added.**

REMARKS: deviation out to 3.5 degrees at 2,746', 5 @3,122', 9 @ 3,842', 12 @5,414', 15 @ 5,800', 20 @ 6,564', 26 @10,105', and 35 @10,692'.

434 ft (0.00 hrs) MUD WT REPORTED AS 10.0 PPG
600 ft (0.00 hrs) MUD WT 9.9 PPG AT 600' DRILLING. MUD WT 8.8 TO 9.2 PPG F/REAMING.
600 ft (25.00 hrs) REAM 12.25" TO 17.5" F/63-600'.
600 ft (1.50 hrs) CIRC TO RUN CSG
600 ft (13.00 hrs) TOOH, W/O CSG CREW, RUN 13.375" CSG, CIRC AND CMT.
600 ft (40.50 hrs) WOC, WELD HEAD, NIPPLE UP, TEST AND WORK ON EQUIP, PU BHA, TIH & DRILL OUT.
842 ft (0.50 hrs) HANDLE BHA
875 ft (1.00 hrs) RIG REPAIR
1,773 ft (2.00 hrs) RIG REPAIRS
2,067 ft (3.00 hrs) WORK ON HYDROMATIC
2,500 ft (0.00 hrs) NOTE DEVIATIONS!!
2,973 ft (4.25 hrs) CK DC'S, PU MONEL, IBS & 6 DC'S.
2,983 ft (0.50 hrs) RIG REPAIR
3,825 ft (0.75 hrs) CHG OUT BHA
4,086 ft (0.25 hrs) TITE HOLE 1 STD OFF BTM
4,086 ft (0.50 hrs) WASH 20'TB
4,472 ft (1.00 hrs) CHG OUT BHA
4,472 ft (2.00 hrs) WASH AND REAM 85'TB
4,761 ft (4.50 hrs) CK DC'S, LD BHA, PU TELEDRIFT, CK DC'S & KSW.
4,761 ft (0.50 hrs) WASH 50'TB
4,924 ft (16.50 hrs) TOOH, LOOK F/HOLE IN PIPE AND LOG, TIH, WASH 30'TB.
4,940 ft (1.25 hrs) RIG REPAIR
5,031 ft (1.00 hrs) CHG BHA- PU IBS
5,060 ft (1.00 hrs) RIG REPAIR
5,370 ft (0.75 hrs) LD TELEDRIFT, CHG OUT SS
5,370 ft (0.50 hrs) WASH 70'TB
5,414 ft (0.25 hrs) PUMP PILL
5,693 ft (5.00 hrs) CK DC'S, CHG RMR CUTTERS
5,693 ft (4.25 hrs) REAM 250'TB
5,708 ft (9.50 hrs) REPLACE WASH PIPE PKG, WELD WATER LEAK ON BRAKE FLANGE.
5,830 ft (17.25 hrs) REAM FROM 5290'-5830'.
5,830 ft (8.50 hrs) TRIP FOR WASHOUT
5,895 ft (1.00 hrs) DRESS BIT, CHG OUT 6PT RMR
5,909 ft (0.50 hrs) HANDLE BHA
5,909 ft (1.00 hrs) RIG REPAIR
5,909 ft (0.25 hrs) WASH 50'TB
5,993 ft (0.25 hrs) PUMP PILL F/TRIP
5,993 ft (1.00 hrs) CHG OUT BHA
5,993 ft (2.75 hrs) REAM 400'TB
6,077 ft (37.50 hrs) CIRC, TOOH AND LOG, COND F/CSG.
6,077 ft (19.50 hrs) POOH, LD 8" DC'S AND BHA, RUN 9.625" CSG, CIRC THRU CSG AND CMT.
6,077 ft (48.50 hrs) WOC, NIPPLE UP, TEST EQUIP, PU DC'S, TIH & DRILL OUT, O-TRIP, PU BHA.
6,104 ft (0.50 hrs) PU 1-IBS ON TOP OF MONEL DC.
6,214 ft (0.50 hrs) PU 6PT & IBS.
6,214 ft (1.00 hrs) REAM 60'TB.
6,332 ft (0.25 hrs) SLUG PIPE F/TRIP
6,332 ft (0.75 hrs) LD IBS AND DRESS BIT.
6,400 ft (0.50 hrs) RIG REPAIR
6,513 ft (0.50 hrs) PU 3-IBS
6,575 ft (1.50 hrs) CHG ROTARY SPROCKET
7,149 ft (3.25 hrs) INSPECT BHA

7,600 ft (0.75 hrs) RIG REPAIR
7,723 ft (0.75 hrs) WORK ON PUMP
7,723 ft (1.50 hrs) PULL 8 STDS- WORK PIPE THRU TITE SPOT
7,723 ft (1.50 hrs) PU BHDC, LD & PU IBS
7,723 ft (14.75 hrs) REAM 6865-7723'.
7,723 ft (19.00 hrs) TWIST OFF WHILE RM'G- W/O FISHING TOOLS- FISH & RECOVER.
7,797 ft (0.75 hrs) REAM 80'TB
7,866 ft (0.50 hrs) WASH AND REAM 25'TB
8,062 ft (0.50 hrs) PUMP PILL
8,062 ft (2.50 hrs) LOOK F/HOLE IN PIPE, HANDLE SAME.
8,062 ft (2.00 hrs) REAM 90'TB
8,260 ft (1.00 hrs) RIG REPAIR
8,442 ft (0.25 hrs) SLUG PIPE F/TRIP
8,442 ft (5.25 hrs) CK DC'S, LD BHA- PU DYNA-DRILL.
8,442 ft (1.00 hrs) REAM 100'TB
8,452 ft (hrs) TOOH, LD D.D., TIH & FISH W/JUNK SUB. TOOH, PU D.D. AND ATTEMPT TO DRILL AHEAD. O-TRIP AND ATTEMPT TO WORK THRU BRIDGE W/D.D. AT 6850'. TOOH, LD D.D NOTE: HOLE WALKING EASTDYNA-DRILL USED IN ATTEMPT TO TURN HOLE SOUTH!!!!!
31.50
8,452 ft (33.50 hrs) TIH, CIRC AND COND MUD AT 6850'- W&R 6850-8452'.
8,485 ft (2.75 hrs) PULL 17 STDS, RIH- REAM 30'TB
8,493 ft (1.50 hrs) PU D.D. AND MONEL.
8,493 ft (7.50 hrs) REAM 6850-8493'
8,493 ft (10.00 hrs) LOST SINKER BAR IN HOLE, O-TRIP AND REAM TB. DRILL AHEAD W/DYNA-DRILL.
8,496 ft (0.50 hrs) HANDLE BHA
8,496 ft (4.50 hrs) REAM BRIDGE AT 6850', W&R TB.
8,501 ft (0.50 hrs) RIG REPAIR
8,501 ft (2.00 hrs) LD DYNA-DRILL TOOLS, PU BHA.
8,501 ft (1.50 hrs) REAM 40'TB
9,071 ft (0.25 hrs) PUMP PILL F/TRIP
9,071 ft (2.00 hrs) PU DYNA-DRILL
9,071 ft (1.50 hrs) CIRC D.D.
9,125 ft (0.50 hrs) RIG REPAIR
9,156 ft (1.00 hrs) PU D.D. AND DIAMOND BIT.
9,156 ft (5.00 hrs) REAM 885'TB
9,159 ft (0.50 hrs) SLUG PIPE F/TRIP
9,159 ft (1.50 hrs) CHG OUT DYNA-DRILL TOOLS
9,159 ft (1.50 hrs) REAM 10'TB- DRILL AHEAD W/D.D.
9,230 ft (0.50 hrs) RIG REPAIR
9,345 ft (5.50 hrs) CK DC'S, PU BHA.
9,345 ft (7.50 hrs) REAM 9000-9345'
9,399 ft (1.00 hrs) REPAIR PUMP
9,735 ft (3.50 hrs) CIRC F/TRIP- SLUG PIPE
9,735 ft (2.00 hrs) LD AND PU BHA
9,776 ft (3.00 hrs) LD BHA, PU DYNA-DRILL, TEST AND ORIENT.
9,776 ft (0.75 hrs) REAM HOLE AND WORK DYNA-DRILL
9,825 ft (6.75 hrs) SET TOOL FACE F/9785-9831' PERIODICALLY.
9,831 ft (2.50 hrs) CHG OUT AND CK D.D., ORIENT.
9,860 ft (3.00 hrs) SET TOOL FACE PERIODICALLY 9831-9874'.
9,874 ft (1.00 hrs) RIG REPAIR
9,874 ft (1.00 hrs) LD DYNA-DRILL, PU BHA.
9,874 ft (4.50 hrs) REAM 9674-9874'
10,202 ft (1.00 hrs) CHG 6PT, DRESS BIT.
10,284 ft (0.50 hrs) RIG REPAIR
10,529 ft (4.00 hrs) CK DC'S, CHG BHA.
10,664 ft (0.25 hrs) SLUG PIPE F/TRIP
10,664 ft (7.50 hrs) RELINE BRAKES
10,664 ft (1.50 hrs) CHG BHA
10,732 ft (hrs) TOOH, TIH W/OPEN END- NO DC'S, CIRC F/LOGS. TOOH & ATTEMPT TO LOG- STOPPED AT 6750'. REAM TITE SPOT AT 6750' AND 60'TB. COND AND TOOH- ATTEMPT TO LOG- STOPPED AT 6895'. REAM TITE SPOTS TB, COND AND LOG.
74.50
10,732 ft (12.00 hrs) W.O. ORDERS
10,732 ft (42.00 hrs) ABANDONMENT

WELL	YEAR	DEPTH	DAYS	MAX MW	CASING	MUD TYPES
2.)American Quasar 20-1 Hogback Sec 20-T13N-R7E	1977	10,910'	210.15	10.1	13-3/8"@749' 9-5/8"@3,711' 7-5/8"@8,140' 5"@9,812'	0-1,022' Treated gel 1,022'-5,252' FW LSND 5,252'-10,910' Dispersed Wt. Mat. Added 9,480'-10,910'.
REMARKS:Deviation to 5 degrees at 2,250' and up to 32 degrees at 9,000'. No problems in 17-1-2" hole section. Lost 140 bbls @2,192'-2,197'. Drilled to 5,504' and twisted off. Deviation was 8.5 degrees @ 5,446'. Washing and reaming at 4,200'-4,300' and apparently kicked off accidently and started drilling new hole and drilled to 5,124', with deviation @ 7 degrees. Decided to run cement plug at 4,180'-4,285'. Drilled 3rd new hole down to 5,222'. Set 2nd cement plug @ 4400' and tagged @ 4,252'. Deviation was 8.5 degrees @ 5,128' and 6.75 @ 4,430'. Drilled to 8,142' and stuck pipe-deviation 26 degrees. Pipe stuck @4170', and free at 4,163'. Backed off at 4,140', recover fish, logged and ran liner to 8,140'. Drilled to 9,812' and ran 7-5/8" tie back string to surface and 5" liner to bottom. Drilled 4" hole to TD. Raised mud weight for high back ground gas and perceived hydrogen sulfide. Carried 12-13 ph in lower section. Hydrogen sulfide never mentioned in reports to state of Utah.						
WELL	YEAR	DEPTH	DAYS	MAX MW	CASING	MUD TYPES
3)American Quasar 28-1 Hogback Ridge Sec 28-T13N-R7E	1977	12,200'	195.67	9.3	16"2542' 10-3/4"@5,469'	0-5,299' FW Gel/pac/starch 5,299'-12,200' dispersed Diesel added 1,764'-12,200'
REMARKS: Hole deviation minimized down to 10-3/4" casing point, with max of about 6 degrees. Minimal p0roblems on this well. Fishing job at 11,778' req. 425 hours. Deviation max was18 degrees at 11,649'.						

4.0 PERSONNEL AND FACILITIES

GREEN RIVER BASIN/OVERTHRUST OPERATIONAL PERSONNEL

Primary Rig Site Field Service Representative: **To be assigned... – Pinedale, WY**

Field Operations Leader: **Shawn Taggart - Pinedale, WY**

Cell Phone (307) 360-7984

Principal Technical Professional: **Don Vesely – Casper, WY (307) 265-0180**

Principal Technical Professional: **Walter Sarcletti – Rock Springs, WY (307) 352-8819**

Cell Phone (307) 705-2719

Environmental & Safety Representative: **Scott Walker/ Dan Harris – Rock Springs, WY**

Office (307) 389-5409

Business Development: **Jared Nicholls - Denver, CO (303) 478-2196**

PSL Operations Unit Manager: **Dennis Gladwin - Denver, CO (303) 825-5712**

BAROID WAREHOUSE PERSONNEL

Boulder, WY Warehouse Phone No.: **(307) 537-5016**

Warehouse Supervisor: **Margaret Gillette – Pinedale, WY (307) 537-5016**

Cell Phone (307) 360-9440

5.0 WELL INFORMATION

Rich County, Utah	Hogback Ridge 1-17-13N-7E
Location	Section 17-T13N-R7E
Surface Hole	17-1/2"
Surface Casing, set @1,500'	13-3/8"
Intermediate Hole	12-1/4"
Intermediate Casing, set @ 4,050' TVD	9-5/8"
Liner Hole	8-1/2"
Liner, set @ 10,350'	7"
Production Hole	6-1/8"
Production Liner	5"
TMD	12,123'

5.0 VOLUMES

1,000 bbls pit volume assumed

Hole Size Inches	Length/ Depth Feet	Hole/Total Volume BBLS	Casing Size Inches	Casing/Total Volume BBLS	Cuttings Removed CuFt
17-1/2	1,500/1,500	446/1446			2,506
	1,500/1,500		13-3/8	225/1225	
12-1/4	2,500/4,050	590/1590			2,046
	4,050/4,050		9-5/8	298/1298	
8-1/2	6,450/10,350	751/1,751			2,542
	6,950/10,350		7	527/1,527	
6-1/8	1,885/12,123	596/1,596			386
	2,385/12,123		5	550/1,550	

7.0 GEOLOGY-TOPS

Formation	TMD	
Tertiary		
Wasatch	Surface	
Jurrassic		
Twin Creek	1,000'	
Gypsum Springs	2,533'	
Nugget	2,808'	
Triassic		
Ankareh	4,033'	
Thaynes	7,133'	
Fault/Thaynes	7,133'	
Woodside	8,943'	
Dinwoody	9,558'	
Permian		
Phosphoria	10,208'	
Pennsylvanian		
Weber	10,658'	
Mississippian		
Mission Canyon	11,513'	
Lodgepole	12,123'	
Total Measured Depth	**12,123'**	

8.0 FORMATION DESCRIPTIONS

Wasatch Formation

At the surface. Red to red-gray conglomerates, sandstones, siltstones, and minor isolated limestone beds. Projected 475' thick.

Twin Creek

Light gray to brownish gray limestone. Some siltstone beds and gypsum beds in certain members of the Twin Creek. Approximately 2,100' thick.

Gyp Springs

Limestone and dolomite. Some red shales with gypsum and anhydrite .

Nugget

Buff to pinkish-tan sandstone. Approximately 1,250' thick.

Ankareh

Red to reddish-orange calcareous mudstone, calcareous siltstone, calcareous Sandstones. 1,700' thick.

Thaynes

Gray limestone to silty limestone. About 1300' thick

Woodside

Red-brown, maroon, and dark gray mudstone, siltstone, and shale. 600' to 650' thick.

Dinwoody Formation

Gray to gray-green silty limestones and calcareous siltstones. 270' to 300' thick.

Phosphoria Formation

Interbedded gray to black limestone, siltstone, and shale. Some prominent chert beds. 475' to 500' thick.

Weber Formation

Grey-brown to light gray sandstone and siltstone. Some thin, light gray limestone and dolomite interbeds are found in the lower

portion of the Weber. 450' to 475' thick.

Morgan Formation

Interbedded limestones, sandstones and dolomites. Limestones are very light gray to medium gray with some minor anhydrite. Sandstones are light gray to medium gray, very fine grained and hard Dolomites are cream, tan, buff, light brown, and gray-brown with some anhydrite stringers. The Morgan is about 250' thick.

Mission Canyon Formation

Upper Mission Canyon – About 350' thick

Generally consists of light gray to light brownish-gray limestone and dolomite. The upper portion of the Mission Canyon has some sandstone inter-beds that are up to about 30' thick. At the base of the Upper Mission Canyon, there is anhydrite zone that is about 50' to 80' thick.

Main Porosity Zone – About 300' thick

Gray-brown, light brown, tan, and gray Dolomite with several thick limestone beds. The porous dolomites are the main reservoir in the Carter Creek field and average 10% porosity. This zone is also pressure depleted due to production over the last 18 years.

Lower Mission Canyon – About 125' thick

Gray to medium gray dolomite.

Lodgepole Formation

Dark gray to dark gray-brown limestone and some dolomite. About 600' thick.

9.0 OVERTHRUST FORMATIONS/PROBLEM SUMMARY

FORMATION	PROBLEMS
Aspen Gannet Bear River	These shales, particularly the Gannet, have been analyzed by our Houston laboratories and were found to contain very small to very high quantities of expandable clays, indicating that severe problems can occur from swelling and sloughing. Wells in the Over-thrust have verified these problems and these sections Has usually been off-scale in caliper logs, if WBM is used.
Twin Creek	Moderate to severe lost circulation to natural fractures or induced fractures. Calculated fracture gradient of 9.1 to 9.2 ppg assuming a Poisson's ratio of 0.125. Actually, this represents a propagation gradient rather than a fracture gradient. **Losses can occur in virtually all zones** if they are above or below thrust faults. The Twin Creek also contains gyp and anhydrite, especially if the Gyp Springs member is present.
Stump/Pruess	Salt with inter-bedded plastic clay streaks. Salt/clay acts like it is flowing. In similar zones in central Utah, mud weights of 14.5 to 15.5 ppg have contained these sections. The Stump/Pruess also contains anhydrite.
Nugget	Moving ledges. Hole instability caused by fractured blocks sliding into the hole. Also, subnormally pressured. Differential sticking.

OVERTHRUST FORMATIONS/PROBLEM SUMMARY (continued)

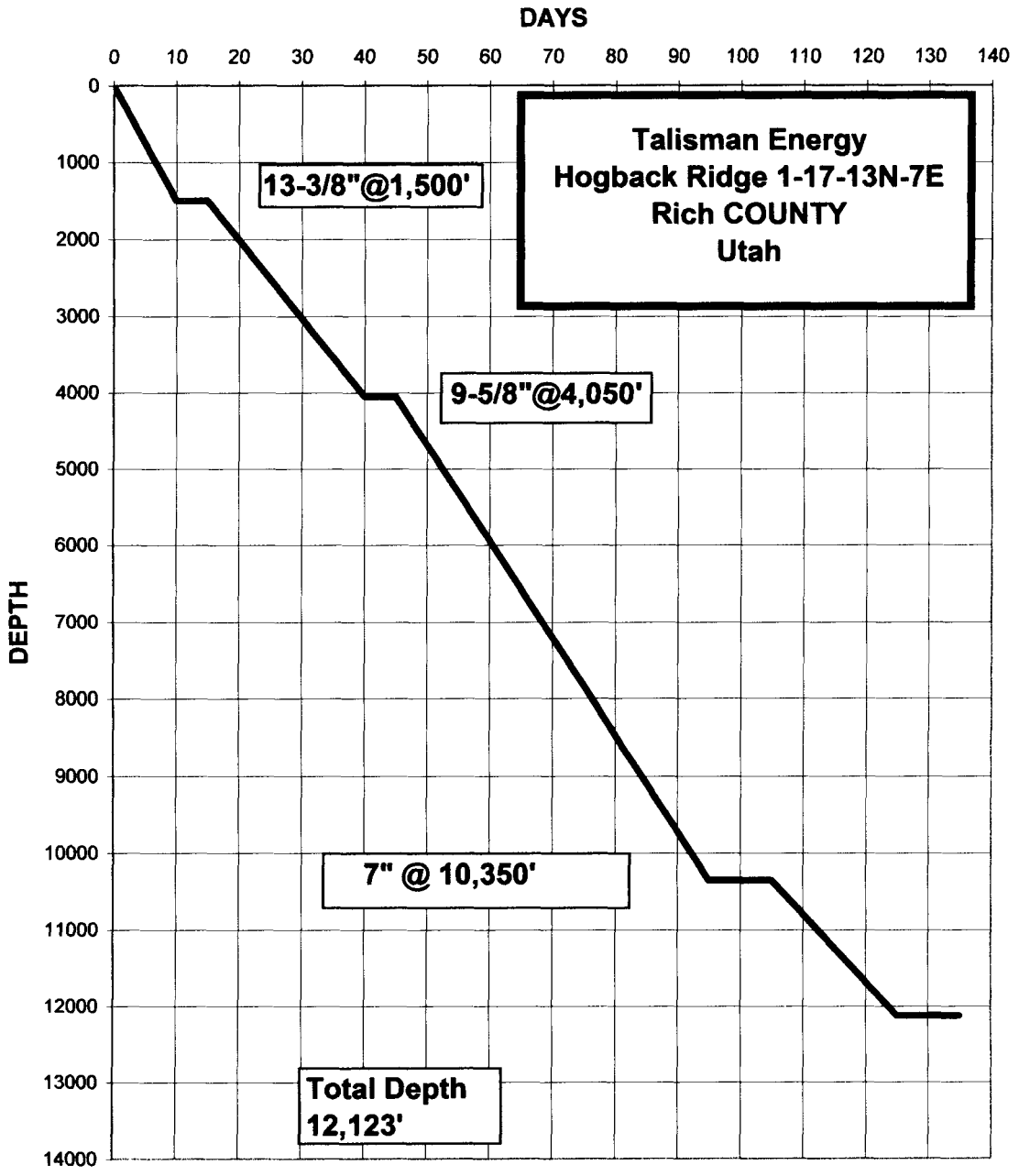
FORMATION	PROBLEMS
Lodgepole Dinwoody Phosphoria Morgan Weber Mission Canyon	All of these zones are known to contain hydrogen sulfide when they are productive.
Thaynes	Contains gyp/anhydrite in some localities and some H_2S.
*Stump/Pruess	Salt with interbedded plastic clay streaks. Salt/clay acts like it is flowing.
*Ankareh Weber	All of these zones have produced water flows on *Nugget different wells.
*Ankareh *Nugget Weber	Moving ledges. Hole instability caused by fractured blocks sliding into the hole.

10.0 Drilling Fluids Reference Table

Drilling Fluid Reference Table								
Fresh water native mud Interval 1	Mud Wt. ppg	Visc. Sec/qt	YP lb/100ft²	Filtrate Ml	Cl- (mg/l)	hardness(mg/l)	pH	LGS (% by Vol.)
0' to 1,500' Drill: 17-1/2" Hole Days: 15	8.6 to 8.9	30 to 50	8 to 10	15 to 30	≤ 6,000	≤ 120	9.0 to 10.0	<6
Start with fresh water, soda ash to treat hardness, and add 0.1 ppb EZ mud and 15 ppb AQUAGEL. Dump/dilute for solids and add BARACAT to floc reserve pit when dumping. SAPP for bit balling if needed and use MAXISEAL for losses if needed.								
Set 13-3/8" Casing @ 1,500'								
Interval 2 Modified Coredril-N OBM	Mud Wt. ppg	Visc. Sec/ Qt.	YP lb/100ft²	LIME ppb	HTHP Ml	Elect Stab Volts	TES Salinity PPM	O/W Ratio	LGS ppb
1,500' to 4,050' Drill: 12-1/4" Hole Days: 45	8.0 to 8.5	40 to 55	8 to 15	2 to 4	10 to 20	800 to 1200	300K to 350K	98/2 to 95/5	40 or less
Have 1600 bbls of COREDRIL-N delivered in storage. Displace hole with liquid modified COREDRIL-N Oil base mud. Use GELTONE V for viscosity/Yield Point. Use EZ MUL/INVERMUL for emulsion. Maintain 2 ppb excess lime. Use 8 ppb BARABLOK for filtration.								
Set 9-5/8" @ 4,050'								

Fresh water BARAZAN/PAC-R Interval 3	Mud Wt. ppg	Visc. Sec/qt	YP lb/100ft²	API Filt. Ml	Cl- mg/l	hardness(mg/l)	pH	LGS (% by Vol.)
4,050' to 10,350' Drill: 8-1/2" Hole Days: 60	8.6 to 8.9	32 to 45	4 to 8	10 or less	≤ 6,000	≤ 250	10.0 to 10.5	<3
Start with fresh water and add 0.5 ppb CAUSTIC SODA for pH of 10.0-10.5. Add and maintain 12 ppb AQUAGEL for viscosity and filtration control. Use sweeps of N-VIS-L if needed for additional hole cleaning. Supplement filtration control with up to 0.5 ppb PAC-R if needed. Add ALDACIDE-G and alternate with XCIDE 207 for a biocide. Run all solids control and dilute as needed to keep mud weight 8.9 ppg or less.								
Set 9-5/8" @ 4,050'								
Fresh water BARAZAN/PAC-R Lime/Polymer Interval 4	Mud Wt. ppg	Visc. Sec/qt	YP lb/100ft²	API Filt. ml	Cl- mg/l	hardness(mg/l)	pH	LGS (% by Vol.)
10,350' to 12,123' Drill: 6-1/8" Hole Days: 30	8.6 to 8.9	32 to 45	4 to 8	14 or less	≤ 6,000	≤ 250	10.5 to 11.0	<3
Mud up with fresh water BARAZAN-D PLUS polymer LSND system. Use lime for pH and to scavenge H_2S. Use BARAZAN-D PLUS for yield point, PAC-R for filtration control, and prehydrated AQUAGEL GOLD for wall cake and additional viscosity or sweeps								

11.0 DAYS VS DEPTH



12.0 DETAILED MUD PLAN BY INTERVAL

INTERVAL 1

Drill 17.5" Hole: 0' – 1,500' TVD Run 13-3/8" @ 1,500'									
Drilling Fluid Recommendations-Fresh water/Sweeps									
Interval Depth (feet) (TMD)	**Fluid Density (ppg.)**	**Viscosity (sec./qt)**	**Plastic Viscosity (cp)**	**Yield Point (lbs/100 ft.^{2})**	**pH**	**Filtrate - API (ml)**	**pH**	**Chloride (mg/L)**	**Total Hardness as (Ca) (mg/L)**
0' to 1,500'	**8.6 to 8.9**	**30 to 50**	**6 to 12**	**8 to 10**	**8.0 to 8.5**	**15 to 30**	**9 to 10**	**< 6,000**	**≤ 120**

Potential Hazards/Problems:

Hole Cleaning Lost Circulation Solids Control Hole stability

A fresh water high viscosity clay based system is recommended for this interval. The mud should be formulated with fifteen (15) pounds per barrel of AQUAGEL and 1/2 - 1 pint per barrel EZ-MUD (liquid PHPA). If pumps are compounded to provide 800 - 900 gpm, a yield point of 8-10, or an initial gel strength of 6-8, should be adequate for hole cleaning. The shale shakers should be closely monitored during this interval to assure proper hole cleaning

If viscosity is higher than desired, all solids control equipment should be checked to see if it is functioning properly, and if so, additional water should be added. Use SAPP for bit balling in this section as needed and keep gel strengths below 15 lbs/100ft^2 with THERMA-THIN if needed.

It is quite possible that boulders may become a problem in this interval. If the seriousness of this problem warrants, we suggest raising the mud weight (11.0 - 12.5 ppg), which has been effective in some instances.

Hole Cleaning Issues - Sweep the hole before a short trip and at T.D. with a high viscosity pill mixed with 18.0 ppb QUIK GEL. For additional hole cleaning while drilling, use same mixture.

Hole Stability Issues – If tight connections are noticed drilling this section, add DEXTRID for 6 cc's or less.

Lost Circulation Issues – Mix up an LCM pill with 10.0 ppb AQUAGEL and 20 ppb MAXI SEAL

Solids Control Issues - All solids control equipment should be serviced and brought to optimum operating condition.

Interval 2

Drill 12-1/4" Hole: 1,500' – 4,050' TVD Last Casing: 13-3/8" set @ 1,500'									
Drilling Fluid Recommendations-COREDRIL-N Oil Base Mud									
Interval Depth (feet) (TMD)	**Fluid Density (ppg.)**	**Viscosity (sec./qt.)**	**Yield point Lb/100 ft2**	**Lime ppb**	**HTHP@250F MI**	**Electrical Stability, v**	**TES salinity ppm**	**Oil/water ratio**	**LGS, ppb**
1,500' To 4,050'	**6.0 to 6.5**	**40 to 55**	**6 to 10**	**2 to 4**	**15 to 20**	**500 to 2,000**	**200K to 250K**	**94/6 to 96/4**	**40 or Less**

Baroid modified COREDRIL-N OBM mud is recommended for this interval.

Start this interval with new mud mixed at our mud plant at Boulder, Wyoming. We recommend that the initial volume of OBM is 1600 bbls provided by Baroid on a rental basis. COREDRIL-N is a high O/W low density OBM. Other advantages of the COREDRIL-N system are as follows:

1. Non-conductive - A properly prepared COREDRIL-N mud system is non-conductive, and provides the maximum in corrosion protection, reducing the possibility of disastrous fishing jobs.
2. Lubrication - The COREDRIL-N mud system provides the highest lubricity of any mud tested on conventional devices. This lubricity reduces torque and wear on bits, reamers, stabilizers, and protects against wear to casing strings.

Also, the water phase of an COREDRIL-N mud is treated with calcium chloride to provide sufficient osmotic pressure to insure no wetting of shale.

The COREDRIL-N mud system is prepared with the following material:

Formulation of Modified COREDRIL-N

Sample formulated with the following:

95/5 Oil water ratio
6 ppb INVERMUL
2 ppb EZ-MUL
6 ppb BARABLOC
2 ppb GELTONE V
200,000 ppm calcium chloride
3 ppb lime

To formulate 1 barrel	**8.0 ppg**	**8.5 ppg**
Diesel, bbl	**0.889**	**0.872**
Water, bbl	**0.047**	**0.046**
Baroid, lbs	**35.98**	**62.37**
Powder $CaCl_2$	**4.31**	**4.23**

Maintenance treatments are minimal with the COREDRIL-N mud system unless water content increases or solids are allowed to build-up. Daily cost generally reflects cost to build volume for new hole, and replace volume lost to surface equipment, cuttings, and seepage.

Baroid has developed a new product called RHEMOD-L that can be interchanged or substituted for GELTONE® V. This product can be used with the unweighted system to provide higher yield points if needed and reduced mud cost. We are suggesting this product since two high volume centrifuges will be used, and the X-VIS will not be discarded.

COREDRIL-N MUD PRODUCTS/APPLICATIONS

EZ-MUL® - Primary liquid emulsifier.

INVERMUL® L - Secondary liquid emulsifier.

Increased additions of EZ MUL® or INVERMUL® increase the emulsion characteristics. Electrical stability will increase and filtrate will be lowered. These products also keep water from being present in

the filtrate, which is actually more critical than the electrical stability numbers. INVERMUL® is normally used in place of DURATONE® for filtration control in an INVERMUL® RF mud system.

GELTONE® V - Primary viscosifier.

Increased additions will result in higher yield point, gel strengths, and funnel viscosities.

Calcium Chloride Water/powder-Salinity/Osmotic pressure/activity

Used to increase salinity of emulsified water phase and control osmotic pressure. Control of salinity prevents water from being osmotically forced into shales. Keep no less than 200,00ppm.

A high water phase salinity will also allow under-balanced drilling with out shale sloughing.

Use freshwater when evaporation occurs to keep below 250,000 ppm.

Lime - Alkalinity control.

Used in conjunction with INVERMUL® L to form emulsifier. Also used as a scavenger for hydrogen sulfide or carbon dioxide.

OMC – Thinner/Degellant

Used to thin mud previously thickened with GELTONE® V.

OMC 42 – Thinner/Degellant

Powerful version of OMC

Interval 3

screens possible on shakers.

H2S Issues – raise pH to 10.5 and monitor. Add lime or NO-SULF if Needed.

Deviation Issues – Use 2-4 ppb ENVIRO-TORQ if a lubricant is required.

Solids Control Issues - All solids control equipment should be serviced and brought to optimum operating condition. Utilize the finest mesh screens possible on shakers. Run centrifuges continuously.

INTERVAL 4

Drill 6-1/8" Hole: 10,350' – 12,123' TVD
Last Casing: 7" set @ 10,350'

Drill 8-1/2" Hole: 4,050' – 10,350' TVD Last Casing: 9-5/8" set @ 4,050'									
Drilling Fluid Recommendations-Fresh water/BARAZAN LSND									
Interval Depth (feet) (TMD)	**Fluid Density (ppg.)**	**Viscosity (sec./qt)**	**Plastic Viscosity (cp)**	**Yield Point ($lbs/100\ ft.^2$)**	**pH**	**Filtrate - API (ml)**	**MBT, ppb**	**Chloride (mg/L)**	**Total Hardness as (Ca) (mg/L)**
4,050' – 10,350'	**8.6 to 8.8**	**32 to 45**	**5 to 12**	**2 to 4**	**10.0 to 10.5**	**10 or less**	**10 to 12**	**< 6,000**	**≤ 250**

Discard or dilute previous mud. Raise pH to 10.0-10.5 with CAUSTIC SODA. Mix 12 ppb AQUAGEL for prehydration and filter cake base. Add 3-5 gallon cans of ALDACIDE-G for

Drilling Fluid Recommendations-Fresh water/BARAZAN LSND

Interval Depth (feet) (TMD)	Fluid Density (ppg.)	Viscosity (sec./qt)	Plastic Viscosity (cp)	Yield Point (lbs/100 ft.^{2})	pH	Filtrate - API (ml)	Lime, ppb	Chloride (mg/L)	Total Hardness as (Ca) (mg/L)
10,350' to 12,123'	8.6 to 8.8	32 to 45	5 to 12	4 to 8	10.0 to 11.0	14 or less	2 to 3	< 6,000	≤ 250

Discard or dilute previous mud. Mix 4 ppb AQUAGEL GOLD for prehydration and filter cake base. Add 3-5 gallon cans of ALDACIDE-G. Add 0.75 ppb BARAZAN for viscosity and yield point. Add 0.5 ppb PAC-R for filtration control and add 0.35 ppb caustic soda for initial pH. Do not add dispersants!. Add 2-3 ppb lime for H2S zones and maintain as needed. Keep NOSULF on location for H2S contingency. Run MBT and excess lime content and report daily

Potential Hazards/Problems:

Lost Circulation ***Solids Control*** ***H2S*** ***Deviation***

Lost Circulation Issues – Mix up an LCM pill with 15.0 ppb AQUAGEL GOLD/ X-TEND and 20 ppb MAXI SEAL or FIBER PLUG.
Mix LCM pill with 10.0ppb N-SEAL and 10ppb BARACARB (5).
If in pay zones.

Solids Control Issues - All solids control equipment should be serviced and brought to optimum operating condition. Utilize the finest mesh screens possible on shakers.

H2S Issues – add and maintain at least 2 ppb lime.

Deviation Issues – Use 2-4 ppb ENVIRO-TORQ if a lubricant is required.

Solids Control Issues - All solids control equipment should be serviced and brought to optimum operating condition. Utilize the finest mesh screens possible on shakers.

13.0 SOLIDS CONTROL EQUIPMENT

We suggest the minimum following equipment be utilized:

(Please see separate proposal for Surface solutions)

TWO - **FLOWLINE CLEANERS**

Use finest screens possible.

Each will process 15 barrels per minute of moderate (40 - 55 sec/qt) viscosity mud.

TWO - **HIGH VOLUME CENTRIFUGES**

For use with any mud system, weighted or unweighted. The processing method will determine either the recovery of Barite of the discharge of low specific gravity solids to the reserve pit. Unweighted muds are processed at 80 - 100 gallons per minute.

14.0 LOST CIRCULATION PROCEDURES

Water Base Mud

Materials	Product
Fiber – F, M, & C	BAROFIBRE FINE, MEDIUM, COARSE
Asphalt/Gilsonite	AK-70/BARO-TROL PLUS
Calcium carbonate	BARACARB 5, 25, 50, 150
Walnut hulls	WALL-NUT
Mixed medium and coarse LCM	BARO-SEAL
Mineral fiber	N-SEAL (Magma Fiber)
Graphite	STEELSEAL

Lost Circulation Operational Guidelines

Pre-treatment plan in addition to Loss Returns Response Plan
If acid soluble is desired, use only N-SEAL, Magma Fiber, or BARACARB

Initial Action:

1. Reduce R.O.P.
2. Reduce G.P.M.
3. Minimize fluid density

A. Seepage 1 - 10% loss

Pre-treat the active system with 5 lb/bbl BARACARB 50 and/or 5 lb/bbl BAROFIBRE FINE prior to drilling the suspect zone. Maintain bentonite (commercial) concentration at the plan lb/bbl and/or starch concentration. Pump ±25 bbl sweeps of the following LCM pill every ±20' - 25' or more often as hole conditions dictate:
10 lb/bbl BAROFIBRE
10 lb/bbl PLUG-GIT
2 - 4 lb/bbl WALL-NUT MEDIUM
Sized BARACARBS (25 & 50) and STEELSEAL at 10 lb/bbl each may be used for additional control. Pumping additional sweeps of high concentration LCM with extra bridging material should help seal permeable sandstone formations as they are drilled.

If seepage and/or hole conditions dictate, continuously add 1 - 2 sks of BARAFIBRE per drilling hour. Mix the material quickly through the hopper and shut it off so excessive mud aeration is avoided. Since much of the LCM will be screened out over the shakers, there is no buildup that will affect flow properties.

B. Partial Loss 10 - 30% loss

Pump 40 - 60 bbl sweeps with 35 lb/bbl total LCM containing:
5 - 10 lb/bbl BAROFIBRE FINE
5 - 10 lb/bbl WALL-NUT
10 lb/bbl STEELSEAL (optional)
10 lb/bbl BAROSEAL

C. Moderate Loss 30 - 60% loss

Fractures -

Pump 40 - 60 bbl sweeps with 50 - 60 lb/bbl total LCM containing:

10 - 15 lb/bbl BAROFIBRE
30 lb/bbl STEELSEAL
10 - 15 lb/bbl N-SEAL or MICATEX

D. Severe Loss 60 - 95% loss

Spot a 40 - 60 bbl pill with 70+ lb/bbl LCM containing:

40 - 50 lb/bbl STEELSEAL
20 - 30 lb/bbl sized BARACARB

E. Total Loss > 95% loss

Most important consideration is well control until the annulus is filled. Immediately fill the backside with water (maintain 1 trip tank compartment full of gel water) to stabilize the hole (record density of water & volume of water pumped in hole to allow accurate determination of EMW @ TD and fracture closure stress). Pump either of the following LCM pills and pull up into the liner and allow the hole to heal for 4 - 8+ hours.

1. Spot a pill containing 100 lb/bbl STEELSEAL
2. Spot a pill containing the following mixture:
   25 lb/bbl BARACARB 150
   25 lb/bbl BAROFIBRE REGULAR
   50 lb/bbl STEELSEAL

Maintain ±200 bbls of premixed high fluid loss LCM pill in rig pit to allow pumping LCM pill as soon as possible if returns are lost.

Spot ±40 - 50 bbl (or modify volume according to needs) of high fluid loss LCM pill as follows:

1. 35 - 40 bbl water + 0.5 - 1.0 lb/bbl BARAZAN D PLUS
2. 10 lb/bbl BAROSEAL FINE
3. 10 lb/bbl BAROSEAL MEDIUM
4. 10 - 20 lb/bbl BAROFIBRE FINE/COARSE
5. 70 lb/bbl STEELSEAL
6. Barite as necessary for density

15.0 Lost Circulation OBM

The following are procedures recommended for lost circulation with oil based mud. For all practical purposes, loss of circulation with oil based mud is considered unacceptable regardless of the severity of losses. Lost circulation procedures are separated into two general categories:

1. In Reservoir
2. Not in Reservoir
3. Determining the percentage of lost circulation:

$$\text{Percentage of Losses} = 1 - \left[\frac{\text{Volume of drilling fluid returned to surface (BPM)}}{\text{Volume of drilling fluid pumped into well (BPM)}} \right] \times 100$$

Initially, take the following steps:

1. Reduce R.O.P.
2. Minimize G.P.M.
3. Minimize Fluid Weight
4. Choose Treatment Per % Losses as Follows

Partial 10-30% (Most likely type of lost circulation)

In Reservoir

a. Sweep hole with 50 bbl pill containing
- 5 ppb BARACARB 5
- 5 ppb BARACARB 50
- 2 ppb N-SEAL

b. Add BARACARB 5 and 50 to mud system 10-20 ppb total

Not in Reservoir

a. Sweep hole bbl pill containing
- 10 ppb mixture WALL-NUT/MICATEX

b. Add BARACARB/WALL-NUT/MICATEX to mud system 10-20 ppb total

LOST CIRCULATION PROCEDURES (Continued)

OIL BASE MUD

Moderate 30-60%

In Reservoir

a. Sweep hole with pill containing
- BARACARB/N-SEAL 40-50 ppb

b. Spot pill at bottom of hole and casing shoe containing
- BARACARB/N-SEAL 50 ppb

Not in Reservoir

a. Sweep hole with pill containing
- BARACARB/MICATEX/WALL-NUT 50 ppb

b. Spot pill at bottom of hole and at casing shoe containing
- BARACARB/MICATEX/WALL-NUT 50 ppb

Severe 60-95%

In Reservoir

a. Spot 80 ppb pill containing mixture of
- BARACARB/N-SEAL

b. Perform a FlexPlug OBM treatment

Not in Reservoir

a. Spot 70 bbl pill containing a mixture of
BARACARB/MICATEX/WALL-NUT

b. Perform a FlexPlug OBM treatment

LOST CIRCULATION PROCEDURES (Continued)

OIL BASE MUD

Total >95%

In Reservoir

a. Spot FlexPlug OBM Treatment

b. Spot a pill containing 50 ppb BARACARB and 50 ppb N-SEAL

c. Perform a Reverse Gunk Squeeze

Not in Reservoir

a. Spot FlexPlug OBM Treatment

b. Spot a pill containing 30ppb BDF 304 and 30 ppb STEELSEAL.

c. Spot a pill containing 30ppb BDF 304 and 30 ppb STEELSEAL.

d. Perform a Reverse Gunk Squeeze

16.0 OBM RECOMMENDED PROCEDURE FOR DISPLACEMENT

Pull-up into the casing, unless displacement will be made prior to drilling out.

2. Clean all pumps and lines of water base fluid.
3. Clean and dry all mud pits.
4. Seal any leaks in the pits or lines.
5. Mix enough oil mud to complete the displacement with a minimum of 200 barrels excess; OR have this amount in storage on location.
6. Mix at least 50 barrels of spacer fluid (see EZ SPOT® spacer) in a separate pill tank. (If the casing was displaced with water, do not mix EZ SPOT®, and only use 25 bbls of oil).
7. Return to bottom and begin displacing with oil mud preceded by the spacer fluid or oil.
8. Rotate and reciprocate the pipe while displacing to help break the water mud gel strengths and avoid channeling.
9. Discard water mud at the flowline until oil mud returns with a 300 volt electrical stability.

After the above procedure has been followed, the hole should be circulated one or two times to assure blendin of any incorporated water, and to allow the chemicals time to completely react with the additional temperature.

A displacement that can be accomplished with an increase of five or less percent water can be considere very successful.

17.0 SPECIAL HANDLING OBM

Every effort should be made to eliminate surface losses of oil mud. Mud maintenance costs are normally attributed to volume building from new holes drilled and surface losses. Normal surface losses can be held in the 10 to 20 barrel per day range using the following techniques:

1. Use a kelly cock or mud saver sub. The use of either of these devices will reduce losses on connections.
2. Use pipe wipers to remove oil mud from the drill pipe on trips.
3. Install a catch pan on the top of the bell nipple. This must be large enough to extend beyond the edges of the rotary table. This device will catch mud which falls through the table and will divert it into the drilling nipple. A schematic diagram is enclosed.
4. A racking pan should be provided for the drill pipe. A return line from this pan must be run to the flow line or into the catch pan described in item 3 above.
5. A mud box should be used on trips. A mud box in good condition will prevent serious losses when pulling a wet string. The mud box should be connected to the flow line or catch pan.
6. Keep water hoses off the rig floor and away from the mud tanks. Water additions to an oil mud should be made only upon the recommendations of the mud engineer. Washing of shale shaker screens should be done with diesel.
7. Covers should be installed on the rig tanks for protection from heavy rains or snow.
8. If ecological guidelines do not permit the disposal of oil drilled solids, a Baroid cuttings processor should be implemented. Drainage ditches should be made around the rig in case of accidental spillage. Crew personnel should always be on the watch to see if any of the solids control equipment is down and losing fluid.

9. To help emphasize the importance of the above, be sure that all rig personnel know the per barrel value of the oil mud.

Another important aspect is to use a grade of diesel oil which has an aniline point of 150 degrees Fahrenheit or higher in order to minimize damage to rubber parts in the mud circulating system. Generally, number two diesel meets this specification.

To prevent losses and maintain good hole conditions:

A. Run stands slowly. INVERMUL (RF) mud produces a gauge hole, for this reason surge and swab pressures can easily cause problems if pipe is moved too fast.

B. Do not pump with annular velocities over 120 feet per minute. This will ensure the lowest possible pressure losses in the annulus and reduce the extra bottom hole pressure due to circulating the drilling fluid.

C. Before starting a trip, circulate 15 to 40 minutes (depending on depth of hole and annular velocity). The hole will be close to gauge and a small amount of cuttings can cause tight hole.

HALLIBURTON

Talisman Energy Inc.
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Calgary, Alberta T2P 5C5
Canada

Hogback Ridge 1-17-13N-7E

Rich County, Utah
United States of America
S:17 T:13N R:7E

Cementing Recommendation

Prepared for: Mr. Rod Schnell
September 26, 2007
Version: 1

Submitted by:
Matt Collins
Halliburton Energy Services
1125 17th Street #1900
Denver, Colorado 80202
303.501.9557

HALLIBURTON

Halliburton appreciates the opportunity to present this proposal and looks forward to being of service to you.

Foreword

Enclosed is our recommended procedure for cementing the casing strings in the referenced well. The information in this proposal includes well data, calculations, materials requirements, and cost estimates. This proposal is based on information from our field personnel and previous cementing services in the area.

Halliburton Energy Services recognizes the importance of meeting society's needs for health, safety, and protection of the environment. It is our intention to proactively work with employees, customers, the public, governments, and others to use natural resources in an environmentally sound manner while protecting the health, safety, and environmental processes while supplying high quality products and services to our customers.

We appreciate the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below. If you require any additional information or additional designs, please feel free to contact myself or our field representative listed below.

Prepared by: _____
Sally Kroger
Procedure Analyst

Submitted by: _____
Matt Collins
Technical Advisor

SERVICE CENTER:	Rock Springs, Wy
PSL DISTRICT MANAGER:	Zane Cox
SERVICE COORDINATOR:	Randy Moore
PDC:	Cheyenne Scharf
CEMENT ENGINEERS:	Matt Lang Mark Husman Bridget Lawrence
PHONE NUMBER:	(307) 352.8600

Cementing Best Practices

1. Cement quality and weight: You must choose a cement slurry that is designed to solve the problems specific to each casing string.

2. Waiting time: You must hold the cement slurry in place and under pressure until it reaches its' initial set without disturbing it. A cement slurry is a time-dependent liquid and must be allowed to undergo a hydration reaction to produce a competent cement sheath. A fresh cement slurry can be worked (thickening or pump time) as long as it is in a plastic state and before going through its' transition phase. If the cement slurry is not allowed to transition without being disturbed, it may be subjected to changes in density, dilution, settling, water separation, and gas cutting that may lead to a lack of zonal isolation and possible bridging in the annulus.

3. Pipe movement: Pipe movement may be one of the single most influential factors in mud removal. Reciprocation and/or rotation mechanically breaks up gelled mud and changes the flow patterns in the annulus to improve displacement efficiency.

4. Mud properties (for cementing):

Rheology:

Plastic Viscosity (PV) < 15 centipoise (cp)
Yield Point (YP) < 10 lb/100 ft2
These properties should be reviewed with the Mud Engineer, Drilling Engineer, and Company Representative(s) to ensure no hole problems are created.

Gel Strength:

The 10-second/10-minute gel strength values should be such that the 10-second and 10-minute readings are close together or flat (i.e., 5/6). The 30-minute reading should be less than 20 lb/100 ft^2. Sufficient shear stress may not be achieved on a primary cement job to remove mud left in the hole if the mud were to develop more than 25 lb/100 ft^2 of gel strength.

Fluid Loss:

Decreasing the filtrate loss into a permeable zone enhances the creation of a thin, competent filter cake. A thin, competent filter cake created by a low fluid loss mud system is desirable over a thick, partially gelled filter cake. A mud system created with a low fluid loss will be more easily displaced. The fluid loss value should be < 15 cc's (ideal would be 5 cc's).

5. Circulation: Prior to cementing circulate full hole volume twice, or until well conditioned mud is being returned to the surface. There should be no cutting in the mud returns. An annular velocity of 260 feet per minute is optimum (SPE/IADC 18617), if possible.

6. Flow rate: Turbulent flow is the most desirable flow regime for mud removal. If turbulence cannot be achieved pump at as high a flow rate that can practically and safely be used to create the maximum flow energy. The highest mud removal is achieved when the maximum flow energy is obtained.

7. Pipe Centralization: The Cement will take the path of least resistance, therefore proper centralization is important to help prevent the casing from contacting the borehole wall. A minimum standoff of 70% should be targeted for optimum displacement efficiency.

8. Rat hole: A weighted viscous pill placed in the rat hole prior to cementing will minimize the risk of higher density cement mixing with lower density mud when the well is static.

9. Top and Bottom plugs: A top and bottom plug are recommended to be run on all primary casing jobs. The bottom plug should be run after the spacer and ahead of the first cement slurry.

10. Spacers and flushes: Spacers and/or flushes should be used to prevent contamination between the cement slurry and the drilling fluid. They are also used to clean the wellbore and aid with bonding. To determine the volume, either a minimum of 10 minutes contact time or 1000 ft. of annular fill, whichever is greater, is recommended.

Job Information — 13 3/8 Surface Casing

Hogback Ridge	1-17-13N-7E
17 1/2" Surface Open Hole	0 - 1500 ft (MD)
Inner Diameter	17.500 in
Job Excess	100 %
13 3/8" Surface Casing	0 - 1500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.415 in
Linear Weight	68 lbm/ft
Casing Grade	K-55
Mud Type	Water Based Mud
Mud Weight	8.50 lbm/gal
BHST	85 degF

Fluid Instructions

Fluid 1: Water Spacer

FRESH WATER

Fluid Density:	8.34 lbm/gal
Fluid Volume:	40 bbl

Fluid 2: Lead Cement

VARICEM RS1 CEMENT

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

Fluid Weight	12.30 lbm/gal
Slurry Yield:	2.36 ft^3/sk
Total Mixing Fluid:	13.46 Gal/sk
Top of Fluid:	0 ft
Calculated Fill:	1000 ft
Volume:	247.44 bbl
Calculated Sacks:	588.93 sks
Proposed Sacks:	590 sks

Fluid 3: Tail Cement

Premium Cement

94 lbm/sk Premium Cement (Cement)

2 % Calcium Chloride (Accelerator)

Fluid Weight	15.80 lbm/gal
Slurry Yield:	1.17 ft^3/sk
Total Mixing Fluid:	5.02 Gal/sk
Top of Fluid:	1000 ft
Calculated Fill:	500 ft
Volume:	130.31 bbl
Calculated Sacks:	628.01 sks
Proposed Sacks:	630 sks

Fluid 4: Water Spacer

Water Displacement

Fluid Density:	8.34 lbm/gal
Fluid Volume:	218.00 bbl

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	FRESH WATER	8.3		40 bbl
2	Cement	VariCem RS1	12.3		590 sks
3	Cement	Premium Cement	15.8		630 sks
4	Spacer	Water Displacement	8.3		218.00 bbl

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
7521	CMT SURFACE CASING BOM	1	JOB	0.00	0.00	0.00
	CEMENT EQUIPMENT & SERVICES					
2	MILEAGE FOR CEMENTING CREW,ZI	300	MI	5.76	1,728.00	656.64
	Number of Units	1				
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT	300	MI	9.79	2,937.00	1,116.06
	Number of Units	1				
16091	ZI - PUMPING CHARGE	1	EA	4,935.00	4,935.00	1,875.30
	DEPTH	1500				
	FEET/METERS (FT/M)	FT				
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB	2,275.00	2,275.00	864.50
	NUMBER OF UNITS	1				
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI	1	JOB	1,649.00	1,649.00	626.62
	NUMBER OF DAYS	1				
114	R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB	1,285.00	1,285.00	488.30
	NUMBER OF UNITS	1				
74038	ZI PLUG CONTAINER RENTAL-1ST DAY	1	EA	0.00	1,322.00	502.36
	DAYS OR FRACTION (MIN1)	1				
90	ZI QUICK LATCH ATTACHMENT	1	JOB	616.00	616.00	234.08
	SIZE IN INCHES/MILLIMETER	13.375				
	INCHES/MILLIMETERS (IN/MM)	IN				
	SURCHARGES					
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	134.00	134.00	134.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	83.00	83.00	83.00
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON	300	MI	0.45	270.00	270.00
	Number of Units	2				
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	300	MI	0.15	45.00	45.00
	Number of Units	1				
372867	Cmt PSL - DOT Vehicle Charge, CMT	3	EA	241.00	723.00	723.00
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES	150		0.15	1,376.10	1,376.10
	NUMBER OF TONS	61.16				
	ADDITIONAL EQUIPMENT					
76400	ZI MILEAGE,CMT MTLS DEL/RET MIN	150	MI	3.35	30,732.90	11,678.50
	NUMBER OF TONS	61.16				
3965	HANDLE&DUMP SVC CHRG, CMT&ADDITIVES,ZI	1352	CF	5.49	7,422.48	2,820.54
	NUMBER OF EACH	1				
92	PORTABLE RADIOS, ZI	4	EA	323.00	1,292.00	490.96
	NUMBER OF JOBS	1				
16115	FIELD STORAGE BIN ON SITE >8 HRS,DAY,ZI	1	EA	1,344.00	1,344.00	510.72
	DAYS OR PARTIAL DAY(WHOLE NO.)	1				
11941	FIELD STORAGE BIN DELIVERY, ZI	300	MI	9.79	2,937.00	1,116.06
	Number of Units	1				
	CEMENTING MATERIALS					
452009	VARICEM (TM) CEMENT	590	JOB	67.63	39,901.70	15,162.65
101216940	POLY-E-FLAKE	74	LB	7.84	580.16	220.46
100064010	KWIK SEAL,FINE	148	LB	5.57	824.36	313.26
100003685	CLASS G / PREMIUM	630	SK	43.48	27,392.40	10,409.11
100005053	CALCIUM CHLORIDE HI TEST PLT	15	SK	251.00	3,765.00	1,430.70
101235693	PLUG,CMTG,TOP,13 3/8,HWE,11.79 MIN/12.72	1	EA	998.00	998.00	379.24

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
	Total	**USD**				**136,568.10**
	Discount	**USD**				**83,040.94**
	Discounted Total	**USD**				**53,527.16**

Primary Plant: Rock Springs, WY, USA
Secondary Plant: Rock Springs, WY, USA

Price Book Ref: 01 Western US
Price Date: 9/26/2007

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
7521	CMT SURFACE CASING BOM	1	JOB	0.00	0.00	0.00
	13 3/8" Float Equipment					
100004730	SHOE,GID,13 3/8 8RD,CEM	1	EA	1,004.00	1,004.00	381.52
100004487	CENTRALIZER-13 3/8"-CSG-17 1/2"-HINGED	10	EA	283.00	2,830.00	1,075.40
100005045	KIT,HALL WELD-A	1	EA	74.30	74.30	28.23
100004705	V ASSY,INSR FLOAT,13 3/8,8RD	1	EA	1,426.00	1,426.00	541.88
100004631	CLAMP - LIMIT - 13-3/8 - HINGED -	1	EA	80.00	80.00	30.40
	Total	**USD**				**5,414.30**
	Discount	**USD**				**3,356.87**
	Discounted Total	**USD**				**2,057.43**

Primary Plant: Rock Springs, WY, USA
Secondary Plant: Rock Springs, WY, USA

Price Book Ref: 01 Western US
Price Date: 9/26/2007

Job Information — 9 5/8" Intermediate Casing

Hogback Ridge	1-17-13N-7E
13 3/8" Surface Casing	0 - 1500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.415 in
Linear Weight	68 lbm/ft
Casing Grade	K-55
12 1/4" Open Hole	1500 - 4050 ft (MD)
Inner Diameter	12.250 in
Job Excess	50 %
9 5/8" Intermediate Casing	0 - 4050 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.755 in
Linear Weight	43.50 lbm/ft
Casing Grade	L-80
Mud Type	Water Based Mud
Mud Weight	8.90 lbm/gal
BHST	125 degF

Fluid Instructions
Fluid 1: Water Based Spacer
MUD FLUSH

Fluid Density:	8.40 lbm/gal
Fluid Volume:	40 bbl

Fluid 2: Lead Cement
ECONOCEM RS4 SYSTEM
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

Fluid Weight	10.50 lbm/gal
Slurry Yield:	4.12 ft^3/sk
Total Mixing Fluid:	26.01 Gal/sk
Top of Fluid:	0 ft
Calculated Fill:	2500 ft
Volume:	173.27 bbl
Calculated Sacks:	236.30 sks
Proposed Sacks:	240 sks

Fluid 3: Tail Cement
ECONOCEM RS2 SYSTEM
0.2 % HR-5 (Retarder)

Fluid Weight	14.20 lbm/gal
Slurry Yield:	1.26 ft^3/sk
Total Mixing Fluid:	5.54 Gal/sk
Top of Fluid:	2500 ft
Calculated Fill:	1550 ft
Volume:	132.97 bbl
Calculated Sacks:	592.03 sks
Proposed Sacks:	595 sks

Fluid 4: Water Spacer
Water Displacement

Fluid Density:	8.34 lbm/gal
Fluid Volume:	298.29 bbl

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	MUD FLUSH	8.4		40 bbl
2	Cement	EconCem RS4	10.5		240 sks
3	Cement	EconCem RS2	14.2		595 sks
4	Spacer	Water Displacement	8.3		298.29 bbl

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
7522	CMT INTERMEDIATE CASING BOM	1	JOB	0.00	0.00	0.00
	CEMENTING EQUIPMENT AND SERVICES					
2	MILEAGE FOR CEMENTING CREW,ZI	300	MI	5.76	1,728.00	656.64
	Number of Units	1				
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT	300	MI	9.79	2,937.00	1,116.06
	Number of Units	1				
16091	ZI - PUMPING CHARGE	1	EA	6,114.00	6,114.00	2,323.32
	DEPTH	4000				
	FEET/METERS (FT/M)	FT				
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB	2,275.00	2,275.00	864.50
	NUMBER OF UNITS	1				
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI	1	JOB	1,649.00	1,649.00	626.62
	NUMBER OF DAYS	1				
114	R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB	1,285.00	1,285.00	488.30
	NUMBER OF UNITS	1				
74038	ZI PLUG CONTAINER RENTAL-1ST DAY	1	EA	0.00	1,322.00	502.36
	DAYS OR FRACTION (MIN1)	1				
90	ZI QUICK LATCH ATTACHMENT	1	JOB	616.00	616.00	234.08
	SIZE IN INCHES/MILLIMETER	9.625				
	INCHES/MILLIMETERS (IN/MM)	IN				
	SURCHARGES					
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	134.00	134.00	134.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	83.00	83.00	83.00
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON	300	MI	0.45	270.00	270.00
	Number of Units	2				
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	300	MI	0.15	45.00	45.00
	Number of Units	1				
372867	Cmt PSL - DOT Vehicle Charge, CMT	3	EA	241.00	723.00	723.00
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES	150		0.15	875.48	875.48
	NUMBER OF TONS	38.91				
	ADDITIONAL EQUIPMENT					
76400	ZI MILEAGE,CMT MTLS DEL/RET MIN	150	MI	3.35	19,552.28	7,429.87
	NUMBER OF TONS	38.91				
3965	HANDLE&DUMP SVC CHRG, CMT&ADDITIVES,ZI	1038	CF	5.49	5,698.62	2,165.48
	NUMBER OF EACH	1				
92	PORTABLE RADIOS, ZI	4	EA	323.00	1,292.00	490.96
	NUMBER OF JOBS	1				
16115	FIELD STORAGE BIN ON SITE >8 HRS,DAY,ZI	1	EA	1,344.00	1,344.00	510.72
	DAYS OR PARTIAL DAY(WHOLE NO.)	1				
11941	FIELD STORAGE BIN DELIVERY, ZI	300	MI	9.79	2,937.00	1,116.06
	Number of Units	1				
	CEMENTING MATERIALS					
13383	MUD FLUSH	1681	GAL	2.16	3,630.96	1,379.76
452992	ECONOCEM (TM) SYSTEM	240	SK	102.17	24,519.89	9,317.55
101216940	POLY-E-FLAKE	30	LB	7.84	235.20	89.38
100064010	KWIK SEAL,FINE	60	LB	5.57	334.20	127.00
452992	ECONOCEM (TM) SYSTEM	595	SK	51.49	30,637.22	11,642.14
100005050	HR-5	98	LB	11.07	1,084.86	412.25
101214575	PLUG,CMTG,TOP,9 5/8,HWE,8.16 MIN/9.06 MA	1	EA	454.00	454.00	172.52

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
	Total	**USD**				**111,776.71**
	Discount	**USD**				**67,980.66**
	Discounted Total	**USD**				**43,796.05**

Primary Plant: Rock Springs, WY, USA
Secondary Plant: Rock Springs, WY, USA

Price Book Ref: 01 Western US
Price Date: 9/26/2007

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
7522	CMT INTERMEDIATE CASING BOM	1	JOB	0.00	0.00	0.00
	9 5/8" Float Equipment					
100004955	SHOE,FLT,9-5/8 8RD,2-3/4 SUPER SEAL	1	EA	1,402.00	1,402.00	532.76
100004823	CLR,FLT,9-5/8 8RD 29.3-40PPF,2-3/4	1	EA	1,553.00	1,553.00	590.14
100004485	CENTRALIZER-9-5/8"-CSG-12 1/4"-HINGED	20	EA	207.00	4,140.00	1,573.20
100004629	COLLAR-STOP-9 5/8"-FRICTION-HINGED	1	EA	63.20	63.20	24.02
100005045	KIT,HALL WELD-A	1	EA	74.30	74.30	28.23
101214570	PLUG,CMTG,BOT,9 5/8,HWE,8.16 MIN/9.06 MA	1	EA	454.00	454.00	172.52
	Total	**USD**				**7,686.50**
	Discount	**USD**				**4,765.63**
	Discounted Total	**USD**				**2,920.87**

Primary Plant: Rock Springs, WY, USA
Secondary Plant: Rock Springs, WY, USA

Price Book Ref: 01 Western US
Price Date: 9/26/2007

Hogback Ridge	1-17-13N-7E
9 5/8" Intermediate Casing	0 - 4050 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.755 in
Linear Weight	43.50 lbm/ft
Casing Grade	L-80
8 1/2" Open Hole	4050 - 10350 ft (MD)
Inner Diameter	8.500 in
Job Excess	20 %
7" Drilling Liner	3850 - 10350 ft (MD)
Outer Diameter	7.000 in
Inner Diameter	6.276 in
Linear Weight	26 lbm/ft
Casing Grade	L-80
5" Drill Pipe	0 - 3850 ft (MD)
Outer Diameter	5.000 in
Inner Diameter	4.276 in
Linear Weight	19.50 lbm/ft
Mud Type	Water Based Mud
Mud Weight	9.10 lbm/gal

Fluid Instructions
Fluid 1: Water Spacer
TUNED SPACER
92 lbm/bbl Barite (Heavy Weight Additive)

Fluid Density:	10.50 lbm/gal
Fluid Volume:	40 bbl

Fluid 2: Lead Cement
ECONOCEM RS3 SYSTEM
0.5 % HR-5 (Retarder)

Fluid Weight	14.20 lbm/gal
Slurry Yield:	1.31 ft^3/sk
Total Mixing Fluid:	5.81 Gal/sk
Top of Fluid:	3850 ft
Calculated Fill:	6500 ft
Volume:	179.18 bbl
Calculated Sacks:	766.79 sks
Proposed Sacks:	770 sks

Fluid 3: Mud
Mud Displacement

Fluid Density:	9.10 lbm/gal
Fluid Volume	314.03 bbl

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	TUNED SPACER	10.5		40 bbl
2	Cement	EconoCem RS3	14.2		770 sks
3	Mud	Mud Displacement	9.1		314.03 bbl

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
7524	CMT DRILLING LINER BOM	1	JOB	0.00	0.00	0.00
	CEMENTING EQUIPMENT AND SERVICES					
2	MILEAGE FOR CEMENTING CREW,ZI	300	MI	5.76	1,728.00	656.64
	Number of Units	1				
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT	300	MI	9.79	2,937.00	1,116.06
	Number of Units	1				
16100	ZI CMTG LINER/SHORT CSG STRING	1	EA	17,012.00	17,012.00	6,464.56
	DEPTH	10350				
	FEET/METERS (FT/M)	FT				
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB	2,275.00	2,275.00	864.50
	NUMBER OF UNITS	1				
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI	1	JOB	1,649.00	1,649.00	626.62
	NUMBER OF DAYS	1				
114	R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB	1,285.00	1,285.00	488.30
	NUMBER OF UNITS	1				
	SURCHARGES					
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	134.00	134.00	134.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	83.00	83.00	83.00
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON	300	MI	0.45	135.00	135.00
	Number of Units	1				
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	300	MI	0.15	45.00	45.00
	Number of Units	1				
372867	Cmt PSL - DOT Vehicle Charge, CMT	3	EA	241.00	723.00	723.00
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES	150		0.15	829.13	829.13
	NUMBER OF TONS	36.85				
	ADDITIONAL EQUIPMENT					
76400	ZI MILEAGE,CMT MTLS DEL/RET MIN	150	MI	3.35	18,517.13	7,036.51
	NUMBER OF TONS	36.85				
3965	HANDLE&DUMP SVC CHRG, CMT&ADDITIVES,ZI	923	CF	5.49	5,067.27	1,925.56
	NUMBER OF EACH	1				
92	PORTABLE RADIOS, ZI	4	EA	323.00	1,292.00	490.96
	NUMBER OF JOBS	1				
16115	FIELD STORAGE BIN ON SITE >8 HRS,DAY,ZI	1	EA	1,344.00	1,344.00	510.72
	DAYS OR PARTIAL DAY(WHOLE NO.)	1				
11941	FIELD STORAGE BIN DELIVERY, ZI	300	MI	9.79	2,937.00	1,116.06
	Number of Units	1				
	CEMENTING MATERIALS					
13256	TUNED SPACER	40	BBL	293.00	11,720.00	4,453.60
100003681	BARITE	37	SK	31.07	1,149.59	436.84
452992	ECONOCEM (TM) SYSTEM	770	SK	70.26	54,103.26	20,559.24
100005050	HR-5	317	LB	11.07	3,509.19	1,333.49
	Total	**USD**				**128,474.57**
	Discount	**USD**				**78,445.78**
	Discounted Total	**USD**				**50,028.79**

Primary Plant: Rock Springs, WY, USA
Secondary Plant: Rock Springs, WY, USA

Price Book Ref: 01 Western US
Price Date: 9/26/2007

Hogback Ridge	1-17-13N-7E
9 5/8" Intermediate Casing	0 - 4050 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.755 in
Linear Weight	43.50 lbm/ft
Casing Grade	L-80
7" Drilling Liner	3850 - 10350 ft (MD)
Outer Diameter	7.000 in
Inner Diameter	6.276 in
Linear Weight	26 lbm/ft
Casing Grade	L-80
6 1/8" Production Open Hole	10350 - 12143 ft (MD)
Inner Diameter	6.125 in
Job Excess	20 %
5" Drill Pipe	0 - 10200 ft (MD)
Outer Diameter	5.000 in
Inner Diameter	4.276 in
Linear Weight	19.50 lbm/ft
5" Production Liner	10200 - 12143 ft (MD)
Outer Diameter	5.000 in
Inner Diameter	4.276 in
Linear Weight	18 lbm/ft
Casing Grade	L-80
Mud Type	Water Based Mud
Mud Weight	9.50 lbm/gal

Fluid Instructions
Fluid 1: Water Spacer
TUNED SPACER
120 lbm/bbl Barite (Heavy Weight Additive)

Fluid Density:	11 lbm/gal
Fluid Volume:	20 bbl

Fluid 2: Lead Cement
EXPANDACEM RS1 SYSTEM
0.5 % HR-5 (Retarder)

Fluid Weight	15.60 lbm/gal
Slurry Yield:	1.56 ft^3/sk
Total Mixing Fluid:	6.46 Gal/sk
Top of Fluid:	9800 ft
Calculated Fill:	2343 ft
Volume:	35.27 bbl
Calculated Sacks:	126.69 sks
Proposed Sacks:	130 sks

Fluid 3: Mud
Displacement Fluid

Fluid Density:	9.50 lbm/gal
Fluid Volume	214.26 bbl

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	TUNED SPACER	11.0		20 bbl
2	Cement	ExpandaCem RS1	15.6		130 sks
3	Mud	Displacement Fluid	9.5		214.26 bbl

Cost Estimate — 5" Production Liner

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Net Amt
7525	CMT PRODUCTION LINER BOM	1	JOB	0.00	0.00	0.00
	CEMENTING EQUIPMENT AND SERVICES					
2	MILEAGE FOR CEMENTING CREW,ZI	300	MI	5.76	1,728.00	656.64
	Number of Units	1				
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT	300	MI	9.79	2,937.00	1,116.06
	Number of Units	1				
16100	ZI CMTG LINER/SHORT CSG STRING	1	EA	24,876.00	24,876.00	9,452.88
	DEPTH	12143				
	FEET/METERS (FT/M)	FT				
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB	2,275.00	2,275.00	864.50
	NUMBER OF UNITS	1				
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI	1	JOB	1,649.00	1,649.00	626.62
	NUMBER OF DAYS	1				
114	R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB	1,285.00	1,285.00	488.30
	NUMBER OF UNITS	1				
	SURCHARGES					
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	134.00	134.00	134.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	83.00	83.00	83.00
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON	300	MI	0.45	270.00	270.00
	Number of Units	2				
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	300	MI	0.15	45.00	45.00
	Number of Units	1				
372867	Cmt PSL - DOT Vehicle Charge, CMT	3	EA	241.00	723.00	723.00
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES	150		0.15	215.10	215.10
	NUMBER OF TONS	9.56				
	ADDITIONAL EQUIPMENT					
76400	ZI MILEAGE,CMT MTLS DEL/RET MIN	150	MI	3.35	4,803.90	1,825.48
	NUMBER OF TONS	0				
3965	HANDLE&DUMP SVC CHRG, CMT&ADDITIVES,ZI	220	CF	5.49	1,207.80	458.96
	NUMBER OF EACH	1				
92	PORTABLE RADIOS, ZI	4	EA	323.00	1,292.00	490.96
	NUMBER OF JOBS	1				
	CEMENTING MATERIALS					
13256	TUNED SPACER	20	BBL	293.00	5,860.00	2,226.80
100003681	BARITE	24	SK	31.07	745.68	283.36
452979	EXPANDACEM (TM) SYSTEM	130	SK	92.92	12,079.50	4,590.21
100005050	HR-5	62	LB	11.07	686.34	260.81
	Total	**USD**				**62,895.32**
	Discount	**USD**				**38,083.64**
	Discounted Total	**USD**				**24,811.68**

Primary Plant: Rock Springs, WY, USA
Secondary Plant: Rock Springs, WY, USA

Price Book Ref: 01 Western US
Price Date: 9/26/2007

Conditions

In order to meet your needs under this Agreement (*Proposal*) with a high quality of service and responsive timing, Halliburton will be allocating limited resources and committing valuable equipment and materials to your area of operations. Accordingly, the discounts reflected in this Agreement (*Proposal*) are available only for products and services awarded on a first-call basis. As set forth below, alternate pricing will apply in the event that Halliburton is awarded work on any basis other than as a first-call provider.

The unit prices stated in the proposal are based on our current published prices. The projected equipment, personnel, and material needs are only estimates based on information about the work presently available to us. At the time the work is actually performed, conditions then existing may require an increase or decrease in the equipment, personnel, and/or material needs. Charges will be based upon unit prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually utilized in the work. Taxes, if any, are not included. Applicable taxes, if any, will be added to the actual invoice.

It is understood and agreed between the parties that with the exception of the subject discounts, all services performed and equipment and materials sold are provided subject to Halliburton's General Terms and Conditions contained in our current price list, (which include LIMITATION OF LIABILITY and WARRANTY provisions), and pursuant to the applicable Halliburton Work Order Contract (whether or not executed by you), unless a Master Service and/or Sales Contract applicable to the services, equipment, or materials supplied exists between your company and Halliburton, in which case the negotiated Master Contract shall govern the relationship between the parties. A copy of the latest version of our General Terms and Conditions is available from your Halliburton representative or at: http://www.halliburton.com/hes/general_terms_conditions.pdf for your convenient review, and we would appreciate receiving any questions you may have about them. Should your company be interested in negotiating a Master Contract with Halliburton, our Law Department would be pleased to work with you to finalize a mutually agreeable contract. In this connection, it is also understood and agreed that Customer will continue to execute Halliburton usual field work orders and/or tickets customarily required by Halliburton in connection with the furnishing of said services, equipment, and materials.
Any terms and conditions contained in purchase orders or other documents issued by the customer shall be of no effect except to confirm the type and quantity of services, equipment, and materials to be supplied to the customer.
If customer does not have an approved open account with Halliburton or a mutually executed written contract with Halliburton, which dictates payment terms different than those set forth in this clause, all sums due are payable in cash at the time of performance of services or delivery of equipment, products, or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice.

Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.

Weatherford®

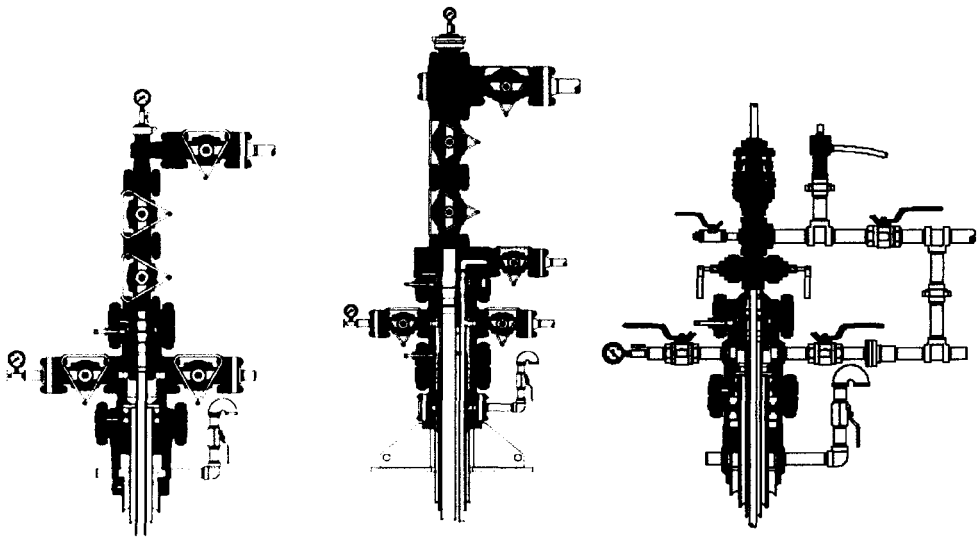
Quotation for:

Talisman Energy Inc.

Quote Number: CW-070331-CF

Submitted to: Rod Schnell

Submitted by: Craig Fisher



Weatherford would like to thank you for the opportunity to quote on this project.

Weatherford®

Wellhead Quotation

PREPARED FOR		PREPARED BY		INFORMATION	
Company	Talisman Energy Inc.	Contact	Craig Fisher	Reference	CW-070331-CF
Attention	Rod Schnell	Division	Weatherford Wellhead Systems	Date	March 15, 2007
Tel	(403) 237-1413	Tel	(403) 294-3509	Location	17-13N-7E
Fax		Fax	(403) 538-0125	Well Name	Hogback Ridge
Email		Email	Craig.Fisher@canada.weatherford.com	Rig	

DELIVERY

4 Weeks ARO

SHIP TO

Ex-Works Edmonton Manufacturing Facility

DESIGN SUMMARY

	mm	inch		
Surface Casing	339.7	13 3/8	Well Depth	-
Intermediate Casing	244.5	9 5/8	Outlets	SSO
Production Casing	177.8	7	PSL Rating	2
Tubing			Material Class	DD / EE
Polished Rods			Temperature	L + U
Pressure Rating	34.5 MPa	5000 PSI	Drawing No.	CQD-5007 & CCD-1109

Item	Quantity	Part No.	Description	Unit Price	Extended Price
			K2D DRILL THRU SYSTEM W/ RUNNING TOOLS		
			346.1mm -34.5MPa X 346.1mm -34.5MPa		
			SECTION A: WELLHEAD STACK EQUIPMENT		
1	1	610772	Base Plate Assembly, Detachable, Weatherford, Type, 13 5/8" - 5000 PSI X 13 3/8" (346mm 34.5MPa x 339.7mm) Casing, 50" O.D.	$3,129.00	$3,129.00
2	1	611930	Casing Bowl Assembly, Weatherford, Type K2D, 13 5/8" - 5000 PSI (346.1mm - 34.5MPa) X 13 3/8" (339.7mm) Slip On Weld Btm Prep w/ two 2 1/16" - 5000 PSI (52.4mm - 34.5MPa) Studded Side Outlets & 1.900" (48.3 mm) VRP Threads, Detachable Landing Base Prep,	$6,885.00	$6,885.00
3	1	611934	Casing Spool Assembly, Weatherford, Type K2D, 13 5/8" 5000 PSI (346mm 34.5MPa) X 13 5/8" 5000 PSI (346mm 34.5MPa), W/ Two 2 1/16" 5000 PSI (52mm 34.5MPa) Studded Side Outlets, 1.900" (48.3 mm) VRP Threads, API 6A L DD PSL 2 PR2	$12,900.00	**Rental**
4	2	479205	Ring Gasket, BX-160, Stainless Steel	$268.00	$536.00
5	1	610467	Stud Set, L7, 1 5/8" x 12 1/2" w/ 16 Studs / 32 2H Nuts	$592.00	$592.00
6	2	612471	Gate Valve Assembly, Type N, 2 1/16"- 5000 PSI (52.4mm- 34.5MPa), Flanged End Connections, Hand Wheel Operated, NACE Trim, API 6A L EE PSL 2 PR2	$2,828.00	$5,656.00
7	2	614194	Companion Flange, 2 1/16"- 5000 PSI (52.4mm- 34.5 MPa) X 2" (50.8mm) Line Pipe, API 6A L DD PSL 2 PR2	$139.00	$278.00
8	2	614197	Blind Flange, 2 1/16"- 5000 PSI (52.4mm- 34.5 MPa), API 6A L DD PSL 2 PR2	$129.00	$258.00
9	6	399934	Ring Gasket, R-24, Stainless Steel	$40.00	$240.00
10	2	610401	Stud Set, L7M, 7/8" x 6" w/ 8 Studs / 16 2HM Nuts	$48.00	$96.00
			CHANGE OVER STACK EQUIPMENT		
			(lower gate valves moved to upper spool)		
11	1	614194	Companion Flange, 2 1/16"- 5000 PSI (52.4mm- 34.5 MPa) X 2" (50.8mm) Line Pipe, API 6A L DD PSL 2 PR2	$139.00	$139.00
12	4	399934	Ring Gasket, R-24, Stainless Steel	$40.00	$160.00
13	1	611539	Casing Vent Assembly, 2" (50.8mm) Linepipe	$178.00	$178.00
				Total for Section 'A'	**$18,147.00**

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Completion & Production Systems
1100, 333 - 5th Avenue S.W.
Calgary, Alberta T2P 3B6

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403/266-1837 Fax
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Item	Quantity	Part No.	Description	Unit Price	Extended Price
			SECTION 'B'		
			PRIMARY CASING MANDRELS AND MANDREL PACK-OFFS		
14	1	613313	Lower Mandrel Casing Hanger, Type K2D, 13 5/8" (346.1mm), 10.5" STUB ACME-LH lift X 9 5/8" (244.5mm) 47 lb/ft (69.95 kg/m) LT&C L80 Suspension Thread Btm, API 6A L-U DD-NL PSL 2 PR2	$4,500.00	$4,500.00
15	1	613325	Mandrel Pack-Off Assembly, Weatherford Type K2D, Lower, 13 5/8" 5000 PSI (346mm 34.5MPa) X 9 5/8" (244.5mm) casing, API 6A L DD PSL 2 PR2	$4,500.00	**Rental**
16	1	613317	Casing Hanger Mandrel, Type K2D, Upper, 13 5/8" (346mm), 10.5" (266.7mm) STUB ACME-LH lift X 7" (177.8mm) Long Casing 26 lb/ft suspension, API 6A L-U DD PSL 2 PR2	$4,500.00	**Optional**
17	1	613329	Mandrel Pack-Off Assembly, Weatherford, Type K2D, Upper, 13 5/8" 5000 PSI (346mm 34.5MPa) X 7" (177.8mm) Casing, API 6A L DD PSL 2 PR2	$4,500.00	**Optional**
18	1	613345	Primary Pack-Off Assembly, Weatherford Type K2D, Upper, 13 5/8" 5000 PSI (346mm 34.5MPa) X 7" (177.8mm) Casing, API 6A L DD PSL 2 PR2	$2,150.00	**Optional**
				Total for Section 'B'	**$4,500.00**
			SECTION 'C'		
			CONTINGENCY CASING SLIPS AND CASING PACK-OFFS		
19	1	613332	Casing Slip Assembly, Weatherford, Type K2D, Lower, 13 5/8" 5000 PSI (346mm 34.5MPa) x 9 5/8" (244.5mm) Casing, reduced capacity, API 6A L-X EE PSL 3 PR2	$2,850.00	$2,850.00
20	1	613341	Casing Pack-Off Assembly, Weatherford, Type K2D, Lower, 13 5/8" 5000 PSI (346mm 34.5MPa) X 9 5/8" (244.5mm) Casing, Primary Seal API 6A L DD PSL 2 PR2	$1,500.00	$1,500.00
21	1	613353	Mandrel Pack-Off Assembly, Weatherford, Type K2D, Lower, 13 5/8" 5000 PSI (346mm 34.5MPa) X 9 5/8" (244.5mm) casing, contingency, API 6A L DD PSL 2 PR2	$2,800.00	$2,800.00
22	1	613334	Casing Slip Assembly, Weatherford, Type K2D, Upper, 13 5/8" 5000 PSI (346mm 34.5MPa) X 7" (177.8mm) Casing, API 6A L-X EE PSL 2 PR2	$2,850.00	**Optional**
				Total for Section 'C'	**$7,150.00**
			SECTION 'D'		
			BORE PROTECTORS		
23	1	610716	Bore Protector Assembly, Weatherford, Type K2D, Long, 13 5/8" (346.1mm) x 12.312" (313mm) Bore	$3,850.00	**Rental**
24	1	610722	Bore Protector Assembly, Weatherford, Type K2D, Short, 13 5/8" (346.1mm) x 8.74" (222mm) ID Bore	$1,950.00	**Rental**
				Total for Section 'D'	**Rental**

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Item	Quantity	Part No.	Description	Unit Price	Extended Price
			SECTION 'E'		
			WELLHEAD TOOLS		
25	1	610540	Test Plug Assembly, Weatherford, Type 3NS, 4 1/2" (114.3mm) IF Box x Pin w/ Nut and Internal Plug		Rental
26	1	527774-1A	Test Plug Bushing, Weatherford, Type K2D, Lower, f/ 3NS Tool		Rental
27	1	527774-2A	Test Plug Bushing, Weatherford, Type K2D, Upper, f/ 3NS Tool		Rental
28	1	610744	Casing Mandrel Running Tool Assembly, Weatherford, Type K2D, 13 5/8" (346mm), 10 1/2" (266.7mm) LH Acme x 9 5/8" (244.5mm) Casing		Rental
29	1	610740	Casing Mandrel Running Tool Assembly, Weatherford, Type K2D, 13 5/8" (346mm), 10 1/2" (266.7mm) LH Acme x 7" (177.8mm) Buttress		Rental
30	1	610756	Wash Tool Assembly, Weatherford, Type K2D, 13 5/8" x 4 1/2" (346mm x 114.3mm) IF Box		Rental
31	1	610695	Bore Protector and Pack-Off Run Retrieval Tool Assembly, Weatherford, Type K2D, 13 5/8" x 4 1/2" (346mm x 114.3mm) IF Box		Rental
32	1	610726	Pack-Off Bore Protector, Weatherford, Type K2D, Upper, 13 5/8" x 7" (346mm x 177.8mm), 29 lb/ft Casing w/ R/R Profile		Rental
33	1	610782	Pack-Off / Test Plug Tool Assembly, Weatherford, Type K2D, Upper, 13 5/8" x 3 1/2" (346.1mm x 88.9mm) IF Box		Rental
				Total for Section 'D'	Rental
				Rental Items (#3, #15 & Section D & E)	**$7,500.00**

Note: Assembly, Test, and Paint charged at $80.00 per hour.

Note: Reconditioned equipment will be used where available at a further 20% discount from above quoted prices

ACCEPTED

Signature: _____

Print Name: _____

Date: _____

Please fax to 403.538.0125

Total for Quotation CW-061026-CF (Less Contingency - Section 'C")

Terms: Net 30 days	Prices are valid for 30 days from date of quotation. Taxes, duties, tariffs and other incidental charges are not included in pricing. Part and product numbers may change without notice. Prices are FOB Edmonton.	**Total**	**$30,147.00**

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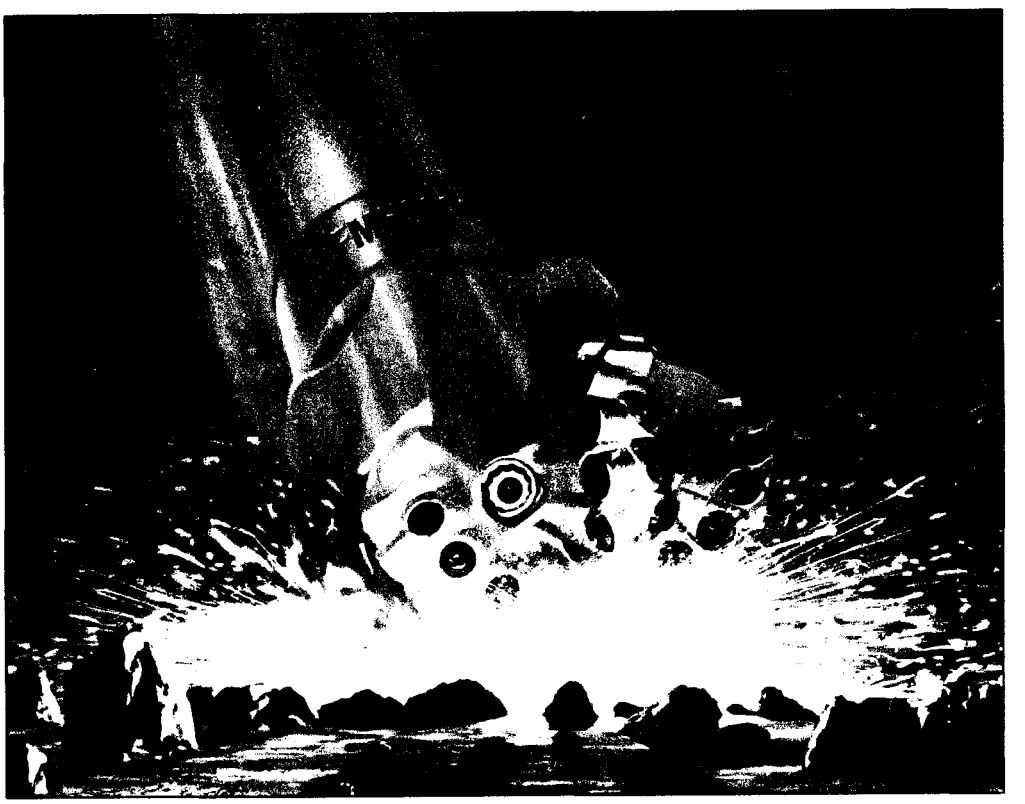
Security DBS Drill Bits
Recommended Bit Program

Customer: **Talisman Energy Inc.**
Well name: **Hogback Ridge**
Location: **17-13N-7E**
Personally prepared for: **Rod Schnell**
Prepared by: **Dave Herman**
Date: **April 25, 2007 –**



Drilling, Evaluation
and Digital Solutions

Security DBS Drill Bits

Drill Bit Recommendations

April 25, 2007

Rod Schnell
Talisman Energy Inc.
#3400, 888 - 3 St. SW
Calgary, Alberta
T2P 5C5

We require 48-hour advance notification:
Alberta Operations Center

1-866-373-BITS (2487)
(24 hour number)

RE: Hogback Ridge 17-13N-07E ***Revised May 8, 2007***

The bits recommended for your upcoming well are the ***311mm FM3643Z3*** to drill from surface casing to intermediate casing point. Once casing is set run in with our ***222mm FMH3755ZR*** drilling to the Phosphoria formation. From there to casing point utilize our ***222mm XS55DSR***. To drill the production hole we recommend drilling with our ***156mm FMH3843ZR***. *If any of these bits slow to an unacceptable rate they will be pulled and replaced with a sharp bit of that type until the programmed depth has been achieved. There will be a selection of Rollercones on location as back up.*

Bit	Estimated ROP (ft/hr)	Weight (dAN)	RPM	Price	Depth In	Depth Out
311mm						
FM3643Z3	20 – 30	10 – 20	Low Speed	$12.75/ft	1500 ft	4000 ft (ICP)
222mm						
FMH3755ZR	35 – 45	10 – 20	High	$11.00/ft	4000 ft	10311ft (Phosphoria)
XS55DSR	5 – 11	18 – 22	Torque	$21590.00 per bit	10311 ft	10450 ft (LP)
156mm			Motor			
FMH3843ZR	3 – 9	6 – 15		$20.00/ft	10450 ft	11676 ft (Mission Canyon)
FMH3843ZR	10 – 20	6 – 15		$20.00/ft	11676 ft	12335 ft (TD)

- *Slowing for formation tops will be required to minimize impact damage on the PDC runs.*
- *If a motor is used for the 222mm section, we recommend a Low Speed High Torque Motor with a minimum Torque output of 6000. (7000 – 8000 preferred) This is a RPM of 80 or less at 1600lpm.*

Special Conditions / Notes	Bit Information
Refer To Spec. Sheets	FM3643Z3 – 6 bladed, 13mm cutters FMH3755ZR – 7 bladed, 16mm cutters XS55SDR – 637 Insert Bit FMH3843ZR – 8 bladed, 13mm cutters

Additional Pricing Information:

Transportation	Supervision	Subsistence	Bit Repairs
$1.20 / km	$850.00 / day	$95.00/ day	Bit repairs to be incurred by SDBS*

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Drilling, Evaluation and Digital Solutions

Security DBS Drill Bits

The following terms and conditions would apply to this offer:

- This proposal is valid for 90 days; please contact your Security DBS Drill Bits representative if you require a revised proposal.
- Security DBS Drill Bits General Terms and Conditions will apply.
- The lost in hole price for the bits will be as per current list price.
- In the event there is non-drilling time beyond the control of Operator and Security DBS Drill Bits, the Supervisor's standby charge will be $850.00 per day and per diem of $95.00 per day.
- PDC bits remain property of Security DBS Drill Bits at all times.
- The use and placement of drilling jars will be the responsibility of the Operator.
- PDC depth-out will be pre-determined by Security DBS Drill Bits.
- For all self run bits that incur visual damage, please contact a Security DBS Drill Bits Representative for immediate replacement or substitute.
- Unreturned Security DBS Drill Bits bit breakers will be billed at current Security DBS Drill Bit Price List.
- Security DBS Drill Bits will provide one set of nozzles per bit; extra, lost, or unreturned nozzles will be billed at list price each.

PDC Supervisor – special terms and conditions:

Possible Repair Charges	Security DBS Drill Bits Supervision Requested	Security DBS Drill Bits Supervision NOT Requested
Bit Dropped or damaged due to abnormal conditions (i.e. surface gravel, junk in hole, poor hole conditions, float equip., reaming, excessive operating parameters etc.)	Security DBS Drill Bits will assume 100% responsibility for bit damage and repairs under normal drilling conditions.	Normal Bit Damage and repairs will be split on a minimum 50/50 basis.

Operating Parameters:

- Minimum flow Rate of 3000 lpm for 311mm
- Minimum flow Rate of 1500 lpm for 222mm
- Minimum flow Rate of 1400 lpm for 200mm
- Minimum flow Rate of 1000 lpm for 156mm

BHA Recommendations:

Vertical: PDC Bit, Near Bit Stab (under gauge 6-10mm), 1 Drill Collar, 1 String Stab (under gauge 6-10mm), 1 Shock Tool
Directional: as per Directional Drillers requirements

Should you require any further information with regards to this proposal or our product line, please feel free to call me at 260-5288. We look forward to working with you in the future.

Sincerely,

Dave Herman

Sr. Account Representative
260-5288
542-2488

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Drilling, Evaluation and Digital Solutions

Security DBS

BIT SIZE	BIT TYPE	IADC CODE	MATERIAL NO	CUTTER TYPE
311 mm	FM3643	M133	406398	Z3
(12 1/4)				

Product Specifications

Body Type			Matrix
Total Cutter Count			68
Cutter Distribution	10.5mm	13mm	
Face	10	42	
Gage		16	
Back Reaming		3	
Up Drill		3	
Number of Nozzles			9
Number of Ports			0
Junk Slot Area			29.12 in²
Normalized Face Volume			38.05 %

Product Attributes

API Connection			6-5/8" Reg. Pin
Recommended Make-Up Torque*			37,119 - 43,525 ft/lbs
Break Out Plate			44050
Approx. Shipping Wt	430 lb	/	195 kg

Nominal Dimensions **

Make-up Face to Nose	13.7 in	/	348 mm
Bit Gage Length	2 in	/	51 mm
Sleeve Length	0 in	/	0 mm
Shank Diameter	8.75 in	/	222 mm

* Tough design for fast ROP and enhanced durability in both rotary and PDM (Performance Drilling) applications

* Hi-spiralled blades / anti-whirl geometry breaks up regenerative cutting patterns and improved bit stability

* Short profile for improved durability in transitional / interbedded sandstone applications

* Asymmetric blade layout to disrupt tendency to regenerate whirl patterns

* CT27

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Contact your local Security DBS Representative for additional technical information.

* Bit specific recommended make up torque is a function of the bit I.D. and actual bit sub O.D. utlized as specified in API RP7G Section A.8.2

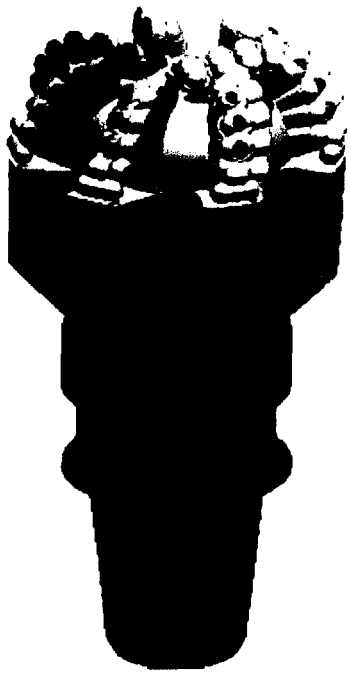
** Design dimensions are nominal and may vary slightly on manufactured product. Security DBS models are continuously reviewed and refined. Product specifications may change without notice.

Security DBS Drill Bits

BIT SIZE	BIT TYPE	IADC CODE	MATERIAL NO	CUTTER TYPE
08.750" (222 mm)	FMH3755ZR	M424	453454	Z3

Product Specifications

Body Type		Matrix
Total Cutter Count		58
Cutter Distribution		
	13mm	16mm
Face	0	37
Gage	7	7
Up Drill	7	0
Number of Std. Nozzles		0
Number of Small Nozzles		7
Number of Ports		0
Junk Slot Area (sq in)		15.12
Normalized Face Volume		36.92%



Product Attributes

API Connection	4-1/2 Reg. Pin
Recomm. Make-Up Torque*	12,461 - 17,766 ft/lbs
Nominal Dimensions**	
Make-Up Face to Nose	12.18 in - 309 mm
Gage Length	3 in - 76 mm
Sleeve Length	0 in - 0 mm
Shank Diameter	6 in - 152 mm
Break Out Plate	44040
Approx. Shipping Weight	180 lbs - 82 kg
Special Features	P-100 Powder, SPIRAL PADS, R-1 BACKUP, Impact Arrestors,

* Bit specific recommended make-up torque is a function of the bit I.D. and actual bit sub O.D. utilized as specified in API RP7G Section A.8.2.

** Design dimensions are nominal and may vary slightly on manufactured product. Security DBS models are continuously reviewed and refined. Product specifications may change without notice.

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

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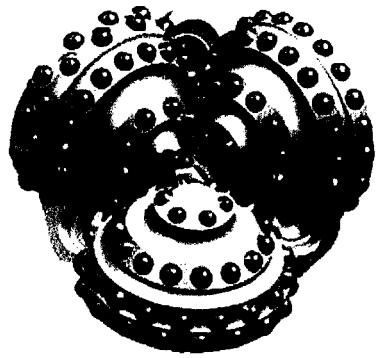
Security DBS Drill Bits

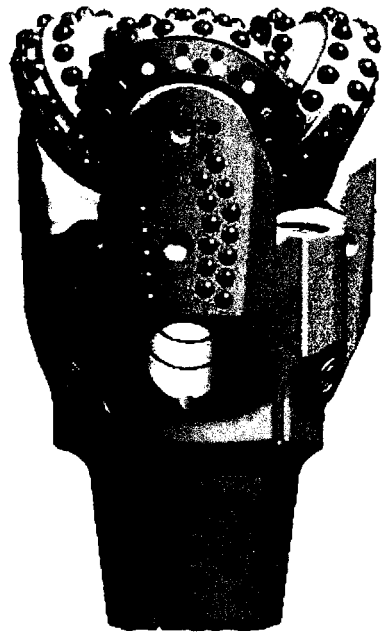
BIT SIZE	BIT TYPE	IADC CODE	ASSEMBLY	CUTTER TYPE
8.75" (222 mm)	XS55DSR	637Y	B1657	INSERT

MATERIAL NO
437586

Product Specifications

Total Insert Count	165
Gage Row Insert Count	52
Journal Angle	36°
Offset (1/16")	2
Jet Nozzle Types	
Standard	81361
Extended	301792
Center Jet	(If Center Jetted) 29564
T.J. Connection	4-1/2" (API Reg.)
Bit Weight (Boxed)	100 lbs. (45 kg.)
Bit Breaker	64494





Product Features

- Aggressive cutting structure with conical shaped inserts.
- Diamond 'Full Face' surf inserts minimize gage wear.
- Hemispherical gage inserts for enhanced gage protection and improved performance.
- Double surf row gage protection.
- Premium silver-plated friction bearing featuring solid bearing concept.
- Raised tungsten carbide inserts and proprietary hardfacing provides maximum arm protection in abrasive and directional applications while minimizing drill string torque.

Operating Parameters

Please consult your local Security DBS representative for an application specific recommendation.

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

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1 Make-Up Face to Nose 9.7 in - 246 mm

BIT RECORD

Security DBS
A Division of Dresser Industries, Inc.

Security DBS
Dresser Industries, Inc.
P. O. Box 210600 Dallas, TX. 75211-0600 (214) 333-3211

SECURITY DBS REPRESENTATIVE: **ERIC LARSON** PHONE: **307-362-3331**
STOCK POINT: **ROCK SPRINGS** AREA: **RMBU** CODE: **GJDB** PAGE ____ OF

OPERATOR: **CANADIAN 88 ENERGY - USA**
CONTRACTOR: **SST DRILLING**
RIG NAME or NO: **SST #56**
WELL NAME or NO: **CHEVRON FEDERAL 1-10P**
SECTION: **10** TOWNSHIP: **19N** RANGE: **120W**
COUNTY: **LINCOLN** STATE: **WY**

OPERATORS REPRESENTATIVE: **JIM McCREA**
CONTRACTORS REPRESENTATIVE: **DOC ASAY**
DIRECTIONS TO RIG: **NOTE: RE-ENTRY WELL; MILLED WINDOW @ 6,098**
FIELD: BLOCK:
COUNTRY: **USA**
TITE HOLE:

SPUD DATE: **02/01/99**
UNDER SURFACE:
UNDER INTERMEDIATE:
UNDER INTERMEDIATE:
TD DATE: **05/02/99**
DAYS: **91** TOT HOURS: **944.75**

DRILL PIPE: OD **5.00** WT **19.6** TJ **IF** CD WT TJ
DRILL COLLARS: OD ID LEN; OD ID LEN
SOURCE NUMBER
H.W.: OD **5.0** WT LEN **1219.75**; OD WT LEN
#1 PUMP MAKE: **NATIONAL** MODEL: **9-P-100** LINER: **6**
#2 PUMP MAKE: **NATIONAL** MODEL: **9-P-100** LINER: **6**

RUN #	BOX/ OPEN	BIT SIZE	BIT MFR	BIT TYPE	IADC CODE	RR, RT RB	SERIAL NUMBER	JET SIZE	DEPTH OUT	FOOTAGE	HOURS	ROP	WEIGHT	RPM	PUMP PRESS	FLOW GPM	R,M,T	MUD WT.	VER DEV	CUTTING STRUCTURE ICS	OCS	DC	LOC	B/S	G	ODC	RP	FORMATION DRILLED	DATE RUN
1	O	8 1/2	STC	F3			LM0612	3x14	6998	666	73.25	11.8	25/40	50 + 100	1650	(394) 122	M	8.8	32	5	8	BT	G	E,E,E	1/8	WT	HR	TWIN CREEK	(EL)
2	O	8 1/2	SEC	ERA33DLD			703844	3x15	7069	71	14.00	5.1	30/40	40 + 100	1575	(394) 122	M	8.8	34.7	8	8	WT	A	F,F,F	1	RG	PR	NUGGET	(EL)
3	O	8 1/2	STC	F57OD			LK8403	3x15	7205	136	15.50	8.8	30/40	40 + 80	1280	(316) 95	M	8.8	38.8	5	6	WT	A	E,E,E	1/8	BT	DTF	NUGGET	(EL)
4	O	8 1/2	STC	F67OD			LT6935	3x15	7321	116	18.00	6.4	25/45	40 + 80	1100	(316) 95	M	8.8	39.5	8	8	BT	G	E,E,E	1/2	RG	PR	NUGGET	(EL)
5	O	8 1/2	SEC	H100F			711641	3x14	7435	114	18.25	6.2	25/35	20 + 80	1100	(310) 95	M	8.8	39.5	6	5	WT	A	E,E,E	1/8	RG	PR	NUGGET	(EL)
6	O	8 1/2	RTC	HP83LKPDH			DX6659	3x14	7708	273	*34.00*	8.0	30/50	40 + 80	1150	(310) 95	M	8.8	39.5	7	6	WT	A	E,E,E	1/8	RG	DMF	NUGGET	(EL)
7	O	8 1/2	RTC	HP83LKPDH			DX6670	3x14	7960	252	32.00	7.9	30/50	40 + 80	1150	(310) 98 98	M	8.8	40.3	7	7	WT	A	E,E,E	1/8	RG	PR	NUGGET	(EL)
8	O	8 1/2	STC	F9ODPS			LS8612	3x15	8033	73	10.50	7.0	30/50	40 + 80	1150	(310) 100 110	M	8.8	40.3	3	5	WT	A	E,E,E	1/16	RG	FM	NUGGET	(EL)
9	O	8 1/2	HTC	ATJ-44C			C65DB	3x15	8138	105	5.50	19.1	30/50	40 + 80	1200	(310) 100 100	M	8.8	40.3	3	2	WT	A	E,E,E	1/16	RG	BHA	ANKAREH	(EL)
10	O	8 1/2	HTC	ATJ-44C			C19DB	3x14	8672	534	42.00	12.7	40/50	30 + 80	1200	(310) 98	M	8.8	39.4	2	4	WT	A	E,E,E	1/16	RG	HP	ANKARAH	(EL)
11	O	8 1/2	HTC	ATJ-44C			C64DB	3x14	9120	448	54.75	8.2	30/55	30 + 80	1250	(310) 97	M	9.0	41	2	4	WT	A	E,E,E	I	RG	BHA	ANKARAH	(EL)
12	O	8 1/2	STC	F47HPS			LS7817	3x13	*(TEST BOP)*																				
13	O	8 1/2	STC	F47HPS		RR	LS7817	3x13	9634	514	58.75	8.7	25/45	30 + 80	1750	(310) 98	M	9.0	41	2	3	WT	A	E,E,E	1 /16	RG	DMF	THAYNES	(EL)
14	O	8 1/2	STC	F4PS			LP5058	3x13	9902	268	26.75	10.0	40/50	20 + 80	1600	(310) 98	M	8.8	40.0	8	8	BT	A	E,E,E	1 1/6	RG	PR	THAYNES	(EL)
15	O	8 1/2	SEC	GM89TF			789462	3x13	10262	360	38.00	9.5	40/50	20 + 80	1550	(310) 98	M	8.9	40.0	4	6	WT	A	E,E,E	1 1/6	RG	DMF	THAYNES	(EL)
16	O	8 1/2	STC	F5PS			LT7413	3x12	10736	474	36.50	13.0	40/50	20 + 80	1850	(310) 98	M	8.9	40.0	8	8	BT	A	E,E,E	1 1/6	RG	PR	THAYNES	(EL)
17	O	8 1/2	STC	F57ODPS			LK8401	3x12	11296	560	53.50	10.5	40/50	20 + 80	1850	(310) 97	M	9.0	37.0	7	3	BT	G	E,E,F	1 1/6	RG	PP	WOODSIDE	(EL)
18	O	8 1/2	SEC	GM89F			710033	3x12	11405	109	8.00	13.6	40/50	20 + 80	2200	(355) 110	M	8.9	34.4										
19	O	8 1/2	SEC	GM89F		RR	710033	3x12	11483	78	11.50	6.8	40/50	20 + 80	1900	(355) 110	M	8.9	34.4	2	2	WT	A	E,E,E	I	RG	BHA	WOODSIDE	(EL)
20	O	8 1/2	STC	F47HPS			LT4840	3x13	11855	372	42.75	8.7	40/50	20 + 80	1850	(355) 110	M	9.0	33.0	4	6	LT	G	E,E,E	1/2	RG	FM	DINWOODY	(EL)
21	O	8 1/2	STC	F67ODR			LT6936	3x13	11940	85	8.75	9.7	35/40	20 + 80	1850	(355) 110	M	9.0	30.0	4	4	WT	A	E,E,E	1/8	RG	LOG	PHOSPHORIA	(EL)
22	O	8 1/2	STC	F67ODPS			LT7938	3x12	12233	293	34.50	8.5	40/50	20 + 80	1850	(355) 110	M	9.0	30.0	5	8	BT	G	E,E,E	1/4	RG	MWD	PHOSPHORIA	(EL)
23	O	8 1/2	HTC	ATJ55D			G90YX	3x12	12273	40	7.50	5.3	35/40	20 + 80	1850	(332) 110	M	9.0	30.0	4	7	BT	G	E,E,E	3/32	RG	PR	PHOSPHORIA	(EL)
24	O	8 1/2	STC	F67ODP			LT7947	3x12	12543	270	31.00	8.7	45	20 + 80	1975	(332) 100	M	9.0	31.0	8	8	BC	A	F,F,F	1/4	RG	PR	PHOSPHORIA	(EL)
25	O	8 1/2	SEC	GH100F			711609	3x12	12755	212	34.50	6.1	40/50	20 + 80	1975	(332) 105	M	9.0	30.0	8	8	LC-2	A	F,F,F		RG	TQ	WEBER	(EL)
26	O	8 1/2	RTC	HP83KP			MM9828	3x12	*(REAMED 8 1/2 HOURS)*											4	8	BT	G	E,F,F	1/4	RG	TQ	WEBER	(EL)
27	O	8 1/2	SEC	GH100FL			704896	3x15	*(REAMED 29 HOURS)*											1	2	WT	A	E,E,E	1/8	RG	TQ	WEBER	(EL)
28	O	8 1/2	RTC	HP83KPDH			QD4144	3x13	12931	139	25.00	5.6	40	20 + 80	1600	(323) 100	M	9.0	30.0	6	8	BT	G	F,E,E	1/8	RG	TQ	WEBER	(EL)
29	O	8 1/2	HTC	ATJS99			V78CR	3x13	13033	102	17.25	5.9	45	20 + 80	1650	(323) 100 100	M	9.0	30.0	6	6	WT	A	E,E,E	I	RG	PR	WEBER	(EL)
30	O	8 1/2	HTC	ATJP77D			X80CB	3x13	13117	84	12.00	7.0	35/45	20 + 80	2000	(323) 100	M	9.0	30.0			(NO DULL)							
31	O	8 1/2	SEC	GH100F			711664	3x13	13198	81	13.50	6.0	30/35	20 + 80	1950	(323) 100	M	9.2	30.2	8	8	CD-1	A	F,F,F	5/8	RG	TQ	WEBER	(EL)
32	O	8 1/2	STC	F9OD			258610	3x14	13377	179	33.75	5.3	35/45	20 + 80	1950	(323) 100	M	9.2	32.6	6	6	WT	A	F,F,F	5/8	RG	TQ	WEBER	(EL)
33	O	8 1/2	STC	F7ODPS			LK8384	3x13	13509	132	19.00	6.9	40/50	20 + 80	1900	(323) 100	M	9.2	32.5	4	8	BT	G	E,E,E	1/8	RG	PR	MORGAN	(EL)
34	O	8 1/2	SEC	GM89F			707742	3x13	13614	105	16.50	6.4	45	20 + 80	1900	(323) 100	M	9.2	33.6	8	8	CD	A	E,E,E	1/8	RG	PR	MORGAN	(EL)
35	O	8 1/2	HTC	ATJP77D			X79CB	3x16	*(REAMED 32 HOURS)*													(NO DULL)							
36	O	6	SEC	GDM89TF			710465	3x16	*(CIRCULATE AND CONDITION 1ST 24 HOURS, THEN DRILLED FLOAT SHOE)*																				
37	O	6	SEC	GDM89TF		RR	710465	3x16	13698	84	16.25	5.2	10/20	20 + 90	2250	(197) 60	M	8.9	33.4	6	6	BC-1	A	E,E,E	1/16	RG	PR	MISSION CANYON	(EL)
38	O	6	STC	MF57OPD			LS8278	3x18	13826	128	23.00	5.6	25	20 + 90	2250	(197) 60	M	9.0	33.4	6	5	BT	A	E,E,E	1/16	RG	PR	MISSION CANYON	(EL)
39	O	6	SEC	GM89FD			727010	3x20	14103	277	25.00	11.1	25	20 + 90	2450	(197) 60	M	9.1	30.1	3	5	BT	G	E,E,E	I	RG	DMF	MISSION CANYON	(EL)
40	O	6	SEC	GM89FD			726955	3x18	14381	278	24.75	11.2	25	20 + 90	2450	(197) 60	M	9.1	31.7	3	7	BT	G	E,E,E	I	RG	HR	MISSION CANYON	(EL)
41	O	6	SEC	GM89TF			712154	3x18	14483	102	9.00	11.3	25	20 + 90	2450	(197) 60	M	9.1	31.0	4	7	BT	G	E,E,E	1/16	RG	TD	LODGE POLE	(EL)
42	O	6	RTC	EHP61KP			LX8132	3x20	*(REAMING AND CONDITIONING HOLE)*																				
43	O	6	SEC	GPSF			730535	3x20	*(DRILL CEMENT TO THE TOP OF LINER)*																				

ESTIMATED FORMATION TOPS:

TWIN CREEK	6,000'	THAYNES	8,500'	PHOSPHORIA 11,000'	LODGE POLE 14,500'
NUGGETT	6,500'	WOODSIDE	10,000'	WEBER 11,500'	PROPOSED TD 14,500'
ANAKARAH	7,500'	DINWOODY	10,500'	MISSION CANYON 13,250'	

Bit Record

Divestco

Well Name: A.R.E. #W11-01
Operator: CHAMPLIN PETROLEUM
Contractor: BRINK-SIGNAL DRLG CO
Rig: 72
DR Number: U-208
State/Prov: UT (SUMMIT)
Location: NWNE 11 3N 7E; FLD: ANSCHUTZ RANCH EAST; Ftg: 533 FNL 1486 FEL

Spud Depth: 100 ft
TD: 15,593 ft
TVD:
Spud: 1985-12-22
RR: 1986-07-10
Date Printed: 2007-03-19

No.	Size	Type	Bit Man	Jet Sizes			TFA	Serial Num	Depth Out	Feet	Hours	Cum. Hours	ft/hr	I	O	D	L	B	G	O	R
1A	17.500	M4NJ	SEC					422810	216	116	7.50	7.50	15.5	1				1	IN		
RR1A	17.500	M4NJ	SEC	OP	OP	OP	2.36	422810	311	95	7.00	14.50	13.6	4				5	IN		
2A	17.500	S84J	SEC	24	24	24	1.33	439380	400	89	5.25	19.75	17.0								
RR2A	17.500	S84J	SEC	24	24	24	1.33	439380	1,180	780	66.50	86.25	11.7	4				4	0.06		
3A	17.500	S84J	SEC	22	22	22	1.11	447048	1,284	104	6.00	92.25	17.3								
RR3A	17.500	S82	SEC	22	22	22	1.11	447048	1,934	650	67.50	159.75	9.6	2				5	IN		
4A	17.500	S82	SEC	22	22	22	1.11	447180	2,084	150	14.75	174.50	10.2								
RR4A	17.500	S82	SEC					447180	2,129	45	10.25	184.75	4.4								
RR4A	17.500	S82	SEC	24	24	24	1.33	447180	2,135	6	1.00	185.75	6.0								
RR4A	17.500	S82	SEC	24	24	24	1.33	447180	2,146	11	2.00	187.75	5.5								
RR4A	17.500	S82	SEC	24	24	24	1.33	447180	2,252	106	15.75	203.50	6.7	3				4	0.06		
5A	17.500	S82	SEC	22	22	22	1.11	447102	2,529	277	40.00	243.50	6.9	3				4	0.25		
6A	17.500	S84J	SEC	22	22	22	1.11	438533	2,803	274	52.25	295.75	5.2	6				4	IN		
	17.500	X22	HCC	22	22	22	1.11	FE623	DRILL CMT PLUGS												
7ARR	17.500	X22	HCC	22	22	22	1.11	FE623	3,037	234	49.00	344.75	4.8	4				3	0.06		
8A	17.500	S84J	SEC	22	22	22	1.11	438307	3,280	243	55.50	400.25	4.4	6				4	0.25		
9A	17.500	S84J	SEC	22	22	22	1.11	438286	3,553	273	65.50	465.75	4.2	4				3	0.13		
10A	17.500	2JS	STC	22	22	22	1.11	SW2136	3,904	351	65.00	530.75	5.4	3				3	0.13		
11A	17.500	2JS	STC	22	22	22	1.11	EW2154	4,022	118	10.25	541.00	11.5								
RR11A	17.500	2JS	STC	22	22	22	1.11	EW2154	4,564	542	90.00	631.00	6.0	5				4	0.38		
12A	17.500	HP51AJ	RRB	22	22	22	1.11	J56758	4,838	274	71.75	702.75	3.8	4				8	0.06		
13A	17.500	2JS	STC	22	22	22	1.11	E20615	4,923	85	15.00	717.75	5.7								
RR13A	17.500	2JS	STC	22	22	22	1.11	E20615	5,359	436	92.75	810.50	4.7	3				4	0.06		
14A	17.500	2JS	STC	22	22	22	1.11	EW2142	6,229	870	115.50	926.00	7.5	5				4	0.13		
15A	17.500	2JS	STC	22	24	24	1.25	EW2288	6,389	160	23.25	949.25	6.9	4				3	IN		
16A	17.500	X33	HCC	22	22	22	1.11	DJ319	6,581	192	28.25	977.50	6.8	2				3	IN		
17A	17.500	M4NJ	SEC	22	22	22	1.11	420175	6,612	31	13.50	991.00	2.3	2				2	IN		
18A	17.500	2JS	STC	22	22	22	1.11	EZ0415	7,080	468	64.00	1055.00	7.3								
RR	17.500	2JS	STC	22	22	22	1.11	EZ0415	COND TO RUN LOGS												
RR	17.500	2JS	STC					EZ0415	COND TO RUN CSG												
1	12.250	S84F	SEC	12	13	13	0.37	447595	7,200	120	9.75	9.75	12.3	6				E	0.13		
2	12.250	2JS	STC	12	13	13	0.37	YV3312	7,802	602	41.50	51.25	14.5								
3	12.250	2JS	STC	13	13	13	0.39	YV3314	8,442	640	76.75	128.00	8.3								
4	12.250	2JS	STC	13	13	14	0.41	YV3322	9,100	658	49.75	177.75	13.2								
5	12.250	S84F	SEC	13	13	14	0.41	450791	9,271	171	11.50	189.25	14.9	3				4	0.06		

The information contained in this publication is obtained from reliable sources. Divestco, however, cannot guarantee the exactness of this information.

Divestco

No.	Size	Type	Bit Man	Jet Sizes			TFA	Serial Num	Depth Out	Feet	Hours	Cum. Hours	ft/hr	I	O	D	L	B	G	O	R
6	12.250	S85F	SEC	13	13	14	0.41	441606	9,641	370	34.50	223.75	10.7								
7	12.250	F2J	STC	13	14	14	0.43	FE3652	9,896	255	35.25	259.00	7.2								
8	12.250	HP53AJ	RRB	13	14	14	0.43	K97400	10,153	257	27.00	286.00	9.5								
9	12.250	HP53AJ	RRB	13	14	14	0.43	K97399	10,569	416	35.00	321.00	11.9								
10	12.250	J33J	HCC	13	14	14	0.43	LX734	11,102	533	62.00	383.00	8.6								
11	12.250	HP53AJ	RRB	14	14	14	0.45	K97375	11,702	600	60.25	443.25	10.0								
12	12.250	HP53AJ	RRB	13	14	14	0.43	K97376	11,770	68	25.00	468.25	2.7								
13	12.250	J33J	HCC	14	14	14	0.45	KZ218	11,774	4	0.25	468.50	16.0								
14	12.250	F3J	STC	14	14	14	0.45	FE0592	11,896	122	28.00	496.50	4.4								
RR13	12.250	J33J	HCC	14	14	14	0.45	KZ218	11,899	3	0.25	496.75	12.0								
15	12.250	F4J	STC	14	14	14	0.45	FD7950	12,012	113	34.00	530.75	3.3								
RR15	12.250	F4J	STC	14	14	14	0.45	FD7950	12,015	3	0.50	531.25	6.0								
16	12.250	FP53J	RRB	14	14	14	0.45	T56634	12,152	137	41.50	572.75	3.3								
17	12.250	S84F	SEC	14	14	14	0.45	442615	12,260	108	23.00	595.75	4.7								
RR	12.250	FP53J	RRB	14	14	14	0.45	T56634	REAM DIR. HOLE												
18	12.250	S85F	SEC	14	14	14	0.45	444065	12,356	96	28.00	623.75	3.4								
RR15	12.250	F4J	STC	14	14	14	0.45	FD7950	12,361	5	0.50	624.25	10.0								
19	12.250	J33J	HCC	14	14	14	0.45	LL563	12,406	45	18.25	642.50	2.5								
20	12.250	HP53AJ	RRB	14	14	14	0.45	A42823	12,487	81	10.75	653.25	7.5								
21	12.250	HP53AJ	RRB	14	14	14	0.45	A42769	12,656	169	29.50	682.75	5.7	4				6	0.13		
22	12.250	F3J	STC	14	14	15	0.47	FE0580	12,750	94	15.00	697.75	6.3	4				2	0.13		
23	12.250	F3J	STC	14	14	15	0.47	EW9107	12,823	73	17.25	715.00	4.2								
RR23	12.250	F3J	STC	14	14	15	0.47	EW9107	12,826	3	0.75	715.75	4.0								
24	12.250	F3J	STC	14	14	15	0.47	FA6216	13,004	178	45.50	761.25	3.9	4				4	0.25		
	12.250	S86F	SEC	15	15	15	0.52	420548	CIRC & REAM TIGHT HOLE												
	12.250	S86F	SEC	15	15	15	0.52	434069	WASH & REAM HOLE - AND												
25RR	12.250	S86F	SEC	16	16	16	0.59	434069	13,187	183	34.50	795.75	5.3								
			UNDER REAM HOLE PRIOR TO RNG CSG																		
RR	12.250	S86F	SEC	15	15	15	0.52	434069	WASH TB & COND MUD												
	8.250	MILL							MILL CMT												
RR	8.250	MILL							MILL ON JUNK												
	8.250	MILL							13,189	2	0.25	796.00	8.0								
			MILL ON JUNK																		
	8.250	MILL							13,192	3	0.50	796.50	6.0								
			MILL ON JUNK																		
	8.250	MILL							13,196	4	0.50	797.00	8.0								
			MILL ON JUNK																		
26	8.500	S21GJ	RRB	9	9	10	0.20	Y28891	13,262	66	7.75	804.75	8.5								
27	8.500	HP53AJ	RRB	12	12	12	0.33	Y30733	13,377	115	19.50	824.25	5.9								
RR27	8.500	HP53AJ	RRB	12	12	12	0.33	Y30733	13,410	33	4.00	828.25	8.3	3				3	IN		
28	8.500	HP53AJ	RRB	12	12	12	0.33	DU1139	13,782	372	57.00	885.25	6.5								
RR28	8.500	HP53AJ	RRB	12	12	12	0.33	DU1139	13,784	2	0.25	885.50	8.0								
29	8.500	HP51AJ	RRB	12	12	12	0.33	P84005	14,153	369	37.00	922.50	10.0								
30	8.500	HP51AJ	RRB	10	10	10	0.23	K98731	14,228	75	5.25	927.75	14.3								
RR30	8.500	HP51AJ	RRB	10	10	10	0.23	K98731	14,608	380	22.00	949.75	17.3								
RR27	8.500	HP53AJ	RRB	9	9	9	0.19	Y30733	14,685	77	7.50	957.25	10.3								

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No.	Size	Type	Bit Man	Jet Sizes			TFA	Serial Num	Depth Out	Feet	Hours	Cum. Hours	ft/hr	I	O	D	L	B	G	O	R
31	8.500	HPSMJ	RRB	10	10	10	0.23	AA1672	14,736	51	6.00	963.25	8.5	2					0.50		
32	8.500	HPSMJ	RRB	9	9	9	0.19	AA1725	14,934	198	21.25	984.50	9.3								
33	8.500	HP63J	RRB	11	11	BL	0.19	K97137	15,081	147	27.00	1011.50	5.4	6				3	0.25		
34	8.500	HPMHJ	RRB	11	11	BL	0.19	LM5743	15,234	153	20.75	1032.25	7.4								
RR	8.500	HPMHJ	RRB	11	11	BL	0.19	LM5743	COND FOR CORE												
C1	8.500	CORE BIT					0.50	2602009	15,293	59	21.25	1032.25	2.8								
C2	8.500	CORE BIT					0.50	2602009	15,357	64	25.00	1032.25	2.6								
	8.500	HP73J	RRB	11	11	BL	0.19	XE7051	REAM & COND HOLE												
C3	8.500	CORE BIT					0.50	30630	15,418	61	13.00	1032.25	4.7								
	8.500	HP73J	RRB	11	11	BL	0.19	XE7050	WASH & REAM HOLE												
C4	8.500	CORE BIT					0.50	30630	15,449	31	9.25	1032.25	3.4								
35	8.500	HPHJ	RRB	12	12	BL	0.22	938601	15,593	144	16.25	1048.50	8.9								
RR	8.500	HPHJ	RRB	12	12	BL	0.22	938601	COND TO RUN LOGS												

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Bit Record

Divestco

Well Name: UPRR 35-22
Operator: AMERICAN QUASAR PET
Contractor: PARKER DRILLING CO
Rig: 183
DR Number:
State/Prov: UT (SUMMIT)
Location: SWNW 35 3N 7E; FLD: UNDESIGNATED; Ftg: 2338 FNL 1235 FWL

Spud Depth: 76 ft
TD: 12,420 ft
TVD:
Spud: 1983-10-18
RR: 1984-03-29
Date Printed: 2007-03-19

No.	Size	Type	Bit Man	Jet Sizes			TFA	Serial Num	Depth Out	Feet	Hours	Cum. Hours	ft/hr	I	O	D	L	B	G	O	R
			SPUD AT 76'																		
1A	12.250	J11	HCC	12	12	12	0.33		2,210	2,134	123.50	123.50	17.3								
1B	17.500	HOLE		20	20	20	0.92		R 866	R 790	51.50		15.3								
2B	17.500	HOLE		20	20	20	0.92		R 1,553	R 687	42.50		16.2								
3B	17.500	HOLE		20	20	20	0.92		R 1,929	R 376	33.50		11.2								
4B	17.500	HOLE		20	20	20	0.92		R 2,210	R 281	23.50		12.0								
			RUN 13.375" CSG AND CMT																		
1	12.250	R4	HCC	12	12	12	0.33		2,264	54	12.00	12.00	4.5								
2	12.250	J11	HCC	12	12	12	0.33		2,652	388	56.00	68.00	6.9								
3	12.250	F2J	STC	12	12	12	0.33		3,805	1,153	75.50	143.50	15.3	3				E	0.07		
4	12.250	J22J	HCC	12	12	14	0.37		4,214	409	42.00	185.50	9.7								
5	12.250	J22J	HCC	12	12	14	0.37		4,930	716	62.50	248.00	11.5	2				8			
6	12.250	HS51J	RRB	12	12	14	0.37		5,931	1,001	103.50	351.50	9.7	3				4	0.13		
7	12.250	F2J	STC	12	12	14	0.37		6,744	813	105.00	456.50	7.7	5				4	0.13		
8	12.250	HS51J	RRB	13	13	14	0.41		6,768	24	18.00	474.50	1.3	2				3	0.25		
9	12.250	FP52J	RRB	13	13	14	0.41		6,853	85	52.50	527.00	1.6								
RR8	12.250	HS51J	RRB	12	12	14	0.37		6,889	36	4.00	531.00	9.0								
10	12.250	F2J	STC	13	13	14	0.41		6,955	66	29.00	560.00	2.3								
11	12.250	F2J	STC	13	13	14	0.41		7,067	112	52.00	612.00	2.2	4				4	0.13		
12	12.250	J11	HCC	13	13	14	0.41		7,099	32	7.00	619.00	4.6	8				E	IN		
RR10	12.250	F2J	STC	12	12	14	0.37		7,146	47	5.00	624.00	9.4	4				4	0.13		
13	12.250	J22J	HCC	14	14	14	0.45		7,323	177	62.50	686.50	2.8								
14	12.250	F2J	STC	14	14	14	0.45		7,386	63	34.50	721.00	1.8	2				3	0.13		
RR11	12.250	F2J	STC	12	12	14	0.37		7,497	111	15.50	736.50	7.2	4				3	0.13		
RR13	12.250	J22J	HCC	12	12	14	0.37		7,655	158	20.50	757.00	7.7								
RR14	12.250	F2J	STC	12	12	14	0.37		7,870	215	60.50	817.50	3.6	8				6	0.25		
15	12.250	J22J	HCC	14	14	14	0.45		7,914	44	62.50	880.00	0.7								
RR9	12.250	FP52J	RRB	13	13	13	0.39		8,083	169	27.50	907.50	6.1	3				2	IN		
RR8	12.250	HS51J	RRB	13	13	13	0.39		8,338	255	40.00	947.50	6.4								
RR9	12.250	FP52J	RRB	13	13	13	0.39		8,581	243	44.00	991.50	5.5	8				E	IN		
RR10	12.250	F2J	STC	13	13	13	0.39		8,691	110	21.00	1012.50	5.2								
16	12.250	FP52J	RRB	13	13	13	0.39		9,096	405	73.50	1086.00	5.5	8				2	0.25		
17	12.250	S86F	SEC	12	12	14	0.37		9,446	350	57.00	1143.00	6.1								
			AND COND TO LOG																		
	12.250	S86F	SEC	OP	OP	OP	2.36		COND TO RUN CSG- RUN 9.625" CSG AND CMT												

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Divestco

No.	Size	Type	Bit Man	Jet Sizes			TFA	Serial Num	Depth Out	Feet	Hours	Cum. Hours	ft/hr	I	O	D	L	B	G	O	R
	8.500	S13GJ	RRB	12	12	12	0.33		DRILL OUT- RUN BOND LOG- SQUEEZE CMT												
			DRILL CMT- DISPLACE TO WT'D SALT MUD AND																		
18	8.500	S13GJ	RRB	12	12	12	0.33		9,485	39	8.75	1151.75	4.5								
19	8.500	J33J	HCC	11	11	12	0.30		10,016	531	68.00	1219.75	7.8	4				3		IN	
20	8.500	S86F	SEC	11	11	12	0.30		10,130	114	33.50	1253.25	3.4								
			RUN 7.75" LINER AND CMT																		
	8.500	S86F	SEC	11	11	12	0.30		DRILL TO TOP OF LINER												
			DRILL CMT AND																		
21	6.500	M44NF	SEC	12	12	12	0.33		10,150	20	4.50	1257.75	4.4								
22	6.500	S86F	SEC	12	12	12	0.33		10,254	104	16.00	1273.75	6.5								
23	6.125	331B	HCC				0.35		10,368	114	17.00	1290.75	6.7								
RR23	6.125	331B	HCC				0.35		10,448	80	15.50	1306.25	5.2								
RR23	6.125	331B	HCC				0.35		10,801	353	78.00	1384.25	4.5								
	6.500	S86F	SEC	12	12	12	0.33		R 10,801	R 547	25.50		21.5								
24	6.125	331B	HCC				0.30		10,878	77	28.50	1412.75	2.7								
25	6.500	M89F	SEC	12	12	13	0.35		R 10,878	R 77	6.00		12.8								
									10,913	35	10.00	1422.75	3.5								
	6.125	331B	HCC				0.30		ATTEMPT TO DRILL AHEAD- POH												
	6.500	M84F	SEC	12	12	13	0.35		TIH- WORK TITE SPOTS AND COND												
RR24	6.125	331B	HCC				0.30		10,975	62	17.00	1439.75	3.6								
RR24	6.125	331B	HCC				0.30		11,000	25	5.50	1445.25	4.5								
RR24	6.125	331B	HCC				0.30		11,017	17	8.00	1453.25	2.1								
26	6.125	MD331	HCC				0.35		11,299	282	29.50	1482.75	9.6								
RR24	6.125	331B	HCC				0.30		11,309	10	8.50	1491.25	1.2								
27	6.125	S86F	SEC	12	12	12	0.33		11,381	72	14.00	1505.25	5.1								
28	6.125	S88F	SEC	12	12	12	0.33		11,399	18	10.00	1515.25	1.8								
RR26	6.125	MD331	HCC				0.35		11,969	570	170.00	1685.25	3.4								
29	6.125	MD331	HCC				0.35		12,000	31	20.50	1705.75	1.5								
30	6.125	HPSMJ	RRB	12	12	12	0.33		12,021	21	9.00	1714.75	2.3								
RR24	6.125	331B	HCC				0.30		12,025	4	11.00	1725.75	0.4								
31	6.125	S248	HCC				0.35		12,031	6	11.00	1736.75	0.5								
32	6.125	V617	VAR	12	12	12	0.33		12,073	42	13.00	1749.75	3.2								
33	6.125	V627	VAR	12	12	12	0.33		12,115	42	13.50	1763.25	3.1								
34	6.125	V617	VAR	12	12	12	0.33		12,167	52	18.00	1781.25	2.9								
35	6.125	V617	VAR	12	12	12	0.33		12,220	53	20.50	1801.75	2.6								
36	6.125	V617	VAR	12	12	12	0.33		12,297	77	21.50	1823.25	3.6								
37	6.125	V617	VAR	12	12	12	0.33		12,360	63	16.00	1839.25	3.9								
			AND COND TO LOG																		
	6.125	V617	VAR	12	12	12	0.33		COND- WOO- RUN DST.												
38	6.125	V617	VAR	12	12	12	0.33		12,420	60	8.00	1847.25	7.5								
			AND COND- RUN DST- ABANDON																		

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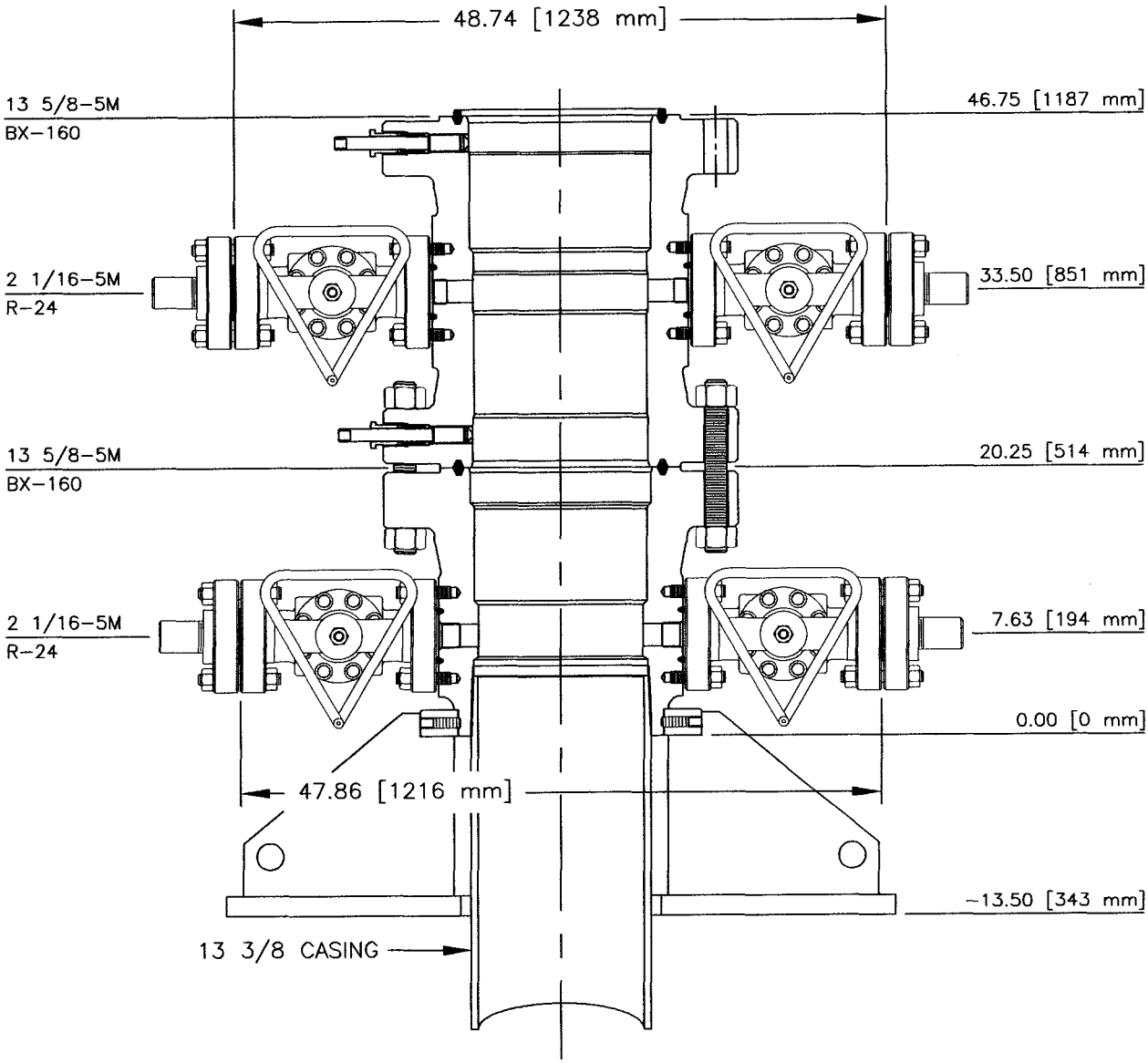
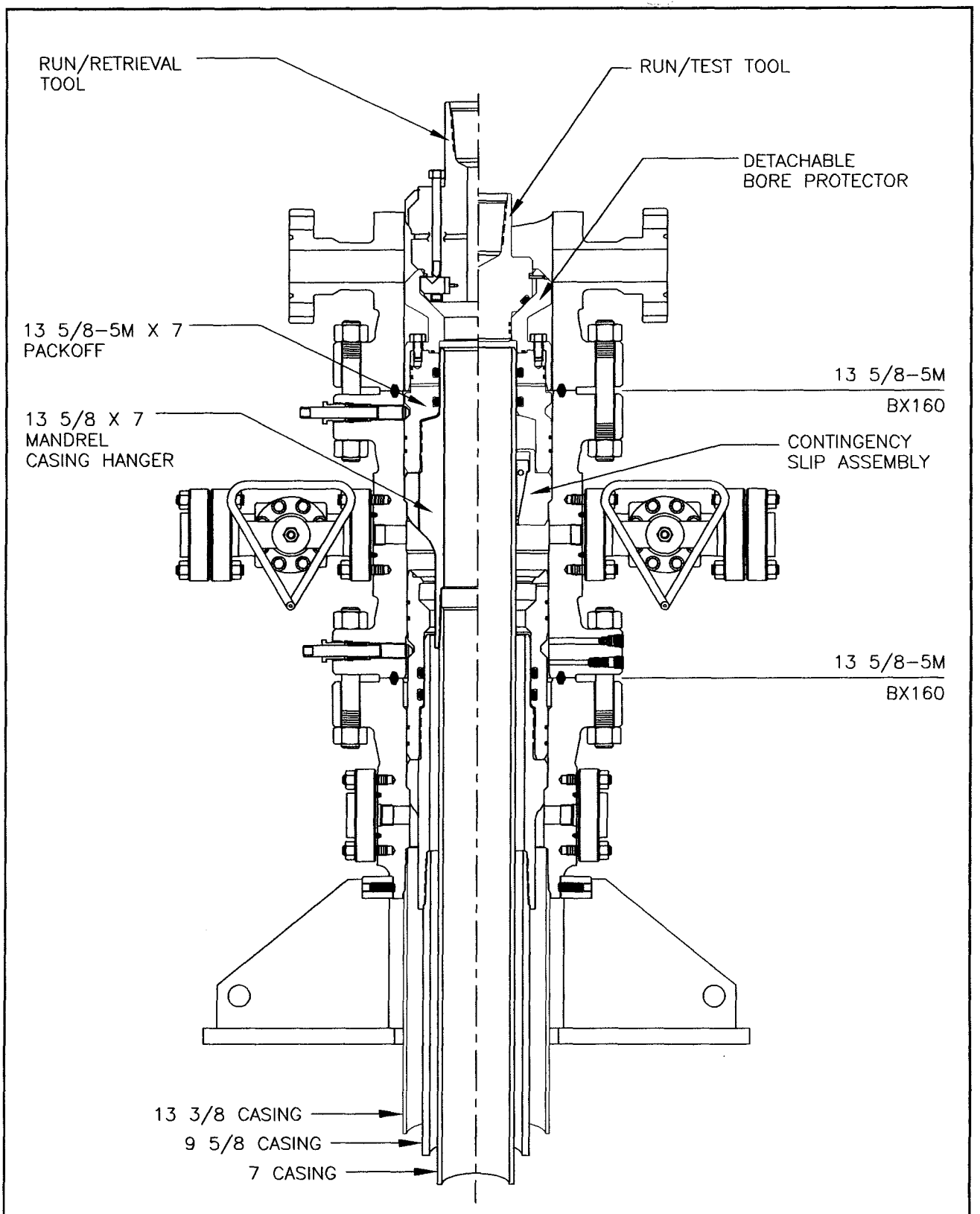


3. RIG:
2. QUOTE: CW-051026-CF
1. NARRAWAY 10-24-62-11 W6M

NOTES:

Weatherford	Wellhead Systems Calgary, Alberta, Canada			WEATHERFORD K2D DRILLING STACK 13 5/8-5M X 13 5/8-5M X 13 3/8 OD CASING W/ DETACHABLE LANDING BASE					
CHKD BY		DATE	18-MAR-05	DWN BY J.OGILVIE	DATE	18-MAR-05	SCALE	1:12	
APPD BY		DATE	18-MAR-05	DWG NO CQD-5007	REV	A	REF NO	AS LISTED ABOVE	



Weatherford	**Wellhead Systems** Edmonton, Alberta, Canada			WELLHEAD ASSEMBLY, K2D, 13 5/8-5M SYSTEM PRIMARY X CONTINGENCY UPPER 13 3/8 X 9 5/8 X 7 CASING							
CHKD BY		DATE	15-MAY-00	DWN BY	C.W.HEBERT	DATE	15-MAY-00	SCALE	1:12		
APPD BY		DATE	16-MAY-00	DWG NO	CCD-1109		REV	–	REF NO		

TABLE 1: CRITERIA MATRIX FOR CLASSIFYING INCIDENTS

CRITERIA	ALERT: MINIMAL	EMERGENCY*		
		LEVEL 1: LOW	LEVEL 2: MEDIUM	LEVEL 3: HIGH
Risk Control	▪ Immediate control of hazard, with progressive resolution of the situation.	▪ Immediate control of hazard is becoming progressively more complex because of deteriorating conditions.	▪ Immediate and/or intermittent control of the hazard is possible.	▪ Imminent control of the hazard is not possible.
Type of Incidents				
-Well Control Situation	▪ *Unusual odor.* ▪ *Unexpected flaring required.* ▪ *Unscheduled heavy traffic as a result of a down hole problem.*	▪ *A problem during drilling a well, when the gas zone is open and the well is encountering a significant loss of circulation, significant continuous gas out mud or a significant kick.* ▪ *Gas zone is open and an event occurs that has the potential to lead to well control problems during Completions.* - *Equipment dropped into the well (e.g.: tubing string) with potential down hole damage to the well.* - *Inabilities to pump kill fluid into the well as a result of a pump malfunction or no kill fluid available on location.*	▪ *Equipment malfunction while circulating a kick or an inability to maintain required volumes of circulating fluid, barite or lost circulation material while drilling a well.* ▪ *Equipment malfunctions during Completions, Well Stimulation /Testing restricting the ability to manage any Level 1 Emergency.*	▪ *Well is experiencing an uncontrolled flow and the well effluent has reached the surface; or* ▪ *Well is flowing small volumes of gas to surface and is partially controlled but Public safety cannot be assured.*
- Containment Failure	▪ Control and relief systems functioning correctly.	▪ Control and relief systems functioning correctly.	▪ Some control and/or relief systems not operational.	▪ Key control and relief systems not operational.

TABLE 1: CRITERIA MATRIX FOR CLASSIFYING INCIDENTS (CONT'D)

CRITERIA	ALERT: MINIMAL	EMERGENCY*		
		LEVEL 1: LOW	LEVEL 2: MEDIUM	LEVEL 3: HIGH
-Fire/Explosion	▪ Small gas leak or fuel spill that can be immediately contained	▪ Gas or Fuel Leak with some risk of Fire	▪ Contained equipment fire i.e. camp, trailers or rig equipment /No risk to life	▪ Major Equipment/rig fire and/or explosion
-Hazardous Spill (Chemicals, Hydrocarbons or Produced Water)	▪ Spill but with in a containment system. No fire hazard	▪ Onsite spill but outside containment system	▪ Spill migrates offsite an/or potential of fire and/or explosion	▪ Offsite into Sensitive Environment i.e. Wild Life wet lands, river or major water body
-Transportation Danger goods	▪ TDG violation	▪ Accident no damage to container and no product release	▪ Accident with damage to container with potential of failure and/or fuel spill	▪ Accident with fire and or significant loss of product
-Natural Event				
- Wildfires	Extreme dry conditions	▪ Small fire near site that can be contained	▪ Uncontrolled fire that could cause a hazard to the operations	▪ Uncontrolled fires that are a safety hazard and potential loss of equipment
- Severe Weather	▪ Severe weather warning for area	▪ Travel becoming hazardous	▪ Restriction of travel	▪ No visibility, roads are impassible, significant build up of ice in equipment and hydro-lines
- Tornado	▪ Warning for area	▪ Significant Tornado clouds in area	▪ Touching down in area	▪ Approaching or has touched down on site

TABLE 1: CRITERIA MATRIX FOR CLASSIFYING INCIDENTS (CONT'D)

CRITERIA	ALERT: MINIMAL	EMERGENCY*		
		LEVEL 1: LOW	LEVEL 2: MEDIUM	LEVEL 3: HIGH
-External Event				
- **Third Party Emergency**	Operating in Sour Gas Field	Notification of an emergency situation from industrial operator	Evacuation of site/Shutting down operations	Risk of exposure to workers
- **Sabotage**	Targeting industry in area	Unconfirmed	Onsite Damage	Severe damage that disrupt the safety of the operations
- **Bomb Threat**	Targeting industry in area	Unsubstantiated Threat	Credible Threat	Explosive located on site and or has detonated
Impact				
- Worker Safety	▪ Near Miss	▪ Injury	▪ Multiple Worker Injury and/or a life threatening Worker Injury	▪ Worker Fatality
- Public Safety	▪ On-site only. No risk to Public but Public has a perception that they are at risk.	▪ On-site, with possible impact off-site.	▪ On-site, with possible impact off-site.	▪ Potential for Public safety to be jeopardized.
- Environment	▪ On-site only.	▪ On-site, with some potential off-site. Minor or short term.	▪ On-site, with some potential off-site. Minor or short term.	▪ On-site, with significant off-site. Long term

7.0 Notification and Communication

7.1 Protocol

To be effective, an emergency response requires a timely and effective notification process/system. The appropriate company personnel and government/regulatory agencies must be informed of the potential for a serious incident or the occurrence of a significant event requiring emergency support and response. The appropriate notification must start immediately when declaring an Alert Stage or Emergency Level for an incident.

Only communicate factual information about the emergency situation that has been substantiated, without speculation about cause or other undetermined details.

7.2 Table 2: Notification/Communication for Emergencies

Outlines who and when communicating should be completed with Fortuna (US) LP personnel, Public and with government and regulatory agencies. (See Table # 2 NOTIFICATION/COMMUNICATION FOR EMERGENCIES)

TABLE 2: NOTIFICATION/COMMUNICATION FOR EMERGENCIES

RESPONSES	ALERT	EMERGENCY		
		LEVEL 1	LEVEL 2	LEVEL 3
COMMUNICATIONS				
- Internal	▪ Discretionary of Fortuna Site Supervisor.	▪ Fortuna Site Supervisor notification of off-site management	▪ Fortuna Site Supervisor immediate notification of off-site management.	▪ Fortuna Site Supervisor immediate notification of off-site management
- External Public	▪ Required for un-planned flaring or possible perception of risk by Public	▪ Mandatory for individuals within the EPZ requiring notification.	▪ Planned and instructive as per the site specific ERP.	▪ Planned and instructive as per the site specific ERP.
- Media	▪ Reactive, as required.	▪ Reactive, as required.	▪ Proactive media management to local or regional interest.	▪ Proactive media management to national interest.
- Government	▪ *Notify BLM and Utah Oil, Gas and Mining when Public is being contacted.*	▪ Notify BLM, Sheriff, *Utah Oil, Gas and Mining* and local authority, if required for initial response.	▪ Notify BLM, Sheriff a *Utah Oil, Gas and Mining and* local authority. UOSH for serious injuries	▪ Notify BLM, Sheriff, *Utah Oil, Gas and Mining* and local authority.
ACTIONS				
- Internal	▪ On-site, as required by Fortuna (US) LP operational processes.	▪ On-site, as required by company. Initial response undertaken in accordance with the site specific ERP.	▪ Predetermined Public safety actions are under way. Corporate management team alerted and may be appropriately engaged to support on-scene responders.	▪ Full implementation of emergency management system.
- External	▪ On-site, as required by Fortuna operational processes.	▪ On-site, as required by company.	▪ Potential for multi-agency (operator, municipal, county, state or federal) response.	▪ Immediate multi-agency (operator, municipal, county, state or federal) response.

TABLE 2: POSSIBLE RESPONSES FOR SPECIFIED INCIDENTS (CONT'D)

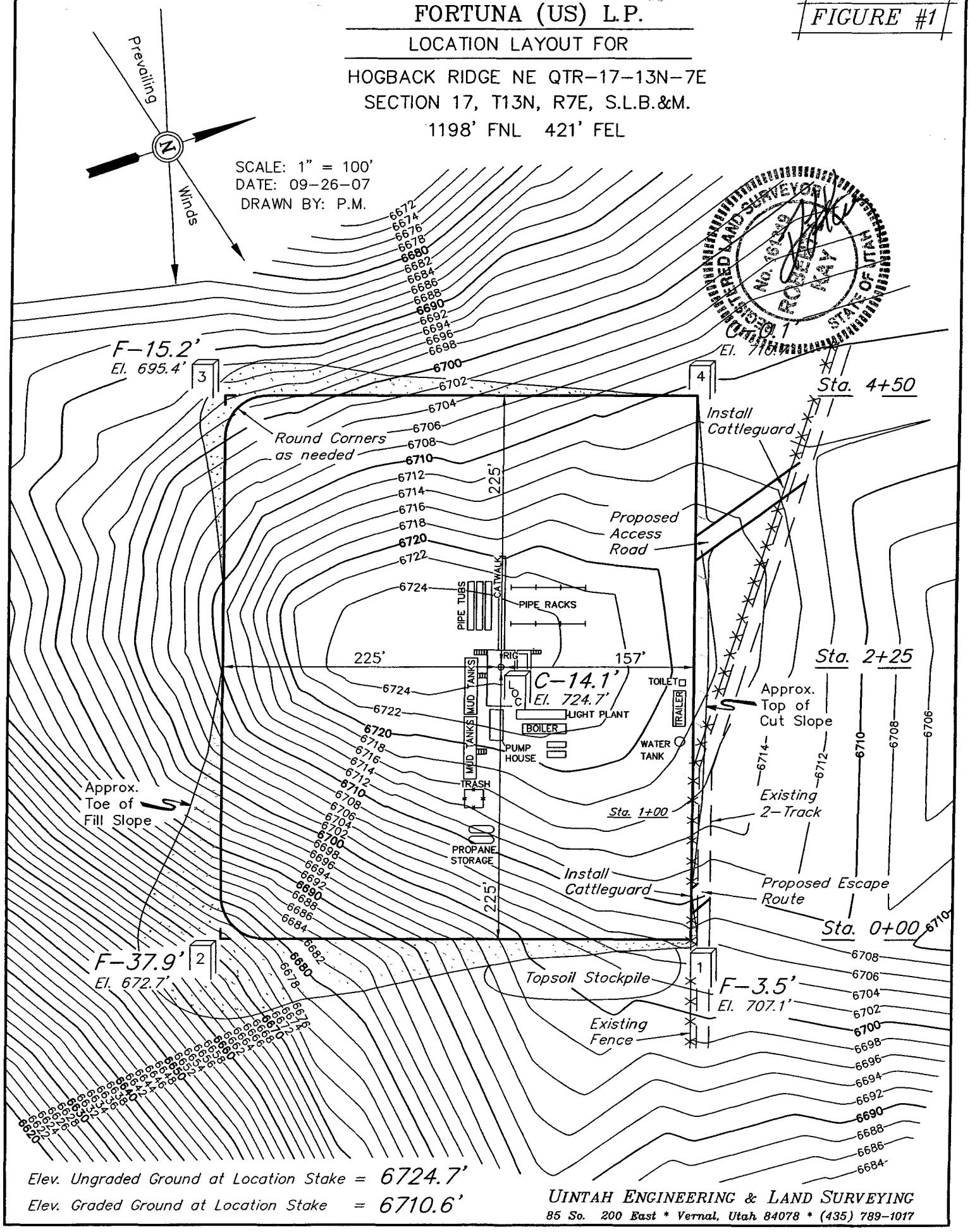
RESPONSES	ALERT	EMERGENCY		
		LEVEL 1	LEVEL 2	LEVEL 3
RESOURCES				
- Internal	▪ Immediate and local. No additional personnel required.	▪ Establish what resources would be required.	▪ Limited supplemental resources or personnel required.	▪ Significant incremental resources required.
- External	▪ None.	▪ Begin to establish resources that may be required.	▪ Possible assistance from government agencies, as required.	▪ Assistance from government agencies and external support services, as required.

FORTUNA (US) L.P.

LOCATION LAYOUT FOR

HOGBACK RIDGE NE QTR-17-13N-7E
SECTION 17, T13N, R7E, S.L.B.&M.
1198' FNL 421' FEL

FIGURE #1



Elev. Ungraded Ground at Location Stake = 6724.7'

Elev. Graded Ground at Location Stake = 6710.6'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

FORTUNA (US) L.P.

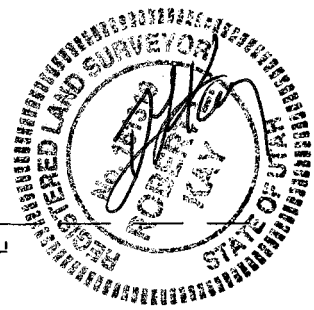
TYPICAL CROSS SECTIONS FOR

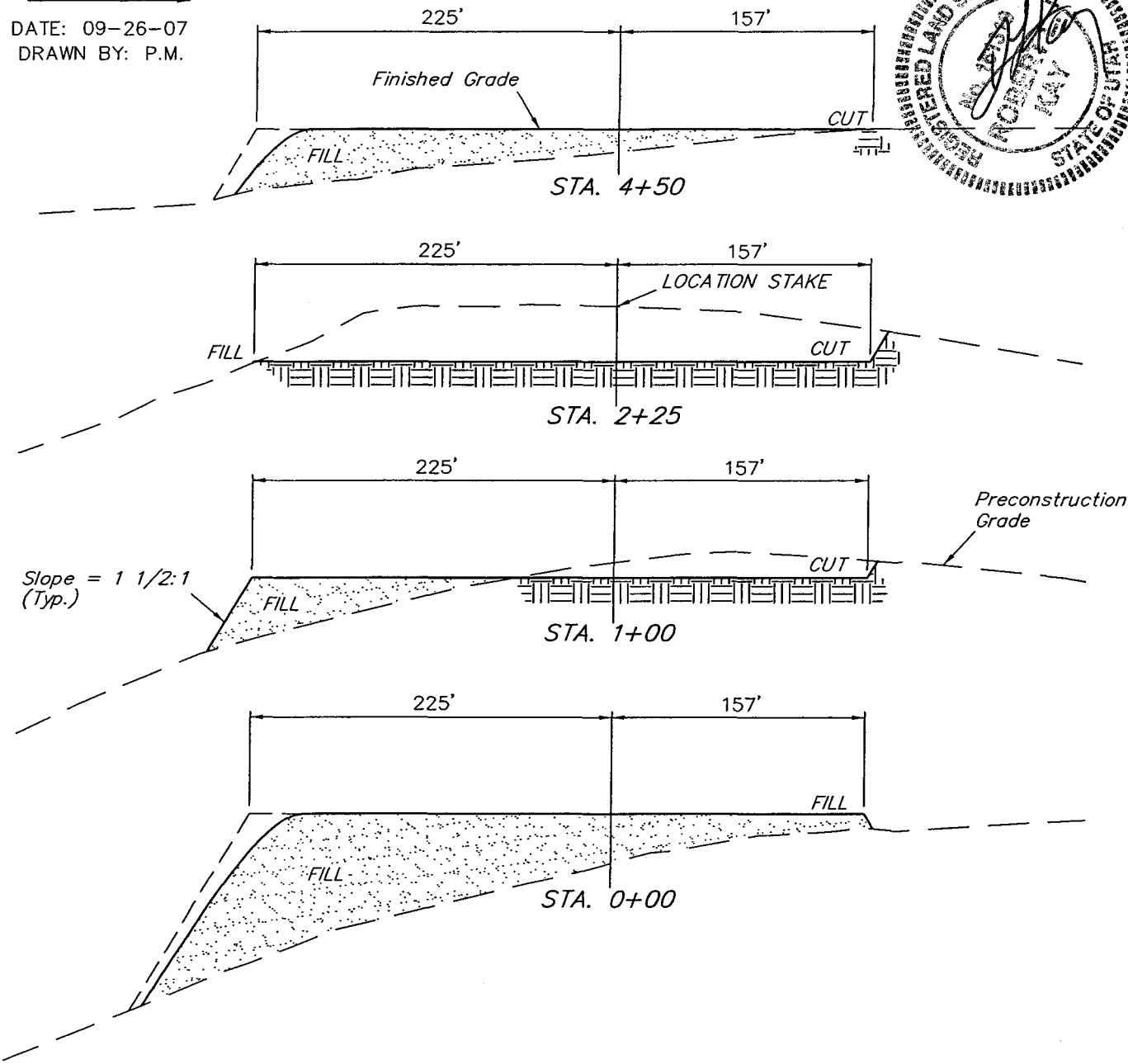
HOGBACK RIDGE NE QTR–17–13N–7E
SECTION 17, T13N, R7E, S.L.B.&M.
1198' FNL 421' FEL

FIGURE #2

1" = 40'
X-Section Scale
1" = 100'

DATE: 09-26-07
DRAWN BY: P.M.





NOTE:
Topsoil should not be Stripped Below Finished Grade on Substructure Area.

* *NOTE:*
FILL QUANTITY INCLUDES 5% FOR COMPACTION

APPROXIMATE YARDAGES

CUT
(6") Topsoil Stripping = *3,910* Cu. Yds.
Remaining Location = *31,410* Cu. Yds.

TOTAL CUT = *35,320* CU.YDS.
FILL = *31,410* CU.YDS.

EXCESS MATERIAL = *3,910* Cu. Yds.
Topsoil = *3,910* Cu. Yds.

EXCESS UNBALANCE = *0* Cu. Yds.
(After Interim Rehabilitation)

UINTAH ENGINEERING & LAND SURVEYING
*85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017*

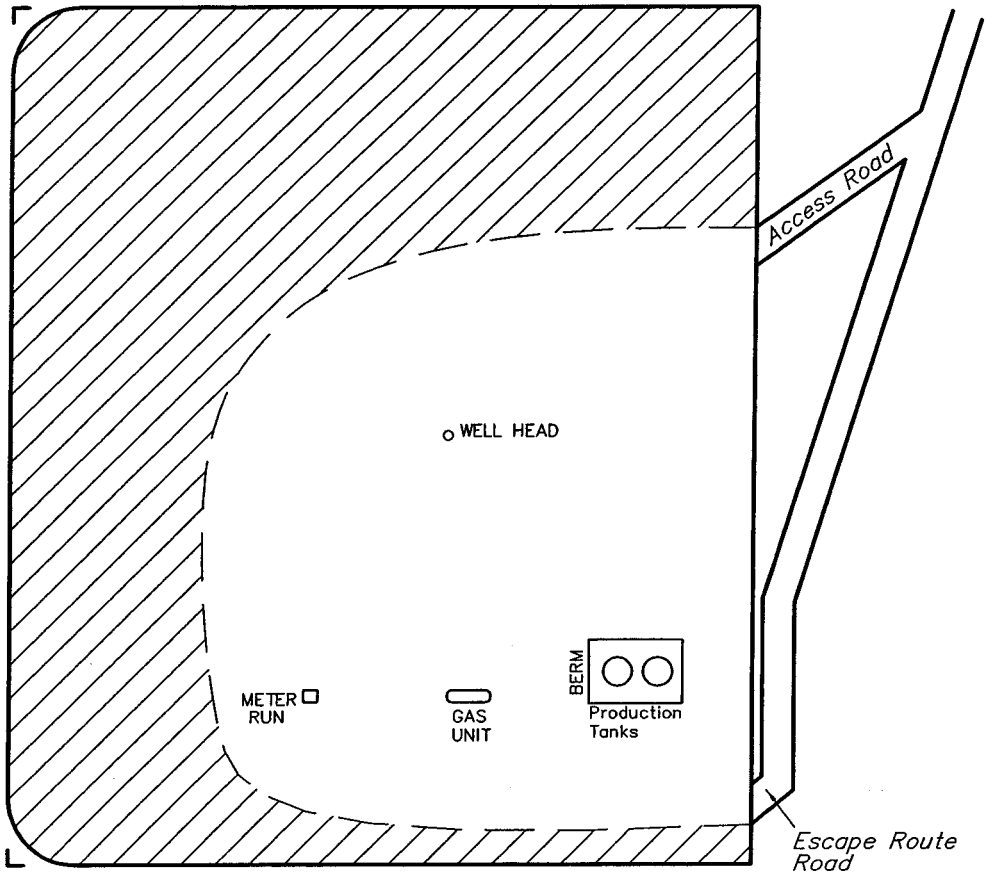
FORTUNA (US) L.P.

INTERIM RECLAMATION PLAN FOR

HOGBACK RIDGE NE QTR–17–13N–7E
SECTION 17, T13N, R7E, S.L.B.&M.
1198' FNL 421' FEL

SCALE: 1" = 100'
DATE: 09–26–07
DRAWN BY: P.M.

REGISTERED LAND SURVEYOR No. 161319 ROBERT L. KAY STATE OF UTAH



INTERIM RECLAMATION

UINTAH ENGINEERING & LAND SURVEYING
*85 So. 200 East * Vernal, Utah 84078 * (435) 789–1017*

FORTUNA (US) L.P.

HOGBACK RIDGE NE QTR-17-13N-7E

LOCATED IN RICH COUNTY, UTAH
SECTION 17, T13N, R7E, S.L.B.&M.

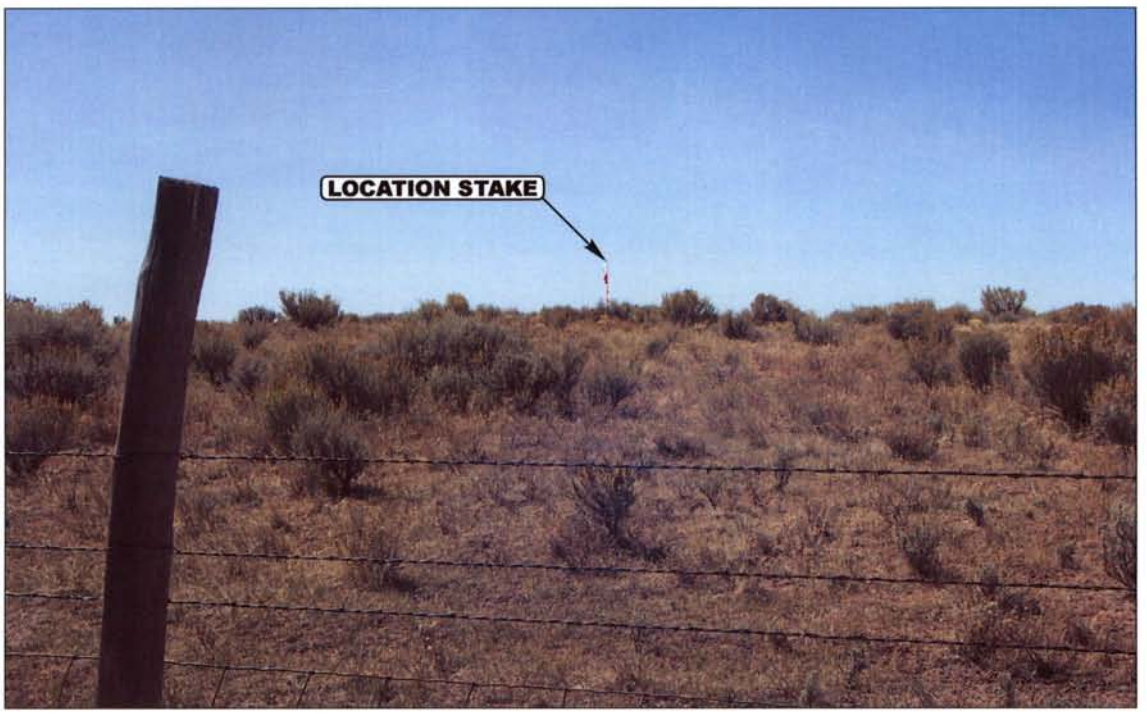
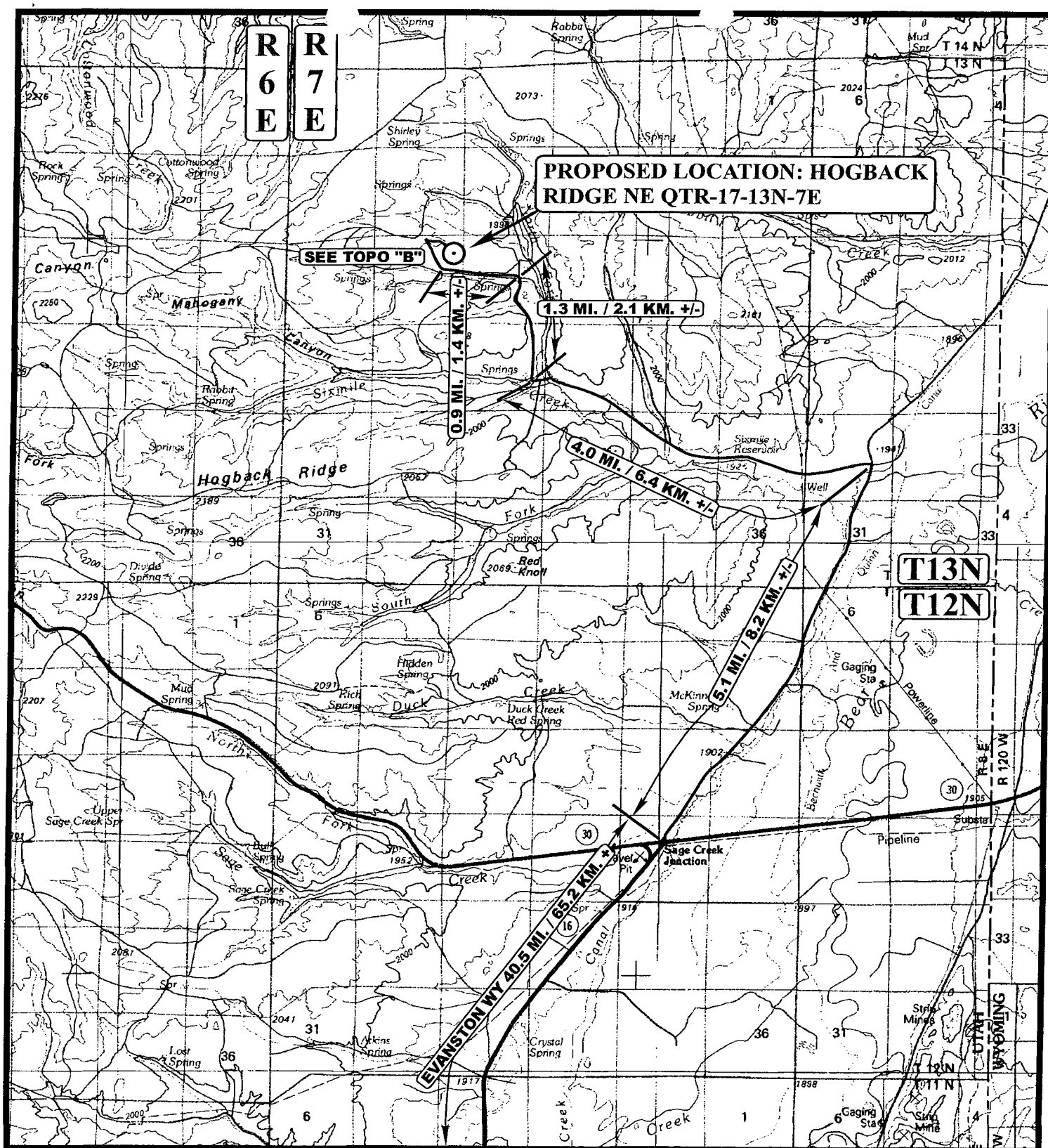


PHOTO: VIEW OF LOCATION STAKE **CAMERA ANGLE: SOUTHERLY**

PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS **CAMERA ANGLE: SOUTHEASTERLY**

- Since 1964 -
Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS	09 MONTH	28 DAY	07 YEAR	PHOTO
TAKEN BY: J.F.	DRAWN BY: Z.L.	REVISED: 00-00-00		



LEGEND:

⊙ PROPOSED LOCATION

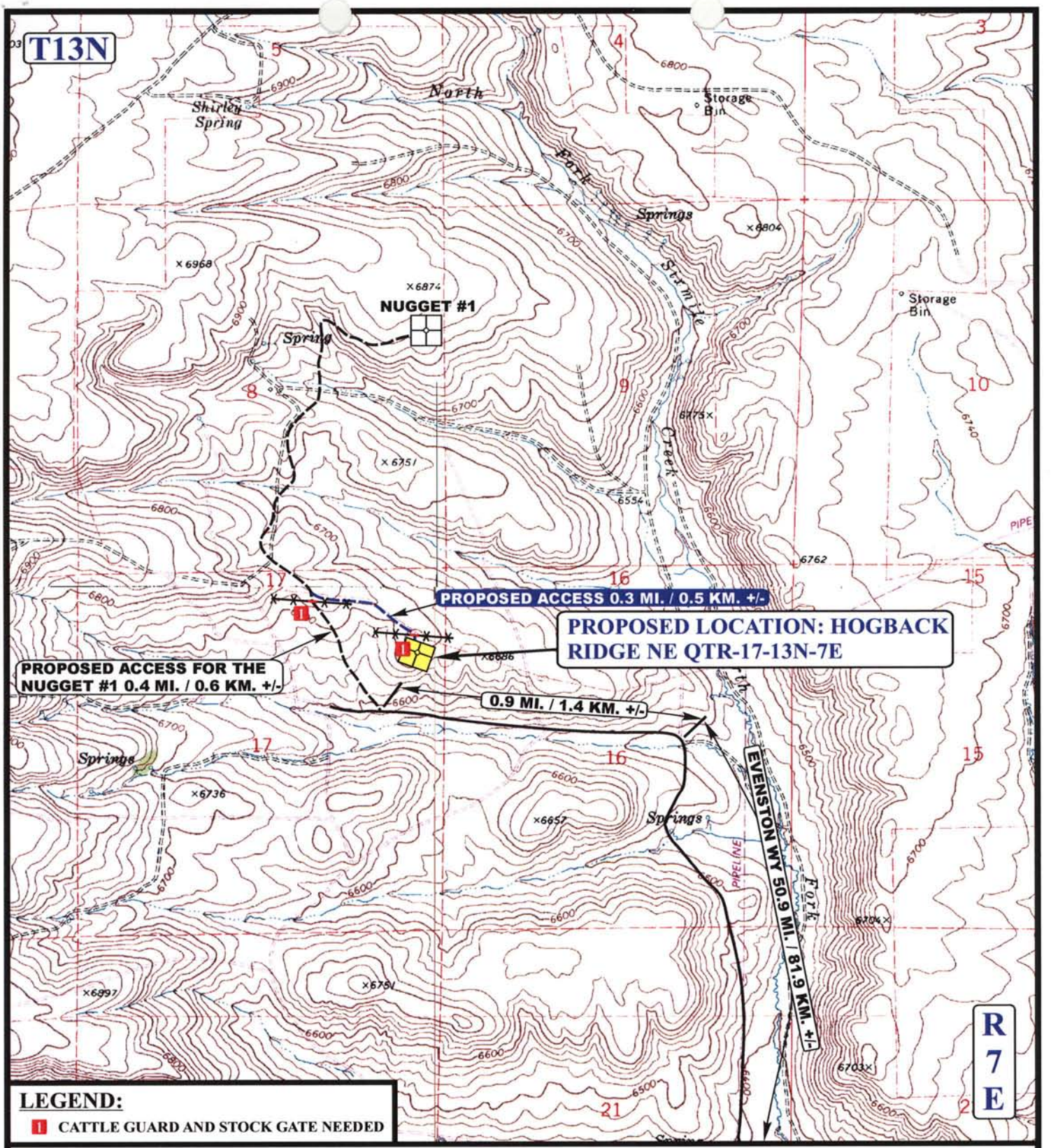
N

FORTUNA (US) L.P.

HOGBACK RIDGE NE QTR 17-13N-7E
SECTION 17, T13N, R7E, S.L.B.&M.
1198' FNL 421' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	09 MONTH	28 DAY	07 YEAR	A TOPO
SCALE: 1:100,000	DRAWN BY: Z.L.	REVISED: 00-00-00		



LEGEND:

1 CATTLE GUARD AND STOCK GATE NEEDED

LEGEND:

EXISTING ROAD

PROPOSED ACCESS ROAD

N

FORTUNA (US) L.P.

HOGBACK RIDGE NE QTR 17-13N-7E
SECTION 17, T13N, R7E, S.L.B.&M.
1198' FNL 421' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	09 MONTH	28 DAY	07 YEAR	B TOPO
SCALE: 1" = 2000'	DRAWN BY: Z.L.	REVISED: 00-00-00		

BOP Equipment

5000psi WP

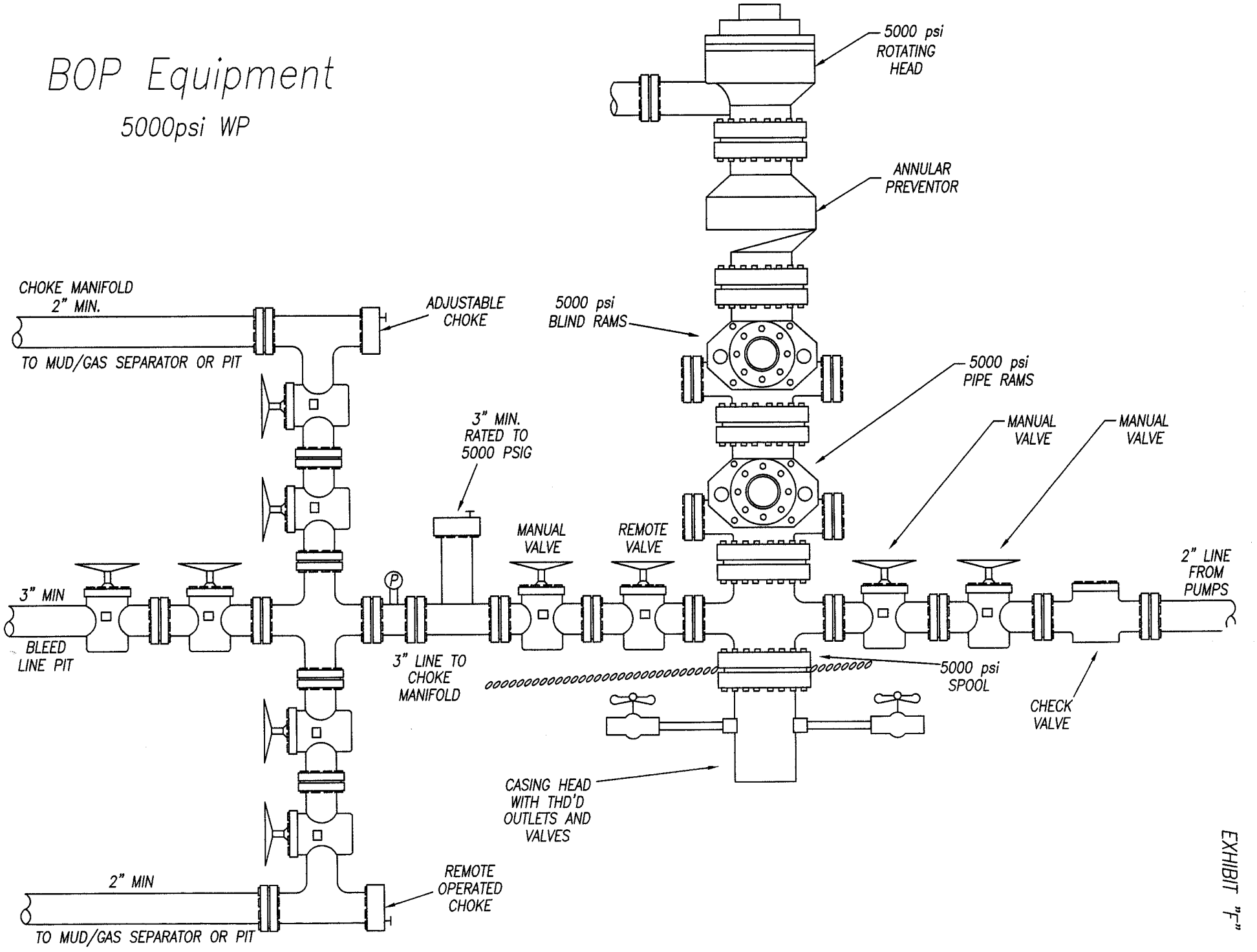


EXHIBIT "F"

WORKSHEET

APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 10/31/2007

API NO. ASSIGNED: 43-033-30062

WELL NAME: HOGBACK RIDGE 1-17-13N-7E

OPERATOR: FORTUNA (US) LP (N2710)

PHONE NUMBER: 403-237-1448

CONTACT: DON HAMILTON

PROPOSED LOCATION:

NENE 17 130N 070E

SURFACE: 1198 FNL 0421 FEL

BOTTOM: 1198 FNL 0421 FEL

COUNTY: RICH

LATITUDE: 41.87253 LONGITUDE: -111.1678

UTM SURF EASTINGS: 486075 NORTHINGS: 4635424

FIELD NAME: WILDCAT (1)

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering	DKD	12/28/07
Geology		
Surface		

LEASE TYPE: 4 - Fee

LEASE NUMBER: FEE

PROPOSED FORMATION: MSSP

SURFACE OWNER: 4 - Fee

COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

✓ Plat

✓ Bond: Fed[] Ind[] Sta[] Fee[]
(No. 3363261 7)

N Potash (Y/N)

N Oil Shale 190-5 (B) or 190-3 or 190-13

✓ Water Permit
(No. 23-1628)

N RDCC Review (Y/N)
(Date:)

Y Fee Surf Agreement (Y/N)

NA Intent to Commingle (Y/N)

LOCATION AND SITING:

___ R649-2-3.

Unit: _____

___ R649-2-3. General

Siting: 460 From Qtr/Qtr & 920' Between Wells

✓ R649-3-3. Exception

___ Drilling Unit

Board Cause No: _____

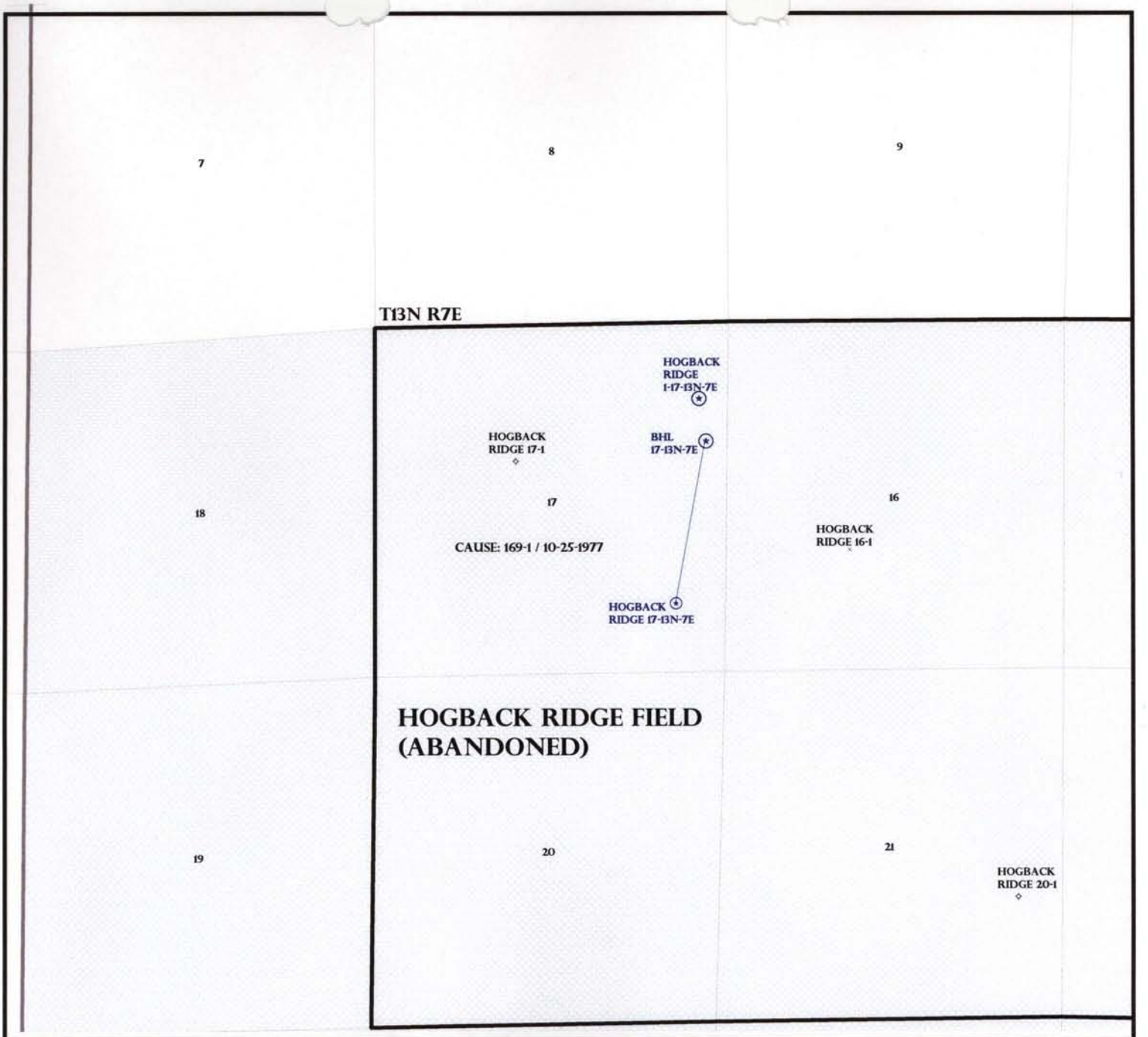
Eff Date: _____

Siting: _____

___ R649-3-11. Directional Drill

COMMENTS: Need Quest (12-04-07)

STIPULATIONS: 1- STATEMENT OF BASIS



OPERATOR: FORTUNA (US) LP (N2710)

SEC: 17 T.13N R. 7E

FIELD: WILDCAT (001)

COUNTY: GRAND

Spacing: R649-3-3 / Exception location

Field Status
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- PROPOSED
- STORAGE
- TERMINATED

Unit Status
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PENDING
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Wells Status
- GAS INJECTION
- GAS STORAGE
- LOCATION ABANDONED
- NEW LOCATION
- PLUGGED & ABANDONED
- PRODUCING GAS
- PRODUCING OIL
- SHUT-IN GAS
- SHUT-IN OIL
- TEMP. ABANDONED
- TEST WELL
- WATER INJECTION
- WATER SUPPLY
- WATER DISPOSAL
- DRILLING

UTAH DNR
OIL, GAS & MINING

N
W E
S

PREPARED BY: DIANA MASON
DATE: 01-NOVEMBER-2007

Application for Permit to Drill
Statement of Basis

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM
619	43-033-30062-00-00		GW	P	No

Operator FORTUNA (US) LP **Surface Owner-APD**
Well Name HOGBACK RIDGE 1-17-13N-7E **Unit**
Field WILDCAT **Type of Work**
Location NENE 17 13N 7E S 1198 FNL 421 FEL GPS Coord (UTM) 486075E 4635424N

Geologic Statement of Basis

A poorly to moderately permeable soil is developed on the Tertiary (Eocene) age Wasatch Formation. Aquifers with high quality ground water are likely to be encountered in the Wasatch Formation and the subjacent Middle Jurassic age Twin Creek Limestone. The operator proposes to switch from a fresh water based mud system to drill the Surface hole (proposed seat @ 1,500') to an oil based mud system to drill the hole for the deeper portion of the well. It may be beneficial to extend the Surface casing and cement program to place the casing seat into the Gypsum Springs Member (prognosis top @ 2,350') of the Twin Creek Limestone to more adequately isolate the shallower probable fresh water bearing strata from the probable saltier strata most likely below the shales and any remnant evaporites occuring in the Gypsum Springs Member. No water rights have been filed within a mile of the location. I haven't been able to locate any Base of Moderately Saline Ground Water information in this area.

Chris Kierst	12/11/2007
APD Evaluator	**Date / Time**

Surface Statement of Basis

A presite was conducted at 11:00 am December 4, 2007 This proposed location is west of North Fork and north of Mahogany Canyon. County road access is being granted to Foruna for a total of approximately 10 miles. The remaining 1.3 miles is on two landowners Reed Groll and Berdette Weston who were invited to presite. At time of presite Fortuna has surface agreements with both landowners and are waiting on Fortuna's signature to close this agreement.

General topography in this Sage Creek area is small rolling hills suitable for grazing and wildlife habitat. These hills are not excessively steep and valleys are easily accessed. There are a few springs within 1-2 miles of location. Some of the surrounding area has been burned to promote natural grass.

The proposed Hogback Ridge 1-17-13N-7E pad runs northeast to southwest direction and located on top off a moderate sloping ridge line. The northeast end of location runs along a fence line. Cut will be taken from the northern side of location and deposited as fill on the slope to the south. The two small draws being crossed for new road access will have 2 culverts installed. These draws are on top of the ridge and will have little drainage.

Berdette Weston representing B & H Ranching that owns the property the location is to be built on had no other concerns that were not addressed in his contract with Fortuna. Reed Groll is the owner of the access road also had no other concerns that were not addressed in his contract with Fortuna.

The selected location for this well is suitable for drilling.

Ted Smith	12/4/2007
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

Category	Condition
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator FORTUNA (US) LP
Well Name HOGBACK RIDGE 1-17-13N-7E
API Number 43-033-30062-0 **APD No** 619 **Field/Unit** WILDCAT
Location: 1/4,1/4 NENE **Sec** 17 **Tw** 13N **Rng** 7E 1198 FNL 421 FEL
GPS Coord (UTM) 486075 4635424 **Surface Owner**

Participants

Trevor Gardner (Fortuna) Rod Scherl (Fortuna) Don Hamilton (Buys & Associates) John Floyd (Uintah Survey) Berdette Weston (Landowner) Reed Groll (Landowner) Ted Smith (DOGM)

Regional/Local Setting & Topography

Rolling dry hills with natural grassland cover. Surrounding area is dry by mid May. Area is used for summer cattle grazing. Altitude at site approximately 6725'

Surface Use Plan

Current Surface Use

Grazing
Wildlfe Habitat

New Road Miles	Well Pad		Src Const Material	Surface Formation
0.3	**Width** 382	**Length** 450	Onsite	WSTC

Ancillary Facilities N

None with exception of trailers to be on location during drilling operations.

Waste Management Plan Adequate? Y

Environmental Parameters

Affected Floodplains and/or Wetland N

Flora / Fauna

Flora around the drill location area consist of - Sagebrush, Winter Fat, Rabbit Brush, Shadscale, Prickley pear cactus, Crested wheatgrass

Fauna around the drill location area consist of - Deer, Antelope, Badger, Ground Squirrel, Elk, Cattle
The surrounding area of the well location is within a walk only hunting unit.

Soil Type and Characteristics

Red to grey conglomerates, sandstone, siltstones, and isolated limestone

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

Located on very top of small hill along ridge line

Drainage Diverson Required N

Two culverts will be installed along access road for runoff

Berm Required? N

Erosion Sedimentation Control Required? N

Paleo Survey Run? N **Paleo Potental Observed?** N **Cultural Survey Run?** N **Cultural Resources?** N

Reserve Pit

Site-Specific Factors			Site Ranking		
Distance to Groundwater (feet)	>200		0		
Distance to Surface Water (feet)	>1000		0		
Dist. Nearest Municipal Well (ft)	>5280		0		
Distance to Other Wells (feet)	>1320		0		
Native Soil Type	Low permeability		0		
Fluid Type	Oil Base Mud Fluid		15		
Drill Cuttings	Normal Rock		0		
Annual Precipitation (inches)	10 to 20		5		
Affected Populations	<10		0		
Presence Nearby Utility Conduits	Not Present		0		
		Final Score	20	1	**Sensitivity Level**

Characteristics / Requirements

Operator plans on using a closed loop mud system on this well.

Closed Loop Mud Required? Y **Liner Required?** N **Liner Thickness** **Pit Underlayment Required?** N

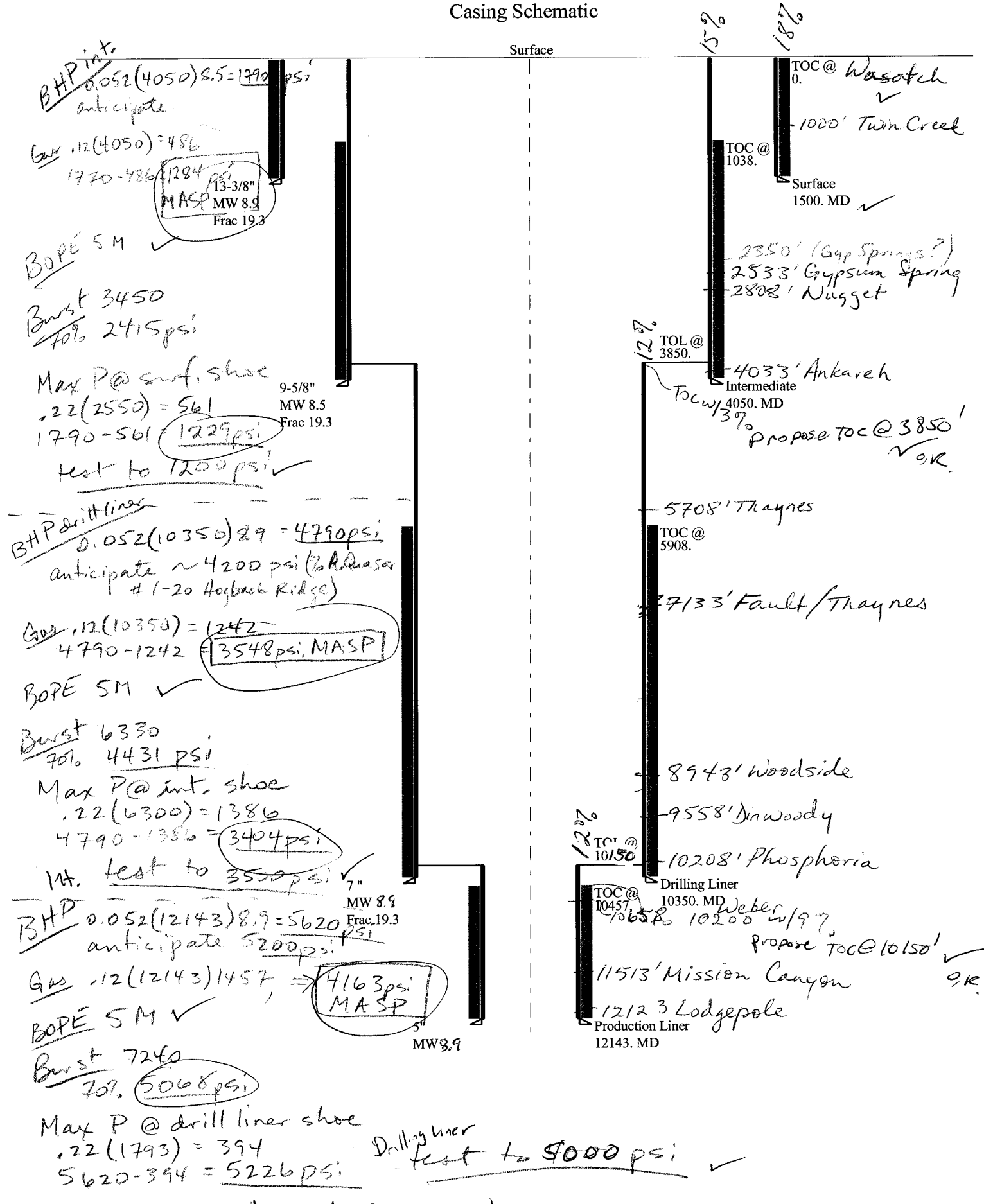
Other Observations / Comments

Fortuna will use a closed loop pit program. All pit fluids will be taken to Browns disposal in LaBarge or Evanston Wyoming for waste management. Fresh water used for the drilling will be obtained using a private landowners (Larry Johnson) water well. The water rights for this well are # 23-1628. Any flaring of gas will be done using a flare stack in a flare tank. It is possible to encounter H2S while drilling this well. An additional escape route road will be built to the east of the access road. An H2S emergency resonse plan is in place. This rig will have a rig mat installed under it at all times during drilling. The rig crew will be housed in a camp located on an old PA'd well pad API#43-033-30013 0.5 mile south west of location. A shutdown Northwest pipeline is within one mile east of location for possible future use. There is also a shutdown powerline south of location. This powerline was once used to drill another well south of proposed location. There are two other wells by Fortuna that are currently in permitting statis in this wells general area. There is no local disagreement by landowners with this drilling program. Photos are located in well file.

Ted Smith	12/4/2007
Evaluator	**Date / Time**

2007-12 Fortuna Hogback Ridge 1-17-13N-7E

Casing Schematic



Well name:	**2007-12 Fortuna Hogback Ridge 1-17-13N-7E**
Operator:	**Fortuna (US) LP / Talisman (Canada)**
String type:	Surface
Project ID:	43-033-30062
Location:	Rich County

Design parameters:

Collapse

Mud weight: 8.900 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 1,298 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 1,478 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.50 (B)

Tension is based on buoyed weight.
Neutral point: 1,301 ft

Environment:

H2S considered?	No
Surface temperature:	75 °F
Bottom hole temperature:	96 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	290 ft
Cement top:	Surface

Non-directional string.

Re subsequent strings:

Next setting depth:	4,037 ft
Next mud weight:	8.500 ppg
Next setting BHP:	1,782 psi
Fracture mud wt:	19.250 ppg
Fracture depth:	1,500 ft
Injection pressure:	1,500 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	1500	13.375	68.00	K-55	Buttress	1500	1500	12.29	1260.7

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	693	1950	2.812	1478	3450	2.33	88	1069	12.09 B

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Minerals
Phone: 801-538-5357
FAX: 801-359-3940
Date: December 21,2007
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 1500 ft, a mud weight of 8.9 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	**2007-12 Fortuna Hogback Ridge 1-17-13N-7E**
Operator:	**Fortuna (US) LP / Talisman (Canada)**
String type:	Intermediate
Project ID:	43-033-30062
Location:	Rich County

Design parameters:

Collapse

Mud weight: 8.500 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 2,438 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 3,326 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.50 (B)

Tension is based on buoyed weight.
Neutral point: 3,523 ft

Environment:

H2S considered?	No
Surface temperature:	75 °F
Bottom hole temperature:	132 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	900 ft
Cement top:	1,038 ft

Directional well information:

Kick-off point	3179 ft
Departure at shoe:	131 ft
Maximum dogleg:	2 °/100ft
Inclination at shoe:	17 °

Re subsequent strings:

Next setting depth:	10,061 ft
Next mud weight:	8.900 ppg
Next setting BHP:	4,652 psi
Fracture mud wt:	19.250 ppg
Fracture depth:	4,037 ft
Injection pressure:	4,037 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	4050	9.625	43.50	L-80	LT&C	4037	4050	8.625	1693.1

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	1782	3810	2.138	3326	6330	1.90	153	813	5.31 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Minerals
Phone: 801-538-5357
FAX: 801-359-3940
Date: December 21,2007
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 4037 ft, a mud weight of 8.5 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	**2007-12 Fortuna Hogback Ridge 1-17-13N-7E**
Operator:	**Fortuna (US) LP / Talisman (Canada)**
String type:	Drilling Liner
Project ID:	43-033-30062
Location:	Rich County

Design parameters:

Collapse

Mud weight: 8.900 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 2,943 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 5,220 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on buoyed weight.
Neutral point: 9,471 ft

Environment:

H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 220 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,500 ft

Cement top: 5,908 ft

Liner top: 3,850 ft
Non-directional string.

Re subsequent strings:

Next setting depth: 12,143 ft
Next mud weight: 8.900 ppg
Next setting BHP: 5,614 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 10,350 ft
Injection pressure: 10,350 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	6550	7	26.00	L-80	Buttress	10350	10350	6.151	1407.1

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	4785	5410	1.131	5220	7240	1.39	147	604	4.10 B

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Minerals
Phone: 801-538-5357
FAX: 801-359-3940
Date: December 21,2007
Salt Lake City, Utah

Remarks:
For this liner string, the top is rounded to the nearest 100 ft.Collapse is based on a vertical depth of 10350 ft, a mud weight of 8.9 ppg The Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	**2007-12 Fortuna Hogback Ridge 1-17-13N-7E**
Operator:	**Fortuna (US) LP / Talisman (Canada)**
String type:	Production Liner
Project ID:	43-033-30062
Location:	Rich County

Design parameters:

Collapse

Mud weight: 8.900 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 2,943 psi

Internal gradient: 0.220 psi/ft

Calculated BHP 5,614 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.50 (B)

Tension is based on buoyed weight.

Neutral point: 11,880 ft

Environment:

H2S considered? No

Surface temperature: 75 °F

Bottom hole temperature: 245 °F

Temperature gradient: 1.40 °F/100ft

Minimum section length: 1,500 ft

Cement top: 10,457 ft

Liner top: 10,150 ft

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	1943	5	18.00	L-80	VAM FJL	12143	12143	4.151	193.8

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	5614	10500	1.870	5614	10140	1.81	30	304	10.05 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Minerals
Phone: 801-538-5357
FAX: 801-359-3940
Date: December 27,2007
Salt Lake City, Utah

Remarks:

For this liner string, the top is rounded to the nearest 100 ft.Collapse is based on a vertical depth of 12143 ft, a mud weight of 8.9 ppg The Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

B&A Buys & Associates, Inc.
Environmental Consultants

2580 Creekview Road
Moab, Utah 84532
435/719-2018 435/719-2019 Fax

December 18, 2007

43-033-30062

Mrs. Diana Mason
State of Utah
Division of Oil Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: Supplemental Information —Fortuna (US) LP
Hogback Ridge 1-17-13N-7E
1,198' FNL & 421' FEL, NE/4 NE/4,
Section 17, T13N, R7E, SLB&M. Rich County, Utah

Dear Mrs. Mason:

On behalf of Fortuna (US) LP (Fortuna), Buys & Associates, Inc. respectfully submits the enclosed updated Topo B to replace the Topo B previously submitted within Exhibit B of the APD. The updated Topo B reflects the proposed secondary emergency egress that has been staked in the field and is otherwise unchanged except for this addition. Also enclosed is the original surface use agreements for the well site and access road as follows:

- B&H Ranching - Burdette W. Weston (well site and segment of the access road)
- Rich Land and Grazing Partnership - B. Reed Groll (remainder of the access road)

Thank you very much for your timely consideration of this application. Please feel free to contact myself or Len Moriarity of Fortuna at 403-237-1448 if you have any questions or need additional information.

Sincerely,

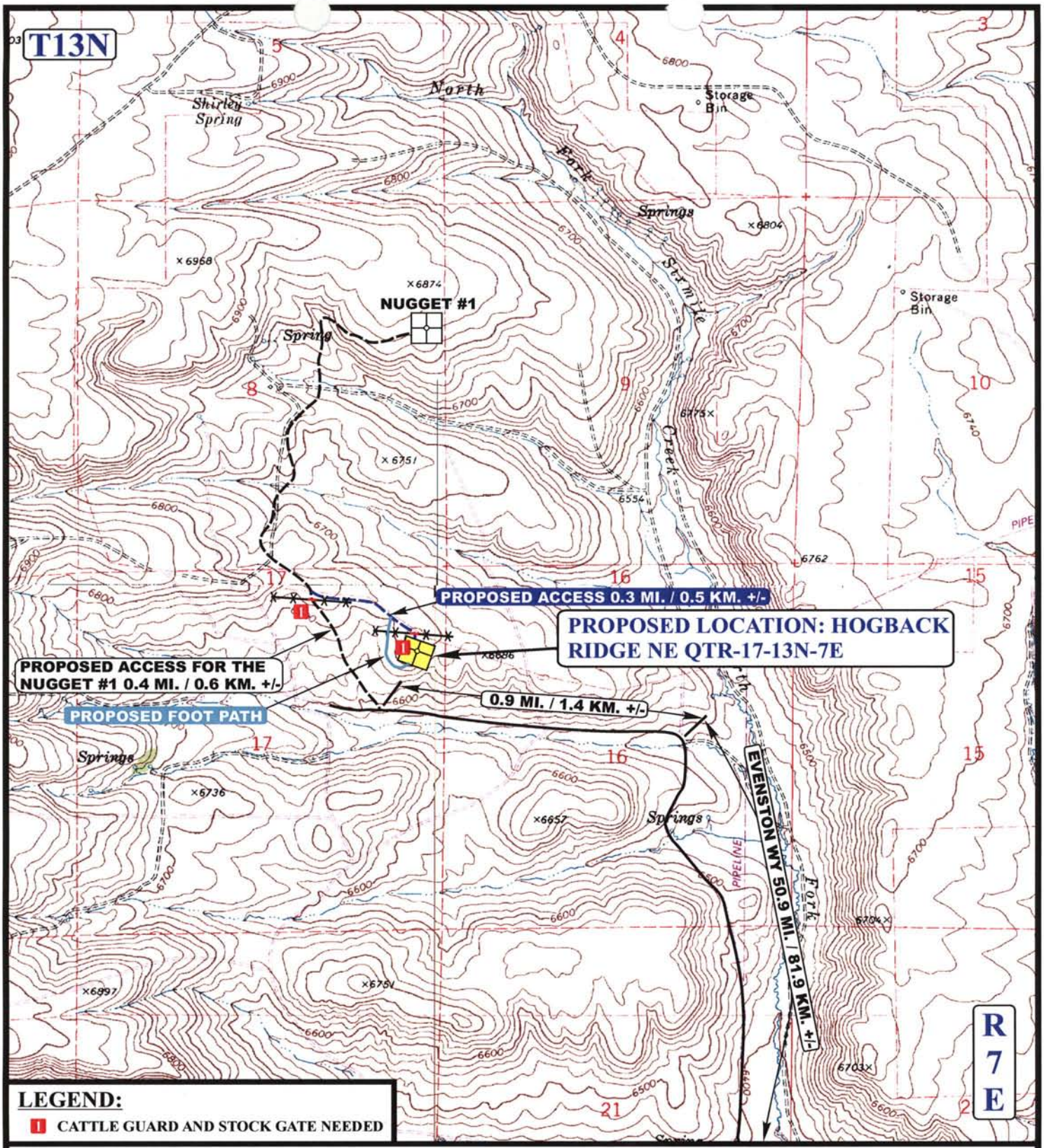
Don Hamilton

Don Hamilton
Agent for Fortuna

RECEIVED
DEC 24 2007
DIV. OF OIL, GAS & MINING

cc: Len Moriarity, Fortuna

CONFIDENTIAL



LEGEND:

CATTLE GUARD AND STOCK GATE NEEDED

LEGEND:

EXISTING ROAD

PROPOSED ACCESS ROAD

N

FORTUNA (US) L.P.

HOGBACK RIDGE NE QTR 17-13N-7E
SECTION 17, T13N, R7E, S.L.B.&M.
1198' FNL 421' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	09 MONTH	28 DAY	07 YEAR	B TOPO
SCALE: 1" = 2000'	DRAWN BY: Z.L.	REVISED: 10-30-07		

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil Gas and Mining

JOHN R. BAZA
Division Director

January 8, 2008

Fortuna (US) LP
3400, 888 - 3rd St. SW
Calgary, Alberta, Canada T2P 5C5

Re: Hogback Ridge 1-17-13N-7E Well, 1198' FNL, 421' FEL, NE NE, Sec. 17, T. 13 North, R. 7 East, Rich County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-033-30062.

Sincerely,

Gil Hunt
Associate Director

pab
Enclosures

cc: Rich County Assessor

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • www.ogm.utah.gov

UTAH DNR OIL, GAS & MINING

Operator: Fortuna (US) LP

Well Name & Number Hogback Ridge 1-17-13N-7E

API Number: 43-033-30062

Lease: Fee

Location: NE NE **Sec.** 17 **T.** 13 North **R.** 7 East

Conditions of Approval

1. **General**

   Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

2. **Notification Requirements**

   The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

   - 24 hours prior to cementing or testing casing – contact Dan Jarvis
   - 24 hours prior to testing blowout prevention equipment – contact Dan Jarvis
   - 24 hours prior to spudding the well – contact Carol Daniels
   - Within 24 hours of any emergency changes made to the approved drilling program – contact Dustin Doucet
   - Prior to commencing operations to plug and abandon the well – contact Dan Jarvis

   The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

   - Plugging and abandonment or significant plug back of this well – contact Dustin Doucet
   - Any changes to the approved drilling plan – contact Dustin Doucet

   The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

   - Dan Jarvis at: (801) 538-5338 office (801) 942-0873 home
   - Carol Daniels at: (801) 538-5284 office
   - Dustin Doucet at: (801) 538-5281 office (801) 733-0983 home

3. **Reporting Requirements**

   All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER: Patented	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A	
7. UNIT or CA AGREEMENT NAME: N/A	
1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER CONFIDENTIAL	8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E
2. NAME OF OPERATOR: Fortuna (US), LP	9. API NUMBER: 4303330062
3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5 / PHONE NUMBER: (403) 237-1448	10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL, COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 2/15/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Change of Water Source
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP has changed sources of water for the project because of a title issue on the submitted and approved water source listed within the surface use plan of the approved APD. Attached please find the updated page for the surface use plan reflecting that water will now be obtained from Six Mile Reservoir for the construction, drilling and completion of the proposed well.

Please replace page 3 of the previously approved surface use plan with the attached updated page.

COPY SENT TO OPERATOR
Date: 2-21-2008
Initials: KS

NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Fortuna (US) LP

SIGNATURE Don Hamilton DATE 1/30/2008

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 2/20/08
BY: [signature]

RECEIVED
FEB 04 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

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4. **Location of Existing and/or Proposed Facilities**

   a. If the well is deemed productive a sundry notice reflecting the production site layout will be submitted for approval

   b. Rehabilitation of all pad areas not used for production facilities will be made in accordance with DOGM stipulations.

   c. A gas pipeline is not associated with this application but will be applied for at a later date if production is achieved.

5. **Location and Type of Water Supply**

   a. Water to be used for drilling will be obtained by Water Right # 23-3785 (Claim # A72883) through a direct purchase from Larry D. Johnson, P.O. Box 177 ; Randolph UT 84064 out of Six Mile Reservoir with diversions located at the following locations:
      - N 785' W 950' from SE cor, Sec 25, T13N, R7E, SLB&M
      - N 1,775' W 465' from S4 cor, Sec 25, T13N, R7E, SLB&M
      - N 685' E 45' from SW cor, Sec 30, T13N, R8E, SLB&M

   b. A temporary change of water has been submitted and approved at the Utah State Engineers Office.

   c. Fortuna proposes to utilize up to 3 acre feet of water from this diversion under the existing water right.

   d. No water pipelines will be laid for this well. Water for this will be hauled by truck on the road(s) shown in Exhibit B.

   e. No water well will be drilled for this well.

6. **Source of Construction Materials**

   a. Any necessary construction materials needed will be obtained locally from a private source and hauled to the location on existing roads.

7. **Methods for handling waste disposal**

   a. A small reserve pit will be constructed with a minimum of one-half the total depth below the original ground surface on the lowest point within the pit. The pit will be lined with a synthetic liner. Three sides of the reserve pit will

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DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: **FORTUNA (US) LP**

Well Name: **HOGBACK RIDGE 1-17-13N-7E**

Api No: **43-033-30062** Lease Type: **FEE**

Section **17** Township **13N** Range **07E** County **RICH**

Drilling Contractor **WHITE MOUNTAIN DRLG** RIG # **RATHOLE**

SPUDDED:

Date **02/20/08**

Time

How **DRY**

Drilling will Commence:

Reported by **ROD SCHNELL**

Telephone # **(403) 237-1413**

Date **03/07/08** **Signed** **CHD**

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:	Patented
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	N/A
7. UNIT or CA AGREEMENT NAME:	N/A
8. WELL NAME and NUMBER:	Hogback Ridge 1-17-13N-7E
9. API NUMBER:	4303330062
10. FIELD AND POOL, OR WILDCAT:	Wildcat

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

2. NAME OF OPERATOR: Fortuna (US), LP

3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5 PHONE NUMBER: (403) 237-1448

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL, COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
Date of work completion: 2/20/2008	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Spud Notice
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP spud the referenced well on February 20, 2008. 20" conductor was set at just over 80' and was bag cemented. The Rat hole company's name "White Mountain Drilling"

NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Fortuna (US) LP

SIGNATURE Don Hamilton DATE 3/18/2008

(This space for State use only)

RECEIVED
MAR 18 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: Fortuna (US) LP
Operator Account Number: N 2710
Address: 3400, 888 -3rd Street S.W.
city Carlgary, Alberta, Canada
state zip T2P 5C5
Phone Number: (403) 237-1413

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4303330062	Hogback Ridge 1-17-13N-7E		NENE	17	13N	7E	Rich
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
A	99999	16749	2/20/2008			3/31/08	

Comments: White Mountain Drilling completed the spud. MSSP

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Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

faxed 3/18/08

Don Hamilton
Name (Please Print)
Don Hamilton
Signature
Agent
Title
3/18/2008
Date

RECEIVED
MAR 25 2008
DIV. OF OIL, GAS & MINING

(5/2000)

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FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

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5. LEASE DESIGNATION AND SERIAL NUMBER: Patented
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
7. UNIT or CA AGREEMENT NAME: N/A
8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E
9. API NUMBER: 4303330062
10. FIELD AND POOL, OR WILDCAT: Wildcat

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER
2. NAME OF OPERATOR: Fortuna (US), LP
3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5 PHONE NUMBER: (403) 237-1448
4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL, COUNTY: Rich
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion: 2/20/2008	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Spud Notice
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP spud the referenced well on February 20, 2008. 20" conductor was set at just over 80' and was bag cemented. The Rat hole company's name "White Mountain Drilling"'

NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Fortuna (US) LP

SIGNATURE Don Hamilton DATE 3/18/2008

(This space for State use only)

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MAR 25 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

CONFIDENTIAL

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: Patented

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME: N/A

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E

2. NAME OF OPERATOR: Fortuna (US), LP

9. API NUMBER: 4303330062

3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5

PHONE NUMBER: (403) 237-1448

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL,

COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 5/1/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Cuttings / Cement Pits
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP would like to construct and utilize two 10' square by 4' deep pits on location for surface hole cement returns and cuttings. Following release of the rig the pits would not be buried but rather the contents hauled to an approved disposal location.

COPY SENT TO OPERATOR
Date: 5·1·2008
Initials: KS

NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Fortuna (US) LP

SIGNATURE Don Hamilton DATE 4/29/2008

(This space for State use only)

Approved by the Utah Division of Oil, Gas and Mining

Date: 04-30-08

By:

(5/2000) (See Instructions on Reverse Side)

Fortuna (US)L.P. - Cement Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

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T13N R07E S-17 API # 43-033-30062

Original KB Elevation (ft)	Ground Elevation (ft)	CF Elev (ft)	KB-Ground Distance (ft)	KB-CF (ft)	Original Spud Date	Original Rig Release Date
6,737.14	6,713.34	6,713.34	23.80	23.80	2/20/2008	

Cement Details

Cementing Start Date	Cementing End Date	String	Wellbore Name
5/1/2008 11:50	5/1/2008 14:09	Surface Casing, 1,526.8ftKB	Original Hole

Comment: Preflush 40 bbls Fresh Water / Pump Lead Slurry , 251 bbls, 590 sx, Varicem RS1 + 0.125 lb/sk Poly-E-Flake + 0.25 lb/sk Kwik-Seal At 12.3 ppg / Pump Tail Slurry, 129 bbls, 630 sx, G + 2.0% CaCl At 15.8 ppg / Displ With 224.5 bbls Of Fresh Water / 206 bbls Good Cmt Surf Returns / Plug Down At 14:07 hrs, 08-05-01 / Floats Held OK, No Fallback

Cement Stages: 1, 23.8-1,537.0ftKB

Description	Objective/Purpose	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)
Surface Casing	Surface Casing	23.8	1,537.0

Top Plug?	Bottom Plug?	Q (start) (bbl/min)	Q (end) (bbl/min)	Q (avg) (bbl/min)	P (final) (psi)	P (bump) (psi)	Cmnt Rtrn (bbl)
Yes	No	4	2	5	575.0	1,014.0	206.0

Pipe Reciprocated?	Reciprocation Stroke Length (ft)	Pipe Rotated?	Pipe RPM (rpm)
Yes	7.00	No	

Depth Tagged (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)	Drill Out Diameter (in)

Comment:

Cement Fluids: Preflush

Fluid Type	Fluid Description	Cement Amount (sacks)	Cement Class	Volume Pumped (bbl)	Yield (ft³/sack)
Preflush	Fresh Water			40.0	

Mix H20 Ratio (gal/sack)	Free Water (%)	Density (lb/gal)	Plastic Viscosity (cp)	Thickening Time (hrs)	1st Compressive Strength (psi)
		8.30			

V (bbl)	Excess (%)	Estimated Top (ftKB)	Estimated Bottom (ftKB)	Comment
40.0		23.8	23.8	

Comment:

Cement Fluid Additives

Add	Type	Amount	Amt Unit	Conc	Conc Unit

Cement Fluids: Lead

Fluid Type	Fluid Description	Cement Amount (sacks)	Cement Class	Volume Pumped (bbl)	Yield (ft³/sack)
Lead	Varicem RS1 + 0.125 lb/sk Poly-E-Flake + 0.25 lb/sk Kwik-Seal At 12.3 ppg	590	RFC	251.0	2.36

Mix H20 Ratio (gal/sack)	Free Water (%)	Density (lb/gal)	Plastic Viscosity (cp)	Thickening Time (hrs)	1st Compressive Strength (psi)
13.46		12.30			

V (bbl)	Excess (%)	Estimated Top (ftKB)	Estimated Bottom (ftKB)	Comment
251.0	100.0	23.8	1,000.0	

Comment:

Cement Fluid Additives

Add	Type	Amount	Amt Unit	Conc	Conc Unit
Cellophane Flakes	Lost Circulation Additive			0.125	lbs/sack
Kwik Seal	Lost Circulation Additive			0.25	lbs/sack

Cement Fluids: Tail

Fluid Type	Fluid Description	Cement Amount (sacks)	Cement Class	Volume Pumped (bbl)	Yield (ft³/sack)
Tail	G + 2.0% CaCl At 15.8 ppg	630	Class G	129.0	1.17

Mix H20 Ratio (gal/sack)	Free Water (%)	Density (lb/gal)	Plastic Viscosity (cp)	Thickening Time (hrs)	1st Compressive Strength (psi)
5.02		15.80			

V (bbl)	Excess (%)	Estimated Top (ftKB)	Estimated Bottom (ftKB)	Comment
129.0	100.0	1,000.0	1,537.0	

Comment:

Cement Fluid Additives

Add	Type	Amount	Amt Unit	Conc	Conc Unit
CaCl2	Accelerator			2.0	%

Cement Fluids: Displacement

Fluid Type	Fluid Description	Cement Amount (sacks)	Cement Class	Volume Pumped (bbl)	Yield (ft³/sack)
Displacement	Fresh Water			224.5	

Mix H20 Ratio (gal/sack)	Free Water (%)	Density (lb/gal)	Plastic Viscosity (cp)	Thickening Time (hrs)	1st Compressive Strength (psi)
		8.30			

V (bbl)	Excess (%)	Estimated Top (ftKB)	Estimated Bottom (ftKB)	Comment
224.5		23.8	23.8	Displ With 224.5 bbls Of Fresh Water / 206 bbls Good Cmt Surf Returns / Plug Down At 14:07 hrs, 08-05-01 / Floats Held OK, No Fallback

Comment: Displ With 224.5 bbls Of Fresh Water / 206 bbls Good Cmt Surf Returns / Plug Down At 14:07 hrs, 08-05-01 / Floats Held OK, No Fallback

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Report Printed: 5/1/2008

Fortuna (US)L.P. - Cement Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Original KB Elevation (ft)	Ground Elevation (ft)	CF Elev (ft)	KB-Ground Distance (ft)	KB-CF (ft)	Original Spud Date	Original Rig Release Date
6,737.14	6,713.34	6,713.34	23.80	23.80	2/20/2008	

Cement Details

Cement Fluid Additives

Add	Type	Amount	Amt Unit	Conc	Conc Unit

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HALLIBURTON — *Cementing Job Summary*

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 43400
Customer: FORTUNA (US) LP		**Customer Rep:**	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Job Purpose: Cement Surface Casing			
Well Type: Development Well	**Job Type:** Cement Surface Casing		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** HEAPS, DAVID	**MBU ID Emp #:** 404575	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
HEAPS, DAVID V	38	404575	NELSON, GREGORY Aaron	38	403603	OSIER, JOSEPH R	38	433517
WARNER, DON M	38	438422						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10025070C	150 mile	10025078C	150 mile	10624096C	150 mile	10714289C	150 mile
10789198	150 mile	10925548	150 mile	10951243	150 mile	11056351	150 mile

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
04-30-2008	21.5	0	5-1-2008	16.5	6			
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type		**BHST**		85 degF	
Job depth MD	1531. ft	**Job Depth TVD**		1531. ft	
Water Depth		**Wk Ht Above Floor**		3. ft	
Perforation Depth (MD)	*From*		**To**		

Job Times

	Date	Time	Time Zone
Called Out	29 - Apr - 2008	22:00	MST
On Location	30 - Apr - 2008	02:30	MST
Job Started	01 - May - 2008	11:50	MST
Job Completed	01 - May - 2008	14:07	MST
Departed Loc	01 - May - 2008	16:30	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
17 1/2" Surface Open Hole				17.5				.	1500.		
13 3/8" Surface Casing	New		13.375	12.415	68.		K-55	.	1500.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					**Packer**					**Top Plug**	13.375	1	Hes
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar					**Retainer**					**SSR plug set**			
Insert Float										**Plug Container**	13.375	1	Hes
Stage Tool										**Centralizers**			

Miscellaneous Materials

Gelling Agt		**Conc**		**Surfactant**		**Conc**		**Acid Type**		**Qty**		*Conc*	%
Treatment Fld		**Conc**		*Inhibitor*		**Conc**		**Sand Type**		*Size*		*Qty*	

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Cementing Job Summary

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	FRESH WATER		40.0	bbl	8.34	.0	.0	5	
2	VariCem RS1	VARICEM (TM) CEMENT (452009)	590.0	sacks	12.3	2.36	13.46	7	13.46
	0.3 %	D-AIR 3000 (101007446)							
	0.125 lbm	POLY-E-FLAKE (101216940)							
	0.25 lbm	KWIK SEAL, SK (100064010)							
	13.455 Gal	FRESH WATER							
3	Premium Cement	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	630.0	sacks	15.8	1.17	5.02	4	5.02
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	2 %	CALCIUM CHLORIDE - HI TEST PELLET (100005053)							
	5.019 Gal	FRESH WATER							
4	Water Displacement		218.003	bbl	8.34	.0	.0	5	
5	Top Out Cement	CMT - STANDARD - TYPE II CEMENT (100064006)	0	sacks	15.6	1.2	5.26	0	5.26
	94 lbm	TYPE I / II CEMENT, BULK (101439798)							
	2 %	CALCIUM CHLORIDE - HI TEST PELLET (100005053)							
	5.258 Gal	FRESH WATER							

Calculated Values		Pressures		Volumes					
Displacement	223.6	Shut In: Instant		Lost Returns	no	*Cement Slurry*	380	Pad	
Top Of Cement	Surface	5 Min		Cement Returns	206	Actual Displacement	224	Treatment	
Frac Gradient		15 Min		Spacers	40	Load and Breakdown		Total Job	644

Rates

Circulating	20	*Mixing*	7	*Displacement*	5	Avg. Job	6

Cement Left In Pipe	Amount 37ft	*Reason*	Shoe Joint				
Frac Ring # 1 @	*ID*	*Frac ring # 2 @*	*ID*	*Frac Ring # 3 @*	*ID*	*Frac Ring # 4 @*	*ID*

The Information Stated Herein Is Correct	***Customer Representative Signature***

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Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 43400
Customer: FORTUNA (US) LP		**Customer Rep:**	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor:	**Rig/Platform Name/Num:**		
Job Purpose: Cement Surface Casing			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Cement Surface Casing		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** HEAPS, DAVID		**MBU ID Emp #:** 404575

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	04/29/2008 22:00							
Pre-Convoy Safety Meeting	04/29/2008 23:30							
Crew Leave Yard	04/29/2008 23:40							
Arrive At Loc	04/30/2008 02:30							
Safety Meeting	04/30/2008 13:00							well site safety meeting with company man
Safety Huddle	05/01/2008 09:45							
Rig-Up Equipment	05/01/2008 10:00							
Pre-Job Safety Meeting	05/01/2008 11:30							
Rig-Up Completed	05/01/2008 11:45							
Other	05/01/2008 11:55		3	5	5		.0	Pumped water ahead
Pressure Test	05/01/2008 11:57						5694.0	Pressure tested to 5000 PSI
Pump Water	05/01/2008 11:58		7	35	40		100.0	Pumped water spacer
Pump Lead Cement	05/01/2008 12:08		7	251	291		193.0	Vericem RS 1, 590 sks, 12.3 ppg, 2.39 ft3/sk, 13.81 gal/sk
Pump Tail Cement	05/01/2008 12:41		5	129	420		346.0	Mtn G, 630 sks, 15.8 ppg, 1.15 ft3/sk, 4.97 gal/sk
Shutdown	05/01/2008 13:09							
Drop Plug	05/01/2008 13:12							
Pump Displacement	05/01/2008 13:15		5	200	620		602.0	Pumped water displacement

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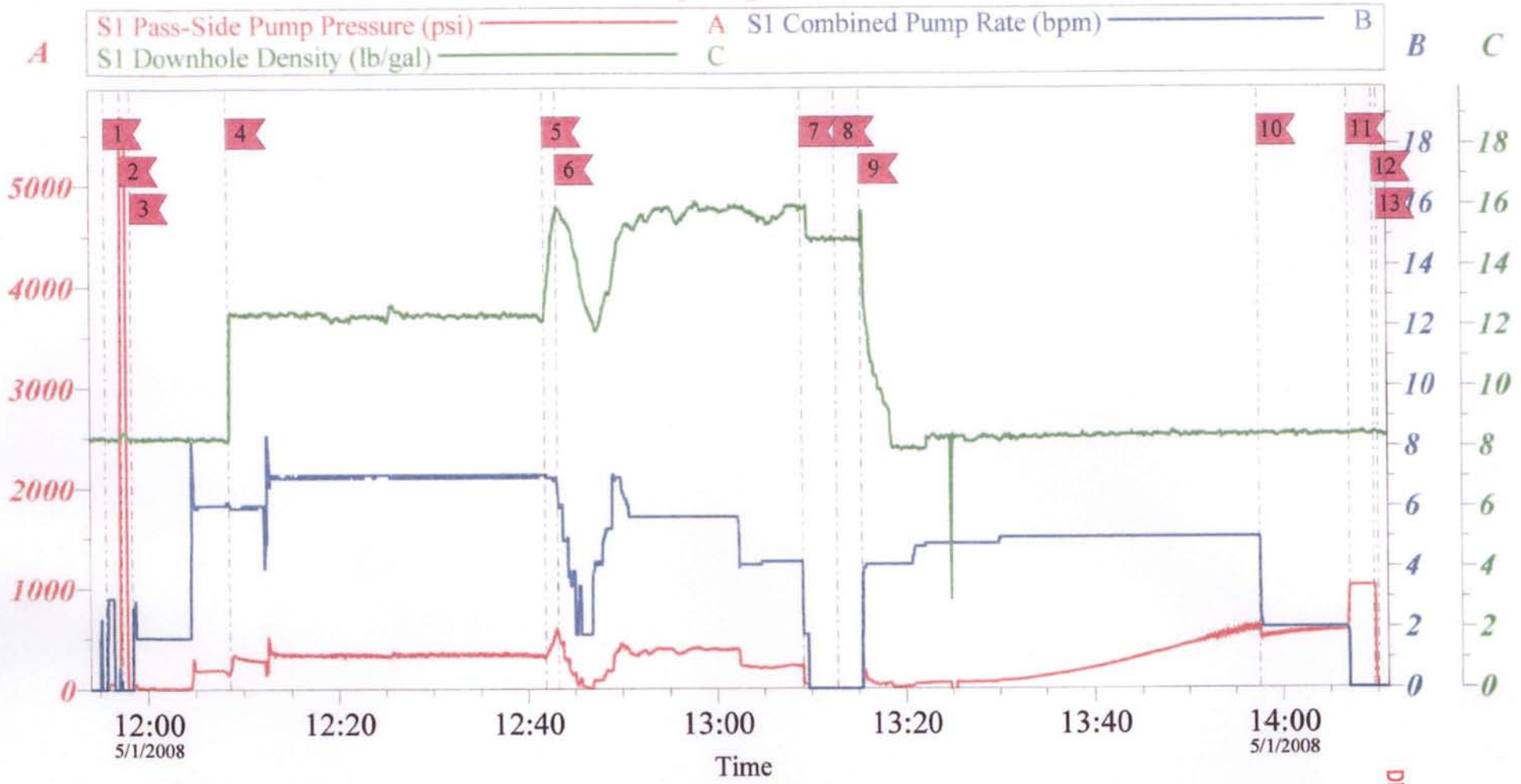
Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Cement Returns to Surface	05/01/2008 13:18							206 BBLs cement to surface
Slow Rate	05/01/2008 13:57		2	24	654		575.0	
Bump Plug	05/01/2008 14:07						1014.0	Landed plug 500 PSI over final ciculating pressure
Check Floats	05/01/2008 14:09							Floats held 1.5 BBLs back full returns during job
Pre-Rig Down Safety Meeting	05/01/2008 14:20							
Rig-Down Equipment	05/01/2008 14:30							
Rig-Down Completed	05/01/2008 16:00							
Pre-Convoy Safety Meeting	05/01/2008 16:15							
Crew Leave Location	05/01/2008 16:30							

Rock Springs Cement



Local Event Log

1	Fill lines	11:55:38	2	Pressure test	11:57:17	3	Pump water spacer	11:58:22
4	Pump lead cement	12:08:37	5	Pump tail cement	12:41:53	6	Slow rate fix density	12:43:12
7	Shutdown	13:09:07	8	Drop plug	13:12:49	9	Pump displacement	13:15:23
10	Slow rate	13:57:34	11	Bump plug	14:07:05	12	Check floats	14:09:36
13	End job	14:10:03						

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Customer:	Fortuna	Job Date:	01-May-2008	Sales Order #:	5843400
Well Description:	Development	UWI:	43-033-30062	Supervisor	David Heaps

HALLIBURTON
OptiCem v6.1.1
01-May-08 14:58

HALLIBURTON

Water Analysis Report

COMPANY:	Fortuna	**Date Recorded**	4/30/2008
SUBMITTED BY:	David Heaps	**SO#**	5843400
LEASE:	Hogback Ridge	**Job Type**	Surface
WELL #:	1-17-13N-7E	**Camp Location**	10142 ROCK SPRINGS WY

CEMENT MIX WATER REQUIREMENTS

Item	Recorded Test Value	Max Acceptable Limit	Potential Problems in Exceeding Limit
pH	7	5 to 8.5	Chemicals in water can cause severe retardation
Chlorides	0	3000 mg/L	Can accelerate the set time on cement 1% ~ 4800 mg/L
Total Alkalinity	240	1000 mg/L	Cement is greatly retarded to the point where it may not set up at all, decrease strength of cement and possibly thicken cement slurry. (Typically occurs @ pH ≥ 8.3)
Total Hardness	15	400 mg/L	Slightly shortens pump time on cement.
Sulfates	over 400	1500 mg/L	Will greatly decrease the strength of cement
Iron	0	300 mg/L	Could cause gelation issues with cement
Water Temp	63°	50F to 80F	High temps will accelerate; Low temps may risk freezing in cold weather

NOTES:

1. If the water's pH is greater than or equal to 8, avoid using it since Magnesium may be present (there are no field test strips for Magnesium)

Submitted Respectfully by: _____

API # 43-033-30062

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IPS / dba Double Jack Testing

PO Drawer 2080 • Riverton, WY 82501 • (307) 857-0076

FIELD TICKET 25041

Accounting & Administration

Field Operations:

Riverton, WY	(307) 857-0077
Evanston, WY	(307) 789-9213
Rock Springs, WY	(307) 382-4020
Big Piney, WY	(307) 276-5265
Vernal, UT	(435) 781-0448

DATE MAY 2 2008

[X] OPERATOR FORTUNA

[ ] CONTRACTOR PRECISION #ET 618

WELL NAME Hog Back 1-17-13N-7E

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
RICH	UT	17	13 N	7 E

Items Tested:	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES
Top Pipe Rams	250	5	5000	10
Bottom Pipe Rams	250	5	5000	10
Blind Rams	250	5	5000	10
Annular B.O.P.	250	5	3500	10
Choke Manifold	250	5	5000	10
Choke Line	250	5	5000	10
Kill Line	250	5	5000	10
Super Choke	250	5	5000	10
Upper Kelly	250	5	5000	10
Lower Kelly	250	5	5000	10
Floor Valve	250	5	5000	10
Dart Valve	250	5	5000	10
Casing	200	5	2700	10

Closing Unit PSI 2700

Closing Time of Rams 2 sec

Closing Time of Annular 3 sec

Closed Casing Head Valve Y

Set Wear Sleeve —

COMMENTS

ANNULAR

PIPES

BLINDS

MUDCROSS

PIPES

MUDCROSS

WELL HEAD

ADDITIONAL TESTS & COMMENTS

DRILLING [X] COMPLETION [ ]

1 FLANGE LEAKED HAMMERED UP NO PROBLEM. BOP HAS TWO MUDCROSS LINES TESTED ALL VALVES ON BOTH LINES. ALSO HAD TWO CHOKE MANIFOLDS TESTED ALL VALVES ASSOCIATED WITH (17) CURE ALL TEST WENT WELL. RIG WAS CLEAN AND NICE TO WORK WITH. RIG CREW WAS FOREMAN: RISLEY NOL.

			CHARGES
AFE	SEE P.O. ADDITIONAL PAPER		
FOREMAN:	TEST PLUG		
SUPERINTENDENT: STUART CAMERON	TOP SUB.	4 1/2 IF	72.00
ESTIMATED # HRS	KELLY SUB.	4 1/2 IF	72.00
LOCATION:	X-OVER SUB.		
FOREMAN'S SIGNATURE	OTHER	PREMIUM CLAS/IS - Shop to Shop	60.00
QUANTITY RATES			
ATTN: TERESA TARR	UNIT RATES	MINSETUP TEST 5000# BOP	1375.00
12	ADDITIONAL	12 HRS PAST MINSETUP @ 110.00	1320.00
400	MILEAGE	200 miles ROUNDTRIP @ 2.75	550.00
125	ANTIFREEZE	125 gal GLYCOL @ 6.50	812.50
	OTHER	FUEL SURCHARGE	481.50

FE 6289 / PO # OD679

PURCHASE ORDER #

J CHRISTENSEN / J. NEILL

NO ACCIDENTS TESTED BY

DST CODE 475

R. WILLIAMS WIFLER

COMPANY REPRESENTATIVE

204

DOUBLE JACK TESTING UNIT NUMBER

SUBTOTAL 4744.20

TAX —

TOTAL —

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account

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COMPANY	LEASE & WELL NAME	TEST DATE	RIG # & NAME
FORTUNA (U.S.) LP	Hog Back 1-17-13N-7E	5-2-08	PRECISION 618

TEST #	TIME	ITEMS TESTED
1	900 AM	INSIDE CHOKE MANIFOLD #1 (3 VALVES)
2	920 AM	OUTSIDE CHOKE MANIFOLD #1 (4 VALVES) / INSIDE CHOKE MANIFOLD #2 (2 VALVES)
3	940 AM	OUTSIDE CHOKE MANIFOLD #2 (3 VALVES) / DOWNSTREAM CHOKE MANIFOLD #1 (1 VALVE)
4	1000 AM	DOWNSTREAMS (PAST SUPER CHOKE) 3 VALVES
5	1045 AM	SUPER CHOKE
6	1230 pm	LOWER PIPE RAMS, LOWER INSIDE KILL, LOWER INSIDE CHOKE, STAB VALVE
7	100 pm	LOWER OUTSIDE KILL, LOWER OUTSIDE CHOKE, MANUAL MUD VALVE
8	125 pm	LOWER CHECK VALVE, CHOKE MANIFOLD VALVE RISER #1, HYDRALIC MUD VALVE
9	200 pm	UPPER PIPE RAMS, INSIDE KILL, HCR
10	225 pm	OUTSIDE KILL, MANUAL CHOKE
11	240 pm	CHECK VALVE, RISER CHOKE MANIFOLD #2
12	3'0 pm	ANNULAR @ 3500 PSI
13	4'15 pm	BLIND RAMS
14	5'15 pm	CASING @ 2412 PSI

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IPS

Pressure Testing Svc.

FORTUNA PRECISION 618 Accumulator Function Test HOG BACK 7-17

#1 WITH DRILL PIPE AND TEST PLUG INSTALLED IN WELL HEAD
#2 PLACE ALL FUNCTIONING ACCUMULATOR VALVES IN OPEN POSITION
ALLOW ACCUMULATOR TO PRESSURE UP BEFORE SHUTTING OFF ALL PUMPS
#3 CLOSE ANNULAR/RECORD TIME AND PRESSURE

ANNULAR INITIAL PSI 3000 FINAL PSI 2350 TIME 28 sec

#4 CLOSE PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 2350 FINAL PSI 2250 TIME 9sec

#5 OPEN PIPE RAMS TO SIMULATE BLIND RAMS/RECORD TIME AND PRESSURE

INITIAL PSI 2250 FINAL PSI 2100 TIME 8sec

#6 CLOSE HCR (IF APPLICABLE)/RECORD TIME AND PRESSURE

HCR INITIAL PSI 2100 FINAL PSI 2100 TIME 1 sec

#7 ON THREE RAM STACK CLOSE BOTTOM PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 2100 FINAL PSI 1950 TIME 9sec

#8 WHEN DONE WITH THE RECORDED TIMES AND PRESSURES THERE SHOULD BE AT LEAST 200 PSI OVER PRECHARGE IN THE ACCUMULATOR (1200PSI)
#9 OPEN ANNULAR

NITORGEN BOTTLES/ BLEED OFF TEST

#1 FINISH BLEEDING OFF BOTTLES INTO ACCUMULATOR TANK/RESERVOIR.
#2 WATCH AND RECORD WHERE PRESSURE DROPS (ACCUMULATOR PSI)

PRESSURE DROP 950 PSI
#3ACCUMULATOR PSI SHOULD DROP AT 1100 PSI TO 950 PSI

2 MINUTE TIME TEST/ ACCUMULATOR PUMPS

#1 SHUT VALVES TO NITROGEN BOTTLES
#2 PLACE HCR IN THE OPEN POSITION. (IF APPLICABLE)
#3 PLACE ANNULAR IN THE CLOSE POSITION
#4 TURN ON PUMPS AND RECORD TIME TO PRESSURE UP MANIFOLD ON ACCUMULATOR TO AT LEAST 200 PSI OVER PRECHARGE. WITHIN 2 MIN. OR LESS

RECORDED TIME 0 MINUTE 43 SEC.
#5 OPEN VALVES TO NITROGEN BOTTLES AND PRESSURE THE ACCUMULATOR BACK TO SHUT OFF POINT. THEN OPEN ALL PIPE RAMS AND ANNULAR BEFORE PULLING PLUG AND DRILL PIPE OUT OF BOP.

IPS

PD.

T 13N R 7E S-17
API #43-033-30062

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COMPANY	LEASE & WELL NAME	TEST DATE	RIG # & NAME
FORTUNA (U.S.) LP	Hog Back 1-17-13N-7E	5-2-08	Precision 618

TEST #	TIME	ITEMS TESTED
1	900 AM	INSIDE CHOKE MANIFOLD #1 (3 VALVES)
2	920 AM	OUTSIDE CHOKE MANIFOLD #1 (4 VALVES) / INSIDE CHOKE MANIFOLD #2 (7 VALVES)
3	940 AM	OUTSIDE CHOKE MANIFOLD #2 (3 VALVES) / DOWNSTREAM CHOKE MANIFOLD #1 (1 VALVE)
4	1000 AM	DOWNSTREAMS (PAST SUPER CHOKE) 3 VALVES
5	1045 AM	SUPER CHOKE
6	1230 pm	LOWER PIPE RAMS, LOWER INSIDE KILL, LOWER INSIDE CHOKE, STAB VALVE
7	100 pm	LOWER OUTSIDE KILL, LOWER OUTSIDE CHOKE, MANUAL MOD VALVE
8	125 pm	LOWER CHECK VALVE, CHOKE MANIFOLD VALVE RISER #1, HYDRALIC MOD VALVE
9	200 pm	UPPER PIPE RAMS, INSIDE KILL, HCR
10	225 pm	OUTSIDE KILL, MANUAL CHOKE
11	240 pm	CHECK VALVE, RISER CHOKE MANIFOLD #2
12	310 pm	ANNULAR @ 3500 PSI
13	415 pm	BLIND RAMS
14	515 pm	CASING @ 2412 PSI

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IPS

Pressure Testing Svc.

FORTUNA PRECISION 618 Accumulator Function Test HOG BACK 1-17

#1 WITH DRILL PIPE AND TEST PLUG INSTALLED IN WELL HEAD
#2 PLACE ALL FUNCTIONING ACCUMULATOR VALVES IN OPEN POSITION
ALLOW ACCUMULATOR TO PRESSURE UP BEFORE SHUTTING OFF ALL PUMPS
#3 CLOSE ANNULAR/RECORD TIME AND PRESSURE

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ANNULAR INITIAL PSI 3000 FINAL PSI 2350 TIME 28 sec

#4 CLOSE PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 2350 FINAL PSI 2250 TIME 9sec

#5 OPEN PIPE RAMS TO SIMULATE BLIND RAMS/RECORD TIME AND PRESSURE

INITIAL PSI 2250 FINAL PSI 2100 TIME 8sec

#6 CLOSE HCR (IF APPLICABLE)/RECORD TIME AND PRESSURE

HCR INITIAL PSI 2100 FINAL PSI 2100 TIME 1sec

#7 ON THREE RAM STACK CLOSE BOTTOM PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 2100 FINAL PSI 1950 TIME 9sec

#8 WHEN DONE WITH THE RECORDED TIMES AND PRESSURES THERE SHOULD BE AT LEAST 200 PSI OVER PRECHARGE IN THE ACCUMULATOR (1200PSI)
#9 OPEN ANNULAR

NITORGEN BOTTLES/ BLEED OFF TEST

#1 FINISH BLEEDING OFF BOTTLES INTO ACCUMULATOR TANK/RESERVOIR.
#2 WATCH AND RECORD WHERE PRESSURE DROPS (ACCUMULATOR PSI)

PRESSURE DROP 950 PSI
#3ACCUMULATOR PSI SHOULD DROP AT 1100 PSI TO 950 PSI

2 MINUTE TIME TEST/ ACCUMULATOR PUMPS

#1 SHUT VALVES TO NITROGEN BOTTLES
#2 PLACE HCR IN THE OPEN POSITION. (IF APPLICABLE)
#3 PLACE ANNULAR IN THE CLOSE POSITION
#4 TURN ON PUMPS AND RECORD TIME TO PRESSURE UP MANIFOLD ON ACCUMULATOR TO AT LEAST 200 PSI OVER PRECHARGE. WITHIN 2 MIN. OR LESS

RECORDED TIME 0 MINUTE 43 SEC.
#5 OPEN VALVES TO NITROGEN BOTTLES AND PRESSURE THE ACCUMULATOR BACK TO SHUT OFF POINT. THEN OPEN ALL PIPE RAMS AND ANNULAR BEFORE PULLING PLUG AND DRILL PIPE OUT OF BOP.

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IPS / dba Double Jack Testing

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Field Operations: Riverton, WY (307) 857-0077
Evanston, WY (307) 789-9213
Rock Springs, WY (307) 382-4020
Big Piney, WY (307) 276-5265
Vernal, UT (435) 781-0448

FIELD TICKET 23041

DATE May 5 2008
☑ OPERATOR Fortuna
☐ CONTRACTOR Precision Well Svc
WELL NAME Log Back 1-17-15N-7E

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Rich	UT	17	15N	7E

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Items Tested:	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES
Top Pipe Rams	250	5	5000	10
Bottom Pipe Rams	250	5	5000	10
Blind Rams	250	5	5000	10
Annular B.O.P.	250	5	3500	10
Choke Manifold	250	5	5000	10
Choke Line	250	5	5000	10
Kill Line	250	5	5000	10
Super Choke	250	5	5000	10
Upper Kelly	250	5	5000	10
Lower Kelly	250	5	5000	10
Floor Valve	250	5	5000	10
Dart Valve	250	5	5000	10
Casing	250	5	2000	10

Closing Unit PSI 2200
Closing Time of Rams 3 sec
Closing Time of Annular 10 sec
Closed Casing Head Valve Y
Set Wear Sleeve --

COMMENTS
ANNULAR
PIPE RAMS
BLANK
MUD CROSS
PIPE RAMS
MUD CROSS
CHOKE LINE

ADDITIONAL TESTS & COMMENTS

DRILLING ☑ COMPLETION ☐

CHANGE OUT WASHED OUT NIPPLE ON MANIFOLD. REPLACED TWO MUD CROSS LINES. TESTED ALL VALVES AND FLANGES. ALSO HAD TWO CHOKE MANIFOLDS TESTED ALL VALVES ASSOCIATED WITH IT. TIME ON TEST WENT WELL. EQUIPMENT AND NICE CREW WITH RIG CREWS

FORTUNA (US) LP MOL

AFE: See PO Additional Page

FOREMAN:
SUPERINTENDENT: STUART CAMERON
ESTIMATED # AMT:
LOCATION:
FOREMAN'S SIGNATURE

QUANTITY	RATES		CHARGES
ATTN: TERESA TARR		TEST PLUG	
	UNIT RATES	TOP SUB. 4 1/2 IF	
	ADDITIONAL	KELLY SUB. 4 1/2 FF	
	MILEAGE	X-OVER SUB.	
	ANTIFREEZE	OTHER Accumulator Testing	
	OTHER		

MEL 220	Tourmaline Well	SUBTOTAL	
PURCHASE ORDER #	NO ACCIDENTS	TAX	
Cust Code 435	TESTED BY	TOTAL	
COMPANY REPRESENTATIVE	DOUBLE JACK TESTING UNIT NUMBER		

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account on the billing date. No further credit can be extended on unpaid delinquent accounts until the delinquent account is paid in full. The contractor will not be held liable for damages caused by acts of God, or unforeseen circumstances that could not be reasonably anticipated in performing the work done as set forth above.

RECEIVED
MAY 05 2008

IPS / dba Double Jack Testing

FIELD TICKET
27828

Accounting Office: PO Drawer 2080 • Riverton, WY 82501 • (307) 857-0076

Field Operations:

Riverton, WY	(307) 857-0077
Evanston, WY	(307) 789-9213
Rock Springs, WY	(307) 382-4020
Big Piney, WY	(307) 276-5265
Vernal, UT	(435) 781-0448

43-033-30062

DATE 5-26-08

☐ OPERATOR Fortuna

☐ CONTRACTOR Precision Drilling 608

WELL NAME Hogback Ridge 1-17-13N-7E

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Rich	Ut	17	13N	7E

Items Tested:	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES	
Top Pipe Rams	250	5	5000	10	Closing Unit PSI 3000 psi
Bottom Pipe Rams	250	5	5000	10	Closing Time of Rams 7 sec
Blind Rams	250	5	5000	10	Closing Time of Annular 21 sec
Annular B.O.P.	250	5	3500	10	Closed Casing Head Valve yes
Choke Manifold	250	5	5000	10	Set Wear Sleeve yes
Choke Line	250	5	5000	10	COMMENTS
Kill Line	250	5	5000	10	
Super Choke	—	—	5000	3	
Upper Kelly	~~250~~	~~5~~	~~5000~~	~~10~~	
Lower Kelly	250	5	5000	10	
Floor Valve	250	5	5000	10	
Dart Valve	250	5	5000	10	
Casing	—	—	2700	10	

ADDITIONAL TESTS & COMMENTS

DRILLING ☒ COMPLETION ☐

FORTUNA (US) LP

AFE: 03519

FOREMAN: E NATTE SUB 429

SUPERINTENDENT: STUART CAMERON

ESTIMATED # AMT: 4571.00

LOCATION: HOGBACK RIDGE 1-17

FOREMAN'S SIGNATURE

ATTN: TERESA TARR

		CHARGES
TEST PLUG	—	
TOP SUB.	4½ IF	72.00
KELLY SUB.	4½ IF	72.00
X-OVER SUB.	—	
OTHER 11	Per hour for additional men 72/ea	792.00

QUANTITY	RATES	
1	UNIT RATES 0-5000psi setup charge for 1st 7 hours on Location	1375.00
~~24~~ 4	ADDITIONAL Per hour after setup for one man 110/per	440.00
120	MILEAGE Round trip mileage from Evanston 2.75 per mile	330.00
300	ANTIFREEZE gallons used 50/50 3.00 per gallon	900.00
2	OTHER per man, per day subsistance 60 ea fuel surcharge	120.00
		4.00
	SUBTOTAL	4571.00

00679
PURCHASE ORDER #

Jed Hartzell Tyrel Mobley
NO ACCIDENTS — TESTED BY

TAX

E NATTE
COMPANY REPRESENTATIVE
Print Name

196
DOUBLE JACK TESTING UNIT NUMBER

TOTAL

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account

IPS / Double Jack Testing

Accumulator Function Tests

1 RECORD INITIAL ACCUMULATOR PRESSURE 3000
2 WITH DRILL PIPE & TEST PLUG INSTALLEDIN WELL HEAD.
3 PLACE ALL FUNCTIONING ACCUMULATOR VALVES IN OPEN POSITION
ALLOW ACCUMULATOR TO PRESSURE UP BEFORE SHUTTING OFF ALL PUMPS
4CLOSE ANNULAR / RECORD TIME & PRESSURE.

ANNULAR INTIAL PSI 3000 FINAL PSI 2000 TIME 29sec

#5 CLOSE PIPE RAMS / RECORD TIME & PRESSURE.

PIPR RAMS INTIAL PSI 2000 FINAL PSI 1850 TIME 7sec

#6 OPEN PIPE RAMSTO SIMULATE BLIND RAMS / RECORD TIME & PRESSURE.
INTIAL PSI 1850 FINAL PSI 1750 TIME 7sec

#7 CLOSE HCR (if applicable) / RECORD TIME & PRESSURE.
HCR INTIAL PSI 1750 FINAL PSI 1750 TIME 2sec

#8 ON THREE RAM STACK CLOSE BOTTOM PIPE RAM / RECORD TIME & PRESSURE.

PIPE RAMS INTIAL PSI 1750 FINAL PSI 1700 TIME 6sec

#9 WHEN DONE WITH RECORDED TIMES & PRESSURES THERE SHOULD BE
AT LEAST 200 PSI OVER PRECHARGE IN THE ACCUMLATOR (1200 PSI)

#10 OPEN ANNULAR 1500

NITROGEN BOTTLES / BLEED OFF TEST

#1 FINISH BLEEDING OFF BOTTLES INTO ACCUMLATOR TANK/RESERVOIR.
#2 WATCH & RECORD WHERE PRESSURE DROPS (accumulator psi)

PRESSURE DROP 1000 PSI

#3 ACCUMULATOR PSI SHOULD DROP AT 1100 PSI TO 950 PSI

---

2 MINUTE TIME TEST / ACCUMULATOR PUMPS

#1 SHUT VALVES TO NITROGEN BOTTLES.
#2 PLACE HCR IN THE OPEN POSITION. (if applicable)
#3 PLACE ANNULAR IN THE CLOSE POSITION.
#4 TURN ON PUMPS & RECORD TIME TO PRESSURE UP MANIFOLD ON
ACCUMULATOR TO ATLEAST 200PSI OVER PRECHARGE. WITHIN 2 MIN. OR LESS.

RECORDED TIME 1 MINUTE 45 SEC.

#5 OPEN VALVES TO NITROGEN BOTTLES & PRESSURE THE ACCUMULATOR BACK TO SHUT OFF POINT. THEN OPEN ALL PIPE RAMS & ANNULAR BEFORE PULLING PLUG AND DRILL PIPE OUT OF BOP.

COMPANY	LEASE & WELL NAME	TEST DATE	RIG# & NAME
Fortuna	Hogback ridge 1-17	5-26-08	Precision 612

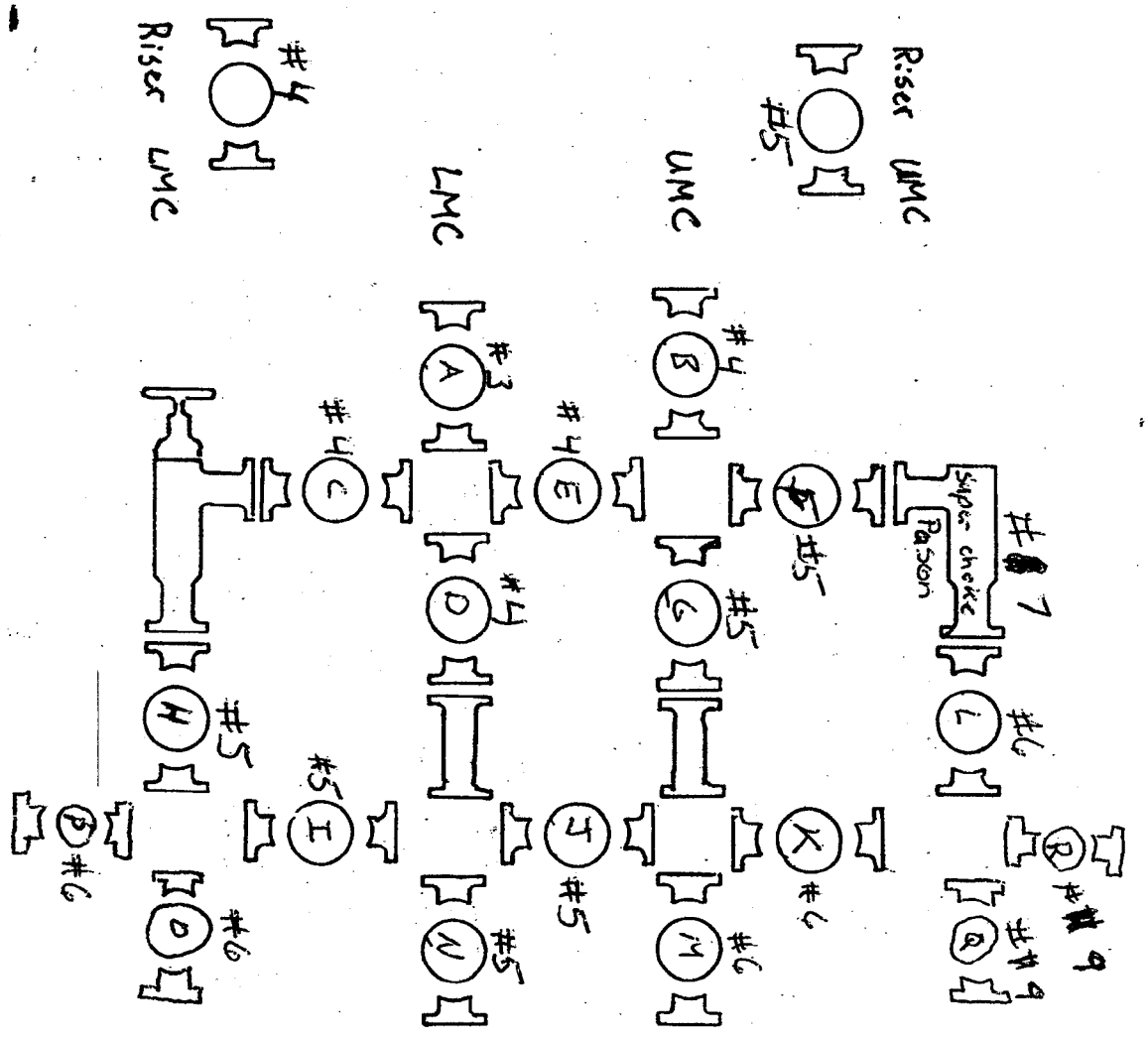
TEST #	TIME	ITEMS TESTED
1	10:28am	Lower pipes LMC inside manual on choke and Kill side
2	10:50am	Upper pipes LMC outside manual on choke and Kill side UMC HCR and inside manual Kill side
3	11:40am	LMC Kill side check, and choke house valve A, UMC outside Kill manual and outside choke manual
4	12:25pm	UMC Kill side check, choke house valve B, C, D, E and Riser on LMK
5	2:00pm	LMC choke house valves F, G, H, I, J, N and UMC choke house riser
6	2:30pm	choke house valves K, L, M, O, P
7	2:55pm	Pason super choke
8	3:15pm	Annular
9	4:25pm	choke house valves R, Q and Blind rams
10	4:45pm	TIW Valve
11	5:10pm	Top drive Manual
12	6:10pm	Dart valve
13	6:40pm	Casing

DATE 5-26-08

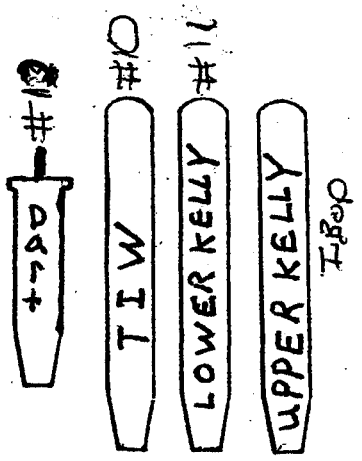
COMPANY Fortuna

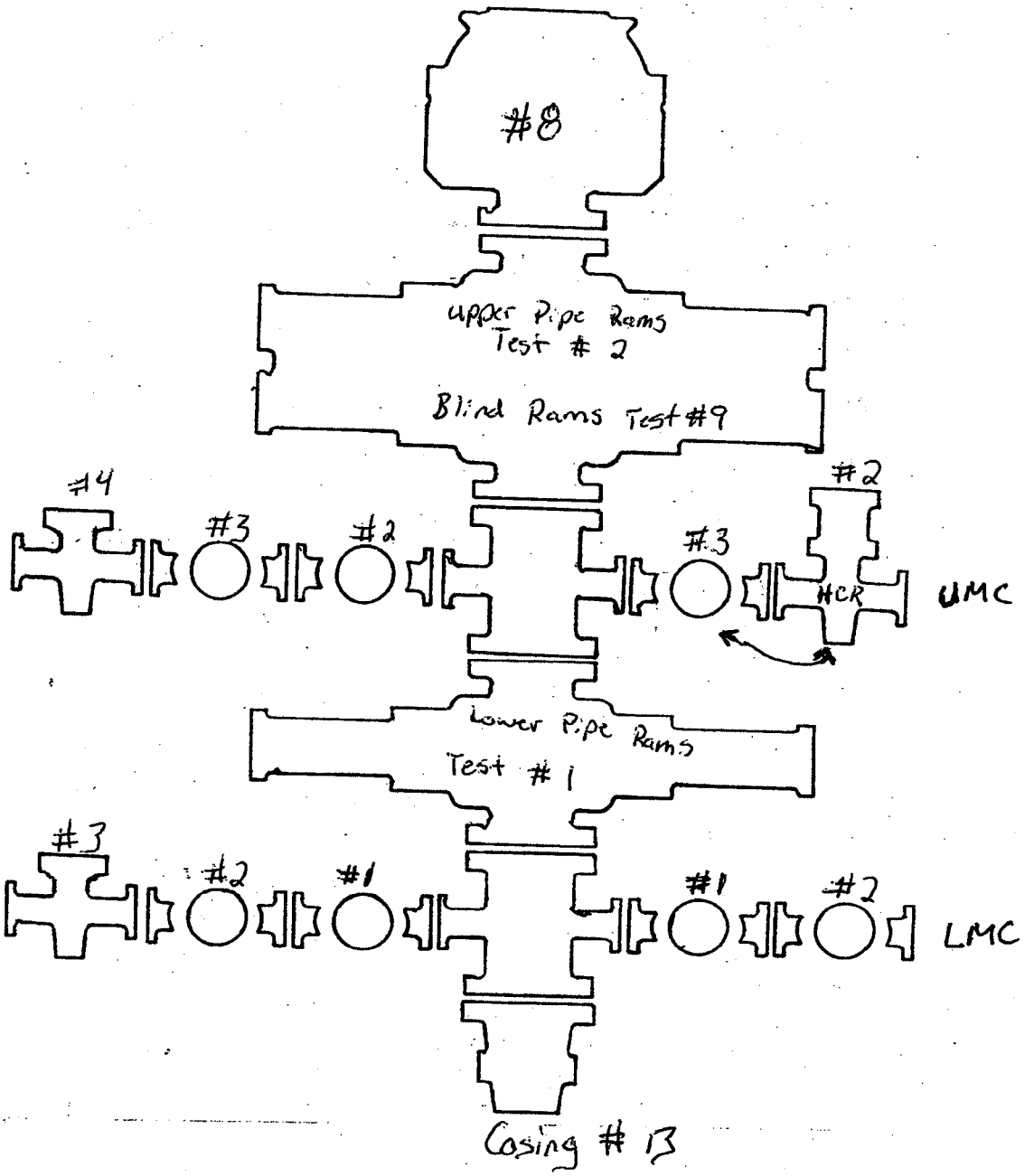
CONTRACTOR Precision 618

WELL NAME Hogback Ridge 1-



DATE	5-26-08
COMPANY	Fortuna
CONTRACTOR	PRECISION 618
WELL NAME	Hogback ridge 1-17





HALLIBURTON

FORTUNA (US) LP

Hogback Ridge 1-17-13N-7E
WILDCAT
Rich County , Utah

Cement Intermediate Casing

26-May-2008

Job Site Documents

HALLIBURTON

Field Ticket

Field Ticket Number:	5874418	Field Ticket Date:	Monday, May 26, 2008

Bill To:

Ship To:
FORTUNA (US) LP
Hogback Ridge, 1-17-13N-7E
2647130
UNKNOWN,

Job Name:	Intermediate Casing
Order Type:	Streamline Order (ZOH)
Well Name:	Hogback Ridge 1-17-13N-7E
Company Code:	1100
Customer PO No.:	=
Shipping Point:	Rock Springs, WY, USA
Sales Office:	Rocky Mountains BD
Well Type:	
Well Category:	

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
7522	CMT INTERMEDIATE CASING BOM	1	JOB	0.00	0.00	0.00		0.00
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT	300	MI	0.00	9.79	2,937.00	62%	1,116.06
	Number of Units	1						
2	MILEAGE FOR CEMENTING CREW,ZI	300	MI	0.00	5.76	1,728.00	62%	656.64
	Number of Units	1						
16091	ZI - PUMPING CHARGE	1	EA	0.00	6,736.00	6,736.00	62%	2,559.68
	DEPTH	4040						
	FEET/METERS (FT/M)		FT					
16092	ADDITIONAL HOURS (PUMPING EQUIPMENT), ZI	1	EA	0.00	1,071.00	2,142.00	62%	813.96
	HOURS	2						
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB	0.00	2,275.00	2,275.00	62%	864.50
	NUMBER OF UNITS	1						
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI	1	JOB	0.00	1,649.00	1,649.00	62%	626.62
	NUMBER OF DAYS	1						
114	R/A DENSOMETER W/CHART RECORDER,/JOB,Z	1	JOB	0.00	1,285.00	1,285.00	62%	488.30
	NUMBER OF UNITS	1						
74038	ZI PLUG CONTAINER RENTAL-1ST DAY	1	EA	1,322.00	0.00	1,322.00	62%	502.36
	DAYS OR FRACTION (MIN1)	1						
90	ZI QUICK LATCH ATTACHMENT	1	JOB	0.00	616.00	616.00	62%	234.08
	SIZE IN INCHES/MILLIMETER	9.625						
	INCHES/MILLIMETERS (IN/MM)		IN					
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	0.00	134.00	134.00		134.00

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	0.00	83.00	83.00		83.00
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON	300	MI	0.00	0.57	684.00		684.00
	Number of Units	4						
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	300	MI	0.00	0.19	57.00		57.00
	Number of Units	1						
372867	Cmt PSL - DOT Vehicle Charge, CMT	6	EA	0.00	241.00	1,446.00		1,446.00
432487	CMT, Bulk Cement Surcharge	1110	EA	0.00	1.38	1,531.80		1,531.80
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES	150	MI	0.00	0.19	1,189.88		1,189.88
	NUMBER OF TONS	41.75						
76400	ZI MILEAGE,CMT MTLS DEL/RET MIN	150	MI	0.00	3.35	20,979.38	62%	7,972.16
	NUMBER OF TONS	41.75						
3965	HANDLE&DUMP SVC CHRG, CMT&ADDITIVES,ZI	902	CF	0.00	5.49	4,951.98	62%	1,881.75
	NUMBER OF EACH	1						
92	PORTABLE RADIOS, ZI	4	EA	0.00	323.00	1,292.00	62%	490.96
	NUMBER OF JOBS	1						
16114	BULK TRUCK, ON SITE,>6HRS,ZI	2	EA	0.00	196.00	1,568.00	62%	595.84
	HOURS OR FRACTION	10						
16115	FIELD STORAGE BIN ON SITE >8 HRS,DAY,ZI	1	EA	0.00	1,344.00	1,344.00	62%	510.72
	DAYS OR PARTIAL DAY(WHOLE NO.)	1						
11941	FIELD STORAGE BIN DELIVERY, ZI	300	MI	0.00	9.79	2,937.00	62%	1,116.06
	Number of Units	1						
13383	MUD FLUSH	1681	GAL	0.00	2.16	3,630.96	62%	1,379.76
452992	ECONOCEM (TM) SYSTEM	310	SK			31,672.70	62.%	12,035.6
101216940	POLY-E-FLAKE	39	LB	0.00	7.84	305.76	62%	116.19
100064010	KWIK SEAL,FINE	78	LB	0.00	5.57	434.46	62%	165.09
452992	ECONOCEM (TM) SYSTEM	525	SK			27,032.25	62.%	10,272.25
100005050	HR-5	44	LB	0.00	11.07	487.08	62%	185.09
100003691	SAND- 200 MESH SILICA FLOUR SSA-1	8637	LB	0.00	0.62	5,354.94	62%	2,034.88

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
101214575	PLUG,CMTG,TOP,9 5/8,HWE,8.16 MIN/9.06 MA	1	EA	0.00	454.00	454.00	62%	172.52
Halliburton Rep:	CAMERON GUNN			***Totals***	*USD*	**128,260.19**	**76,343.41**	**51,916.78**

Customer Agent:

Halliburton Approval

THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE.
CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE AND ON THE ATTACHED DOCUMENTS.

X _____
Customer Signature

FIELD TICKET TOTAL: USD	51,916.78

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 5874418
Customer: FORTUNA (US) LP		**Customer Rep:**	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah

Legal Description: Section 17 Township 13N Range 7E

Job Purpose: Cement Intermediate Casing

Well Type: Development Well	**Job Type:** Cement Intermediate Casing	
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** GUNN, CAMERON	**MBU ID Emp #:** 397216

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
GUNN, CAMERON S	10.5	397216	NIXON, CHRISTOPHER Lee	10.5	423930	NUNEZ HUERTA, RICARDO	10.5	391224
SAENZ, LISANDRO	10.5	427226						

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10025032C	150 mile	10025054C	150 mile	10713200	150 mile	10741121	150 mile
10744715C	150 mile	10804551	150 mile	10829092	150 mile	10925546	150 mile
11139002	150 mile						

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
05/25/08	2.5	1	05/26/08	8	3			
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type		**BHST**			
Job depth MD	4040. ft	**Job Depth TVD**	4040. ft		
Water Depth		**Wk Ht Above Floor**	3. ft		
Perforation Depth (MD)	**From**		**To**		

Job Times

	Date	Time	Time Zone
Called Out	25 - May - 2008	16:30	MST
On Location	25 - May - 2008	21:30	MST
Job Started	26 - May - 2008	03:00	MST
Job Completed	26 - May - 2008	05:30	MST
Departed Loc	26 - May - 2008	08:00	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
12 1/4" Open Hole				12.25				1500.	4050.		
13 3/8" Surface Casing	New		13.375	12.415	68.		K-55	.	1500.		
9 5/8" Intermediate Casing	New		9.625	8.755	43.5		L-80	.	4050.		

Sales/Rental/3rd Party (HES)

Description	Qty	Qty uom	Depth	Supplier
PLUG,CMTG,TOP,9 5/8,HWE,8.16 MIN/9.06 MA	1	EA		
PLUG,CMTG,BOT,9 5/8,HWE,8.16 MIN/9.06 MA	1	EA		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

HALLIBURTON

Cementing Job Summary

Miscellaneous Materials															
Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%		
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty			

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Mud Flush	MUD FLUSH - ZI - SBM (13383)	40.0	bbl	8.4	.0	.0	.0	
2	EconoCem RS4	ECONOCEM (TM) SYSTEM (452992)	310.0	sacks	10.5	3.13	19.46		19.46
2 %		ECONOLITE (100001580)							
0.5 %		VERSASET, 55 LB SK (101376573)							
0.125 lbm		POLY-E-FLAKE (101216940)							
2 lbm		SILICALITE - COMPACTED, 50 LB SK (100012223)							
0.25 lbm		KWIK SEAL, SK (100064010)							
19.464 Gal		FRESH WATER							
3	EcooCem RS2	ECONOCEM (TM) SYSTEM (452992)	525.0	sacks	14.2	1.22	5.3		5.3
2 %		HALAD(R)-322, 50 LB (100003646)							
0.2 %		HALAD(R)-344, 50 LB (100003670)							
0.2 %		HR-5, 50 LB SK (100005050)							
5.301 Gal		FRESH WATER							
4	Water Spacer			bbl	8.34	.0	.0	.0	

Calculated Values		Pressures		Volumes					
Displacement	297	Shut In: Instant		Lost Returns	0	Cement Slurry		Pad	
Top Of Cement	0	5 Min		Cement Returns	45	Actual Displacement	297	Treatment	
Frac Gradient		15 Min		Spacers	40	Load and Breakdown		Total Job	

Rates

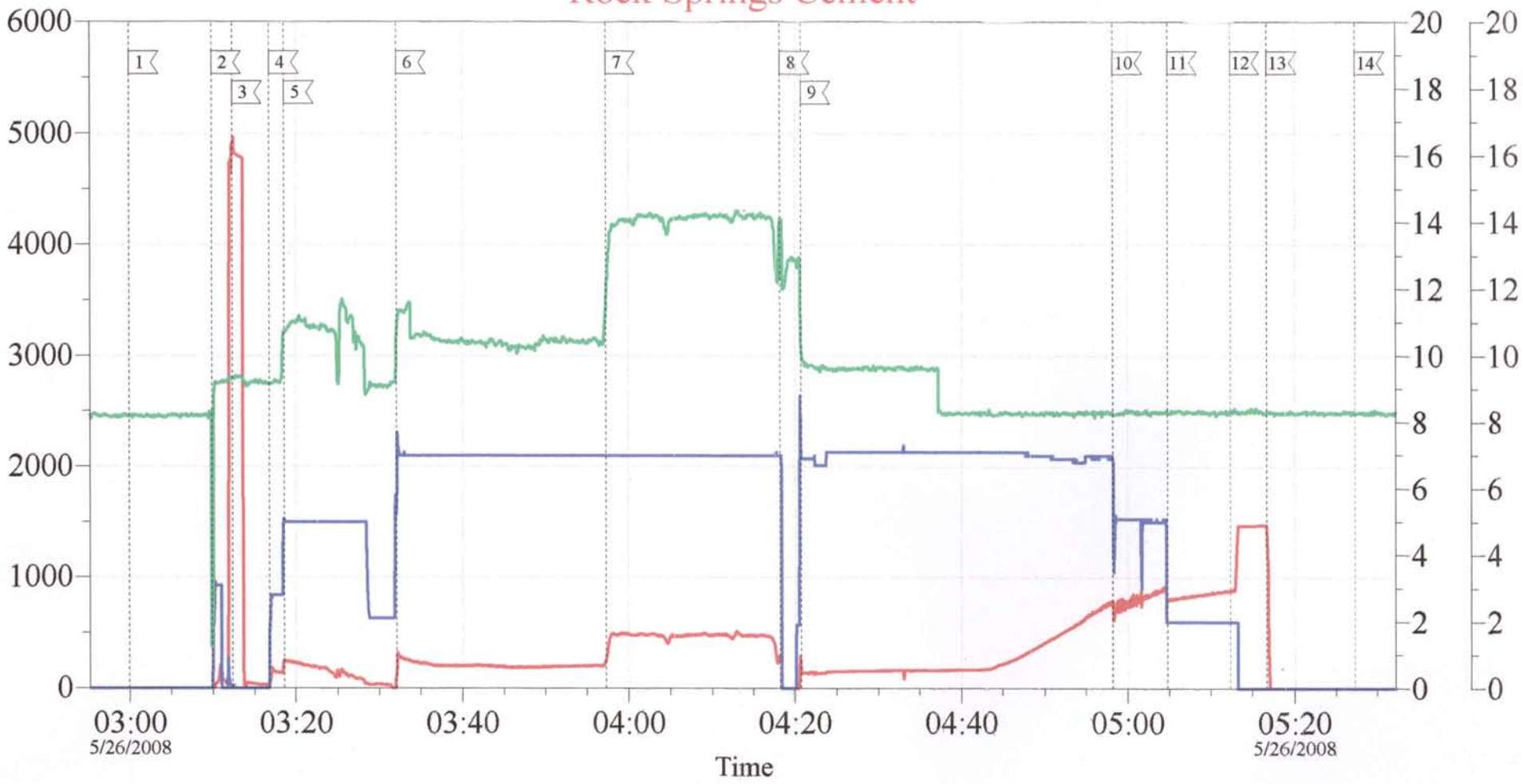
Circulating	9.5	Mixing	7	Displacement	7	Avg. Job	7

Cement Left In Pipe	Amount	48 ft	Reason	Shoe Joint

Frac Ring # 1 @		ID		Frac ring # 2 @		ID		Frac Ring # 3 @		ID		Frac Ring # 4 @		ID	

The Information Stated Herein Is Correct	Customer Representative Signature

Rock Springs Cement



Local Event Log

Intersection			SCPR	SDD	SPPP	Intersection			SCPR	SDD	SPPP
1	START JOB	02:59:57	0.000	8.210	0.000	2	PUMP WATER	03:09:52	0.000	5.289	-3.000
3	TEST LINES	03:12:22	0.000	9.360	4902	4	PUMP WATER	03:16:51	1.800	9.140	45.39
5	PUMP TUNED SPACER	03:18:40	5.000	10.72	248.8	6	PUMP LEAD	03:32:07	5.900	10.87	191.4
7	PUMP TAIL	03:57:15	7.000	11.72	259.3	8	SHUT DOWN / DROP PLUG	04:18:11	7.000	14.10	297.0
9	PUMP DISPLACEMENT	04:20:43	6.900	10.05	143.2	10	SLOW RATE	04:58:13	6.900	8.270	780.4
11	SLOW RATE	05:04:46	2.000	8.307	806.7	12	BUMP PLUG	05:12:18	2.000	8.324	880.2
13	CHECK FLOATS	05:16:43	0.000	8.309	138	14	END JOB	05:27:21	0.000	8.264	-1.000

Customer: FORTUNA	Job Date: 26-May-2008	Sales Order #: 5874418
Well Description: INREMEDIATE	UWI: 43-033-30062	

OptiCem v6.2.3
26-May-08 06:37

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 5874418
Customer: FORTUNA (US) LP		**Customer Rep:**	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor:	**Rig/Platform Name/Num:** Precision 618		
Job Purpose: Cement Intermediate Casing			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Cement Intermediate Casing		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** GUNN, CAMERON		**MBU ID Emp #:** 397216

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	05/25/2008 16:30							
Depart Yard Safety Meeting	05/25/2008 18:15							
Crew Leave Yard	05/25/2008 18:30							
Arrive At Loc	05/25/2008 21:30							
Assessment Of Location Safety Meeting	05/25/2008 21:35							
Pre-Rig Up Safety Meeting	05/25/2008 21:45							
Rig-Up Equipment	05/25/2008 22:00							GROUND ONLY
Wait on Customer or Customer Sub-Contractor Equip	05/25/2008 23:00							
Wait on Customer or Customer Sub-Contractor Equipm	05/26/2008 02:00							
Pre-Job Safety Meeting	05/26/2008 02:10							
Rig-Up Equipment	05/26/2008 02:30							RIG UP FLOOR
Start Job	05/26/2008 03:00							
Pump Water	05/26/2008 03:09		3	3	5		.0	
Pressure Test	05/26/2008 03:12						5000.0	
Pump Water	05/26/2008 03:16		2	2	5		45.0	
Pump Spacer	05/26/2008 03:18		5	40	45		249.0	PUMP @ 10PPG W/SURFACTANTS

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump Lead Cement	05/26/2008 03:32		7	173.4	218.4		191.0	PUMP LEAD @10.5PPG / 3.14Y / 19.59GPS / 310SK
Pump Tail Cement	05/26/2008 03:57		7	135.6	354		259.0	PUMP TAIL @ 14.20PPG / 1.45Y / 6.39GPS / 525SKS
Shutdown	05/26/2008 04:18							
Drop Top Plug	05/26/2008 04:18							
Pump Displacement	05/26/2008 04:20		7	297	651		143.0	
Slow Rate	05/26/2008 04:58		5				780.0	
Slow Rate	05/26/2008 05:04		2				807.0	
Bump Plug	05/26/2008 05:12							
Check Floats	05/26/2008 05:16							FLOATS HELD, GOOD RETURNS THROUGHOUT JOB, 45BBLS CEMENT TO SURFACE
Pre-Rig Down Safety Meeting	05/26/2008 06:15							
Rig-Down Equipment	05/26/2008 06:30							
Safety Meeting - Departing Location	05/26/2008 07:45							
Depart Location for Service Center or Other Site	05/26/2008 08:00							

HALLIBURTON

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DOGM

FORTUNA (US) LP

Hogback Ridge 1-17-13N-7E
WILDCAT
Rich County , Utah

Cement Surface Casing

01-May-2008

Job Site Documents

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 43400
Customer: FORTUNA (US) LP		**Customer Rep:**	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah

Legal Description: Section 17 Township 13N Range 7E

Job Purpose: Cement Surface Casing

Well Type: Development Well	**Job Type:** Cement Surface Casing	
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** HEAPS, DAVID	**MBU ID Emp #:** 404575

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
HEAPS, DAVID V	38	404575	NELSON, GREGORY Aaron	38	403603	OSIER, JOSEPH R	38	433517
WARNER, DON M	38	438422						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10025070C	150 mile	10025078C	150 mile	10624096C	150 mile	10714289C	150 mile
10789198	150 mile	10925548	150 mile	10951243	150 mile	11056351	150 mile

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
04-30-2008	21.5	0	5-1-2008	16.5	6			
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name			
Formation Depth (MD)	**Top**	**Bottom**	
Form Type		**BHST**	85 degF
Job depth MD	1531. ft	**Job Depth TVD**	1531. ft
Water Depth		**Wk Ht Above Floor**	3. ft
Perforation Depth (MD)	*From*	**To**	

Job Times

	Date	Time	Time Zone
Called Out	29 - Apr - 2008	22:00	MST
On Location	30 - Apr - 2008	02:30	MST
Job Started	01 - May - 2008	11:50	MST
Job Completed	01 - May - 2008	14:07	MST
Departed Loc	01 - May - 2008	16:30	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
17 1/2" Surface Open Hole				17.5				.	1500.		
13 3/8" Surface Casing	New		13.375	12.415	68.		K-55	.	1500.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					**Packer**					**Top Plug**	13.375	1	Hes
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar					**Retainer**					**SSR plug set**			
Insert Float										**Plug Container**	13.375	1	Hes
Stage Tool										**Centralizers**			

Miscellaneous Materials

Gelling Agt		**Conc**		**Surfactant**		**Conc**		**Acid Type**		**Qty**		*Conc*	%
Treatment Fld		**Conc**		*Inhibitor*		**Conc**		**Sand Type**		*Size*		*Qty*	

HALLIBURTON

Cementing Job Summary

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	FRESH WATER		40.0	bbl	8.34	.0	.0	5	
2	VariCem RS1	VARICEM (TM) CEMENT (452009)	590.0	sacks	12.3	2.36	13.46	7	13.46
	0.3 %	D-AIR 3000 (101007446)							
	0.125 lbm	POLY-E-FLAKE (101216940)							
	0.25 lbm	KWIK SEAL, SK (100064010)							
	13.455 Gal	FRESH WATER							
3	Premium Cement	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	630.0	sacks	15.8	1.17	5.02	4	5.02
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	2 %	CALCIUM CHLORIDE - HI TEST PELLET (100005053)							
	5.019 Gal	FRESH WATER							
4	Water Displacement		218.003	bbl	8.34	.0	.0	5	
5	Top Out Cement	CMT - STANDARD - TYPE II CEMENT (100064006)	0	sacks	15.6	1.2	5.26	0	5.26
	94 lbm	TYPE I / II CEMENT, BULK (101439798)							
	2 %	CALCIUM CHLORIDE - HI TEST PELLET (100005053)							
	5.258 Gal	FRESH WATER							

Calculated Values		Pressures		Volumes					
Displacement	223.6	Shut In: Instant		Lost Returns	no	*Cement Slurry*	380	Pad	
Top Of Cement	Surface	5 Min		Cement Returns	206	Actual Displacement	224	Treatment	
Frac Gradient		15 Min		Spacers	40	Load and Breakdown		Total Job	644

Rates

Circulating	*20*	*Mixing*	7	*Displacement*	5	Avg. Job	6

Cement Left In Pipe		Amount	*37ft*	*Reason*	*Shoe Joint*								
Frac Ring # 1 @		*ID*		*Frac ring # 2 @*		*ID*		*Frac Ring # 3 @*		*ID*		*Frac Ring # 4 @*		*ID*	

The Information Stated Herein Is Correct	***Customer Representative Signature***

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 43400
Customer: FORTUNA (US) LP		**Customer Rep:**	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor:	**Rig/Platform Name/Num:**		
Job Purpose: Cement Surface Casing			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Cement Surface Casing		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** HEAPS, DAVID		**MBU ID Emp #:** 404575

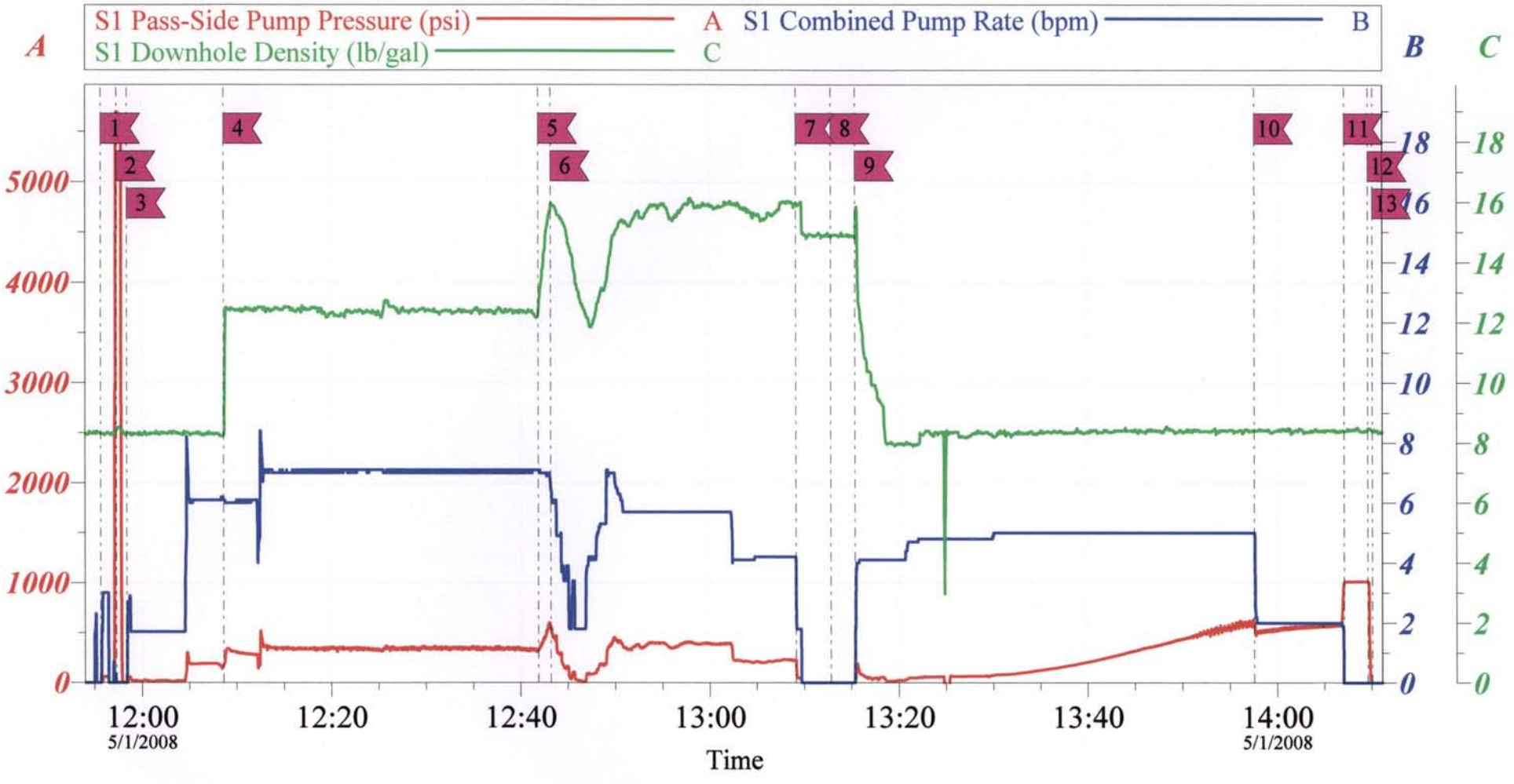
Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	04/29/2008 22:00							
Pre-Convoy Safety Meeting	04/29/2008 23:30							
Crew Leave Yard	04/29/2008 23:40							
Arrive At Loc	04/30/2008 02:30							
Safety Meeting	04/30/2008 13:00							well site safety meeting with company man
Safety Huddle	05/01/2008 09:45							
Rig-Up Equipment	05/01/2008 10:00							
Pre-Job Safety Meeting	05/01/2008 11:30							
Rig-Up Completed	05/01/2008 11:45							
Other	05/01/2008 11:55		3	5	5		.0	Pumped water ahead
Pressure Test	05/01/2008 11:57						5694.0	Pressure tested to 5000 PSI
Pump Water	05/01/2008 11:58		7	35	40		100.0	Pumped water spacer
Pump Lead Cement	05/01/2008 12:08		7	251	291		193.0	Vericem RS 1, 590 sks, 12.3 ppg, 2.39 ft3/sk, 13.81 gal/sk
Pump Tail Cement	05/01/2008 12:41		5	129	420		346.0	Mtn G, 630 sks, 15.8 ppg, 1.15 ft3/sk, 4.97 gal/sk
Shutdown	05/01/2008 13:09							
Drop Plug	05/01/2008 13:12							
Pump Displacement	05/01/2008 13:15		5	200	620		602.0	Pumped water displacement

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Cement Returns to Surface	05/01/2008 13:18							206 BBLs cement to surface
Slow Rate	05/01/2008 13:57		2	24	654		575.0	
Bump Plug	05/01/2008 14:07						1014.0	Landed plug 500 PSI over final ciculating pressure
Check Floats	05/01/2008 14:09							Floats held 1.5 BBLs back full returns during job
Pre-Rig Down Safety Meeting	05/01/2008 14:20							
Rig-Down Equipment	05/01/2008 14:30							
Rig-Down Completed	05/01/2008 16:00							
Pre-Convoy Safety Meeting	05/01/2008 16:15							
Crew Leave Location	05/01/2008 16:30							

Rock Springs Cement



Local Event Log

1	Fill lines	11:55:38	2	Pressure test	11:57:17	3	Pump water spacer	11:58:22
4	Pump lead cement	12:08:37	5	Pump tail cement	12:41:53	6	Slow rate fix density	12:43:12
7	Shutdown	13:09:07	8	Drop plug	13:12:49	9	Pump displacement	13:15:23
10	Slow rate	13:57:34	11	Bump plug	14:07:05	12	Check floats	14:09:36
13	End job	14:10:03						

Customer:	Fortuna	Job Date:	01-May-2008	Sales Order #:	5843400
Well Description:	Development	UWI:	43-033-30062	Supervisor	David Heaps

HALLIBURTON
OptiCem v6.1.1
01-May-08 14:58

HALLIBURTON

Water Analysis Report

COMPANY:	Fortuna	**Date Recorded**	4/30/2008
SUBMITTED BY:	David Heaps	**SO#**	5843400
LEASE:	Hogback Ridge	**Job Type**	Surface
WELL #:	1-17-13N-7E	**Camp Location**	10142 ROCK SPRINGS WY

CEMENT MIX WATER REQUIREMENTS

Item	Recorded Test Value	Max Acceptable Limit	Potential Problems in Exceeding Limit
pH	7	5 to 8.5	Chemicals in water can cause severe retardation
Chlorides[1,2]	0	3000 mg/L	Can accelerate the set time on cement 1% ~ 4800 mg/L
Total Alkalinity	240	1000 mg/L	Cement is greatly retarded to the point where it may not set up at all, decrease strength of cement and possibly thicken cement slurry. (Typically occurs @ pH ≥ 8.3)
Total Hardness	15	400 mg/L	Slightly shortens pump time on cement.
Sulfates	over 400	1500 mg/L	Will greatly decrease the strength of cement
Iron	0	300 mg/L	Could cause gelation issues with cement
Water Temp	63°	50F to 80F	High temps will accelerate; Low temps may risk freezing in cold weather

NOTES:

1. If the water's pH is greater than or equal to 8, avoid using it since Magnesium may be present (there are no field test strips for Magnesium).

Submitted Respectfully by: _____

COMPANY	LEASE & WELL NAME	TEST DATE	RIG # & NAME
FORTUNA	HOGBACK RIDGE 1-17	7-28-08	PRECISION 618

TEST #	TIME	ITEMS TESTED
1	6:30AM	CHOKE MANIFOLD VALVES # 10, 16, 11, 21
2	6:55AM	MANIFOLD VALVES, # 1, 7, 2, 6, 15, 18, 14, 13
3	7:15AM	MANIFOLD VALVES # 8, 17, 4, 19, 20
4	7:35AM	MANIFOLD VALVES # 9, 5
5	7:55AM	REMOTE CHOKE (VALVE #3)
6	10:30AM	BLIND RAMS, INSIDE KILL TOP, INSIDE KILL, BOTTOM, MANUAL CHOKE TOP
7	12:30 PM	LOWER PIPE RAMS, INSIDE KILL BOTTOM, [redacted]
		INSIDE MANUAL BOTTOM, FLOOR VALVE
8	12:50 PM	UPPER PIPES, OUTSIDE KILL BOTTOM, OUTSIDE KILL TOP
		HCR (TOP), MANUAL IBOP, OUTSIDE MANUAL BOTTOM
9	1:10 PM	CHECK TOP, CHECK BOTTOM, HYDRAULIC IBOP
10	1:40PM	ANNULAR TO 3500 PSI
11	3:00 PM	DART VALVE (INSIDE BOP)

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Pressure Testing Svc

FORTUNA PRECISION 618 Accumulator Function Test HOGBACK RIDGE 1-17

7-28-08

#1 WITH DRILL PIPE AND TEST PLUG INSTALLED IN WELL HEAD
#2 PLACE ALL FUNCTIONING ACCUMULATOR VALVES IN OPEN POSITION
ALLOW ACCUMULATOR TO PRESSURE UP BEFORE SHUTTING OFF ALL PUMPS
#3 CLOSE ANNULAR/RECORD TIME AND PRESSURE

ANNULAR INITIAL PSI 2800 FINAL PSI 1800 TIME 14 SEC

#4 CLOSE PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 1800 FINAL PSI 1750 TIME 4 SEC

#5 OPEN PIPE RAMS TO SIMULATE BLIND RAMS/RECORD TIME AND PRESSURE

INITIAL PSI 1750 FINAL PSI 1650 TIME 4 SEC

#6 CLOSE HCR (IF APPLICABLE)/RECORD TIME AND PRESSURE

HCR INITIAL PSI 1650 FINAL PSI 1650 TIME 1 SEC

#7 ON THREE RAM STACK CLOSE BOTTOM PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 1650 FINAL PSI 1550 TIME 4 SEC

#8 WHEN DONE WITH THE RECORDED TIMES AND PRESSURES THERE SHOULD BE AT LEAST 200 PSI OVER PRECHARGE IN THE ACCUMULATOR (1200PSI)
#9 OPEN ANNULAR

1550 GOOD

NITORGEN BOTTLES/ BLEED OFF TEST

#1 FINISH BLEEDING OFF BOTTLES INTO ACCUMULATOR TANK/RESERVOIR.
#2 WATCH AND RECORD WHERE PRESSURE DROPS (ACCUMULATOR PSI)

PRESSURE DROP 950 PSI

#3ACCUMULATOR PSI SHOULD DROP AT 1100 PSI TO 950 PSI

950 GOOD

2 MINUTE TIME TEST/ ACCUMULATOR PUMPS

#1 SHUT VALVES TO NITROGEN BOTTLES
#2 PLACE HCR IN THE OPEN POSITION. (IF APPLICABLE)
#3 PLACE ANNULAR IN THE CLOSE POSITION
#4 TURN ON PUMPS AND RECORD TIME TO PRESSURE UP MANIFOLD ON ACCUMULATOR TO AT LEAST 200 PSI OVER PRECHARGE. WITHIN 2 MIN. OR LESS

RECORDED TIME 0 MINUTE 40 SEC.

#5 OPEN VALVES TO NITROGEN BOTTLES AND PRESSURE THE ACCUMULATOR BACK TO SHUT OFF POINT. THEN OPEN ALL PIPE RAMS AND ANNULAR BEFORE PULLING PLUG AND DRILL PIPE OUT OF BOP.

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IPS / dba Double Jack Testing

Accounting Office: PO Drawer 2080 • Riverton, WY 82501 • (307) 857-0076
Field Operations:
Riverton, WY (307) 857-0077
Evanston, WY (307) 789-9213
Rock Springs, WY (307) 382-4020
Big Piney, WY (307) 276-5265
Vernal, UT (435) 781-0448

FIELD TICKET 27099

DATE 7-25-08
☑ OPERATOR Fortuna
☐ CONTRACTOR Patterson 155
WELL NAME Hackberry Ridge 1-17

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Uintah	UT	17	13S	25E

Items Tested:

	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES
Top Pipe Rams	250	5	5K	
Bottom Pipe Rams	250	5	5K	10
Blind Rams	250	5	5K	10
Annular B.O.P.	250	5	2500	10
Choke Manifold	250	5	5K	10
Choke Line	250	5	5K	10
Kill Line	250	5	5K	10
Super Choke	—	—	5K	10
Upper Kelly	250	5	5K	OK
Lower Kelly	250	5	5K	10
Floor Valve	250	5	5K	10
Dart Valve	250	5	5K	10
Casing	—	—	—	—

Closing Unit PSI 2000
Closing Time of Rams 30 sec
Closing Time of Annular 1 min 30 sec
Closed Casing Head Valve X
Set Wear Sleeve —

COMMENTS

Blind
Pipe
Choke manifold
Kelly
Floor
Dart
Csg
Kill

ADDITIONAL TESTS & COMMENTS

DRILLING ☑ COMPLETION ☐

FORTUNA (US) LP
AFE: 03819
FOREMAN: Pool 02699 Loss Code 4135
SUPERINTENDENT: STUART CAMERON
ESTIMATED # AMT:
LOCATION: Hackberry Ridge 1-17-13N-25E
FOREMAN'S SIGNATURE
ATTN: Ray Wheeler

	CHARGES
TEST PLUG	
TOP SUB.	
KELLY SUB. 3½" IF	
X-OVER SUB. 4½ IF	
OTHER Blk Dart	

QUANTITY	RATES	
1	UNIT RATES Minimum Setup 5K Test	
10	ADDITIONAL Hours on location @ 110	
110	MILEAGE Dart and Kelly Valve @ 75	
	ANTIFREEZE	
	OTHER Dart Subs	

AFE # 03819
PURCHASE ORDER #

K. Christensen / J. Boyd
NO ACCIDENTS
TESTED BY

Ray Wheeler
COMPANY REPRESENTATIVE
Print Name

196
DOUBLE JACK TESTING UNIT NUMBER

SUBTOTAL
TAX
TOTAL

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the balance forward on the account on the billing date. No further credit can be extended on unpaid delinquent accounts until the delinquent account is paid in full. The contractor will not be held liable for damages caused by acts of God, or unforeseen circumstances that could not be reasonably anticipated in performing the work done as set forth above.

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API # 4303330062

HOGBACK RIDGE 1-17-13N-7E 13N 7E 17

COMPANY	LEASE & WELL NAME	TEST DATE	RIG # & NAME
FORTUNA	HOGBACK RIDGE 1-17	7-28-08	PRECISION 618

TEST #	TIME	ITEMS TESTED
1	6:30AM	CHOKE MANIFOLD VALVES # 10, 16, 11, 21
2	6:55AM	MANIFOLD VALVES, # 1, 7, 2, 6, 15, 18, 14, 13
3	7:15AM	MANIFOLD VALVES # 8, 17, 4, 19, 20
4	7:35AM	MANIFOLD VALVES # 9, 5
5	7:55AM	REMOTE CHOKE (VALVE #3)
6	10:30AM	BLIND RAMS, INSIDE KILL TOP, INSIDE KILL BOTTOM, MANUAL CHOKE TOP
7	12:30 PM	LOWER PIPE RAMS, INSIDE KILL BOTTOM, [redacted]
		INSIDE MANUAL BOTTOM, FLOOR VALVE
8	12:50 PM	UPPER PIPES, OUTSIDE KILL BOTTOM, OUTSIDE KILL TOP
		HCR (TOP), MANUAL IBOP, OUTSIDE MANUAL BOTTOM
9	1:10 PM	CHECK TOP, CHECK BOTTOM, HYDRAULIC IBOP
10	1:40PM	ANNULAR TO 3500 PSI
11	3:00 PM	DART VALVE (INSIDE BOP)

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IPS / dba Double Jack Testing

FIELD TICKET 27393

Accounting Office: PO Drawer 2080 • Riverton, WY 82501 • (307) 857-0076

Field Operations:
Riverton, WY (307) 857-0077
Evanston, WY (307) 789-9213
Rock Springs, WY (307) 382-4020
Big Piney, WY (307) 276-5265
Vernal, UT (435) 781-0448

DATE 7-28-08

☑ OPERATOR

☐ CONTRACTOR

WELL NAME

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Uintah	UT	17	13S	2E

Items Tested:

	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES
Top Pipe Rams	250	5	5K	
Bottom Pipe Rams	250	5	5K	10
Blind Rams	250	5	5K	10
Annular B.O.P.	250	5	3500	10
Choke Manifold	250	5	5K	10
Choke Line	250	5	5K	10
Kill Line	250	5	5K	10
Super Choke	—	—	5K	OK
Upper Kelly	250	5	5K	10
Lower Kelly	250	5	5K	10
Floor Valve	250	5	5K	10
Dart Valve	250	5	5K	10
Casing	—	—	—	—

Closing Unit PSI 1500

Closing Time of Rams 3 sec

Closing Time of Annular 10 sec

Closed Casing Head Valve Y

Set Wear Sleeve —

COMMENTS

Set
Test
Function
Test
Pit
Mud
pick

ADDITIONAL TESTS & COMMENTS

DRILLING ☑ COMPLETION ☐

FORTUNA (US) LP

AFE: 05819

FOREMAN: PO# 00699 Post One 435

SUPERINTENDENT: STUART CAMERON

ESTIMATED # AMT:

LOCATION: Hoss Buck Knoll 1-17-13N-2E

FOREMAN'S SIGNATURE

ATTN. T Ray Jr Wheeler

	CHARGES
TEST PLUG	
TOP SUB.	
KELLY SUB. 4½ IF	
X-OVER SUB. 4½ IF	
OTHER 3½ Dart	

QUANTITY	RATES	CHARGES
1	UNIT RATES Minimum Setup 5K Test	1975 —
10	ADDITIONAL Hours on Location @ 100	1000 —
110	MILEAGE Roosevelt UT to Hanksville UT @ 7.75	852 50
	ANTIFREEZE	
	OTHER Fuel Surcharge	3.00

SUBTOTAL 2827 50

TAX

TOTAL

AFE # AFE 05819

PURCHASE ORDER #

K. Christensen / T. Bird

NO ACCIDENTS TESTED BY

Ray Jr Wheeler

COMPANY REPRESENTATIVE
Print Name

196

DOUBLE JACK TESTING UNIT NUMBER

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account on the billing date. No further credit can be extended on unpaid delinquent accounts until the delinquent account is paid in full. The contractor will not be held liable for damages caused by acts of God, or unforeseen circumstances that could not be reasonably anticipated in performing the work done as set forth above.

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HALLIBURTON

FORTUNA (US) LP

DOGM

BLM

Hogsback Ridge 1-17-13N-7E

Rich County , Utah

Plug Back

Job Site Documents

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 5976520
Customer: FORTUNA (US) LP		**Customer Rep:** WIELER, [redacted] Roy	
Well Name: Hogsback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Job Purpose: Plug Back			
Well Type: Development Well	**Job Type:** Plug Back		
Sales Person:	**Srvc Supervisor:** CROITZ, JONATHAN	**MBU ID Emp #:** 379787	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BUZALSKI, KEITH	10.5	446890	CROITZ, JONATHAN Hollis	10.5	379787	EDMENSON, RYAN	10.5	442428
NIXON, CHRISTOPHER Lee	10.5	423930						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10265371C	150 mile	10378456C	150 mile	10897847	150 mile	10925547	150 mile
10951236	150 mile	10998510	150 mile				

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
6-23-08	10.5	3.5						
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name			
Formation Depth (MD)	**Top**	**Bottom**	
Form Type		**BHST**	
Job depth MD	4468. ft	**Job Depth TVD**	4468. ft
Water Depth		**Wk Ht Above Floor**	4. ft
Perforation Depth (MD)	*From*	**To**	

Job Times

	Date	Time	Time Zone
Called Out	22 - Jun - 2008	20:15	MST
On Location	23 - Jun - 2008	01:30	MST
Job Started			
Job Completed			
Departed Loc			

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
LINER OPENHOLE				10.375				4040.	8200.		
INTERMEDIATE CASING	Unknown		9.625	8.755	43.5		L-80	.	4040.	.	
DRILL PIPE	Unknown		5.	4.276	19.5			.	4468.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					**Packer**					**Top Plug**			
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar					**Retainer**					**SSR plug set**			
Insert Float										**Plug Container**			
Stage Tool										**Centralizers**			

Miscellaneous Materials

Gelling Agt		**Conc**		**Surfactant**		**Conc**		**Acid Type**		**Qty**		*Conc*	%
Treatment Fld		**Conc**		*Inhibitor*		**Conc**		**Sand Type**		*Size*		*Qty*	

HALLIBURTON *Cementing Job Summary*

Fluid Data									
Stage/Plug #: 1									
Fluid #	**Stage Type**	**Fluid Name**	**Qty**	**Qty uom**	**Mixing Density lbm/gal**	**Yield ft3/sk**	**Mix Fluid Gal/sk**	**Rate bbl/min**	**Total Mix Fluid Gal/sk**
1	WATER		20.00	bbl	.	.0	.0	.0	
2	PLUG 1	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	300.0	sacks	15.8	1.15	4.92	4.5	4.92
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	0.15 %	HR-5, 50 LB SK (100005050)							
	0.3 %	CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							
	0.6 %	HALAD(R)-344, 50 LB (100003670)							
	4.922 Gal	FRESH WATER							

Calculated Values		Pressures		Volumes					
Displacement		Shut In: Instant		Lost Returns		*Cement Slurry*	60.5 BBLS	Pad	
Top Of Cement		5 Min		Cement Returns		Actual Displacement		Treatment	
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	

Rates							
Circulating		*Mixing*		*Displacement*		Avg. Job	
Cement Left In Pipe	Amount *0 ft*	*Reason*	*Shoe Joint*				
Frac Ring # 1 @	*ID*	*Frac ring # 2 @*	*ID*	*Frac Ring # 3 @*	*ID*	*Frac Ring # 4 @*	*ID*

The Information Stated Herein Is Correct	***Customer Representative Signature***

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 5976520
Customer: FORTUNA (US) LP		**Customer Rep:** WIELER, Rob Roy	
Well Name: Hogsback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** UNKNOWN	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor:	**Rig/Platform Name/Num:** PRECISION618		
Job Purpose: Plug Back			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Plug Back		
Sales Person:	**Srvc Supervisor:** CROITZ, JONATHAN		**MBU ID Emp #:** 379787

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	06/22/2008 20:15							
Depart Yard Safety Meeting	06/22/2008 22:50							JOURNEY MANAGEMENT
Crew Leave Yard	06/22/2008 23:00							
Arrive At Loc	06/23/2008 01:30							
Assessment Of Location Safety Meeting	06/23/2008 01:35							LOCATION ASSESSMENT & PRE RIG-UP SAFETY MEETING
Rig-Up Equipment	06/23/2008 02:30							
Other	06/23/2008 05:30							DRILL PIPE @ DEPTH
Circulate Well	06/23/2008 05:35							RIG CIRCULATING W/ RIG PUMPS
Pre-Job Safety Meeting	06/23/2008 07:15							WITH RIG CREW IN DOG HOUSE
Rig-Up Completed	06/23/2008 07:42							ON RIG FLOOR
Start Job	06/23/2008 07:47							
Pump Water	06/23/2008 07:48		3	2	2			FILL LINES FOR PRESSURE TEST
Pressure Test	06/23/2008 07:49						5500.0	GOOD
Pump Water	06/23/2008 07:51		4	8	10		300.0	PUMP FRESH WATER SPACER AHEAD
Pump Cement	06/23/2008 07:53		4	29	29		285.0	MIX & PUMP PLUG CEMENT (MTN-G) @ 15.8 PPG
Pump Displacement	06/23/2008 08:01		4	1	1		300.0	PUMP 1 BBL OF FRESH WATER BEHIND CEMENT

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump Displacement	06/23/2008 08:02		4	20	21		110.0	PUMP WBM DISPLACEMENT @ 9.3 PPG
Shutdown	06/23/2008 08:06							CHECK RELEASE LINE FOR FLOWBACK; NO FLOWBACK OBSERVED
End Job	06/23/2008 08:07							END OF PLUG #1; RIG POOH W/ DRILL PIPE TO 4220'; RIG CIRCULATED A BOTTOMS UP THEN CONTINUED CIRCULATING TO CONDITION THEIR MUD
Safety Meeting - Pre Job	06/23/2008 09:45							SAFETY MEETING FOR PLUG #2 JOB W/ CREWS
Start Job	06/23/2008 10:05							
Pump Water	06/23/2008 10:06		2	10	10		220.0	PUMP FRESH WATER SPACER AHEAD
Pump Cement	06/23/2008 10:10		4.5	31.5	31.5		289.0	MIX & PUMP PLUG CEMENT (MTN-G) @ 15.8 PPG
Pump Displacement	06/23/2008 10:18		4	1	1		208.0	PUMP 1 BBL OF FRESH WATER DISPLACEMENT
Pump Displacement	06/23/2008 10:19		4.5	18	19		101.0	PUMP WBM DISPLACEMENT @ 9.5 PPG

								PPG
Shutdown	06/23/2008 10:23							CHECK RELEASE LINE FOR FLOWBACK; NO FLOWBACK OBSERVED
End Job	06/23/2008 10:24							END OF PLUG # 2 JOB; RIG POOH W/ DRILL PIPE 600 FT. AND CIRCULATED W/ RIG PUMPS
Safety Meeting - Pre Rig-Down	06/23/2008 10:30							
Rig-Down Equipment	06/23/2008 10:40							
Rig-Down Completed	06/23/2008 11:45							

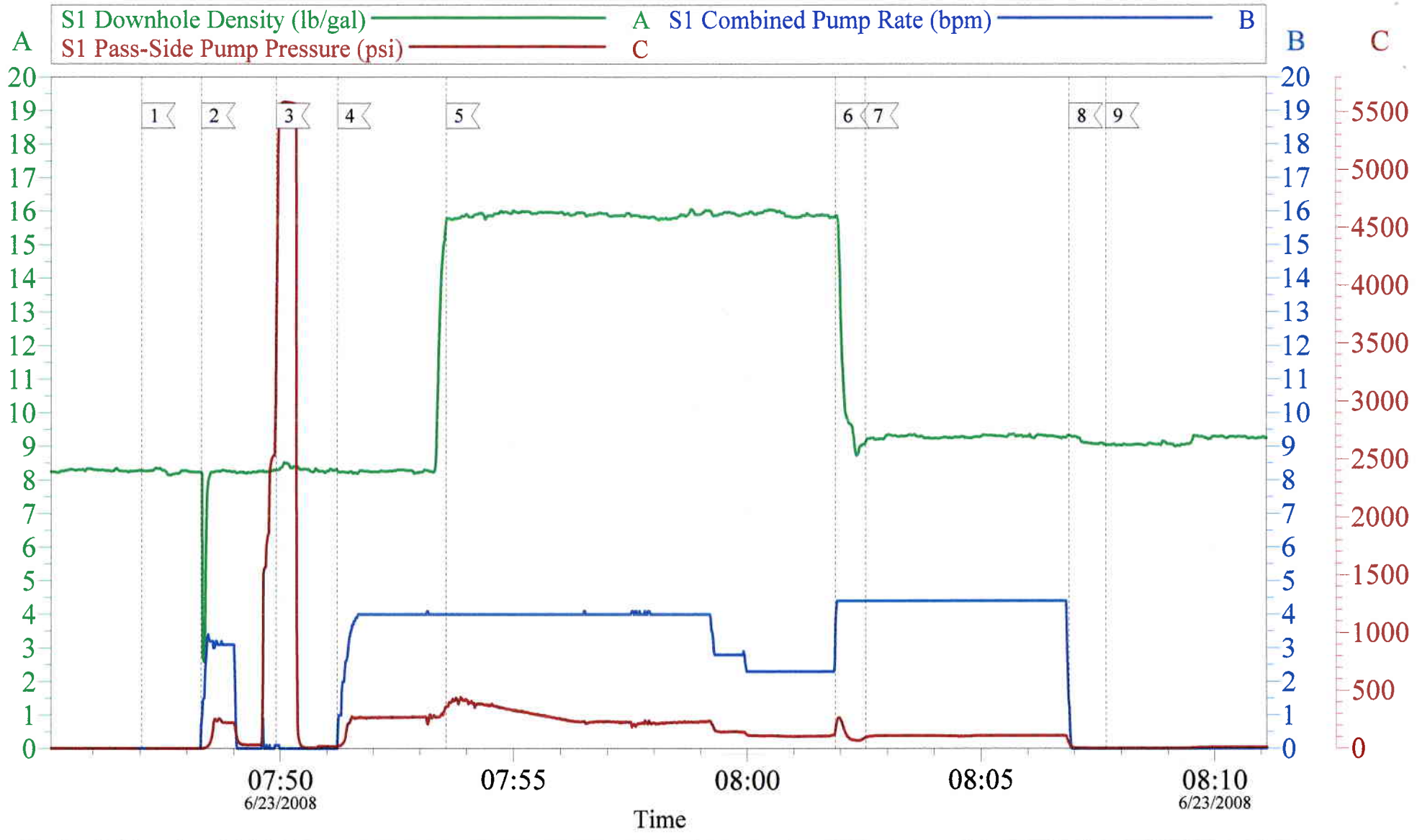
Sold To # : 355016 Ship To # :2647130 Quote # : Sales Order # : 5976520

SUMMIT Version: 7.20.130 Monday, June 23, 2008 12:48:00

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Depart Location Safety Meeting	06/23/2008 11:50							
Crew Leave Location	06/23/2008 12:00							
Other	06/23/2008 13:00							HALLIBURTON RECOMMENDED 20 BBLS OF WATER AHEAD & 2.5 BBLS BEHIND, BUT COMPANY MAN WANTED TO PUMP 10 BBLS OF WATER AHEAD & 1 BBL BEHIND; ASSUMING ANY AND ALL RISKS.
Other	06/23/2008 14:00							PIPE PULLED DRY WITH BOTH PLUGS; CEMENT WAS CIRCULATED OUT WITH RIG PUMPS AFTER PLUG #1
Other	06/23/2008 15:00							THANKS FROM JONATHAN CROITZ & THE HALLIBURTON CREW!

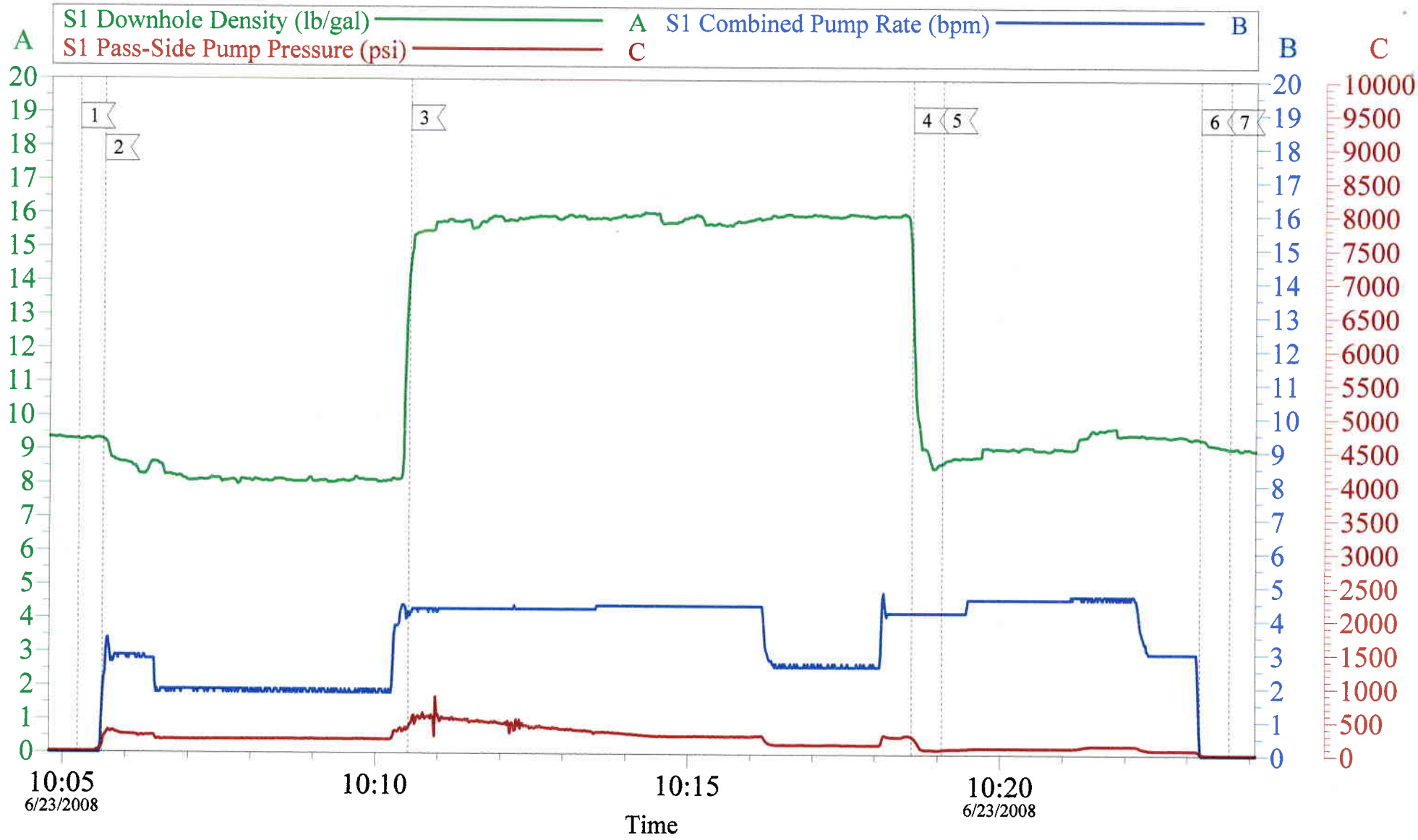


Local Event Log

1	START JOB	07:47:01	2	FILL LINES	07:48:18	3	PRESSURE TEST	07:49:55
4	PUMP FRESH WATER	07:51:13	5	PUMP PLUG CEMENT	07:53:33	6	PUMP DISPLACEMENT (H20)	08:01:54
7	PUMP DISPLACEMENT (WBM)	08:02:32	8	SHUTDOWN	08:06:54	9	RIG POOH TO 4220'	08:07:40

Customer: FORTUNA	Job Date: 23-Jun-2008	Sales Order #: 5976520
Well Description: HOGBACK RIDGE 1-17-13N-7E	Job Type: BALANCED PLUG #1	Supervisor: JONATHAN CROITZ

HALLIBURTON
OptiCem v6.2.3
23-Jun-08 09:10



Local Event Log

1	START JOB	10:05:14	2	PUMP WATER AHEAD	10:05:38	3	PUMP PLUG CEMENT	10:10:32
4	PUMP DISPLACEMENT (H20)	10:18:35	5	PUMP DISPLACEMENT (WBM)	10:19:04	6	SHUTDOWN	10:23:11
7	END JOB	10:23:40						

Customer:	FORTUNA	Job Date:	23-Jun-2008	Sales Order #:	5976520
Well Description:	HOGBACK RIDGE 1-17-13N-7E	Job Type:	PLUG #2	Supervisor:	JONATHAN CROITZ

HALLIBURTON

OptiCem v6.2.3
23-Jun-08 12:17

IPS / dba Double Jack Testing

IPS

FIELD TICKET 27650

Accounting Office: PO Drawer 2080 • Riverton, WY 82501 • (307) 857-0076

Field Operations:

Riverton, WY	(307) 857-0077
Evanston, WY	(307) 789-9213
X Rock Springs, WY	(307) 382-4020
Big Piney, WY	(307) 276-5265
Vernal, UT	(435) 781-0448

DATE 6-26-08

[X] OPERATOR Fortuna

[ ] CONTRACTOR Precision 618

WELL NAME Big Back Ridge 1-17

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Rich	UT	17	13N	7E

Items Tested:

	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES
Top Pipe Rams	250	5	5K	10
Bottom Pipe Rams	250	5	5K	10
Blind Rams	250	5	5K	10
Annular B.O.P.	250	5	3500	10
Choke Manifold	250	5	5K	10
Choke Line	250	5	5K	10
Kill Line	250	5	5K	10
Super Choke	—	—	5K	—
Upper Kelly	250	5	5K	10
Lower Kelly	250	5	5K	10
Floor Valve	250	5	5K	10
Dart Valve	250	5	5K	10
Casing	—	—	—	—

Closing Unit PSI 2650

Closing Time of Rams 5 sec

Closing Time of Annular 1.75 sec

Closed Casing Head Valve 1

Set Wear Sleeve N/A

COMMENTS

Annular
Top Pipe 5
Blind MC
Bottom Pipe 5
MC
WH

ADDITIONAL TESTS & COMMENTS

DRILLING [X] COMPLETION [ ]

FORTUNA (US) LP

AFE: 03819 PO 00679

FOREMAN: E. NATTE SUB 429

SUPERINTENDENT: STUART CAMERON

ESTIMATED # AMT: $2083

LOCATION: Hog Back Ridge 1-17

FOREMAN'S SIGNATURE [signature]

ATTN. T

		CHARGES
TEST PLUG	—	—
TOP SUB.	—	—
KELLY SUB.	4½" IF	72 —
X-OVER SUB.	4½" IF	72 —
OTHER 3	per diem @ $15/6 hours	45 —

QUANTITY	RATES		
1	UNIT RATES	Minimum setup to test to 5K (12p-7p)	1375 —
—	ADDITIONAL	hours over minimum setup charge	—
120	MILEAGE	round trip miles from shop	330 —
—	ANTIFREEZE	water	—
-1	OTHER	fuel surcharge	189

00679
PURCHASE ORDER #

Stephen Nelson
NO ACCIDENTS TESTED BY

SUBTOTAL 2083 —

TAX

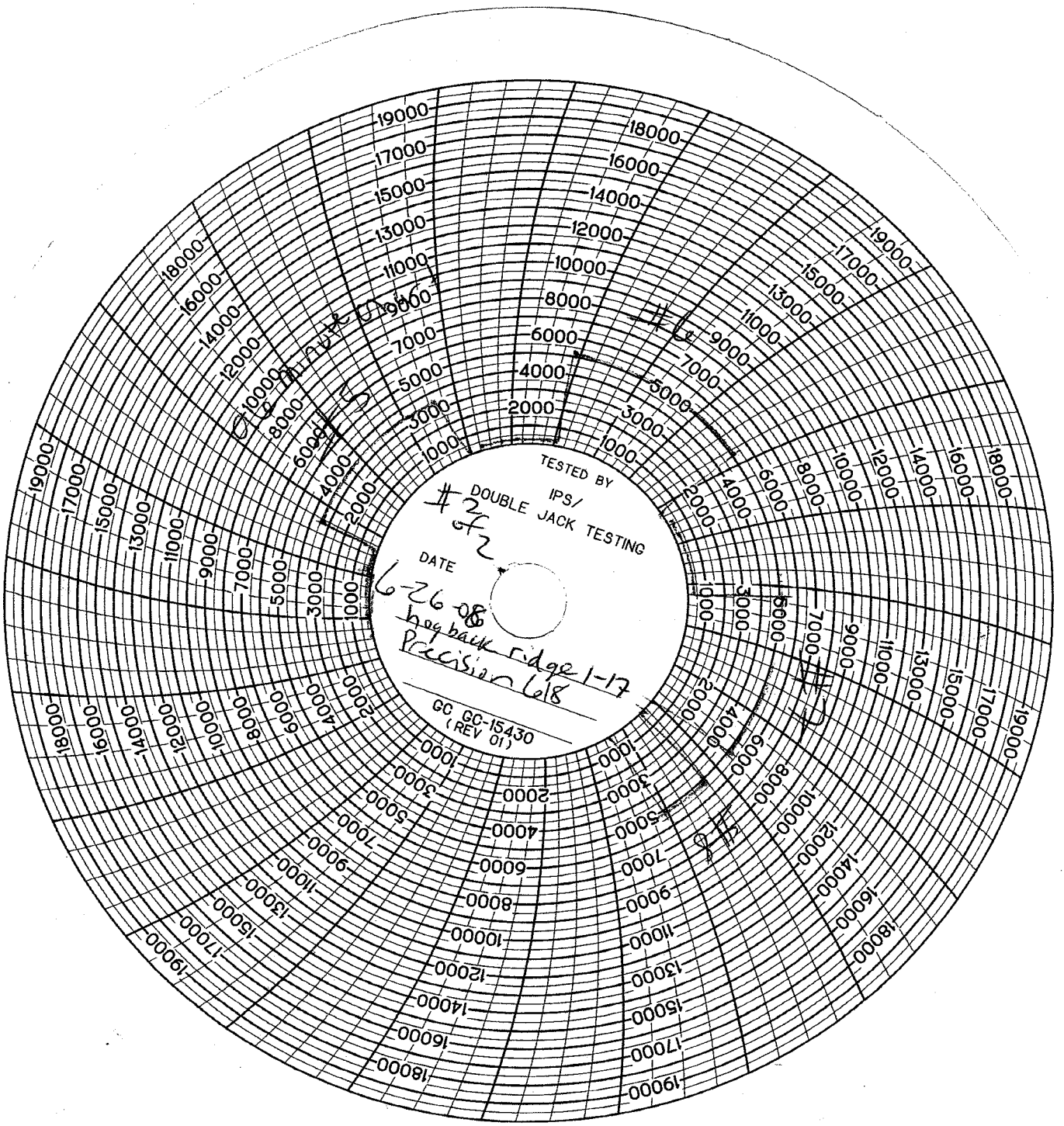
E NATTE [signature]
COMPANY REPRESENTATIVE
Print Name

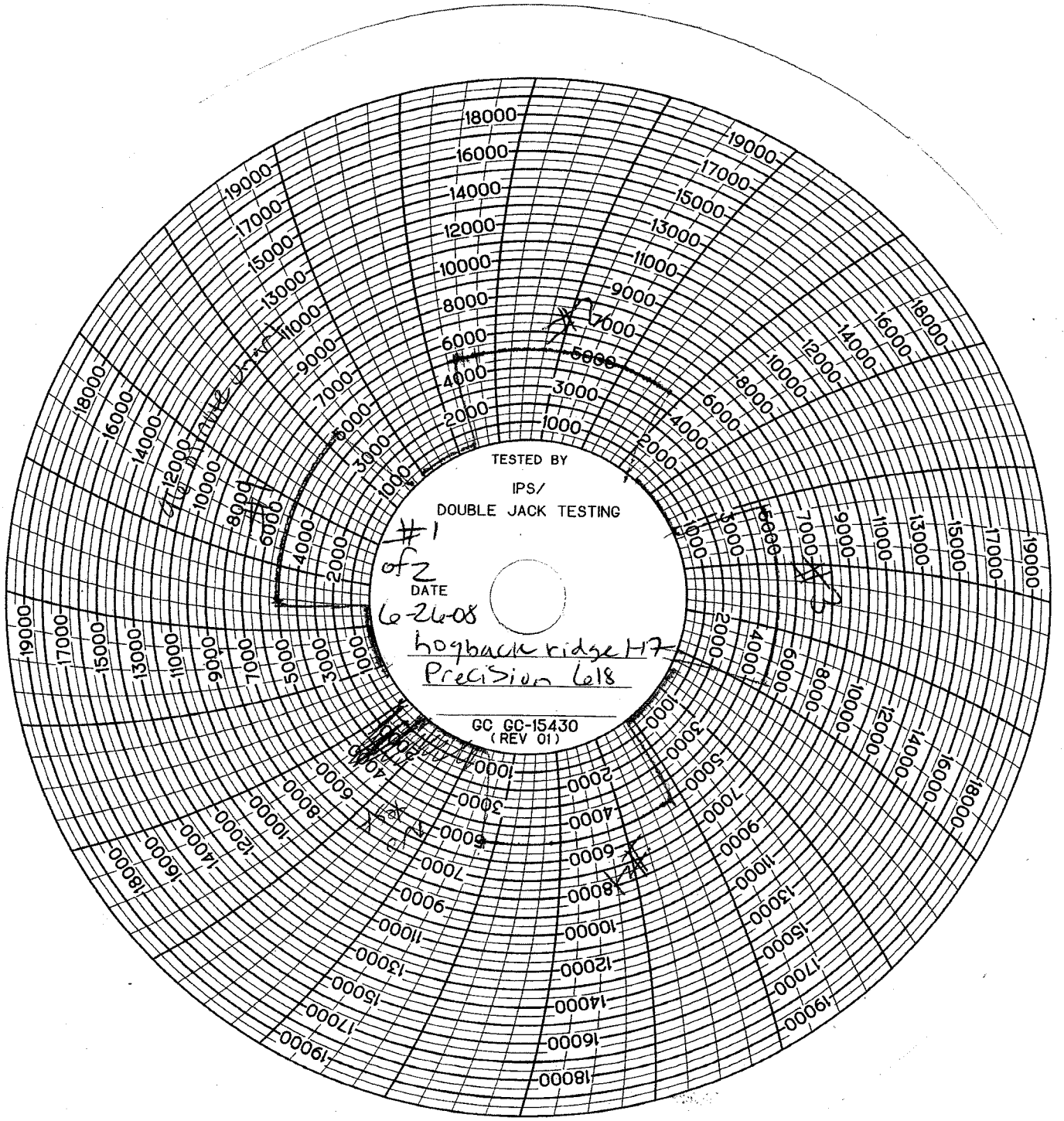
174
DOUBLE JACK TESTING UNIT NUMBER

TOTAL

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4%, PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account


TESTED BY
IPS/
DOUBLE JACK TESTING
#2
of 2
DATE
6-26-08
bog back ridge 1-17
Precision 618
GC GC-15430
(REV 01)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IPS/
DOUBLE JACK TESTING
#1
of 2
DATE
6-26-08
hogback ridge H7
Precision 618
GC GC-15430
(REV 01)

IPS

Pressure Testing Svc.

6-26-08

Accumulator Function Test

#1 WITH DRILL PIPE AND TEST PLUG INSTALLED IN WELL HEAD
#2 PLACE ALL FUNCTIONING ACCUMULATOR VALVES IN OPEN POSITION
ALLOW ACCUMULATOR TO PRESSURE UP BEFORE SHUTTING OFF ALL PUMPS
#3 CLOSE ANNULAR/RECORD TIME AND PRESSURE

ANNULAR INITIAL PSI 2850 FINAL PSI 2000 TIME 17sec

#4 CLOSE PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 2000 FINAL PSI 1800 TIME 5sec

#5 OPEN PIPE RAMS TO SIMULATE BLIND RAMS/RECORD TIME AND PRESSURE

INITIAL PSI 1800 FINAL PSI 1700 TIME 6sec

#6 CLOSE HCR (IF APPLICABLE)/RECORD TIME AND PRESSURE

HCR INITIAL PSI 1700 FINAL PSI 1700 TIME 1sec

#7 ON THREE RAM STACK CLOSE BOTTOM PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 1700 FINAL PSI 1650 TIME 5sec

#8 WHEN DONE WITH THE RECORDED TIMES AND PRESSURES THERE SHOULD BE AT LEAST 200 PSI OVER PRECHARGE IN THE ACCUMULATOR (1200PSI)
#9 OPEN ANNULAR

NITORGEN BOTTLES/ BLEED OFF TEST

#1 FINISH BLEEDING OFF BOTTLES INTO ACCUMULATOR TANK/RESERVOIR.
#2 WATCH AND RECORD WHERE PRESSURE DROPS (ACCUMULATOR PSI)

PRESSURE DROP 1050 PSI
#3ACCUMULATOR PSI SHOULD DROP AT 1100 PSI TO 950 PSI

2 MINUTE TIME TEST/ ACCUMULATOR PUMPS

#1 SHUT VALVES TO NITROGEN BOTTLES
#2 PLACE HCR IN THE OPEN POSITION. (IF APPLICABLE)
#3 PLACE ANNULAR IN THE CLOSE POSITION
#4 TURN ON PUMPS AND RECORD TIME TO PRESSURE UP MANIFOLD ON ACCUMULATOR TO AT LEAST 200 PSI OVER PRECHARGE. WITHIN 2 MIN. OR LESS

RECORDED TIME 1 MINUTE 40 SEC.
#5 OPEN VALVES TO NITROGEN BOTTLES AND PRESSURE THE ACCUMULATOR BACK TO SHUT OFF POINT. THEN OPEN ALL PIPE RAMS AND ANNULAR BEFORE PULLING PLUG AND DRILL PIPE OUT OF BOP.

COMPANY	LEASE & WELL NAME	TEST DATE	RIG # & NAME
hogback ridge	1-17	6-26-08	Precision 618

TEST #	TIME	ITEMS TESTED
1	12:50p	IBOP, Lower Pipes, lower inside Kill, lower inside manual.
2	1:15p	Lower manual, Upper Pipes, lower outside Kill, lower outside manual, inside Kill, HCR.
3	1:40p	TIW, Lower check, inside chokes, outside Kill, manual
4	2:10p	lower outside chokes, check, inside chokes
5	3:20p	Dart valve
6	2:40p	Annular to 3500 psi
7		Blinds, outside chokes
8		Superchoke, manual choke

IPS

IPS / dba Double Jack Testing

FIELD TICKET 27699

Accounting Office: PO Drawer 2080 • Riverton, WY 82501 • (307) 857-0076

Field Operations:

Riverton, WY	(307) 857-0077
Evanston, WY	(307) 789-9213
Rock Springs, WY	(307) 382-4020
Big Piney, WY	(307) 276-5265
Vernal, UT	(435) 781-0448

DATE 7-28-08

☑ OPERATOR FORTUNA

☐ CONTRACTOR PRECISION GTR

WELL NAME Hog Back Ridge 1-17

43 033 30062

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Rich	UT	17	13N	7E

Items Tested:	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES
Top Pipe Rams	250	5	5K	10
Bottom Pipe Rams	250	5	5K	10
Blind Rams	250	5	5K	10
Annular B.O.P.	250	5	3500	10
Choke Manifold	250	5	5K	10
Choke Line	250	5	5K	10
Kill Line	250	5	5K	10
Super Choke	—	—	5K	OK
Upper Kelly	250	5	5K	10
Lower Kelly	250	5	5K	10
Floor Valve	250	5	5K	10
Dart Valve	250	5	5K	10
Casing	—	—	—	—

Closing Unit PSI 3000

Closing Time of Rams 4 SEC

Closing Time of Annular 14 SEC

Closed Casing Head Valve Y

Set Wear Sleeve —

COMMENTS

ANN

PIPES

BLINDS

MUD

PIPES

MUD

W.H.

ADDITIONAL TESTS & COMMENTS

DRILLING ☑ COMPLETION ☐

FORTUNA (US) LP

AFE: 63819

FOREMAN: PO# 00679 Post Code 475

SUPERINTENDENT: STUART CAMERON

ESTIMATED $ AMT:

LOCATION: Hogback Ridge 1-17-13N-7E

FOREMAN'S SIGNATURE Roy W. Wieler

ATTN: T

		CHARGES
TEST PLUG		
TOP SUB.		
KELLY SUB.	11½ IF	75 —
X-OVER SUB.	11½ IF	75 —
OTHER	PER DIEM	60 —

QUANTITY	RATES		CHARGES
1	UNIT RATES	MINIMUM SETUP 5K TEST	1375 —
10	ADDITIONAL	HOURS ON LOCATION @ 110 —	1100 —
110	MILEAGE	SHOP TO SHOP (EVANSTON) @ 7.75	385 —
	ANTIFREEZE		
	OTHER	FUEL SURCHARGE	306 —

AFE # AF 63819

PURCHASE ORDER #

Roy W. Wieler

COMPANY REPRESENTATIVE

Print Name

K. CHRISTENSEN / J. BOYD

NO ACCIDENTS TESTED BY

196

DOUBLE JACK TESTING UNIT NUMBER

SUBTOTAL 3370 —

TAX —

TOTAL —

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account

IPS

Pressure Testing Svc

FORTUNA PRECISION 618 **Accumulator Function Test** HOGBACK RIDGE 1-17

7-28-08

#1 WITH DRILL PIPE AND TEST PLUG INSTALLED IN WELL HEAD
#2 PLACE ALL FUNCTIONING ACCUMULATOR VALVES IN OPEN POSITION
ALLOW ACCUMULATOR TO PRESSURE UP BEFORE SHUTTING OFF ALL PUMPS
#3 CLOSE ANNULAR/RECORD TIME AND PRESSURE

ANNULAR INITIAL PSI 2800 FINAL PSI 1800 TIME 14 SEC

#4 CLOSE PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 1800 FINAL PSI 1750 TIME 4 SEC

#5 OPEN PIPE RAMS TO SIMULATE BLIND RAMS/RECORD TIME AND PRESSURE

INITIAL PSI 1750 FINAL PSI 1650 TIME 4 SEC

#6 CLOSE HCR (IF APPLICABLE)/RECORD TIME AND PRESSURE

HCR INITIAL PSI 1650 FINAL PSI 1650 TIME 1 SEC

#7 ON THREE RAM STACK CLOSE BOTTOM PIPE RAMS/RECORD TIME AND PRESSURE

PIPE RAMS INITIAL PSI 1650 FINAL PSI 1550 TIME 4 SEC

#8 WHEN DONE WITH THE RECORDED TIMES AND PRESSURES THERE SHOULD BE AT LEAST
200 PSI OVER PRECHARGE IN THE ACCUMULATOR (1200PSI) 1550 GOOD
#9 OPEN ANNULAR

NITORGEN BOTTLES/ BLEED OFF TEST

#1 FINISH BLEEDING OFF BOTTLES INTO ACCUMULATOR TANK/RESERVOIR.
#2 WATCH AND RECORD WHERE PRESSURE DROPS (ACCUMULATOR PSI)

PRESSURE DROP 950 PSI 950
#3ACCUMULATOR PSI SHOULD DROP AT 1100 PSI TO 950 PSI GOOD

2 MINUTE TIME TEST/ ACCUMULATOR PUMPS

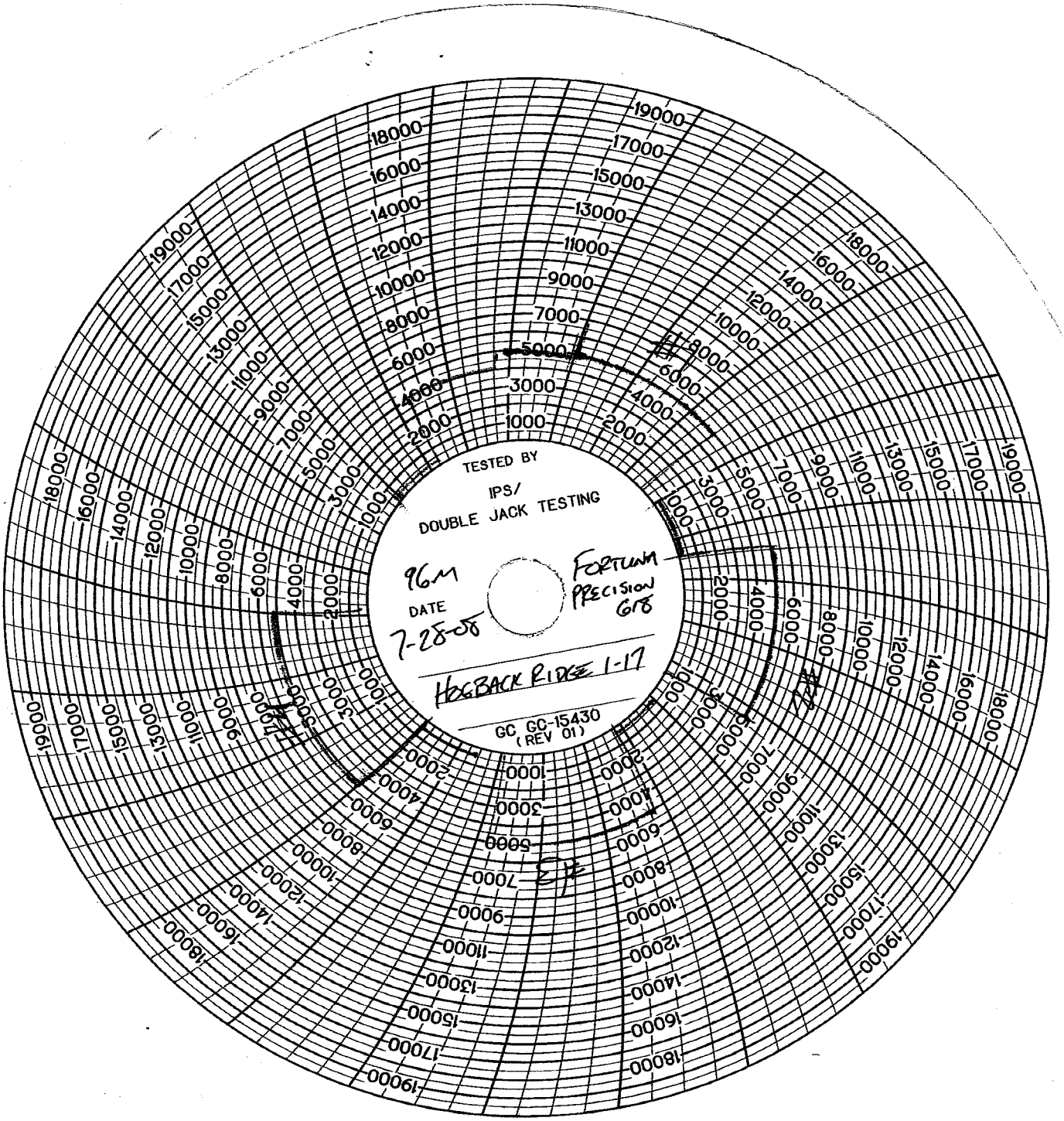
#1 SHUT VALVES TO NITROGEN BOTTLES
#2 PLACE HCR IN THE OPEN POSITION. (IF APPLICABLE)
#3 PLACE ANNULAR IN THE CLOSE POSITION
#4 TURN ON PUMPS AND RECORD TIME TO PRESSURE UP MANIFOLD ON ACCUMULATOR TO AT LEAST
200 PSI OVER PRECHARGE. WITHIN 2 MIN. OR LESS

RECORDED TIME 0 MINUTE 40 SEC.
#5 OPEN VALVES TO NITROGEN BOTTLES AND PRESSURE THE ACCUMULATOR BACK TO SHUT OFF POINT. THEN OPEN ALL PIPE RAMS AND ANNULAR BEFORE PULLING PLUG AND DRILL PIPE OUT OF BOP.

COMPANY	LEASE & WELL NAME	TEST DATE	RIG # & NAME
FORTUNA	HOGBACK RIDGE 1-17	7-28-08	PRECISION 618

TEST #	TIME	ITEMS TESTED
1	6:30AM	CHOKE MANIFOLD VALVES # 10, 16, 11, 21
2	6:55AM	MANIFOLD VALVES, # 1, 7, 2, 6, 15, 18, 14, 13
3	7:15AM	MANIFOLD VALVES # 8, 17, 4, 19, 20
4	7:35AM	MANIFOLD VALVES # 9, 5
5	7:55AM	REMOTE CHOKE (VALVE #3)
6	10:30AM	BLIND RAMS, INSIDE KILL TOP, INSIDE KILL BOTTOM, MANUAL CHOKE TOP
7	12:30PM	LOWER PIPE RAMS, INSIDE KILL BOTTOM, [redacted]
		INSIDE MANUAL BOTTOM, FLOOR VALVE
8	12:50PM	UPPER PIPES, OUTSIDE KILL BOTTOM, OUTSIDE KILL TOP
		HCR (TOP), MANUAL IBOP, OUTSIDE MANUAL BOTTOM
9	1:10PM	CHECK TOP, CHECK BOTTOM, HYDRAULIC IBOP
10	1:40PM	ANNULAR TO 3500 PSI
11	3:00 PM	DART VALVE (INSIDE BOP)

IPS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IPS/
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96M
DATE
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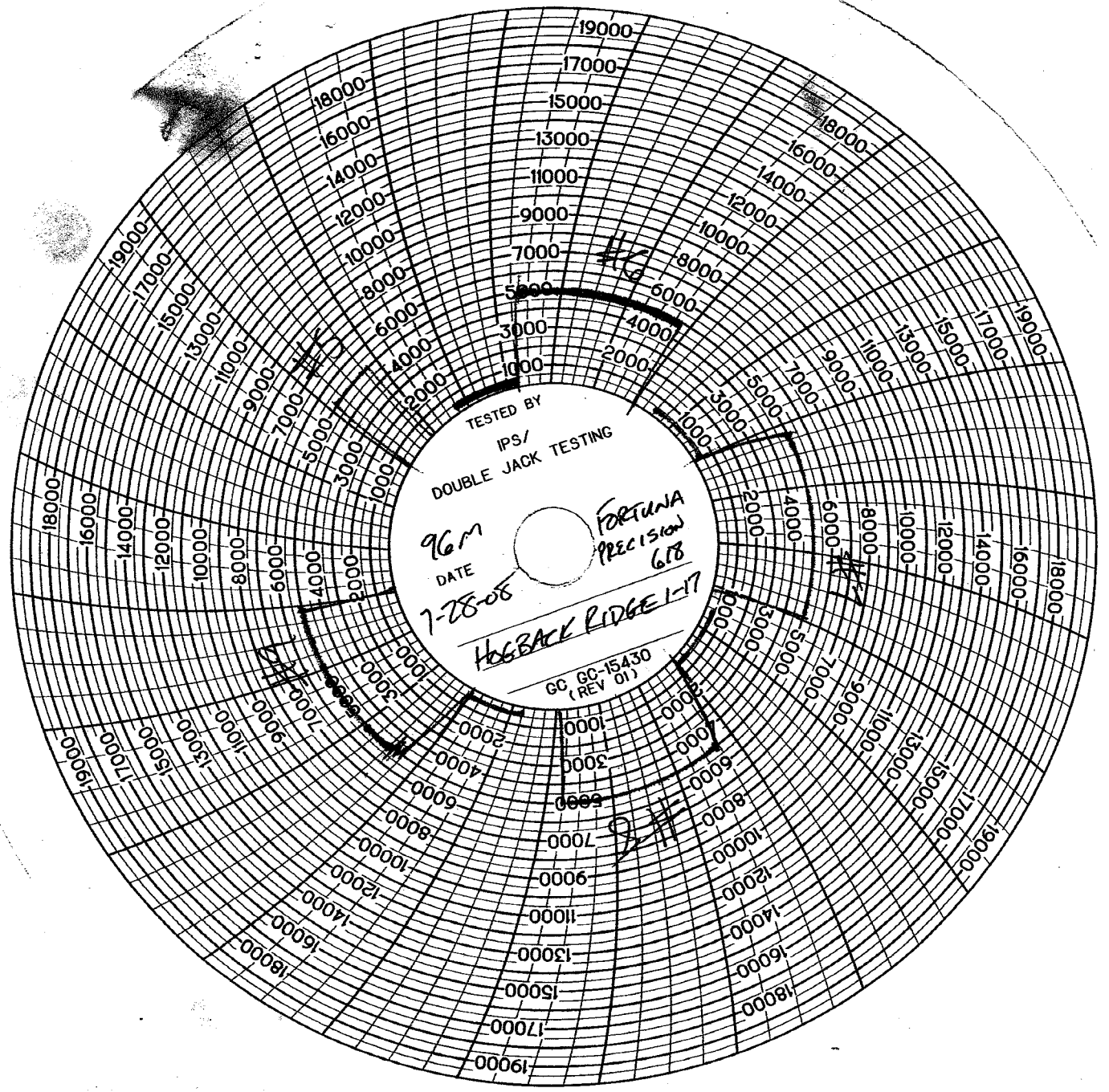
FORTUNA
PRECISION
GTB
HOGBACK RIDGE 1-17
GC GC-15430
(REV 01)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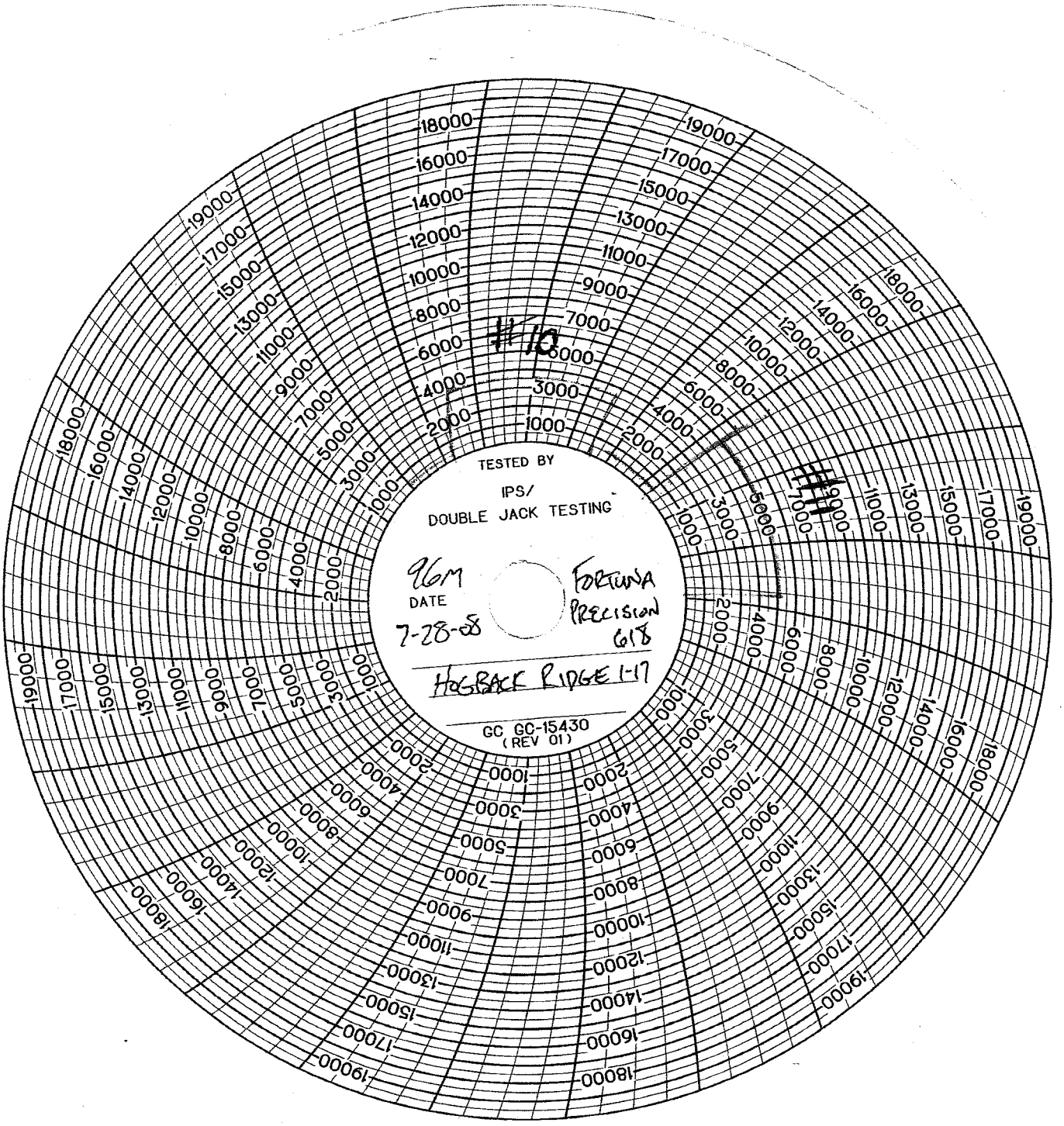
GC GC-15430
(REV 01)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PRECISION
618
HOGBACK RIDGE 1-17
GC GC-15430
(REV 01)

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NUMBER: Patented

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME: ~~N/A~~ Hogback Ridge Unit

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E

2. NAME OF OPERATOR: Fortuna (US), LP

9. API NUMBER: 4303330062

3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5

PHONE NUMBER: (403) 237-1448

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL,

COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 5/1/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Change to Directional Hole
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP would like to change plans from a vertical hole to a directional hole to attempt a better geologic target based on recent data that has been received. Attached please find a wellbore diagram, directional survey, and surface and mineral ownership of the surface and bottomhole location and intended wellbore path to supplement this request.

The bottomhole location for the well will be 1,193 FNL & 1375' FWL, NW/4 NW/4, Section 16, T13N, T7E, SLB&M with a directional reach of 1,795.8'.

The location of the surface and target location as well as all points along the intended well bore path are not within 460 feet of any uncommitted tracts or the unit boundary.

486622X 41.872581
4635428Y -111.161214

NAME (PLEASE PRINT) Blaine MacInnes TITLE Drilling Engineer

SIGNATURE [signature] DATE 7/25/2008

(This space for State use only)

Approved by the Utah Division of Oil, Gas and Mining

Date: 8/28/08

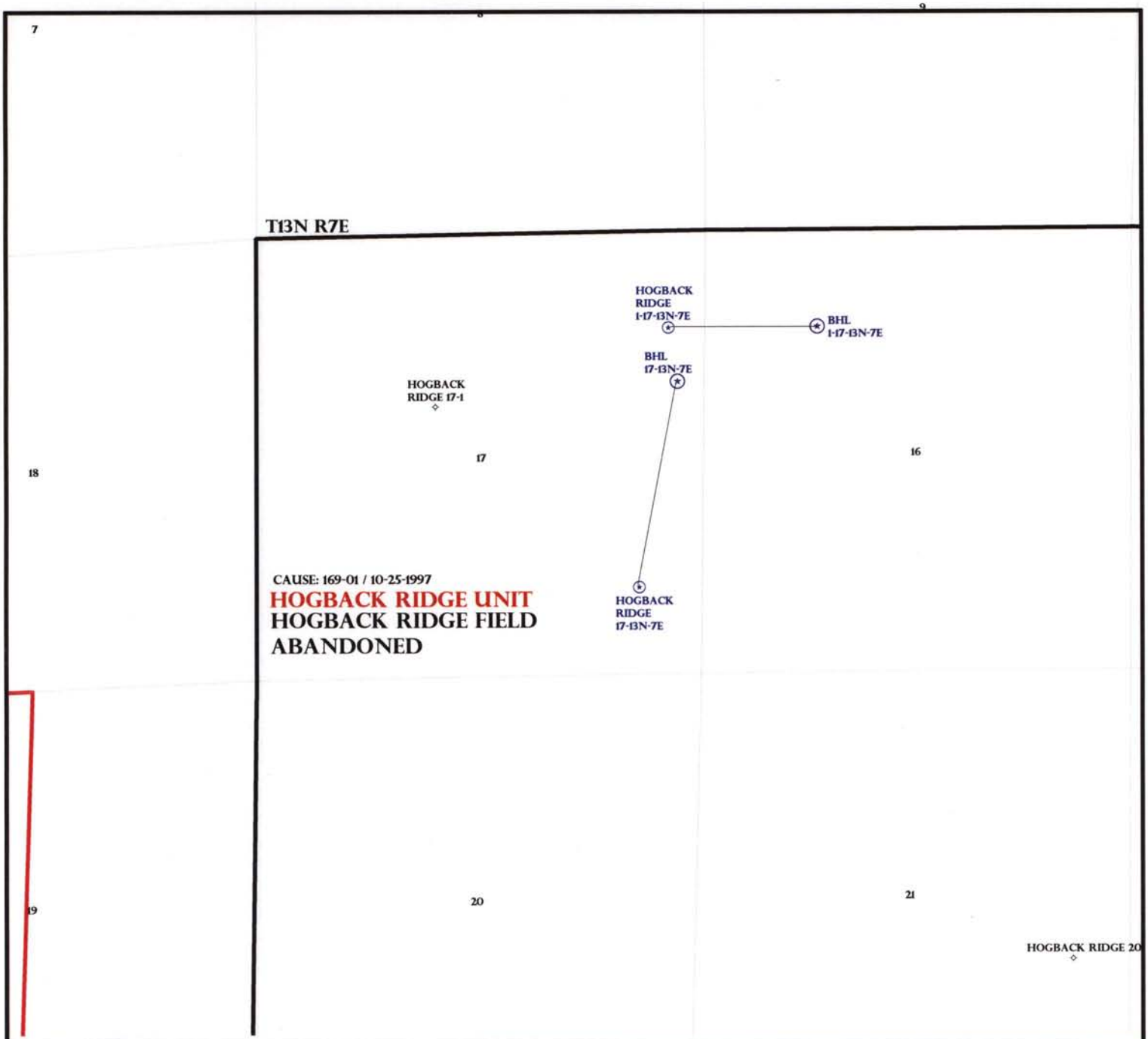
By: [signature]

(See Instructions on Reverse Side)

COPY SENT TO OPERATOR
Date: 9.2.2008
Initials: KS

RECEIVED
AUG - 1 2008
DIV. OF OIL, GAS & MINING

(5/2000)



OPERATOR: FORTUNA (US) LP (N2160)

SEC: 17 T.13N R. 7E

FIELD: WILDCAT (001)

COUNTY: RICH

Spacing: R649-3-11 / Directional Drilling

Field Status
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- PROPOSED
- STORAGE
- TERMINATED

Unit Status
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PENDING
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Wells Status
- GAS INJECTION
- GAS STORAGE
- LOCATION ABANDONED
- NEW LOCATION
- PLUGGED & ABANDONED
- PRODUCING GAS
- PRODUCING OIL
- SHUT-IN GAS
- SHUT-IN OIL
- TEMP. ABANDONED
- TEST WELL
- WATER INJECTION
- WATER SUPPLY
- WATER DISPOSAL
- DRILLING

UTAH DNR
OIL, GAS & MINING

N
W E
S

PREPARED BY: DIANA MASON
DATE: 7-AUGUST-2008

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155
http://www.blm.gov

TAKE PRIDE IN AMERICA

ML 6/24/2008

IN REPLY REFER TO:
3160
(UT-922)

June 24, 2008

Fortuna (US) L.P.
c/o Talisman Energy Inc.
Suite 3400, 888 3rd Street S.W.
Calgary, Alberta T2P 5C5
Canada

Re: Obligation Well Change Hogback Ridge Unit
Rich County, Utah

Gentlemen:

We have received your letter dated June 20, 2008 requesting a change of the bottomhole location for the obligation well for the Hog Back Ridge Unit. The request is hereby approved. The Hogback Ridge 1-17-13N-7E unit obligation well is now proposed to be drilled from a surface location in the NE¼ of Section 17, Township 13 North, Range 7 East, Rich County Utah to a bottomhole location in the NW¼ of Section 16 Township 13 North, Range 7 East, Rich County Utah.

If you have any questions please contact Mickey Coulthard of this office at (801) 539-4042.

Sincerely,

/s/ Becky J. Hammond

Becky J. Hammond
Chief, Branch of Fluid Minerals

bcc: FO Manager – Salt Lake w/enclosure
File – Hogback Ridge Canyon Unit w/enclosure
Central Files
Agr. Sec. Chron
Fluid Chron
Ticker (October 2008)

MCoulthard:mc:6-24-08

MacInnes, Blaine

From: MacInnes, Blaine
Sent: Thursday, July 24, 2008 7:12 PM
To: 'dustindoucet@utah.gov'
Subject: Sundry Notice - Fortuna Hogback Ridge 1-17-13N-7E API # 43-033-30062 Convert Vertical to Directional Plan

Attachments: Sundry Fortuna Hogback 1-17-13N-7E - Convert to directional.pdf

Attn: Dustin Doucet

Please find attached a Sundry Notification for the subject well pursuant to our telephone conversation. Fortuna has taken this well directional as a change from the original vertical plan for the purpose of targetting the objective formation. This requirement was determined following a logging run. The new planned BH location for the well will be in the NW/4 NW/4 Section 16 T13N R7E. This results in a crossing of a unit line from S17 to S16. The location of the surface and target location as well as all points along the intended wellbore path are not within 460 feet of any uncommitted tracts or the unit boundary. The sundry notice contains information to support this statement.

I apologize for the late filing of this report. A signed original has been sent to your mailing address.

Regards,

Blaine MacInnes, P. Eng
Drilling Engineering Team Lead - South

Talisman Energy Inc.
403-693-2278 ph
403-804-3550 cel
bmacinnes@talisman-energy.com

In accordance with the Technical & Administrative Services Agreement between FUSI GP Inc. ("FUSI") and Talisman Energy Inc., I am providing Engineering services to FUSI GP Inc

Sundry Fortuna Hogback 1-17-13...

RECEIVED
AUG - 1 2008
DIV. OF OIL, GAS & MINING

FORTUNA (US) LP - Rich County, Utah, Hogback Ridge 1-17-13N-7E

Wellhead 13 3/8" slip on x 9 5/8" drill throught, 5000psi, sour service K2D

Conductor **40ft or more**

Actual Set Depth	103.8ft

17 1/2" surface hole

Surface Casing	**1500 ft**
Actual Set Depth	1526.8ft
Cement Returns	206 bbl

12 1/4" Intermiate hole

9 5/8" Int Casing	**4050 ft**
Actual Set Depth	4040.0ft
Cement Returns	45 bbl

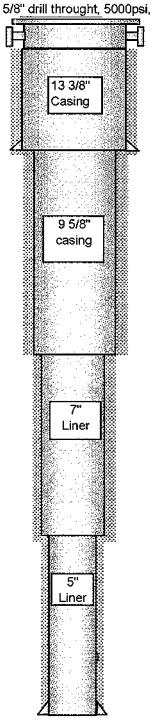
Core Interval Cut 10425-48 ft

8 1/2" Main hole

Plan 7" Liner Depth 11850 ft

6 1/8"Prod Hole

Revised Plan TD 14200 ft



Additional Information

Offsetting Information:

HogBack Ridge Sec 17-13N-7E: Closest offset.

-deviation problems at 4026, 8 degrees
-Tight hole 7500-8493' raised vis from 39 to 84 worked
-mud weight averaged 8.5-9.1ppg surface 0-600'
-mud weight from 600'-10732' was 8.8 to 9.1 ppg
-Logs bridged off twice at 6868 and 6902
-No Major operational issues.

HogBack Ridge Sec 20-13N-7E:

-Major deviation issues got out to 25 degrees first survey at 4660' was at 5.5 degrees, didn't have directional tools so they fanned on the BHA to bring it back.
-Major hole stability issues from 4200 to 5000 feet had to cmt and redrill 3 times. Mud weight was constant at 8.9ppg increase vis to hold back formation
-Had to run 7 5/8" casing at 8142' to hold back formation, 8.8ppg
-Losses from 9532-9542', 75bbls day set 5" liner to heal.BGG 2-40 units
-BGG at 9835' weight up to 10.1ppg from 8.8ppg, 2-8 units, no H2S. The increase in mud weight didn't help BGG.
-DST #5 at 10402' showed 4214psi bottom hole pressure

Geological Evaluation

Samples	From surface casing to TD	
	full gas chromatograph	
	Mud logging unit from surface to TD	
Cores/DST's		
Nuggut**	60 ft	Core may DST depending on Cores
Dinwoody**	60 ft	Core
Logs		
Surface	None	
Intermediate	Density-Neutron, Sonic, Resistivity, DiP(see detailed logging prog	
Main	Density-Neutron, Sonic, Resistivity, DiP(see detailed logging prog	
Production	Density-Neutron, Sonic, Resistivity, DiP(see detailed logging prog	

General Information

Rig	PD 618	API #	43-033-30062	Surface Location
FORTUNA Interest	100.00%	AFE	AF 63819	Lat 41d 52' 21.37"
Ground Level	6713.3 ft	Amount	US $7,250,000	Long 111d 10' 03.83"
K.B. to ground	23.8 ft	Days	95	NAD27
Kelly Bushing	6737.1 ft			

Base of Ground water protection: AMSL =

Formation Tops (Original Plan)

(Primary **, Secondary *)

	ftKB TVD	ftKB MD	Angle/Az.	H2S %	Formation Pressure	EMD
Surface Wasatch	0	0	0 / 0			
Twin Creek	1000	1000	0 / 0		434 psi	8.3 ppg
Gypsum Springs	2533	2533	0 / 0		1099 psi	8.3 ppg
Nugget**	2808	2808	0 / 0	sweet	1219 psi	8.3 ppg
Ankareh	4033	4033	0 / 0	sweet	1750 psi	8.3 ppg
Thaynes	5708	5708	0 / 0	sweet	2477 psi	8.3 ppg
Fault	7133	7133	0 / 0	sweet	3096 psi	8.3 ppg
Thaynes	7133	7133	0 / 0	sweet	3096 psi	8.3 ppg
Woodside	8943	8943	0 / 0	sweet	3881 psi	8.3 ppg
Dinwoody**	9558	9558	0 / 0	sweet	4148 psi	8.3 ppg
Phosphoria	10208	10208	0 / 0	0.02%	4430 psi	8.3 ppg
Weber	10658	10658	0 / 0	21.50%	4626 psi	8.3 ppg
Mission Canyon*	11513	11513	0 / 0	5-19%	4997 psi	8.3 ppg
Lodgepole	12123	12123	0 / 0	15.50%	5261 psi	8.3 ppg
TD	12143	12143	0 / 0		5270 psi	8.3 ppg

**Primary target formations
*Secondary target formation

Casing Design (with revised casing depths shown)

Hole Size	17 1/2"	12 1/4"	8 1/2"	6 1/8"
Hole Depth	**0-1526 ft**	**0-4040 ft**	**3850-11850 ft**	**11650-14200 ft**
Casing Size	13 3/8""	9 5/8"	7"	5" flush joint
Drift				
Casing Weight	68 lb/ft	43.5 lb/ft	26 lb/ft	18 lb/ft
Casing Grade	K-55	L-80	L-80	L-80
Coupling	BTC	LTC	Hydril 513	VAM FJL
Burst Pressure	3450 psi	6330 psi	7240 psi	10140 psi
Collapse Pressure	1950 psi	3810 psi	5410 psi	10490 psi
Pipe Strength	1069000 LB	691000 LB	604000 LB	422000 LB
Joint Strength				

Directional Profile - Directional Hole

MD	Inc	Azm	N/S	E/W	Dogleg	Toolface
12143	0	0	0	0	0	0

Vertical

Drilling Fluids (Original Plan)

Surface	0-1500	Gel Chem Vis 33-58 sec/qt, pH 8.0-9.0,
Intermediate Hole #1	1500-4050	Oil Mud 95:5, keep weight below 8.5ppg, LGS <4%
Intermediate Hole #2	4050-10350	Clay free Polymer. Vis 42-57 sec/qt, pH 9.0-9.5 weight 8.5ppg or lowe if H2S raise pH to 10.5-11.0
Main production hole	10450-12335	Same as Intermediate hole #2

Cement (Original Plan)

Surface	0-1500	40bbl, 8.3ppg spacer, Lead 590sks, 12.3ppg, Tail 630sks, 15.8ppg. Displac with 218bbls 8.3ppg spacer.
Intermediate Hole #1	1500-4050	40bbl, 8.4ppg spacer, Lead 240sks, 10.5ppg, Tail 580sks, 14.2ppg. Displace with 294bbls 8.3ppg spacer.
Intermediate Hole #2	4000-10350	40bbl, 10.5ppg spacer, Lead 350sks,14.2ppg. Displace w/ 294bbls 8.3ppg mu
Main production hole	10350-12143	20bbl, 11ppg spacer, Lead 160sks,15.6ppg. Displace w/ 41bbls 8.3ppg space and 176bbl of 9.5ppg mud.

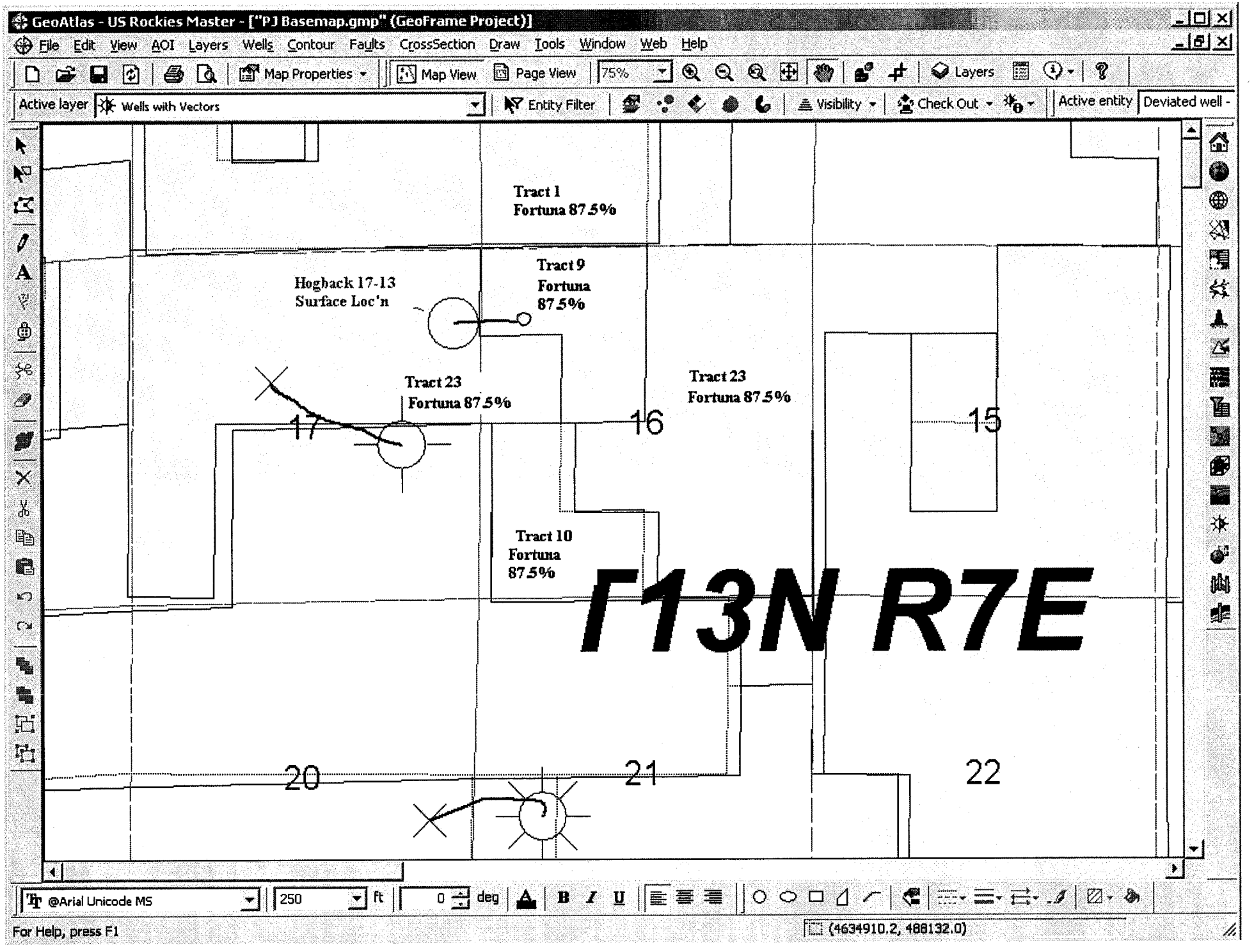
Drilling Superintendent

Stu Cameron
Office: 403-237-1178
Cell: 403-968-0473

Drilling Engineer

Blaine MacInnes
Office: 403-693-2278
Cell: 403-8`04-3550

Updated 22-Jul-08


GeoAtlas - US Rockies Master - ["PJ Basemap.gmp" (GeoFrame Project)]
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Wells with Vectors
Entity Filter
Visibility
Check Out
Active entity
Deviated well -
Tract 1
Fortuna 87.5%
Tract 9
Fortuna
87.5%
Hogback 17-13
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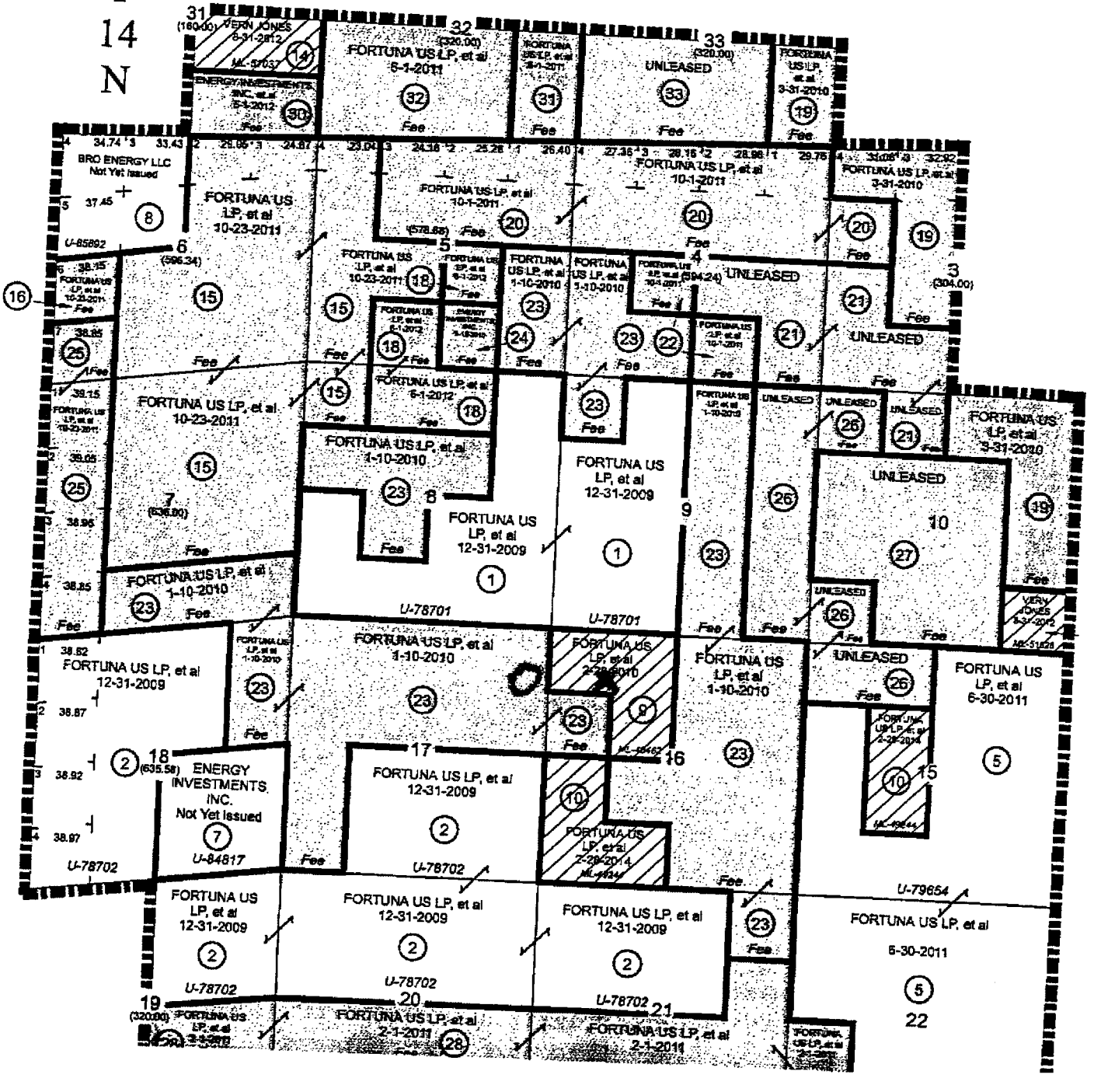


T 13 N

EXHIBIT "B"
SCHEDULE SHOWING THE PERCENTAGE AND KIND OF OWNERSHIP OF OIL AND GAS INTERESTS
HOGBACK RIDGE UNIT AREA
RICH COUNTY, UTAH

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NUMBER & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND PERCENTAGE	LESSEE OF RECORD AND PERCENTAGE		OVERRIDING ROYALTY AND PERCENTAGE		WORKING INTEREST AND PERCENTAGE	
	FEDERAL LANDS:									
1.	T13N-R7E, S.L.M. Sec. 8: E/2NE/4, NW/4SW/4, S/2SW/4, SE/4 Sec. 9: NE/4NW/4, S/2NW/4, SW/4	640.00	U-78701 Effective 1-1-2000 Expires 12-31-2009	U.S.A. - All (12.5% royalty)	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%	Stephen P. Chamberlain Trust David Warnock Todd Warnock Ken Wiley Rick Carroll Monty Hoffman TOTAL	1.66884% 1.66884% 1.66884% 0.55650% 0.24938% 0.75009% 6.56250%	Fortuna US LP Energy Investments, Inc. Cahill Warnock & Company Warnock Energy Investment, LLC Ken Wiley TOTAL	87.50000% 3.75000% 3.75000% 3.75000% 1.25000% 100.00000%
2.	T13N-R7E, S.L.M. Sec. 17: E/2SW/4, SE/4 Sec. 18: Lots 1, 2, 3, 4, W/2NE/4, E/2W/2 Sec. 19: NE/4, S/2SE/4 Sec. 20: N/2, S/2S/2 Sec. 21: W/2NE/4, NW/4, SW/4SW/4, S/2SE/4	1,715.58	U-78702 Effective 1-1-2000 Expires 12-31-2009	U.S.A. - All (12.5% royalty)	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%	Stephen P. Chamberlain Trust David Warnock Todd Warnock Ken Wiley Rick Carroll Monty Hoffman TOTAL	1.66884% 1.66884% 1.66884% 0.55650% 0.24938% 0.75009% 6.56250%	Fortuna US LP Energy Investments, Inc. Cahill Warnock & Company Warnock Energy Investment, LLC Ken Wiley TOTAL	87.50000% 3.75000% 3.75000% 3.75000% 1.25000% 100.00000%
3.	T13N-R7E, S.L.M. Sec. 28: NE/4, NE/4NW/4, S/2NW/4 Sec. 29: N/2, N/2S/2	760.00	U-78703 Effective 1-1-2000 Expires 12-31-2009	U.S.A. - All (12.5% royalty)	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%	Stephen P. Chamberlain Trust David Warnock Todd Warnock Ken Wiley Rick Carroll Monty Hoffman TOTAL	1.66884% 1.66884% 1.66884% 0.55650% 0.24938% 0.75009% 6.56250%	Fortuna US LP Energy Investments, Inc. Cahill Warnock & Company Warnock Energy Investment, LLC Ken Wiley TOTAL	87.50000% 3.75000% 3.75000% 3.75000% 1.25000% 100.00000%
4.	T13N-R7E, S.L.M. Sec. 27: SE/4SE/4 Sec. 33: S/2NE/4, SW/4NW/4, NE/4SW/4, S/2SW/4, SE/4 Sec. 34: NE/4, S/2NW/4, S/2	1,000.00	U-78740 Effective 1-1-2000 Expires 12-31-2009	U.S.A. - All (12.5% royalty)	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%	Stephen P. Chamberlain Trust David Warnock Todd Warnock Ken Wiley Rick Carroll Monty Hoffman TOTAL	1.66884% 1.66884% 1.66884% 0.55650% 0.24938% 0.75009% 6.56250%	Fortuna US LP Energy Investments, Inc. Cahill Warnock & Company Warnock Energy Investment, LLC Ken Wiley TOTAL	87.50000% 3.75000% 3.75000% 3.75000% 1.25000% 100.00000%

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NUMBER & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND PERCENTAGE	LESSEE OF RECORD AND PERCENTAGE		OVERRIDING ROYALTY AND PERCENTAGE		WORKING INTEREST AND PERCENTAGE	
	STATE LANDS:									
9.	T13N-R7E, S.L.M. Sec. 16: N/2NW/4, SE/4NW/4	120.00	ML-48462 Effective 3-1-2000 Expires 2-28-2010	State of Utah-All (12.50% Royalty)	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%	Stephen P. Chamberlain Trust David Warnock Todd Warnock Ken Wiley Rick Carroll Monty Hoffman TOTAL	1.66884% 1.66884% 1.66884% 0.55650% 0.24938% 0.75009% 6.56250%	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%
10.	T13N-R7E, S.L.M. Sec. 15: SE/4NW/4, NE/4SW/4 Sec. 16: NW/4SW/4, S/2SW/4	200.00	ML-49244 Effective 3-1-2004 Expires 2-28-2014	State of Utah-All (12.50% Royalty)	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%	Stephen P. Chamberlain Trust David Warnock Todd Warnock Ken Wiley Rick Carroll Monty Hoffman TOTAL	1.66884% 1.66884% 1.66884% 0.55650% 0.24938% 0.75009% 6.56250%	Fortuna US LP Energy Investments, Inc. TOTAL	87.50000% 12.50000% 100.00000%
11.	T12N-R7E, S.L.M. Sec. 4: Lot 4 Sec. 5: NE/4SE/4	81.15	ML-51027 Effective 9-1-2007 Expires 8-31-2012	State of Utah-All (12.50% Royalty)	Fortuna US LP	100.00000%	None		Fortuna US LP	100.00000%
12.	T13N-R7E, S.L.M. Sec. 10: SE/4SE/4	40.00	ML-51028 Effective 9-1-2007 Expires 8-31-2012	State of Utah-All (12.50% Royalty)	Fitzsimmons LLC	100.00000%	None		Fitzsimmons LLC	100.00000%
13.	T13N-R7E, S.L.M. Sec. 27: NE/4SE/4	40.00	ML-51030 Effective 9-1-2007 Expires 8-31-2012	State of Utah-All (12.50% Royalty)	Fitzsimmons LLC	100.00000%	None		Fitzsimmons LLC	100.00000%

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NUMBER & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND PERCENTAGE		LESSEE OF RECORD AND PERCENTAGE		OVERRIDING ROYALTY AND PERCENTAGE		WORKING INTEREST AND PERCENTAGE	
21.	T13N-R7E, S.L.M. Sec. 3: W/2SW/4, SE/4SW/4, Sec. 4: N/2SE/4, SE/4SE/4 Sec. 10: NE/4NW/4	280.00	Unleased	Elizabeth Day, Life Estate Robert J. Snow, John Paul Snow & Paula Snow Madsen, Remaindermen	100.00000%	Unleased	100.00000%	None		Elizabeth Day, Life Estate Robert J. Snow, John Paul Snow & Paula Snow Madsen, Remaindermen	100.00000%
22.	T13N-R7E, S.L.M. Sec. 4: NE/4SW/4, SW/4SE/4	80.00	10-1-2011	Weston Herford Ranch, L.L.C.	97.50000%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.00131%	Fortuna US LP	85.31250%
						Energy Investments, Inc.	12.50000%	David Warnock	1.00131%	Energy Investments, Inc.	12.18750%
						TOTAL	100.00000%	Todd Warnock	1.00131%		
								Ken Wiley	0.33390%		
								Rick Carroll	0.14963%		
								Monty Hoffman	0.45006%		
								TOTAL	3.93750%		
			Unleased	Monterey Investment Company	2.50000%	Unleased	100.00000%	None		Monterey Investment Company	2.50000%
				TOTAL	100.00000%					TOTAL	100.00000%
[redacted]	Sec. 4: NW/4SW/4, S/2SW/4 Sec. 5: E/2SE/4 Sec. 7: SE/4SW/4, S/2SE/4 Sec. 8: SW/4NE/4, SE/4NW/4, SW/4NW/4, NE/4SW/4 Sec. 9: W/2E/2, NW/4NW/4 Sec. 16: E/2, SW/4NW/4, NE/4SW/4 Sec. 17: N/2, W/2SW/4 Sec. 18: E/2NE/4 Sec. 21: NE/4NE/4	1,600.00	6-1-2012 [redacted]		50.00000%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.66884%	Fortuna US LP	43.75000%
						Energy Investments, Inc.	12.50000%	David Warnock	1.66884%	Energy Investments, Inc.	6.25000%
						TOTAL	100.00000%	Todd Warnock	1.66884%		
								Ken Wiley	0.65650%		
								Rick Carroll	0.24938%		
								Monty Hoffman	0.75009%		
								TOTAL	6.56250%		
			1-10-2010	B & H Ranching Company, Inc.	8.33400%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.09148%	Fortuna US LP	7.29225%
						Energy Investments, Inc.	3.75000%	David Warnock	1.09148%	Energy Investments, Inc.	0.31253%
						Warnock Energy Investment LLC	3.75000%	Todd Warnock	1.09148%	Warnock Energy Investment LLC	0.31253%
								Ken Wiley	0.36383%		
						Cahill Warnock and Company	3.75000%	Rick Carroll	0.14963%	Cahill Warnock and Company	0.31253%
						Ken Wiley	1.25000%	Monty Hoffman	0.14963%	Ken Wiley	0.10418%
						TOTAL	100.00000%	TOTAL	3.93750%		
			1-10-2010	J. W. Cattle Company	8.33400%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.09148%	Fortuna US LP	7.29225%
						Energy Investments, Inc.	3.75000%	David Warnock	1.09148%	Energy Investments, Inc.	0.31253%
						Warnock Energy Investment LLC	3.75000%	Todd Warnock	1.09148%	Warnock Energy Investment LLC	0.31253%
								Ken Wiley	0.36383%		
						Cahill Warnock and Company	3.75000%	Rick Carroll	0.14963%	Cahill Warnock and Company	0.31253%
						Ken Wiley	1.25000%	Monty Hoffman	0.14963%	Ken Wiley	0.10418%
						TOTAL	100.00000%	TOTAL	3.93750%		

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NUMBER & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND PERCENTAGE		LESSEE OF RECORD AND PERCENTAGE		OVERRIDING ROYALTY AND PERCENTAGE		WORKING INTEREST AND PERCENTAGE	
23. continued			1-10-2010	Lazy S Ranching, Inc.	8.33300%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.09148%	Fortuna US LP	7.29138%
						Energy Investments, Inc.	3.75000%	David Warnock	1.09148%	Energy Investments, Inc.	0.31249%
						Warnock Energy Investment LLC	3.75000%	Todd Warnock	1.09148%	Warnock Energy Investment LLC	0.31249%
								Ken Wiley	0.36383%		
						Cahill Warnock and Company	3.75000%	Rick Carroll	0.14963%	Cahill Warnock and Company	0.31249%
						Ken Wiley	1.25000%	Monty Hoffman	0.14963%	Ken Wiley	0.10416%
						TOTAL	100.00000%	TOTAL	3.93750%		
			1-10-2010	J F Ranching Company, Inc.	8.33300%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.09148%	Fortuna US LP	7.29138%
						Energy Investments, Inc.	3.75000%	David Warnock	1.09148%	Energy Investments, Inc.	0.31249%
						Warnock Energy Investment LLC	3.75000%	Todd Warnock	1.09148%	Warnock Energy Investment LLC	0.31249%
								Ken Wiley	0.36383%		
						Cahill Warnock and Company	3.75000%	Rick Carroll	0.14963%	Cahill Warnock and Company	0.31249%
						Ken Wiley	1.25000%	Monty Hoffman	0.14963%	Ken Wiley	0.10416%
						TOTAL	100.00000%	TOTAL	3.93750%		
			1-10-2010	Weston Angus Ranch, Inc.	8.33300%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.09148%	Fortuna US LP	7.29138%
						Energy Investments, Inc.	3.75000%	David Warnock	1.09148%	Energy Investments, Inc.	0.31249%
						Warnock Energy Investment LLC	3.75000%	Todd Warnock	1.09148%	Warnock Energy Investment LLC	0.31249%
								Ken Wiley	0.36383%		
						Cahill Warnock and Company	3.75000%	Rick Carroll	0.14963%	Cahill Warnock and Company	0.31249%
						Ken Wiley	1.25000%	Monty Hoffman	0.14963%	Ken Wiley	0.10416%
						TOTAL	100.00000%	TOTAL	3.93750%		
			1-10-2010	Winecup Cattle Company, Inc.	8.33300%	Fortuna US LP	87.50000%	Stephen P. Chamberlain Trust	1.09148%	Fortuna US LP	7.29138%
						Energy Investments, Inc.	3.75000%	David Warnock	1.09148%	Energy Investments, Inc.	0.31249%
						Warnock Energy Investment LLC	3.75000%	Todd Warnock	1.09148%	Warnock Energy Investment LLC	0.31249%
								Ken Wiley	0.36383%		
						Cahill Warnock and Company	3.75000%	Rick Carroll	0.14963%	Cahill Warnock and Company	0.31249%
				TOTAL	100.00000%	Ken Wiley	1.25000%	Monty Hoffman	0.14963%	Ken Wiley	0.10416%
						TOTAL	100.00000%	TOTAL	3.93750%	TOTAL	100.00000%
24.	T13N-R7E, S.L.M. Sec. 5: SW/4SE/4	40.00	Unleased	Keith W. Johnson & Sons Partnership	50.00000%	Unleased	100.00000%	None		Keith W. Johnson & Sons Partnership	50.00000%
			5-15-2010	B & H Ranching Company, Inc.	8.33400%	Energy Investments, Inc.	100.00000%	None		Energy Investments, Inc.	8.33400%
			5-15-2010	J. W. Cattle Company	8.33400%	Energy Investments, Inc.	100.00000%	None		Energy Investments, Inc.	8.33400%
			5-15-2010	Lazy S Ranching, Inc.	8.33300%	Energy Investments, Inc.	100.00000%	None		Energy Investments, Inc.	8.33300%
			5-15-2010	J F Ranching Company, Inc.	8.33300%	Energy Investments, Inc.	100.00000%	None		Energy Investments, Inc.	8.33300%
			5-15-2010	Weston Angus Ranch, Inc.	8.33300%	Energy Investments, Inc.	100.00000%	None		Energy Investments, Inc.	8.33300%

FORTUNA (US) LP

Location: UTAH
Field: RICH COUNTY
Facility: SEC.17-T13N-R7E

Slot: HOGBACK RIDGE NE QTR-17-13N-7E
Well: HOGBACK RIDGE NE QTR-17-13N-7E
Wellbore: HOGBACK RIDGE NE QTR-17-13N-7E

BAKER HUGHES INTEQ

Plot reference wellpath is HOGBACK RIDGE NE QTR-17-13N-7E_prop (23-Jul-2008)	
True vertical depths are referenced to Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT)	Grid System: NAD27 / Lambert Utah State Planes, Northern Zone (4301), US feet
Measured depths are referenced to Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT)	North Reference: True north
Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT) to Mean Sea Level: 6737.14 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: SEC.17-T13N-R7E): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: thomazo on 7/23/2008

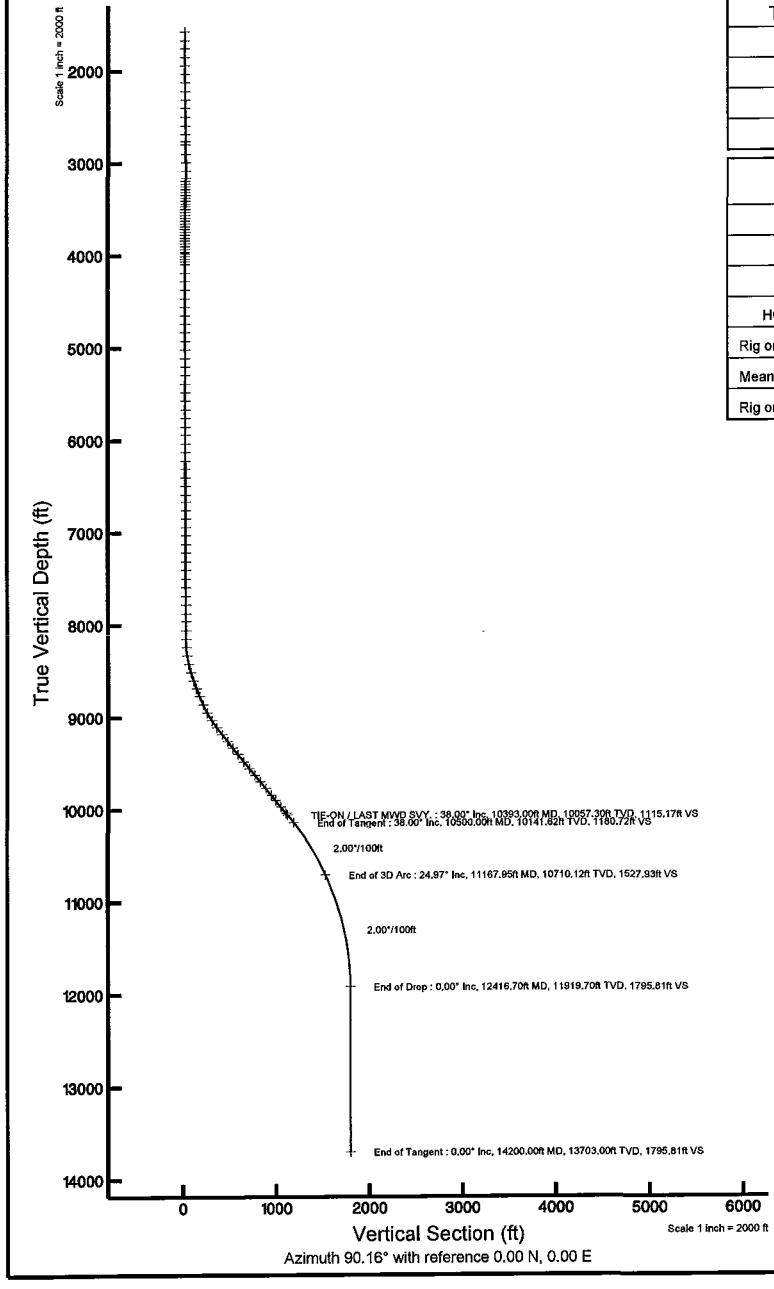
Well Profile Data

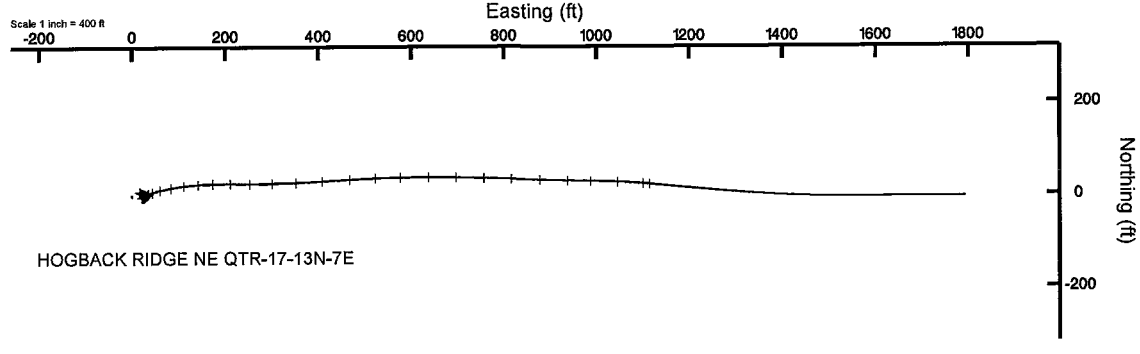
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON / LAST MWD SVY.	10393.00	38.000	95.800	10057.30	22.63	1115.23	2.98	1115.17
End of Tangent	10500.00	38.000	95.800	10141.62	15.97	1180.77	0.00	1180.72
End of 3D Arc	11167.95	24.975	90.000	10710.12	-4.90	1527.92	2.00	1527.93
End of Drop	12416.70	0.000	90.000	11919.70	-4.90	1795.80	2.00	1795.81
End of Tangent	14200.00	0.000	90.000	13703.00	-4.90	1795.80	0.00	1795.81

Location Information

Facility Name			Grid East (USft)	Grid North (USft)	Latitude	Longitude
SEC.17-T13N-R7E			2090500.940	561000.633	41°52'21.370"N	111°10'03.830"W
Slot	**Local N (ft)**	**Local E (ft)**	**Grid East (USft)**	**Grid North (USft)**	**Latitude**	**Longitude**
HOGBACK RIDGE NE QTR-17-13N-7E	0.00	0.00	2090500.940	561000.633	41°52'21.370"N	111°10'03.830"W

Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT) to Mud line (Facility: SEC.17-T13N-R7E)	6737.14ft
Mean Sea Level to Mud line (Facility: SEC.17-T13N-R7E)	0ft
Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT) to Mean Sea Level	6737.14ft





Planned Wellpath Report

HOGBACK RIDGE NE QTR-17-13N-7E_pwp (23-Jul-2008)

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BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**FORTUNA (US) LP**	Slot	**HOGBACK RIDGE NE QTR-17-13N-7E**
Area	**UTAH**	Well	**HOGBACK RIDGE NE QTR-17-13N-7E**
Field	**RICH COUNTY**	Wellbore	**HOGBACK RIDGE NE QTR-17-13N-7E**
Facility	**SEC.17-T13N-R7E**	Sidetrack from	**HOGBACK RIDGE NE QTR-17-13N-7E AWB at 8050.80 MD**

REPORT SETUP INFORMATION			
Projection System	**NAD27 / Lambert Utah State Planes, Northern Zone (4301), US feet**	Software System	**WellArchitect® 2.0**
North Reference	**True**	User	**Thomsuzc**
Scale	**1.00002**	Report Generated	**7/23/2008 at 4:16:03 PM**
Convergence at slot	**0.22° East**	Database/Source file	**Denver/HOGBACK_RIDGE_NE_QTR-17-13N-7E.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[USft]**	**Northing[USft]**	**Latitude**	**Longitude**
Slot Location	**0.00**	**0.00**	2090500.94	561000.63	41°52'21.370"N	111°10'03.830"W
Facility Reference Pt			2090500.94	561000.63	**41°52'21.370"N**	**111°10'03.830"W**
Field Reference Pt			2091894.14	196646.05	**40°52'21.370"N**	**111°10'03.830"W**

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT) to Facility Vertical Datum	67
Horizontal Reference Pt	**Slot**	Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT) to Mean Sea Level	67
Vertical Reference Pt	**Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT)**	Facility Vertical Datum to Mud Line (Facility)	0.0
MD Reference Pt	**Rig on HOGBACK RIDGE NE QTR-17-13N-7E (RT)**	Section Origin	N (
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	90.

Planned Wellpath Report

HOGBACK RIDGE NE QTR-17-13N-7E_pwp (23-Jul-2008)

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BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE NE QTR-17-13N-7E
Area	UTAH	Well	HOGBACK RIDGE NE QTR-17-13N-7E
Field	RICH COUNTY	Wellbore	HOGBACK RIDGE NE QTR-17-13N-7E
Facility	SEC.17-T13N-R7E	Sidetrack from	HOGBACK RIDGE NE QTR-17-13N-7E AWB at 8050.80 MD

WELLPATH DATA (161 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
1574.00	1.300	63.800	1573.86	16.00	7.88	16.02	0.00
1672.00	0.200	280.400	1671.85	16.83	8.40	16.85	1.50
1758.00	0.100	201.600	1757.85	16.65	8.36	16.67	0.24
1850.00	0.100	6.200	1849.85	16.63	8.36	16.65	0.22
1942.00	0.300	120.700	1941.85	16.85	8.32	16.87	0.38
2037.00	1.000	125.300	2036.85	17.74	7.72	17.76	0.74
2126.00	0.600	171.000	2125.84	18.45	6.81	18.47	0.81
2224.00	0.600	116.900	2223.83	18.99	6.07	19.00	0.56
2314.00	0.500	119.700	2313.83	19.75	5.66	19.77	0.12
2406.00	0.400	144.300	2405.83	20.29	5.20	20.30	0.23
2502.00	0.400	109.900	2501.82	20.80	4.81	20.81	0.25
2597.00	0.600	63.100	2596.82	21.55	4.93	21.57	0.46
2685.00	0.300	81.400	2684.82	22.19	5.17	22.21	0.37
2762.00	1.500	116.500	2761.81	23.29	4.75	23.31	1.64
2798.00	1.300	114.100	2797.80	24.09	4.37	24.10	0.58
2900.00	1.300	122.500	2899.77	26.12	3.28	26.13	0.19
2992.00	0.800	97.200	2991.75	27.64	2.64	27.65	0.73
3085.00	0.700	215.000	3084.75	27.96	2.09	27.97	1.38
3161.00	0.300	208.300	3160.75	27.60	1.53	27.61	0.53
3192.00	0.300	226.200	3191.75	27.51	1.41	27.51	0.30
3223.00	0.200	224.800	3222.75	27.41	1.31	27.42	0.32
3254.00	0.400	221.300	3253.75	27.30	1.19	27.31	0.65
3284.00	0.400	225.500	3283.75	27.16	1.04	27.16	0.10
3315.00	0.400	218.500	3314.74	27.01	0.88	27.02	0.16
3345.00	0.400	226.900	3344.74	26.87	0.73	26.88	0.20
3377.00	0.500	215.000	3376.74	26.71	0.54	26.71	0.43
3409.00	0.600	221.000	3408.74	26.52	0.29	26.52	0.36
3441.00	0.700	227.600	3440.74	26.27	0.04	26.27	0.39
3469.00	0.600	221.700	3468.74	26.05	-0.19	26.05	0.43
3501.00	0.700	225.900	3500.74	25.80	-0.45	25.79	0.35
3531.00	0.800	224.500	3530.73	25.52	-0.73	25.52	0.34
3563.00	0.900	220.600	3562.73	25.20	-1.08	25.20	0.36
3593.00	1.000	224.100	3592.73	24.86	-1.44	24.86	0.39
3624.00	1.100	218.100	3623.72	24.49	-1.87	24.49	0.48
3655.00	1.000	223.100	3654.71	24.13	-2.30	24.12	0.44
3686.00	0.700	228.700	3685.71	23.80	-2.63	23.79	1.00
3716.00	0.500	228.300	3715.71	23.56	-2.83	23.56	0.67
3747.00	0.600	233.300	3746.71	23.33	-3.02	23.33	0.36
3779.00	0.600	236.100	3778.71	23.06	-3.21	23.05	0.09
3810.00	0.700	233.600	3809.70	22.77	-3.42	22.77	0.34
3839.00	0.700	243.800	3838.70	22.47	-3.60	22.46	0.43
3870.00	0.900	234.000	3869.70	22.11	-3.83	22.10	0.78
3901.00	0.800	243.600	3900.70	21.72	-4.07	21.71	0.56
3932.00	0.600	241.700	3931.69	21.38	-4.24	21.37	0.65

3964.00	0.500	250.400	3963.69	21.10	-4.37	21.09	0.41

Planned Wellpath Report

HOGBACK RIDGE NE QTR-17-13N-7E_pwp (23-Jul-2008)

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BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE NE QTR-17-13N-7E
Area	UTAH	Well	HOGBACK RIDGE NE QTR-17-13N-7E
Field	RICH COUNTY	Wellbore	HOGBACK RIDGE NE QTR-17-13N-7E
Facility	SEC.17-T13N-R7E	Sidetrack from	HOGBACK RIDGE NE QTR-17-13N-7E AWB at 8050.80 MD

WELLPATH DATA (161 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
3977.00	0.200	310.600	3976.69	21.03	-4.37	21.02	3.36
4010.00	0.200	246.300	4009.69	20.94	-4.36	20.92	0.65
4038.00	0.100	49.700	4037.69	20.91	-4.36	20.90	1.06
4066.00	0.100	254.600	4065.69	20.90	-4.35	20.89	0.70
4097.00	0.300	69.400	4096.69	20.95	-4.33	20.94	1.29
4189.00	0.300	20.600	4188.69	21.26	-4.02	21.25	0.27
4282.00	0.300	1.600	4281.69	21.35	-3.55	21.34	0.11
4375.00	0.200	147.100	4374.69	21.45	-3.44	21.44	0.51
4470.00	0.300	218.100	4469.69	21.39	-3.78	21.38	0.32
4559.00	0.200	80.700	4558.69	21.40	-3.93	21.39	0.53
4653.00	0.400	69.000	4652.69	21.86	-3.79	21.85	0.22
4744.00	0.300	86.300	4743.68	22.40	-3.66	22.39	0.16
4835.00	0.300	95.100	4834.68	22.87	-3.67	22.86	0.05
4927.00	0.200	109.900	4926.68	23.26	-3.74	23.25	0.13
5020.00	0.300	131.000	5019.68	23.60	-3.96	23.59	0.14
5116.00	0.300	110.900	5115.68	24.03	-4.21	24.02	0.11
5205.00	0.200	120.400	5204.68	24.38	-4.37	24.37	0.12
5296.00	0.500	74.700	5295.68	24.90	-4.35	24.89	0.43
5388.00	0.500	78.200	5387.67	25.68	-4.16	25.67	0.03
5482.00	0.100	332.100	5481.67	26.04	-4.00	26.03	0.57
5574.00	0.200	82.100	5573.67	26.16	-3.91	26.15	0.27
5670.00	0.100	307.200	5669.67	26.26	-3.84	26.25	0.29
5760.00	0.400	49.100	5759.67	26.44	-3.59	26.43	0.48
5855.00	0.400	59.600	5854.67	26.97	-3.20	26.96	0.08
5944.00	0.200	31.100	5943.67	27.32	-2.91	27.31	0.27
6040.00	0.200	281.400	6039.67	27.24	-2.73	27.23	0.34
6130.00	0.300	28.000	6129.67	27.20	-2.49	27.19	0.45
6224.00	0.200	179.500	6223.67	27.31	-2.44	27.31	0.52
6311.00	0.400	47.300	6310.67	27.54	-2.39	27.53	0.64
6406.00	0.300	39.900	6405.67	27.94	-1.97	27.93	0.12
6495.00	0.300	47.300	6494.66	28.26	-1.63	28.25	0.04
6590.00	0.400	74.000	6589.66	28.76	-1.37	28.76	0.20
6665.00	0.300	50.800	6664.66	29.16	-1.18	29.16	0.23
6759.00	0.100	7.600	6758.66	29.36	-0.94	29.36	0.25
6848.00	0.200	22.000	6847.66	29.43	-0.72	29.43	0.12
6943.00	0.300	339.400	6942.66	29.41	-0.33	29.40	0.21
7031.00	0.100	57.500	7030.66	29.39	-0.08	29.39	0.34
7128.00	0.100	14.200	7127.66	29.48	0.05	29.48	0.08
7218.00	0.300	213.900	7217.66	29.37	-0.07	29.37	0.44
7313.00	0.100	137.600	7312.66	29.29	-0.34	29.29	0.31
7405.00	0.200	24.100	7404.66	29.41	-0.25	29.41	0.28
7502.00	0.400	283.800	7501.66	29.15	-0.01	29.15	0.49
7591.00	0.800	62.100	7590.65	29.39	0.35	29.39	1.27
7685.00	0.900	63.800	7684.64	30.63	0.98	30.64	0.11

7781.00	0.700	84.600	7780.63	31.89	1.37	31.90	0.36

Planned Wellpath Report

HOGBACK RIDGE NE QTR-17-13N-7E_pwp (23-Jul-2008)

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BAKER HUGHES

INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE NE QTR-17-13N-7E
Area	UTAH	Well	HOGBACK RIDGE NE QTR-17-13N-7E
Field	RICH COUNTY	Wellbore	HOGBACK RIDGE NE QTR-17-13N-7E
Facility	SEC.17-T13N-R7E	Sidetrack from	HOGBACK RIDGE NE QTR-17-13N-7E AWB at 8050.80 MD

WELLPATH DATA (161 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
7876.00	0.400	48.300	7875.63	32.72	1.65	32.72	0.47
7959.00	0.200	9.700	7958.63	32.96	1.98	32.96	0.33
8057.00	0.100	74.700	8056.63	33.07	2.17	33.07	0.19
8147.00	0.700	16.000	8146.63	33.29	2.72	33.30	0.73
8238.00	3.200	71.200	8237.57	35.85	4.08	35.86	3.14
8329.00	8.100	69.400	8328.10	44.25	7.15	44.27	5.39
8422.00	12.800	76.500	8419.54	60.40	11.87	60.43	5.23
8514.00	16.500	80.300	8508.53	83.18	16.45	83.23	4.15
8610.00	18.200	82.100	8600.16	111.46	20.81	111.52	1.86
8700.00	21.100	86.300	8684.92	141.55	23.78	141.61	3.58
8788.00	20.600	88.400	8767.15	172.82	25.24	172.89	1.02
8890.00	22.900	91.600	8861.89	210.60	25.18	210.67	2.54
8986.00	28.600	89.800	8948.32	252.29	24.74	252.36	5.99
9083.00	32.300	88.400	9031.93	301.43	25.55	301.50	3.88
9175.00	35.700	88.100	9108.19	352.84	27.12	352.91	3.70
9269.00	37.800	86.600	9183.51	409.00	29.74	409.09	2.43
9364.00	37.400	86.300	9258.77	466.85	33.33	466.94	0.46
9455.00	37.900	87.700	9330.82	522.34	36.24	522.45	1.09
9544.00	37.400	89.500	9401.29	576.68	37.57	576.79	1.36
9644.00	38.400	89.500	9480.20	638.11	38.11	638.21	1.00
9738.00	38.600	91.900	9553.77	696.61	37.39	696.72	1.60
9833.00	40.300	91.200	9627.12	756.95	35.76	757.05	1.85
9925.00	40.600	91.900	9697.13	816.62	34.15	816.72	0.59
10020.00	39.300	91.900	9769.96	877.60	32.12	877.69	1.37
10114.00	40.600	91.900	9842.02	937.93	30.12	938.01	1.38
10191.00	39.900	90.900	9900.79	987.66	28.90	987.75	1.24
10282.00	39.700	92.300	9970.70	1045.89	27.28	1045.97	1.01
10370.00	38.100	94.700	10039.19	1101.05	23.93	1101.12	2.50
10393.00	38.000	95.800	10057.30	1115.17	22.63	1115.23	2.98
10493.00†	38.000	95.800	10136.10	1176.44	16.41	1176.49	0.00
10500.00	38.000	95.800	10141.62	1180.72	15.97	1180.77	0.00
10593.00†	36.173	95.218	10215.80	1236.56	10.58	1236.59	2.00
10693.00†	34.213	94.533	10297.52	1293.99	5.68	1294.01	2.00
10793.00†	32.256	93.775	10381.16	1348.66	1.70	1348.67	2.00
10893.00†	30.305	92.931	10466.62	1400.50	-1.35	1400.50	2.00
10993.00†	28.359	91.983	10553.80	1449.44	-3.46	1449.44	2.00
11093.00†	26.422	90.907	10642.58	1495.43	-4.64	1495.42	2.00
11167.95	24.975	90.000	10710.12	1527.93	-4.90	1527.92	2.00
11193.00†	24.474	90.000	10732.87	1538.41	-4.90	1538.40	2.00
11293.00†	22.474	90.000	10824.59	1578.24	-4.90	1578.23	2.00
11393.00†	20.474	90.000	10917.64	1614.84	-4.90	1614.84	2.00
11493.00†	18.474	90.000	11011.92	1648.18	-4.90	1648.17	2.00
11593.00†	16.474	90.000	11107.30	1678.21	-4.90	1678.20	2.00
11693.00†	14.474	90.000	11203.67	1704.89	-4.90	1704.88	2.00

11793.00†	12.474	90.000	11300.91	1728.18	-4.90	1728.18	2.00

Planned Wellpath Report

HOGBACK RIDGE NE QTR-17-13N-7E_pwp (23-Jul-2008)

Page 5 of 6

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE NE QTR-17-13N-7E
Area	UTAH	Well	HOGBACK RIDGE NE QTR-17-13N-7E
Field	RICH COUNTY	Wellbore	HOGBACK RIDGE NE QTR-17-13N-7E
Facility	SEC.17-T13N-R7E	Sidetrack from	HOGBACK RIDGE NE QTR-17-13N-7E AWB at 8050.80 MD

WELLPATH DATA (161 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
11893.00†	10.474	90.000	11398.91	1748.08	-4.90	1748.07	2.00
11993.00†	8.474	90.000	11497.54	1764.54	-4.90	1764.53	2.00
12093.00†	6.474	90.000	11596.69	1777.54	-4.90	1777.54	2.00
12193.00†	4.474	90.000	11696.22	1787.08	-4.90	1787.07	2.00
12293.00†	2.474	90.000	11796.04	1793.14	-4.90	1793.13	2.00
12393.00†	0.474	90.000	11896.00	1795.71	-4.90	1795.71	2.00
12416.70	0.000	90.000	11919.70	1795.81	-4.90	1795.80	2.00
12493.00†	0.000	90.000	11996.00	1795.81	-4.90	1795.80	0.00
12593.00†	0.000	90.000	12096.00	1795.81	-4.90	1795.80	0.00
12693.00†	0.000	90.000	12196.00	1795.81	-4.90	1795.80	0.00
12793.00†	0.000	90.000	12296.00	1795.81	-4.90	1795.80	0.00
12893.00†	0.000	90.000	12396.00	1795.81	-4.90	1795.80	0.00
12993.00†	0.000	90.000	12496.00	1795.81	-4.90	1795.80	0.00
13093.00†	0.000	90.000	12596.00	1795.81	-4.90	1795.80	0.00
13193.00†	0.000	90.000	12696.00	1795.81	-4.90	1795.80	0.00
13293.00†	0.000	90.000	12796.00	1795.81	-4.90	1795.80	0.00
13393.00†	0.000	90.000	12896.00	1795.81	-4.90	1795.80	0.00
13493.00†	0.000	90.000	12996.00	1795.81	-4.90	1795.80	0.00
13593.00†	0.000	90.000	13096.00	1795.81	-4.90	1795.80	0.00
13693.00†	0.000	90.000	13196.00	1795.81	-4.90	1795.80	0.00
13793.00†	0.000	90.000	13296.00	1795.81	-4.90	1795.80	0.00
13893.00†	0.000	90.000	13396.00	1795.81	-4.90	1795.80	0.00
13993.00†	0.000	90.000	13496.00	1795.81	-4.90	1795.80	0.00
14093.00†	0.000	90.000	13596.00	1795.81	-4.90	1795.80	0.00
14193.00†	0.000	90.000	13696.00	1795.81	-4.90	1795.80	0.00
14200.00	0.000	90.000	13703.00	1795.81	-4.90	1795.80	0.00

SURVEY PROGRAM

Ref Wellbore: HOGBACK RIDGE NE QTR-17-13N-7E **Ref Wellpath: HOGBACK RIDGE NE QTR-17-13N-7**

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbo
23.80	4038.00	NaviTrak (Standard)		HOGBACK RIDGE NE QTF
4038.00	10393.00	NaviTrak (Standard)		HOGBACK RIDGE NE QTF
10393.00	14200.00	NaviTrak (Standard)		HOGBACK RIDGE NE QTF

Planned Wellpath Report

HOGBACK RIDGE NE QTR-17-13N-7E_pwp (23-Jul-2008)

Page 6 of 6

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**FORTUNA (US) LP**	Slot	**HOGBACK RIDGE NE QTR-17-13N-7E**
Area	**UTAH**	Well	**HOGBACK RIDGE NE QTR-17-13N-7E**
Field	**RICH COUNTY**	Wellbore	**HOGBACK RIDGE NE QTR-17-13N-7E**
Facility	**SEC.17-T13N-R7E**	Sidetrack from	**HOGBACK RIDGE NE QTR-17-13N-7E AWB at 8050.80 MD**

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
8917.43	24.526	91.006	8887.00	Woodside
9716.55	38.550	91.354	9537.00	Dinwoody
10557.16	36.877	95.448	10187.00	Phosphoria
11311.81	22.098	90.000	10842.00	Weber
12118.46	5.965	90.000	11622.00	Mission Canyon
12899.00	0.000	90.000	12402.00	Base Mission Canyon

RECEIVED
AUG 12 2008
DIV. OF OIL, GAS & MINING

B&A Buys & Associates, Inc.
Environmental Consultants

2580 Creekview Road
Moab, Utah 84532
435/719-2018 435/719-2019 Fax

August 6, 2008

Diana Mason
State of Utah
Division of Oil, Gas & Mining
P.O. Box 145801
Salt Lake City, UT 84114-5801

RE: R649-3-11 Directional Drilling – Foruna (US), LP
Hogback Ridge 1-17-13N-7E
1198' FNL, 421' FEL, NENE, S17 T13N R7E (surface)
1193' FNL, 1375' FWL, NWNW, S16 T13N R7E (bottomhole)

Dear Mrs. Mason:

Fortuna wishes to append this letter previously omitted from the Sundry Notice dated July 25, 2008. That notice requested approval for a change of the subject well program from vertical to directional. The notice was submitted in accordance with O&G Conservation Rule R649-3-11.

- The subject well is located within the existing Hogback Ridge Unit Area and all included / adjacent tracts are committed to Fortuna (US) LP.
- The decision to deviate the wellbore from vertical is necessary to intersect the target objective in the most prospective location based upon interpretation of wireline logs and sample data acquired by Fortuna during drilling operations.
- Furthermore, Fortuna hereby certifies that the location of the surface and target as well as any and all points along the intended wellbore path are not within 460 feet of any uncommitted tracts or the unit boundary.

Therefore, pursuant to R649-3-11 and based on the above stated information, Fortuna (US) LP requests approval for this alteration to the originally sanctioned drilling permit for the subject well.

Respectfully submitted,

Don Hamilton

Don Hamilton
Agent for Fortuna (US) LP

cc: Blaine MacInnes, Fortuna (US) LP

FILE COPY

Well name:	**2007-12 Fortuna Hogback Ridge 1-17-13N-7E**
Operator:	**Fortuna (US) LP / Talisman (Canada)**
String type:	Production Liner
Project ID:	43-033-30062
Location:	Rich County

Design parameters:

Collapse

Mud weight: 8.900 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 3,441 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 6,565 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.50 (B)

Tension is based on buoyed weight.
Neutral point: 13,658 ft

Environment:

H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 274 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,500 ft

Cement top: 12,125 ft

Liner top: 10,150 ft
Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	4000	5	18.00	L-80	VAM FJL	14200	14200	4.151	398.9

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	6565	10500	1.599	6565	10140	1.54	62	304	4.88 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Minerals
Phone: 801-538-5357
FAX: 801-359-3940
Date: August 28,2008
Salt Lake City, Utah

Remarks:
For this liner string, the top is rounded to the nearest 100 ft.Collapse is based on a vertical depth of 14200 ft, a mud weight of 8.9 ppg The Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	**2007-12 Fortuna Hogback Ridge 1-17-13N-7E**
Operator:	**Fortuna (US) LP / Talisman (Canada)**
String type:	Drilling Liner
Project ID:	43-033-30062
Location:	Rich County

Design parameters:

Collapse

Mud weight:	8.900 ppg
Internal fluid density:	2.330 ppg

Burst

Max anticipated surface pressure:	2,943 psi
Internal gradient:	0.220 psi/ft
Calculated BHP	5,550 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor	1.125

Burst:

Design factor	1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.50 (B)

Tension is based on buoyed weight.
Neutral point: 10,769 ft

Environment:

H2S considered?	No
Surface temperature:	75 °F
Bottom hole temperature:	241 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	1,500 ft
Cement top:	5,544 ft
Liner top:	3,850 ft

Non-directional string.

Re subsequent strings:

Next setting depth:	12,143 ft
Next mud weight:	8.900 ppg
Next setting BHP:	5,614 psi
Fracture mud wt:	19.250 ppg
Fracture depth:	11,850 ft
Injection pressure:	11,850 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	8050	7	26.00	L-80	Type 511	11850	11850	6.151	1729.4

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	4044	5410	1.338	5550	7240	1.30	181	437	2.41 J

Prepared by: Helen Sadik-Macdonald, Div of Oil,Gas & Minerals
Phone: 801-538-5357
FAX: 801-359-3940
Date: August 28,2008
Salt Lake City, Utah

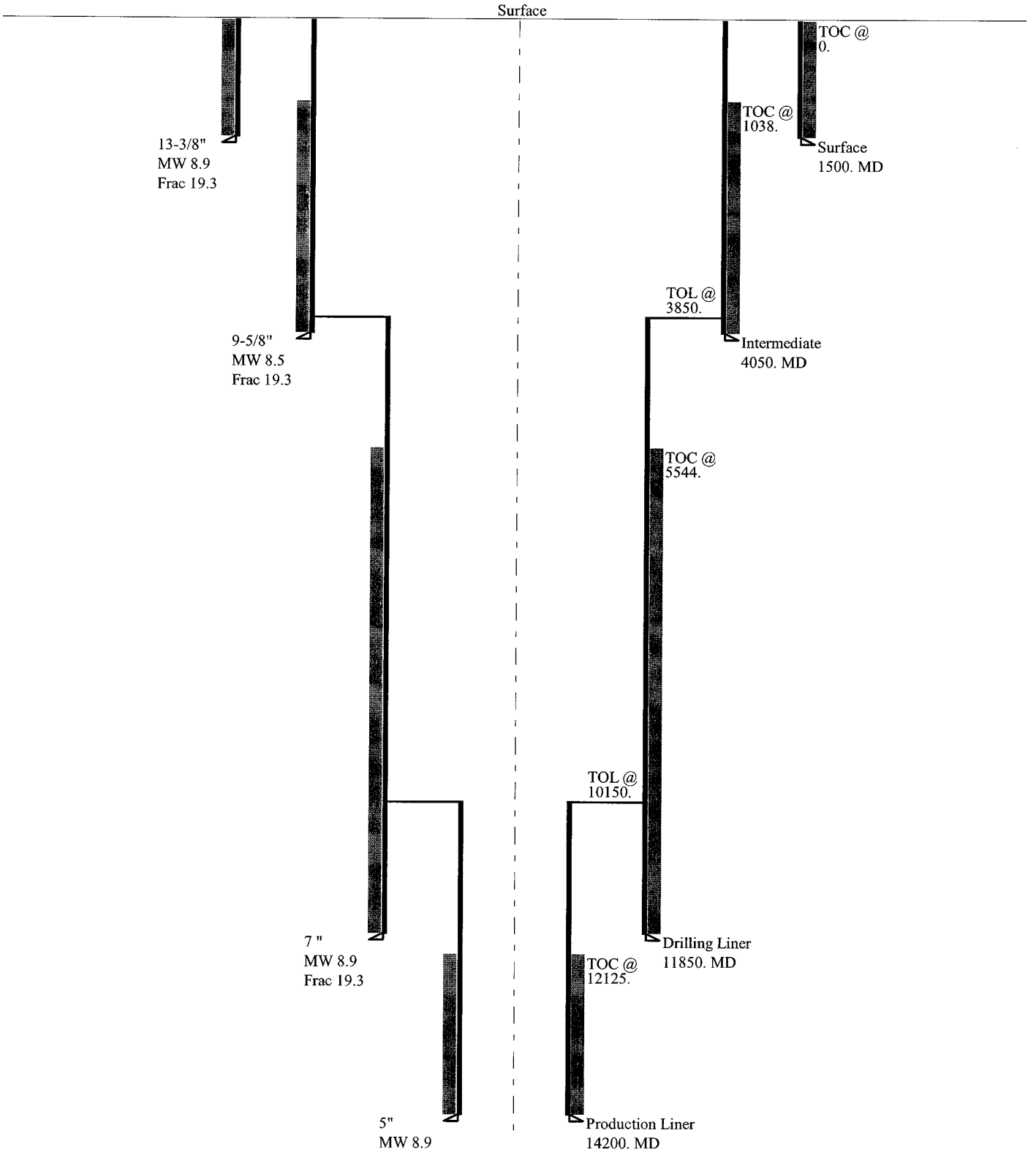
Remarks:
For this liner string, the top is rounded to the nearest 100 ft.Collapse is based on a vertical depth of 11850 ft, a mud weight of 8.9 ppg An Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

2007-12 Fortuna Hogback Ridge 1-17-13N-7E

Casing Schematic



IPS / dba Double Jack Testing

IPS

FIELD TICKET **27847**

Accounting Office: PO Drawer 2080 • Riverton, WY 82501 • (307) 857-0076

Field Operations:

Riverton, WY	(307) 857-0077
Evanston, WY	(307) 789-9213
Rock Springs, WY	(307) 382-4020
Big Piney, WY	(307) 276-5265
Vernal, UT	(435) 781-0448

DATE 8-26-08

☑ OPERATOR Fortuna

☐ CONTRACTOR Precision 618

WELL NAME Hogback Ridge 1-17

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Rich	UT	17	13N	7E

Items Tested:

	LOW TEST PSI	TIME HELD MINUTES	HIGHTEST PSI	TIME HELD MINUTES
Top Pipe Rams	250 psi	5 min	5000 psi	10 min
Bottom Pipe Rams	250 psi	5 min	5000 psi	10 min
Blind Rams	250 psi	5 min	5000 psi	10 min
Annular B.O.P.	250 psi	5 min	2500 psi	10 min
Choke Manifold	250 psi	5 min	5000 psi	10 min
Choke Line	250 psi	5 min	5000 psi	10 min
Kill Line	250 psi	5 min	5000 psi	10 min
Super Choke	—	—	5000 psi	3 min
Upper Kelly	250 psi	5 min	5000 psi	10 min
Lower Kelly	250 psi	5 min	5000 psi	10 min
Floor Valve	250 psi	5 min	5000 psi	10 min
Dart Valve	250 psi	5 min	5000 psi	10 min
Casing	—	—	4400 psi	30 min

Closing Unit PSI _____

Closing Time of Rams _____

Closing Time of Annular _____

Closed Casing Head Valve _____

Set Wear Sleeve _____

COMMENTS

ADDITIONAL TESTS & COMMENTS

DRILLING ☒ COMPLETION ☐

FORTUNA (US) LP

AFE: 63819

FOREMAN: Po #00679 cost code 475

SUPERINTENDENT: STUART CAMERON

ESTIMATED # AMT: _____

LOCATION: Hogback ridge 1-17-13N-7E

FOREMAN'S SIGNATURE [signature]

ATTN. T

		CHARGES
TEST PLUG	13" C 22	—
TOP SUB.	XT 39	72.00
KELLY SUB.	XT 39	72.00
X-OVER SUB.	4½ IF X XT 39	72.00
OTHER		

QUANTITY	RATES		
1 unit	UNIT RATES	Test BOPs first seven hours on location	1375.00
9	ADDITIONAL	Hours after setup @ 110.00	990.00
110	MILEAGE	+2.75 per mile from Evanston WY	302.50
—	~~ANTIFREEZE~~	Fuel Surcharge	300.35
2	OTHER	Per man per day subsistance	120.00

PURCHASE ORDER #

~~M. Ryc~~ M. Fisher T. Neyeker

NO ACCIDENTS TESTED BY

182

DOUBLE JACK TESTING UNIT NUMBER

SUBTOTAL 3303.85

TAX _____

TOTAL _____

COMPANY REPRESENTATIVE
Print Name

NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account

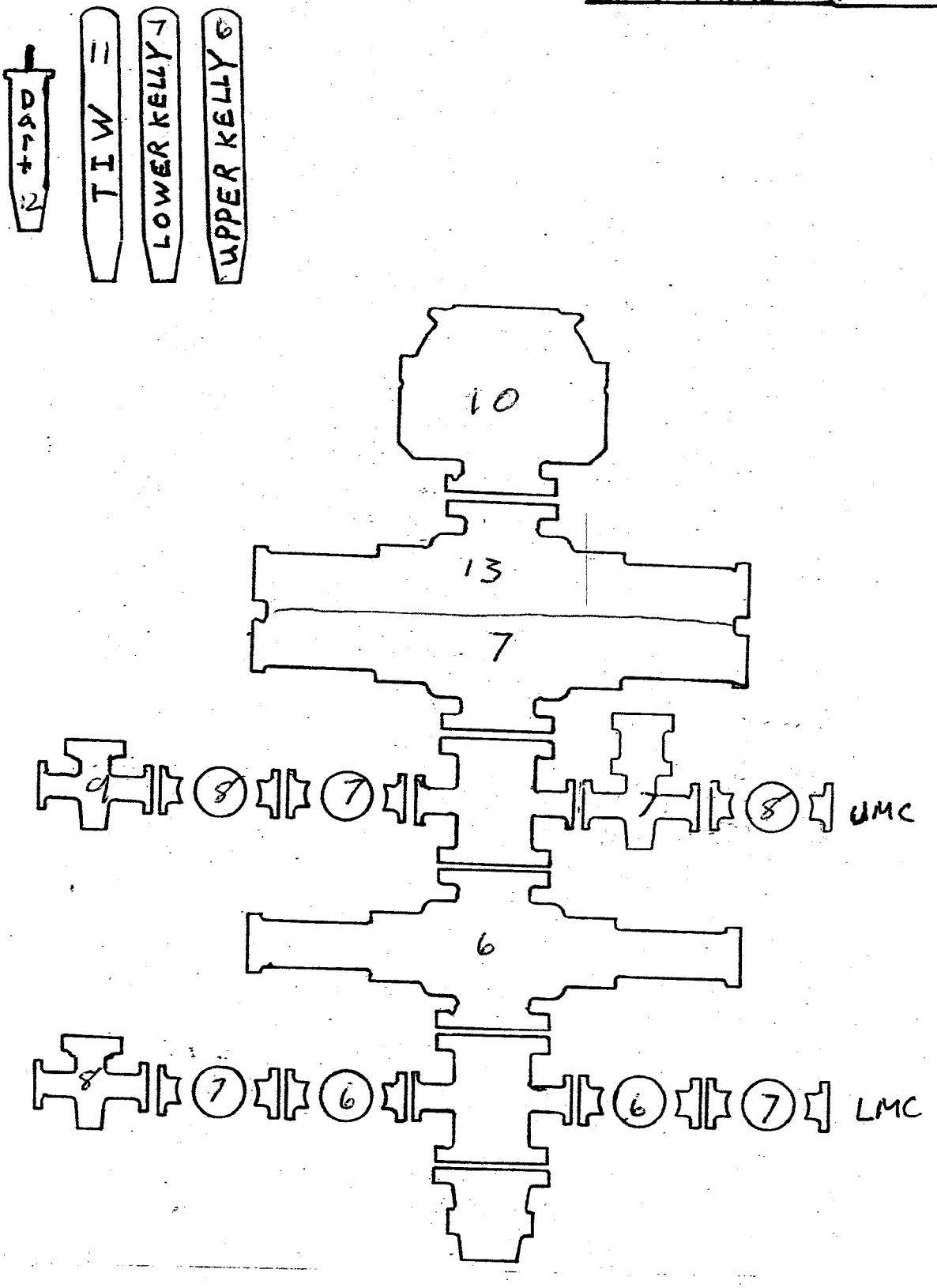
DATE 8-26-08

COMPANY Fortuna

CONTRACTOR Precision 618

WELL NAME

DATE
COMPANY
CONTRACTOR PRECISION 618
WELL NAME



IPS / Double Jack Testing

Accumulator Function Tests

1 RECORD INITIAL ACCUMULATOR PRESSURE 3000

2 WITH DRILL PIPE & TEST PLUG INSTALLEDIN WELL HEAD.

3 PLACE ALL FUNCTIONING ACCUMULATOR VALVES IN OPEN POSITION
ALLOW ACCUMULATOR TO PRESSURE UP BEFORE SHUTTING OFF ALL PUMPS

4CLOSE ANNULAR / RECORD TIME & PRESSURE.

ANNULAR INTIAL PSI 2800 FINAL PSI 1900 TIME 36sec.

#5 CLOSE PIPE RAMS / RECORD TIME & PRESSURE.

PIPR RAMS INTIAL PSI 1900 FINAL PSI 1800 TIME 3sec

#6 OPEN PIPE RAMSTO SIMULATE BLIND RAMS / RECORD TIME & PRESSURE.
INTIAL PSI 1700 FINAL PSI 1600 TIME 2sec

#7 CLOSE HCR (if applicable) / RECORD TIME & PRESSURE.
HCR INTIAL PSI 3000 FINAL PSI 2800 TIME 2sec

#8 ON THREE RAM STACK CLOSE BOTTOM PIPE RAM / RECORD TIME & PRESSURE.

PIPE RAMS INTIAL PSI 1800 FINAL PSI 1700 TIME 3sec

#9 WHEN DONE WITH RECORDED TIMES & PRESSURES THERE SHOULD BE AT LEAST 200 PSI OVER PRECHARGE IN THE ACCUMLATOR (1200 PSI)

#10 OPEN ANNULAR

NITROGEN BOTTLES / BLEED OFF TEST

#1 FINISH BLEEDING OFF BOTTLES INTO ACCUMLATOR TANK/RESERVOIR.

#2 WATCH & RECORD WHERE PRESSURE DROPS (accumulator psi)

PRESSURE DROP 950 PSI

#3 ACCUMULATOR PSI SHOULD DROP AT 1100 PSI TO 950 PSI

---

2 MINUTE TIME TEST / ACCUMULATOR PUMPS

#1 SHUT VALVES TO NITROGEN BOTTLES.

#2 PLACE HCR IN THE OPEN POSITION. (if applicable)

#3 PLACE ANNULAR IN THE CLOSE POSITION.

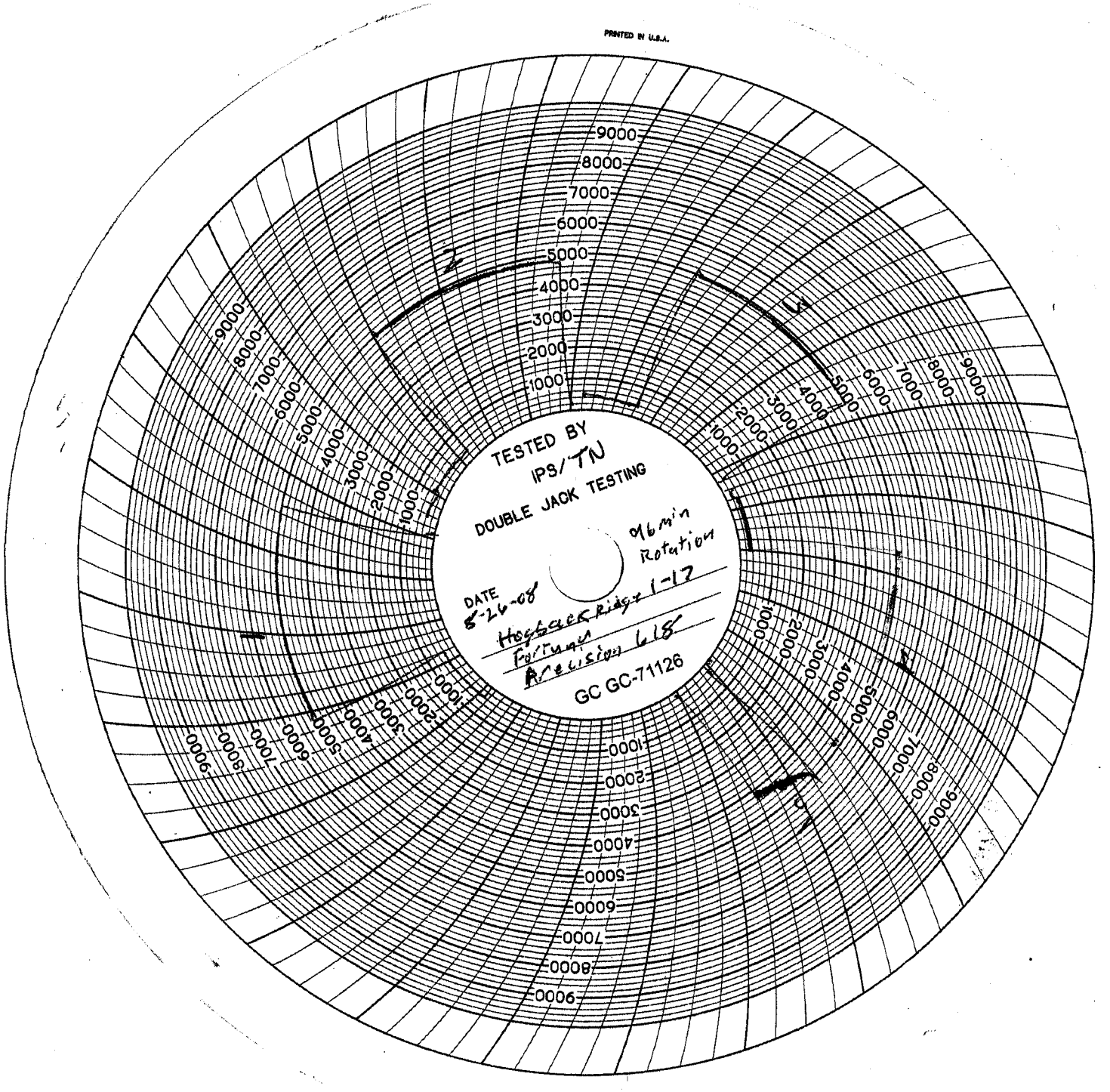
#4 TURN ON PUMPS & RECORD TIME TO PRESSURE UP MANIFOLD ON ACCUMULATOR TO ATLEAST 200PSI OVER PRECHARGE. WITHIN 2 MIN. OR LESS.

RECORDED TIME 1 MINUTE 50 SEC.

#5 OPEN VALVES TO NITROGEN BOTTLES & PRESSURE THE ACCUMULATOR BACK TO SHUT OFF POINT. THEN OPEN ALL PIPE RAMS & ANNULAR BEFORE PULLING PLUG AND DRILL PIPE OUT OF BOP.

COMPANY	LEASE & WELL NAME	TEST DATE	RIG# & NAME
Fortuna	Hogback Ridge I-17	8-26-08	Precision 618

TEST #	TIME	ITEMS TESTED
1	4:00 pm	#1 manifold valves
2	4:20 pm	#2 manifold valves
3	4:40 pm	#3 manifold valves
4	5:00 pm	#4 manifold valves
5	5:20 pm	Super choke & manual choke Waiting on crossover
6	10:00 pm	Bottom Pipe rams LMC Inside Kill Inside Choke Upper kelly
7	10:25 pm	Upper Pipe rams LMC Outside Kill Outside choke UMC Inside Kill & Choke HCR Tiw/ma
8	10:45 pm	LMC Check valve #8 manifold valve UMC Outside Kill & choke
9	11:05 pm	UMC Check #9 manifold valve
10	11:30p	Annular
11	1:20a	TIW valve Fixing leaks
12	1:45a	Dart valve
13	2:20a	Blind Rams
~~14~~		~~Casing~~
	3:30a	Accumilator Funcion Test
14	4:40a	Casing


PRINTED IN U.S.A.
TESTED BY
IPS/TN
DOUBLE JACK TESTING
96 min
Rotation
DATE
8-26-08
Hogback Ridge 1-17
Fortuna
Precision 618
GC GC-71126
1
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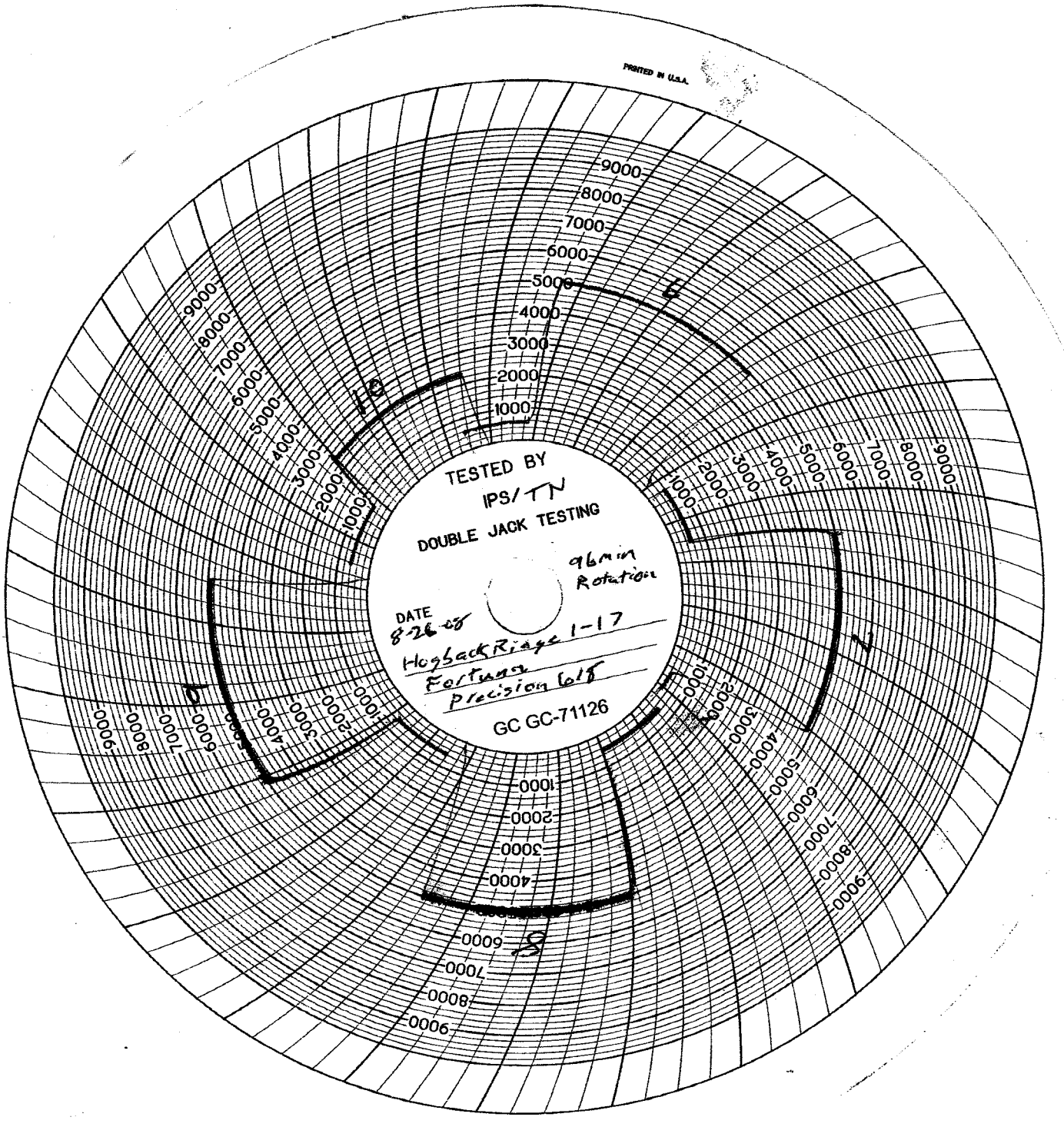
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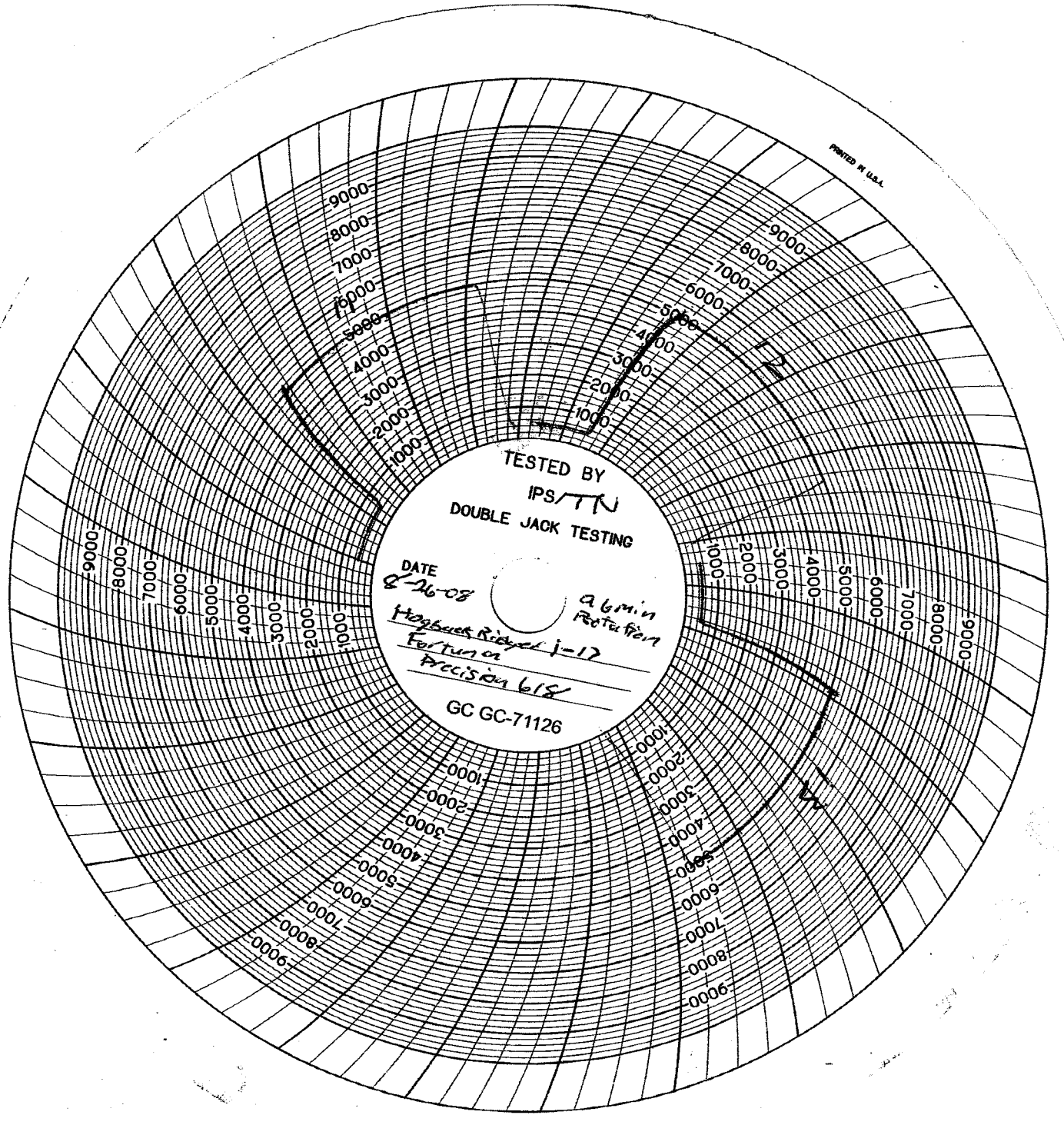
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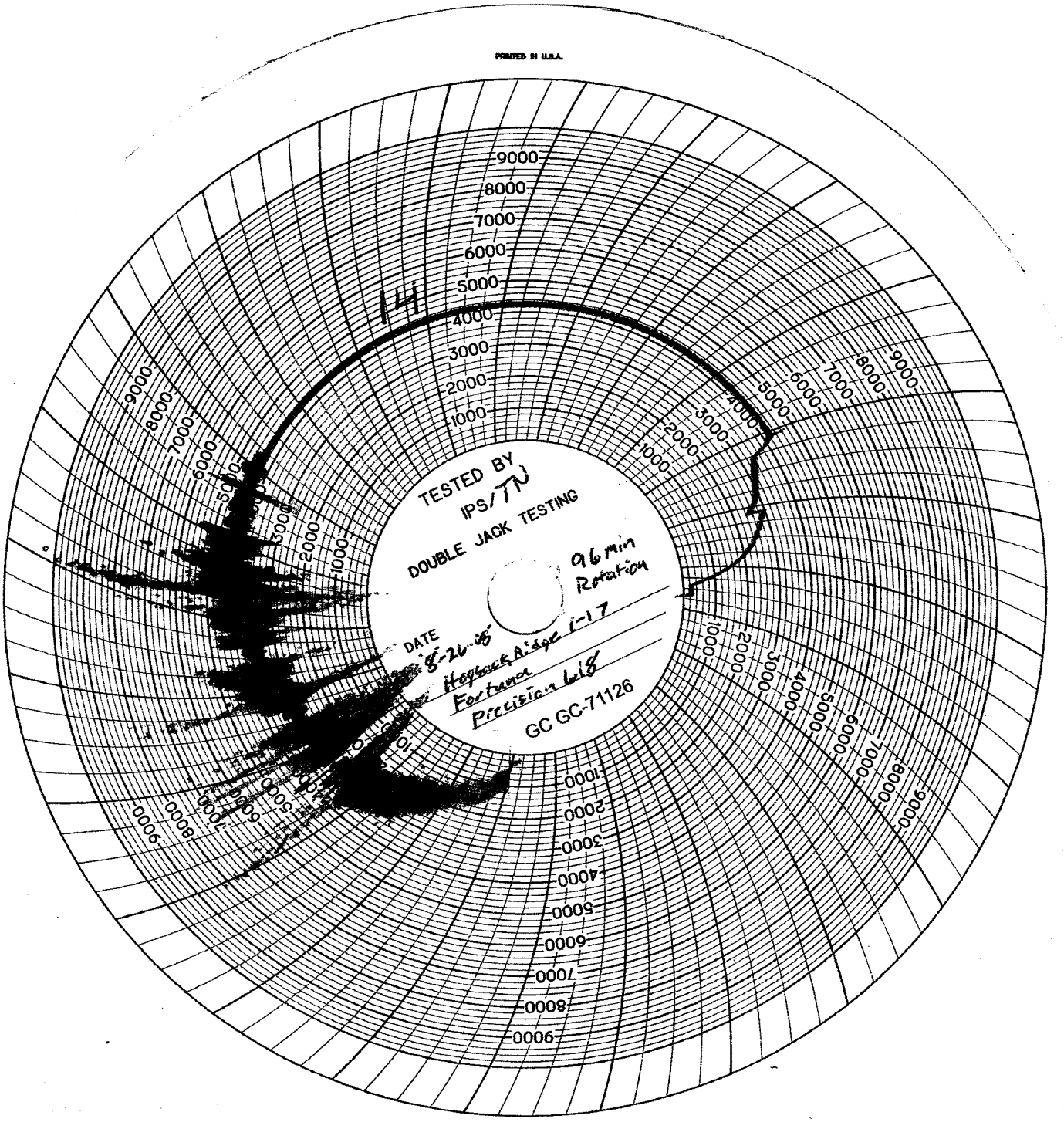
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Hogback Ridge 1-17
Fortuna
Precision 618
GC GC-71126

43-033-30062

BAKER HUGHES

NTEQ

Company: Fortuna (US) LP
Field: Hogback Ridge
Cty/Blk/Par: Rich, UT
Well Name: 1-17-13N-7E ST #1 Ver. 3
Rig: Precision 618E

Job Number: 1933502
Magnetic Decl.: 12.48
Grid Corr.:
Total Survey Corr.: 12.48
Target Info: 14137' TVD, 32.2' N, 1137' E

Calculation Method: Minimum Curvature
Proposed Azimuth: 89.41
Depth Reference: RKB
Tie Into:

lo.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')	REMARKS
40	CHK	12267	7.20	296.20	28	11818.87	1452.73	50.57	S	1453.33	E	1.90	-1.8	-5.0	
41	BIT	12316	7.00	294.50	49	11867.49	1447.28	47.97	S	1447.85	E	0.59	-0.4	-3.5	
42		12400	8.00	294.00	84	11950.77	1437.33	43.47	S	1437.86	E	1.19	1.2	-0.6	
43		12500	9.00	293.00	100	12049.67	1423.84	37.59	S	1424.30	E	1.01	1.0	-1.0	
44		12600	10.00	292.00	100	12148.30	1408.65	31.28	S	1409.05	E	1.01	1.0	-1.0	
45		12700	11.00	291.00	100	12246.63	1391.76	24.61	S	1392.09	E	1.02	1.0	-1.0	
46		12800	11.00	290.00	100	12344.79	1373.96	17.92	S	1374.22	E	0.19	0.0	-1.0	
47		12900	11.00	289.00	100	12442.95	1356.04	11.55	S	1356.23	E	0.19	0.0	-1.0	
48		13000	11.00	287.00	100	12541.11	1337.96	5.66	S	1338.09	E	0.38	0.0	-2.0	
49		13100	11.00	286.00	100	12639.28	1319.72	0.24	S	1319.80	E	0.19	0.0	-1.0	
50		13200	11.00	285.00	100	12737.44	1301.39	4.86	N	1301.41	E	0.19	0.0	-1.0	
51		13300	11.00	284.00	100	12835.60	1282.97	9.64	N	1282.94	E	0.19	0.0	-1.0	
52		13400	11.00	283.00	100	12933.77	1264.46	14.09	N	1264.38	E	0.19	0.0	-1.0	
53		13500	11.00	282.00	100	13031.93	1245.88	18.22	N	1245.76	E	0.19	0.0	-1.0	
54		13600	11.00	281.00	100	13130.09	1227.22	22.02	N	1227.06	E	0.19	0.0	-1.0	
55		13700	11.00	280.00	100	13228.25	1208.50	25.50	N	1208.30	E	0.19	0.0	-1.0	
56		13800	11.00	279.00	100	13326.42	1189.71	28.65	N	1189.48	E	0.19	0.0	-1.0	
57		13900	11.00	278.00	100	13424.58	1170.87	31.47	N	1170.61	E	0.19	0.0	-1.0	
58		14000	11.00	277.00	100	13522.74	1151.98	33.96	N	1151.69	E	0.19	0.0	-1.0	
59		14100	11.00	276.00	100	13620.90	1133.05	36.12	N	1132.73	E	0.19	0.0	-1.0	
60		14200	11.00	275.00	100	13719.07	1114.07	37.95	N	1113.74	E	0.19	0.0	-1.0	
61		14300	11.00	274.00	100	13817.23	1095.07	39.45	N	1094.72	E	0.19	0.0	-1.0	
62		14400	11.00	273.00	100	13915.39	1076.04	40.61	N	1075.68	E	0.19	0.0	-1.0	
63		14500	11.00	272.00	100	14013.56	1056.98	41.44	N	1056.61	E	0.19	0.0	-1.0	
64		14600	11.00	271.00	100	14111.72	1037.92	41.94	N	1037.54	E	0.19	0.0	-1.0	

HALLIBURTON

FORTUNA (US) LP

Hogback Ridge 1-17-13N-7E
WILDCAT
Rich County , Utah

Plug Service - Whipstock

22-Aug-2008

Job Site Documents

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 6120954
Customer: FORTUNA (US) LP		**Customer Rep:** Precision 618, Fortuna	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field: WILDCAT	**City (SAP):** RANDOLPH	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Contractor: FORTUNA	**Rig/Platform Name/Num:** PRECISION 618		
Job Purpose: Plug Service - Whipstock			
Well Type: Development Well	**Job Type:** Plug Service - Whipstock		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** MAEDCHE, JAMES	**MBU ID Emp #:** 391220	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
CHAPA RODRIGUEZ, JESUS H	11	414648	CROITZ, JONATHAN Hollis	11	379787	CROXFORD, DOUGLAS G	11	447689
HODSON, CLAYTON J	11	447981	MAEDCHE, JAMES R	11	391220			

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10248062C	150 mile	10825410	150 mile	10925547	150 mile	10951236	150 mile
10998520	150 mile	11036301	150 mile				

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
8-22-08	11	3						
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type		**BHST**			
Job depth MD	11250. ft	**Job Depth TVD**	11250. ft		
Water Depth		**Wk Ht Above Floor**			
Perforation Depth (MD)	*From*		**To**		

Job Times

	Date	Time	Time Zone
Called Out	22 - Aug - 2008	03:30	MST
On Location	22 - Aug - 2008	08:30	MST
Job Started	22 - Aug - 2008	11:39	MST
Job Completed	22 - Aug - 2008	15:42	MST
Departed Loc	22 - Aug - 2008	19:00	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
8 1/2" Open Hole				8.5				4050.	11250.		
Plug 1	Unknown							10750.	11250.		
Plug 2	Unknown							10450.	10750.		
9 5/8" Intermediate Casing	New		9.625	8.755	43.5		L-80	.	4050.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					**Packer**					**Top Plug**			
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar					**Retainer**					**SSR plug set**			
Insert Float										**Plug Container**			
Stage Tool										**Centralizers**			

Miscellaneous Materials

Gelling Agt		**Conc**		*Surfactant*		**Conc**		**Acid Type**		**Qty**		*Conc*	%
Treatment Fld		**Conc**		*Inhibitor*		**Conc**		**Sand Type**		*Size*		*Qty*	

HALLIBURTON

Cementing Job Summary

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Water Ahead		15.0	bbl	8.33	.0	.0	.0	
2	PLUG 1	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	250.0	sacks	17.5	.94	3.34		3.34
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	0.5 %	CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							
	0.5 %	HR-5, 50 LB SK (100005050)							
	0.3 %	D-AIR 3000 (101007446)							
	3.335 Gal	FRESH WATER							
3	Water Behind		03.0	bbl	8.33	.0	.0	.0	
4	Mud displacement		182.0	bbl	9.1	.0	.0	.0	

Stage/Plug #: 2

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom
1	Water Ahead		15.0	bbl	3.	.0	.0	.0	
2	PLUG 2	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	125.0	sacks	15.8	1.15	4.97		4.97
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	0.15 %	CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							
	0.3 %	HR-5, 50 LB SK (100005050)							
	4.967 Gal	FRESH WATER							
3	Water Behind		03.0	bbl	8.33	.0	.0	.0	
4	Mud Displacement		175.0	bbl	.	.0	.0	.0	

Calculated Values		Pressures		Volumes					
Displacement		Shut In: Instant		Lost Returns		*Cement Slurry*		Pad	
Top Of Cement		5 Min		Cement Returns	NO	Actual Displacement		Treatment	
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	

Rates

Circulating		*Mixing*		*Displacement*		Avg. Job	

Cement Left In Pipe	Amount	*44 ft*	*Reason*	*Shoe Joint*

Frac Ring # 1 @		*ID*		*Frac ring # 2 @*		*ID*		*Frac Ring # 3 @*		*ID*		*Frac Ring # 4 @*		*ID*	

The Information Stated Herein Is Correct	***Customer Representative Signature***

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 6120954
Customer: FORTUNA (US) LP		**Customer Rep:** Precision 618, Fortuna	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field: WILDCAT	**City (SAP):** RANDOLPH	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: FORTUNA	**Rig/Platform Name/Num:** PRECISION 618		
Job Purpose: Plug Service - Whipstock			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Plug Service - Whipstock		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** MAEDCHE, JAMES		**MBU ID Emp #:** 391220

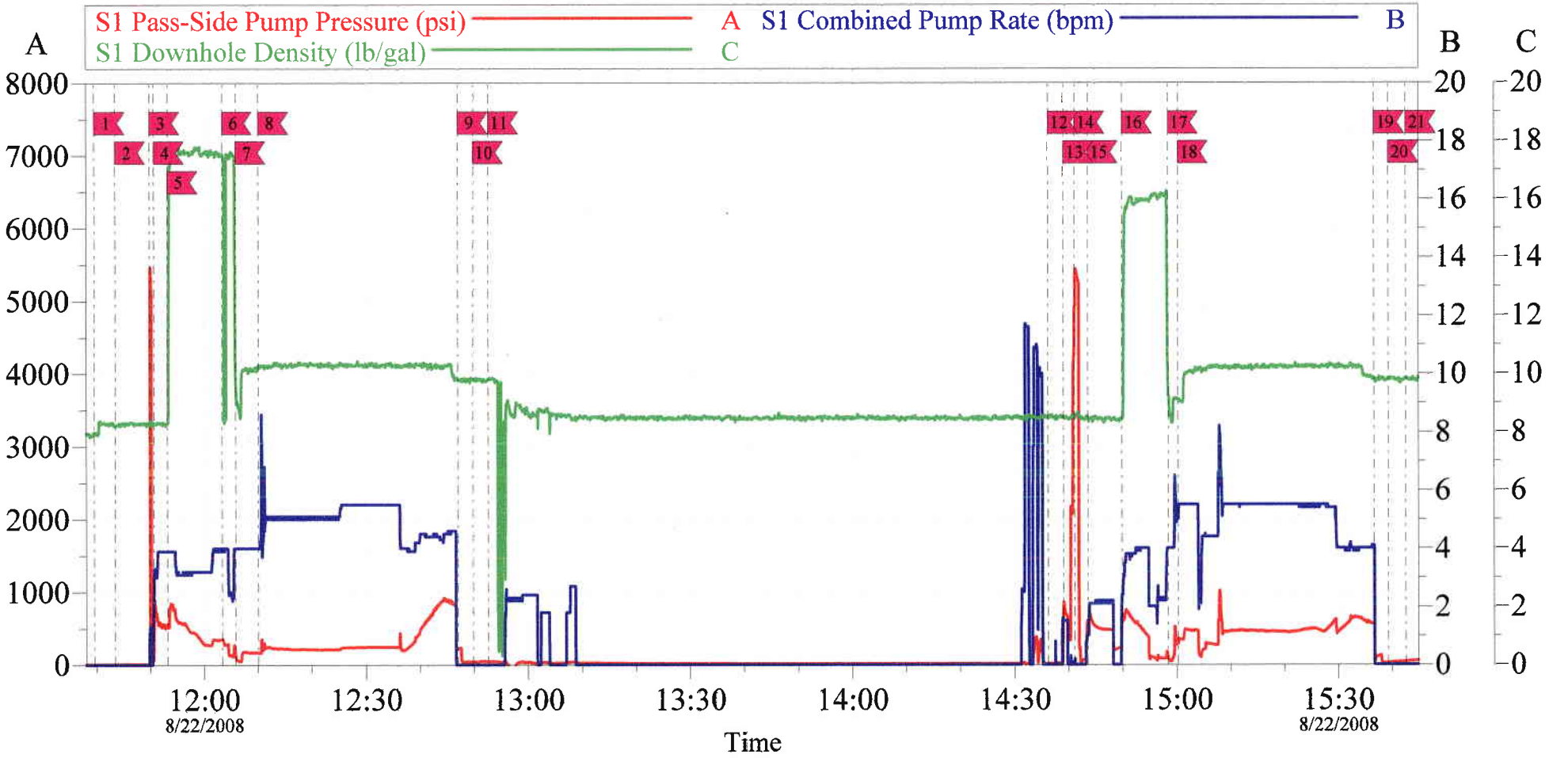
Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	08/22/2008 03:30							
Depart Yard Safety Meeting	08/22/2008 05:30							
Depart from Service Center or Other Site	08/22/2008 05:45							
Arrive at Location from Service Center	08/22/2008 08:30							
Safety Meeting - Assessment of Location	08/22/2008 08:45							
Safety Meeting - Pre Rig-Up	08/22/2008 09:00							
Rig-Up Equipment	08/22/2008 09:15							
Safety Meeting - Pre Job	08/22/2008 11:00							
Rig-Up Equipment	08/22/2008 11:20							
Start Job	08/22/2008 11:39							
Pump Water	08/22/2008 11:43		2	2				
Pressure Test	08/22/2008 11:49						5500.0	
Pump Water	08/22/2008 11:50		4	8	10			
Pump Lead Cement	08/22/2008 11:53		4	42				MIXED AND PUMPED MTN G CEMENT AT 17.5 PPG
Other	08/22/2008 12:03							ACCIDENTLY AUTOCALED DENSOMETER TO H20(CMT DENSITY STILL 17.6 PPG)
Pump Displacement	08/22/2008 12:05		4	3.9				PUMP H20 BEHIND TO BALANCE

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump Displacement	08/22/2008 12:10		5	184.5				WBM AT 10.2 PPG
Shutdown	08/22/2008 12:47							RIG POOH TO 10750' AND CIRCULATE 8000 STROKES OR 840BBLS
Start Job	08/22/2008 14:36							START 2ND PLUG
Pump Water	08/22/2008 14:39		2	1.5				
Pressure Test	08/22/2008 14:41						5500.0	
Pump Water	08/22/2008 14:43		2	8.5	10			
Pump Lead Cement	08/22/2008 14:49		4	25.6				MIX AND PUMPED MTN G CEMENT AT 15.8 PPG
Pump Water	08/22/2008 14:58		4	3.9				
Pump Displacement	08/22/2008 15:00		5.5	179.9				WBM AT 10.2 PPG
Shutdown	08/22/2008 15:36							RIG POOH TO 10450 AND CIRCULATE
End Job	08/22/2008 15:42							RIG POOH OUT OF HOLE WITH DRILL PIPE
Safety Meeting - Pre Rig-Down	08/22/2008 15:50							
Rig-Down Equipment	08/22/2008 17:00							
Depart Location Safety Meeting	08/22/2008 18:30							
Depart Location for Service Center or Other Site	08/22/2008 19:00							

Rock Springs Cement



Local Event Log

1	START JOB	11:39:37	2	PUMP WATER AHEAD	11:43:26	3	TEST LINES	11:49:50
4	PUMP 10 BBLS H20 SPACER	11:50:37	5	PUMP CEMENT	11:53:10	6	ACCIDENTLY AUTOCALED TO H20	12:03:17
7	PUMP 3.9 BBLS H20 BEHIND	12:05:49	8	PUMP MUD DISPLACEMENT	12:10:04	9	SHUT DOWN	12:46:56
10	RIG PULLED TO 10750 AND CIRC	12:49:44	11	END OF 1ST PLUG	12:52:33	12	START 2ND PLUG	14:36:13
13	PUMP H2O AHEAD	14:39:02	14	TEST LINES	14:41:05	15	PUMP 10 BBLS H20 SPACER	14:43:33
16	PUMP CEMENT	14:49:55	17	PUMP 3.9 BBLS H20 BEHIND	14:58:24	18	PUMP MUD DISPLACEMENT	15:00:15
19	SHUT DOWN	15:36:38	20	RIG PULL TO 10450 AND CIRC	15:39:16	21	END JOB	15:42:27

Customer: FORTUNA	Job Date: 22-Aug-2008	Sales Order #: 6120954
Well Description: WELL#1-17-13N-7E	UWI:	SUPERVISOR JAMES MAEDCHE

OptiCem v6.3.3
22-Aug-08 17:25

HALLIBURTON

Field Ticket

Field Ticket Number:	6120954	Field Ticket Date:	Friday, August 22, 2008

Bill To:
FORTUNA (US) LP
337 DANIEL ZENKER DR
HORSEHEADS, NY 14845

Ship To:
FORTUNA (US) LP
Hogback Ridge, 1-17-13N-7E
2647130
S:17 T:13N R7E
RANDOLPH, UT 84064

Job Name:	Kick Off Plug
Order Type:	Streamline Order (ZOH)
Well Name:	Hogback Ridge 1-17-13N-7E
Company Code:	1100
Customer PO No.:	=
Shipping Point:	Rock Springs, WY, USA
Sales Office:	Rocky Mountains BD
Well Type:	Gas
Well Category:	Development

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
7529	CMT WHIPSTOCK PLUG BOM	1	JOB	0.00	0.00	0.00	62%	0.00
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT	300	MI	0.00	9.79	2,937.00	62%	1,116.06
	Number of Units	1						
2	MILEAGE FOR CEMENTING CREW,ZI	300	MI	0.00	5.76	1,728.00	62%	656.64
	Number of Units	1						
16094	PLUG BACK/SPOT CEMENT OR MUD,ZI	1	EA	0.00	21,072.00	21,072.00	62%	8,007.36
	DEPTH	11250						
	FEET/METERS (FT/M)		FT					
	Variants condition	0						
	Variants condition	0						
16096	Plugging Back, EA ADD HR, ZI	1	EA	0.00	1,071.00	2,142.00	62%	813.96
	HOURS	2						
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB	0.00	2,275.00	2,275.00		2,275.00
	NUMBER OF UNITS	1						
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI	1	JOB	0.00	1,649.00	1,649.00		1,649.00
	NUMBER OF DAYS	1						
114	R/A DENSOMETER W/CHART RECORDER,/JOB,Z	1	JOB	0.00	1,285.00	1,285.00		1,285.00
	NUMBER OF UNITS	1						
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	0.00	134.00	134.00		134.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	0.00	83.00	83.00		83.00
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON	300	MI	0.00	0.73	219.00		219.00
	Number of Units	1						
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	300	MI	0.00	0.24	72.00		72.00

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
	Number of Units	1						
372867	Cmt PSL - DOT Vehicle Charge, CMT	3	EA	0.00	241.00	723.00		723.00
432487	CMT, Bulk Cement Surcharge	375	EA	0.00	1.38	517.50		517.50
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES	150	MI	0.00	0.24	641.16		641.16
	NUMBER OF TONS	17.81						
76400	ZI MILEAGE,CMT MTLS DEL/RET MIN	150	MI	0.00	3.35	8,949.53	62%	3,400.82
	NUMBER OF TONS	17.81						
3965	HANDLE&DUMP SVC CHRG, CMT&ADDITIVES,ZI	386	CF	0.00	5.49	2,119.14	62%	805.27
	NUMBER OF EACH	1						
92	PORTABLE RADIOS, ZI	4	EA	0.00	323.00	1,292.00	62%	490.96
	NUMBER OF JOBS	1						
16114	BULK TRUCK, ON SITE,>6HRS,ZI	2	EA	0.00	196.00	1,568.00	62%	595.84
	HOURS OR FRACTION	10						
119534	SUCTION HOSE, 4"/FT W/HES,PER JOB ZI	150	FT	0.00	4.31	646.50	62%	245.67
	NUMBER OF JOBS	1						
100003685	CLASS G / PREMIUM	250	SK	0.00	43.48	10,870.00	62%	4,130.60
100003653	CFR-3	118	LB	0.00	14.69	1,733.42	62%	658.70
100005050	HR-5	71	LB	0.00	11.07	785.97	62%	298.67
101007446	D-AIR 3000	71	LB	0.00	10.19	723.49	62%	274.93
100003685	CLASS G / PREMIUM	125	SK	0.00	43.48	5,435.00	62%	2,065.30
100003653	CFR-3	18	LB	0.00	14.69	264.42	62%	100.48
100005050	HR-5	24	LB	0.00	11.07	265.68	62%	100.96
14745	TUBING/ROTARY SUB RNTL, 4.5",1ST DAY, ZI	1	EA	143.80	0.00	143.80	62%	54.64
	DAYS OR FRACTION (MIN1)	1						
100005050	HR-5	8	LB	0.00	11.07	88.56	62%	33.65
100003780	MICRO MATRIX RETARDER	1	GAL	0.00	104.47	104.47	62%	39.70
				Totals	***USD***	**70,467.64**	**38,978.77**	**31,488.87**

Halliburton Rep: JAMES MAEDCHE

Customer Agent: Fortuna Precision 618

Field Ticket Number: **6120954**

Field Ticket Date: **Friday, August 22, 2008**

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount

Halliburton Approval

THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE.
CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE AND ON THE ATTACHED DOCUMENTS.

X _____
Customer Signature

FIELD TICKET TOTAL: USD	31,488.87

HALLIBURTON

FORTUNA (US) LP

Hogback Ridge 1-17-13N-7E
WILDCAT
Rich County , Utah

Cement Drilling Liner

25-Aug-2008

Job Site Documents

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 6020243
Customer: FORTUNA (US) LP		**Customer Rep:** Precision 618, Fortuna	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field: WILDCAT	**City (SAP):** RANDOLPH	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Contractor: Fortuna	**Rig/Platform Name/Num:** Precision 618		
Job Purpose: Cement Drilling Liner			
Well Type: Development Well	**Job Type:** Cement Drilling Liner		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** KELLER, JOSEPH	**MBU ID Emp #:** 411791	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BRITTEN, GLENN	16	370262	EDVENSON, RYAN Hollister	16	442428	EVANS, MATTHEW A	16	343590
Jensen, Scott	8.5	0	KELLER, JOSEPH L	7.5	411791	NIXON, CHRISTOPHER Lee	16	423930
PAUL, JARED S	8.5	378432						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10207235B M	150 mile	10264849C	150 mile	10417069	150 mile	10616136C	150 mile
10784049	150 mile	10804483	150 mile	10811421	150 mile	10925849	150 mile
10951235	150 mile	11071495	150 mile	11106721	150 mile		

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
8/25/2008	16	6						
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type		**BHST**			
Job depth MD	10700. ft	**Job Depth TVD**	10700. ft		
Water Depth		**Wk Ht Above Floor**	22. ft		
Perforation Depth (MD)	*From*		**To**		

Job Times

	Date	Time	Time Zone
Called Out	25 - Aug - 2008	01:00	MST
On Location	25 - Aug - 2008	06:30	MST
Job Started	25 - Aug - 2008	16:31	MST
Job Completed	25 - Aug - 2008	19:52	MST
Departed Loc	25 - Aug - 2008	22:30	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
8 1/2" Open Hole				8.5				4040	10700	4040	10700
7" Drilling Liner	New		7.	6.276	26.		L-80	3785	10700	3785	10700
9 5/8" Intermediate Casing	New		9.625	8.755	43.5		K-55	0	4040	0	4040
5" Drill Pipe	New		5.	4.276	19.5			0	3785	0	3785

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					**Packer**					**Top Plug**			
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar					**Retainer**					**SSR plug set**			
Insert Float										**Plug Container**			
Stage Tool										**Centralizers**			

HALLIBURTON

Cementing Job Summary

Miscellaneous Materials													
Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty	

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	SPACER	TUNED SPACER III	30	bbl	10.5				
2	PRIMARY CEMENT	ECONOCEM RS1	1095.0	sacks	14.2	1.34	5.89		5.89
	0.1 %	CFR-3							
	0.45 %	HR-5							
	1 %	HALLIBURTON GEL							
	0.3 %	HALAD-344							
	2 %	SILICALITE - COMPACTED							
3	DISPLACEMENT	TUNED SPACER III	5	bbl	10.5				
4	DISPLACEMENT	WBM	250	bbl	10.4				
5	DISPLACEMENT	TUNED SPACER III	15	bbl	10.5				
6	DISPLACEMENT	WBM	40	bbl	10.4				
7	DISPLACEMENT	WATER	8	bbl	8.34				

Calculated Values		Pressures		Volumes					
Displacement	320	Shut In: Instant		Lost Returns	N	Cement Slurry	261	Pad	
Top Of Cement	3785	5 Min		Cement Returns	0	Actual Displacement	318	Treatment	
Frac Gradient		15 Min		Spacers	30	Load and Breakdown		Total Job	609

Rates

Circulating	4	Mixing	4	Displacement	4	Avg. Job	4

Cement Left In Pipe	Amount 45 ft	Reason	Shoe Joint

Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID

The Information Stated Herein Is Correct	***Customer Representative Signature***

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 355016	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 6020243
Customer: FORTUNA (US) LP		**Customer Rep:** Precision 618, Fortuna	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field: WILDCAT	**City (SAP):** RANDOLPH	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: Fortuna	**Rig/Platform Name/Num:** Precision 618		
Job Purpose: Cement Drilling Liner			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Cement Drilling Liner		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** KELLER, JOSEPH		**MBU ID Emp #:** 411791

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	08/25/2008 01:00							
Pre-Convoy Safety Meeting	08/25/2008 03:40							
Depart from Service Center or Other Site	08/25/2008 03:45							
Arrive At Loc	08/25/2008 06:30							
Assessment Of Location Safety Meeting	08/25/2008 06:40							
Rig-Up Equipment	08/25/2008 06:50							
Rig-Up Completed	08/25/2008 08:15							
Wait on Customer or Customer Sub-Contractor Equip	08/25/2008 08:30							
Wait on Customer or Customer Sub-Contractor Equipm	08/25/2008 15:45							
Pre-Job Safety Meeting	08/25/2008 16:00							
Rig-Up Equipment	08/25/2008 16:15							HES RIG UP FLOOR
Start Job	08/25/2008 16:31	1						
Pump Water	08/25/2008 16:35	2	2	5	5		400.0	FILL LINES
Pressure Test	08/25/2008 16:47	3					5800.0	
Pump Spacer	08/25/2008 16:55	4	4	30	35		650.0	PUMP TUNED SPACER III @ 10.5 LB/GAL
Pump Cement	08/25/2008 17:02	5	4	261	296		400.0	ECONOCEM RS1 14.2 LB/GAL 1.34Y, 5.92 GAL/SK

HALLIBURTON

Cementing Job Log

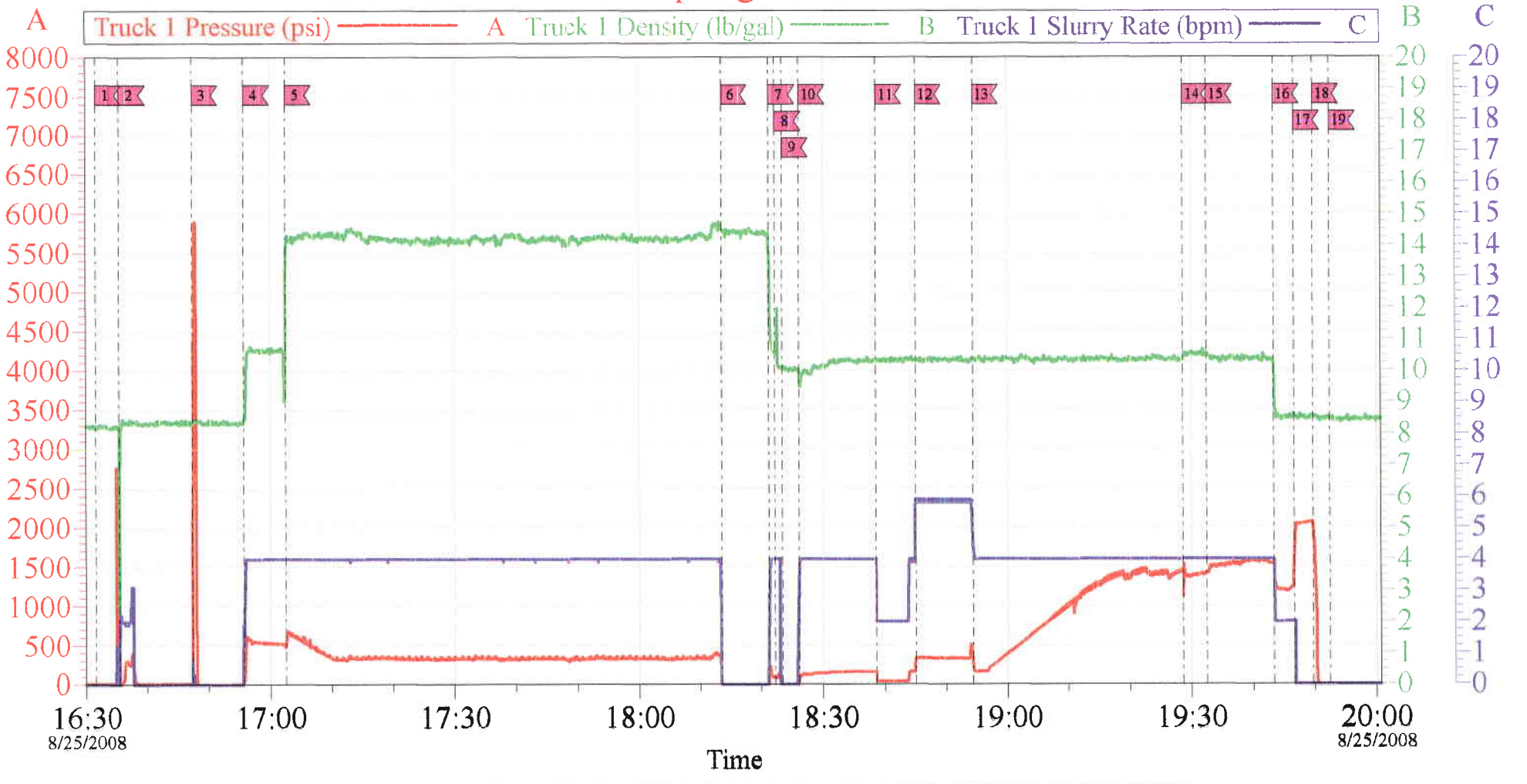
Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Shutdown	08/25/2008 18:13	6						
Drop Top Plug	08/25/2008 18:13	6						COMPANY MAN WITNESSED PLUG LEAVE
Pump Spacer	08/25/2008 18:21	7	4	5	301		200.0	PUMP TUNED SPACER III @ 10.5 LB/GAL ON TOP OF PLUG
Pump Displacement	08/25/2008 18:22	8	4	10	306		150.0	PUMPED WBM @10.4 LB/GAL
Shutdown	08/25/2008 18:23	9						H2S SIRENS WENT OFF, EVACUATED LOCATION, FALSE ALARM
Pump Displacement	08/25/2008 18:26	10	4	60	356		170.0	PUMPED WBM @10.4 LB/GAL
Slow Rate	08/25/2008 18:38	11	2	70	366		40.0	SLOWED RATE TO CATCH PLUG
Other	08/25/2008 18:45	12	6	125	421		400.0	INCREASE RATE TO CATCH CEMENT
Slow Rate	08/25/2008 18:54	13	4	255	546		200.0	CAUGHT CEMENT
Pump Spacer	08/25/2008 19:28	14	4	270	561		1400.0	PUMP TUNED SPACER III @ 10.5 LB/GAL BETWEEN LINER AND DRILL PIPE
Pump Displacement	08/25/2008 19:32	15	4	310	601		2000.0	PUMPED WBM @10.4 LB/GAL
Pump Water	08/25/2008 19:43	16	2	318	609		1200.0	PUMPED WATER TO CLEAR LINES
Bump Plug	08/25/2008 19:46	17					1289.0	PRESSURED UP TO 2000PSI
Check Floats	08/25/2008 19:49	18						FLOATS HELD WITH 2.5 BBL BACK
End Job	08/25/2008 19:52	19						
Pre-Rig Down Safety Meeting	08/25/2008 20:00							
Rig-Down Equipment	08/25/2008 20:05							
Circulate Well	08/25/2008 20:15							RIG CIRCULATED OFF TOP OF LINER WITH 3BBLS OF CEMENT BACK
Rig-Down Completed	08/25/2008 22:20							

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pre-Convoy Safety Meeting	08/25/2008 22:25							
Depart Location for Service Center or Other Site	08/25/2008 22:30							
Other	08/25/2008 23:00							JOB WENT WELL WITH FULL RETURNS THROUGHOUT JOB
Other	08/25/2008 23:30							FLOATS HELD WITH 2.5 BBLS BACK TO TRUCK

Rock Springs Cement



Local Event Log

1	START JOB	16:31:39	2	FILL LINES	16:35:32	3	PRESSURE TEST	16:47:24
4	PUMP SPACER	16:55:47	5	PUMP CEMENT	17:02:35	6	SHUTDOWN/DROP PLUG	18:13:34
7	PUMP SPACER	18:21:19	8	PUMP DISPLACEMENT	18:22:19	9	SHUTDOWN H2S	18:23:28
10	PUMP DISPLACEMENT	18:26:11	11	SLOW RATE	18:38:39	12	INCREASE RATE	18:45:03
13	SLOW RATE	18:54:24	14	PUMP SPACER	19:28:37	15	PUMP DISPLACEMENT	19:32:30
16	PUMP WATER/SLOW RATE	19:43:24	17	BUMP PLUG	19:46:42	18	CHECK FLOATS	19:49:48
19	END JOB	19:52:32						

Customer:	Fortuna	Job Date:	25-Aug-2008	Sales Order #:	6020243
Well Description:	Hogback Ridge 1-17-13N-3E	UWI:	43-033-30062	Supervisor	Joe Keller

HALLIBURTON
OptiCem v6.3.3
25-Aug-08 21:00

HALLIBURTON

Field Ticket

Field Ticket Number:	6020243	Field Ticket Date:	Saturday, August 23, 2008

Bill To:
FORTUNA (US) LP
337 DANIEL ZENKER DR
HORSEHEADS, NY 14845

Ship To:
FORTUNA (US) LP
Hogback Ridge, 1-17-13N-7E
2647130
S:17 T:13N R7E
RANDOLPH, UT 84064

Job Name:	Drilling Liner
Order Type:	Streamline Order (ZOH)
Well Name:	Hogback Ridge 1-17-13N-7E
Company Code:	1100
Customer PO No.:	=
Shipping Point:	Rock Springs, WY, USA
Sales Office:	Rocky Mountains BD
Well Type:	Gas
Well Category:	Development

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
7524	CMT DRILLING LINER BOM	1	JOB	0.00	0.00	0.00	62%	0.00
2	MILEAGE FOR CEMENTING CREW,ZI	300	MI	0.00	5.76	3,456.00	62%	1,313.28
	Number of Units	2						
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT	300	MI	0.00	9.79	2,937.00	62%	1,116.06
	Number of Units	1						
16100	ZI CMTG LINER/SHORT CSG STRING	1	EA	0.00	17,012.00	17,012.00	62%	6,464.56
	DEPTH	10700						
	FEET/METERS (FT/M)		FT					
	Variants condition	0						
16092	ADDITIONAL HOURS (PUMPING EQUIPMENT), ZI	1	EA	0.00	1,071.00	8,568.00	62%	3,255.84
	HOURS	8						
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB	0.00	2,275.00	2,275.00	62%	864.50
	NUMBER OF UNITS	1						
132	PORT. DAS W/CEMWIN;ACQUIRE W/HES, ZI	1	JOB	0.00	1,649.00	1,649.00	62%	626.62
	NUMBER OF DAYS	1						
114	R/A DENSOMETER W/CHART RECORDER,/JOB,Z	1	JOB	0.00	1,285.00	1,285.00	62%	488.30
	NUMBER OF UNITS	1						
7	ENVIRONMENTAL SURCHARGE,/JOB,ZI	1	JOB	0.00	134.00	134.00		134.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	0.00	83.00	83.00		83.00
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON	300	MI	0.00	0.73	219.00		219.00
	Number of Units	1						
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	300	MI	0.00	0.24	144.00		144.00
	Number of Units	2						

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
372867	Cmt PSL - DOT Vehicle Charge, CMT	6	EA	0.00	241.00	1,446.00		1,446.00
87605	ZI FUEL SURCHG-CMT & CMT ADDITIVES	150	MI	0.00	0.24	1,953.72		1,953.72
	NUMBER OF TONS	54.27						
76400	ZI MILEAGE,CMT MTLS DEL/RET MIN	150	MI	0.00	3.35	27,270.68	62%	10,362.86
	NUMBER OF TONS	54.27						
3965	HANDLE&DUMP SVC CHRG, CMT&ADDITIVES,ZI	1452	CF	0.00	5.49	7,971.48	62%	3,029.16
	NUMBER OF EACH	1						
92	PORTABLE RADIOS, ZI	4	EA	0.00	323.00	1,292.00	62%	490.96
	NUMBER OF JOBS	1						
16114	BULK TRUCK, ON SITE,>6HRS,ZI	1	EA	0.00	196.00	1,960.00	62%	744.80
	HOURS OR FRACTION	16						
16115	FIELD STORAGE BIN ON SITE >8 HRS,DAY,ZI	1	EA	0.00	1,344.00	1,344.00	62%	510.72
	DAYS OR PARTIAL DAY(WHOLE NO.)	1						
11941	FIELD STORAGE BIN DELIVERY, ZI	300	MI	0.00	9.79	2,937.00	62%	1,116.06
	Number of Units	1						
143	ZI-100 BBL BLENDER (4 HR)	1	EA	3,898.00	874.00	10,890.00	62%	4,138.20
	HOURS OR FRACTION (MIN4)	12						
144	ZI-100 BBL BLENDER STANBY TIME	1	H	0.00	216.00	216.00	62%	82.08
	NUMBER OF UNITS	1						
13256	TUNED SPACER	50	BBL	0.00	293.00	14,650.00	62%	5,567.00
100003681	BARITE	46	SK	0.00	31.07	1,429.22	62%	543.10
452992	ECONOCEM (TM) SYSTEM	1095	SK			69,751.58	62.%	26,505.60
100064040	HALLIBURTON GEL	19	SK	0.00	27.71	526.49	62%	200.07
100003653	CFR-3	91	LB	0.00	14.69	1,336.79	62%	507.98
100003670	HALAD-344	271	LB	0.00	81.50	22,086.50	62%	8,392.87
100005050	HR-5	451	LB	0.00	11.07	4,992.57	62%	1,897.18
100012223	SILICALITE COMPACTED	2190	LB	0.00	2.93	6,416.70	62%	2,438.35
100005050	HR-5	180	LB	0.00	11.07	1,992.60	62%	757.19

Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
3	ZI-DERRICK CHARGE	1	EA	0.00	987.00	987.00		987.00
Halliburton Rep:	JOSEPH KELLER			***Totals***	***USD***	**219,212.33**	**132,832.27**	**86,380.06**

Customer Agent: Fortuna Precision 618

Halliburton Approval

THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE.
CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE AND ON THE ATTACHED DOCUMENTS.

X _____
Customer Signature

FIELD TICKET TOTAL: USD	86,380.06

HALLIBURTON

FORTUNA ENERGY INC

Hogback Ridge 1-17-13N-7E

Rich County , Utah

Plug Service - Whipstock

29-Aug-2008

Job Site Documents

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345207	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 6140321
Customer: FORTUNA ENERGY INC		**Customer Rep:** Precision 618, Fortuna	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** RANDOLPH	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Contractor: FORTUNA	**Rig/Platform Name/Num:** PRECISION 618		
Job Purpose: Plug Service - Whipstock			
Well Type: Development Well	**Job Type:** Plug Service - Whipstock		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** GUNN, CAMERON	**MBU ID Emp #:** 397216	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BROWNELL, BRIAN Joseph	8.5	301514	CORDOBA, BENIGNO	8.5	440102	GUNN, CAMERON S	8.5	397216
JUEL, CHAD Didrik	8.5	439387	WALTHER, TIMOTHY L	8.5	450285			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10025032C	150 mile	10190462C	150 mile	10804559	150 mile	10825433	150 mile
10829092	150 mile	10925544	150 mile				

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
08/29/08	8.5	6.5						
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name			
Formation Depth (MD)	**Top**		**Bottom**
Form Type		**BHST**	
Job depth MD	11182. ft	**Job Depth TVD**	11182. ft
Water Depth		**Wk Ht Above Floor**	3. ft
Perforation Depth (MD)	*From*		**To**

Job Times

	Date	Time	Time Zone
Called Out	29 - Aug - 2008	10:00	MST
On Location	29 - Aug - 2008	15:30	MST
Job Started	29 - Aug - 2008	18:22	MST
Job Completed	29 - Aug - 2008	22:40	MST
Departed Loc	29 - Aug - 2008	23:59	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Open Hole Section				6.125				10700.	11150.		
Liner	Unknown		7.	6.276	26.		P-110	.	10700.		
Drill pipe	Unknown		4.	3.34	14.			.	11150.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					**Packer**					**Top Plug**			
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar					**Retainer**					**SSR plug set**			
Insert Float										**Plug Container**			
Stage Tool										**Centralizers**			

Miscellaneous Materials

Gelling Agt		**Conc**		**Surfactant**		**Conc**		**Acid Type**		**Qty**		*Conc*	%
Treatment Fld		**Conc**		*Inhibitor*		**Conc**		**Sand Type**		*Size*		*Qty*	

HALLIBURTON

Cementing Job Summary

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Water ahead		20.0	bbl	8033.	.0	.0	.0	
2	Plug Cement	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	175.0	sacks	17.5	.94	3.35		3.35
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	0.5 %	CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							
	0.3 %	HR-5, 50 LB SK (100005050)							
	0.3 %	D-AIR 3000 (101007446)							
	3.345 Gal	FRESH WATER							
3	Water spacer		02.0	bbl	8.33	.0	.0	.0	
4	Displacement Fluid		120.0	bbl	.	.0	.0	.0	

Calculated Values		Pressures		Volumes					
Displacement	112.7	Shut In: Instant		Lost Returns	0	*Cement Slurry*		Pad	
Top Of Cement		5 Min		Cement Returns	0	Actual Displacement	112.7	Treatment	
Frac Gradient		15 Min		Spacers	13.5	Load and Breakdown		Total Job	

Rates

Circulating	9	*Mixing*	5	*Displacement*	5	Avg. Job	5

Cement Left In Pipe	Amount	*0 ft*	*Reason*	*Shoe Joint*									
Frac Ring # 1 @		*ID*		*Frac ring # 2 @*		*ID*		*Frac Ring # 3 @*		*ID*		*Frac Ring # 4 @*		*ID*	

The Information Stated Herein Is Correct	***Customer Representative Signature***

HALLIBURTON

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 345207	**Ship To #:** 2647130	**Quote #:**	**Sales Order #:** 6140321
Customer: FORTUNA ENERGY INC		**Customer Rep:** Precision 618, Fortuna	
Well Name: Hogback Ridge	**Well #:** 1-17-13N-7E		**API/UWI #:** 43-033-30062
Field:	**City (SAP):** RANDOLPH	**County/Parish:** Rich	**State:** Utah
Legal Description: Section 17 Township 13N Range 7E			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		**Long:** E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: FORTUNA	**Rig/Platform Name/Num:** PRECISION 618		
Job Purpose: Plug Service - Whipstock			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Plug Service - Whipstock		
Sales Person: VOLNER, THOMAS	**Srvc Supervisor:** GUNN, CAMERON		**MBU ID Emp #:** 397216

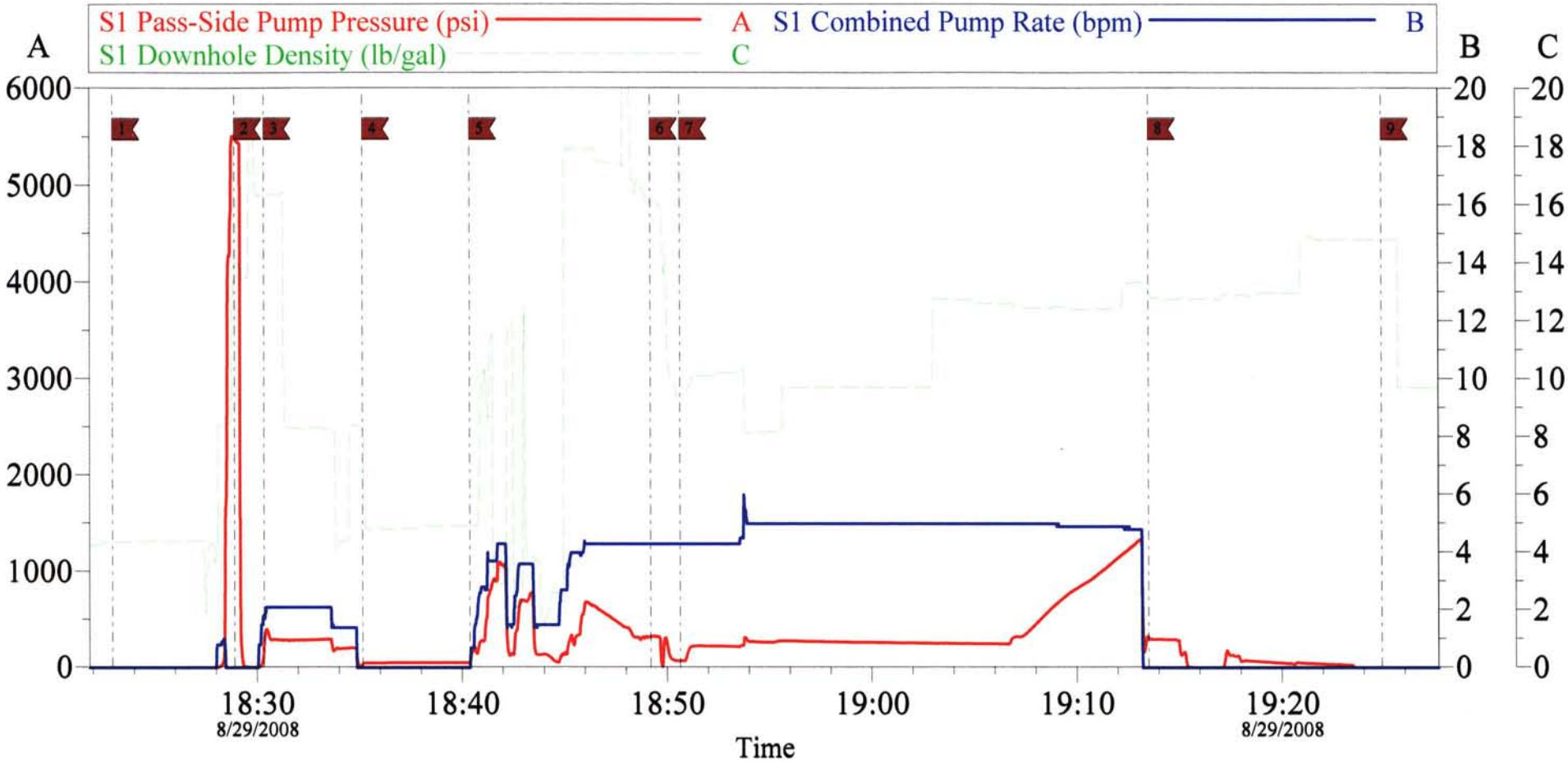
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	08/29/2008 10:00							
Depart Yard Safety Meeting	08/29/2008 11:45							
Crew Leave Yard	08/29/2008 12:00							
Arrive At Loc	08/29/2008 15:30							
Assessment Of Location Safety Meeting	08/29/2008 15:35							
Pre-Rig Up Safety Meeting	08/29/2008 16:00							
Rig-Up Equipment	08/29/2008 16:15							GROUND ONLY
Pre-Job Safety Meeting	08/29/2008 17:30							
Rig-Up Equipment	08/29/2008 17:50							
Start Job	08/29/2008 18:22							
Test Lines	08/29/2008 18:28						5000.0	
Pump Water	08/29/2008 18:30		2	10	10		257.0	PUMP WATER WITH SAPP
Shutdown	08/29/2008 18:35							
Pump Cement	08/29/2008 18:40		5	29.3	39.3		61.0	MTN G @ 17.5PPG / .094Y / 3.34GPS / 175SKS. DOWN HOLE DENSOMETER NOT WORKING. WEIGHT WAS CHECKED WITH PRESSURIZED MUD SCALES @ 17.5PPG
Pump Water	08/29/2008 18:49		5	3.5	42.8		331.0	

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump Well Fluid	08/29/2008 18:50		5	109.2	152		75.0	
Shutdown	08/29/2008 19:13							
End Job	08/29/2008 19:24							
NPT Not Due to HES - Start	08/29/2008 19:25							PULL OUT DRILL PIPE
NPT Not Due to HES - End	08/29/2008 22:30							
Pressure Up Well	08/29/2008 22:31						500.0	
Shut In Well	08/29/2008 22:40							
Pre-Rig Down Safety Meeting	08/29/2008 22:45							
Rig-Down Equipment	08/29/2008 22:55							
Safety Meeting - Departing Location	08/29/2008 23:45							
Crew Leave Location	08/29/2008 23:59							

FORTUNA HOGSBACK RIDGE 1-17-13N-7E WIPSTOCK



Local Event Log

	Intersection		SCPR	SDD	SPPP
1	START JOB	18:22:57	0.000	4.368	-7.000
2	TEST LINES	18:28:54	0.000	14.04	5486
3	PUMP SAPP WATER	18:30:20	1.700	16.35	256.6
4	SHUT DOWN	18:35:09	0.000	8.290	44.54
5	PUMP CEMENT/ DESOMETER NOT WORKING. CHECKED WITH MUD SCALES@ 17.5PPG	18:40:23	0.159	4.920	60.39
6	PUMP WATER	18:49:12	4.300	16.10	330.9
7	PUMP MUD	18:50:38	4.300	9.400	75.00
8	SHUT DOWN	19:13:31	0.000	12.95	315.6
9	END JOB	19:24:54	0.000	14.82	-2.000

Customer: FORTUNA	Job Date: 29-Aug-2008	Sales Order #: 6140321
Well Description: WHIPSTOCK	API: 43-033-30062	

OptiCem v6.3.3
29-Aug-08 23:01

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:	Patented
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	N/A
7. UNIT or CA AGREEMENT NAME:	N/A
8. WELL NAME and NUMBER:	Hogback Ridge 1-17-13N-7E
9. API NUMBER:	4303330062
10. FIELD AND POOL, OR WILDCAT:	Wildcat

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

2. NAME OF OPERATOR: Fortuna (US), LP

3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5 PHONE NUMBER: (403) 237-1448

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL, COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 8/25/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Set two plugs for future sidetrack
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP requests permission to set the following plugs within the referenced well.

TD - 12,312'

Plug #1 - 11,250 - 10750' (500')
500 x .3941 ft3 = 197ft3 + 20% = 236.46
236.46 / .96ft3/sx = 247 sxs

Plug # 2 - 10,750 - 10,450' (300')
300 x .3941 = 118ft3 + 20% = 142 ft3
142 / 1.15ft3/sx = 124 sxs

Plug # 2 will be polished to 10,700' and intermediate casing will be run according to original plan with the 7" casing top 250' overlap inside 9 5/8" first intermediate casing.

COPY SENT TO OPERATOR
Date: 9.2.2008
Initials: KS

NAME (PLEASE PRINT) Don Hamilton TITLE Agent

SIGNATURE Don Hamilton DATE 8/25/2008

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 9/2/08
BY: [signature]
* Verbal given 8/27/08

RECEIVED
AUG 27 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

MacInnes, Blaine

From: MacInnes, Blaine
Sent: Tuesday, August 26, 2008 12:19 PM
To: 'dustindoucet@utah.gov'
Subject: Sundry Notice - Fortuna Hogback Ridge 1-17-13N-7E API # 43-033-30062 Intention to Sidetrack Well

Attachments: Sundry State UT - Fortuna Hogback 1-17-13N-7E Directional Sidetrack (signed).pdf

August 26, 2008

Attn: Dustin Doucet, Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, Utah 84114-5801

Please find attached sundry notification for a proposed directional sidetrack of the subject well. Duplicate hard copy of this notice is being forwarded by mail.

Sundry State UT - Fortuna Hogb...

Respectfully,

Blaine MacInnes, P. Eng
Drilling Engineering Team Lead - South
Talisman Energy Inc.
403-693-2278 ph
403-804-3550 cel
bmacinnes@talisman-energy.com

In accordance with the Technical & Administrative Services Agreement between FUSI GP Inc. ("FUSI") and Talisman Energy Inc., I am providing Engineering services to FUSI GP Inc

RECEIVED
SEP 08 2008
DIV. OF OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER	5. LEASE DESIGNATION AND SERIAL NUMBER: Patented
	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
	7. UNIT or CA AGREEMENT NAME: ~~N/A~~ Hogback Ridge Unit
	8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E
2. NAME OF OPERATOR: Fortuna (US), LP	9. API NUMBER: 4303330062
3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5 PHONE NUMBER: (403) 237-1448	10. FIELD AND POOL, OR WILDCAT: ~~Wildcat~~

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL, COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S STATE: UTAH

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TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
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☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Sidetrack to reach revised target location
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Subsequent to plugback of the original wellbore (subject of earlier sundry notice dated August 25, 2008), Fortuna proposes to sidetrack this well from beneath the 7" liner (set/cemented to 10,700' with liner top at 3799' and prior casing set to 4040') in order to steer the well to a re-interpreted Mission Canyon target location. Attached please find a log of actual directional surveys to kick off depth (11,000') plus the appended revised wellbore path to the new target location at 14,648' MD..

The bottomhole location for the well will be 1,165.8 FNL & 715.7' FWL, NW/4 NW/4, Section 16, T13N, T7E, SLB&M with a directional reach of 1,368'. The new target is located at 14,137' TVD (7400' SS).

Fortuna requests approval for exception to spacing per R649-3-11. The location of the surface and target location as well as all points along the intended well bore path are not within 460 feet of any uncommitted tracts or the unit boundary. Duplicate originals of this notice are being forwarded through the mails.

COPY SENT TO OPERATOR

Date: 10.7.2008

Initials: KS

486421 X 41.872643
4635464 -111.163634

NAME (PLEASE PRINT) Blaine MacInnes TITLE Senior Drilling Engineer

SIGNATURE [signature] DATE 8/26/2008

(This space for State use only)

[signature]

Blaine MacInnes

(5/2000)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
(See Instructions on Reverse Side)
DATE: 10/7/08
BY: [signature]

RECEIVED
SEP 08 2008
DIV. OF OIL, GAS & MINING

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**FORTUNA (US) LP**	Slot	**HOGBACK RIDGE 1-17-13N-7E**
Area	**UTAH**	Well	**FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7**
Field	**RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)**	Wellbore	**pwb - HOGBACK RIDGE 1-17-13N-7E ST #1**
Facility	**HOGBACK RIDGE 1-17-13N-7E**	Sidetrack from	**awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00 I**

REPORT SETUP INFORMATION			
Projection System	**NAD83 / UTM Zone 12 North, US feet**	Software System	**WellArchitect® 2.0**
North Reference	**True**	User	**Abstron**
Scale	**0.999602**	Report Generated	**22/Aug/2008 at 15:29**
Convergence at slot	**0.11° West**	Database/Source file	**WADB/pwb_-_HOGBACK_RIDGE_1-17-13N-7E_ST_#1.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[USft]**	**Northing[USft]**	**Latitude**	**Longitude**
Slot Location	**0.00**	**0.00**	1594546.68	15208757.48	41°52'21.150"N	111°10'06.540"W
Facility Reference Pt			1594546.68	15208757.48	**41°52'21.150"N**	**111°10'06.540"W**
Field Reference Pt			1594546.68	15208757.48	**41°52'21.150"N**	**111°10'06.540"W**

WELLPATH DATUM			
Calculation method	**Minimum curvature**	PD #618 (KB) to Facility Vertical Datum	**6737.14ft**
Horizontal Reference Pt	**Slot**	PD #618 (KB) to Mean Sea Level	**6737.14ft**
Vertical Reference Pt	**PD #618 (KB)**	Facility Vertical Datum to Mud Line (Facility)	**0.00ft**
MD Reference Pt	**PD #618 (KB)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**89.41°**

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

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Facility	HOGBACK RIDGE 1-17-13N-7E	Sidetrack from	awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00 I

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
1574.00	1.300	63.800	1573.86	-5163.28	16.10	7.88	16.02	0.00	
1672.00	0.200	280.400	1671.85	-5065.29	16.93	8.40	16.85	1.50	
1758.00	0.100	201.600	1757.85	-4979.29	16.76	8.36	16.67	0.24	
1850.00	0.100	6.200	1849.85	-4887.29	16.74	8.36	16.65	0.22	
1942.00	0.300	120.700	1941.85	-4795.29	16.95	8.32	16.87	0.38	
2037.00	1.000	125.300	2036.85	-4700.29	17.84	7.72	17.76	0.74	
2126.00	0.600	171.000	2125.84	-4611.30	18.54	6.81	18.47	0.81	
2224.00	0.600	116.900	2223.83	-4513.31	19.07	6.07	19.00	0.56	
2314.00	0.500	119.700	2313.83	-4423.31	19.82	5.66	19.77	0.12	
2406.00	0.400	144.300	2405.83	-4331.31	20.35	5.20	20.30	0.23	
2502.00	0.400	109.900	2501.82	-4235.32	20.86	4.81	20.81	0.25	
2597.00	0.600	63.100	2596.82	-4140.32	21.62	4.93	21.57	0.46	
2685.00	0.300	81.400	2684.82	-4052.32	22.26	5.17	22.21	0.37	
2762.00	1.500	116.500	2761.81	-3975.33	23.36	4.75	23.31	1.64	
2798.00	1.300	114.100	2797.80	-3939.34	24.15	4.37	24.10	0.58	
2900.00	1.300	122.500	2899.77	-3837.37	26.17	3.28	26.13	0.19	
2992.00	0.800	97.200	2991.75	-3745.39	27.68	2.64	27.65	0.73	
3085.00	0.700	215.000	3084.75	-3652.39	27.99	2.09	27.97	1.38	
3161.00	0.300	208.300	3160.75	-3576.39	27.62	1.53	27.61	0.53	
3192.00	0.300	226.200	3191.75	-3545.39	27.52	1.41	27.51	0.30	
3223.00	0.200	224.800	3222.75	-3514.39	27.43	1.31	27.42	0.32	
3254.00	0.400	221.300	3253.75	-3483.39	27.32	1.19	27.31	0.65	
3284.00	0.400	225.500	3283.75	-3453.39	27.17	1.04	27.16	0.10	
3315.00	0.400	218.500	3314.74	-3422.40	27.02	0.88	27.02	0.16	
3345.00	0.400	226.900	3344.74	-3392.40	26.88	0.73	26.88	0.20	
3377.00	0.500	215.000	3376.74	-3360.40	26.72	0.54	26.71	0.43	
3409.00	0.600	221.000	3408.74	-3328.40	26.53	0.29	26.52	0.36	
3441.00	0.700	227.600	3440.74	-3296.40	26.27	0.04	26.27	0.39	
3469.00	0.600	221.700	3468.74	-3268.40	26.04	-0.19	26.05	0.43	
3501.00	0.700	225.900	3500.74	-3236.40	25.79	-0.45	25.79	0.35	
3531.00	0.800	224.500	3530.73	-3206.41	25.51	-0.73	25.52	0.34	
3563.00	0.900	220.600	3562.73	-3174.41	25.18	-1.08	25.20	0.36	
3593.00	1.000	224.100	3592.73	-3144.41	24.84	-1.44	24.86	0.39	
3624.00	1.100	218.100	3623.72	-3113.42	24.47	-1.87	24.49	0.48	
3655.00	1.000	223.100	3654.71	-3082.43	24.09	-2.30	24.12	0.44	
3686.00	0.700	228.700	3685.71	-3051.43	23.76	-2.63	23.79	1.00	
3716.00	0.500	228.300	3715.71	-3021.43	23.53	-2.83	23.56	0.67	
3747.00	0.600	233.300	3746.71	-2990.43	23.29	-3.02	23.33	0.36	
3779.00	0.600	236.100	3778.71	-2958.43	23.02	-3.21	23.05	0.09	
3810.00	0.700	233.600	3809.70	-2927.44	22.73	-3.42	22.77	0.34	
3839.00	0.700	243.800	3838.70	-2898.44	22.43	-3.60	22.46	0.43	
3870.00	0.900	234.000	3869.70	-2867.44	22.06	-3.83	22.10	0.78	
3901.00	0.800	243.600	3900.70	-2836.44	21.66	-4.07	21.71	0.56	
3932.00	0.600	241.700	3931.69	-2805.45	21.32	-4.24	21.37	0.65	
3964.00	0.500	250.400	3963.69	-2773.45	21.04	-4.37	21.09	0.41	

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SEP 08 2008
DIV. OF OIL, GAS & MI

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE 1-17-13N-7E
Area	UTAH	Well	FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7
Field	RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)	Wellbore	pwb - HOGBACK RIDGE 1-17-13N-7E ST #1
Facility	HOGBACK RIDGE 1-17-13N-7E	Sidetrack from	awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00 I

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
3977.00	0.200	310.600	3976.69	-2760.45	20.97	-4.37	21.02	3.36	
4010.00	0.200	246.300	4009.69	-2727.45	20.88	-4.36	20.92	0.65	
4038.00	0.100	49.700	4037.69	-2699.45	20.85	-4.36	20.90	1.06	
4066.00	0.100	254.600	4065.69	-2671.45	20.85	-4.35	20.89	0.70	
4097.00	0.300	69.400	4096.69	-2640.45	20.90	-4.33	20.94	1.29	
4189.00	0.300	20.600	4188.69	-2548.45	21.21	-4.02	21.25	0.27	
4282.00	0.300	1.600	4281.69	-2455.45	21.31	-3.55	21.34	0.11	
4375.00	0.200	147.100	4374.69	-2362.45	21.40	-3.44	21.44	0.51	
4470.00	0.300	218.100	4469.69	-2267.45	21.34	-3.78	21.38	0.32	
4559.00	0.200	80.700	4558.69	-2178.45	21.34	-3.93	21.39	0.53	
4653.00	0.400	69.000	4652.69	-2084.45	21.81	-3.79	21.85	0.22	
4744.00	0.300	86.300	4743.68	-1993.46	22.35	-3.66	22.39	0.16	
4835.00	0.300	95.100	4834.68	-1902.46	22.82	-3.67	22.86	0.05	
4927.00	0.200	109.900	4926.68	-1810.46	23.21	-3.74	23.25	0.13	
5020.00	0.300	131.000	5019.68	-1717.46	23.55	-3.96	23.59	0.14	
5116.00	0.300	110.900	5115.68	-1621.46	23.97	-4.21	24.02	0.11	
5205.00	0.200	120.400	5204.68	-1532.46	24.32	-4.37	24.37	0.12	
5296.00	0.500	74.700	5295.68	-1441.46	24.84	-4.35	24.89	0.43	
5388.00	0.500	78.200	5387.67	-1349.47	25.62	-4.16	25.67	0.03	
5482.00	0.100	332.100	5481.67	-1255.47	25.99	-4.00	26.03	0.57	
5574.00	0.200	82.100	5573.67	-1163.47	26.11	-3.91	26.15	0.27	
5670.00	0.100	307.200	5669.67	-1067.47	26.21	-3.84	26.25	0.29	
5760.00	0.400	49.100	5759.67	-977.47	26.39	-3.59	26.43	0.48	
5855.00	0.400	59.600	5854.67	-882.47	26.93	-3.20	26.96	0.08	
5944.00	0.200	31.100	5943.67	-793.47	27.28	-2.91	27.31	0.27	
6040.00	0.200	281.400	6039.67	-697.47	27.20	-2.73	27.23	0.34	
6130.00	0.300	28.000	6129.67	-607.47	27.16	-2.49	27.19	0.45	
6224.00	0.200	179.500	6223.67	-513.47	27.28	-2.44	27.31	0.52	
6311.00	0.400	47.300	6310.67	-426.47	27.51	-2.39	27.53	0.64	
6406.00	0.300	39.900	6405.67	-331.47	27.91	-1.97	27.93	0.12	
6495.00	0.300	47.300	6494.66	-242.48	28.24	-1.63	28.25	0.04	
6590.00	0.400	74.000	6589.66	-147.48	28.74	-1.37	28.76	0.20	
6665.00	0.300	50.800	6664.66	-72.48	29.15	-1.18	29.16	0.23	
6759.00	0.100	7.600	6758.66	21.52	29.35	-0.94	29.36	0.25	
6848.00	0.200	22.000	6847.66	110.52	29.42	-0.72	29.43	0.12	
6943.00	0.300	339.400	6942.66	205.52	29.40	-0.33	29.40	0.21	
7031.00	0.100	57.500	7030.66	293.52	29.39	-0.08	29.39	0.34	
7128.00	0.100	14.200	7127.66	390.52	29.48	0.05	29.48	0.08	
7218.00	0.300	213.900	7217.66	480.52	29.37	-0.07	29.37	0.44	
7313.00	0.100	137.600	7312.66	575.52	29.28	-0.34	29.29	0.31	
7405.00	0.200	24.100	7404.66	667.52	29.40	-0.25	29.41	0.28	
7502.00	0.400	283.800	7501.66	764.52	29.14	-0.01	29.15	0.49	
7591.00	0.800	62.100	7590.65	853.51	29.40	0.35	29.39	1.27	
7685.00	0.900	63.800	7684.64	947.50	30.64	0.98	30.64	0.11	
7781.00	0.700	84.600	7780.63	1043.49	31.91	1.37	31.90	0.36	

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE 1-17-13N-7E
Area	UTAH	Well	FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7
Field	RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)	Wellbore	pwb - HOGBACK RIDGE 1-17-13N-7E ST #1
Facility	HOGBACK RIDGE 1-17-13N-7E	Sidetrack from	awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00

WELLPATH DATA (250 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
7876.00	0.400	48.300	7875.63	1138.49	32.74	1.65	32.72	0.47	
7959.00	0.200	9.700	7958.63	1221.49	32.98	1.98	32.96	0.33	
8057.00	0.100	74.700	8056.63	1319.49	33.09	2.17	33.07	0.19	
8147.00	0.700	16.000	8146.63	1409.49	33.33	2.72	33.30	0.73	
8238.00	3.200	71.200	8237.57	1500.43	35.90	4.08	35.86	3.14	
8329.00	8.100	69.400	8328.10	1590.96	44.34	7.15	44.27	5.39	
8422.00	12.800	76.500	8419.54	1682.40	60.55	11.87	60.43	5.23	
8514.00	16.500	80.300	8508.53	1771.39	83.39	16.45	83.23	4.15	
8610.00	18.200	82.100	8600.16	1863.02	111.72	20.81	111.52	1.86	
8700.00	21.100	86.300	8684.92	1947.78	141.85	23.78	141.61	3.58	
8788.00	20.600	88.400	8767.15	2030.01	173.14	25.24	172.89	1.02	
8890.00	22.900	91.600	8861.89	2124.75	210.92	25.18	210.67	2.54	
8986.00	28.600	89.800	8948.32	2211.18	252.60	24.74	252.36	5.99	
9083.00	32.300	88.400	9031.93	2294.79	301.74	25.55	301.50	3.88	
9175.00	35.700	88.100	9108.19	2371.05	353.17	27.12	352.91	3.70	
9269.00	37.800	86.600	9183.51	2446.37	409.37	29.74	409.09	2.43	
9364.00	37.400	86.300	9258.77	2521.63	467.26	33.33	466.94	0.46	
9455.00	37.900	87.700	9330.82	2593.68	522.79	36.24	522.45	1.09	
9544.00	37.400	89.500	9401.29	2664.15	577.14	37.57	576.79	1.36	
9644.00	38.400	89.500	9480.20	2743.06	638.57	38.11	638.21	1.00	
9738.00	38.600	91.900	9553.77	2816.63	697.06	37.39	696.72	1.60	
9833.00	40.300	91.200	9627.12	2889.98	757.38	35.76	757.05	1.85	
9925.00	40.600	91.900	9697.13	2959.99	817.03	34.15	816.72	0.59	
10020.00	39.300	91.900	9769.96	3032.82	877.97	32.12	877.69	1.37	
10114.00	40.600	91.900	9842.02	3104.88	938.27	30.12	938.01	1.38	
10191.00	39.900	90.900	9900.79	3163.65	987.99	28.90	987.75	1.24	
10282.00	39.700	92.300	9970.70	3233.56	1046.20	27.28	1045.97	1.01	
10370.00	38.100	94.700	10039.19	3302.05	1101.31	23.93	1101.12	2.50	
10476.00	37.200	95.000	10123.12	3385.98	1165.76	18.45	1165.63	0.87	
10567.00	35.400	92.600	10196.46	3459.32	1219.46	14.86	1219.38	2.52	
10661.00	33.600	92.900	10273.92	3536.78	1272.61	12.31	1272.55	1.92	
10700.00†	33.054	92.489	10306.51	3569.37	1294.01	11.30	1293.96	1.52	7" CASING POINT (EST.)
10754.00	32.300	91.900	10351.96	3614.82	1323.13	10.18	1323.09	1.52	
10854.00	30.900	91.600	10437.13	3699.99	1375.48	8.58	1375.46	1.41	
10954.00	28.900	87.700	10523.82	3786.68	1425.30	8.83	1425.28	2.79	
11000.00	27.720	86.667	10564.32	3827.18	1447.10	9.90	1447.07	0.00	TIE-ON / SIDETRACK KICK OFF POINT
11030.00†	24.921	89.101	10591.21	3854.07	1460.39	10.41	1460.36	10.00	
11033.65	24.583	89.433	10594.52	3857.38	1461.92	10.43	1461.89	10.00	END 10.00deg/100ft DROP+RIGHT TURN OFF PLUG
11060.00†	23.793	89.405	10618.56	3881.42	1472.72	10.54	1472.69	3.00	
11090.00†	22.893	89.371	10646.10	3908.96	1484.60	10.66	1484.57	3.00	
11120.00†	21.993	89.335	10673.83	3936.69	1496.06	10.79	1496.02	3.00	
11150.00†	21.093	89.296	10701.74	3964.60	1507.07	10.92	1507.04	3.00	
11180.00†	20.193	89.253	10729.81	3992.67	1517.65	11.06	1517.61	3.00	
11210.00†	19.293	89.207	10758.05	4020.91	1527.78	11.19	1527.75	3.00	
11240.00†	18.394	89.156	10786.44	4049.30	1537.47	11.33	1537.44	3.00	

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE 1-17-13N-7E
Area	UTAH	Well	FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7
Field	RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)	Wellbore	pwb - HOGBACK RIDGE 1-17-13N-7E ST #1
Facility	HOGBACK RIDGE 1-17-13N-7E	Sidetrack from	awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00 I

WELLPATH DATA (250 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
11270.00†	17.494	89.100	10814.98	4077.84	1546.71	11.47	1546.68	3.00	
11300.00†	16.594	89.039	10843.66	4106.52	1555.51	11.61	1555.47	3.00	
11330.00†	15.694	88.970	10872.48	4135.34	1563.85	11.76	1563.81	3.00	
11360.00†	14.794	88.893	10901.42	4164.28	1571.73	11.91	1571.70	3.00	
11390.00†	13.895	88.807	10930.49	4193.35	1579.17	12.05	1579.13	3.00	
11420.00†	12.995	88.709	10959.66	4222.52	1586.14	12.21	1586.10	3.00	
11450.00†	12.095	88.597	10988.95	4251.81	1592.66	12.36	1592.61	3.00	
11480.00†	11.196	88.467	11018.33	4281.19	1598.71	12.51	1598.67	3.00	
11510.00†	10.296	88.314	11047.80	4310.66	1604.30	12.67	1604.26	3.00	
11540.00†	9.397	88.133	11077.36	4340.22	1609.43	12.83	1609.39	3.00	
11570.00†	8.497	87.914	11106.99	4369.85	1614.10	12.99	1614.05	3.00	
11600.00†	7.598	87.643	11136.70	4399.56	1618.30	13.15	1618.25	3.00	
11630.00†	6.699	87.300	11166.47	4429.33	1622.03	13.32	1621.98	3.00	
11660.00†	5.800	86.851	11196.29	4459.15	1625.29	13.48	1625.24	3.00	
11690.00†	4.902	86.238	11226.16	4489.02	1628.08	13.65	1628.03	3.00	
11720.00†	4.005	85.351	11256.06	4518.92	1630.41	13.82	1630.35	3.00	
11750.00†	3.109	83.954	11286.01	4548.87	1632.26	13.99	1632.21	3.00	
11780.00†	2.216	81.430	11315.97	4578.83	1633.65	14.16	1633.59	3.00	
11810.00†	1.334	75.541	11345.96	4608.82	1634.56	14.33	1634.50	3.00	
11840.00†	0.516	49.390	11375.96	4638.82	1635.00	14.51	1634.94	3.00	
11870.00†	0.611	303.647	11405.95	4668.81	1634.98	14.69	1634.91	3.00	
11900.00†	1.449	283.610	11435.95	4698.81	1634.48	14.86	1634.41	3.00	
11930.00†	2.334	278.464	11465.93	4728.79	1633.50	15.04	1633.44	3.00	
11960.00†	3.227	276.155	11495.90	4758.76	1632.06	15.22	1631.99	3.00	
11990.00†	4.123	274.848	11525.84	4788.70	1630.15	15.41	1630.08	3.00	
12020.00†	5.021	274.007	11555.74	4818.60	1627.77	15.59	1627.69	3.00	
12050.00†	5.919	273.421	11585.60	4848.46	1624.92	15.77	1624.84	3.00	
12080.00†	6.818	272.988	11615.42	4878.28	1621.60	15.96	1621.52	3.00	
12110.00†	7.717	272.656	11645.18	4908.04	1617.81	16.14	1617.73	3.00	
12140.00†	8.616	272.393	11674.87	4937.73	1613.55	16.33	1613.47	3.00	
12170.00†	9.515	272.180	11704.50	4967.36	1608.83	16.52	1608.75	3.00	
12200.00†	10.415	272.002	11734.04	4996.90	1603.65	16.71	1603.56	3.00	
12219.63	11.003	271.902	11753.33	5016.19	1600.00	16.83	1599.91	3.00	END 3.00deg/100ft BUILD TO 11.00deg INC
12230.00†	11.003	271.902	11763.51	5026.37	1598.03	16.90	1597.94	0.00	
12260.00†	11.003	271.902	11792.96	5055.82	1592.30	17.09	1592.21	0.00	
12290.00†	11.003	271.902	11822.41	5085.27	1586.58	17.28	1586.49	0.00	
12320.00†	11.003	271.902	11851.86	5114.72	1580.86	17.47	1580.77	0.00	
12350.00†	11.003	271.902	11881.30	5144.16	1575.14	17.66	1575.04	0.00	
12380.00†	11.003	271.902	11910.75	5173.61	1569.42	17.85	1569.32	0.00	
12410.00†	11.003	271.902	11940.20	5203.06	1563.70	18.04	1563.60	0.00	
12440.00†	11.003	271.902	11969.65	5232.51	1557.98	18.23	1557.88	0.00	
12470.00†	11.003	271.902	11999.10	5261.96	1552.26	18.42	1552.15	0.00	
12500.00†	11.003	271.902	12028.55	5291.41	1546.54	18.61	1546.43	0.00	
12530.00†	11.003	271.902	12058.00	5320.86	1540.82	18.80	1540.71	0.00	
12560.00†	11.003	271.902	12087.44	5350.30	1535.10	18.99	1534.98	0.00	

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE 1-17-13N-7E
Area	UTAH	Well	FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7
Field	RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)	Wellbore	pwb - HOGBACK RIDGE 1-17-13N-7E ST #1
Facility	HOGBACK RIDGE 1-17-13N-7E	Sidetrack from	awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00 I

WELLPATH DATA (250 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
12590.00†	11.003	271.902	12116.89	5379.75	1529.38	19.18	1529.26	0.00	
12620.00†	11.003	271.902	12146.34	5409.20	1523.66	19.37	1523.54	0.00	
12650.00†	11.003	271.902	12175.79	5438.65	1517.94	19.56	1517.82	0.00	
12680.00†	11.003	271.902	12205.24	5468.10	1512.22	19.75	1512.09	0.00	
12710.00†	11.003	271.902	12234.69	5497.55	1506.50	19.94	1506.37	0.00	
12740.00†	11.003	271.902	12264.13	5526.99	1500.77	20.13	1500.65	0.00	
12770.00†	11.003	271.902	12293.58	5556.44	1495.05	20.32	1494.92	0.00	
12800.00†	11.003	271.902	12323.03	5585.89	1489.33	20.51	1489.20	0.00	
12830.00†	11.003	271.902	12352.48	5615.34	1483.61	20.70	1483.48	0.00	
12860.00†	11.003	271.902	12381.93	5644.79	1477.89	20.89	1477.76	0.00	
12890.00†	11.003	271.902	12411.38	5674.24	1472.17	21.08	1472.03	0.00	
12920.00†	11.003	271.902	12440.83	5703.69	1466.45	21.27	1466.31	0.00	
12950.00†	11.003	271.902	12470.27	5733.13	1460.73	21.46	1460.59	0.00	
12980.00†	11.003	271.902	12499.72	5762.58	1455.01	21.65	1454.86	0.00	
13010.00†	11.003	271.902	12529.17	5792.03	1449.29	21.84	1449.14	0.00	
13040.00†	11.003	271.902	12558.62	5821.48	1443.57	22.03	1443.42	0.00	
13070.00†	11.003	271.902	12588.07	5850.93	1437.85	22.22	1437.69	0.00	
13100.00†	11.003	271.902	12617.52	5880.38	1432.13	22.41	1431.97	0.00	
13130.00†	11.003	271.902	12646.97	5909.83	1426.41	22.60	1426.25	0.00	
13160.00†	11.003	271.902	12676.41	5939.27	1420.69	22.79	1420.53	0.00	
13190.00†	11.003	271.902	12705.86	5968.72	1414.97	22.98	1414.80	0.00	
13220.00†	11.003	271.902	12735.31	5998.17	1409.24	23.17	1409.08	0.00	
13250.00†	11.003	271.902	12764.76	6027.62	1403.52	23.36	1403.36	0.00	
13280.00†	11.003	271.902	12794.21	6057.07	1397.80	23.55	1397.63	0.00	
13310.00†	11.003	271.902	12823.66	6086.52	1392.08	23.74	1391.91	0.00	
13340.00†	11.003	271.902	12853.10	6115.96	1386.36	23.93	1386.19	0.00	
13370.00†	11.003	271.902	12882.55	6145.41	1380.64	24.12	1380.47	0.00	
13400.00†	11.003	271.902	12912.00	6174.86	1374.92	24.31	1374.74	0.00	
13430.00†	11.003	271.902	12941.45	6204.31	1369.20	24.50	1369.02	0.00	
13460.00†	11.003	271.902	12970.90	6233.76	1363.48	24.69	1363.30	0.00	
13490.00†	11.003	271.902	13000.35	6263.21	1357.76	24.88	1357.57	0.00	
13520.00†	11.003	271.902	13029.80	6292.66	1352.04	25.07	1351.85	0.00	
13550.00†	11.003	271.902	13059.24	6322.10	1346.32	25.26	1346.13	0.00	
13580.00†	11.003	271.902	13088.69	6351.55	1340.60	25.45	1340.41	0.00	
13610.00†	11.003	271.902	13118.14	6381.00	1334.88	25.64	1334.68	0.00	
13640.00†	11.003	271.902	13147.59	6410.45	1329.16	25.83	1328.96	0.00	
13670.00†	11.003	271.902	13177.04	6439.90	1323.44	26.02	1323.24	0.00	
13700.00†	11.003	271.902	13206.49	6469.35	1317.71	26.21	1317.51	0.00	
13730.00†	11.003	271.902	13235.93	6498.79	1311.99	26.40	1311.79	0.00	
13760.00†	11.003	271.902	13265.38	6528.24	1306.27	26.59	1306.07	0.00	
13790.00†	11.003	271.902	13294.83	6557.69	1300.55	26.78	1300.35	0.00	
13820.00†	11.003	271.902	13324.28	6587.14	1294.83	26.97	1294.62	0.00	
13850.00†	11.003	271.902	13353.73	6616.59	1289.11	27.16	1288.90	0.00	
13880.00†	11.003	271.902	13383.18	6646.04	1283.39	27.35	1283.18	0.00	
13910.00†	11.003	271.902	13412.63	6675.49	1277.67	27.54	1277.45	0.00	

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	FORTUNA (US) LP	Slot	HOGBACK RIDGE 1-17-13N-7E
Area	UTAH	Well	FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7
Field	RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)	Wellbore	pwb - HOGBACK RIDGE 1-17-13N-7E ST #1
Facility	HOGBACK RIDGE 1-17-13N-7E	Sidetrack from	awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00 I

WELLPATH DATA (250 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
13940.00†	11.003	271.902	13442.07	6704.93	1271.95	27.73	1271.73	0.00	
13970.00†	11.003	271.902	13471.52	6734.38	1266.23	27.92	1266.01	0.00	
14000.00†	11.003	271.902	13500.97	6763.83	1260.51	28.11	1260.29	0.00	
14030.00†	11.003	271.902	13530.42	6793.28	1254.79	28.30	1254.56	0.00	
14060.00†	11.003	271.902	13559.87	6822.73	1249.07	28.49	1248.84	0.00	
14090.00†	11.003	271.902	13589.32	6852.18	1243.35	28.68	1243.12	0.00	
14120.00†	11.003	271.902	13618.76	6881.62	1237.63	28.87	1237.39	0.00	
14150.00†	11.003	271.902	13648.21	6911.07	1231.91	29.06	1231.67	0.00	
14180.00†	11.003	271.902	13677.66	6940.52	1226.18	29.25	1225.95	0.00	
14210.00†	11.003	271.902	13707.11	6969.97	1220.46	29.44	1220.23	0.00	
14240.00†	11.003	271.902	13736.56	6999.42	1214.74	29.63	1214.50	0.00	
14270.00†	11.003	271.902	13766.01	7028.87	1209.02	29.82	1208.78	0.00	
14300.00†	11.003	271.902	13795.46	7058.32	1203.30	30.01	1203.06	0.00	
14330.00†	11.003	271.902	13824.90	7087.76	1197.58	30.20	1197.33	0.00	
14360.00†	11.003	271.902	13854.35	7117.21	1191.86	30.39	1191.61	0.00	
14390.00†	11.003	271.902	13883.80	7146.66	1186.14	30.58	1185.89	0.00	
14420.00†	11.003	271.902	13913.25	7176.11	1180.42	30.77	1180.17	0.00	
14450.00†	11.003	271.902	13942.70	7205.56	1174.70	30.96	1174.44	0.00	
14480.00†	11.003	271.902	13972.15	7235.01	1168.98	31.15	1168.72	0.00	
14510.00†	11.003	271.902	14001.59	7264.45	1163.26	31.34	1163.00	0.00	
14540.00†	11.003	271.902	14031.04	7293.90	1157.54	31.53	1157.27	0.00	
14570.00†	11.003	271.902	14060.49	7323.35	1151.82	31.72	1151.55	0.00	
14600.00†	11.003	271.902	14089.94	7352.80	1146.10	31.91	1145.83	0.00	
14630.00†	11.003	271.902	14119.39	7382.25	1140.37	32.10	1140.10	0.00	
14648.08	11.003	271.902	14137.14[1]	7400.00	1136.93	32.22	1136.66	0.00	PROPOSED TOTAL DEPTH TARGET - 100ft RADIUS

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**FORTUNA (US) LP**	Slot	**HOGBACK RIDGE 1-17-13N-7E**
Area	**UTAH**	Well	**FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7**
Field	**RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)**	Wellbore	**pwb - HOGBACK RIDGE 1-17-13N-7E ST #1**
Facility	**HOGBACK RIDGE 1-17-13N-7E**	Sidetrack from	**awb - HOGBACK RIDGE 1-17-13N-7E** at **11000.00** I

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1-17-13N-7E ST #1 v2.A TD TARGET - 100ft RADIUS (20-Aug-2008)		12437.14	0.00	0.00	**1594546.67**	**15208757.48**	41°52'21.150"N	111°10'06.540"W	circle
1) 1-17-13N-7E ST #1 v3.A TD TARGET - 100ft RADIUS (22-Aug-2008)	14648.08	14137.14	32.22	1136.66	1595682.94	15208787.45	**41°52'21.468"N**	**111°09'51.516"W**	circle

SURVEY PROGRAM

Ref Wellbore: pwb - HOGBACK RIDGE 1-17-13N-7E ST #1 Ref Wellpath: 1-17-13N-7E Plan (22-Aug-2008) ST #1 v3..

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
23.80	4038.00	NaviTrak (Standard)		awb - HOGBACK RIDGE 1-17-13N-7E
4038.00	11000.00	NaviTrak (Standard)		awb - HOGBACK RIDGE 1-17-13N-7E
11000.00	14648.08	NaviTrak (Standard)		pwb - HOGBACK RIDGE 1-17-13N-7E ST #1

Planned Wellpath Report

1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**FORTUNA (US) LP**	Slot	**HOGBACK RIDGE 1-17-13N-7E**
Area	**UTAH**	Well	**FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7**
Field	**RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)**	Wellbore	**pwb - HOGBACK RIDGE 1-17-13N-7E ST #1**
Facility	**HOGBACK RIDGE 1-17-13N-7E**	Sidetrack from	**awb - HOGBACK RIDGE 1-17-13N-7E at 11000.00 I**

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
10700.00	33.054	92.489	10306.51	7" CASING POINT (EST.)

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
11000.00	27.720	86.667	10564.32	TIE-ON / SIDETRACK KICK OFF POINT
11033.65	24.583	89.433	10594.52	END 10.00deg/100ft DROP+RIGHT TURN OFF PLUG
12219.63	11.003	271.902	11753.33	END 3.00deg/100ft BUILD TO 11.00deg INC
14648.08	11.003	271.902	14137.14	PROPOSED TOTAL DEPTH TARGET - 100ft RADIUS

COMMENTS

Wellpath general comments

22-Aug-2008: ST #1 v3.A - Designed as per e-mail from Keith Glenday (Geology) on 21-Aug-2008 below

---

From: Glenday, Keith
Sent: Thursday, August 21, 2008 5:20 PM
To: Cameron, Stuart; Korithoski, Mike; 'Kadylo, Dave'
Cc: Quartero, Bob; Deutscher, Ross; Doughty, Ted; Wall, Calvin
Subject: Hogback Ridge Directional Plan
Gents,
Ted and I have reinterpreted the structural model at Hogback Ridge. The good news is we don't have to go so far back to the west, the bad news is we have to go deeper. New bottomhole target is -7400' at Latitude 41.87263 and Longitude 111.16431. I apologize for the late change but we just finished the interpretation.
If you need any more information give me a call.
Thanks.
Keith

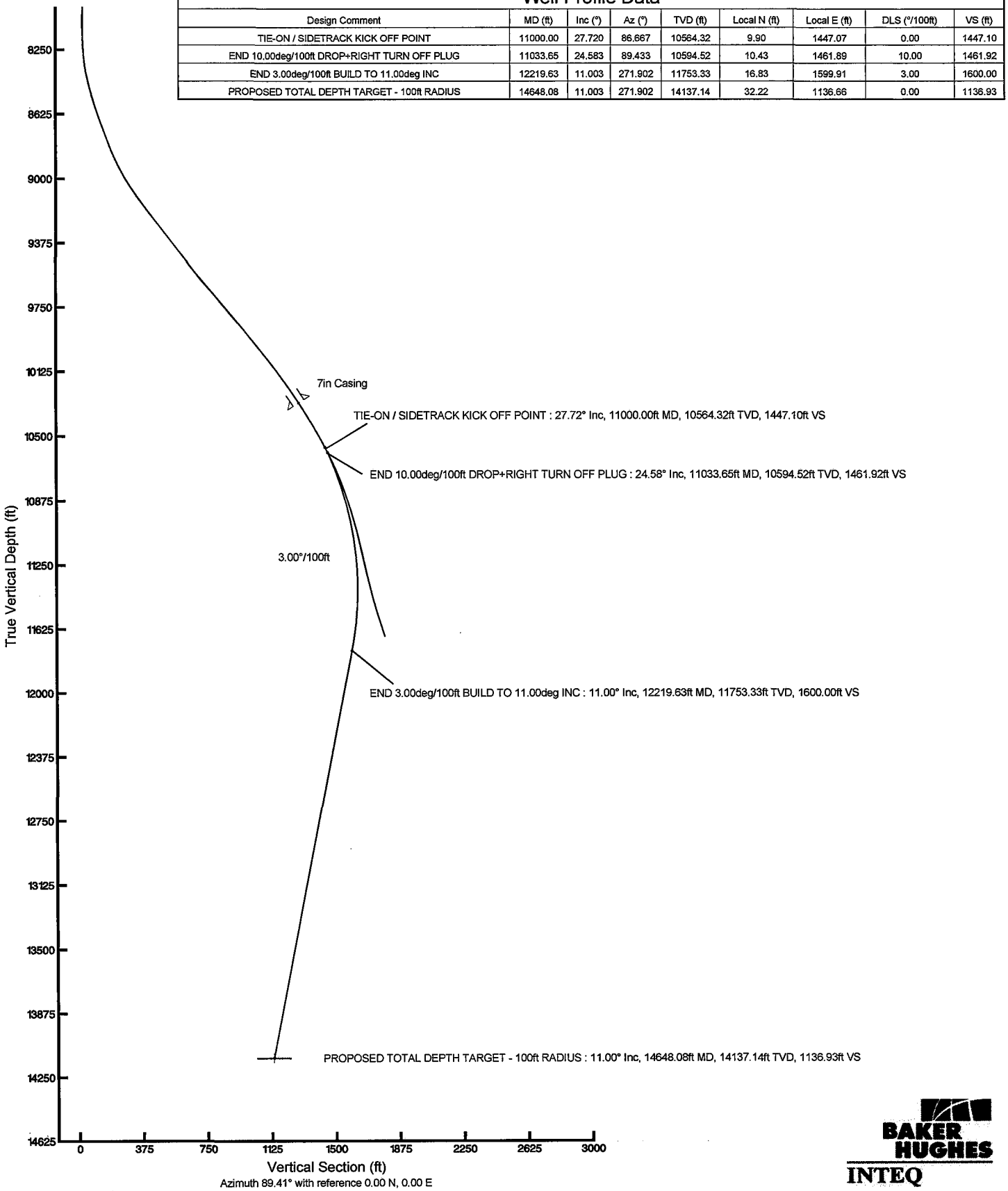
FORTUNA (US) LP

Location:	UTAH	Slot:	HOGBACK RIDGE 1-17-13N-7E
Field:	RICH COUNTY (NAD83 / UTM Zone 12 North, US feet)	Well:	FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E ST #1
Facility:	HOGBACK RIDGE 1-17-13N-7E	Wellbore:	pwb - HOGBACK RIDGE 1-17-13N-7E ST #1

Plot reference wellpath is 1-17-13N-7E Plan (22-Aug-2008) ST #1 v3.A	
True vertical depths are referenced to PD #618 (KB)	Grid System: NAD83 / UTM Zone 12 North, US feet
Measured depths are referenced to PD #618 (KB)	North Reference: True north
PD #618 (KB) to Mean Sea Level: 6737.14 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: HOGBACK RIDGE 1-17-13N-7E): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: abstron on 22/Aug/2008

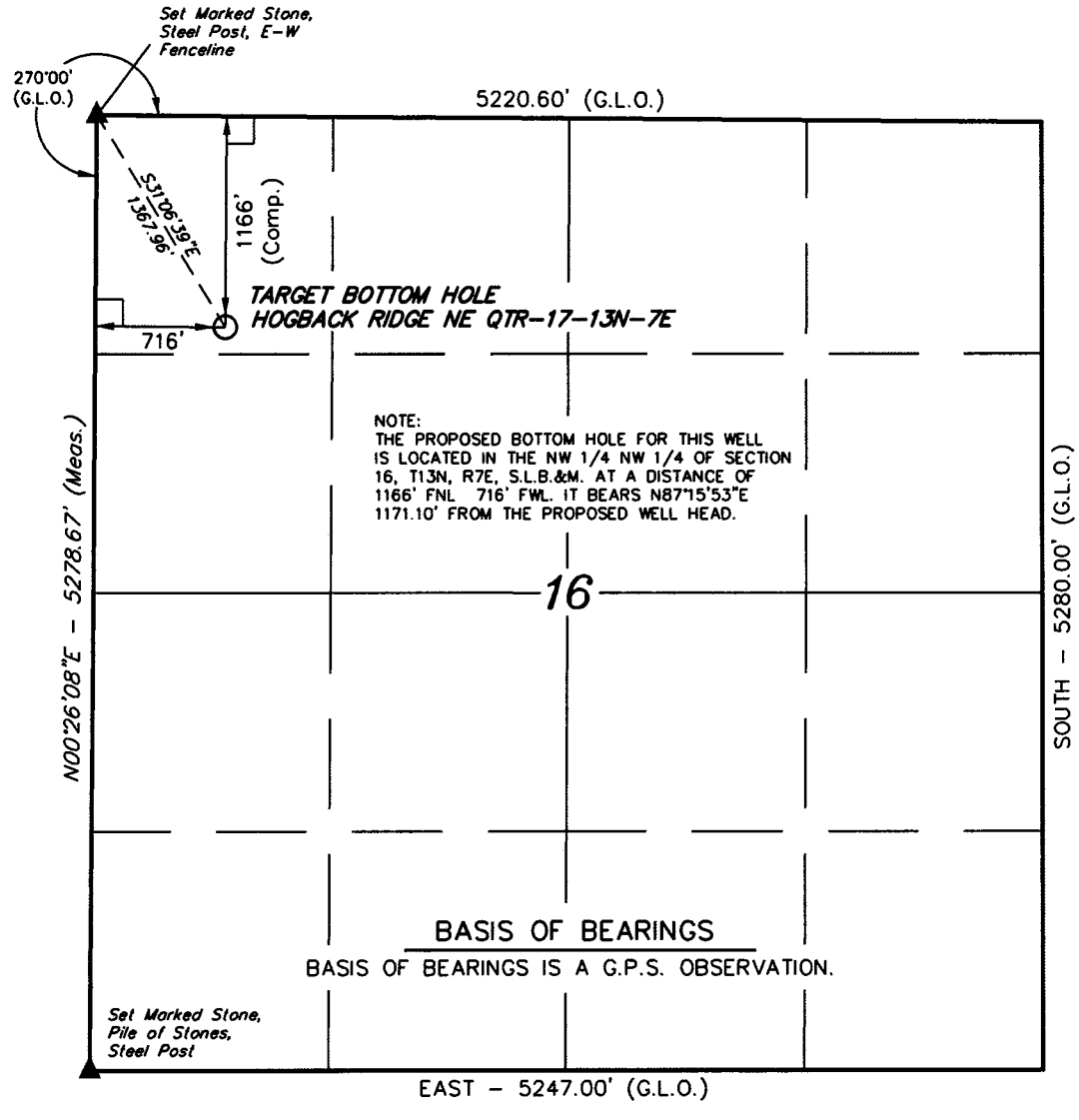
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-ON / SIDETRACK KICK OFF POINT	11000.00	27.720	86.667	10564.32	9.90	1447.07	0.00	1447.10
END 10.00deg/100ft DROP+RIGHT TURN OFF PLUG	11033.65	24.583	89.433	10594.52	10.43	1461.89	10.00	1461.92
END 3.00deg/100ft BUILD TO 11.00deg INC	12219.63	11.003	271.902	11753.33	16.83	1599.91	3.00	1600.00
PROPOSED TOTAL DEPTH TARGET - 100ft RADIUS	14648.08	11.003	271.902	14137.14	32.22	1136.66	0.00	1136.93



BAKER HUGHES
INTEQ

T13N, R7E, S.L.B.&M.

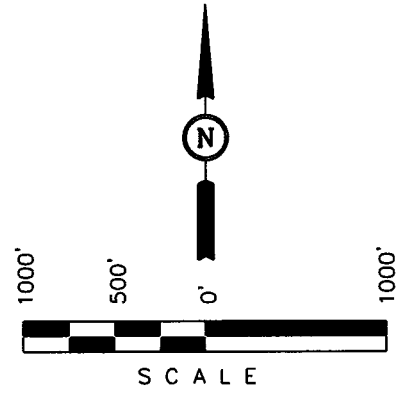


FORTUNA (US) L.P.

Well location, HOGBACK RIDGE NE QTR-17-13N-7E (TARGET BOTTOM HOLE), located as shown in the NW 1/4 NW 1/4 of Section 16, T13N, R7E, S.L.B.&M., Rich County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION LOCATED IN THE NW 1/4 OF SECTION 16, T13N, R7E, 6th P.M., TAKEN FROM THE SAGE CREEK QUADRANGLE, UTAH, RICH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6686 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

REVISED: 09-24-08

LEGEND:

- ∟ = 90° SYMBOL
- ● = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

(NAD 83)
LATITUDE = 41°52'21.38" (41.872606)
LONGITUDE = 111°09'51.52" (111.164311)
(NAD 27)
LATITUDE = 41°52'21.60" (41.872667)
LONGITUDE = 111°09'48.81" (111.163558)

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

SCALE: 1" = 1000'	DATE SURVEYED: 09-23-07	DATE DRAWN: 06-23-08
PARTY: J.F. R.H. S.L.	REFERENCES: G.L.O. PLAT	
WEATHER: WARM	FILE: FORTUNA (US) L.P.	

API Number: 4303330062

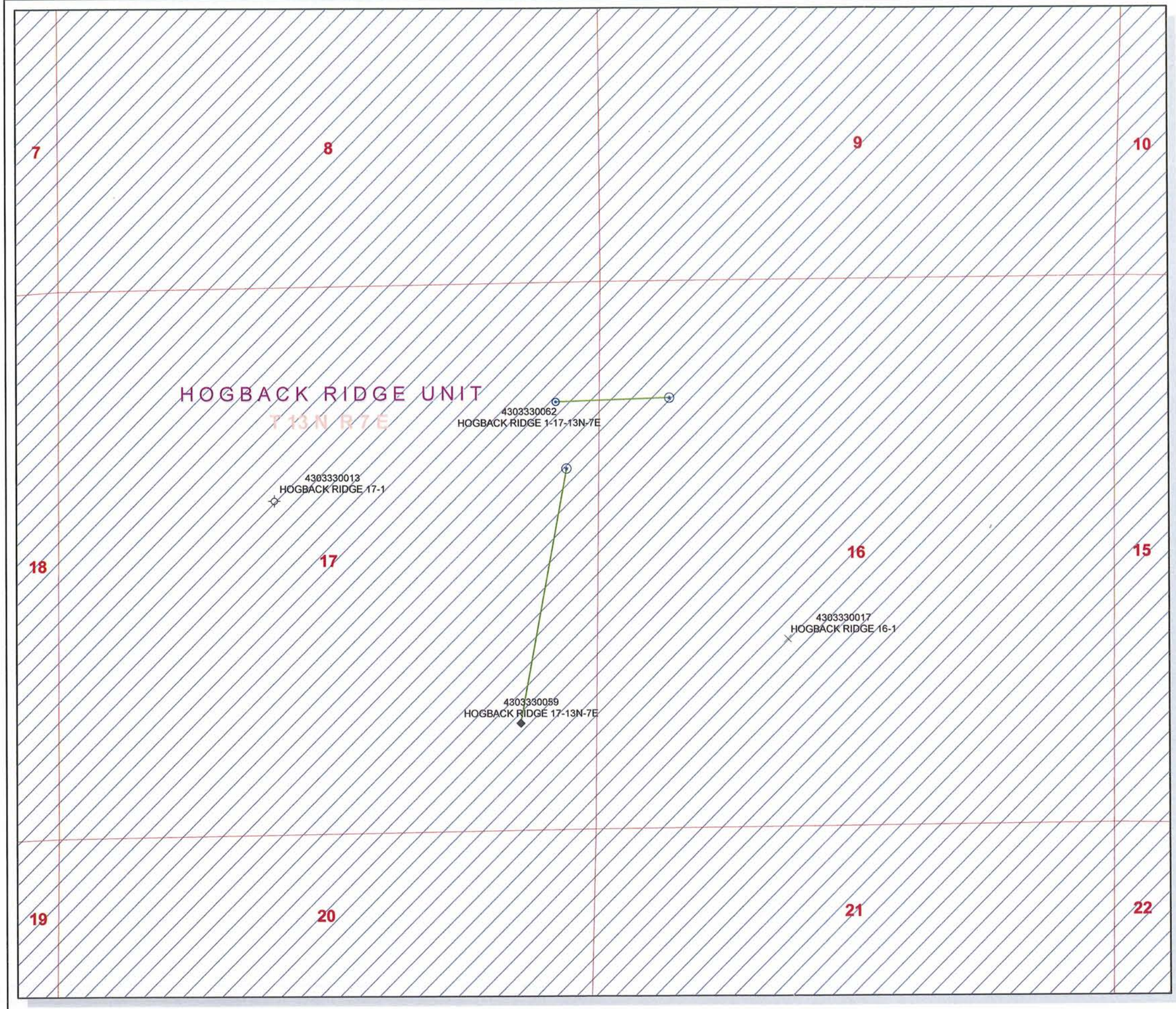
Well Name: HOGBACK RIDGE 1-17-13N-7E

Township 13.0 N Range 07.0 E Section 17

Meridian: SLBM

Operator: FORTUNA (US) LP

Map Prepared:
Map Produced by Diana Mason



Units

STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS
- ACTIVE
- COMBINED
- Sections
- Township

Wells Query Events
- <all other values>

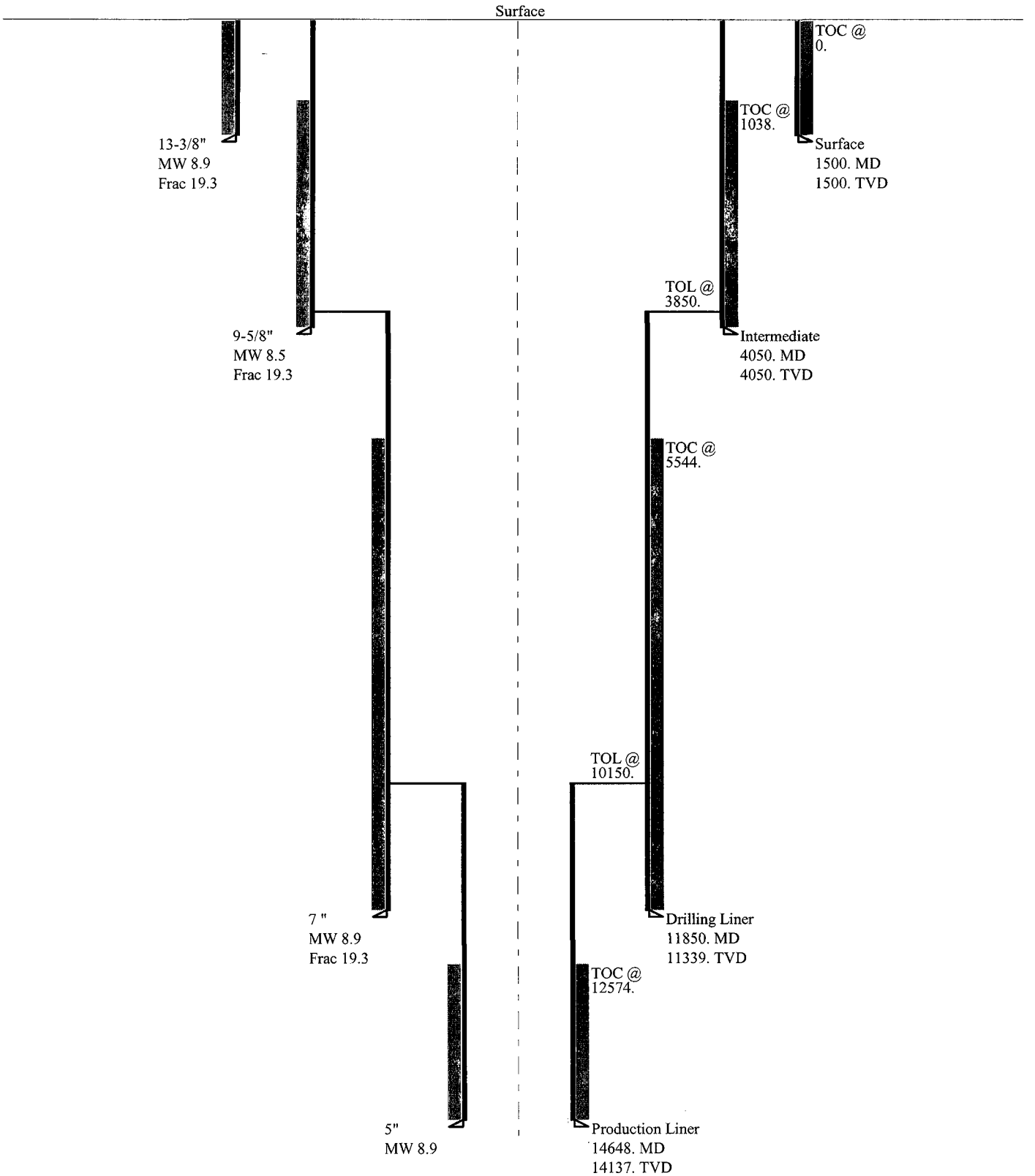
GIS_STAT_TYPE
- <Null>
- APD
- DRL
- GI
- GS
- LA
- NEW
- OPS
- PA
- PGW
- POW
- RET
- SGW
- SOW
- TA
- TW
- WD
- WI
- WS
- Bottom Hole Location

1,300 650 0 1,300 Feet

1:12,000

2007-12 Fortuna Hogback Ridge 1-17-13N-7Erev.

Casing Schematic



Well name:	**2007-12 Fortuna Hogback Ridge 1-17-13N-7Erev.**
Operator:	**Fortuna (US) LP / Talisman (Canada)**
String type:	Production Liner
Project ID:	43-033-30062
Location:	Rich County

Design parameters:

Collapse
Mud weight: 8.900 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 3,550 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 6,536 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on buoyed weight.
Neutral point: 14,061 ft

Environment:
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 273 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,500 ft

Cement top: 12,574 ft

Liner top: 10,150 ft
Directional Info - Build & Drop
Kick-off point 8050 ft
Departure at shoe: 1671 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	4448	5	18.00	L-80	VAM FJL	14137	14648	4.151	443.6

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	6536	10500	1.606	6660	10140	1.52	67	304	4.51 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Minerals
Phone: 801-538-5357
FAX: 801-359-3940
Date: October 1,2008
Salt Lake City, Utah

Remarks:
For this liner string, the top is rounded to the nearest 100 ft.Collapse is based on a vertical depth of 14137 ft, a mud weight of 8.9 ppg The Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

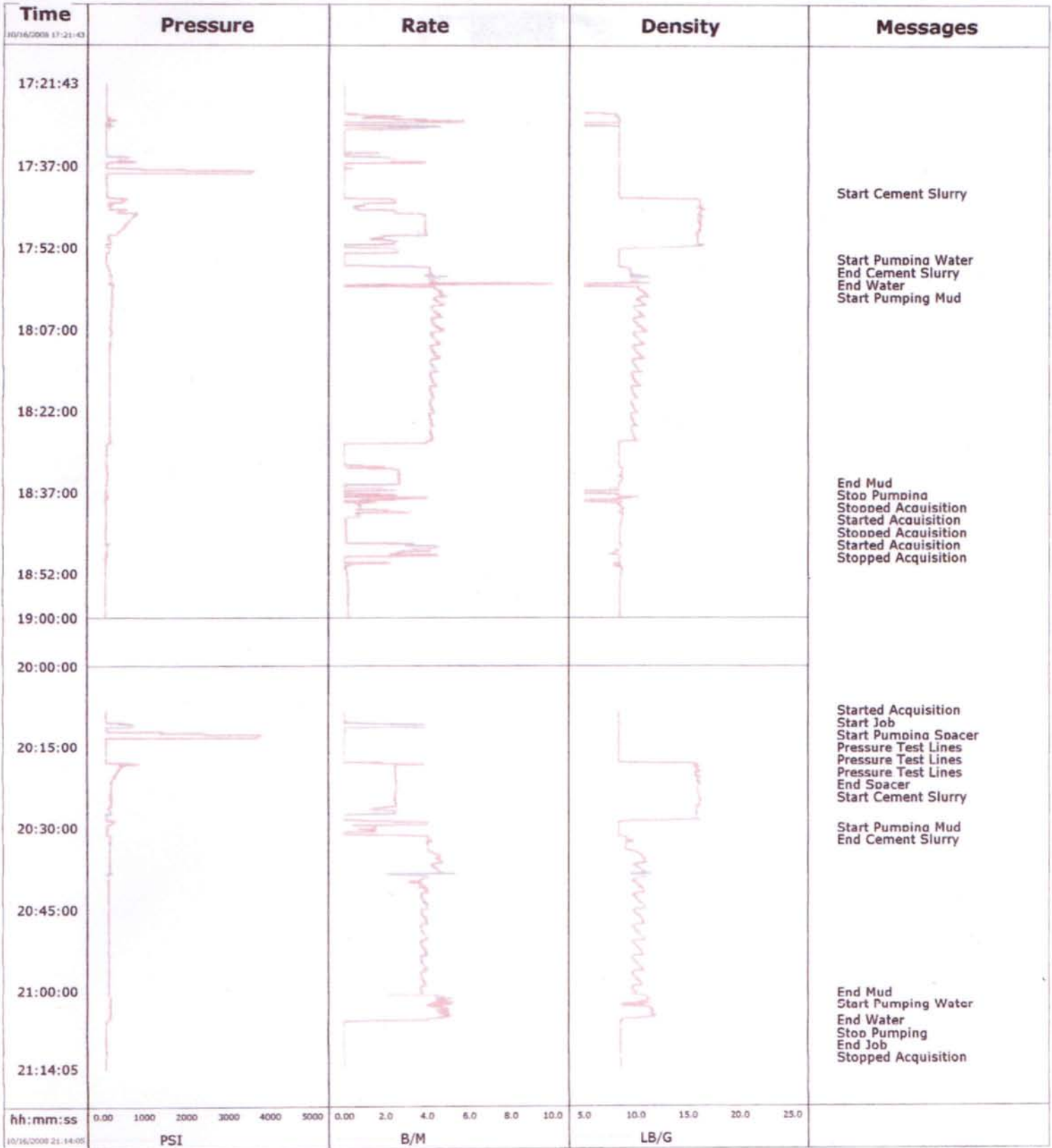
Engineering responsibility for use of this design will be that of the purchaser.

Schlumberger

Cementing Job Report

CemCAT v1.3

Well	Hogback Ridge 17-13N-7E 43-033-30062	**Client**	Furtuna Energy Inc
Field	Wildcat	**SIR No.**	2207162010
Engineer	Sean Wilkinson	**Job Type**	Plug
Country	United States 13N 7E 17	**Job Date**	10-16-2008



10/16/2008 21:17:57

Service Contract Receipt

Schlumberger

SCHLUMBERGER TECHNOLOGY CORPORATION

SC Number
2207162010

LEFT DISTRICT	Date	10/16/2008	Time	10:30:00 AM
ARRIVE LOCATION	Date	10/16/2008	Time	2:30:00 PM
JOB START	Date	10/16/2008	Time	2:45:00 PM
JOB COMPLETION	Date	10/16/2008	Time	9:15:00 PM
LEAVE LOCATION	Date	10/16/2008	Time	10:30:00 PM
ARRIVED DISTRICT	Date	10/17/2008	Time	9:00:00 AM

Invoice Mailing Address:
FORTUNA ENERGY INC

337 DANIEL ZENKER DRIVE
HORSEHEADS, NY
US

Service Instructions
Provide Equipment and Services to Plug Back the well.

Service Description
Cementing - Set Cement Plug P/W

Customer PO	Contract	AFE	Rig
01533		63819	PRECISIONS 618

Well	State/Province	County/Parish/Block	Legal Location
Hogback Ridge 17-13N-7E	UT	Rich	

Field	Customer or Authorized Representative
Wildcat	Wheeler, Roy

THE ESTIMATED CHARGES AND DATA SHOWN BELOW ARE SUBJECT TO CORRECTION BY SCHLUMBERGER.

Item	Description	Quantity	Unit	Unit Price	Amount
Services					
102872140	Pump, Liner/Sqz/Plug 13501-14000 ft	1	EA	13,700.00	13,700.00
107000000	Slurry King Mixer, Density Control Sys	1	JOB	1,120.00	1,120.00
107181000	Drill Pin, Rental, per Job	1	JOB	161.00	161.00
107264001	Regulatory Conformance Charge	2	EA	341.00	682.00
48019000	Bulk Unit, Cement Add Hr	3	HR	107.50	322.50
49100000	Cement Blending Charge	242	CF	2.27	549.34
49102000	Transportation, Cement Ton-mile	3405	MI	1.68	5,720.40
58231000	Valve, Plug 2 in	1	DAY	94.50	94.50
59200002	Transportation, Mileage Heavy Vehicles	270	MI	4.60	1,242.00
59200005	Transportation, Mileage Light Vehicles	270	MI	2.70	729.00
59697004	CemCAT« Monitoring System	1	JOB	880.00	880.00
				Services Subtotal:	**25,200.74**
				Discount:	**1,225.94**
				Special Discount:	**0.00**
				Estimated Total (USD):	**23,974.80**
Products					
57998000	Fuel Surcharge	2	EA	825.00	1,650.00
D065	TIC« Dispersant	84	LB	7.35	617.40
D167	UNIFLAC«-S	46	LB	42.50	1,955.00
D198	Wide Temperature Range Retarder	7	LB	13.60	95.20
D907	Cement, Class G	240	CF	20.50	4,920.00
				Products Subtotal:	**9,237.60**
				Discount:	**379.38**
				Special Discount:	**0.00**
				Estimated Total (USD):	**8,858.22**

Total (Before Discount):	**34,438.34**		
Discount:	**1,605.32**		
Special Discount:	**0.00**	**Estimated Total (USD):**	**32,833.02**

Service Contract Receipt

Schlumberger

SCHLUMBERGER TECHNOLOGY CORPORATION

SC Number
2207162010

LEFT DISTRICT	Date	10/16/2008	Time	10:30:00 AM
ARRIVE LOCATION	Date	10/16/2008	Time	2:30:00 PM
JOB START	Date	10/16/2008	Time	2:45:00 PM
JOB COMPLETION	Date	10/16/2008	Time	9:15:00 PM
LEAVE LOCATION	Date	10/16/2008	Time	10:30:00 PM
ARRIVED DISTRICT	Date	10/17/2008	Time	9:00:00 AM

Invoice Mailing Address:
FORTUNA ENERGY INC

337 DANIEL ZENKER DRIVE
HORSEHEADS, NY
US

Service Instructions
Provide Equipment and Services to Plug Back the well.

Service Description
Cementing - Set Cement Plug P/W

Customer PO	Contract	AFE	Rig
01533		63819	PRECISIONS 618

Well	State/Province	County/Parish/Block	Legal Location
Hogback Ridge 17-13N-7E	UT	Rich	

Field	Customer or Authorized Representative
Wildcat	Wheeler, Roy

THE ESTIMATED CHARGES AND DATA SHOWN BELOW ARE SUBJECT TO CORRECTION BY SCHLUMBERGER.

Item	Description	Quantity	Unit	Unit Price	Amount

THE ESTIMATED CHARGES AND DATA SHOWN ABOVE ARE SUBJECT TO CORRECTION BY SCHLUMBERGER.

THE SERVICES, EQUIPMENT, MATERIALS AND /OR PRODUCTS PROVIDED BY THIS SERVICE CONTRACT RECEIPT HAVE BEEN PERFORMED OR RECEIVED AS SET FORTH ABOVE.

Signature of Customer or Authorized Representative: Thu Oct ** **:**:** ****
Wheeler, Roy

Signature of Schlumberger Representative: Thu Oct ** **:**:** ****
Wilkinson, Sean

PO # 01533
Cost Code 537

FORTUNA (US) LP
AFE: 63819
FOREMAN:
SUPERINTENDENT: STUART CAMERON
ESTIMATED # AMT:
LOCATION: HBR 1-17-13N-7E
FOREMAN'S SIGNATURE
ATTN:

Spot Cement Plugs (based on caliper hole)

Slurry Type:	0-1-0, 'G' + Fluid Loss + Retarder + Friction Reducer	
Hole Size (inches)	6-1/8"	
DP Size & Weight	4", 14.0 ppf	
OH Capacity (bbl/ft)	0.036400	
Annular Capacity (bbl/ft)	0.020900	
DP Capacity (bbl/ft)	0.0108	

Plug 1, Stage 1

Programmed Bottom Of Plug (ftKB)	13,735.00	
Programmed Top Of Plug (ftKB)	13,235.00	
Programmed Length Of Plug (feet)	500.00	
Excess Required	15%	
Length Of Plug w/ Excess (feet)	575.00	
Slurry Volume (bbls)	**20.93**	
Slurry Volume (ft3)	**117.51**	
Slurry Yield, 0-1-0 'G' (ft3/sack)	1.15	(15.8 ppg Cmt)
Sacks Of Cement Powder	**102**	
Displacement Of Slurry (bbls)	138.9	(Underdisplaced By 300 ft.)

Plug 2, Stage 1

Programmed Bottom Of Plug (ftKB)	13,000.00	
Programmed Top Of Plug (ftKB)	12,500.00	
Programmed Length Of Plug (feet)	500.00	
Excess Required	15%	
Length Of Plug w/ Excess (feet)	575.00	
Slurry Volume (bbls)	**20.93**	
Slurry Volume (ft3)	**117.51**	
Slurry Yield, 0-1-0 'G' (ft3/sack)	1.15	(15.8 ppg Cmt)
Sacks Of Cement Powder	**102**	
Displacement Of Slurry (bbls)	131.0	(Underdisplaced By 300 ft.)

PROCEDURE:

- RIH Open End DP To 13,735 ftKB (Sack Tied Over Btm Of DP)
- Work Pipe & Circulate To Flush Hole, Condition Mud (Add Aldicide to Mud)
- Pump Cement Abandonment Plug 1, 13,375 - 13,235 ftKB (Rotate DP)
- POOH Slowly To 13,000 ftKB
- Circulate Btm Up, Rotate Pipe, Work 10 ft., To Flush DP (Dump Any Cmt To Surf)
- Pump Cement Abandonment Plug 2, 13,000 - 12,500 ftKB (Rotate DP)
- POOH Slowly To 12,200 ftKB
- Circulate, Rotate Pipe, Work 10 ft., To Flush DP (Dump Any Cement To Surface)
- Circ Btm Up To Clean Hole
- POOH
- MU Drill Bit & RIH To Polish Cement To Casing Liner Set Depth Of 12,500 ftKB

Schlumberger Cementing Service Report

Customer	Job Number
FORTUNA ENERGY INC	2207162010

Well	Location (legal)	Schlumberger Location	Job Start
Hogback Ridge 17-13N-7E		Rock Springs, WY	2008-Oct-16

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wildcat		°	6.13 in	13,735 ft	13,735 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Rich	UT	psi	245 °F	191 °F	psi/ft

Well Master: 0630348607 API / UWI:

Rig Name	Drilled For	Service Via
PRECISIONS 618	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Vi
Other	9.8 lb/gal	cp

Service Line	Job Type
Cementing	Set Cement Plug P/W

Max. Allowed Tubing Pressure	Max. Allowed Ann. Pressure	WellHead Connection
psi	psi	3 1/2" IF DP pin

Service Instructions

Provide Equipment and Services to Plug Back the well.

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
13735	4	14	E-75	MIJ

Tubing/Drill Pipe

Depth,	Size, in	Weight, lb/ft	Grade	Thread
13735	4	14	E-75	MIJ

Perforations/Open Hole

Top, ft	Bottom, ft	spf	No. of Shots	Total Interval
				ft
				Diameter
				in

Treat Down	Displacement	Packer Type	Packer Depth
Drill Pipe	bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	OpenHole Vol
bbl	bbl	bbl	bbl

Casing/Tubing Secured ☑ 1 Hole Volume Circulated prior to Cementing ☑

Lift Pressure: psi Pipe Rotated ☑ Pipe Reciprocated ☐

No. Centralizers: Top Plugs: Bottom Plugs:

Cement Head Type:

Job Scheduled For:	Arrived on Location:	Leave Location:
10/16/2008 15:00	2008-Oct-16 14:30	2008-Oct-16 22:30

Casing Tools

Shoe Type:	None
Shoe Depth:	ft
Stage Tool Type:	
Stage Tool Depth:	ft
Collar Type:	
Collar Depth:	ft

Squeeze Job

Squeeze Type	
Tool Type:	
Tool Depth:	ft
Tail Pipe Size:	in
Tail Pipe Depth:	ft
Sqz Total Vol:	bbl

Date	Time (24 hr clock)	Treating Pressure (psi)	Flow Rate (bbl/min)	Density (lb/gal)	Volume (bbl)	0	0	0	Message
2008-Oct-16	17:26	97	0.0	0.01	0.0	0	0	0	
2008-Oct-16	17:27	97	0.0	0.12	0.0	0	0	0	
2008-Oct-16	17:27	97	0.6	8.15	0.1	0	0	0	
2008-Oct-16	17:27	111	2.3	8.02	0.5	0	0	0	
2008-Oct-16	17:28	121	1.1	8.33	0.9	0	0	0	
2008-Oct-16	17:28	185	3.9	8.36	1.9	0	0	0	
2008-Oct-16	17:28	183	5.1	8.37	3.4	0	0	0	
2008-Oct-16	17:29	178	0.0	0.01	4.0	0	0	0	
2008-Oct-16	17:29	118	0.0	0.00	4.0	0	0	0	
2008-Oct-16	17:29	180	4.0	8.37	5.0	0	0	0	
2008-Oct-16	17:30	116	0.2	8.37	5.6	0	0	0	
2008-Oct-16	17:30	84	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:30	90	0.0	8.36	6.0	0	0	0	
2008-Oct-16	17:31	93	0.0	8.36	6.0	0	0	0	
2008-Oct-16	17:31	94	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:31	95	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:32	96	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:32	96	0.0	8.36	6.0	0	0	0	
2008-Oct-16	17:32	97	0.0	8.36	6.0	0	0	0	
2008-Oct-16	17:33	97	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:33	97	0.0	8.37	6.0	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	17:33	95	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:34	95	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:34	95	0.0	8.37	6.0	0	0	0	
2008-Oct-16	17:34	108	0.0	8.37	6.2	0	0	0	
2008-Oct-16	17:35	108	0.0	8.36	6.2	0	0	0	
2008-Oct-16	17:35	602	1.9	8.36	6.4	0	0	0	
2008-Oct-16	17:35	424	2.5	8.35	7.2	0	0	0	
2008-Oct-16	17:36	396	2.2	8.36	8.0	0	0	0	
2008-Oct-16	17:36	248	2.9	8.36	9.2	0	0	0	
2008-Oct-16	17:36	94	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:37	96	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:37	114	0.3	8.37	9.3	0	0	0	
2008-Oct-16	17:37	1982	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:38	3544	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:38	119	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:38	103	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:39	101	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:39	100	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:39	100	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:40	100	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:40	104	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:40	112	0.0	8.37	9.3	0	0	0	
2008-Oct-16	17:41	117	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:41	120	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:41	121	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:41								Start Cement Slurry
2008-Oct-16	17:41	122	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:42	123	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:42	124	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:42	126	0.0	8.36	9.3	0	0	0	
2008-Oct-16	17:43	534	2.0	15.71	9.5	0	0	0	
2008-Oct-16	17:43	506	2.5	16.11	10.3	0	0	0	
2008-Oct-16	17:43	345	2.3	16.11	11.1	0	0	0	
2008-Oct-16	17:44	237	1.0	16.10	11.5	0	0	0	
2008-Oct-16	17:44	151	0.5	16.16	11.7	0	0	0	
2008-Oct-16	17:44	181	0.6	16.28	11.9	0	0	0	
2008-Oct-16	17:45	508	1.1	16.25	12.1	0	0	0	
2008-Oct-16	17:45	425	2.5	16.18	12.9	0	0	0	
2008-Oct-16	17:45	797	3.3	16.09	13.8	0	0	0	
2008-Oct-16	17:46	758	3.9	16.12	15.0	0	0	0	
2008-Oct-16	17:46	746	3.9	16.04	16.3	0	0	0	
2008-Oct-16	17:46	678	3.9	15.82	17.6	0	0	0	
2008-Oct-16	17:47	654	3.9	16.15	18.9	0	0	0	
2008-Oct-16	17:47	604	3.9	15.97	20.2	0	0	0	
2008-Oct-16	17:47	544	3.9	16.11	21.5	0	0	0	
2008-Oct-16	17:48	524	3.9	16.16	22.8	0	0	0	
2008-Oct-16	17:48	487	3.9	16.04	24.1	0	0	0	
2008-Oct-16	17:48	447	3.9	15.97	25.4	0	0	0	
2008-Oct-16	17:49	399	3.9	16.06	26.7	0	0	0	
2008-Oct-16	17:49	356	3.9	15.71	28.0	0	0	0	
2008-Oct-16	17:49	164	2.0	15.86	29.2	0	0	0	
2008-Oct-16	17:50	167	1.8	15.90	29.8	0	0	0	
2008-Oct-16	17:50	169	1.2	15.93	30.3	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	17:50	199	2.3	15.91	31.0	0	0	0	
2008-Oct-16	17:51	197	2.4	15.92	31.8	0	0	0	
2008-Oct-16	17:51	96	0.6	16.19	32.5	0	0	0	
2008-Oct-16	17:51	106	0.0	14.44	32.5	0	0	0	
2008-Oct-16	17:52	193	2.2	9.60	32.7	0	0	0	
2008-Oct-16	17:52	170	2.5	8.36	33.5	0	0	0	
2008-Oct-16	17:52	158	2.5	8.36	34.3	0	0	0	
2008-Oct-16	17:53	107	0.0	8.37	34.8	0	0	0	
2008-Oct-16	17:53	105	0.0	8.37	34.8	0	0	0	
2008-Oct-16	17:53	103	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:54	102	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:54								Start Pumping Water
2008-Oct-16	17:54	101	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:54	101	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:54								End Cement Slurry
2008-Oct-16	17:54	101	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:54	100	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:55								End Water
2008-Oct-16	17:55	100	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:55								Start Pumping Mud
2008-Oct-16	17:55	100	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:55	100	0.0	8.36	34.8	0	0	0	
2008-Oct-16	17:55	148	3.4	8.41	35.2	0	0	0	
2008-Oct-16	17:55	163	4.1	9.36	36.6	0	0	0	
2008-Oct-16	17:56	177	4.1	9.39	37.9	0	0	0	
2008-Oct-16	17:56	183	4.1	9.48	39.3	0	0	0	
2008-Oct-16	17:56	189	4.1	9.55	40.7	0	0	0	
2008-Oct-16	17:57	224	3.9	9.41	42.0	0	0	0	
2008-Oct-16	17:57	204	4.3	9.88	43.5	0	0	0	
2008-Oct-16	17:57	187	4.2	9.68	44.9	0	0	0	
2008-Oct-16	17:58	205	4.2	9.85	46.3	0	0	0	
2008-Oct-16	17:58	195	4.3	10.14	47.7	0	0	0	
2008-Oct-16	17:58	268	0.0	0.00	50.2	0	0	0	
2008-Oct-16	17:59	253	3.9	9.93	50.4	0	0	0	
2008-Oct-16	17:59	247	4.4	10.26	51.9	0	0	0	
2008-Oct-16	17:59	239	4.6	10.46	53.3	0	0	0	
2008-Oct-16	18:00	239	4.6	10.74	54.9	0	0	0	
2008-Oct-16	18:00	243	4.6	10.80	56.4	0	0	0	
2008-Oct-16	18:00	241	4.8	11.12	58.0	0	0	0	
2008-Oct-16	18:01	239	4.3	10.24	59.5	0	0	0	
2008-Oct-16	18:01	227	4.3	10.08	60.9	0	0	0	
2008-Oct-16	18:01	225	4.5	10.46	62.4	0	0	0	
2008-Oct-16	18:02	225	4.6	10.78	63.9	0	0	0	
2008-Oct-16	18:02	231	4.7	10.90	65.5	0	0	0	
2008-Oct-16	18:02	230	4.2	9.81	67.0	0	0	0	
2008-Oct-16	18:03	219	4.2	9.86	68.4	0	0	0	
2008-Oct-16	18:03	212	4.2	9.99	69.8	0	0	0	
2008-Oct-16	18:03	207	4.4	10.22	71.3	0	0	0	
2008-Oct-16	18:04	207	4.5	10.57	72.7	0	0	0	
2008-Oct-16	18:04	207	4.6	10.68	74.3	0	0	0	
2008-Oct-16	18:04	219	4.4	10.19	75.8	0	0	0	
2008-Oct-16	18:05	212	4.2	9.74	77.2	0	0	0	
2008-Oct-16	18:05	205	4.2	9.91	78.6	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	18:05	199	4.2	9.98	80.0	0	0	0	
2008-Oct-16	18:06	195	4.3	10.14	81.4	0	0	0	
2008-Oct-16	18:06	189	4.4	10.47	82.9	0	0	0	
2008-Oct-16	18:06	187	4.6	10.72	84.4	0	0	0	
2008-Oct-16	18:07	195	4.6	10.96	86.0	0	0	0	
2008-Oct-16	18:07	230	4.2	9.83	87.5	0	0	0	
2008-Oct-16	18:07	215	4.2	9.80	88.9	0	0	0	
2008-Oct-16	18:08	201	4.2	9.87	90.3	0	0	0	
2008-Oct-16	18:08	195	4.3	10.04	91.7	0	0	0	
2008-Oct-16	18:08	196	4.3	10.20	93.1	0	0	0	
2008-Oct-16	18:09	195	4.5	10.51	94.6	0	0	0	
2008-Oct-16	18:09	193	4.6	10.65	96.1	0	0	0	
2008-Oct-16	18:09	191	4.3	10.02	97.6	0	0	0	
2008-Oct-16	18:10	191	4.2	9.68	99.0	0	0	0	
2008-Oct-16	18:10	189	4.2	9.80	100.4	0	0	0	
2008-Oct-16	18:10	184	4.2	9.87	101.8	0	0	0	
2008-Oct-16	18:11	183	4.3	10.08	103.2	0	0	0	
2008-Oct-16	18:11	182	4.4	10.24	104.6	0	0	0	
2008-Oct-16	18:11	179	4.5	10.53	106.1	0	0	0	
2008-Oct-16	18:12	179	4.6	10.76	107.6	0	0	0	
2008-Oct-16	18:12	185	4.2	9.75	109.1	0	0	0	
2008-Oct-16	18:12	185	4.2	9.67	110.5	0	0	0	
2008-Oct-16	18:13	182	4.2	9.71	111.9	0	0	0	
2008-Oct-16	18:13	183	4.2	9.80	113.3	0	0	0	
2008-Oct-16	18:13	183	4.2	9.96	114.7	0	0	0	
2008-Oct-16	18:14	185	4.3	10.10	116.1	0	0	0	
2008-Oct-16	18:14	182	4.4	10.26	117.5	0	0	0	
2008-Oct-16	18:14	190	4.2	9.76	119.1	0	0	0	
2008-Oct-16	18:15	183	4.1	9.55	120.5	0	0	0	
2008-Oct-16	18:15	181	4.1	9.66	121.8	0	0	0	
2008-Oct-16	18:15	183	4.2	9.74	123.2	0	0	0	
2008-Oct-16	18:16	183	4.2	9.92	124.6	0	0	0	
2008-Oct-16	18:16	180	4.3	9.96	126.0	0	0	0	
2008-Oct-16	18:16	181	4.3	10.09	127.5	0	0	0	
2008-Oct-16	18:17	183	4.4	10.31	128.9	0	0	0	
2008-Oct-16	18:17	183	4.1	9.59	130.3	0	0	0	
2008-Oct-16	18:17	183	4.1	9.53	131.7	0	0	0	
2008-Oct-16	18:18	185	4.2	9.63	133.1	0	0	0	
2008-Oct-16	18:18	187	4.2	9.71	134.5	0	0	0	
2008-Oct-16	18:18	187	4.2	9.77	135.9	0	0	0	
2008-Oct-16	18:19	185	4.2	9.96	137.3	0	0	0	
2008-Oct-16	18:19	184	4.3	10.06	138.7	0	0	0	
2008-Oct-16	18:19	181	4.3	10.17	140.1	0	0	0	
2008-Oct-16	18:20	182	4.1	9.51	141.5	0	0	0	
2008-Oct-16	18:20	183	4.1	9.54	142.9	0	0	0	
2008-Oct-16	18:20	183	4.1	9.67	144.2	0	0	0	
2008-Oct-16	18:21	183	4.2	9.71	145.6	0	0	0	
2008-Oct-16	18:21	180	4.2	9.81	147.0	0	0	0	
2008-Oct-16	18:21	183	4.2	9.96	148.4	0	0	0	
2008-Oct-16	18:22	183	4.3	10.09	149.9	0	0	0	
2008-Oct-16	18:22	184	4.1	9.56	151.3	0	0	0	
2008-Oct-16	18:22	188	4.1	9.51	152.6	0	0	0	
2008-Oct-16	18:23	187	4.1	9.58	154.0	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	18:23	186	4.1	9.65	155.4	0	0	0	
2008-Oct-16	18:23	185	4.2	9.69	156.8	0	0	0	
2008-Oct-16	18:24	181	4.2	9.71	158.2	0	0	0	
2008-Oct-16	18:24	179	4.2	9.86	159.6	0	0	0	
2008-Oct-16	18:24	181	4.3	10.01	161.0	0	0	0	
2008-Oct-16	18:25	187	4.1	9.55	162.4	0	0	0	
2008-Oct-16	18:25	186	4.1	9.56	163.7	0	0	0	
2008-Oct-16	18:25	185	4.1	9.62	165.1	0	0	0	
2008-Oct-16	18:26	185	4.2	9.67	166.5	0	0	0	
2008-Oct-16	18:26	184	4.2	9.74	168.0	0	0	0	
2008-Oct-16	18:26	181	4.2	9.83	169.3	0	0	0	
2008-Oct-16	18:27	181	4.2	9.91	170.8	0	0	0	
2008-Oct-16	18:27	187	4.2	9.85	172.2	0	0	0	
2008-Oct-16	18:27	195	4.0	8.33	173.5	0	0	0	
2008-Oct-16	18:28	120	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:28	110	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:28	107	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:29	105	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:29	104	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:29	104	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:30	103	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:30	102	0.0	8.37	174.3	0	0	0	
2008-Oct-16	18:30	101	0.0	8.38	174.3	0	0	0	
2008-Oct-16	18:31	100	0.0	8.38	174.3	0	0	0	
2008-Oct-16	18:31	100	0.0	8.38	174.3	0	0	0	
2008-Oct-16	18:31	100	0.0	8.38	174.3	0	0	0	
2008-Oct-16	18:32	114	1.1	8.37	174.4	0	0	0	
2008-Oct-16	18:32	99	0.1	8.66	174.9	0	0	0	
2008-Oct-16	18:32	113	2.6	8.69	175.5	0	0	0	
2008-Oct-16	18:33	123	2.6	8.65	176.4	0	0	0	
2008-Oct-16	18:33	126	2.6	8.58	177.3	0	0	0	
2008-Oct-16	18:33	122	2.7	8.46	178.1	0	0	0	
2008-Oct-16	18:34	121	2.7	8.60	179.0	0	0	0	
2008-Oct-16	18:34	118	2.6	8.71	179.9	0	0	0	
2008-Oct-16	18:34	122	2.6	8.66	180.8	0	0	0	
2008-Oct-16	18:35	121	2.7	8.36	181.7	0	0	0	
2008-Oct-16	18:35								End Mud
2008-Oct-16	18:35	120	2.6	8.38	182.3	0	0	0	
2008-Oct-16	18:35	108	2.7	8.35	182.6	0	0	0	
2008-Oct-16	18:35	92	2.1	8.34	182.7	0	0	0	
2008-Oct-16	18:35								Stop Pumping
2008-Oct-16	18:35	98	0.0	8.38	182.8	0	0	0	
2008-Oct-16	18:36	99	0.1	8.37	182.8	0	0	0	
2008-Oct-16	18:36	82	1.9	8.34	183.1	0	0	0	
2008-Oct-16	18:36	75	0.2	7.74	183.6	0	0	0	
2008-Oct-16	18:37	89	0.0	0.00	183.6	0	0	0	
2008-Oct-16	18:37	94	2.2	8.31	183.8	0	0	0	
2008-Oct-16	18:37	88	0.0	8.40	184.1	0	0	0	
2008-Oct-16	18:38	118	3.4	8.61	185.1	0	0	0	
2008-Oct-16	18:38	52	1.4	5.62	185.8	0	0	0	
2008-Oct-16	18:38	76	0.0	6.64	185.8	0	0	0	
2008-Oct-16	18:39	87	0.6	8.23	186.1	0	0	0	
2008-Oct-16	18:39	90	0.7	8.46	186.3	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	18:39	90	0.8	8.69	186.6	0	0	0	
2008-Oct-16	18:40	78	0.8	8.84	186.8	0	0	0	
2008-Oct-16	18:40	103	1.9	8.44	187.4	0	0	0	
2008-Oct-16	18:40	91	0.7	8.70	188.2	0	0	0	
2008-Oct-16	18:41	91	0.7	8.69	188.4	0	0	0	
2008-Oct-16	18:41	91	0.7	8.67	188.6	0	0	0	
2008-Oct-16	18:41	89	0.0	8.64	188.7	0	0	0	
2008-Oct-16	18:42	89	0.1	8.64	188.8	0	0	0	
2008-Oct-16	18:42	89	0.1	8.57	188.8	0	0	0	
2008-Oct-16	18:42	89	0.1	8.51	188.8	0	0	0	
2008-Oct-16	18:43	89	0.1	8.48	188.9	0	0	0	
2008-Oct-16	18:43	89	0.1	8.46	188.9	0	0	0	
2008-Oct-16	18:43	89	0.1	8.46	188.9	0	0	0	
2008-Oct-16	18:44	88	0.1	8.45	189.0	0	0	0	
2008-Oct-16	18:44	88	0.1	8.45	189.0	0	0	0	
2008-Oct-16	18:44	88	0.1	8.45	189.0	0	0	0	
2008-Oct-16	18:45	88	0.1	8.45	189.1	0	0	0	
2008-Oct-16	18:45	88	0.1	8.45	189.1	0	0	0	
2008-Oct-16	18:45	88	0.1	8.45	189.1	0	0	0	
2008-Oct-16	18:46	88	0.1	8.45	189.2	0	0	0	
2008-Oct-16	18:46	112	3.2	8.45	189.6	0	0	0	
2008-Oct-16	18:46	114	3.0	8.57	190.6	0	0	0	
2008-Oct-16	18:47	135	4.5	8.58	192.0	0	0	0	
2008-Oct-16	18:47	115	3.4	8.08	193.2	0	0	0	
2008-Oct-16	18:47	108	3.6	8.21	194.5	0	0	0	
2008-Oct-16	18:48	97	2.5	7.83	195.5	0	0	0	
2008-Oct-16	18:48	136	4.4	8.23	196.4	0	0	0	
2008-Oct-16	18:48	94	0.0	8.47	197.4	0	0	0	
2008-Oct-16	18:49	67	0.0	8.44	197.4	0	0	0	
2008-Oct-16	18:49	82	0.0	8.43	197.4	0	0	0	
2008-Oct-16	18:49	84	0.0	8.44	197.4	0	0	0	
2008-Oct-16	18:50	85	0.6	8.38	197.8	0	0	0	
2008-Oct-16	18:50	86	0.2	7.83	197.9	0	0	0	
2008-Oct-16	18:50	86	0.0	8.66	197.9	0	0	0	
2008-Oct-16	18:51	86	0.1	8.63	198.0	0	0	0	
2008-Oct-16	18:51	86	0.1	8.60	198.0	0	0	0	
2008-Oct-16	18:51	86	0.2	8.56	198.1	0	0	0	
2008-Oct-16	18:52	86	0.2	8.53	198.1	0	0	0	
2008-Oct-16	18:52	86	0.2	8.51	198.2	0	0	0	
2008-Oct-16	18:52	86	0.2	8.50	198.2	0	0	0	
2008-Oct-16	18:53	86	0.2	8.49	198.3	0	0	0	
2008-Oct-16	18:53	86	0.2	8.49	198.3	0	0	0	
2008-Oct-16	18:53	86	0.2	8.48	198.4	0	0	0	
2008-Oct-16	18:54	86	0.2	8.48	198.5	0	0	0	
2008-Oct-16	18:54	86	0.2	8.48	198.5	0	0	0	
2008-Oct-16	18:54	86	0.2	8.48	198.6	0	0	0	
2008-Oct-16	18:55	86	0.2	8.48	198.7	0	0	0	
2008-Oct-16	18:55	87	0.2	8.48	198.7	0	0	0	
2008-Oct-16	18:55	87	0.2	8.48	198.8	0	0	0	
2008-Oct-16	18:56	87	0.2	8.48	198.9	0	0	0	
2008-Oct-16	18:56	87	0.2	8.48	198.9	0	0	0	
2008-Oct-16	18:56	87	0.2	8.47	199.0	0	0	0	
2008-Oct-16	18:57	87	0.2	8.47	199.1	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	18:57	87	0.2	8.47	199.2	0	0	0	
2008-Oct-16	18:57	87	0.2	8.47	199.2	0	0	0	
2008-Oct-16	18:58	86	0.2	8.47	199.3	0	0	0	
2008-Oct-16	18:58	87	0.2	8.47	199.4	0	0	0	
2008-Oct-16	18:58	86	0.2	8.47	199.4	0	0	0	
2008-Oct-16	18:59	86	0.2	8.47	199.5	0	0	0	
2008-Oct-16	18:59	86	0.2	8.47	199.6	0	0	0	
2008-Oct-16	18:59	87	0.2	8.47	199.7	0	0	0	
2008-Oct-16	19:00	86	0.2	8.47	199.7	0	0	0	
2008-Oct-16	19:00	86	0.2	8.47	199.8	0	0	0	
2008-Oct-16	19:00	86	0.2	8.47	199.9	0	0	0	
2008-Oct-16	19:01	86	0.2	8.47	199.9	0	0	0	
2008-Oct-16	19:01								Stopped Acquisition
2008-Oct-16	19:01	86	0.2	8.47	200.0	0	0	0	
2008-Oct-16	19:01								Started Acquisition
2008-Oct-16	19:01	86	0.2	8.47	200.0	0	0	0	
2008-Oct-16	19:01								Stopped Acquisition
2008-Oct-16	19:01								Started Acquisition
2008-Oct-16	19:03								Stopped Acquisition
2008-Oct-16	20:08								Started Acquisition
2008-Oct-16	20:08	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:08	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:08								Start Job
2008-Oct-16	20:08	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:08								Start Pumping Spacer
2008-Oct-16	20:08	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:08								Pressure Test Lines
2008-Oct-16	20:08	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:08								Pressure Test Lines
2008-Oct-16	20:08	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:08	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:08								Pressure Test Lines
2008-Oct-16	20:09	90	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:09	91	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:09	91	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:10	103	0.0	8.38	0.0	0	0	0	
2008-Oct-16	20:10	123	0.1	8.40	0.0	0	0	0	
2008-Oct-16	20:10	580	2.3	8.45	0.3	0	0	0	
2008-Oct-16	20:11	678	3.8	8.42	1.4	0	0	0	
2008-Oct-16	20:11	108	2.4	8.39	2.6	0	0	0	
2008-Oct-16	20:11	102	0.0	8.38	2.7	0	0	0	
2008-Oct-16	20:12	137	0.0	8.38	2.7	0	0	0	
2008-Oct-16	20:12	1385	0.0	8.38	2.7	0	0	0	
2008-Oct-16	20:12	3252	0.0	8.38	2.7	0	0	0	
2008-Oct-16	20:13	3707	0.0	8.38	2.7	0	0	0	
2008-Oct-16	20:13	103	0.0	8.38	2.7	0	0	0	
2008-Oct-16	20:13	98	0.0	8.38	2.7	0	0	0	
2008-Oct-16	20:14	95	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:14	94	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:14	94	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:15	93	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:15	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:15								End Spacer

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	20:15	93	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:15	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:15								Start Cement Slurry
2008-Oct-16	20:16	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:16	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:16	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:17	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:17	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:17	92	0.0	8.37	2.7	0	0	0	
2008-Oct-16	20:18	774	2.7	15.40	3.0	0	0	0	
2008-Oct-16	20:18	470	2.5	15.88	4.0	0	0	0	
2008-Oct-16	20:18	429	2.5	15.95	4.8	0	0	0	
2008-Oct-16	20:19	416	2.5	15.83	5.7	0	0	0	
2008-Oct-16	20:19	391	2.5	16.13	6.5	0	0	0	
2008-Oct-16	20:19	358	2.5	15.64	7.3	0	0	0	
2008-Oct-16	20:20	322	2.5	15.78	8.1	0	0	0	
2008-Oct-16	20:20	295	2.5	15.89	9.0	0	0	0	
2008-Oct-16	20:20	284	2.5	15.98	9.8	0	0	0	
2008-Oct-16	20:21	247	2.5	15.88	10.6	0	0	0	
2008-Oct-16	20:21	215	2.5	16.12	11.4	0	0	0	
2008-Oct-16	20:21	207	2.5	15.86	12.3	0	0	0	
2008-Oct-16	20:22	212	2.5	16.07	13.1	0	0	0	
2008-Oct-16	20:22	210	2.5	15.93	14.0	0	0	0	
2008-Oct-16	20:22	209	2.5	15.92	14.8	0	0	0	
2008-Oct-16	20:23	211	2.5	15.91	15.6	0	0	0	
2008-Oct-16	20:23	215	2.5	15.94	16.5	0	0	0	
2008-Oct-16	20:23	221	2.4	16.03	17.3	0	0	0	
2008-Oct-16	20:24	223	2.4	16.00	18.1	0	0	0	
2008-Oct-16	20:24	223	2.4	16.03	18.9	0	0	0	
2008-Oct-16	20:24	201	2.4	16.11	19.7	0	0	0	
2008-Oct-16	20:25	224	2.5	16.09	20.6	0	0	0	
2008-Oct-16	20:25	215	2.5	16.04	21.4	0	0	0	
2008-Oct-16	20:25	213	2.5	16.05	22.3	0	0	0	
2008-Oct-16	20:26	166	1.8	15.81	23.0	0	0	0	
2008-Oct-16	20:26	172	1.3	15.82	23.5	0	0	0	
2008-Oct-16	20:26	195	2.4	15.82	24.3	0	0	0	
2008-Oct-16	20:27	193	2.5	15.83	25.1	0	0	0	
2008-Oct-16	20:27	91	0.6	15.76	25.7	0	0	0	
2008-Oct-16	20:27	101	0.0	15.74	25.8	0	0	0	
2008-Oct-16	20:28	101	0.0	15.75	25.8	0	0	0	
2008-Oct-16	20:28	122	0.4	13.49	25.8	0	0	0	
2008-Oct-16	20:28	246	3.9	8.43	26.4	0	0	0	
2008-Oct-16	20:29	230	4.0	8.35	27.7	0	0	0	
2008-Oct-16	20:29	141	1.0	8.37	28.6	0	0	0	
2008-Oct-16	20:29	124	1.5	8.37	29.1	0	0	0	
2008-Oct-16	20:29	117	1.5	8.37	29.4	0	0	0	
2008-Oct-16	20:29								Start Pumping Mud
2008-Oct-16	20:30								End Cement Slurry
2008-Oct-16	20:30	117	1.5	8.37	29.4	0	0	0	
2008-Oct-16	20:30	111	0.9	8.37	29.6	0	0	0	
2008-Oct-16	20:30	127	1.5	8.37	30.0	0	0	0	
2008-Oct-16	20:30	113	0.0	8.37	30.4	0	0	0	
2008-Oct-16	20:31	103	0.0	8.37	30.4	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	20:31	186	3.9	8.42	31.0	0	0	0	
2008-Oct-16	20:31	191	4.0	9.16	32.3	0	0	0	
2008-Oct-16	20:32	199	4.2	8.98	33.6	0	0	0	
2008-Oct-16	20:32	186	4.2	9.56	35.0	0	0	0	
2008-Oct-16	20:32	184	4.0	9.12	36.4	0	0	0	
2008-Oct-16	20:33	187	4.0	9.03	37.7	0	0	0	
2008-Oct-16	20:33	185	4.0	9.04	39.0	0	0	0	
2008-Oct-16	20:33	180	4.0	9.02	40.4	0	0	0	
2008-Oct-16	20:34	181	4.1	9.60	41.7	0	0	0	
2008-Oct-16	20:34	183	4.3	10.16	43.1	0	0	0	
2008-Oct-16	20:34	179	4.5	10.52	44.6	0	0	0	
2008-Oct-16	20:35	180	4.5	10.60	46.1	0	0	0	
2008-Oct-16	20:35	176	4.5	10.76	47.6	0	0	0	
2008-Oct-16	20:35	176	4.6	10.81	49.1	0	0	0	
2008-Oct-16	20:36	170	4.6	10.91	50.7	0	0	0	
2008-Oct-16	20:36	178	4.2	10.13	52.2	0	0	0	
2008-Oct-16	20:36	173	4.2	9.88	53.6	0	0	0	
2008-Oct-16	20:37	174	4.3	10.14	55.1	0	0	0	
2008-Oct-16	20:37	176	4.5	10.44	56.5	0	0	0	
2008-Oct-16	20:37	171	4.5	10.57	58.0	0	0	0	
2008-Oct-16	20:38	172	4.6	10.89	59.5	0	0	0	
2008-Oct-16	20:38	123	2.1	9.65	60.8	0	0	0	
2008-Oct-16	20:38	152	3.9	10.57	61.8	0	0	0	
2008-Oct-16	20:39	156	4.0	10.74	63.1	0	0	0	
2008-Oct-16	20:39	150	3.7	9.78	64.4	0	0	0	
2008-Oct-16	20:39	146	3.1	9.72	65.5	0	0	0	
2008-Oct-16	20:40	148	3.6	10.01	66.7	0	0	0	
2008-Oct-16	20:40	150	3.8	10.32	67.9	0	0	0	
2008-Oct-16	20:40	154	3.6	10.27	69.2	0	0	0	
2008-Oct-16	20:41	144	3.9	10.67	70.5	0	0	0	
2008-Oct-16	20:41	147	3.9	10.78	71.8	0	0	0	
2008-Oct-16	20:41	148	4.0	10.69	73.1	0	0	0	
2008-Oct-16	20:42	152	3.7	9.80	74.4	0	0	0	
2008-Oct-16	20:42	149	3.7	9.93	75.6	0	0	0	
2008-Oct-16	20:42	148	3.7	10.08	76.9	0	0	0	
2008-Oct-16	20:43	154	3.8	10.22	78.1	0	0	0	
2008-Oct-16	20:43	154	3.8	10.34	79.4	0	0	0	
2008-Oct-16	20:43	151	4.0	10.55	80.7	0	0	0	
2008-Oct-16	20:44	158	4.0	10.79	82.0	0	0	0	
2008-Oct-16	20:44	156	4.0	10.82	83.3	0	0	0	
2008-Oct-16	20:44	161	3.8	10.00	84.7	0	0	0	
2008-Oct-16	20:45	157	3.7	9.80	85.9	0	0	0	
2008-Oct-16	20:45	153	3.7	9.94	87.1	0	0	0	
2008-Oct-16	20:45	154	3.7	10.09	88.4	0	0	0	
2008-Oct-16	20:46	159	3.9	10.45	89.6	0	0	0	
2008-Oct-16	20:46	164	3.9	10.53	90.9	0	0	0	
2008-Oct-16	20:46	156	4.0	10.72	92.3	0	0	0	
2008-Oct-16	20:47	161	4.0	10.71	93.6	0	0	0	
2008-Oct-16	20:47	159	4.0	10.72	94.9	0	0	0	
2008-Oct-16	20:47	161	3.7	9.85	96.2	0	0	0	
2008-Oct-16	20:48	161	3.7	9.78	97.5	0	0	0	
2008-Oct-16	20:48	158	3.7	9.88	98.7	0	0	0	
2008-Oct-16	20:48	161	3.7	10.01	100.0	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	20:49	157	3.7	10.10	101.2	0	0	0	
2008-Oct-16	20:49	157	3.8	10.28	102.5	0	0	0	
2008-Oct-16	20:49	150	4.0	10.57	103.8	0	0	0	
2008-Oct-16	20:50	152	3.9	10.74	105.1	0	0	0	
2008-Oct-16	20:50	157	4.0	10.80	106.4	0	0	0	
2008-Oct-16	20:50	157	3.7	9.86	107.7	0	0	0	
2008-Oct-16	20:51	156	3.7	9.80	108.9	0	0	0	
2008-Oct-16	20:51	163	3.7	9.95	110.2	0	0	0	
2008-Oct-16	20:51	154	3.7	10.05	111.4	0	0	0	
2008-Oct-16	20:52	156	3.9	10.40	112.7	0	0	0	
2008-Oct-16	20:52	152	3.9	10.39	113.9	0	0	0	
2008-Oct-16	20:52	150	3.9	10.55	115.2	0	0	0	
2008-Oct-16	20:53	156	3.9	10.60	116.6	0	0	0	
2008-Oct-16	20:53	161	3.8	9.97	117.9	0	0	0	
2008-Oct-16	20:53	165	3.7	9.67	119.1	0	0	0	
2008-Oct-16	20:54	165	3.7	9.76	120.3	0	0	0	
2008-Oct-16	20:54	160	3.7	9.92	121.6	0	0	0	
2008-Oct-16	20:54	158	3.7	10.10	122.8	0	0	0	
2008-Oct-16	20:55	161	3.8	10.34	124.1	0	0	0	
2008-Oct-16	20:55	157	3.9	10.52	125.4	0	0	0	
2008-Oct-16	20:55	166	3.9	10.65	126.7	0	0	0	
2008-Oct-16	20:56	173	4.0	10.74	128.0	0	0	0	
2008-Oct-16	20:56	167	3.7	9.74	129.3	0	0	0	
2008-Oct-16	20:56	169	3.7	9.65	130.5	0	0	0	
2008-Oct-16	20:57	166	3.7	9.80	131.7	0	0	0	
2008-Oct-16	20:57	167	3.7	9.93	133.0	0	0	0	
2008-Oct-16	20:57	166	3.8	10.11	134.2	0	0	0	
2008-Oct-16	20:58	161	3.8	10.27	135.5	0	0	0	
2008-Oct-16	20:58	167	3.9	10.45	136.8	0	0	0	
2008-Oct-16	20:58	167	3.9	10.53	138.1	0	0	0	
2008-Oct-16	20:59	167	3.7	9.80	139.4	0	0	0	
2008-Oct-16	20:59	167	3.7	9.62	140.6	0	0	0	
2008-Oct-16	20:59	161	3.7	9.81	141.9	0	0	0	
2008-Oct-16	21:00	161	3.7	9.94	143.1	0	0	0	
2008-Oct-16	21:00								End Mud
2008-Oct-16	21:00	157	3.8	10.04	143.9	0	0	0	
2008-Oct-16	21:00	157	3.8	10.03	144.0	0	0	0	
2008-Oct-16	21:00								Start Pumping Water
2008-Oct-16	21:00	152	3.7	10.05	144.4	0	0	0	
2008-Oct-16	21:00	204	4.5	10.60	145.6	0	0	0	
2008-Oct-16	21:01	204	4.6	10.98	147.1	0	0	0	
2008-Oct-16	21:01	209	4.6	11.18	148.7	0	0	0	
2008-Oct-16	21:01	209	4.9	11.07	150.2	0	0	0	
2008-Oct-16	21:02	204	4.5	10.21	151.8	0	0	0	
2008-Oct-16	21:02	205	4.3	9.62	153.4	0	0	0	
2008-Oct-16	21:02	202	4.0	8.62	154.9	0	0	0	
2008-Oct-16	21:03	203	4.7	11.24	156.3	0	0	0	
2008-Oct-16	21:03	196	4.6	11.38	157.9	0	0	0	
2008-Oct-16	21:03	202	4.8	11.65	159.5	0	0	0	
2008-Oct-16	21:04	200	4.9	11.41	161.1	0	0	0	
2008-Oct-16	21:04	197	5.0	11.74	162.7	0	0	0	
2008-Oct-16	21:04	197	4.6	11.55	164.4	0	0	0	
2008-Oct-16	21:05	203	4.0	8.68	165.8	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08290-Oct-16	FORTUNA ENERGY INC	2207162010

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-16	21:05	125	0.2	8.58	166.8	0	0	0	
2008-Oct-16	21:05								End Water
2008-Oct-16	21:05	124	0.1	8.57	166.8	0	0	0	
2008-Oct-16	21:05								Stop Pumping
2008-Oct-16	21:05	122	0.0	8.55	166.8	0	0	0	
2008-Oct-16	21:05	119	0.0	8.54	166.8	0	0	0	
2008-Oct-16	21:05								End Job
2008-Oct-16	22:09								

Post Job Summary

Average Pump Rates, bpm

Slurry	N2	Mud	Maximum Rate
3			4

Volume of Fluid Injected, bbl

Total Slurry	Mud	Spacer	N2
49.2	254	8.4	

Treating Pressure Summary, psi

Maximum	Final	Average	Bump Plug to	Breakdown
200		175		

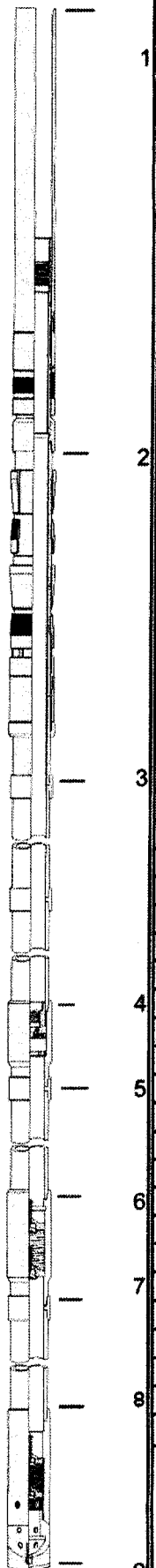
Breakdown Fluid

Volume	Density
bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	49.2 bbl	262 bbl	60 °F	☐ Washed Thru Perfs	To ft

Customer or Authorized Representative	Schlumberger Supervisor		
Wheeler, Roy	Wilkinson, Sean	☐ CirculationLost	☑ Job Completed

PROPOSED WELL SCHEMATIC



EQUIPMENT AND SERVICES LOCATION

43-033-30062

Baker Oil Tools

Insert Product Line here

SALES LOCATION

Baker Oil Tools
Insert Address Here
Insert Phone here

BAKER HUGHES

Baker Oil Tools

Page : 1

OPERATOR: FORTUNA	FAX #	BHP	BHT
COMPANY REP.: ROY WIELER	PHONE #	MAX DEV.	ZONE DEV.
FIELD: HOGBACK	WELL NO: 1-17-13N-7E	SCREEN SIZE	STARTING WELL
STATE: UTAH	LEASE: HOGBACK	SAND SIZE	COMPLETION FLUID (weight and type) / COATING (type)
LOADING DOCK	PHONE #	PERFORATIONS	
RIG NAME	PHONE #		
PREPARED BY	PHONE #		
DATE SUBMITTED	JOB # (version #)		
JOB REPORT #	WELL TYPE		

	SIZE	WEIGHT	GRADE	THREAD
CASING	7.000	26.00	L-80	Hydril 513
LINER	5.000	18.00	L-80	HYDRIL 513
TUBING				
WRKSTR.				

No.	DEPTH	LENGTH	OD	ID	DESCRIPTION
1	12266.07	13.17	5.813	4.438	BAKER TYPE HY-FLO-III LINER TOP PACKER W/ 10
					(5.250) TIE-BACK EXTENTION L-80 MATERIAL
2	10239.24	6.67	5.875	4.250	BAKER TYPE "HMC HYDRUALIC SET LINER HANGER
3	10245.91	2168.4	5.000	4.276	53-JTS 5"-18.00#/FT N-80 HYDRIL-513 CASING
4	12414.31	1.12	5.063	4.188	BAKER TYPE-II LANDING COLLAR L-80 MATERIAL
5	12415.43	41.6	5.000	4.276	1-JT 5"-18.00#/FT L-80 HYDRIL -513 CASING
6	12457.03	1.65	5.063	4.188	BAKER DOUBLE VALVE FLOAT COLLAR L-80 MATERIAL
	2232.61				MATERIAL
7	12458.68	38.8	5.000	4.276	1-JT 5"-18.00#/FT L-80 HYDRIL-513 CASING
8	12497.48	2	5.063	4.250	BAKER TYPE "V"-SET DOUBLE VALVE FLOAT SHOE
					L-80 MATERIAL
9	12499.48				END OF SHOE

OPEN HOLE COMPLETIONS
SEQUENCE OF EVENTS

Baker Oil Tools

Operating Company:	FORTUNA	**Represented by:**	Roy Wieler
Well Name / Number:	1-17-13N-7E	**Field:**	Hogback Ridge
Sales Ticket No.:	OHC--United States-mcgimic	**BOT Service Rep(s).:**	Mike McGilvary/Steve Mcgilvray
Date:	10/17/2008	**District Location:**	Casper, Wyoming, USA

DETAIL THE JOB - THIS FORM IS USED TO REPORT WHAT ACTUALLY TOOK PLACE

DATE	TIME	OPERATIONS & REMARKS
10/17/08	06:00AM	LEAVE BAKER YARD
	12:00AM	ARRIVE ON LOCATION
	12:05PM	CHECK OUT ALL LINER EQUIPIMENT
	12:30PM	MEET WITH COMPANY MAN AND DICUSS LINER JOB
	23:00PM	RIG UP CASING CREW AND PREPARE TO RUN LINER
10/18/08	02:00AM	HOLD SAFETY MEETING WITH RIG CREW AND CASING CREW
	02:30AM	PICK UP 1ST JT OF 5"-18.00#/FT L-80 HYDRIL 513 CASING. BAKER LOK PIN END
		OF JT AND INSTALL "V"-SET DOUBLE VALVE FLOAT SHOE.LOWER ASSEMBLY
		IN HOLE
	02:45AM	BAKER LOK PIN END OF DOUBLE VALVE FLOAT COLLAR AND INSTALL ON
		FIRST JT CASING. PICK UP SECOND JT OF CASING, BAKER LOK PIN END AND
		MAKE UP ON TO FLOAT COLLAR, LOWER IN HOLE.
	03:00AM	INSTALL TYPE-II LAND ING COLLAR ON TOP OF SECOND JT MAKE-UP AND
		LOWER IN HOLE.
	03:30AM	FILL CASING AND CHECK THAT FLOATS ARE OPERATIONAL
	03:45AM	PICK UP REMAINING 53-JTS FILLING PIPE EVERY 5- JTS
	08:55AM	PICK UP "HMC" LINER HANGER WITH HY-FLO-III LINER TOP PACKER ON
		2-RH LINER SETTING TOOL MAKE UP ON TO CASING AND LOWER ASSEMBLY IN
		HOLE.
	09:00AM	RUN IN HOLE WITH 1-STAND OF DRILL PIPE
	09:05AM	CIRCULATE WELL WHILE RIGGING DOWN CASING CREW.
	09:55AM	RECORD LINER WIEGHT OF 35,396#
	10:00AM	START IN HOLE WITH 4"-14.00 S-135 XT 39 DRILL PIPE FILL DRILL PIPE EVERY
		10 STANDS
	18:45PM	MAKE UP LAKE CHARLES PLUG DROPING MANIFOLD ON TO 10 FT PUP JT
	19:00PM	CONTINUE IN HOLE WITH DRILL PIPE AND LINER.
	20:15PM	WASH DOWN LAST JT OF DRILL PIPE,PICK UP PLUG DROPING MANIFOLD
		AND MAKE UP ON TO DRILL PIPE. LOWER TO SETTING DEPTH OF 12,499.48
	21:30PM	BREAK CIRCULATION, AND CIRCULATE BOTTOMS UP .
	23:00PM	DROP 1"-1/2 BRASS BALL.
	23:20PM	BALL ON SEAT.
	23:30PM	PRESSURE DRILL PIPE TO 1,600 PSI AND SLACK OFF .LINER HANGER DID NOT
		HANG
	23:40PM	PRESSURE DRILL PIPE TO 1,800 PSI SLACK OFF STIL DID NOT SET
	23:45PM	PRESSURE TO 2,200 PSI SLACK LINER WIEGHT OF 35/000 ON TO HMC LINER
		HANGER. PLUS 20,000 TO RELEASE.
	23:51PM	PRESSURE DRILL PIPE TO 2,700 PSI TO BLOW OUT BALL SEAT.
	23:55PM	RELEASE FROM LINER WITH 15, ROUNDS ROGHT HAND ROTATION.
	22:58PM	PICK UP 2-FT AND NOTE LINER LOSS OF 35,000 POUNDS.
	24:00PM	SLACK 30,000 ON TO LINER TOP AND PREARE TO CEMENT.
10/19/08	00:10AM	ATTEND PRE JOB SAFETY MEETING
	00:30AM	TEST LINES TO 5,000 PSI
	00:35AM	PUMP 10 FRESH WATER.
	00:38AM	MIX AND PUMP 31-BARRELS OF 15.7#/GAL CEMENT
	00:50AM	DROP PUMP DOWN PLUG
	00:53AM	START DRILL PIPE DISPLACEMENT OF 110.98 BARRELS AT 4-BBL/MIN
	01:32AM	SLOW PUMP RATE TO 2-BARREL/MIN TO PICK UP LINER WIPER PLUG
	01:34AM	SHEAR OFF LINER WIPER PLUG WITH 108 BBLS PUMPED NOTE 300 PSI
		INCREASE WHEN PLUG SHEARED OFF.
	01:36AM	START LINER DISPLACEMENT OF 38.84 BBLS AT 4-BBLS/MIN
	01:45AM	LANDED PLUG WITH TOTAL OF 147 BARRELS PUMPED.PRESSURE TO 2,200 PSI
		OR 700 PSI OVER PUMP IN PRESSURE OF 1,600 PSI.
	01:47AM	BLEED OFF PRESSURE. FLOWED BACK 1-BARREL. FLOATS ARE HOLDING
	01:50AM	PULL OUT OF SLEEVE WITH PACK OFF AND PACKER SETTING DOG SUB
		SLACK OFF ON TO LINER TOP WITH 60,000 DRILL PIPE WEIGHT NOTE SHEAR

Company Representative:_____ BOT Representative: Mike McGilvary

Baker Oil Tools

OPEN HOLE COMPLETIONS SEQUENCE OF EVENTS

Baker Oil Tools

Operating Company:	FORTUNA	**Represented by:**	Roy Wieler
Well Name / Number:	1-17-13N-7E	**Field:**	Hogback Ridge
Sales Ticket No.:	OHC--United States-mcgimic	**BOT Service Rep(s).:**	Mike McGilvary/Steve Mcgilvray
Date:	10/17/2008	**District Location:**	Casper, Wyoming, USA

DETAIL THE JOB - THIS FORM IS USED TO REPORT WHAT ACTUALLY TOOK PLACE

DATE	TIME	OPERATIONS & REMARKS
		OF PACKER WITH 30,000 SETTING ON LINER.
	02:00AM	PICK UP AND CIRCULATE BOTTOMS UP
	03:00AM	STING SEALS BACK IN TO SLEEVE AND PRESSURE ANNLUS TO 1,600PSI
		HOLE PSI FOR 10 MINUTES.
	03:20AM	BLEED OFF PRESSURE
	03:30AM	RIG DOWN CEMENT LINER AND LC CEMENT HEAD.
	O4:00AM	RIG UP CASING CREW AND PREPARE TO LAY DOWN DRILL PIPE
	16:00PM	LAY LINER SETTING TOOL
	17:00PM	LEAVE LOCATION
	24:00PM	ARRIVE AT BAKER YARD

Company Representative:_____ BOT Representative:_____

Service Contract Receipt

Schlumberger

SCHLUMBERGER TECHNOLOGY CORPORATION

SC Number
2207160980

LEFT DISTRICT	Date	10/18/2008	Time	5:00:00 AM
ARRIVE LOCATION	Date	10/18/2008	Time	11:30:00 AM
JOB START	Date	10/19/2008	Time	12:00:00 AM
JOB COMPLETION	Date	10/19/2008	Time	2:00:00 AM
LEAVE LOCATION	Date	10/19/2008	Time	8:00:00 AM
ARRIVED DISTRICT	Date	10/19/2008	Time	8:30:00 AM

Invoice Mailing Address:
FORTUNA ENERGY INC

337 DANIEL ZENKER DRIVE
HORSEHEADS, NY
US

Service Instructions
Provide Equipment and Services to cement 5" liner.

Service Description
Cementing - Cement Liner

Customer PO	Contract	AFE	Rig
01533		63819	PRECISION 618

Well	State/Province	County/Parish/Block	Legal Location
Hogback Ridge 17-13N-7E	UT	Rich	

Field	Customer or Authorized Representative
Wildcat	Wheeler, Roy

THE ESTIMATED CHARGES AND DATA SHOWN BELOW ARE SUBJECT TO CORRECTION BY SCHLUMBERGER.

Item	Description	Quantity	Unit	Unit Price	Amount
Services					
102476000	Service Supervisor/Field Engineer	6	HR	105.00	630.00
102476001	Equipment Operator/Service Technician	18	HR	85.00	1,530.00
102872125	Pump, Liner/Sqz/Plug 12001-12501 ft	1	EA	10,600.00	10,600.00
107000000	Slurry King Mixer, Density Control Sys	1	JOB	1,120.00	1,120.00
107181000	Drill Pin, Rental, per Job	1	JOB	161.00	161.00
107264001	Regulatory Conformance Charge	2	EA	341.00	682.00
48019000	Bulk Unit, Cement Add Hr	10	HR	107.50	1,075.00
49100000	Cement Blending Charge	161	CF	2.27	365.47
49102000	Transportation, Cement Ton-mile	943	MI	1.68	1,584.24
59200002	Transportation, Mileage Heavy Vehicles	270	MI	4.60	1,242.00
59200005	Transportation, Mileage Light Vehicles	270	MI	2.70	729.00
59610000	Personnel Expenses, Overnight And Away	4	DAY	302.00	1,208.00
59697004	CemCAT« Monitoring System	1	JOB	880.00	880.00
				Services Subtotal:	**21,806.71**
				Discount:	**1,056.24**
				Special Discount:	**0.00**
				Estimated Total (USD):	**20,750.47**
Products					
57998000	Fuel Surcharge	2	EA	825.00	1,650.00
D046	Antifoam Agent, All Purpose	21	LB	4.75	99.75
D065	TIC« Dispersant	54	LB	7.35	396.90
D066	Silica Flour	3630	LB	0.31	1,125.30
D167	UNIFLAC«-S	21	LB	42.50	892.50
D174	Expanding Cement Additive	310	LB	4.05	1,255.50
D198	Wide Temperature Range Retarder	34	LB	13.60	462.40
D907	Cement, Class G	110	CF	20.50	2,255.00

Service Contract Receipt

Schlumberger

SCHLUMBERGER TECHNOLOGY CORPORATION

SC Number
2207160980

LEFT DISTRICT	Date	10/18/2008	Time	5:00:00 AM
ARRIVE LOCATION	Date	10/18/2008	Time	11:30:00 AM
JOB START	Date	10/19/2008	Time	12:00:00 AM
JOB COMPLETION	Date	10/19/2008	Time	2:00:00 AM
LEAVE LOCATION	Date	10/19/2008	Time	8:00:00 AM
ARRIVED DISTRICT	Date	10/19/2008	Time	8:30:00 AM

Invoice Mailing Address:
FORTUNA ENERGY INC

337 DANIEL ZENKER DRIVE
HORSEHEADS, NY
US

Service Instructions
Provide Equipment and Services to cement 5" liner.

Service Description
Cementing - Cement Liner

Customer PO	Contract	AFE	Rig
01533		63819	PRECISION 618

Well	State/Province	County/Parish/Block	Legal Location
Hogback Ridge 17-13N-7E	UT	Rich	

Field	Customer or Authorized Representative
Wildcat	Wheeler, Roy

THE ESTIMATED CHARGES AND DATA SHOWN BELOW ARE SUBJECT TO CORRECTION BY SCHLUMBERGER.

Item	Description	Quantity	Unit	Unit Price	Amount
				Products Subtotal:	8,137.35
				Discount:	324.37
				Special Discount:	0.00
				Estimated Total (USD):	7,812.98

Total (Before Discount):	29,944.06		
Discount:	1,380.60		
Special Discount:	0.00	Estimated Total (USD):	28,563.46

THE ESTIMATED CHARGES AND DATA SHOWN ABOVE ARE SUBJECT TO CORRECTION BY SCHLUMBERGER.

THE SERVICES, EQUIPMENT, MATERIALS AND /OR PRODUCTS PROVIDED BY THIS SERVICE CONTRACT RECEIPT HAVE BEEN PERFORMED OR RECEIVED AS SET FORTH ABOVE.

Signature of Customer or Authorized Representative: Roy Wil Sun Oct ** **:**:** ****
Wheeler, Roy

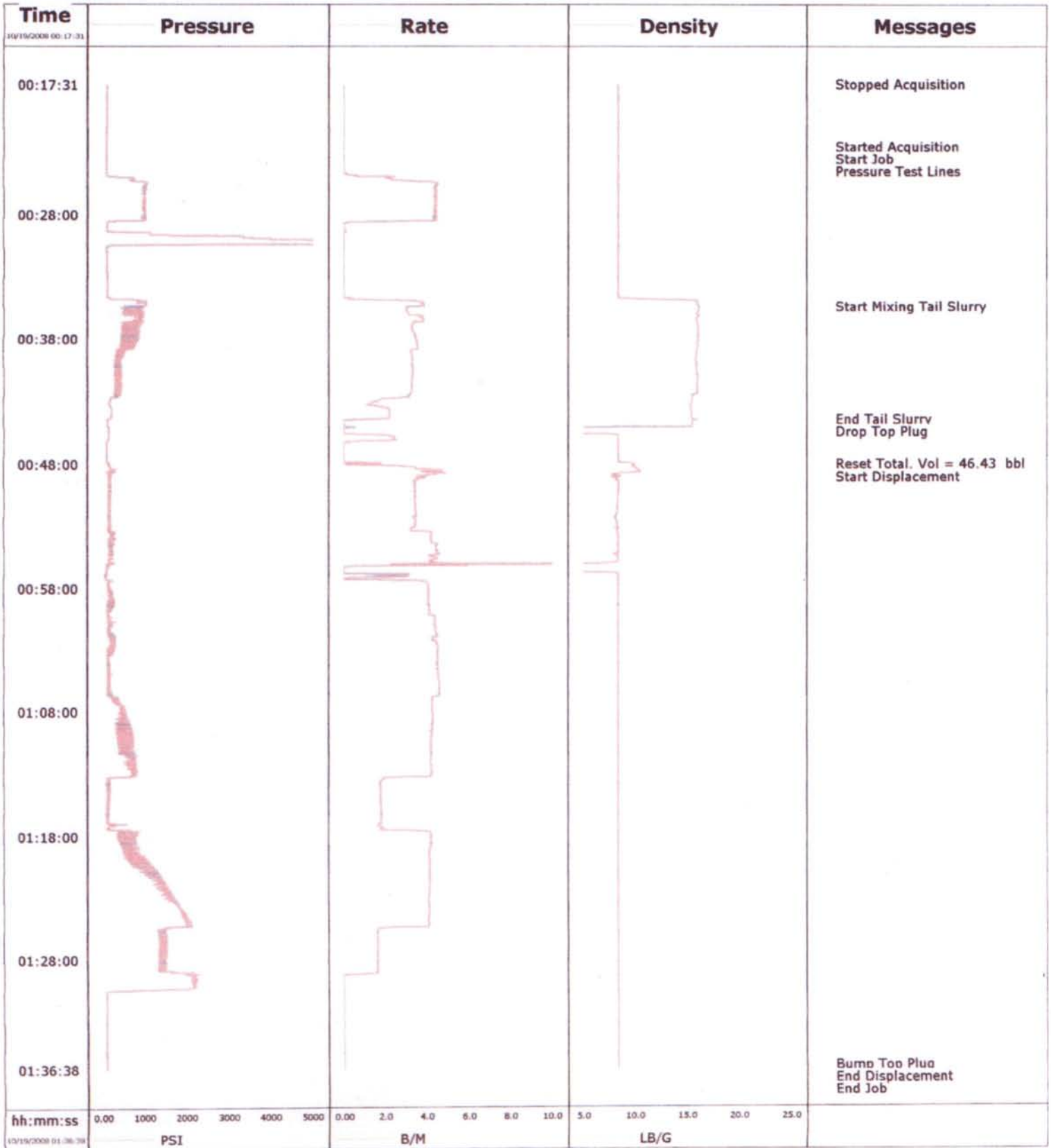
Signature of Schlumberger Representative: Sean Sun Oct ** **:**:** ****
Wilkinson, Sean

FORTUNA (US) LP
AFE: 63819 COST CODE 537
FOREMAN: PO # 01533
SUPERINTENDENT: STUART CAMERON
ESTIMATED # AMT: _____
LOCATION: HOGBACK RIDGE 1-17-13N-7E
FOREMAN'S SIGNATURE Roy Wil WIELER
ATTN. T

Schlumberger Cementing Job Report

CemCAT v1.3

Well	Hogback Ridge 17-13N-7E	**Client**	Fortuna Energy Inc
Field	Wildcat	**SIR No.**	2207160980
Engineer	Sean Wilkinson	**Job Type**	Liner
Country	United States	**Job Date**	10-18-2008



10/19/2008 01:59:34

Schlumberger Cementing Service Report

Customer	Job Number
FORTUNA ENERGY INC	2207160980

Well	Location (legal)	Schlumberger Location	Job Start
Hogback Ridge 17-13N-7E		Rock Springs, WY	2008-Oct-19

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wildcat		°	6.13 in	12,500 ft	12,494 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Rich	UT	psi	230 °F	223 °F	psi/ft

Well Master: 0630348607	API / UWI:

Rig Name	Drilled For	Service Via
PRECISION 618	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Vi:
Spud Mud	9.8 lb/gal	cp

Service Line	Job Type
Cementing	Cement Liner

Max. Allowed Tubing Pressure	Max. Allowed Ann. Pressure	WellHead Connection
5000 psi	psi	3 1/2" IF DP pin

Service Instructions

Provide Equipment and Services to cement 5" liner.

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
10700	7	26	P110	LTC
12494	5	18	L-80	IFJ

Tubing/Drill Pipe

Depth,	Size, in	Weight, lb/ft	Grade	Thread
10220	4	14	X95	MIJ

Perforations/Open Hole

Top, ft	Bottom, ft	spf	No. of Shots	Total Interval
				ft
				Diameter
				in

Treat Down	Displacement	Packer Type	Packer Depth
Drill Pipe	150 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	OpenHole Vol
110.7 bbl	40.38 bbl	38.96 bbl	bbl

Casing/Tubing Secured ☑ 1 Hole Volume Circulated prior to Cementing ☑

Lift Pressure: psi

Pipe Rotated ☐ Pipe Reciprocated ☐

No. Centralizers: Top Plugs: 1 Bottom Plugs:

Cement Head Type:

Job Scheduled For:	Arrived on Location:	Leave Location:
10/18/2008 8:30	2008-Oct-18 11:30	2008-Oct-19 8:00

Casing Tools

Shoe Type:	Float
Shoe Depth:	12499 ft
Stage Tool Type:	
Stage Tool Depth:	ft
Collar Type:	Other
Collar Depth:	12414 ft

Squeeze Job

Squeeze Type	
Tool Type:	
Tool Depth:	ft
Tail Pipe Size:	in
Tail Pipe Depth:	ft
Sqz Total Vol:	bbl

Date	Time (24 hr clock)	Treating Pressure (psi)	Flow Rate (bbl/min)	Density (lb/gal)	Volume (bbl)	0	0	0	Message
2008-Oct-19	0:22								Started Acquisition
2008-Oct-19	0:22	94	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:22	94	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:22								Start Job
2008-Oct-19	0:22								Pressure Test Lines
2008-Oct-19	0:22	94	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:22	94	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:23	94	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:23	94	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:23	94	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:24	96	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:24	97	0.0	8.36	0.0	0	0	0	
2008-Oct-19	0:24	202	2.4	8.44	0.2	0	0	0	
2008-Oct-19	0:25	704	3.0	8.32	0.9	0	0	0	
2008-Oct-19	0:25	1021	4.4	8.35	2.4	0	0	0	
2008-Oct-19	0:25	970	4.3	8.36	3.9	0	0	0	
2008-Oct-19	0:26	1004	4.4	8.36	5.3	0	0	0	
2008-Oct-19	0:26	991	4.4	8.36	6.8	0	0	0	
2008-Oct-19	0:26	989	4.4	8.36	8.3	0	0	0	
2008-Oct-19	0:27	982	4.4	8.36	9.7	0	0	0	
2008-Oct-19	0:27	995	4.4	8.36	11.2	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08293-Oct-19	FORTUNA ENERGY INC	2207160980

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-19	0:27	964	4.3	8.36	12.7	0	0	0	
2008-Oct-19	0:28	942	4.3	8.36	14.1	0	0	0	
2008-Oct-19	0:28	108	0.1	8.36	15.2	0	0	0	
2008-Oct-19	0:28	108	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:29	111	0.0	8.36	15.2	0	0	0	
2008-Oct-19	0:29	1584	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:29	4534	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:30	5203	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:30	97	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:30	106	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:31	112	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:31	113	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:31	113	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:32	114	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:32	114	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:32	115	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:33	116	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:33	117	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:33	117	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:34	119	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:34	121	0.0	8.35	15.2	0	0	0	
2008-Oct-19	0:34	1028	3.7	16.00	15.7	0	0	0	
2008-Oct-19	0:35	1005	3.8	16.05	17.0	0	0	0	
2008-Oct-19	0:35								Start Mixing Tail Slurry
2008-Oct-19	0:35	959	3.1	16.09	17.4	0	0	0	
2008-Oct-19	0:35	495	3.0	16.09	18.1	0	0	0	
2008-Oct-19	0:35	509	3.1	15.96	19.1	0	0	0	
2008-Oct-19	0:36	844	3.8	15.94	20.3	0	0	0	
2008-Oct-19	0:36	864	3.4	15.91	21.6	0	0	0	
2008-Oct-19	0:36	491	3.2	16.06	22.7	0	0	0	
2008-Oct-19	0:37	492	3.3	16.04	23.7	0	0	0	
2008-Oct-19	0:37	818	3.4	16.05	24.9	0	0	0	
2008-Oct-19	0:37	572	3.5	16.02	26.0	0	0	0	
2008-Oct-19	0:38	517	3.5	15.99	27.2	0	0	0	
2008-Oct-19	0:38	536	3.5	16.00	28.3	0	0	0	
2008-Oct-19	0:38	334	3.2	15.92	29.5	0	0	0	
2008-Oct-19	0:39	332	3.3	15.90	30.6	0	0	0	
2008-Oct-19	0:39	323	3.3	15.76	31.6	0	0	0	
2008-Oct-19	0:39	420	3.3	15.89	32.7	0	0	0	
2008-Oct-19	0:40	300	3.3	15.90	33.8	0	0	0	
2008-Oct-19	0:40	355	3.3	15.91	34.9	0	0	0	
2008-Oct-19	0:40	360	3.3	16.01	36.0	0	0	0	
2008-Oct-19	0:41	342	3.3	15.99	37.1	0	0	0	
2008-Oct-19	0:41	298	3.3	15.98	38.2	0	0	0	
2008-Oct-19	0:41	292	3.3	16.00	39.3	0	0	0	
2008-Oct-19	0:42	425	3.2	16.05	40.4	0	0	0	
2008-Oct-19	0:42	314	3.1	15.44	41.4	0	0	0	
2008-Oct-19	0:42	176	1.7	15.46	42.2	0	0	0	
2008-Oct-19	0:43	174	1.2	15.37	42.6	0	0	0	
2008-Oct-19	0:43	206	2.2	15.38	43.2	0	0	0	
2008-Oct-19	0:43	204	2.2	15.41	44.0	0	0	0	
2008-Oct-19	0:44	201	2.2	15.41	44.7	0	0	0	
2008-Oct-19	0:44								End Tail Slurry

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08293-Oct-19	FORTUNA ENERGY INC	2207160960

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-19	0:44	112	0.1	15.60	44.9	0	0	0	
2008-Oct-19	0:44								Drop Top Plug
2008-Oct-19	0:44	117	0.0	15.49	44.9	0	0	0	
2008-Oct-19	0:44	116	0.0	15.48	44.9	0	0	0	
2008-Oct-19	0:44	116	0.0	15.47	44.9	0	0	0	
2008-Oct-19	0:44	115	0.0	15.45	44.9	0	0	0	
2008-Oct-19	0:45	150	0.0	0.00	44.9	0	0	0	
2008-Oct-19	0:45	147	1.6	7.93	45.0	0	0	0	
2008-Oct-19	0:45	141	2.4	8.35	45.8	0	0	0	
2008-Oct-19	0:46	103	0.0	8.35	46.2	0	0	0	
2008-Oct-19	0:46	103	0.0	8.35	46.2	0	0	0	
2008-Oct-19	0:46	103	0.0	8.35	46.2	0	0	0	
2008-Oct-19	0:47	102	0.0	8.35	46.2	0	0	0	
2008-Oct-19	0:47	102	0.0	8.35	46.2	0	0	0	
2008-Oct-19	0:47	112	0.4	9.81	46.4	0	0	0	
2008-Oct-19	0:48	152	1.5	9.82	46.4	0	0	0	
2008-Oct-19	0:48								Reset Total, Vol = 46.43 bbl
2008-Oct-19	0:48								Start Displacement
2008-Oct-19	0:48	170	3.4	10.03	0.4	0	0	0	
2008-Oct-19	0:48	177	3.4	10.16	0.5	0	0	0	
2008-Oct-19	0:48	125	4.7	10.15	1.9	0	0	0	
2008-Oct-19	0:48	151	3.6	8.33	3.3	0	0	0	
2008-Oct-19	0:49	155	3.4	8.25	4.5	0	0	0	
2008-Oct-19	0:49	197	3.4	8.39	5.6	0	0	0	
2008-Oct-19	0:49	173	3.4	8.39	6.7	0	0	0	
2008-Oct-19	0:50	134	3.4	8.35	7.9	0	0	0	
2008-Oct-19	0:50	187	3.4	8.31	9.0	0	0	0	
2008-Oct-19	0:50	166	3.4	8.30	10.2	0	0	0	
2008-Oct-19	0:51	140	3.4	8.28	11.3	0	0	0	
2008-Oct-19	0:51	156	3.5	8.27	12.4	0	0	0	
2008-Oct-19	0:51	189	3.5	8.23	13.6	0	0	0	
2008-Oct-19	0:52	182	3.4	8.02	14.7	0	0	0	
2008-Oct-19	0:52	142	3.4	8.23	15.9	0	0	0	
2008-Oct-19	0:52	161	3.4	8.26	17.0	0	0	0	
2008-Oct-19	0:53	121	3.2	8.28	18.1	0	0	0	
2008-Oct-19	0:53	197	4.2	8.30	19.4	0	0	0	
2008-Oct-19	0:53	299	4.2	8.38	20.8	0	0	0	
2008-Oct-19	0:54	139	4.2	8.37	22.2	0	0	0	
2008-Oct-19	0:54	224	4.4	8.37	23.7	0	0	0	
2008-Oct-19	0:54	166	4.4	8.34	25.1	0	0	0	
2008-Oct-19	0:55	158	4.5	8.14	26.6	0	0	0	
2008-Oct-19	0:55	166	4.5	8.34	28.1	0	0	0	
2008-Oct-19	0:55	168	4.7	7.42	29.5	0	0	0	
2008-Oct-19	0:56	99	0.1	0.00	31.9	0	0	0	
2008-Oct-19	0:56	102	0.0	0.00	31.9	0	0	0	
2008-Oct-19	0:56	63	2.1	8.36	32.2	0	0	0	
2008-Oct-19	0:57	99	0.4	8.35	32.6	0	0	0	
2008-Oct-19	0:57	136	4.0	8.35	33.8	0	0	0	
2008-Oct-19	0:57	137	4.0	8.35	35.1	0	0	0	
2008-Oct-19	0:58	234	4.0	8.35	36.4	0	0	0	
2008-Oct-19	0:58	231	4.1	8.35	37.8	0	0	0	
2008-Oct-19	0:58	247	4.1	8.35	39.2	0	0	0	
2008-Oct-19	0:59	278	4.1	8.35	40.5	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08293-Oct-19	FORTUNA ENERGY INC	2207160980

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-19	0:59	125	4.1	8.35	41.9	0	0	0	
2008-Oct-19	0:59	128	4.1	8.35	43.2	0	0	0	
2008-Oct-19	1:00	225	4.4	8.35	44.6	0	0	0	
2008-Oct-19	1:00	221	4.4	8.35	46.1	0	0	0	
2008-Oct-19	1:00	240	4.4	8.36	47.5	0	0	0	
2008-Oct-19	1:01	188	4.4	8.36	49.0	0	0	0	
2008-Oct-19	1:01	199	4.5	8.35	50.5	0	0	0	
2008-Oct-19	1:01	217	4.2	8.35	52.0	0	0	0	
2008-Oct-19	1:02	188	4.5	8.35	53.4	0	0	0	
2008-Oct-19	1:02	161	4.5	8.35	54.9	0	0	0	
2008-Oct-19	1:02	155	4.5	8.35	56.4	0	0	0	
2008-Oct-19	1:03	138	4.5	8.35	57.9	0	0	0	
2008-Oct-19	1:03	138	4.5	8.35	59.4	0	0	0	
2008-Oct-19	1:03	156	4.5	8.35	60.8	0	0	0	
2008-Oct-19	1:04	144	4.5	8.35	62.3	0	0	0	
2008-Oct-19	1:04	144	4.5	8.35	63.8	0	0	0	
2008-Oct-19	1:04	148	4.5	8.35	65.3	0	0	0	
2008-Oct-19	1:05	156	4.5	8.35	66.8	0	0	0	
2008-Oct-19	1:05	154	4.6	8.35	68.4	0	0	0	
2008-Oct-19	1:05	162	4.6	8.36	69.9	0	0	0	
2008-Oct-19	1:06	173	4.6	8.35	71.4	0	0	0	
2008-Oct-19	1:06	187	4.6	8.35	73.0	0	0	0	
2008-Oct-19	1:06	338	4.2	8.36	74.4	0	0	0	
2008-Oct-19	1:07	384	4.2	8.35	75.8	0	0	0	
2008-Oct-19	1:07	443	4.2	8.36	77.3	0	0	0	
2008-Oct-19	1:07	518	4.2	8.35	78.7	0	0	0	
2008-Oct-19	1:08	527	4.2	8.36	80.1	0	0	0	
2008-Oct-19	1:08	513	4.2	8.36	81.5	0	0	0	
2008-Oct-19	1:08	488	4.2	8.36	82.9	0	0	0	
2008-Oct-19	1:09	431	4.2	8.36	84.3	0	0	0	
2008-Oct-19	1:09	412	4.2	8.36	85.7	0	0	0	
2008-Oct-19	1:09	524	4.2	8.36	87.1	0	0	0	
2008-Oct-19	1:10	464	4.2	8.36	88.5	0	0	0	
2008-Oct-19	1:10	445	4.2	8.36	89.9	0	0	0	
2008-Oct-19	1:10	413	4.2	8.36	91.3	0	0	0	
2008-Oct-19	1:11	386	4.2	8.36	92.7	0	0	0	
2008-Oct-19	1:11	596	4.2	8.36	94.1	0	0	0	
2008-Oct-19	1:11	651	4.2	8.36	95.5	0	0	0	
2008-Oct-19	1:12	724	4.2	8.36	96.9	0	0	0	
2008-Oct-19	1:12	797	4.2	8.36	98.3	0	0	0	
2008-Oct-19	1:12	799	4.2	8.36	99.7	0	0	0	
2008-Oct-19	1:13	122	1.9	8.35	100.8	0	0	0	
2008-Oct-19	1:13	169	1.8	8.35	101.4	0	0	0	
2008-Oct-19	1:13	156	1.8	8.35	102.0	0	0	0	
2008-Oct-19	1:14	113	1.8	8.35	102.6	0	0	0	
2008-Oct-19	1:14	115	1.8	8.35	103.2	0	0	0	
2008-Oct-19	1:14	104	1.8	8.35	103.7	0	0	0	
2008-Oct-19	1:15	152	1.8	8.35	104.3	0	0	0	
2008-Oct-19	1:15	120	1.8	8.35	104.9	0	0	0	
2008-Oct-19	1:15	145	1.8	8.35	105.5	0	0	0	
2008-Oct-19	1:16	111	1.8	8.35	106.1	0	0	0	
2008-Oct-19	1:16	124	1.8	8.35	106.7	0	0	0	
2008-Oct-19	1:16	399	1.7	8.35	107.3	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08293-Oct-19	FORTUNA ENERGY INC	2207160980

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-19	1:17	112	1.8	8.35	107.9	0	0	0	
2008-Oct-19	1:17	764	4.2	8.36	108.9	0	0	0	
2008-Oct-19	1:17	628	4.2	8.36	110.3	0	0	0	
2008-Oct-19	1:18	791	4.2	8.36	111.7	0	0	0	
2008-Oct-19	1:18	690	4.2	8.37	113.1	0	0	0	
2008-Oct-19	1:19	624	4.1	8.36	114.6	0	0	0	
2008-Oct-19	1:19	537	4.1	8.36	115.9	0	0	0	
2008-Oct-19	1:19	514	4.1	8.37	117.3	0	0	0	
2008-Oct-19	1:20	700	4.1	8.37	118.7	0	0	0	
2008-Oct-19	1:20	922	4.1	8.36	120.0	0	0	0	
2008-Oct-19	1:20	1191	4.1	8.36	121.4	0	0	0	
2008-Oct-19	1:21	1328	4.1	8.36	122.8	0	0	0	
2008-Oct-19	1:21	1339	4.1	8.36	124.2	0	0	0	
2008-Oct-19	1:21	1343	4.1	8.36	125.5	0	0	0	
2008-Oct-19	1:22	1438	4.1	8.36	126.9	0	0	0	
2008-Oct-19	1:22	1502	4.1	8.36	128.3	0	0	0	
2008-Oct-19	1:22	1391	4.1	8.36	129.6	0	0	0	
2008-Oct-19	1:23	1632	4.1	8.36	131.0	0	0	0	
2008-Oct-19	1:23	1770	4.1	8.36	132.4	0	0	0	
2008-Oct-19	1:23	1818	4.1	8.36	133.7	0	0	0	
2008-Oct-19	1:24	1849	4.1	8.36	135.1	0	0	0	
2008-Oct-19	1:24	1922	4.1	8.36	136.4	0	0	0	
2008-Oct-19	1:24	2002	4.1	8.36	137.8	0	0	0	
2008-Oct-19	1:25	2098	4.1	8.36	139.2	0	0	0	
2008-Oct-19	1:25	1723	4.1	8.36	140.5	0	0	0	
2008-Oct-19	1:25	1411	1.6	8.36	141.2	0	0	0	
2008-Oct-19	1:26	1322	1.6	8.35	141.7	0	0	0	
2008-Oct-19	1:26	1366	1.6	8.35	142.3	0	0	0	
2008-Oct-19	1:26	1480	1.6	8.35	142.8	0	0	0	
2008-Oct-19	1:27	1516	1.6	8.35	143.3	0	0	0	
2008-Oct-19	1:27	1507	1.6	8.35	143.9	0	0	0	
2008-Oct-19	1:27	1401	1.6	8.35	144.4	0	0	0	
2008-Oct-19	1:28	1418	1.6	8.35	145.0	0	0	0	
2008-Oct-19	1:28	1324	1.6	8.35	145.5	0	0	0	
2008-Oct-19	1:28	1357	1.6	8.35	146.0	0	0	0	
2008-Oct-19	1:29	2156	1.6	8.35	146.6	0	0	0	
2008-Oct-19	1:29	2116	0.0	8.35	146.7	0	0	0	
2008-Oct-19	1:29	2129	0.0	8.35	146.7	0	0	0	
2008-Oct-19	1:30	2194	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:30	1289	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:30	96	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:31	97	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:31	97	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:31	96	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:32	96	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:32	95	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:32	95	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:33	94	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:33	94	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:33	93	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:34	93	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:34	89	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:34	90	0.0	8.36	146.7	0	0	0	

Well	Field	Service Date	Customer	Job Number
Hogback Ridge #17-13N-7E	Wildcat	08293-Oct-19	FORTUNA ENERGY INC	2207160980

Date	Time	Treating Pressure	Flow Rate	Density	Volume	0	0	0	Message
	24 hr clock	psi	bbl/min	lb/gal	bbl	0	0	0	
2008-Oct-19	1:35	92	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:35	92	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:35	91	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:36	92	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:36	92	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:36	92	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:36								Bump Top Plug
2008-Oct-19	1:36	92	0.0	8.36	146.7	0	0	0	
2008-Oct-19	1:36								End Displacement
2008-Oct-19	1:36								End Job
2008-Oct-19	1:36	92	0.0	8.36	146.7	0	0	0	

Post Job Summary

Average Pump Rates, bpm

Slurry	N2	Mud	Maximum Rate
4			4.5

Volume of Fluid Injected, bbl

Total Slurry	Mud	Spacer	N2
31			

Treating Pressure Summary, psi

Maximum	Final	Average	Bump Plug to	Breakdown
1500		200	2100	

Breakdown Fluid

Volume	Density
bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	31 bbl	150 bbl	60 °F	☐ Washed Thru Perfs	To ft

Customer or Authorized Representative	Schlumberger Supervisor		
Wheeler, Roy	Wilkinson, Sean	☐ CirculationLost	☑ Job Completed

CONFIDENTIAL

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:	Patented
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	N/A
7. UNIT or CA AGREEMENT NAME:	N/A
1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER	8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E
2. NAME OF OPERATOR: Fortuna (US), LP	9. API NUMBER: 4303330062
3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5 — PHONE NUMBER: (403) 237-1448	10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL, COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 10/16/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☑ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP requests permission to set the following plugs within the referenced well.

TD - 13,375'

Plug #1 - 13,735' - 13,235' (500')
Plug #2 - 13,000' - 12,500' (500')

Calculations:

500' + 15% = 575'
575' x 0.0364 bbl/ft = 20.93 bbl
20.93 bbl x 5.6146 ft3/bbl = 117.51 ft3
117.51 ft3 / 1.15 ft3/sk (15.8 ppg cmt) = 102 sks per plug

Plug #2 will be polished to 12,500' and 5" liner will be run from 10,500' to 12,500'. This includes a 200' foot overlap inside the 7" intermediate string which is landed at 10,700'.

NAME (PLEASE PRINT) Don Hamilton TITLE Agent

SIGNATURE Don Hamilton DATE 10/15/2008

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 10/20/08
BY: Dustin Doucet

(5/2000) (See Instructions on Reverse Side)

COPY SENT TO OPERATOR
Date: 10.21.2008
Initials: KS

Spot Cement Plugs (based on caliper hole)

CONFIDENTIAL

Slurry Type:	0-1-0, 'G' + Fluid Loss + Retarder + Friction Reducer	
Hole Size (inches)	6-1/8"	
DP Size & Weight	4", 14.0 ppf	
OH Capacity (bbl/ft)	0.036400	
Annular Capacity (bbl/ft)	0.020900	
DP Capacity (bbl/ft)	0.0108	

Plug 1, Stage 1

Programmed Bottom Of Plug (ftKB)	13,735.00	
Programmed Top Of Plug (ftKB)	13,235.00	
Programmed Length Of Plug (feet)	500.00	
Excess Required	35%	
Length Of Plug w/ Excess (feet)	675.00	
Slurry Volume (bbls)	**24.57**	
Slurry Volume (ft3)	**137.95**	
Slurry Yield, 0-1-0 'G' (ft3/sack)	1.15	(15.8 ppg Cmt)
Sacks Of Cement Powder	**120**	
Displacement Of Slurry (bbls)	137.8	(Underdisplaced By 300 ft.)

Plug 2, Stage 1

Programmed Bottom Of Plug (ftKB)	13,000.00	
Programmed Top Of Plug (ftKB)	12,500.00	
Programmed Length Of Plug (feet)	500.00	
Excess Required	35%	
Length Of Plug w/ Excess (feet)	675.00	
Slurry Volume (bbls)	**24.57**	
Slurry Volume (ft3)	**137.95**	
Slurry Yield, 0-1-0 'G' (ft3/sack)	1.15	(15.8 ppg Cmt)
Sacks Of Cement Powder	**120**	
Displacement Of Slurry (bbls)	129.9	(Underdisplaced By 300 ft.)

PROCEDURE:

- RIH Open End DP To 13,735 ftKB (Sack Tied Over Btm Of DP)
- Work Pipe & Circulate To Flush Hole, Condition Mud (Add Aldicide to Mud)
- Pump Cement Abandonment Plug 1, 13,375 - 13,235 ftKB (Rotate DP)
- POOH Slowly To 13,000 ftKB
- Circulate Btm Up, Rotate Pipe, Work 10 ft., To Flush DP (Dump Any Cmt To Surf)
- Pump Cement Abandonment Plug 2, 13,000 - 12,500 ftKB (Rotate DP)
- POOH Slowly To 12,200 ftKB
- Circulate, Rotate Pipe, Work 10 ft., To Flush DP (Dump Any Cement To Surface)
- Circ Btm Up To Clean Hole
- POOH
- MU Drill Bit & RIH To Polish Cement To Casing Liner Set Depth Of 12,500 ftKB

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:	Patented
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	N/A
7. UNIT or CA AGREEMENT NAME:	N/A
1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER	8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E
2. NAME OF OPERATOR: Fortuna (US), LP	9. API NUMBER: 4303330062
3. ADDRESS OF OPERATOR: 3400, 888 3rd St. S.W. CITY Calgary STATE AB ZIP T2P5C5 PHONE NUMBER: (403) 237-1448	10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1,198' FNL & 421' FEL, COUNTY: Rich

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 17 13N 7E S STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 10/16/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☑ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US), LP requests permission to set the following plugs within the referenced well.

TD - 13,375'

Plug #1 - 13,735' - 13,235' (500')
Plug #2 - 13,000' - 12,500' (500')

Calculations:

500' + 15% = 575'
575' x 0.0364 bbl/ft = 20.93 bbl
20.93 bbl x 5.6146 ft3/bbl = 117.51 ft3
117.51 ft3 / 1.15 ft3/sk (15.8 ppg cmt) = 102 sks per plug

COPY SENT TO OPERATOR
Date: 11.25.2008
Initials: KS

Plug #2 will be polished to 12,500' and 5" liner will be run from 10,500' to 12,500'. This includes a 200' foot overlap inside the 7" intermediate string which is landed at 10,700'.

NAME (PLEASE PRINT) Don Hamilton TITLE Agent

SIGNATURE Don Hamilton DATE 10/15/2008

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 11/18/08
BY:

(5/2000) (See Instructions on Reverse Side)

RECEIVED
OCT 21 2008
DIV. OF OIL, GAS & MINING

CONFIDENTIAL

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: UT43-033-30062

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: HOGBACK RIDGE 1-17-13N-7E

2. NAME OF OPERATOR: Fortuna (US) L.P. by FUSI GP Inc.

9. API NUMBER: 4303330062

3. ADDRESS OF OPERATOR: 3400, 888 - 3rd Ave S.W., CITY Calgary STATE AB ZIP T2P5C6

PHONE NUMBER: (403) 237-2918

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL

FOOTAGES AT SURFACE: NAD 83 - 41° 52' 21.151" N & 111° 10' 6.539" W

COUNTY: RICH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: 1 17 13N 7E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☑ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 11/6/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☑ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Initial completion into Phosphoria/Dinwoody
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12 DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

See attached completion summary.

Propose to perforate the Phosphoria 11,680 – 11,710 ft, 11,750 – 11,800 ft., & 11,800 – 11,850 ft., acidize and flow test.

Suspend the Phosphoria below a plugged packer or bridge plug and complete the Dinwoody.

Propose to perforate the Dinwoody 10,365 – 10,375 ft., 10,379 – 10,386 ft., 10,415 – 10,425 ft., 10,435 – 10,445 ft., & 10,452 – 10,462 ft., acidize, and flow test.

Depending upon test results, most likely completion will be 2-7/8 tubing with packers and sliding sleeve to isolate the zones.

COPY SENT TO OPERATOR
Date: 11·25·2008
Initials: KS

NAME (PLEASE PRINT) Robert W. Kooyman, P.Eng TITLE Contract Completions Engineer

SIGNATURE Robert W Kooyman DATE 11/5/2008

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 11/18/08
BY:
* ERP is required. ERP submitted and approved as part of APD should be followed.

RECEIVED
NOV 05 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

Fortuna (US) L.P.

FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E
Surface Location 1-17-13N-7E

Dinwoody / Phosphoria Completion Program – "Sour Gas Well"

Preliminary Completion AFE # AF70854 - $950,000

Hogback Ridge 1-17-13N-7E was deemed to have spudded on the 20 February 2008 when the surface conductor was set. The drilling rig moved on and drilling commenced on 25th April 2008. 13-5/8 inch surface casing was set at 1526.8 ft. The well drilled ahead to the top of the Nugget Formation at 2822 ft. Coring, logging and testing confirmed that the Nugget was wet at this location. Vertical drilling recommenced. Hole conditions mandated that 9-5/8 inch intermediate casing be set at 4040 ft. The well was drilled ahead to the kickoff point at ~8300 ft. The well kicked of and built to 40 degrees in an Easterly direction.

The deviated wellbore was continued out in an Easterly direction with slowly dropping deviation to 12,312 ft.MD, 11,810 ft. TVD when it was decided that the well had missed its target.

The well was plugged back and 7 inch intermediate liner was set at 10,700 ft.MD. The well was kicked off at 10,815 ft. and angle dropped quickly to near vertical and then turned in a westerly direction. The well TD'd at 13,735 ft. when a twistoff resulted in the bit and dogsub being left in the hole. After logging, the well was plugged back to 12,500 ft. A 5 inch liner was run from 10220.6 ft. to 12494 ft.MD and the drilling rig moved off.

The scope of this program is to clean out the 5 inch liner down to TD and then to complete and test gas production from the Phosphoria and Dinwoody zones. If the tests are successful, the well will be completed for production up 73 mm L-80 modified EUE tubing.

PROGRAM OVERVIEW:

1. Set anchors. Move on service rig. Rig up.
2. Move on 12,000 ft used yellow band 2-7/8 inch L-80 modified EUE tubing.
3. Install service rig BOPs (Class 3 – 5000 psi sour). Pressure test BOPs and casing.
4. RIH with 6-1/8" bit/mill, 7" casing scraper, tubing, 9-5/8" casing scraper and tubing to surface. Clean out to top of liner and circulate fill off bottom. POOH.
5. RIH with 4-1/4" bit/mill, casing scraper, and mud motor. Clean out liner down to PBTD of ~12,450 ft.
6. Rig up Schlumberger cased hole logging unit and log CBT-USIT-GR-CCL from PBTD to liner top at 10,220 ft. Correlate to open hole logs. ROR Schlumberger.
7. Move on Baker Oil Tools representative and Perforating Company. Make up gun assembly, autorelease detonating head, *tailpipe, and permanent packer* onto tubing conveyed hydraulic setting tool. Log correlation and set packer based on perforating depths.
8. RIH with *seal assembly* on 2-7/8 tubing. Latch onto packer and land tubing in *Weatherford wellhead. Run heater string assembly. Remove BOPs and install wellhead.*
9. Swab well "dry". Use propane or nitrogen to inert tubing string.
10. Move on and rig up testers c/w line heater, circulation pump, separator, and flare stack. Rig up. Drop bar and detonate guns. Flow well up tubing to evaluate preflow. (Gross interval 11,680 – 11,850 ft.)
11. Move on slickline unit during the preflow. Run in hole with pressure recorders as soon as well is shut in and obtain an initial reservoir pressure buildup for 24 – 48 hours. If pressure buildup is low, notify Calgary. May abort stimulation.
12. Move on HCl, pumping units, and nitrogen units. Acidize well down tubing with *XX bbls* of 15% HCl pumped at yy BPM diverted with *XXX ball sealers.* ?Tree saver?
13. Flow well back to unload water and acid. Clean well up until fluid rate drops.
14. Shut well in and run recorders into tailpipe. Flow well on test as directed by Calgary.
15. At conclusion of flow, allow well to build up for ~96 hours. Run in hole and retrieve gauges. Set a PR wireline plug in the wireline profile of the on off connector. Flare pressure off tubing to ensure plug is set. Fill tubing with fresh water and pressure test plug.
16. Install BPV. Remove wellhead and install/pressure test BOPs.
17. Unlatch from packer. Spot sand onto packer. POOH with tubing string.

18. Rig up wireline perforating unit. Perforate the Dinwoody using 3-1/2 casing guns. Gross interval 10,365 – 10,462 ft. (net 47 ft.)
19. RIH with Baker SAP packer on 2-7/8 inch tubing. Test packer in blank casing.
20. Straddle each set of perforations and selectively acidize. (5 intervals)
21. Set packer in blank casing and swab well in to flow and recover spent acid.
22. Flow to clean up.
23. Kill well and POOH with stimulation string.
24. Wireline set a Baker FB-1 packer with extended seal assembly in the 7" casing
25. RIH with tailpipe and seal assembly on 2-7/8 tubing. Latch onto packer and land tubing in Weatherford wellhead. Run heater string assembly. Remove BOPs and install wellhead.
26. Release service rig.
27. Rig up testers c/w line heater, circulation pump, separator, and flare stack.
28. Unload well using either swabbing or coiled tubing and nitrogen.
29. Run pressure recorders.
30. Flow test to evaluate.
31. Shut in for buildup. Rig out and release testers.
32. Pull gauges. Set a wireline plug to suspend well. Bleed off tubing pressure. Fill well with inhibited fresh water.

ERP INFORMATION:

Well is expected to produce trace sour (0.04%) dry gas. A site specific ERP is NOT required because there are no inhabitants in the EPZ. An area survey should be conducted to determine presence of transients and industry activities in the area, however.

Fortuna (US) L.P.

WELL DATA:

UWI					
License #:	License No.	UT43-033-30062	API #	4303330062	
LAND /FORESTRY					
Working Interest:	Talisman 100%				
Surface Location	Dominion Land		1-17-13N-7E		
	NAD 83	Latitude	41° 52' 21.151" N deg North		
		Longitude	111° 10' 6.539" W deg West.		
Elevations:	KB (ft.): 6737.14		CF (ft.): 6713.34	PBTD (ft.KB):	12,450 mKB
	GL (ft.): 6713.34			TMD (ft.KB):	12,450 mKB
	KB – GL (ft.): 23.80		KB – CF (ft.): 23.8	TVD (ft.KB):	12,000 mKB
Dates:	Spud: 25 Apr 2008				
	Rig Released: 20 Oct 2008				
Deviation Info:	See attached survey data				
Other In Hole Info	N/A				

CASING AND CEMENT:

SURFACE: Ran 40 joints 13-3/8 inch 68 lb/ft K-55 BT&C casing to 1526.8 ft.KB in 17-1/2 inch hole and cemented casing with 590 sacks (251 bbls) RFC tailed with 630 sacks (129 bbls) Class G. Had 206 bbls good cmt surf returns

INTERMEDIATE: CASING Ran 95 joints 9-5/8 inch 43.5 lb/ft. L-80 LT&C casing to 4040.0 ft.KB in 12-1/4 inch hole and cemented casing with 310 sacks (173 bbls) extended Class G tailed with 525 sacks (135 bbls) Class G cement.

INTERMEDIATE: LINER Ran 152 joints 7 inch 26 lb/ft, L-80, Hydril 513 casing from 3790 ft. to 10,700 ft. in 8-1/2 inch hole and cemented casing with 1,095 sacks (609 bbls) Class G cement. No comments on cement returns.

PRODUCTION: LINER Ran 55 joints 5 inch 18 lb/ft L-80 Hydril 513 LT&C liner from 10,220 ft. to 12494 ft.KB. Cemented liner with 110 sacks (31 bbls) Class G cement. Backwashed trace of cement + 10bbls of water.

Fortuna (US) L.P.

TUBING STRING:

Item Description	Len (ft)	Top (ft)	Len (m)	Top (mKB)
None				

WELLHEAD INFORMATION

Wellhead	
Casing Bowl (Existing)	Unknown
Double Studded Adapter	
Tubing Spool	
Adapter Spool	
Tubing Hanger	
Bonnet Flange	
Master Valves	
Flow Tee	
Left Side Outlet	
Right Side Outlet	

Installed 13-5/8" 5000# Wellhead Bonnet c/w Ported Bullplug & Gauge (Rented From Weatherford, Casper)

RESERVOIR:

Formations of Interest	Dinwoody	Phosphoria	
Lithology	Carbonate	Mixture	
Ext.Perforations (ft):	None	None	
Proposed Perforations	10,365 – 10,375	11,680 – 11,710	
(ft.K.B.)	10.379 – 10,386	11,750 – 11,800	
	10,415 – 10,425	11,800 – 11,850	
	10,435 – 10,445		
	10,452 – 10,462		
Est.BHP (PSI+/-):	4,100	4,300	
Estimated BHT (°f):	210°F	220°F	
Gas Composition:	C1 = +/- 83%		
H_2S (%) / CO_2 %:	Trace / 0.3%	Trace / 0.3%	Both zones 15% N_2
Oil Gravity °API	n/a	n/a	
Open Hole Section (m):	-	-	-
Open Hole Size (mm):	-	-	-

WELL NOTES:

Based upon gas analysis results from a 1.5 mile offset, it is reasonable to expect this well to be slightly sour (400 PPM). Oddly, the gas analysis shows produced gas to also contain up to 15% nitrogen.

Because of the absence of manned facilities with a 1 km. radius of the well, a site specific ERP was not prepared for this operation. Any emergencies that occur should be handled under the Corporate ERP plan.

SAFETY/LOSS CONTROL:

PRECAUTIONS:

The Talisman representative on location shall ensure that the appropriate regulatory requirements and Talisman safety loss control guidelines are met at all times. All personnel on site should read and sign the Talisman booklet "Safety Guidelines for Contractors". Conduct daily safety meetings with the crews and service personnel. Precede all operations with a procedure, hazard identification and safety meeting to cover the scope of the operation. (Additional Safety Meeting information is included in APPENDIX III) Record any personnel injuries, material losses, equipment damage and lost time on the Wellview Incident Report. Take all necessary safety precautions to protect human health, safety and welfare.

REGULATIONS:

Talisman Drilling and Completions policies and Procedures plus All applicable regulations, including, but not limited to the Board and Occupational Health and Safety regulations, are to be strictly adhered to. Written instructions must be posted in doghouse or other conspicuous area prior to wellsite supervisor leaving lease. All verbal notifications and approvals from government regulatory agencies will be recorded on the Talisman daily report tour sheet. The name of the individual contacted and the subject matter of approval or notification should be recorded on same.

CONFIDENTIAL

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: UT43-033-30062

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: HOGBACK RIDGE 1-17-13N-7E

2. NAME OF OPERATOR: Fortuna (US) L.P. by FUSI GP Inc.

9. API NUMBER: 4303330062

3. ADDRESS OF OPERATOR: 3400, 888 - 3rd Ave S.W., CITY Calgary STATE AB ZIP T2P5C6

PHONE NUMBER: (403) 237-2918

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL

FOOTAGES AT SURFACE: NAD 83 - 41° 52' 21.151" N & 111° 10' 6.539" W

COUNTY: RICH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: 1 17 13N 7E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☑ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 11/6/2008	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☑ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Initial completion into Phosphoria/Dinwoody
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

See attached completion summary.

Propose to perforate the Phosphoria 11,680 – 11,710 ft, 11,750 – 11,800 ft., & 11,800 – 11,850 ft., acidize and flow test.

Suspend the Phosphoria below a plugged packer or bridge plug and complete the Dinwoody.

Propose to perforate the Dinwoody 10,365 – 10,375 ft., 10.379 – 10,386 ft., 10,415 – 10,425 ft., 10,435 – 10,445 ft., & 10,452 – 10,462 ft., acidize, and flow test.

Depending upon test results, most likely completion will be 2-7/8 tubing with packers and sliding sleeve to isolate the zones.

COPY SENT TO OPERATOR
Date: 11.26.2008
Initials: KS

NAME (PLEASE PRINT) Robert W. Kooyman, P.Eng TITLE Contract Completions Engineer

SIGNATURE RW Kooyman DATE 11/5/2008

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 11/24/08
BY: D. K. Quist
(See Instructions on Reverse Side)

RECEIVED
NOV 12 2008
DIV. OF OIL, GAS & MINING

(5/2000)

Fortuna (US) L.P.

FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E
Surface Location 1-17-13N-7E

Dinwoody / Phosphoria Completion Program – "Sour Gas Well"

Preliminary Completion AFE # AF70854 - $950,000

Hogback Ridge 1-17-13N-7E was deemed to have spudded on the 20 February 2008 when the surface conductor was set. The drilling rig moved on and drilling commenced on 25th April 2008. 13-5/8 inch surface casing was set at 1526.8 ft. The well drilled ahead to the top of the Nugget Formation at 2822 ft. Coring, logging and testing confirmed that the Nugget was wet at this location. Vertical drilling recommenced. Hole conditions mandated that 9-5/8 inch intermediate casing be set at 4040 ft. The well was drilled ahead to the kickoff point at ~8300 ft. The well kicked of and built to 40 degrees in an Easterly direction.

The deviated wellbore was continued out in an Easterly direction with slowly dropping deviation to 12,312 ft.MD, 11,810 ft. TVD when it was decided that the well had missed its target.

The well was plugged back and 7 inch intermediate liner was set at 10,700 ft.MD. The well was kicked off at 10,815 ft. and angle dropped quickly to near vertical and then turned in a westerly direction. The well TD'd at 13,735 ft. when a twistoff resulted in the bit and dogsub being left in the hole. After logging, the well was plugged back to 12,500 ft. A 5 inch liner was run from 10220.6 ft. to 12494 ft.MD and the drilling rig moved off.

The scope of this program is to clean out the 5 inch liner down to TD and then to complete and test gas production from the Phosphoria and Dinwoody zones. If the tests are successful, the well will be completed for production up 73 mm L-80 modified EUE tubing.

PROGRAM OVERVIEW:

1. Set anchors. Move on service rig. Rig up.
2. Move on 12,000 ft used yellow band 2-7/8 inch L-80 modified EUE tubing.
3. Install service rig BOPs (Class 3 – 5000 psi sour). Pressure test BOPs and casing.
4. RIH with 6-1/8" bit/mill, 7" casing scraper, tubing, 9-5/8" casing scraper and tubing to surface. Clean out to top of liner and circulate fill off bottom. POOH.
5. RIH with 4-1/4" bit/mill, casing scraper, and mud motor. Clean out liner down to PBTD of ~12,450 ft.
6. Rig up Schlumberger cased hole logging unit and log CBT-USIT-GR-CCL from PBTD to liner top at 10,220 ft. Correlate to open hole logs. ROR Schlumberger.
7. Move on Baker Oil Tools representative and Perforating Company. Make up gun assembly, autorelease detonating head, *tailpipe, and permanent packer* onto tubing conveyed hydraulic setting tool. Log correlation and set packer based on perforating depths.
8. RIH with *seal assembly* on 2-7/8 tubing. Latch onto packer and land tubing in *Weatherford wellhead. Run heater string assembly. Remove BOPs and install wellhead.*
9. Swab well "dry". Use propane or nitrogen to inert tubing string.
10. Move on and rig up testers c/w line heater, circulation pump, separator, and flare stack. Rig up. Drop bar and detonate guns. Flow well up tubing to evaluate preflow. (Gross interval 11,680 – 11,850 ft.)
11. Move on slickline unit during the preflow. Run in hole with pressure recorders as soon as well is shut in and obtain an initial reservoir pressure buildup for 24 – 48 hours. If pressure buildup is low, notify Calgary. May abort stimulation.
12. Move on HCl, pumping units, and nitrogen units. Acidize well down tubing with *XX bbls* of 15% HCl pumped at yy BPM diverted with *XXX ball sealers*. ?Tree saver?
13. Flow well back to unload water and acid. Clean well up until fluid rate drops.
14. Shut well in and run recorders into tailpipe. Flow well on test as directed by Calgary.
15. At conclusion of flow, allow well to build up for ~96 hours. Run in hole and retrieve gauges. Set a PR wireline plug in the wireline profile of the on off connector. Flare pressure off tubing to ensure plug is set. Fill tubing with fresh water and pressure test plug.
16. Install BPV. Remove wellhead and install/pressure test BOPs.
17. Unlatch from packer. Spot sand onto packer. POOH with tubing string.

18. Rig up wireline perforating unit. Perforate the Dinwoody using 3-1/2 casing guns. Gross interval 10,365 – 10,462 ft. (net 47 ft.)
19. RIH with Baker SAP packer on 2-7/8 inch tubing. Test packer in blank casing.
20. Straddle each set of perforations and selectively acidize. (5 intervals)
21. Set packer in blank casing and swab well in to flow and recover spent acid.
22. Flow to clean up.
23. Kill well and POOH with stimulation string.
24. Wireline set a Baker FB-1 packer with extended seal assembly in the 7" casing
25. RIH with tailpipe and seal assembly on 2-7/8 tubing. Latch onto packer and land tubing in Weatherford wellhead. Run heater string assembly. Remove BOPs and install wellhead.
26. Release service rig.
27. Rig up testers c/w line heater, circulation pump, separator, and flare stack.
28. Unload well using either swabbing or coiled tubing and nitrogen.
29. Run pressure recorders.
30. Flow test to evaluate.
31. Shut in for buildup. Rig out and release testers.
32. Pull gauges. Set a wireline plug to suspend well. Bleed off tubing pressure. Fill well with inhibited fresh water.

ERP INFORMATION:

Well is expected to produce trace sour (0.04%) dry gas. A site specific ERP is NOT required because there are no inhabitants in the EPZ. An area survey should be conducted to determine presence of transients and industry activities in the area, however.

WELL DATA:

UWI				
License #:	License No. UT43-033-30062		API # 4303330062	
LAND/FORESTRY				
Working Interest:	Talisman 100%			
Surface Location	Dominion Land		1-17-13N-7E	
	NAD 83	Latitude	41° 52' 21.151" N deg North	
		Longitude	111° 10' 6.539" W deg West.	
Elevations:	KB (ft.): 6737.14		CF (ft.): 6713.34	PBTD (ft.KB): 12,450 mKB
	GL (ft.): 6713.34			TMD (ft.KB): 12,450 mKB
	KB – GL (ft.): 23.80		KB – CF (ft.): 23.8	TVD (ft.KB): 12,000 mKB
Dates:	Spud: 25 Apr 2008			
	Rig Released: 20 Oct 2008			
Deviation Info:	See attached survey data			
Other In Hole Info	N/A			

CASING AND CEMENT:

SURFACE: Ran 40 joints 13-3/8 inch 68 lb/ft K-55 BT&C casing to 1526.8 ft.KB in 17-1/2 inch hole and cemented casing with 590 sacks (251 bbls) RFC tailed with 630 sacks (129 bbls) Class G. Had 206 bbls good cmt surf returns

INTERMEDIATE: CASING Ran 95 joints 9-5/8 inch 43.5 lb/ft. L-80 LT&C casing to 4040.0 ft.KB in 12-1/4 inch hole and cemented casing with 310 sacks (173 bbls) extended Class G tailed with 525 sacks (135 bbls) Class G cement.

INTERMEDIATE: LINER Ran 152 joints 7 inch 26 lb/ft, L-80, Hydril 513 casing from 3790 ft. to 10,700 ft. in 8-1/2 inch hole and cemented casing with 1,095 sacks (609 bbls) Class G cement. No comments on cement returns.

PRODUCTION: LINER Ran 55 joints 5 inch 18 lb/ft L-80 Hydril 513 LT&C liner from 10,220 ft. to 12494 ft.KB. Cemented liner with 110 sacks (31 bbls) Class G cement. Backwashed trace of cement + 10bbls of water.

TUBING STRING:

Item Description	Len (ft)	Top (ft)	Len (m)	Top (mKB)
None				

WELLHEAD INFORMATION

Wellhead	
Casing Bowl (Existing)	Unknown
Double Studded Adapter	
Tubing Spool	
Adapter Spool	
Tubing Hanger	
Bonnet Flange	
Master Valves	
Flow Tee	
Left Side Outlet	
Right Side Outlet	

Installed 13-5/8" 5000# Wellhead Bonnet c/w Ported Bullplug & Gauge (Rented From Weatherford, Casper)

RESERVOIR:

Formations of Interest	Dinwoody	Phosphoria	
Lithology	Carbonate	Mixture	
Ext.Perforations (ft):	None	None	
Proposed Perforations	10,365 – 10,375	11,680 – 11,710	
(ft.K.B.)	10.379 – 10,386	11,750 – 11,800	
	10,415 – 10,425	11,800 – 11,850	
	10,435 – 10,445		
	10,452 – 10,462		
Est.BHP (PSI+/-):	4,100	4,300	
Estimated BHT (°f):	210°F	220°F	
Gas Composition:	C1 = +/- 83%		
H_2S (%) / CO_2 %:	Trace / 0.3%	Trace / 0.3%	Both zones 15% N_2
Oil Gravity °API	n/a	n/a	
Open Hole Section (m):	-	-	-
Open Hole Size (mm):	-	-	-

WELL NOTES:

Based upon gas analysis results from a 1.5 mile offset, it is reasonable to expect this well to be slightly sour (400 PPM). Oddly, the gas analysis shows produced gas to also contain up to 15% nitrogen.

Because of the absence of manned facilities with a 1 km. radius of the well, a site specific ERP was not prepared for this operation. Any emergencies that occur should be handled under the Corporate ERP plan.

SAFETY/LOSS CONTROL:

PRECAUTIONS:

The Talisman representative on location shall ensure that the appropriate regulatory requirements and Talisman safety loss control guidelines are met at all times. All personnel on site should read and sign the Talisman booklet "Safety Guidelines for Contractors". Conduct daily safety meetings with the crews and service personnel. Precede all operations with a procedure, hazard identification and safety meeting to cover the scope of the operation. (Additional Safety Meeting information is included in APPENDIX III) Record any personnel injuries, material losses, equipment damage and lost time on the Wellview Incident Report. Take all necessary safety precautions to protect human health, safety and welfare.

REGULATIONS:

Talisman Drilling and Completions policies and Procedures plus All applicable regulations, including, but not limited to the Board and Occupational Health and Safety regulations, are to be strictly adhered to. Written instructions must be posted in doghouse or other conspicuous area prior to wellsite supervisor leaving lease. All verbal notifications and approvals from government regulatory agencies will be recorded on the Talisman daily report tour sheet. The name of the individual contacted and the subject matter of approval or notification should be recorded on same.

Fortuna (US) L.P.

Fax Transmission

To:	Utah Div. of Oil, Gas, & Mining	From:	Bob Kooyman
Phone:	(801) 538-5340	Phone:	(403) 650-3243
Fax:	(801) 359-3940	Fax:	(403) 281-9460

Date: November 5, 2008

Re: **FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E**
Phosphoria/Dinwoody Completion Program

Attached please find the sundry notice of Fortuna's intention to move a rig onto and commence the completion of the above well.

If you have questions or require further information regarding this matter, please contact the undersigned.

Sincerely,

R. W. (Bob) Kooyman, P.Eng.
FORTUNA (US) LP
Contract Completions Engineer

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DIV. OF OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER: UT43-033-30062

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: Hogback Ridge 1-17-13N-7E

2. NAME OF OPERATOR: Fortuna (US) L.P. by FUSI GP Inc.

9. API NUMBER: 43~~04440062~~ 03330062

3. ADDRESS OF OPERATOR: 3400, 888 - 3rd Ave. S.W. CITY Calgary STATE AB ZIP T2P 5C6

PHONE NUMBER: (403) 237-2918

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL

FOOTAGES AT SURFACE: NAD 83 - 41° 52' 21.151" N & 111° 10' 6.539" W deg West

COUNTY: RICH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: 1 17 13N 7E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☑ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Set Baker Model DB permanent packer with attached tail pipe and TCP guns at 3542 mKB.

Perforated Phosphoria 11,680 - 11,710 ft. & 11,750 - 11850 ft. No reaction from well even though fluid level at ~11,200 ft.

Attempted to drop guns unsuccessfully. Pumped ~170 bbls water into well.

Swabbed well and recovered 110 bbls. water but no sign of gas or inflow.

Pulled seal assembly and tubing.

Set cast iron bridge plug at 11,615 ft. Pressure tested plug and casing to 1000 PSI. Dump bailed 100 ft of cement onto bridge plug.

NAME (PLEASE PRINT) Robert W. Kooyman, P.Eng TITLE Contract Completions Engineer

SIGNATURE Robert W Kooyman DATE 12/8/2008

(This space for State use only)

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DEC 15 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E — **Report # 24.0, Report Date: 12/5/2008**

Job Type: Initial Completion

PBTD Depth (mKB):

Surface Legal Location	Field Name	Operation Group	Orig KB Elev (m)	Gr Elev (m)	KB-Grd (m)	KB-CF (m)
7001418637911171980		Southern District	2,053.48	2,046.23	7.25	6.95

Weather	Temperature (°...	Lease / Road Conditions	Rig Days Remaining
Clear, cool, -6	-2	Fair, snow.	6

Tubing Pressure (kPa)	Casing Pressure (kPa)	H2S < 1% (ppm)	H2S > 1% (%)
0	0	0	

Operations This Report Period

Hold safety meeting. Continue pulling 1.315" heater string. Change over to 2.875". Thaw pump. Unlatch off packer. Remove tubing hanger. Latch on to packer and undo latch/seal assembly. POOH.

Operations Next Report Period

Set bridge plug on Phosphoria.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (m³)	From well (m³)	Non-recov (m³)	Left to recover (m³)
	Water	20.00	0.00	0.00	106.10

Report Fluids Summary

Fluid	Cum to Well (m³)	Cum from Well (m³)	Cum Non-recov (m³)	Left to recover (m³)

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Safety meeting and discussion of days operations.
07:30	In Scope - Planned	Comp - Zone A	Pull Tubing	No Trbl	Pull and lay down 1.315" heater string.
08:00	In Scope - Planned	Comp - Zone A	Pull Tubing	No Trbl	Changeover to 2.875" equipment. Thaw pump out. Pump 20 bbls water to tubing. Unlatch from DB packer. Pulled up and removed tubing hanger. Latched on to packer - pulled 10000 lbs. over on packer. Slacked to 2000 lbs tension on packer - rotated out - Tim (Baker) said we had latch and seal assembly out of packer.
11:00	In Scope - Planned	Comp - Zone A	Pull Tubing	No Trbl	Pull 2.875" tubing. Only recovered overshot of on/off assembly.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (mm)	String Wt (kg/m)	String Grade	Csg Set Depth (mKB)
Conductor Pipe	508.0	139.887	H-40	31.64
Surface Casing	339.7	101.195	K-55	465.37
Intermediate Casing	244.5	64.735	L-80	1,231.38
Liner - Cemented	177.8	38.692	L-80	3,261.36
Liner - Cemented	127.0	26.787	L-80	3,808.17

Tubing - Workstring set at 3,611.88mKB on 11/26/2008 10:00

String Nom O...	String Wt (kg/m)	String Grade	String Top Thrd	Set Depth (mKB)
86.7			EUE	3,611.88

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (m)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (mKB)	Perf Bttm Int (mKB)
	11/30/2008	11,680.00	11,710.00
	11/30/2008	11,750.00	11,850.00

Stimulations & Treatments

Stim Type	Date	Zone

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed lifting, pinch points and between loads being picked up and moved.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	22,063.00	803,579.76

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...			5,914.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		00252	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
831	100 Not Available		249	1,500.00
842	100 Not Available	130810	251	5,500.00
827	100 Not Available			1,400.00
874	BAKER HUGHES BUSIN...	68598		6,504.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E — **Report # 25.0, Report Date: 12/6/2008**

Job Type: Initial Completion

PBTD Depth (mKB):

Surface Legal Location	Field Name	Operation Group	Orig KB Elev (m)	Gr Elev (m)	KB-Grd (m)	KB-CF (m)
7001418637911171980		Southern District	2,053.48	2,046.23	7.25	6.95

Weather	Temperature (°...	Lease / Road Conditions	Rig Days Remaining
Clear, -5	2	Fair, snow.	6

Tubing Pressure (kPa)	Casing Pressure (kPa)	H2S < 1% (ppm)	H2S > 1% (%)
0	0	0	

Operations This Report Period

Hold safety meeting. Rig in Warrior wireline. Run and set 5" bridge plug at 11615 ftKB. Pressure test plug to 1000 psi for 10 minutes. Dump bail 80 ft. cement on plug.

Operations Next Report Period

Cement and perforate.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (m³)	From well (m³)	Non-recov (m³)	Left to recover (m³)
	Water	20.00	0.00	0.00	126.10

Report Fluids Summary

Fluid	Cum to Well (m³)	Cum from Well (m³)	Cum Non-recov (m³)	Left to recover (m³)

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discuss operations for the day. .
07:30	In Scope - Planned	Comp - Zone A	W/L Operation	No Trbl	Make up bridge plug on setting tool. Run plug in and set at 11615 ft. KB.
11:00	In Scope - Planned	Comp - Zone A	Pressure Test	No Trbl	Fill hole and pressure test plug to 1000 psi for 10 minutes.
12:30	In Scope - Planned	Comp - Zone A	W/L Operation	No Trbl	Mix and dump bail cement on top of bridge plug. Dumped 80 ft cement on plug.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (mm)	String Wt (kg/m)	String Grade	Csg Set Depth (mKB)
Conductor Pipe	508.0	139.887	H-40	31.64
Surface Casing	339.7	101.195	K-55	465.37
Intermediate Casing	244.5	64.735	L-80	1,231.38
Liner - Cemented	177.8	38.692	L-80	3,261.36
Liner - Cemented	127.0	26.787	L-80	3,808.17

Tubing - Workstring set at 3,611.88mKB on 11/26/2008 10:00

String Nom O...	String Wt (kg/m)	String Grade	String Top Thrd	Set Depth (mKB)
86.7			EUE	3,611.88

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (m)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (mKB)	Perf Bttm Int (mKB)
	11/30/2008	11,680.00	11,710.00
	11/30/2008	11,750.00	11,850.00

Stimulations & Treatments

Stim Type	Date	Zone

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed wirelining - no cells today, do not walk under line, pinch points, etc.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	16,514.00	820,093.76

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...			6,869.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		00252	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
831	100 Not Available		249	1,500.00
842	100 Not Available	130810	251	5,500.00
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E — **Report # 26.0, Report Date: 12/7/2008**

Job Type: Initial Completion

PBTD Depth (mKB):

Surface Legal Location	Field Name	Operation Group	Orig KB Elev (m)	Gr Elev (m)	KB-Grd (m)	KB-CF (m)
70014186379111171980		Southern District	2,053.48	2,046.23	7.25	6.95

Weather	Temperature (°...	Lease / Road Conditions	Rig Days Remaining
Clear 0	6	Fair, snow.	5

Tubing Pressure (kPa)	Casing Pressure (kPa)	H2S < 1% (ppm)	H2S > 1% (%)
0	0	0	

Operations This Report Period

Hold safety meeting. Warrior wireline continue running cement to top up plug. Perforate 10452 - 10462 ft, 10435 - 10445 ft, 10415 -10425 ft, 10379 -10386ft, 10365 - 10375 ft. w/ 3.5" ERHSC, loaded 25 gr. DP at 6 spf. All shots fired. Slight vacuum following perforating. Make up Baker selective acidizing tool and run in to +/- 9000 ft.

Operations Next Report Period

Continue running tubing, acidize.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (m³)	From well (m³)	Non-recov (m³)	Left to recover (m³)
	Water				126.10

Report Fluids Summary

Fluid	Cum to Well (m³)	Cum from Well (m³)	Cum Non-recov (m³)	Left to recover (m³)

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discuss operations for the day.
07:30	In Scope - Planned	Comp - Zone A	W/L Operation	No Trbl	Dump Bail 20 ft. cement to top up cement on top of plug.
09:30	In Scope - Planned	Comp - Zone A	Perforat...	No Trbl	Run in and perforate 10452-10462 ft, 10435 - 10445 ft, 10415-10425 ft, 10379 - 10386 ft, 10365-10375 ft. w/ 3.5" ERHSC loaded 25 gr. DP at 6 spf. All shots fired. Slight vacuum after shooting.
13:00	In Scope - Planned	Comp - Zone A	Run Tubing	No Trbl	Make up Baker selective acidizing assembly. Tally and run in hole on 2.875" EUE tubing to +/- 9000 ft.
17:30	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (mm)	String Wt (kg/m)	String Grade	Csg Set Depth (mKB)
Conductor Pipe	508.0	139.887	H-40	31.64
Surface Casing	339.7	101.195	K-55	465.37
Intermediate Casing	244.5	64.735	L-80	1,231.38
Liner - Cemented	177.8	38.692	L-80	3,261.36
Liner - Cemented	127.0	26.787	L-80	3,808.17

Tubing - Workstring set at 3,611.88mKB on 11/26/2008 10:00

String Nom O...	String Wt (kg/m)	String Grade	String Top Thrd	Set Depth (mKB)
86.7			EUE	3,611.88

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (m)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (mKB)	Perf Bttm Int (mKB)
	11/30/2008	11,680.00	11,710.00
	11/30/2008	11,750.00	11,850.00

Stimulations & Treatments

Stim Type	Date	Zone

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed eletric wireline work, Cells Off,

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	68,906.00	888,999.76

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...			9,000.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		00252	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
831	100 Not Available		249	1,500.00
842	100 Not Available	130810	251	5,500.00
827	100 Not Available			1,400.00
838	100 Not Available	6420-0289	255	50,261.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

CONFIDENTIAL 43-033-30062

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 27.0, Report Date: 12/8/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

13N 7E 17

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Snow, Windy, -5	23.0	Fair, snow.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Continue running 2.875" tubing. Set Baker selective acidizing packers. Schlumberger rigged in, wait on field chemicals for acid. Acidize Dinwoody zone w/ 20% HCl and additives. Wash perforations w/ 10 bbls acid. Squeeze 10452 - 10462 ft - 20 bbls, 10435 - 10445 ft - 25 bbls., 10379 - 10386 ft - 60 bbls. 10415 - 10425 ft. and 10365 - 10375 would not break down at 6000 + psi surface. Rig out Schlumberger. Release packers. Pump 10 bbls water down annulus.

Operations Next Report Period

Evaluate Dinwoody.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water				793.1

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discussed operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Run Tubing	No Trbl	Run 2.875" EUE tubing to land Baker selective packers at bottom perforations.
09:00	In Scope - Planned	Comp - Zone A	Other Operati...	No Trbl	Locate casing collars. and set tools - 15 ft adjustment on tubing tally.
10:30	In Scope - Planned	Comp - Zone A	Other Operati...	Wait on Ven...	Wait on chemicals for acid job. Field chemicals were on another truck at another job.
13:00	In Scope - Planned	Comp - Zone A	Acid Wash/S...	No Trbl	Acidize perforations w/ 20% HCl. Wash 10 bbls by perforations. Squeeze 20 bbls @ 1.2 bpm (5640 psi) to 10452 - 10462 ft., 25 bbls. @1.7 bpm (5635 psi) to 10435 - 10445 ft., 60 bbls @ 1.8 bpm (3680 psi) to 10379 - 10386. Unable to break down 10415 - 10425 and 10365 - 10375 ft at 6000+ psi surface.
16:30	In Scope - Planned	Comp - Zone A	Rig Up/Down	No Trbl	Rig down Schlumberger. Release selective packers, pull up to 10350 ft with bottom packer. Pumped 10 bbls down annulus to clear acid.
17:30	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed RIH and set packers.
Safety Meeting	Acce...	Discussed acid job, Pressures, corrosive. PPE.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	40,874.00	957,002.76

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	6247		6,568.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,000.00
842	100 Not Available	130818	251	5,613.00
827	100 Not Available			1,400.00
839	SCHLUMBERGER TECH...	2207161063		22,131.00
847	100 Not Available	9995	256	3,542.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E | **Report # 28.0, Report Date: 12/9/2008**

Job Type: Initial Completion | **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
7001418637911171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Clear, -8	35.6	Fair.	4

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. SICP - vacuum, SITP - 0. Rig to and pull fluid control valve. Set SAP packer. Rig to swab. Swabbed +/- 65 bbls, (initial fluid level- 4000 ft.) well began flowing - flowed +/- 10 bbls. Shut well in and rigged to flow to test equipment - flowed +/- 10 minutes and went to nil. No identifiable gas to surface.

Operations Next Report Period

Evaluaate Dinwoody zone.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	471.7	0.0	321.4

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discuss operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Other Operati...	No Trbl	Rig to and run overshot on sandline to recover the fluid control valve in acidizing packers.
09:00	In Scope - Planned	Comp - Zone A	Set Packer	No Trbl	Set packer at 10338 ft Rig to swab.
10:00	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Initial fluid level - 4000 ft. Swabbed 65 bbls, began to flow. Rig manager asked me to look at drilling line - line is frayed and stretched - Notified Stone superintendent (Gene Caldwell) to replace drilling line before any more lifts were made.
15:00	In Scope - Planned	Comp - Zone A	Flowback Well on Clean Up	No Trbl	Flowed well +/- 10 bbls. Shut in to rig to flow to test equipment. Flow to test equipment only 10 minutes - died. Antifreeze flow line. Recovered +/- 75 bbls of 175 bbls acid and flush input.
17:30	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed recovery od valve and swabbing.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	33,238.00	990,240.76

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	6248		7,254.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130819	251	5,033.00
827	100 Not Available			1,400.00
847	BAKER HUGHES BUSIN...	72159		14,112.00
860	100 Not Available	6089774001		240.00
847	100 Not Available	9810	256	3,299.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 29.0, Report Date: 12/10/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Mainly clear, -5	44.6	Fair.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
11.6	0.0	0	

Operations This Report Period

Hold safety meeting. SITP - 80 psig. Opened to test equipment - dead in 5 minutes. Rig to and swab.- recovered 72 bbls. (Total fluid to be recovered - 465 bbls.) Fluid recovered to date - 147 bbls. Slight burnable gas, flowing after most swabs. Fluid gasified making fluid levels difficult to determine. pH - 6 -7, Salinity 9730 to 12312 ppm.

Operations Next Report Period

Swabbing

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	452.9	0.0	-131.5

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discuss swabbing and replacement of drilling line.
07:30	In Scope - Planned	Comp - Zone A	Flowback Well on Clean Up	No Trbl	SITP -80 psig. Opened to test equipment - went dead in 5 minutes.
08:00	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Rig to swab. Initial fluid leve;l - +/- 5000 ft. Recovered 72 bbls w/ flowing following swabs. Water -pH - 6 - 7, Salinity 9730 - 123112 ppm. Slight burnable gas during day. No H2S detected. Fluid gassy during day.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed swabbing.
Safety Highlight	Acce...	John Smith (Rig Manager) asked me to ;look at drilling line on 9/12/2008 - found line w/ many broken strands. Requested immediate replacement of drilling line. Stone (Gene Caldwell) brought new drilling line to location today. Averted a possible serious accident.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	18,261.24	1,008,502.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	6249		6,867.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130820	251	5,124.00
827	100 Not Available			1,400.00
847	100 Not Available	9480	256	2,638.00
860	100 Not Available	6095847001		332.24

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E | **Report # 30.0, Report Date: 12/11/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Light overcast, -4	46.4	Fair.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
8.7	0.0	0	

Operations This Report Period

Hold safety meeting. Bleed off to test equipment - flowed 2 bbls. Rig to swab and swab 21 bbls. Rig to and replace drilling line. Swab 18 bbls. pH - 6, salinity - 19000 ppm. Indication of some gas during swabbing. .

Operations Next Report Period

Pull SAP packer assembly

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	257.9	0.0	-389.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discussed operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Flowback Well on Clean Up	No Trbl	Opened well to test equipment - flowed 2 bbls.
09:00	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Rig to swab and swab - initial fluid level - surface. - recovered 21 bbls. Some gas following swabs.
12:00	In Scope - Planned	Comp - Zone A	Other Operati...	No Trbl	Change out drilling line.
15:00	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Swabbing - recovered 18 bbls water. pH - 6, salinity - 19000 ppm
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Btm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed swabbing - tighten and check mandreland cups. Installation of new drilling line during nice weather.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	15,467.00	1,023,969.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2251		5,813.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130821	251	6,354.00
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 31.0, Report Date: 12/12/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast, -7	37.4	Fair.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
23.9	0.0	0	

Operations This Report Period

Held safety meeting. SITP - 165 psi - bled off to test equipment - appeared to be gas. Prepare to pump water to kill tubing. Air on rig froze up - thawed out. Pumped 50 bbls. water to kill tubing. Weight indicator not functioning properly. Balance of day - wait on weight indicator, set up brakes and rig maintenance.

Operations Next Report Period

Pull SAP packers.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	314.5	0.0	0.0	-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discussed days operations.
07:30	In Scope - Planned	Comp - Zone A	Flowback Well on Clean Up	No Trbl	SITP - 165 psi. Bled down to flare .
08:00	In Scope - Planned	Comp - Zone A	Other Operati...	Eqt Pro... - TLM Surf...	Thaw air lines on rig.
10:00	In Scope - Planned	Comp - Zone A	Kill Well	No Trbl	Pump 50 bbls. to tubing.
10:30	In Scope - Planned	Comp - Zone A	Shut in for Night	Eqt Pro... - TLM Surf...	Weight indicator not working properly when taking a lift on the tubing. Requested a replacement indicator with a calibration. Crew cleaned on rig and set up brakes, and other maintenance on rig - No charge to Fortuna - 2 hrs. travel time only for the day. Shipped 250 bbls waste water to disposal.

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed killing procedure, tripping procedures, possible slight flow possibility, trickle water if required.
Safety Highlight	Acce...	STone to replace weight indicator - totally unreliable.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	12,350.00	1,036,319.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2252		970.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130823	251	5,110.00
827	100 Not Available			1,400.00
857	100 Not Available	24215		1,500.00
847	100 Not Available	9481	256	1,470.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E — **Report # 32.0, Report Date: 12/13/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
7001418637911171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Snow, Blowing	23.0	Fair.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Crew unable to accept direction of rig manager. Crew released. Well shut in for day.

Operations Next Report Period

Pull SAP packers

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water				-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	Eqt Pro... - TLM Surf...	Crew refused direction of rig manager and driller. Crew released.

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	STone released crew mwmbers who were troublesome.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	6,333.00	1,042,652.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...			
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130824	251	3,033.00
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 33.0, Report Date: 12/14/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Partially clear, -15	14.0	Fair.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Well dead. POOH. Lay down SAP assembly. Make up 2" XN nipple, Hornet packer, on-off tool, 2.875" R nipple and run in hole.

Operations Next Report Period

Land and test packer.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water				-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discussed operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Pull Tubing	No Trbl	POOH. Lay down SAP assembly.
12:30	In Scope - Planned	Comp - Zone A	Run Tubing	No Trbl	Make up 2" XN nipple, pup, Hornet packer, On/Off tool, pup, 2.875" R nipple and 2.875" tubing. Ran packer to 10332 ft.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	Secured well for night.

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed cold, slippery, snow on equipment. New crew. Watch for any flow. Tripping.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	22,868.00	1,065,520.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2253		10,322.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130875	251	5,033.00
827	100 Not Available			1,400.00
875	100 Not Available	10461	246	1,301.00
853	100 Not Available	24227	250	815.00
847	100 Not Available	9820	256	2,097.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E | **Report # 34.0, Report Date: 12/15/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
7001418637911171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast, -15	-0.4	Fair.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Bled off TSTM on casing and tubing. Space out and set packer to land 15000 # compression. Fill annulus with inhibited water. Pressure test packer at 500 psi for 15 minutes. Land tubing hanger with 15000 # compression. Pick up and run 1.315" tubing (2396 ft KB). .

Operations Next Report Period

Swab evaluate well.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	1748.6	0.0	1748.6	-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discussed operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Other Operati...	No Trbl	Space out packer. Set packer to set 15000 # compression on packer. Examine tubing hanger seal.
10:30	In Scope - Planned	Comp - Zone A	Other Operati...	No Trbl	Fill annulus w/ 278 bbls inhibited water. Pressure test to 500 psig for 15 minutes. Land tubing hanger in wellhead.
13:30	In Scope - Planned	Comp - Zone A	Run Tubing	No Trbl	Rig to and run 1.315" heating string.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
2 7/8	6.50	L-80		10,331.4

Item Description	Equipment Type
Retrievable Packer (410-193) Hornet	Packers

Make	Model	Elem Cent (ft)
Baker	A-3 Lokset	

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
1.315	1.70	J-55		2,401.6

Item Description	Equipment Type

Make	Model	Elem Cent (ft)

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed setting packer, filling hole, cold,testing packer.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	42,788.00	1,108,308.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2254		7,296.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13704	249	1,280.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 34.0, Report Date: 12/15/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
875	WEATHERFORD INTER...	4622913SR		715.00
861	BAKER HUGHES BUSIN...	70655		22,618.00
847	100 Not Available	9822	256	3,294.00
860	WEATHERFORD INTER...			532.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E | **Report # 35.0, Report Date: 12/16/2008**

Job Type: Initial Completion | **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast, -10	32.0	Fair.	4

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Remove BOPs and install wellhead. Prepare to and swab - initial fluid level - +/- 4715 ft. Recovered 74 bbls. water - fluid level from 3000 ft to 6000 ft while swabbing. 199 bbls left to recover.

Operations Next Report Period

Swab evaluate Dinwoody zone.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	465.4	0.0	-540.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discussed operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Other Operati...	No Trbl	Thaw wellhead and BOPs.
09:00	In Scope - Planned	Comp - Zone A	Remove BOP's	No Trbl	Remove BOPs and spools.
10:30	In Scope - Planned	Comp - Zone A	Install Wellhead	No Trbl	Install wellhead - new seal assembly in 2.875" side of tubing hanger.
12:00	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Prepare to and swab. Initial fluid level - 4715 ft. Recovered 74 bbls. water - fluid level fluctuating 3000 ft to 6000 ft.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
2 7/8	6.50	L-80		10,331.4

Item Description	Equipment Type
Retrievable Packer (410-193) Hornet	Packers

Make	Model	Elem Cent (ft)
Baker	A-3 Lokset	

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
1.315	1.70	J-55		2,401.6

Item Description	Equipment Type

Make	Model	Elem Cent (ft)

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed thaw BOPs, lifting and handling BOPs and spools. Swabbing.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	15,403.00	1,123,711.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2255		6,920.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13705	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 35.0, Report Date: 12/16/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 36.0, Report Date: 12/17/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Clear -16	24.8	Fair.	3

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Held safety meeting. Well flowed slightly for 1 hr. Swab water. Recovered 67 bbls water - pH - 6, salinity - 14000 ppm. Swabbing from 10275 ft ("R" nipple at 10294 ft.). 132 bbls water and acid left to recover .

Operations Next Report Period

Evaluate Dinwoody zone.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	67.0	0.0	-607.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discussed operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Flowback Well on Clean Up	No Trbl	Well flowed slightly. No measureable returns.
08:30	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Rlg to and swab. Initial fluid level - 6000 ft. Fluid level dropped to 9000 ft. swabbing from 10275 ft. Recovered 67 bbls. water - pH - 6, salinity - +/- 14000 ppm.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
2 7/8	6.50	L-80		10,331.4

Item Description	Equipment Type
Retrievable Packer (410-193) Hornet	Packers

Make	Model	Elem Cent (ft)
Baker	A-3 Lokset	

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
1.315	1.70	J-55		2,401.6

Item Description	Equipment Type

Make	Model	Elem Cent (ft)

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed keeping lines thawed. Possible H2S if we get gas flow. Doghouse has open flame heater - caution on CO and lack of oxygen.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	15,229.00	1,138,940.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2256		6,746.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13706	249	1,430.00
842	100 Not Available	130876	251	5,033.00

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 36.0, Report Date: 12/17/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E | **Report # 37.0, Report Date: 12/18/2008**

Job Type: Initial Completion | **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast to clear, -10	24.8	Fair.	2

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
20.3	0.0	0	

Operations This Report Period

Held safety meeting. Bled off 140 psig tubing pressure. Rig to and swab water from 10275 ft. Recovered 40 bbls. - Salinity - 14000 to 10800 ppm on last swab, pH - 6. Fluid level fluctuating from 9000 ft to 3700 ft.

Operations Next Report Period

Evaluate Dinwoody zone.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	40.0	0.0	-647.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discuss operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Flowback Well on Clean Up	No Trbl	Bleed off 140 psi from tubing.
08:00	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Swab - initial fluid level - 9000 ft. Pulled from 10000 ft. 4.5 bbls on first swab. Pulled from 10275 ft. on balance of swabs. Recovered a total of 40 bbls today. Salinity - 14000 to 10800 ppm. "Fluid level" varied during day from 9000 ft. to 3700 ft.
17:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
2 7/8	6.50	L-80		10,331.4

Item Description	Equipment Type
Retrievable Packer (410-193) Hornet	Packers

Make	Model	Elem Cent (ft)
Baker	A-3 Lokset	

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
1.315	1.70	J-55		2,401.6

Item Description	Equipment Type

Make	Model	Elem Cent (ft)

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discussed line clearance, swab records, swab precautiions.

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	18,846.00	1,157,786.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2257		6,809.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13707	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 37.0, Report Date: 12/18/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
847	100 Not Available	9819	256	3,554.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E | **Report # 38.0, Report Date: 12/19/2008**

Job Type: Initial Completion | **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
SNOW/ blowing snow, -10	5.0	Snowy	1

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
14.5	0.0	0	

Operations This Report Period

Held safety meeting. SITP - 100 psig. Bled off to tank. Ran swab - FL. 7000 ft., pull from 9000 ft (unable to get lower). Recovered 9 bbls water - 13000 ppm salinity, pH - 6. Rig in Prowireline unit. Run blind box to XN nipple. Set pressure recorders in XN nipple and X plug in on/off connector. Pressure guages will record for four months minimum.

Operations Next Report Period

Move out rig and final equipment.

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	9.0	0.0	-656.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
07:00	In Scope - Planned	Comp - Zone A	Safety Meeting	No Trbl	Discuss operations for the day.
07:30	In Scope - Planned	Comp - Zone A	Flowback Well on Clean Up	No Trbl	Bleed off 100 psig SITP.
08:00	In Scope - Planned	Comp - Zone A	Swabbing	No Trbl	Run in swab to 9000 ft. F.L. - 7000 ft. Recover 9 bbls water - 13000 ppm salinity, pH - 6.
10:00	In Scope - Planned	Comp - Zone A	Other Operati...	No Trbl	Wait on directions.
11:00	In Scope - Planned	Comp - Zone A	W/L Operation	No Trbl	Rig in Prowireline. Run 1.86" guage ring to 10331 ft (XN nipple). Set pressure guages on XN nipple. Run XX plug in X profile in on/off tool. Guages will record for four months.
14:30	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	Rig out and lay down service rig. Note: When pulling XX plug, +/- 1000 ft of water should be pumped into tubing as a buffer for any pressure built up below plug.

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
2 7/8	6.50	L-80		10,331.4

Item Description	Equipment Type
Retrievable Packer (410-193) Hornet	Packers

Make	Model	Elem Cent (ft)
Baker	A-3 Lokset	

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
1.315	1.70	J-55		2,401.6

Item Description	Equipment Type

Make	Model	Elem Cent (ft)

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	Discuss swabbing, weather,

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	90,423.00	1,248,209.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2258		6,597.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available	73739	00248	11,194.00
875	100 Not Available		250	360.00
831	100 Not Available	13707	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 38.0, Report Date: 12/19/2008**

Job Type: Initial Completion **License #:**

UT43-033-20062

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
857	100 Not Available	24264, 242...	250	2,550.00
854	100 Not Available	R0120403		550.00
854	100 Not Available	34720	245	1,955.00
837	100 Not Available	4237	257	59,094.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 39.0, Report Date: 12/20/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Blowing snow, -15	14.0	Snowy	

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0		

Operations This Report Period

Hold safety meeting. Load out eqyuipment. arrange return of rentals. Rig failed to go into road gear. Arranged for all equipment to be returned. Chain and lock wellheaad. Put fence panels around wellhead.

Operations Next Report Period

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water				-656.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	Held safety meeting. Loaded out equipment and returned to base. Returned or arranged for return of al rental equipment. Chained and locked wellhead. Bull plugs in all wellhead outlets. Installed four panel wellhead fence. Rig anchors to be cut off at time of reclamation of lease.

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
2 7/8	6.50	L-80		10,331.4

Item Description	Equipment Type
Retrievable Packer (410-193) Hornet	Packers

Make	Model	Elem Cent (ft)
Baker	A-3 Lokset	

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
1.315	1.70	J-55		2,401.6

Item Description	Equipment Type

Make	Model	Elem Cent (ft)

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	123,252.00	1,371,461.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE ...	2259		10,036.00
875	100 Not Available	1059, 6626	00243	2,189.00
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available	73739	00254	11,194.00
875	100 Not Available		250	360.00
831	100 Not Available	13707	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			6,000.00
854	100 Not Available	0120404		2,625.00

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E **Report # 39.0, Report Date: 12/20/2008**

Job Type: Initial Completion **License #:**

UT43-033-30062

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
854	100 Not Available	34750,345...	245	4,890.00
875	100 Not Available	32550, 325...	245	15,460.00
875	100 Not Available	081017468		10,437.00
854	100 Not Available	081017468		5,363.00
875	100 Not Available	722021, 72...		17,465.00
867	100 Not Available	20594, 207...	00258	3,063.00
875	100 Not Available	105113	246	2,773.00
854	100 Not Available	10510	246	19,212.00
875	WEATHERFORD INTER...	4585592		5,368.00
855	WEATHERFORD INTER...	4245363		94.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Fortuna (US)L.P. - Completions and Workovers (No Schematic)

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E | **Report # 40.0, Report Date: 4/29/2009**

Job Type: Initial Completion | **License #:**

UT43-033-30062

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Fog, clearing.	45.0	Slight mud/good.	

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
40.0	0.0	0	

Operations This Report Period

Hold safety meeting. Rig in Prowireline. Mountain States Oilfield Services pump 6 bbls water to tubing. Wireline pull X plug prong and plug form tubing. Water equalized to below plug on prong being pulled. Recovered pressure recorders. Shut in pressure built from 2538 psi to 2579 psi from December 21 to April 29. Set X plug in XX nipple in X niple at 10292 ft. Pump 15 bbls inhibited water on top of plug. (Concerns expressed about too much fluid above plug may affect removal of prong and plug). Secured wellhead. Rig out equipment and leave lease.

Arrangements made with Burdette Weston (Land owner) to repair cattleguards and fencing on lease and lease road.

Operations Next Report Period

None

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Non-recov (bbl)	Left to recover (bbl)
	Water	21.0	0.0	0.0	-635.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Time Log

Start Time	Scheduled Type	Phase	Operation	Troubl...	Comment
00:00	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	
08:00	In Scope - Planned	Comp - Zone A	W/L Operation	No Trbl	Held safety meeting. Rig in Prowireline ane Mountain States (Water and pump. Pump 6 bbls Inhibited water to tubing. Equalize XX plug - tubing on vacuum. Pull XX plug. Pull pressure recorders. Read recorders. +/- 41 psi increase in pressure from Dec.21 to April 29. Reset XX plug in X nipple at 10292 ft (WL). Pump 15 bbls inhibited water on top of plug. Secure wellhead and rig out all equipment.
16:30	In Scope - Planned	Comp - Zone A	Shut in for Night	No Trbl	Well secured and shut in. Wellhead chained and plugged. Key in fcasing valve flange covered by duct tape.

Casing

Casing Description	String OD (in)	String Wt (lbs/ft)	String Grade	Csg Set Depth (ftKB)
Conductor Pipe	20	94.00	H-40	103.8
Surface Casing	13 3/8	68.00	K-55	1,526.8
Intermediate Casing	9 5/8	43.50	L-80	4,040.0
Liner - Cemented	7	26.00	L-80	10,700.0
Liner - Cemented	5	18.00	L-80	12,494.0

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
3.4134			EUE	11,850.0

Item Description	Equipment Type
Permanent Packer (32-26)	Packers

Make	Model	Elem Cent (ft)
Baker	DB 32-26	

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
2 7/8	6.50	L-80		10,331.4

Item Description	Equipment Type
Retrievable Packer (410-193) Hornet	Packers

Make	Model	Elem Cent (ft)
Baker	A-3 Lokset	

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

String Nom O...	String Wt (lbs/ft)	String Grade	String Top Thrd	Set Depth (ftKB)
1.315	1.70	J-55		2,401.6

Item Description	Equipment Type

Make	Model	Elem Cent (ft)

Perforations

Zone	Date	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)
	12/7/2008	34,005.9	34,038.7
	12/7/2008	34,051.8	34,074.8
	12/7/2008	34,169.9	34,202.8
	12/7/2008	34,235.6	34,268.4
	12/7/2008	34,291.3	34,324.1
	11/30/2008	38,320.2	38,418.6
	11/30/2008	38,549.9	38,878.0

Stimulations & Treatments

Stim Type	Date	Zone
Acid Treatment	12/8/2008	

Safety Checks

Type	Result	Comment
Safety Meeting	Acce...	

Downgrading/Safety Incidents

Incident Date	Incident Type

Daily Operations

AFE No.	Total AFE+Sup	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	30,255.00	1,401,716.00

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
865	BAKER HUGHES BUSIN...	Bill Lading		625.00
837	100 Not Available	4612	01644	21,720.00
853	100 Not Available	21377	01643	2,910.00
835	100 Not Available		01642	0.00
827	DCP CONSULTING LTD			5,000.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

TALISMAN

ENERGY

FROM: Talisman Energy Inc.
Suite 2000, 888 3rd Street SW
Calgary, Alberta T2P 5C5

January 15, 2010

To: Utah Division of Oil, Gas and Mining
Date: January 15, 2010
UWI: See Below
Dates Logged: See Below
Transmitted by: Bob Kooyman / Robin Wright

43 033 30062
13N 7E 17

UWI	LOG DESCRIPTION	TEST DATE
Fortuna (US) LP Hogback Ridge 1-17-13N-7E	Daily Completion Reports 11/12/08 to 04/29/09	

A copy of the above transmittal will be retained in our files.

** Please advise that you have received this information, to:
Robin Wright – Talisman Energy Inc.
rxwright@talisman-energy.com
Ph. (403) 237-1626

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STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ (highlight changes) FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☑ OTHER

7. UNIT or CA AGREEMENT NAME

b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

8. WELL NAME and NUMBER: Hoopdale Ridge 1-17-13N-7E

2. NAME OF OPERATOR: Fortuna (US) L.P. Suite 2000, 888 - Third Street S.W.

9. API NUMBER: 4303330062

3. ADDRESS OF OPERATOR: Calgary CITY Alberta, Canada STATE ZIP T2C 5C5

PHONE NUMBER: (403) 237-1234

10 FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: See attached survey 1198 FNL 0431 FEL
AT TOP PRODUCING INTERVAL REPORTED BELOW: See attached deviation survey
AT TOTAL DEPTH: See attached deviation survey NWNW S-16 T 13N R 07E 1182 FNL 0753 FWL

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NE 17 13N 7E

12. COUNTY: Rich

13. STATE: UTAH

14. DATE SPUDDED: 2/20/2008

15. DATE T.D. REACHED: 10/10/2009

16. DATE COMPLETED: 12/20/2008 ABANDONED ☐ READY TO PRODUCE ☐

17. ELEVATIONS (DF, RKB, RT, GL): KB=6737 GL=6713

18. TOTAL DEPTH: MD 13,735 TVD ~~13,255~~ 12259

19. PLUG BACK T.D.: MD 12,494 TVD ~~12,943~~ 12043

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
Previously Submitted ~~Array Induction~~ Micro Imager, AI, HRI, BHCS, AI, NP Comp, Half Scale Lithology Density, Cement Volume, Cement Bond Eval

23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☑ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
17-1/2	13-3/8 K-55	68	0	1,527		G 590	251	0	0
12-1/4	9-5/8 L-80	43.5	0	4,040		G 835	308	0	0
8-1/2	7 L-80	26	3,790	10,700		G 1,095	609	3790	0
6-1/3	5 L-80	18	10,220	12,494		G 110	110	10220	0

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8	10,331	10,313						

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) Dinwoody	10,365	10,462	10,035	10,111
(B)				
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)		SIZE	NO. HOLES	PERFORATION STATUS
10,365	10,375	0.32	61	Open ☑ Squeezed ☐
10,379	10,386	0.32	61	Open ☑ Squeezed ☐
10,415	10,425	0.32	61	Open ☑ Squeezed ☐
10,435	10,445	0.32	61	Open ☑ Squeezed ☐

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
	Note Additional Perforations 10452 to 10462 ft. 0.32" entrance hole 61 shots.
Dinwoody	60 bbls 20% HCl

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☑ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☒ OTHER: Daily Compln

30. WELL STATUS: Suspended

(5/2000)

(CONTINUED ON BACK)

Fortuna (US) L.P.

FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E
Surface Location 1-17-13N-7E

Dinwoody / Phosphoria Completion Program – "Sour Gas Well"

Preliminary Completion AFE # AF70854 - $915,000

Hogback Ridge 1-17-13N-7E was deemed to have spudded on the 20 February 2008 when the surface conductor was set. The drilling rig moved on and drilling commenced on 25th April 2008. 13-5/8 inch surface casing was set at 1526.8 ft. The well drilled ahead to the top of the Nugget Formation at 2822 ft. Coring, logging and testing confirmed that the Nugget was wet at this location. Vertical drilling recommenced. Hole conditions mandated that 9-5/8 inch intermediate casing be set at 4040 ft. The well was drilled ahead to the kickoff point at ~8300 ft. The well kicked of and built to 40 degrees in an Easterly direction.

The deviated wellbore was continued out in an Easterly direction with slowly dropping deviation to 12,312 ft.MD, 11,810 ft. TVD when it was decided that the well had missed its target.

The well was plugged back and 7 inch intermediate liner was set at 10,700 ft.MD. The well was kicked off at 10,815 ft. and angle dropped quickly to near vertical and then turned in a westerly direction. The well TD'd at 13,735 ft. when a twistoff resulted in the bit and dogsub being left in the hole. After logging, the well was plugged back to 12,500 ft. A 5 inch liner was run from 10220.6 ft. to 12494 ft.MD and the drilling rig moved off.

The scope of this program is to clean out the 5 inch liner down to TD and then to complete and test gas production from the Phosphoria and Dinwoody zones. If the tests are successful, the well will be completed for production up 73 mm L-80 modified EUE tubing.

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PROGRAM OVERVIEW:

1. Set anchors. Move on service rig. Rig up.
2. Move on 12,000 ft used yellow band 2-7/8 inch L-80 modified EUE tubing.
3. Install service rig BOPs (Class 3 – 5000 psi sour). Pressure test BOPs and casing.
4. Run in hole with 6-1/8" bit and casing scraper and clean out 7" liner to top of 5" liner at 10,220 ft. POOH
5. RIH with 4-1/8" bit/mill, casing scraper, and mud motor. Clean out liner down to PBTD of ~12,450 ft.
6. Rig up Schlumberger cased hole logging unit and log CBT-USIT-GR-CCL from PBTD to liner top at 10,220 ft. Correlate to open hole logs. ROR Schlumberger.
7. Move on Baker Oil Tools representative and Perforating Company. Make up gun assembly, gun release, detonating head, tailpipe, and permanent packer onto tubing conveyed hydraulic setting tool. Log correlation and set packer based on perforating depths.
8. RIH with seal assembly on 2-7/8 tubing. Latch onto packer and land tubing in Weatherford wellhead. Run heater string assembly. Remove BOPs and install wellhead.
9. Swab well "dry". Use propane or nitrogen to inert tubing string.
10. Move on and rig up testers c/w line heater, circulation pump, separator, and flare stack. Rig up. Drop bar and detonate guns. Flow Phosphoria zone up tubing to evaluate preflow. (Gross interval 11,680 – 11,850 ft.)(130 ft. net)
11. Move on slickline unit during the preflow. If required, drop guns. Run in hole with pressure recorders as soon as well is shut in and obtain an initial reservoir pressure buildup for 24 – 48 hours. If pressure buildup is low, notify Calgary. May abort stimulation.
12. Move on and install Tree Saver. Move on HCl, pumping units, and nitrogen units. Acidize well down tubing with ~120 bbls of 20% HCl pumped in four 50 bbls stages, diverted with stages of gelled water and ball sealers, at 15 BPM. Flush acid to perforations with nitrified water. Shut in to remove treating iron and tree saver. Immediately flow well back.
13. Flow well back to unload water and acid. Clean well up until fluid rate drops.
14. Shut well in and run recorders into tailpipe. Flow well on test as directed by Calgary.
15. At conclusion of flow, allow well to build up for ~96 hours. Run in hole and retrieve gauges. Set a PR wireline plug in the wireline profile of the on off

connector. Flare pressure off tubing to ensure plug is set. Fill tubing with fresh water and pressure test plug.

16. Install BPV. Remove wellhead and install/pressure test BOPs.
17. Unlatch from packer. Spot sand onto packer. POOH with tubing string.
18. Rig up wireline perforating unit. Perforate the Dinwoody using 3-3/8 casing guns. Gross interval 10,365 – 10,462 ft. (net 47 ft.)
19. RIH with Baker SAP packer on 2-7/8 inch tubing. Test packer in blank casing.
20. Straddle each set of perforations and selectively acidize. (5 intervals @ 1 bbl/ft)
21. Run down and reverse circulate wellbore clean
22. Pull up and set packer in blank casing.
23. Swab well in to flow and recover spent acid.
24. Flow to clean up.
25. Kill well and POOH with stimulation string.

Final tubing string is dependant upon test results and will be confirmed by Calgary.

26. RIH with 2-3/8" tubing, sliding sleeve, blast joints, tubing, and hydraulic packer on 2 7/8" tubing.
27. Latch onto Phosphoria packer and land tubing in Weatherford wellhead. Run heater string assembly. Remove BOPs and install wellhead. Set packer and pressure test.
28. Rig up testers c/w line heater, circulation pump, separator, and flare stack.
29. Unload well using either swabbing or coiled tubing and nitrogen.
30. Release service rig.
31. Run pressure recorders.
32. Flow test to evaluate.
33. Shut in for buildup. Rig out and release testers.
34. Pull gauges. Set a wireline plug to suspend well. Bleed off tubing pressure. Fill well with inhibited fresh water.

ERP INFORMATION:

Well is expected to produce trace sour (0.04%) dry gas. A site specific ERP is NOT required because there are no inhabitants in the EPZ. An area survey should be conducted to determine presence of transients and industry activities in the area, however.

WELL DATA:

UWI					
License #:	License No.	UT43-033-30062	API #	4303330062	
LAND/FORESTRY					
Working Interest:	Talisman 100%				
Surface Location	Dominion Land		1-17-13N-7E		
	NAD 83	Latitude	41° 52' 21.151" N deg North		
		Longitude	111° 10' 6.539" W deg West.		
Elevations:	KB (ft.): 6737.14		CF (ft.): 6713.34	PBTD (ft.KB):	12,450 mKB
	GL (ft.): 6713.34			TMD (ft.KB):	12,450 mKB
	KB – GL (ft.): 23.80		KB – CF (ft.): 23.8	TVD (ft.KB):	12,000 mKB
Dates:	Spud: 25 Apr 2008				
	Rig Released: 20 Oct 2008				
Deviation Info:	See attached survey data				
Other In Hole Info	N/A				

CASING AND CEMENT:

SURFACE: Ran 40 joints 13-3/8 inch 68 lb/ft K-55 BT&C casing to 1526.8 ft.KB in 17-1/2 inch hole and cemented casing with 590 sacks (251 bbls) RFC tailed with 630 sacks (129 bbls) Class G. Had 206 bbls good cement surface returns.

INTERMEDIATE: CASING Ran 95 joints 9-5/8 inch 43.5 lb/ft. L-80 LT&C casing to 4040.0 ft.KB in 12-1/4 inch hole and cemented casing with 310 sacks (173 bbls) extended Class G tailed with 525 sacks (135 bbls) Class G cement.

INTERMEDIATE: LINER Ran 152 joints 7 inch 26 lb/ft, L-80, Hydril 513 casing from 3790 ft. to 10,700 ft. in 8-1/2 inch hole and cemented casing with 1,095 sacks (609 bbls) Class G cement. No comments on cement returns.

PRODUCTION: LINER Ran 55 joints 5 inch 18 lb/ft L-80 Hydril 513 liner from 10,220 ft. to 12494 ft.KB. Cemented liner with 110 sacks (31 bbls) Class G cement. Backwashed trace of cement + 10bbls of water.

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TUBING STRING:

Item Description	Len (ft)	Top (ft)	Len (m)	Top (mKB)
None				

WELLHEAD INFORMATION

Wellhead	
Casing Bowl (Existing)	Unknown
Double Studded Adapter	
Tubing Spool	
Adapter Spool	
Tubing Hanger	
Bonnet Flange	
Master Valves	
Flow Tee	
Left Side Outlet	
Right Side Outlet	

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Installed 13-5/8" 5000# Wellhead Bonnet c/w ported bull plug & gauge (Rented from Weatherford, Casper)

RESERVOIR:

Formations of Interest	Dinwoody	Phosphoria	
Lithology	Carbonate	Mixture	
Ext. Perforations (ft):	None	None	
Proposed Perforations	10,365 – 10,375	11,680 – 11,710	
(ft.K.B.)	10.379 – 10,386	11,750 – 11,800	
	10,415 – 10,425	11,800 – 11,850	
	10,435 – 10,445		
	10,452 – 10,462		
Est.BHP (PSI+/-):	4,100	4,300	
Estimated BHT (°f):	210°F	220°F	
Gas Composition:	C1 = +/- 83%		
H_2S (%) / CO_2 %:	Trace / 0.3%	Trace / 0.3%	Both zones 15% N_2
Oil Gravity °API	n/a	n/a	
Open Hole Section (m):	-	-	-
Open Hole Size (mm):	-	-	-

WELL NOTES:

Based upon gas analysis results from a 1.5 mile offset, it is reasonable to expect this well to be slightly sour (400 PPM). Oddly, the gas analysis shows produced gas to also contain up to 15% nitrogen.

Because of the absence of manned facilities with a 1 km. radius of the well, a site specific ERP was not prepared for this operation. Any emergencies that occur should be handled under the Corporate ERP plan.

SAFETY/LOSS CONTROL:

PRECAUTIONS:

The Talisman representative on location shall ensure that the appropriate regulatory requirements and Talisman safety loss control guidelines are met at all times. All personnel on site should read and sign the Talisman booklet "Safety Guidelines for Contractors". Conduct daily safety meetings with the crews and service personnel. Precede all operations with a procedure, hazard identification and safety meeting to cover the scope of the operation. (Additional Safety Meeting information is included in APPENDIX III) Record any personnel injuries, material losses, equipment damage and lost time on the Wellview Incident Report. Take all necessary safety precautions to protect human health, safety and welfare.

REGULATIONS:

Talisman Drilling and Completions policies and Procedures plus All applicable regulations, including, but not limited to the Board and Occupational Health and Safety regulations, are to be strictly adhered to. Written instructions must be posted in doghouse or other conspicuous area prior to wellsite supervisor leaving lease. All verbal notifications and approvals from government regulatory agencies will be recorded on the Talisman daily report tour sheet. The name of the individual contacted and the subject matter of approval or notification should be recorded on same.

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SERVICES:

Slickline			
Downhole Equip	Baker Oil Tools		
Wellhead	Weatherford	Edmonton	(780) 436-4450
Production Testing			
Safety Services			
Electric Line Services	Schlumberger	Evanston	
TCP	Black Warrior		
Cement Bond Log	Schlumberger		
Casing Inspection Logging	Baker Atlas	Evanston	

CONTACTS:

Completions Engineer:	Bob Kooyman	office (403) 231-2918	cell (403) 650-3243
Completions Supt:	Craig Goodall	office (403) 237-1230	cell (403) 510-8494
Development Engineer:		office	
Development Team Leader:		office	cell
Operations Engineer:		office	
Production Foreman:			
Utah Field Office:		office	
Emergency Link Centre			

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TUBULAR DATA:

Casing & Liner	9-5/8 Inch Surface Casing	7 inch Intermediate Casing	5 Inch Production Liner
Open Hole Size (inch)	12-1/4	8-1/2	6-1/4
Casing Depth (MD/TVD)		3660.	4054
Casing O.D. (inch)	9-5/8	7	5
Weight (lb/ft)	43.5	26	18
Grade & Couplings	L-80 LTC	L-80 H-513	L-80 H-513
Max OD (inch)	10.625	7	5
Nominal I.D. (inch)	8.775	6.276	4.276
Drift I.D. (inch)	8.599	6.151	4.151
Collapse Pressure (psi)	3,810	5,410	10,490
Burst Pressure (psi)	6,330	7,240	10,140
Joint Yield Strength (lbs)	825,000	519,000	396,000
Internal Capacity (bbl/ft)	0.07445	0.03826	0.01776
Annular Capacity (bbl/ft) 73 mm tubing-casing:	0.0664	0.0302	0.0097

Tubing & Work Strings	Existing Tubing	Production Tubing	Alternative Tubing
O.D. (inch)		2-7/8	
Weight (lb/ft)		6.5	
Grade & Couplings		L-80 Mod. EUE	
O.D. (Couplings inch)		3.668	
I.D. (inch)		2.441	
Drift I.D. (inch)		2.347	
Collapse Pressure (psi)		11,160	
Burst Pressure (psi)		10,570	
Joint Yield Strength (lbf)		105,570	
Internal Capacity		0.005794 bbl/ft 172.5923 ft/bbl	

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WELL STATUS

Well was drilled and is capped and standing cased.

COMPLETION PROCEDURE:

1. Move onto site with Construction Foreman. Line locate all underground improvements (local water well??). With assistance of Construction Foreman plan and execute any required lease improvements. Contact Weatherford Wellhead representative. Arrange for drilling spool to be removed and tubing head spool / Christmas tree to be installed.
2. Move onto location with anchor truck and install spread of service rig anchors and additional three anchors for portable flare stack.
3. Move on and rig up heavy duty double service rig c/w Class III 179 mm 35 MPa BOP stack and 73 mm pipe rams. Also move on the following support equipment:
    a) catwalk and two sets of pipe racks
    b) Boiler and steam hoses
    c) Pump, rig tank and auxiliary storage tank.
    d) Line heater, circulation pump, sour service P-tank, and 60 ft. flare stack
    e) Wellsite unit
    f) Air supply and safety trailer
    g) 12,000 ft yellow band L-80 Modified EUE tubing.
    h) 2500 ft. 33.4 mm IJ tubing (heater string

    Stand and rig up service rig and auxiliary equipment. Conduct TLM rig assessment. Stump test BOPs and confirm accumulator sizing. NOTE: Confirm that BOP elements are low temperature sour service.
4. RIH with 6-1/8" bit/mill and a casing scraper dressed for 7"26 lb/ft, L-80 H-513 casing on 2-7/8 inch tubing. Clean out to top of 5 inch liner at 10,220 ft. and circulate fill off bottom. POOH. Note top of 7 inch liner is at ~3790 ft.

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5. RIH with 4-1/8" bit/mill, casing scraper, and mud motor. Clean out liner down to PBTD of ~12,450 ft. Move on tank truck and Schlumberger pumping unit. Pickle tubing by circulating ~25 bbls inhibited 15% HCl down tubing to bit. Continue pickle by displacing acid up to top of 5" liner at 10220 ft. Reverse circulate acid out of hole. Divert acid returns into tank truck. Neutralize with soda ash and ship off location to disposal. Circulate well over to clean fresh water with 1% corrosion inhibitor (Baker MEP-426 or CRW-132A). POOH standing tubing in derrick.

   NOTE: Casing and liner were displaced to clean fresh water during cement displacement but liner has never been cleaned out.

6. Rig up Schlumberger cased hole logging unit and log CBT-USIT-GR-CCL from PBTD to liner top at 10,220 ft. Correlate to open-hole logs. ROR Schlumberger.

7. Move on Baker Oil Tools representative and Black Warrior perforators. Make up and run in hole with the following packer/tailpipe/gun assembly on 2-7/8" tubing:

   a) 3-1/2 inch OD TCP guns loaded at maximum density with deep penetrating charges to perforate 11,680 – 11,710 ft., & 11,750 – 11,850 ft.
   b) Autorelease firing head (May run drop bar firing head & mechanical disconnect instead)
   c) 4 ft. x 2-3/8" pup joint
   d) Otis "XN" wireline nipple
   e) 10 ft. x 2-3/8" L-80 4.7 lb/ft EUE pup joint w/ modified EUE collar
   f) Ported sub and debris barrier
   g) 10 ft. x 2-3/8" L-80 4.7 lb/ft EUE pup joint w/ modified EUE collar
   h) Otis "R" nipple (ID = 1.875") threaded 2-3/8" EUE
   i) 10 ft. x 2-3/8" L-80 4.7 lb/ft EUE pup joint w/ modified EUE collar
   j) Crossover sub – Baker Packer x 2-3/8" EUE
   k) Baker 32-26 Model DB packer
   l) Baker Model B-2 hydraulic setting tool (subject to pipe rotation considerations)
   m) 2-7/8 inch L-80 tubing w/ marker pup joint.

   Prior to rig up, confirm perforating assembly with Calgary. Hold a meeting with perforators and Baker service rep. While RIH, strap assembly to confirm distance from top shot to marker pup joint. Position packer by tubing tally. Log GR-CCL correlation and adjust depth as required. Relog correlation log.

Set packer on depth to perforate top shot at 11,680 ft. POOH with setting tool.

8. Confirm that swab mandrel will not pass through the wireline nipple. RIH with the following assembly on 2-7/8 tubing:

   a) Baker anchor seal assembly
   b) Baker R-10 on-off tool with 1.875" "R" profile
   b) 10 ft. x 2-3/8" 4.7 lb/ft. L-80 EUE pup joint
   c) Crossover 2-3/8" EUE pin x 2-7/8" EUE pin (L-80 sour service material)
   d) 1 joint 2-7/8" 6.5 lb/ft. L-80 EUE tubing
   e) Baker "BR" nipple 2-7/8" EUE w/ 2.313" seal bore
   f) 2-7/8" 6.5 lb/ft. L-80 EUE tubing

   Latch onto packer and measure up to land tubing neutral or in slight compression. Unjay, pull up, and install pup joints as required. Land tubing from tubing hanger in Weatherford wellhead. Run heater string assembly. Remove BOPs and install wellhead.

9. Rig up to swab. Run in hole with swab mandrel but no cups. Install surface warning flags. Lower tools to bottom. Gently tag the wireline nipple and establish depth control. Install bottom marker. Pull up at least 100 ft and install bottom flag. DO NOT EVER swab below this flag. POOH and install swab cups. Swab well "dry". During last few swabs rig up check valve so that when well sucks back, it pulls in propane or nitrogen to inert tubing string.

10. Move on and rig up testers c/w line heater, circulation pump, separator, and flare stack. Rig up. Pressure test surface lines and purge vessels with nitrogen.

11. Drop bar and detonate guns. Flow well up tubing to evaluate preflow. (Gross interval 11,680 – 11,850 ft.)

12. Move on slickline unit during the preflow. If required, drop guns. Run in hole with pressure recorders as soon as well is shut in and obtain an initial reservoir pressure buildup for 24 – 48 hours. Pull and read recorders on lease. If pressure buildup is low, notify Calgary. There is a possibility that formation was drained by offset. In that case, Talisman may abort stimulation.

13. Move on and install Tree Saver. Move on HCl, pumping units, and nitrogen units. Acidize well down tubing with ~120 bbls of 20% HCl pumped in four 50 bbls stages, diverted with stages of gelled water and benzoic acid flakes, at 6 BPM. Flush acid to perforations with nitrified water. Shut in to remove treating iron and tree saver. Immediately flow well back.

14. Flow/swab well back to unload water and acid. Clean well up until fluid rate drops.

15. Shut well in and hang recorders from no-go dart on tailpipe XN nipple. Flow well on test as directed by Calgary.

16. At conclusion of flow, allow well to build up for ~96 hours. Run in hole and retrieve gauges. Set a PR wireline plug in the wireline profile of the on-off connector. Flare pressure off tubing to ensure plug is set. Fill tubing with fresh water and pressure test plug.

17. Install BPV. Remove wellhead and install/pressure test BOPs.

18. Unlatch from packer. Spot ~30 linear feet chicken grit or coarse limestone onto packer. POOH with tubing string.

19. Rig up wireline perforating unit. Perforate the Dinwoody using 3-1/2 casing guns loaded with deep penetrating charges at 6 SPF. Perforate the following intervals:

    a) 10,365 – 10,375 ft (10 ft.)
    b) 10.379 – 10,386 ft. (7 ft.)
    c) 10,415 – 10,425 ft. (10 ft.)
    d) 10,435 – 10,445 ft. (10 ft.)
    e) 10,452 – 10,462 ft. (10 ft.)

    Rig out and release perforating unit.

20. Move on Baker service rep and tools. RIH with bottom diverter sub, Baker SAP packer, mechanical collar locator, and seating nipple for fluid control valve on 2-7/8 inch tubing. Test packer in blank casing.

21. Locate packer on depth to perforating correlation log. Drop diverter valve and fluid control valves. With packer unset but located opposite lower most perforations, circulate treating acid to bottom. Wash perforations with 10 x 1 bbl. stages of acid pumped at increasing back pressure. Straddle each set of perforations and selectively acidize all 5 intervals with ~1 bbl HCl / perforated foot. Lower packer below the perforations. Use rig sandline to fish the FC valve. Reverse circulate any acid out of wellbore.

22. Pull up and set packer in blank casing. Swab well in. Flow well to recover spent acid.

23. Flow well back to unload water and acid. Clean well up until fluid rate drops.

24. Kill well and POOH with stimulation string.

NOTE: Final tubing string is dependant upon test results is to be confirmed with Calgary

25. RIH with the following packer and tailpipe assembly:

a) Redressed Baker R-10 on-off overshot / seal assembly

b) 10 ft. x 2-3/8" 4.7 lb/ft. L-80 EUE pup joint

c) 1 joint 2-3/8" 4.7 lb/ft. L-80 modified EUE tubing

d) Baker "BR" nipple 2-3/8" EUE w/ 1.875" seal bore

e) ~1150 ft 2-3/8" 6.5 lb/ft. L-80 modified EUE tubing

f) 2-3/8 inch EUE Baker CMU sliding sleeve with 1.875 "R" profile (set sleeve 20-30 ft below bottom perf (10462 ft.KB)) (closed)

g) IF well productivity is good, install pup joints and 2-3/8" blast joints through perforated interval.

h) ~150 ft 2-3/8" 4.7 lb/ft. L-80 modified EUE tubing to ~10,200 ft.

i) Crossover 2-3.8 x 2-7/8 inch EUE

j) 1 joint 2-7/8" 6.5 lb/ft. L-80 modified EUE tubing

k) Baker FH single string hydraulic set packer.

l) Baker R-10 on-off tools with 2.313 BR profile

m) 2-7/8" 6.5 lb/ft. L-80 modified EUE tubing to surface.

Run in hole with tubing string and tag sand fill on top of packer. Close BOPs and attempt to reverse circulate fill off packer and out of hole. (If circulation is not practical, circulate ~5 bbls HCl down tubing to dissolve chicken grit. Displace into perforations.) Open BOPs, latch onto on-off connector, pull into neutral tension and measure up for space out. Unjay tubing, pull up, and install pup joints for space out. With well under control, strip off BOPs. Lower tubing to latch on. Pull up, confirm latch, and install tubing hanger. Land tubing from tubing hanger in neutral tension. Run heater string assembly. Install and pressure test wellhead.

26. Pressure up on tubing to set hydraulic packer. Pressure up on annulus to confirm tubing integrity.

27. Rig up testers to flow well. Start up circulation string and begin to warm well.

28. Rig up to swab. Run in hole with swab mandrel but no cups. Install surface warning flags. Lower tools to bottom. Gently tag the wireline nipple profile in the sliding sleeve and establish depth control. Install bottom marker. Pull up at least 100 ft and install bottom flag. Do NOT EVER swab below this flag. POOH and install swab cups. Swab well to recover ~5000 ft of fluid. During last few swabs, rig up check valve so that when well sucks back, it pulls in propane or nitrogen to inert tubing string.

29. Move on and rig up slickline unit. Run in hole and recover prong from on-off connector. Allow well to equalize. Run in hole and recover wireline plug from the on-off connector. Run in hole and shift the sliding sleeve to the open position

30. Flow well to unload tubing and recover kill fluid. In the morning, shut the well in.

31. Release service rig.

32. Rig up testers c/w line heater, circulation pump, separator, and flare stack.

33. As directed by Calgary, run pressure recorders below a wireline plug set in the on-off connector. Run in hole and latch a set of recorders into the wireline profile of the sliding sleeve.

34. As directed by Calgary. flow test to evaluate.

35. Shut in for buildup. Rig out and release testers. NOTE: Circulate ~5 bbls diesel into annulus. Use a hose and connect annulus to heater string. Allow diesel to equalize into heater string for freeze protection.

36. At the conclusion of the buildup (~30 days), arrange to have the road ploughed/blown open. Move on hot oiler and warm wellbore to break up possible hydrates. Move on a slickline crew, portable crane, and rig up. Pull gauges from the sliding sleeve. Run in hole and shut the sliding sleeve. Run in hole and recover the wireline plug and gauges from the on-off connector. Set a wireline plug in the on-off connector to suspend well. Bleed off tubing pressure. Pump ~2 bbls diesel into tubing. Fill well with inhibited fresh water.

37. Upon completion of field work, complete the following:
    a) Conduct a complete lease clean up, includes picking up all garbage, transferring all surplus materials to storage locations and returning all rental equipment and tanks.

b) Ensure that all field-generated P.O.'s are filled in complete with Vendor's name and address, a brief description of the work performed, and a rough estimate of the expected final costs involved.

38. Review and ensure all Wellview data has been recorded properly. Ensure all downhole and wellhead data are recorded correctly, including all serial numbers, pressure ratings, sizes, setting depths etc. Review Fluids data and ensure Fluid Transfer and Load fluids left to recover are accurate.

PREPARED BY:

Prepared by: _____ Date: _____
R. W. Kooyman – Contract Completions Engineer

Approved by: _____ Date: _____
Craig Goodall – Completions Superintendent

APPENDIX I – WELL TESTING/FLARING

APPENDIX II – FILTERING ALL FLUIDS

All fluids used downhole, and especially in any fracture procedure, must be filtered. The fluids also must be treated with either a combination corrosion inhibitor (Baker MEP-426 or CRW-132A) or a biocide prior to being pumped downhole. This is especially important when the source water is from a local river or lake.

APPENDIX III – SAFETY

Prior to job commencement STARS should be contacted to register the site. Throughout the completion conduct a daily safety procedure meeting with the crew plus all service company personnel. All daily operations subsequent to rig move-on shall be initiated by a Safe Work Meeting, which will outline the scope of work to be done that day.

Keep a record of topics discussed at the daily safety meeting. Record all personnel injuries, equipment damage, and material or time losses on the Wellview Incident Report.

Upon initiation of completion field operations, a pre-job safety meeting shall be held. At this time, the following items will be discussed:

- Scope of work
- Well characteristics (pressure, gas composition including percent H_2S etc.)
- Emergency procedures
- Communications and security
- Identify individuals with Safety Training
- A question period for any concerns raised by service personnel

The Site supervisor shall document who was present at the safety meeting and the topics discussed.

SAFETY MEETINGS

At the beginning of each shift and before commencing specialized operations (stimulations, flowing well, etc.) a safety meeting shall be held. During these meetings, the work to be conducted will be discussed, as well as any actions to be taken in event of an emergency.

SAFETY HANDBOOK

Talisman safety guidelines given in the "Employee Safety Handbook" and "Safety Instructions for Contractors" booklet will be followed during the completion. Discuss the contents of the booklet "Safety Instructions for Contractors" with the rig crew plus all service company personnel prior to commencing work on the well lease. All personnel shall sign the last page of the booklet and keep this page for Talisman's records. Conduct a service rig safety inspection. Fill out the "Service Rig Safety Inspection" sheets; discuss and remedy all unsatisfactory comments and document when follow-up is completed on the daily reports.

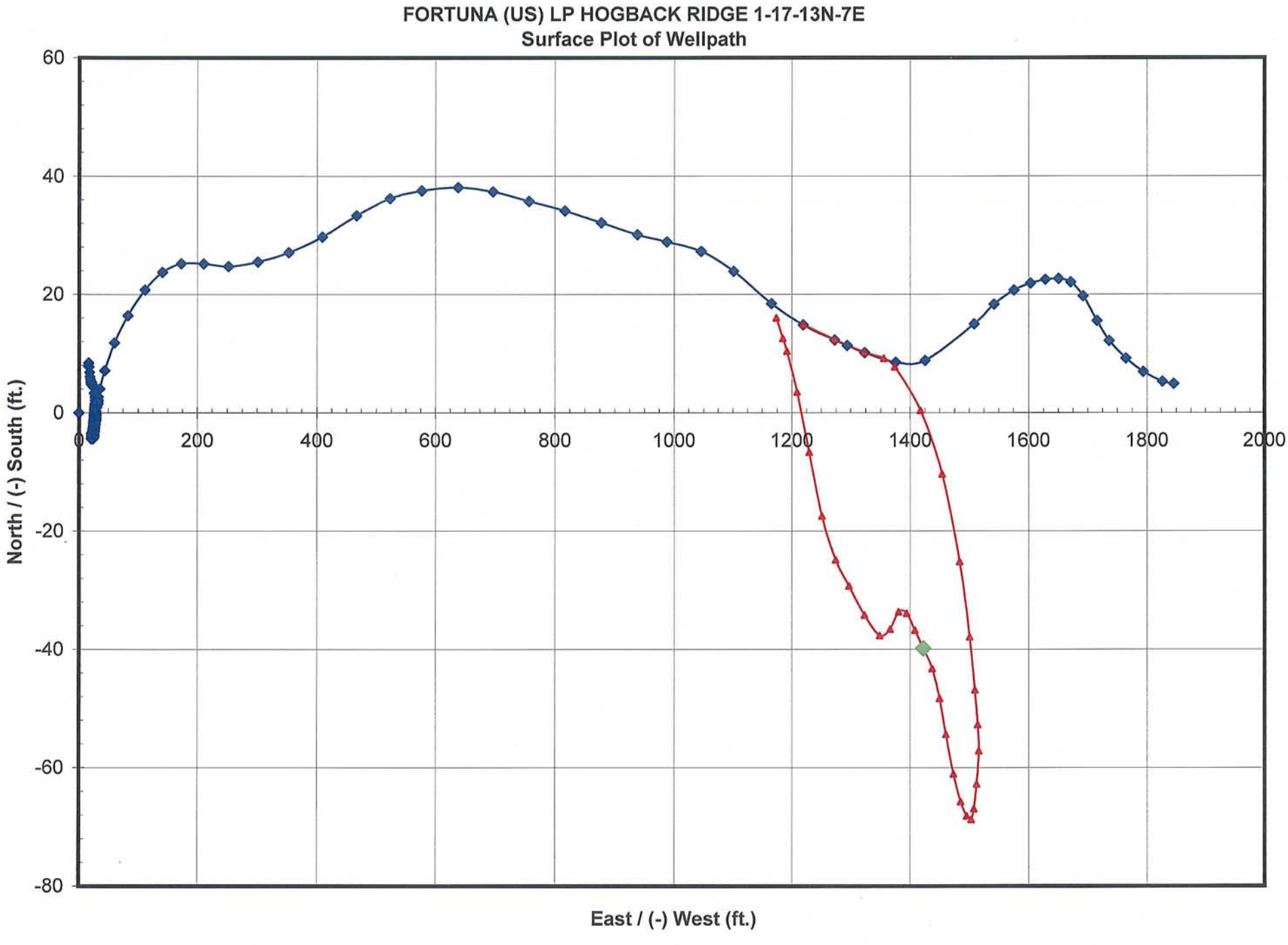
INCIDENT REPORTS

Incident reports shall be submitted in the event one of the following occurs:

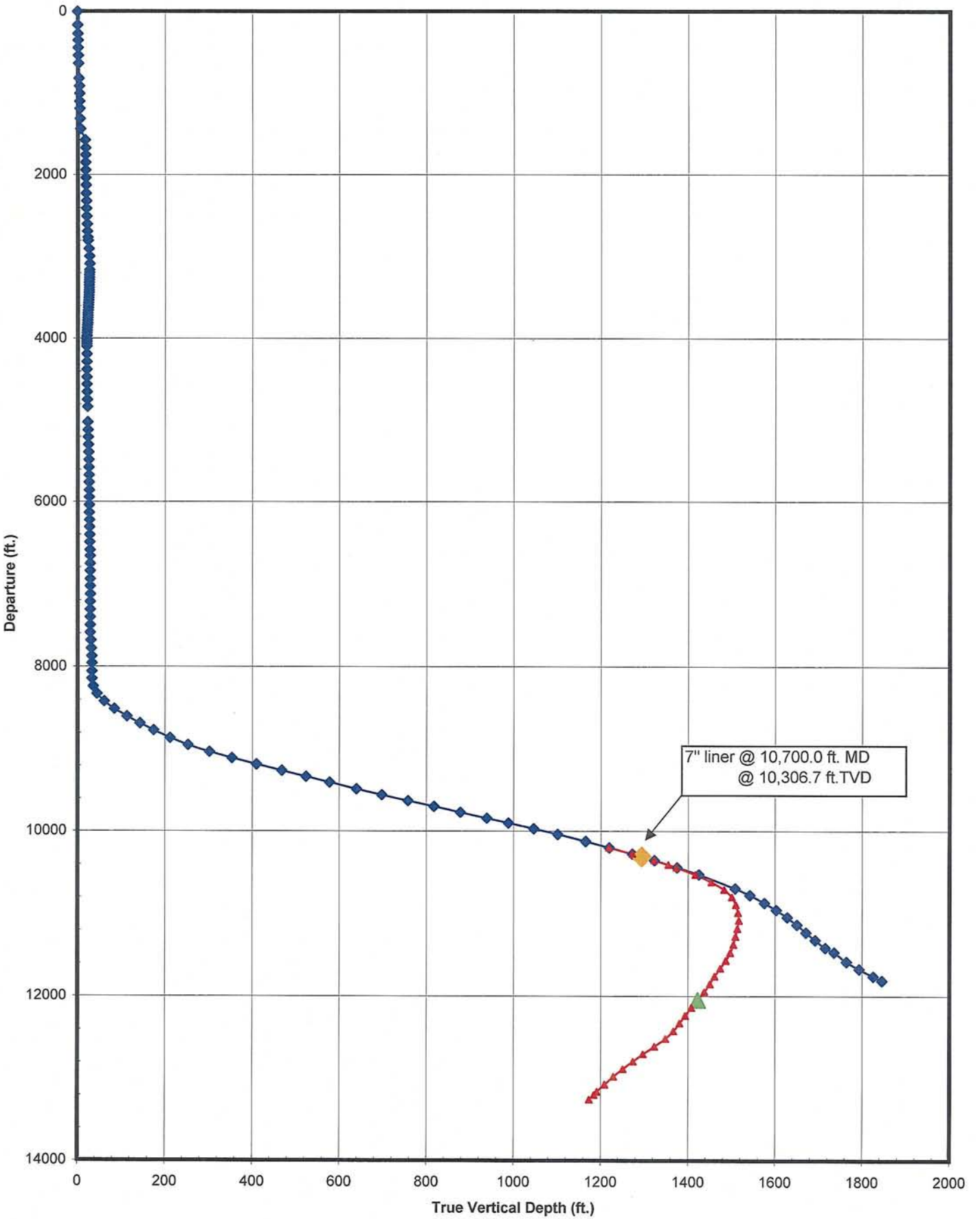
- A personnel injury,
- Damage or loss of equipment or materials,
- Loss of time,
- A vehicle accident.

ATTACHMENTS:

- AFE Cost Estimate
- Survey
- Wellbore Schematic


FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E
Surface Plot of Wellpath
60
40
20
0
-20
-40
-60
-80
0
200
400
600
800
1000
1200
1400
1600
1800
2000
North / (-) South (ft.)
East / (-) West (ft.)

FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E
Wellbore Cross Section



FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Day #	Date	MD (ftKB)	Incl (°)	Azm (°)	Method	TVD (ftKB)	VS (ft)	Depart (ft)	NS (ft)	EW (ft)
0	5-Apr-08	0	0	0	MWD	0	0	0	0	0
14	26-Apr-08	167	0.75		Incl	167		0.70		
14	26-Apr-08	271	0.5		Incl	271		0.98		
15	27-Apr-08	353	0.86		Incl	353		1.38		
15	27-Apr-08	444	0.75		Incl	444		1.76		
15	27-Apr-08	537	0.46		Incl	537		1.99		
15	27-Apr-08	634	0.66		Incl	634		2.35		
15	27-Apr-08	817	1.33		Incl	817		3.70		
16	28-Apr-08	911	1.24		Incl	911		4.35		
16	28-Apr-08	1,005.00	1.05		Incl	1005		4.90		
16	28-Apr-08	1,100.00	0.54		Incl	1100		5.18		
17	29-Apr-08	1,190.00	0.52		Incl	1190		5.44		
17	29-Apr-08	1,314.00	1.08		Incl	1314		6.19		
17	29-Apr-08	1,436.00	1.41		Incl	1436		7.14		
22	4-May-08	1,574.00	1.3	63.8	MWD	1,573.87	7.88	17.86	7.88	16.02
22	4-May-08	1,672.00	0.2	280.4	MWD	1,671.86	8.41	18.83	8.41	16.85
22	4-May-08	1,758.00	0.1	201.6	MWD	1,757.86	8.36	18.65	8.36	16.68
22	4-May-08	1,850.00	0.1	6.2	MWD	1,849.86	8.37	18.64	8.37	16.65
22	4-May-08	1,942.00	0.3	120.7	MWD	1,941.86	8.32	18.81	8.32	16.87
22	4-May-08	2,037.00	1	125.3	MWD	2,036.85	7.72	19.37	7.72	17.76
22	4-May-08	2,126.00	0.6	171	MWD	2,125.84	6.81	19.68	6.81	18.47
23	5-May-08	2,224.00	0.6	116.9	MWD	2,223.84	6.07	19.95	6.07	19.01
23	5-May-08	2,314.00	0.5	119.7	MWD	2,313.83	5.66	20.56	5.66	19.77
24	6-May-08	2,406.00	0.4	144.3	MWD	2,405.83	5.2	20.96	5.2	20.3
24	6-May-08	2,502.00	0.4	109.9	MWD	2,501.83	4.82	21.36	4.82	20.81
24	6-May-08	2,597.00	0.6	63.1	MWD	2,596.83	4.93	22.12	4.93	21.57
24	6-May-08	2,685.00	0.3	81.4	MWD	2,684.82	5.17	22.8	5.17	22.21
24	6-May-08	2,762.00	1.5	116.5	MWD	2,761.81	4.75	23.79	4.75	23.31
32	14-May-08	2,798.00	1.3	114.1	MWD	2,797.80	4.38	24.5	4.38	24.1
32	14-May-08	2,900.00	1.3	122.5	MWD	2,899.77	3.28	26.34	3.28	26.14
34	16-May-08	2,992.00	0.8	97.2	MWD	2,991.76	2.64	27.78	2.64	27.65
35	17-May-08	3,085.00	0.7	215	MWD	3,084.76	2.09	28.05	2.09	27.97
37	19-May-08	3,161.00	0.3	208.3	MWD	3,160.75	1.54	27.65	1.54	27.61
37	19-May-08	3,192.00	0.3	226.2	MWD	3,191.75	1.41	27.55	1.41	27.51
37	19-May-08	3,223.00	0.2	224.8	MWD	3,222.75	1.32	27.45	1.32	27.42
37	19-May-08	3,254.00	0.4	221.3	MWD	3,253.75	1.2	27.33	1.2	27.31
37	19-May-08	3,284.00	0.4	225.5	MWD	3,283.75	1.04	27.18	1.04	27.16
37	19-May-08	3,315.00	0.4	218.5	MWD	3,314.75	0.88	27.03	0.88	27.02
37	19-May-08	3,345.00	0.4	226.9	MWD	3,344.75	0.73	26.89	0.73	26.88
37	19-May-08	3,377.00	0.5	215	MWD	3,376.75	0.54	26.72	0.54	26.72
37	19-May-08	3,409.00	0.6	221	MWD	3,408.75	0.3	26.53	0.3	26.53
37	19-May-08	3,441.00	0.7	227.6	MWD	3,440.74	0.04	26.27	0.04	26.27
37	19-May-08	3,469.00	0.6	221.7	MWD	3,468.74	-0.18	26.05	-0.18	26.05
37	19-May-08	3,501.00	0.7	225.9	MWD	3,500.74	-0.45	25.8	-0.45	25.8
37	19-May-08	3,531.00	0.8	224.5	MWD	3,530.74	-0.72	25.53	-0.72	25.52
38	20-May-08	3,563.00	0.9	220.6	MWD	3,562.74	-1.07	25.22	-1.07	25.2
38	20-May-08	3,593.00	1	224.1	MWD	3,592.73	-1.44	24.9	-1.44	24.86
38	20-May-08	3,624.00	1.1	218.1	MWD	3,623.73	-1.87	24.56	-1.87	24.49
38	20-May-08	3,655.00	1	223.1	MWD	3,654.72	-2.3	24.23	-2.3	24.12
39	21-May-08	3,686.00	0.7	228.7	MWD	3,685.72	-2.62	23.94	-2.62	23.79
39	21-May-08	3,716.00	0.5	228.3	MWD	3,715.72	-2.83	23.73	-2.83	23.56

FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Day #	Date	MD (ftKB)	Incl (°)	Azm (°)	Method	TVD (ftKB)	VS (ft)	Depart (ft)	NS (ft)	EW (ft)
39	21-May-08	3,747.00	0.6	233.3	MWD	3,746.71	-3.02	23.52	-3.02	23.33
39	21-May-08	3,779.00	0.6	236.1	MWD	3,778.71	-3.21	23.28	-3.21	23.05
39	21-May-08	3,810.00	0.7	233.6	MWD	3,809.71	-3.41	23.02	-3.41	22.77
40	22-May-08	3,839.00	0.7	243.8	MWD	3,838.71	-3.6	22.75	-3.6	22.47
40	22-May-08	3,870.00	0.9	234	MWD	3,869.71	-3.82	22.43	-3.82	22.1
40	22-May-08	3,901.00	0.8	243.6	MWD	3,900.70	-4.06	22.08	-4.06	21.71
40	22-May-08	3,932.00	0.6	241.7	MWD	3,931.70	-4.24	21.79	-4.24	21.37
41	23-May-08	3,964.00	0.5	250.4	MWD	3,963.70	-4.36	21.54	-4.36	21.09
41	23-May-08	3,977.00	0.2	310.6	MWD	3,976.70	-4.37	21.47	-4.37	21.02
41	23-May-08	3,964.00	0.5	250.4	MWD	3,963.70	-4.36	21.54	-4.36	21.09
41	23-May-08	3,977.00	0.2	310.6	MWD	3,976.70	-4.37	21.47	-4.37	21.02
45	27-May-08	4,010.00	0.2	246.3	MWD	4,009.70	-4.35	21.37	-4.35	20.92
45	27-May-08	4,038.00	0.1	49.7	MWD	4,037.70	-4.36	21.35	-4.36	20.9
	Int.Csg.Sho	4,040.00	0.1	0	Extrap	4,039.70	-4.35	21.35	-4.36	20.90
45	27-May-08	4,066.00	0.1	254.6	MWD	4,065.70	-4.35	21.34	-4.35	20.89
45	27-May-08	4,097.00	0.3	69.4	MWD	4,096.70	-4.33	21.39	-4.33	20.94
45	27-May-08	4,189.00	0.3	20.6	MWD	4,188.70	-4.02	21.63	-4.02	21.25
45	27-May-08	4,282.00	0.3	1.6	MWD	4,281.69	-3.54	21.64	-3.54	21.35
46	28-May-08	4,375.00	0.2	147.1	MWD	4,374.69	-3.44	21.71	-3.44	21.44
46	28-May-08	4,470.00	0.3	218.1	MWD	4,469.69	-3.77	21.71	-3.77	21.38
47	29-May-08	4,559.00	0.2	80.7	MWD	4,558.69	-3.93	21.75	-3.93	21.39
48	30-May-08	4,653.00	0.4	69	MWD	4,652.69	-3.79	22.18	-3.79	21.86
48	30-May-08	4,744.00	0.3	86.3	MWD	4,743.69	-3.66	22.69	-3.66	22.39
49	31-May-08	4,835.00	0.3	95.1	MWD	4,834.69	-3.66	23.16	-3.66	22.86
50	1-Jun-08	4,927.00	0.2	109.9	Bad Data					
51	2-Jun-08	5,020.00	0.3	131	MWD	5,019.69	-3.95	23.92	-3.95	23.59
51	2-Jun-08	5,116.00	0.3	110.9	MWD	5,115.69	-4.21	24.38	-4.21	24.02
52	3-Jun-08	5,205.00	0.2	120.4	MWD	5,204.69	-4.37	24.76	-4.37	24.37
52	3-Jun-08	5,296.00	0.5	74.7	MWD	5,295.68	-4.35	25.26	-4.35	24.89
53	4-Jun-08	5,388.00	0.5	78.2	MWD	5,387.68	-4.16	26	-4.16	25.67
54	5-Jun-08	5,482.00	0.1	332.1	MWD	5,481.68	-4	26.34	-4	26.03
54	5-Jun-08	5,574.00	0.2	82.1	MWD	5,573.68	-3.91	26.44	-3.91	26.15
54	5-Jun-08	5,670.00	0.1	307.2	MWD	5,669.68	-3.83	26.53	-3.83	26.25
55	6-Jun-08	5,760.00	0.4	49.1	MWD	5,759.68	-3.58	26.67	-3.58	26.43
55	6-Jun-08	5,855.00	0.4	59.6	MWD	5,854.68	-3.2	27.15	-3.2	26.96
56	7-Jun-08	5,944.00	0.2	31.1	MWD	5,943.67	-2.91	27.47	-2.91	27.31
56	7-Jun-08	6,040.00	0.2	281.4	MWD	6,039.67	-2.73	27.37	-2.73	27.23
57	8-Jun-08	6,130.00	0.3	28	MWD	6,129.67	-2.56	27.43	-2.56	27.31
57	8-Jun-08	6,224.00	0.2	179.5	MWD	6,223.67	-2.51	27.54	-2.51	27.43
57	8-Jun-08	6,311.00	0.4	47.3	MWD	6,310.67	-2.45	27.76	-2.45	27.65
58	9-Jun-08	6,406.00	0.3	39.9	MWD	6,405.67	-2.04	28.13	-2.04	28.06
58	9-Jun-08	6,495.00	0.3	47.3	MWD	6,494.67	-1.7	28.43	-1.7	28.38
59	10-Jun-08	6,590.00	0.4	74	MWD	6,589.67	-1.44	28.91	-1.44	28.88
60	11-Jun-08	6,665.00	0.3	50.8	MWD	6,664.67	-1.24	29.31	-1.24	29.28
60	11-Jun-08	6,759.00	0.1	7.6	MWD	6,758.67	-1.01	29.5	-1.01	29.48
61	6/12/2008	6,848.00	0.2	22	MWD	6,847.67	-0.79	29.56	-0.79	29.55
61	6/12/2008	6,943.00	0.3	339.4	MWD	6,942.66	-0.4	29.53	-0.4	29.53
61	6/12/2008	7,031.00	0.1	57.5	MWD	7,030.66	-0.14	29.51	-0.14	29.51
63	6/14/2008	7,128.00	0.1	14.2	MWD	7,127.66	-0.02	29.6	-0.02	29.6
64	6/15/2008	7,218.00	0.3	213.9	MWD	7,217.66	-0.14	29.49	-0.14	29.49
64	6/15/2008	7,313.00	0.1	137.6	MWD	7,312.66	-0.4	29.41	-0.4	29.41

FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

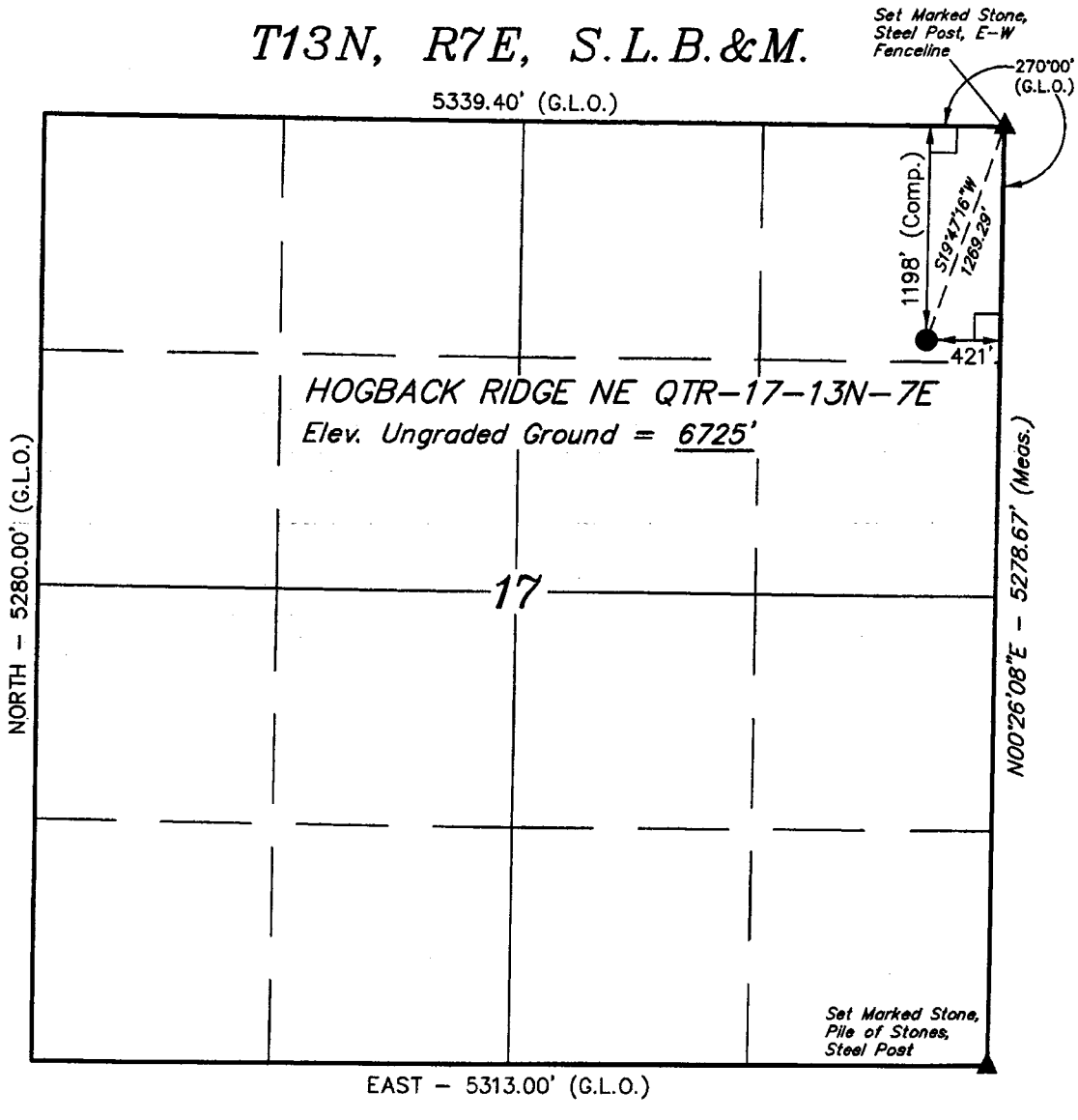
Day #	Date	MD (ftKB)	Incl (°)	Azm (°)	Method	TVD (ftKB)	VS (ft)	Depart (ft)	NS (ft)	EW (ft)
64	6/15/2008	7,405.00	0.2	24.1	MWD	7,404.66	-0.32	29.53	-0.32	29.53
64	6/15/2008	7,502.00	0.4	283.8	MWD	7,501.66	-0.08	29.27	-0.08	29.27
64	6/15/2008	7,591.00	0.8	62.1	MWD	7,590.66	0.28	29.52	0.28	29.52
65	6/16/2008	7,685.00	0.9	63.8	MWD	7,684.65	0.92	30.77	0.92	30.76
65	6/16/2008	7,781.00	0.7	84.6	MWD	7,780.64	1.31	32.04	1.31	32.02
65	6/16/2008	7,876.00	0.4	48.3	MWD	7,875.63	1.58	32.88	1.58	32.84
65	6/16/2008	7,959.00	0.2	9.7	MWD	7,958.63	1.92	33.14	1.92	33.08
66	6/17/2008	8,057.00	0.1	74.7	MWD	8,056.63	2.11	33.26	2.11	33.2
68	19-Jun-08	8,147.00	0.7	16	MWD	8,146.63	2.66	33.53	2.66	33.42
68	19-Jun-08	8,238.00	3.2	71.2	MWD	8,237.58	4.01	36.2	4.01	35.98
68	19-Jun-08	8,329.00	8.1	69.4	MWD	8,328.11	7.09	44.95	7.09	44.39
69	20-Jun-08	8,422.00	12.8	76.5	MWD	8,419.54	11.8	61.69	11.8	60.55
69	20-Jun-08	8,514.00	16.5	80.3	MWD	8,508.54	16.38	84.94	16.38	83.35
69	20-Jun-08	8,610.00	18.2	82.1	MWD	8,600.17	20.74	113.55	20.74	111.64
70	21-Jun-08	8,700.00	21.1	86.3	MWD	8,684.92	23.72	143.7	23.72	141.73
76	27-Jun-08	8,788.00	20.6	88.4	MWD	8,767.16	25.17	174.84	25.17	173.02
76	27-Jun-08	8,890.00	22.9	91.6	MWD	8,861.89	25.12	212.29	25.12	210.8
76	27-Jun-08	8,986.00	28.6	89.8	MWD	8,948.33	24.68	253.68	24.68	252.48
77	28-Jun-08	9,083.00	32.3	88.4	MWD	9,031.94	25.48	302.69	25.48	301.62
77	28-Jun-08	9,175.00	35.7	88.1	MWD	9,108.19	27.06	354.07	27.06	353.03
77	28-Jun-08	9,269.00	37.8	86.6	MWD	9,183.51	29.68	410.28	29.68	409.21
78	29-Jun-08	9,364.00	37.4	86.3	MWD	9,258.78	33.26	468.24	33.26	467.06
79	30-Jun-08	9,455.00	37.9	87.7	MWD	9,330.83	36.17	523.82	36.17	522.57
80	1-Jul-08	9,544.00	37.4	89.5	MWD	9,401.30	37.5	578.13	37.5	576.91
80	1-Jul-08	9,644.00	38.4	89.5	MWD	9,480.20	38.04	639.47	38.04	638.34
81	2-Jul-08	9,738.00	38.6	91.9	MWD	9,553.77	37.32	697.84	37.32	696.84
81	2-Jul-08	9,833.00	40.3	91.2	MWD	9,627.13	35.7	758.02	35.7	757.18
82	3-Jul-08	9,925.00	40.6	91.9	MWD	9,697.14	34.08	817.55	34.08	816.84
82	3-Jul-08	10,020.00	39.3	91.9	MWD	9,769.96	32.06	878.39	32.06	877.81
83	4-Jul-08	10,114.00	40.6	91.9	MWD	9,842.02	30.06	938.61	30.06	938.13
88	9-Jul-08	10,191.00	39.9	90.9	MWD	9,900.79	28.84	988.29	28.84	987.87
88	9-Jul-08	10,282.00	39.7	92.3	MWD	9,970.71	27.21	1,046.45	27.21	1,046.09
89	10-Jul-08	10,370.00	38.1	94.7	MWD	10,039.19	23.86	1,101.50	23.86	1,101.24
94	15-Jul-08	10,476.00	37.2	95	MWD	10,123.12	18.39	1,165.90	18.39	1,165.76
102	23-Jul-08	10,567.00	35.4	92.6	MWD	10,196.46	14.79	1,219.59	14.79	1,219.50
103	24-Jul-08	10,661.00	33.6	92.9	MWD	10,273.92	12.24	1,272.74	12.24	1,272.68
	7" Casing	10,700.00	33.1	92.5	Interpola	10,306.61	11.35	1,293.98	11.32	1,293.93
105	26-Jul-08	10,754.00	32.3	91.9	MWD	10,351.96	10.12	1,323.25	10.12	1,323.21
108	29-Jul-08	10,854.00	30.9	91.6	MWD	10,437.13	8.51	1,375.61	8.51	1,375.59
110	31-Jul-08	10,954.00	28.9	87.7	MWD	10,523.83	8.77	1,425.43	8.77	1,425.41
111	1-Aug-08	11,141.00	24.1	83.9	MWD	10,691.13	14.96	1,508.66	14.96	1,508.59
112	2-Aug-08	11,230.00	20.8	84.9	MWD	10,773.37	18.29	1,542.51	18.29	1,542.40
113	2-Aug-08	11,329.00	18.8	87.1	MWD	10,866.52	20.66	1,575.98	20.66	1,575.85
114	3-Aug-08	11,419.00	16.7	88.1	MWD	10,952.23	21.83	1,603.41	21.83	1,603.26
115	7-Aug-08	11,512.00	14.6	89.1	MWD	11,041.77	22.45	1,628.49	22.45	1,628.33
116	5-Aug-08	11,512.00	14.6	89.1	MWD	11,041.77	22.45	1,628.49	22.45	1,628.33
117	9-Aug-08	11,607.00	12.6	90.2	MWD	11,134.11	22.6	1,650.82	22.6	1,650.67
118	9-Aug-08	11,702.00	12.7	93	MWD	11,226.80	22.02	1,671.61	22.02	1,671.46
119	9-Aug-08	11,796.00	13.3	99.7	MWD	11,318.40	19.66	1,692.55	19.66	1,692.44
120	10-Aug-08	11,893.00	15.1	100.4	MWD	11,412.43	15.5	1,715.93	15.5	1,715.86
121	13-Aug-08	11,970.00	16.2	98.3	MWD	11,468.57	12.14	1,736.40	12.14	1,736.36

FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Day #	Date	MD (ftKB)	Incl (°)	Azm (°)	Method	TVD (ftKB)	VS (ft)	Depart (ft)	NS (ft)	EW (ft)
122	14-Aug-08	12,068.00	17.4	94	MWD	11,580.39	9.14	1,764.53	9.14	1,764.51
123	15-Aug-08	12,161.00	19.7	94.7	MWD	11,668.56	6.89	1,794.02	6.89	1,794.00
124	15-Aug-08	12,256.00	20.2	91.2	MWD	11,757.86	5.23	1,826.37	5.23	1,826.36
125	15-Aug-08	12,312.00	20.2	91.2	MWD	11,810.41	4.86	1,845.70	4.86	1,845.69
	Date	MD (ftKB)	Incl (°)	Azm (°)	Method	TVD (ftKB)	VS (ft)	Depart (ft)	NS (ft)	EW (ft)
142	1-Sep-08	10,567.00	35.4	92.6	MWD	10,196.46	1,219.47	1,219.47	14.86	1,219.38
142	1-Sep-08	10,661.00	33.6	92.9	MWD	10,273.92	1,272.62	1,272.62	12.31	1,272.56
142	1-Sep-08	10,754.00	32.3	91.9	MWD	10,351.96	1,323.13	1,323.13	10.18	1,323.10
142	1-Sep-08	10,815.00	31.45	91.7	MWD	10,403.77	1,355.31	1,355.32	9.17	1,355.29
143	2-Sep-08	10,853.00	27.3	97.6	MWD	10,436.88	1,373.86	1,373.87	7.72	1,373.85
144	3-Sep-08	10,953.00	25	101.8	MWD	10,526.65	1,417.20	1,417.28	0.37	1,417.27
145	4-Sep-08	11,048.00	22.7	111.3	MWD	10,613.56	1,453.84	1,454.06	-10.4	1,454.02
146	5-Sep-08	11,145.00	17.4	123.6	MWD	10,704.69	1,483.24	1,483.79	-25.24	1,483.57
147	6-Sep-08	11,239.00	9	132	MWD	10,796.13	1,500.31	1,501.26	-37.97	1,500.78
148	7-Sep-08	11,336.00	5.9	140.8	MWD	10,892.30	1,509.01	1,510.30	-46.91	1,509.57
151	10-Sep-08	11,433.00	3.1	139.4	MWD	10,989.00	1,513.80	1,515.35	-52.76	1,514.43
152	11-Sep-08	11,526.00	3.1	177.7	MWD	11,081.87	1,515.50	1,517.24	-57.19	1,516.17
153	12-Sep-08	11,627.00	5.2	230.8	MWD	11,182.63	1,512.00	1,514.03	-62.81	1,512.73
155	14-Sep-08	11,720.00	2.8	228.7	MWD	11,275.40	1,506.98	1,509.24	-66.97	1,507.75
156	15-Sep-08	11,818.00	3.2	264.9	MWD	11,373.27	1,502.44	1,504.80	-68.8	1,503.23
156	15-Sep-08	11,919.00	5.5	280	MWD	11,473.98	1,494.87	1,497.21	-68.21	1,495.65
157	16-Sep-08	12,012.00	7.3	286.4	MWD	11,566.40	1,484.84	1,487.05	-65.76	1,485.60
157	16-Sep-08	12,108.00	8.6	294.1	MWD	11,661.47	1,472.49	1,474.46	-61.11	1,473.19
158	17-Sep-08	12,207.00	8.2	301.5	MWD	11,759.41	1,459.78	1,461.43	-54.4	1,460.42
159	19-Sep-08	12,297.00	7.3	298.3	MWD	11,848.59	1,449.33	1,450.71	-48.34	1,449.91
160	21-Sep-08	12,396.00	8.4	286.4	MWD	11,946.67	1,436.91	1,438.08	-43.31	1,437.43
161	22-Sep-08	12,492.00	9.6	280	MWD	12,041.49	1,422.33	1,423.38	-39.94	1,422.82
	5" Casing	12,494.00	9.6	280.1	Interpola	12,043.46	1422.02	1,423.05	-39.88	1,422.49
162	22-Sep-08	12,588.00	8.7	283.9	MWD	12,136.27	1,407.44	1,408.37	-36.81	1,407.89
163	23-Sep-08	12,684.00	8.4	279	MWD	12,231.20	1,393.49	1,394.33	-33.97	1,393.92
164	25-Sep-08	12,778.00	8.1	263.1	MWD	12,324.24	1,380.14	1,380.97	-33.69	1,380.56
165	27-Sep-08	12,876.00	9.1	254	MWD	12,421.14	1,365.80	1,366.75	-36.65	1,366.25
166	29-Sep-08	12,971.00	13.1	275.5	MWD	12,514.38	1,347.84	1,348.83	-37.69	1,348.30
167	30-Sep-08	13,070.00	17.1	279.3	MWD	12,609.95	1,322.34	1,323.20	-34.26	1,322.76
168	2-Oct-08	13,166.00	14.7	282.5	MWD	12,702.27	1,296.56	1,297.27	-29.35	1,296.93
169	4-Oct-08	13,261.00	13.7	279.3	MWD	12,794.37	1,273.74	1,274.31	-24.92	1,274.06
170	5-Oct-08	13,358.00	15.4	295.5	MWD	12,888.29	1,250.85	1,251.21	-17.51	1,251.09
171	6-Oct-08	13,454.00	13.8	297.9	MWD	12,981.19	1,229.33	1,229.48	-6.67	1,229.47
172	8-Oct-08	13,551.00	13.4	294.8	MWD	13,075.47	1,209.01	1,209.04	3.46	1,209.04
173	8-Oct-08	13,639.00	11.2	287.8	MWD	13,161.45	1,191.69	1,191.69	10.35	1,191.64
174	10-Oct-08	13,676.00	11.3	287.4	MWD	13,197.74	1,184.83	1,184.83	12.53	1,184.76
175	10-Oct-08	13,735.00	11.3	287.4	MWD	13,255.60	1,173.83	1,173.84	15.99	1,173.73

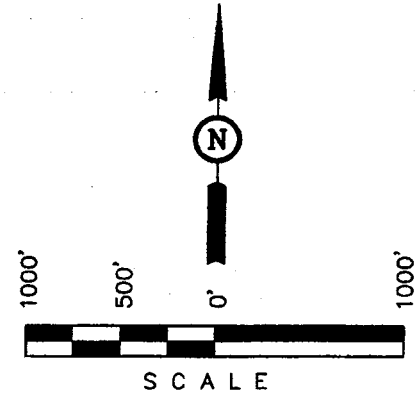
FORTUNA (US) L.P.

Well location, HOGBACK RIDGE NE QTR-17-13N-7E, located as shown in the NE 1/4 NE 1/4 of Section 17, T13N, R7E, S.L.B.&M., Rich County, Utah.



BASIS OF ELEVATION

SPOT ELEVATION LOCATED IN THE NW 1/4 OF SECTION 16, T13N, R7E, 6th P.M., TAKEN FROM THE SAGE CREEK QUADRANGLE, UTAH, RICH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6686 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR No. 161319 STATE OF UTAH

ROBERT L. KAY

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(NAD 83)
LATITUDE = 41°52'21.15" (41.872542)
LONGITUDE = 111°10'06.54" (111.168483)
(NAD 27)
LATITUDE = 41°52'21.37" (41.872603)
LONGITUDE = 111°10'03.83" (111.167731)

LEGEND:

- └ = 90° SYMBOL
- ● = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

SCALE	DATE SURVEYED:	DATE DRAWN:
1" = 1000'	09-23-07	09-26-07
PARTY: J.F. R.H. P.M.	REFERENCES: G.L.O. PLAT	
WEATHER: WARM	FILE: FORTUNA (US) L.P.	

FORTUNA (US) L.P.

LOCATION LAYOUT FOR

HOGBACK RIDGE NE QTR-17-13N-7E
SECTION 17, T13N, R7E, S.L.B.&M.
1198' FNL 421' FEL

FIGURE #1

SCALE: 1" = 100'
DATE: 09-26-07
DRAWN BY: P.M.

Prevailing Winds

REGISTERED LAND SURVEYOR
No. 161319
ROBERT L. KAY
STATE OF UTAH

F-15.2'
El. 695.4'

C-0.1'
El. 710.7'

Sta. 4+50

Install Cattleguard

Round Corners as needed

Proposed Access Road

225'

157'

PIPE TUBS

CATWALK

PIPE RACKS

RIG

MUD TANKS

LOC

C-14.1'
El. 724.7'

TOILET

TRAILER

LIGHT PLANT

BOILER

PUMP HOUSE

WATER TANK

TRASH

PROPANE STORAGE

Sta. 2+25

Approx. Top of Cut Slope

Sta. 1+00

Existing 2-Track

Approx. Toe of Fill Slope

Install Cattleguard

Proposed Escape Route

Sta. 0+00

F-37.9'
El. 672.7'

Topsoil Stockpile

F-3.5'
El. 707.1'

Existing Fence

Elev. Ungraded Ground at Location Stake = 6724.7'

Elev. Graded Ground at Location Stake = 6710.6'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

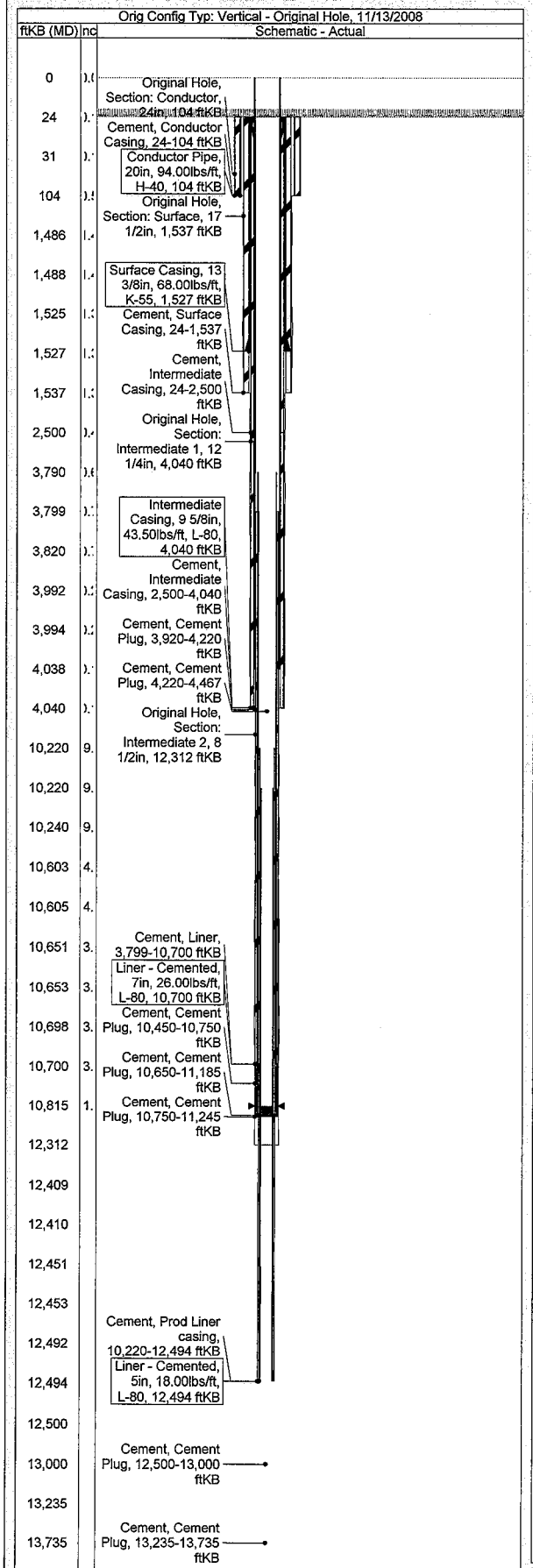
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 1.0, Report Date: 11/12/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	33,043.00	33,043.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	40.0	DRY	20

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period

TRAVEL TO LEASE. ORGANIZED SERVI CES FOR COMPLETION

Operations Next Report Period

START RIG UP

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Other Operations	Travel to lease & Organizing services.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			4,500.00
876	TALISMAN ENERGY INC.			2,000.00
846	STONE WELL SERVICE LLC			
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
847	100 Not Available		0244	1,400.00
950	TALISMAN ENERGY INC.			10,693.00
822	TALISMAN ENERGY INC.			12,500.00
854	100 Not Available	12913	00246	1,950.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

RECEIVED

JAN 2 5 2010

DIV. OF OIL, GAS & MINING

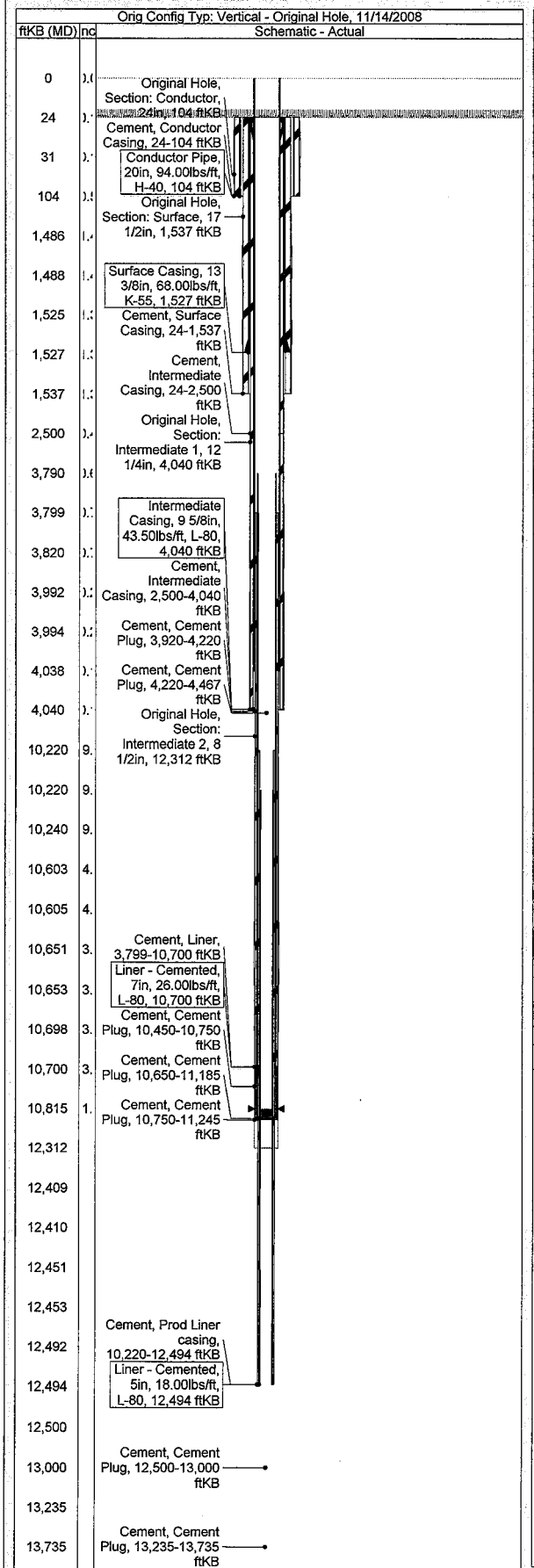
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 2.0, Report Date: 11/13/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	1,300.00	34,343.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	45.0	DRY	19

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period
WAITING ON EQUIP ARRIVAL

Operations Next Report Period
SPOT EQUIP.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Other Operations	WAITING FOR EQUIP. TO ARRIVE

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC			
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
854	100 Not Available		00246	

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

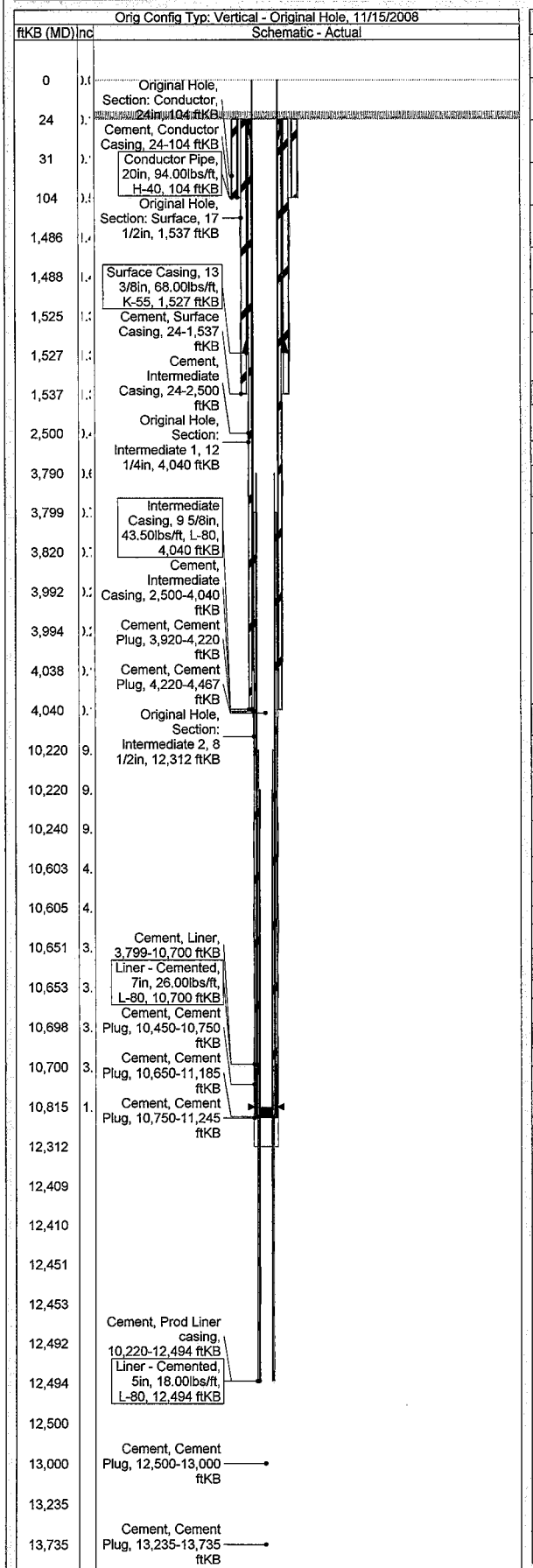
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 3.0, Report Date: 11/14/2008 License #:

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	3,482.00	37,825.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	50.0	DRY	18

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period
ORGANIZE EQUIP ARRIVAL

Operations Next Report Period
SPOT EQUIP WHEN IT ARRIVES

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Other Operations	WAITING ON EQUIP.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC			
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
854	100 Not Available		00246	
847	100 Not Available	57028	00244	2,182.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

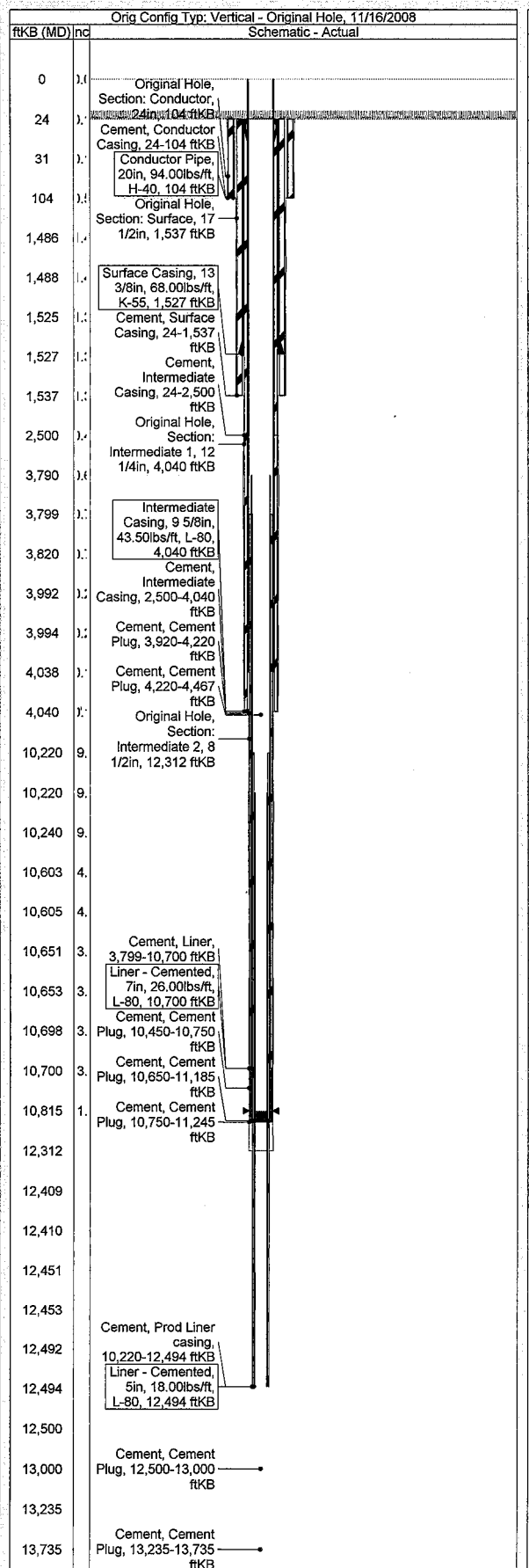
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 4.0, Report Date: 11/15/2008 License #:**

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	4,374.00	42,199.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	50.0	DRY	17

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period
WAIT ON EQUIP.

Operations Next Report Period
SPOT EQUIP. WHEN IT ARRIVES

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Other Operations	WAIT ON EQUIP.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6225		3,074.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
854	100 Not Available		00246	

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

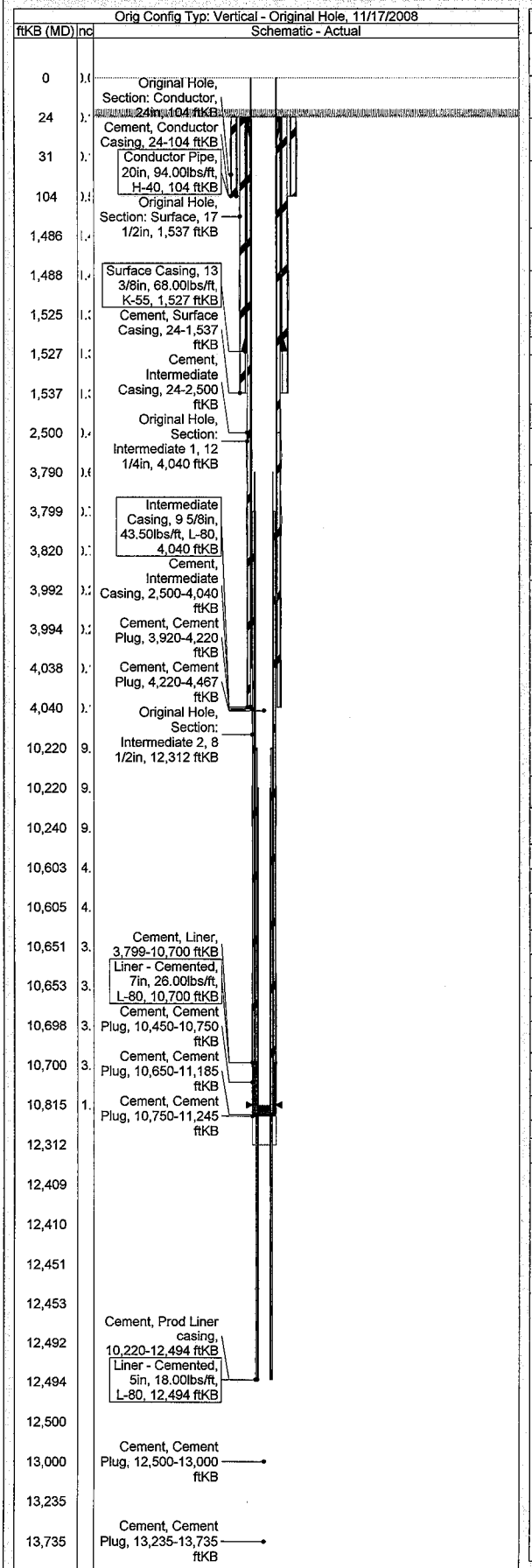
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 5.0, Report Date: 11/16/2008 License #:

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	1,560.00	43,759.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	50.0	DRY	16

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period

HEATER STRING & WELLHEAD ARRIVED. SPOTTED CAT WALK & PIPE RACK. . MOVED IN WELLSITE TRAILER.

Operations Next Report Period

MISR.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Move in Service Rig	SPOT EQUIP. THAT ARRIVED.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC			
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
854	100 Not Available		00246	
875	100 Not Available		00247	150.00
875	100 Not Available		00247	110.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

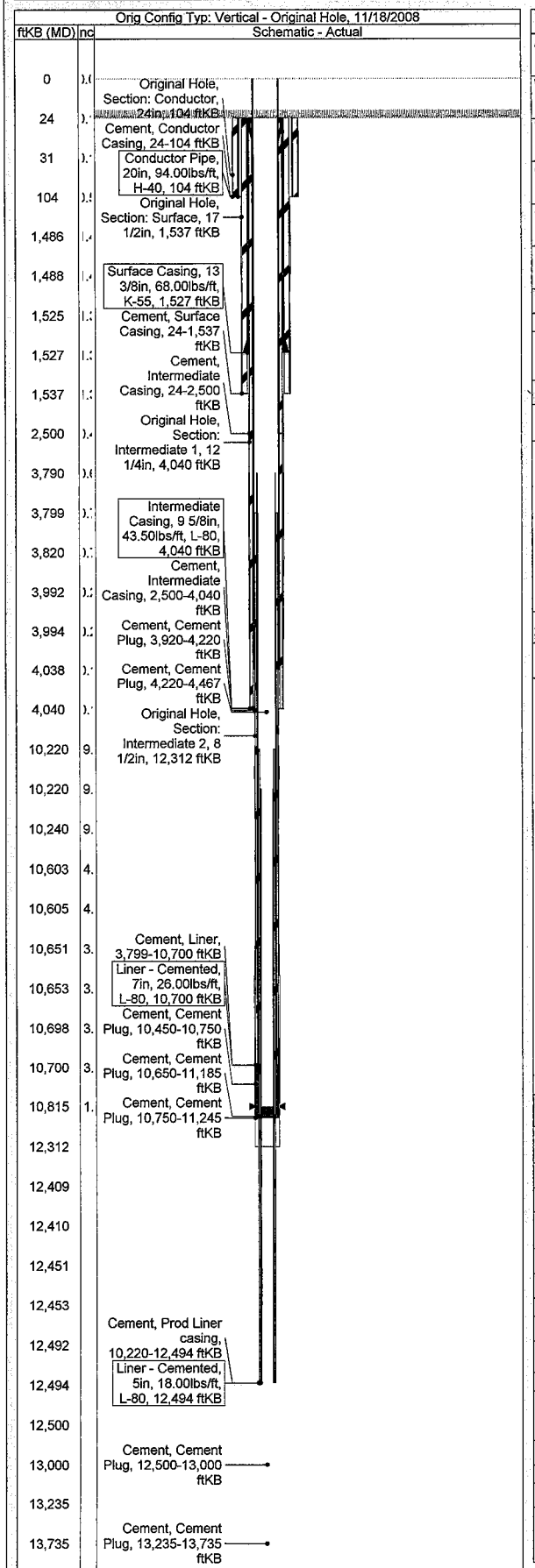
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 6.0, Report Date: 11/17/2008 License #:

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	30,165.00	73,924.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	55.0	DRY	15

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period

HELD SAFETY MEETING. INSTLL WELLHAD. MISR. SDFN.

Operations Next Report Period

RIG IN SR.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	SIFN
08:00	Safety Meeting	HELD SAFETY MEETING.
08:30	Install Wellhead	INSTALLED REMOVED DRILLING SPOOL. INSTALLED & PRESS. TEST WELL TO 7500 psi.
12:30	Move in Service Rig	INSTALL RIG MATTING. MISR. SPOT EQUIP.
16:30	Shut in for Night	WELL SHUT-IN FOR NIGHT.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6226		6,248.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
854	100 Not Available	12916	00246	2,590.00
860	WEATHERFORD INTERNATIONAL INC	2015		3,550.00
848	100 Not Available	156926		2,717.00
831	100 Not Available		249	1,250.00
855	100 Not Available	34494	245	3,025.00
855	100 Not Available	34670	245	1,540.00
855	100 Not Available	34671	245	3,740.00
855	100 Not Available	34580	245	3,470.00
875	100 Not Available		248	475.00
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/17/2...	Safety Meeting	Acce...	DICUSSED OPERATION WITH ALL PERSONNEL ON LEASE.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

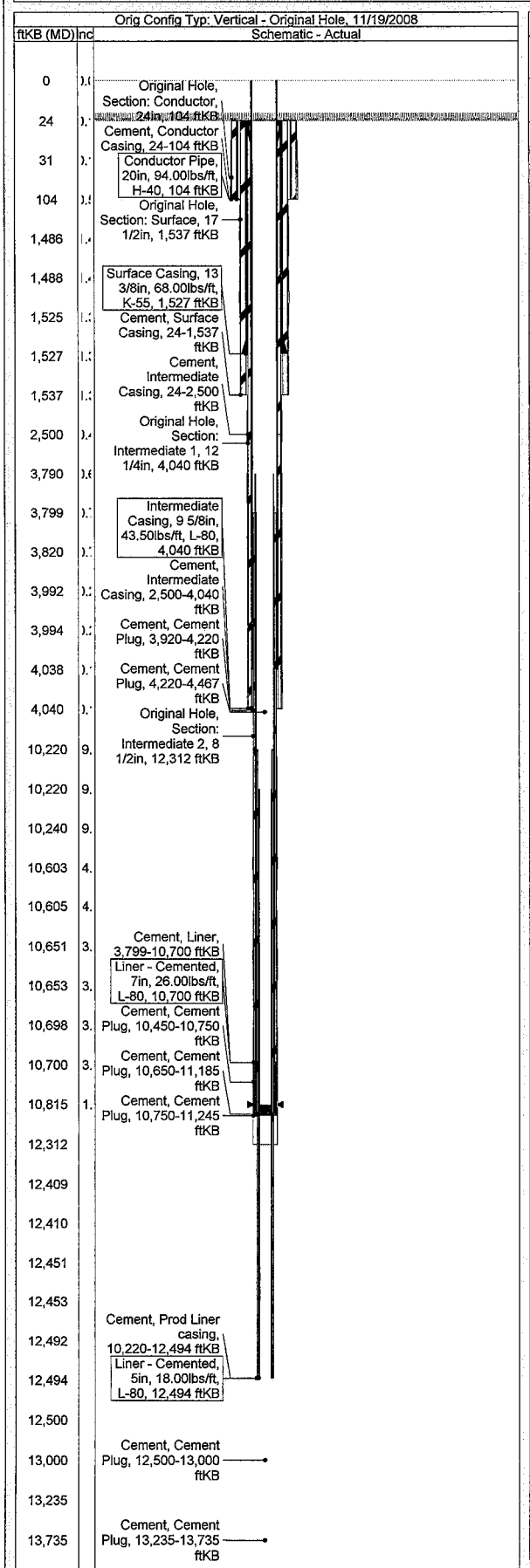
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 7.0, Report Date: 11/18/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
7001418637911171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	93,366.00	167,290.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	50.0	DRY	14

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period

HELD SAFETY MEETING. RIG IN SERVICE RIG.

Operations Next Report Period

RIH 6.125 BIT ON CSG SCRAPER

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	WELL SHUT-IN FOR NIGHT.
07:00	Safety Meeting	HELD SAFETY MEETING. SERVICE & START EQUIP.
08:00	Rig Up/Down	RIG IN EQUIP. TO FORTUNA , WCB & DOGM SPEC'S.
14:00	Other Operations	UNLOAD 408 jts 2 1/2" EUE MODIFIED
15:30	Pressure Test BOP's	FUNCTION & PT BOP'S.
16:30	Other Operations	HAD PROBLEM'S GETTING PROTECTOR'S OFF TBG STRING.
18:00	Shut in for Night	SECURE WELL. SDFN.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6227		7,749.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
860	WEATHERFORD INTERNATIONAL INC	4245363		80,742.00
860	WEATHERFORD INTERNATIONAL INC	2016		1,280.00
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/18/2...	Safety Meeting	Acce...	DISCUSSED RIG IN SAFETY ISSUE'S (Pinch Point's, Communication.). ORIENTED SAFETY & RIG HAND'S.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Report Printed: 1/13/2010

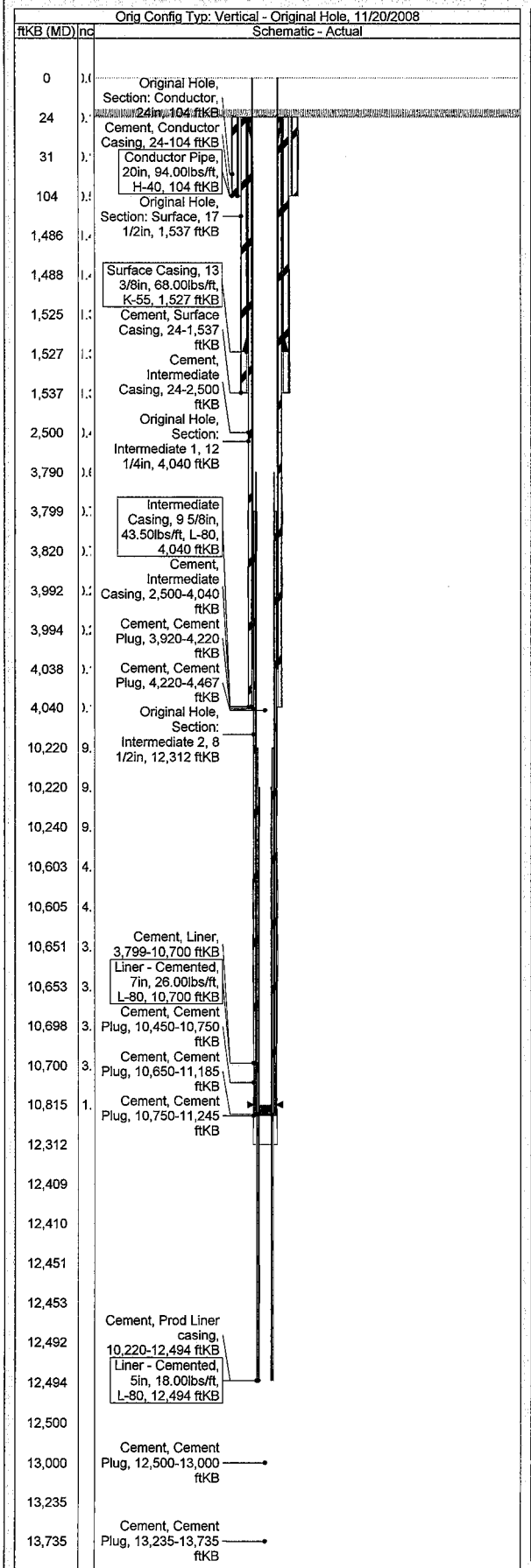
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 8.0, Report Date: 11/19/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	12,674.00	179,964.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	50.0	DRY	13

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)

Operations This Report Period

HELD SAFETY MEETING. RIH BIT & SCRAPER ON 2 7/8" TBG. TAGGED 5" LINER TOP @ 10205.65 ' kb. REVERSE CIRC. BOTTOM'S UP. POOH 5 jts TBG SECURE WELL. SDFN

Operations Next Report Period

POOH 7" SCRAPER. RIH 5" SCRAPER

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	WELL SHUT-IN FOR NIGHT.
07:00	Safety Meeting	HELD SAFETY. SITP & SICP TSTM. SERVICE & START EQUIP.
07:30	Run Tubing	TALLY, DRIFT, PU & RIH BAKER BIT (6 1/4") & SCRAPER (7") ON 310 jts TBG (2 7/8" EUE L-80)
15:30	Other Operations	TAGGED 5" LINER TOP @ 10205>65 ' Kb. CIRCULSTED BOTTOM UP. POOH 5 jts TBG. SECURED WELL.
17:30	Shut in for Night	WELL SHUT-IN FOR NIGHT.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6228		7,149.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
860	WEATHERFORD INTERNATIONAL INC	4245363		
860	WEATHERFORD INTERNATIONAL INC	2016		1,280.00
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
865	100 Not Available	24185	250	650.00
831	100 Not Available		249	1,200.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/19/2...	Safety Meeting	Acce...	DISCUSSED HAZARD'S WHEN PICKING UP PIPE.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

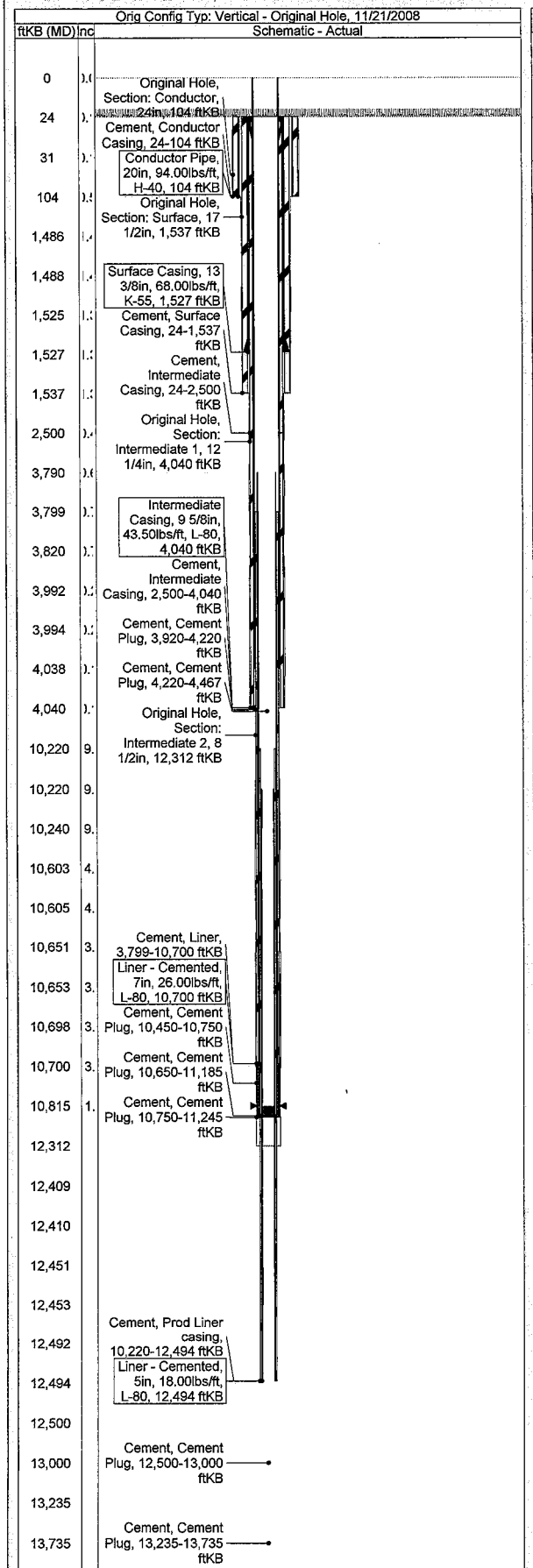
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 9.0, Report Date: 11/20/2008 License #:

PBTD Depth (ftKB):						
Surface Legal Location	**Asset**	**Branch**	**Orig KB Elev (ft)**	**Gr Elev (ft)**	**KB-Grd (ft)**	**KB-CF (ft)**
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	11,453.00	191,417.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	45.0	DRY	12

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. POOH CSG SCRAPER & BIT. RIH 5" CSG SCRAPER ON TBG (309 JTS) to 10205.69 ' kb. SECURE WELL.

Operations Next Report Period

CONTINUE RIH SCRAPER TO PBTD.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	WELL SHUT-IN FOR NIGHT.
07:00	Safety Meeting	HELD SAFETY MEETING.. SITP & SICP TSTM. SERVICE & START EQUIP.
07:30	Pull Tubing	POOH BTBG, SCRAPER & BIT.
12:45	Run Tubing	RIH BIT (4 1/4") , LINER SCRAPER (5") ON 309 jts TBG TO 10205.69' kb.
17:45	Other Operations	SECURE WELL. DRAIN LINES.
18:00	Shut in for Night	WELL SHUT IN FOR NIGHT.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6229		6,413.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
860	WEATHERFORD INTERNATIONAL INC	4245363		
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
855	100 Not Available		249	1,295.00
831	100 Not Available		249	1,200.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/20/2...	Safety Meeting	Acce...	

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

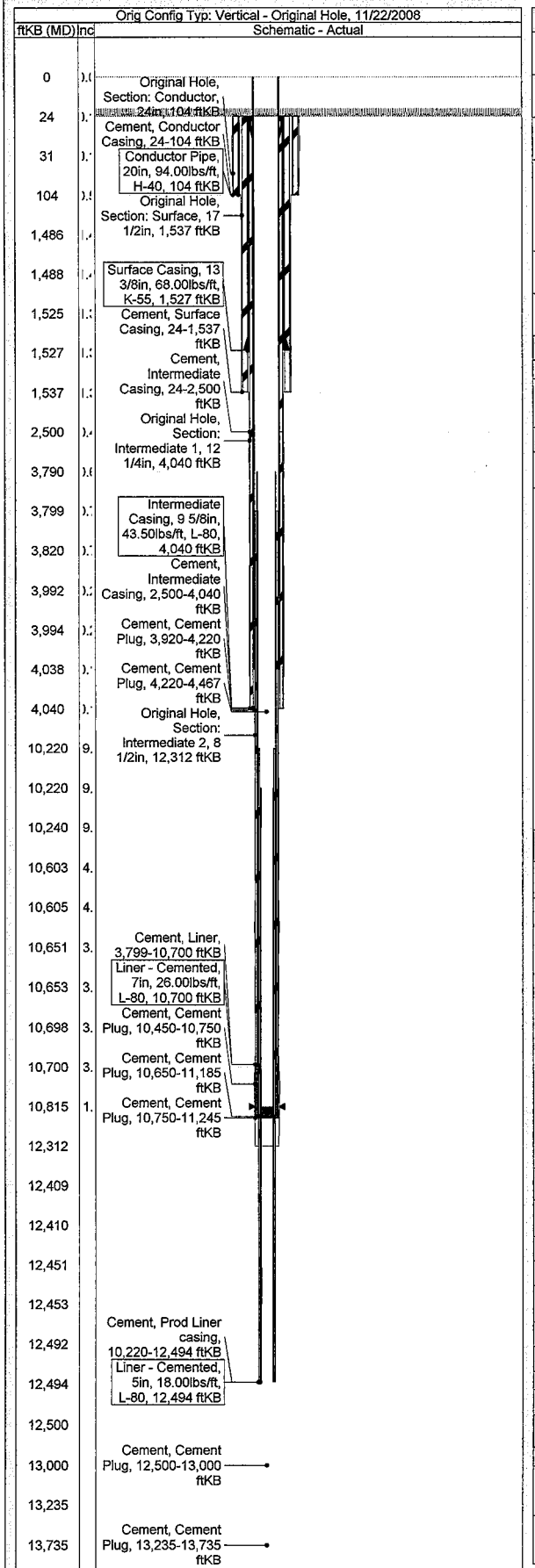
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 10.0, Report Date: 11/21/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	12,275.00	203,692.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	40.0	DRY	11

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. RIH TBG & SCRAPER TO 12450'. CIRCULATED WELLBORE CLEAN. POOH TO 11700'. TRIED TO ROTATE TBG (1500 ft #). CONTINUE POOH TBG. SECURE WELL. SDFN

Operations Next Report Period

CONTINUE POOH TBG.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	WELL SHUT-IN FOR NIGHT.
07:00	Safety Meeting	HELD SAFETY MEETING. SITP & SICP TSTM. SERVICE & START EQUIP.
07:30	Run Tubing	CONTINUE RIH CSG SCRAPER ON TBG. TO JT 377 @ 12450.75 ' kb. SCRAPER & BIT BECAME STUCK.
10:00	Other Operations	CIRULATED DOWN TBG & WORKED SCRAPER UNTIL FREE.
13:15	Circulate Well	CIRCULATED WELLBORE CLEAN.
14:45	Other Operations	TBG LANDED @ 11700' kb. ROTATED TBG WITH CSG SCRAPER ON BOTTOM. IT TOOK 1500 FT # TO ROTATE TBG.
15:00	Pull Tubing	CONTINUE POOH TBG STRING. . 100 jts LEFT IN HOLE.
17:30	Other Operations	SECURE WELL DRAIN ALL EQUIP.
18:00	Shut in for Night	WELL SHUT IN FOR NIGHT.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6230		6,370.00
875	100 Not Available		00243	
855	100 Not Available	34624	00245	2,160.00
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
831	100 Not Available		249	1,200.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/21/2...	Safety Meeting	Acce...	DISCUSSED PINCH POINTS WHEN RIH& POOH TBG.

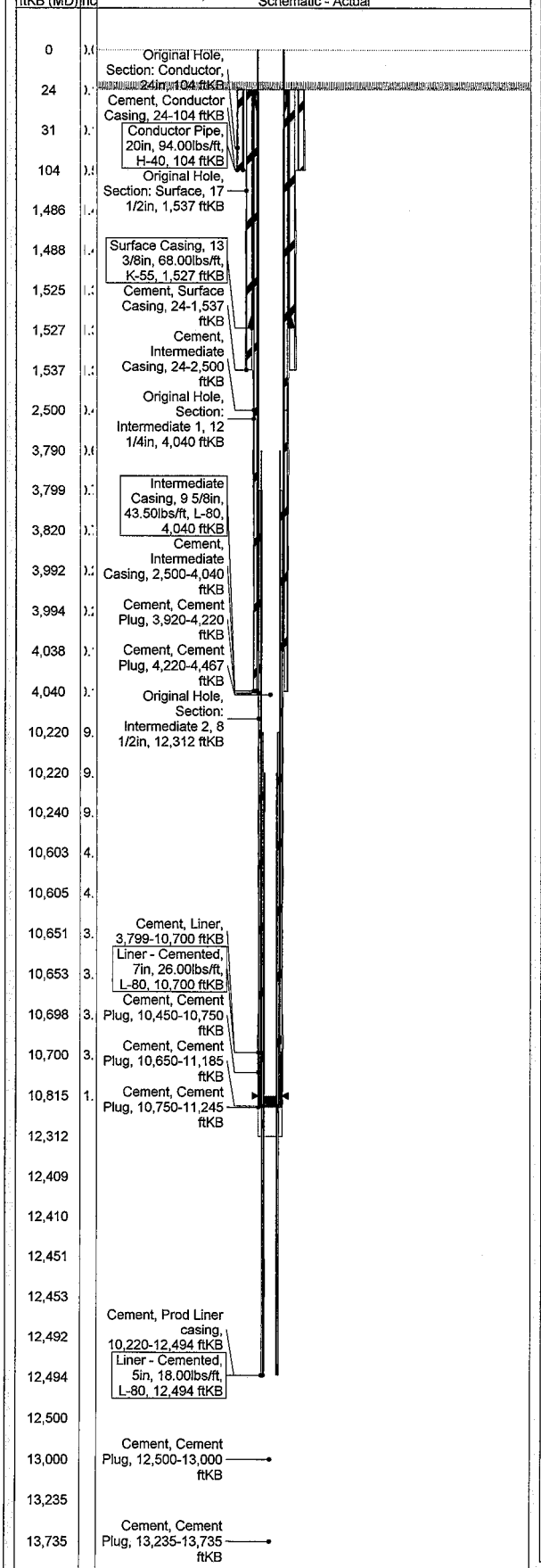
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 10.0, Report Date: 11/21/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 11/22/2008



Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

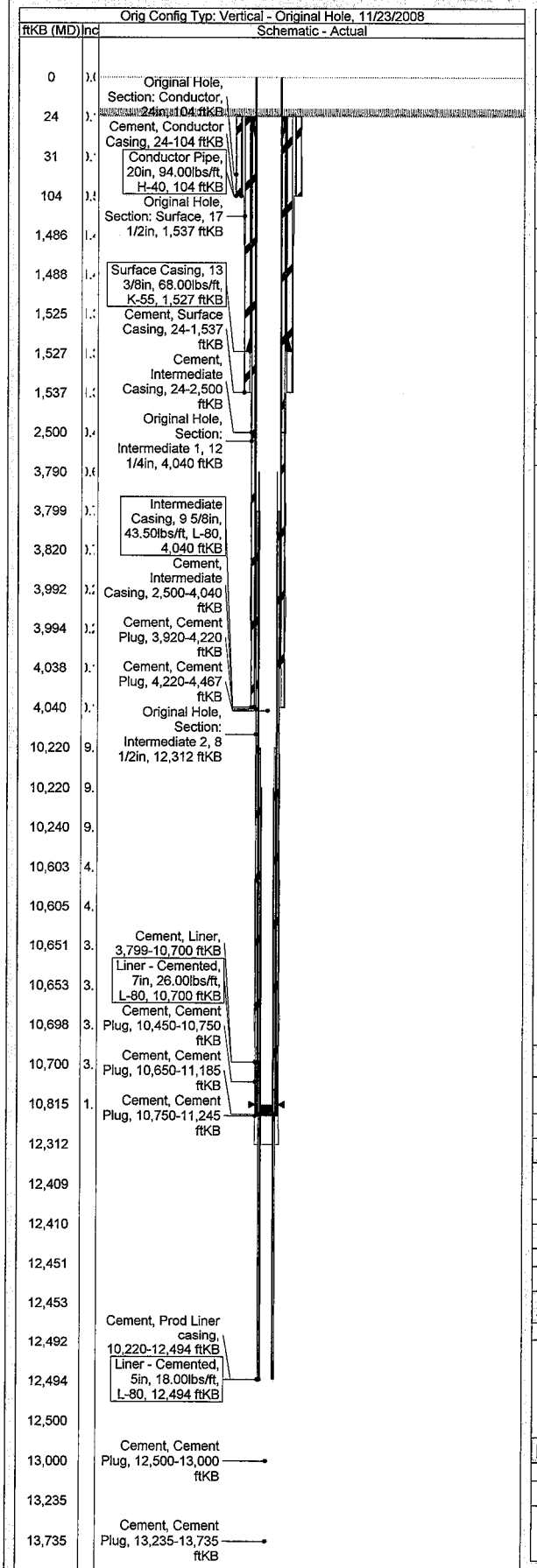
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 11.0, Report Date: 11/22/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	13,279.00	216,971.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	40.0	DRY	14

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. POOH & LAID DOWN REMAINING TBG. RIG IN SCHL. PT SURF. EQUIP TO 4000 psi. RIH & CONDUCT USIT LOG FROM 12400 TO 10220' kb.

Operations Next Report Period

CONDUCT CBT.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	SDFN
08:00	Safety Meeting	HELD SAFETY MEETING. SITP & SICP TSTM. SERVICE & START EQUIP.
08:30	Pull Tubing	POOH REMAINING TBG , SCRAPER & BIT.
13:30	Safety Meeting	HELD SAFETY MEETING WITH ALL PERSONNEL ON LEASE.
14:00	Rig Up/Down	RIG IN SCHLUMBERGER'S LOGGING UNIT.
15:00	Pressure Test	PRESS. TEST SURFACE EQUIP TO 4000 psi.
15:30	Logging	RIH & CONDUCTED USIT GR & CCL LOG.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6231		7,537.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	855.00
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
847	100 Not Available	2453	00253	1,142.00
831	100 Not Available		249	1,200.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/22/2...	Safety Meeting	Acce...	DISCUSSED GOOD COMMUNICATION SKILL REQUIRED WHEN LAYING DOWN TBG
11/22/2...	Safety Meeting	Acce...	DISCUSSED HAZARD'S & PRECAUTIN'S WHILE LOGGING.

Downgrading/Safety Incidents

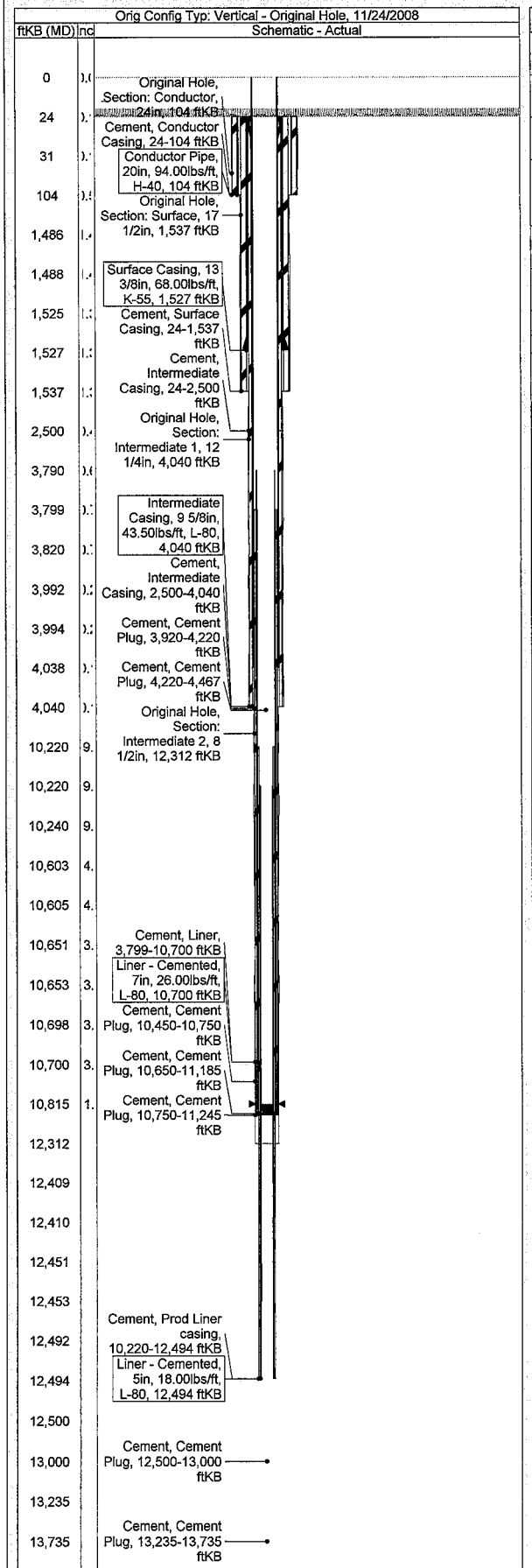
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 12.0, Report Date: 11/23/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	41,201.00	258,172.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	40.0	DRY	13

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. RIH 200 JTS TBG FOR PICKLE TREATMENT. SECURE WELL. SDFN

Operations Next Report Period

CONTINUE RIH NEW TBG STRING.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Logging	CONDUCTED CBL.FROM 12400 TO 10220 ' kb.
05:00	Rig Up/Down	RIG OUT SCHLUMBERGER LOGGING UNIT.
05:30	Shut in for Night	WELL SHUT-IN FOR NIGHT.
08:30	Safety Meeting	HELD SAFETY MEETING. SICP-TSTM. SERVIC E& START EQUIP.
09:00	Other Operations	UNLOADED 406 jts OF 2 7/8" EUE N-80 TBG. REMOVED THREAD PROTECTOR'S.
13:00	Run Tubing	DRIFT, TALLY, PU & RIH 200 jJTS 2 7/8" TBG INTO WELL FOR PICKLE JOB. SECURE WELL.
18:00	Shut in for Night	WELL SHUT-IN FOR NIGHT.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6232		9,916.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	855.00
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
841	SCHLUMBERGER TECHNOLOGY CORPORATION	ASQC-00035		26,685.00
831	100 Not Available		249	1,200.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/23/2...	Safety Meeting	Acce...	DISCUSSED HOW TO PROPERLY PICK UP TBG USING THERE KNEE

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

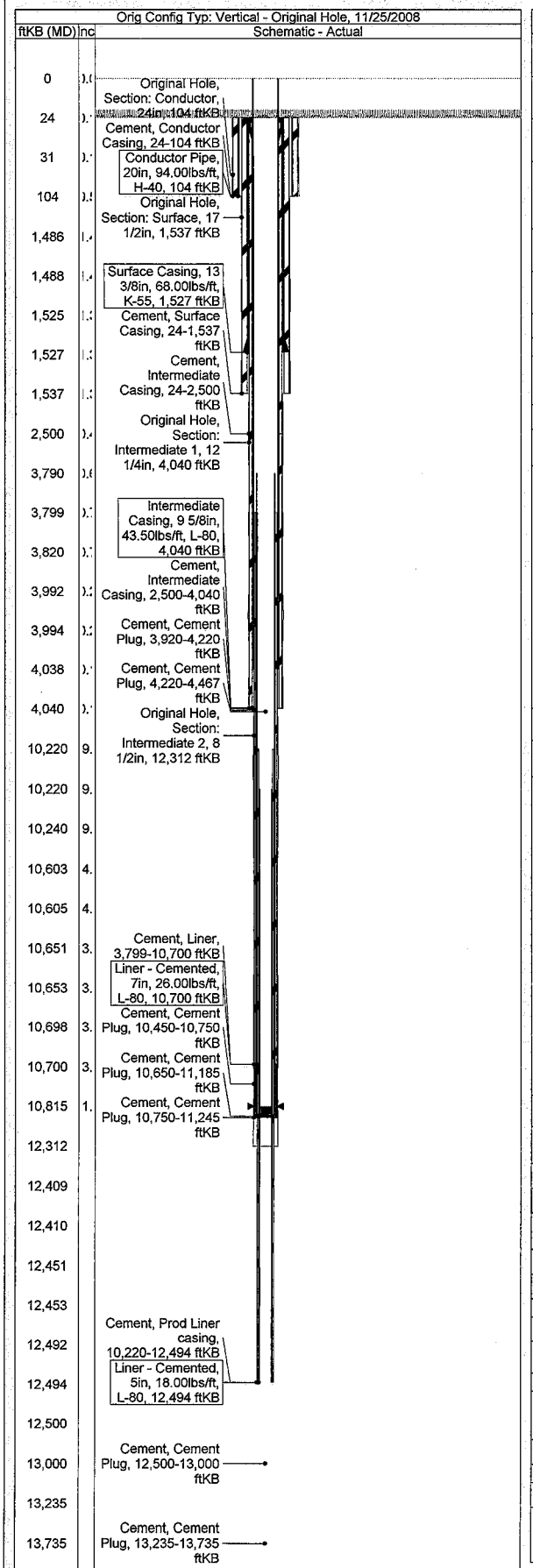
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 13.0, Report Date: 11/24/2008 License #:**

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	17,743.00	275,915.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	45.0	DRY	12

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. RIH TBG TO 12346.5 ' Kb. PULL 11 jts. IANDED TBG @ 11998.8 ' Kb. EST. TORQUE TO ROTATE TBG @ 1200 ft #. SECURE WELL. SDFN.

Operations Next Report Period

PICKLE TBG STRING. POOH TBG.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	WELL SHUT-IN FOR NIGHT.
07:00	Safety Meeting	HELD SAFETY MEETING. SITP & SICP - TSTM. SERVICE & START EQUIP.
07:30	Downtime - Other	WAIT ON TBG DRIFT TO ARRIVE
10:30	Run Tubing	TALLY, DRIFT, PU & RIH TBG. TO 12346.5 ' Kb.
15:00	Pull Tubing	PULLED 11 JTS TBG . TBG LANDED @ 11998.8 ' Kb.
15:30	Other Operations	ROTATED TBG @ 1200 ft # TORQUE.
15:45	Other Operations	SECURE WELL. DRAIN LINES.
16:15	Shut in for Night	SIFN
00:00		

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6233		5,453.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	855.00
875	100 Not Available		00245	
875	100 Not Available		247	
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
831	100 Not Available		249	1,200.00
865	100 Not Available		250	2,950.00
842	100 Not Available	130822	251	4,890.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/24/2...	Safety Meeting	Acce...	DISCUSSED NEED FOR GOOD COMMUNICATIO'S AT ALL TIMES. WATCH OUT FOR FELLOW WORK'S.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

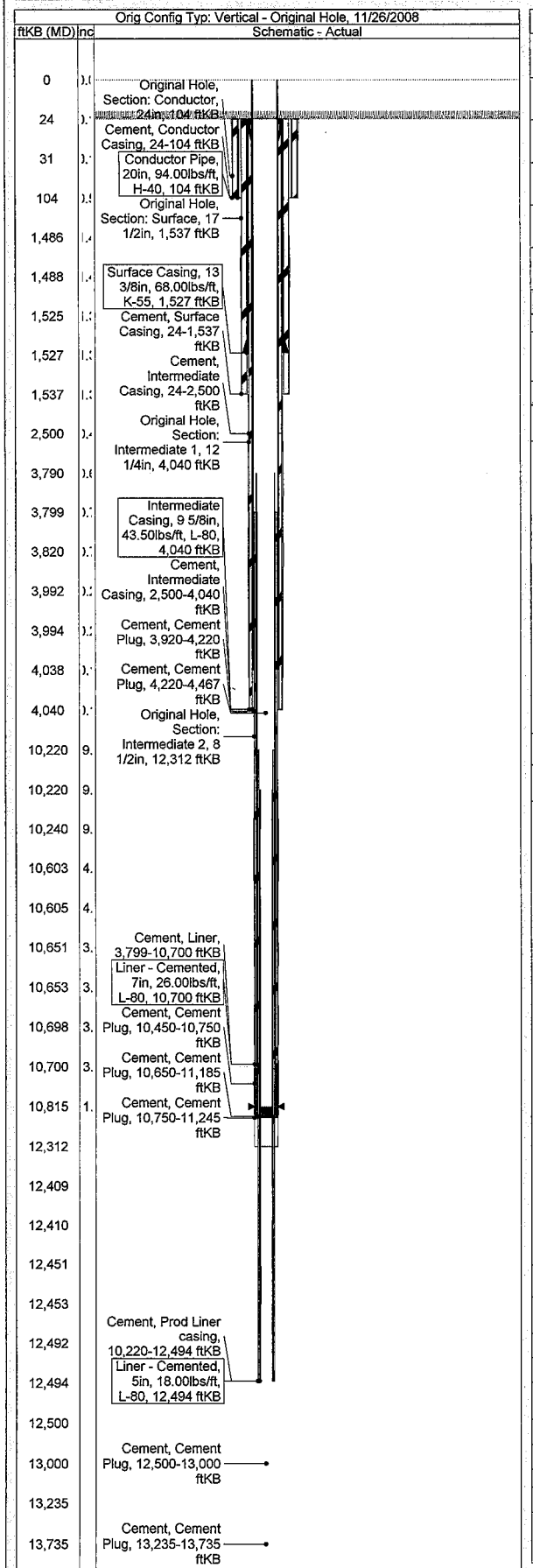
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 14.0, Report Date: 11/25/2008 License #:**

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	180,876.00	456,791.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	45.0	DRY	11

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period
HELD SAFETY MEETING. PICKLED TBG STRING. POOH TBG STRING.

Operations Next Report Period
RIH TCP GUNS ON TBG.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	SDFN
08:00	Downtime - Other	WAIT ON SCHLUMBERGER TO ARRIVE
11:00	Safety Meeting	HELD SAFETY & PROCEDURE MEETING. SICP- TSTM.
11:30	Rig Up/Down	RIG IN SCHLUMBERGER PUMPING UNIT.
12:30	Pressure Test	PRESS. TEST SURF. EQUIP. TO 5000 psi
12:45	Acid Wash/Squeeze	CONDUCTED ACID PICKLE 6 bbls) ON TBG SET @ 11998.8 ' Kb. BACKWASHED SPENT ACID OUT. CHANGED HOLE OVER TO INHIBITED FRESH H2O.
15:00	Rig Up/Down	RIG OUT SCHL. UNIT.
15:30	Pull Tubing	POOH TBG.
18:15	Other Operations	SECURE WELL. DRAIN EQUIP.
18:30	Shut in for Night	SDFN.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6234		7,526.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	855.00
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
875	100 Not Available			150.00
839	SCHLUMBERGER TECHNOLOGY CORPORATION	2207161065		23,080.00
862				14,080.00
855				3,000.00
862				119,750.00
855				6,000.00
831	100 Not Available		249	1,200.00
857	100 Not Available	24365	250	1,800.00
857	100 Not Available	24314	250	1,040.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

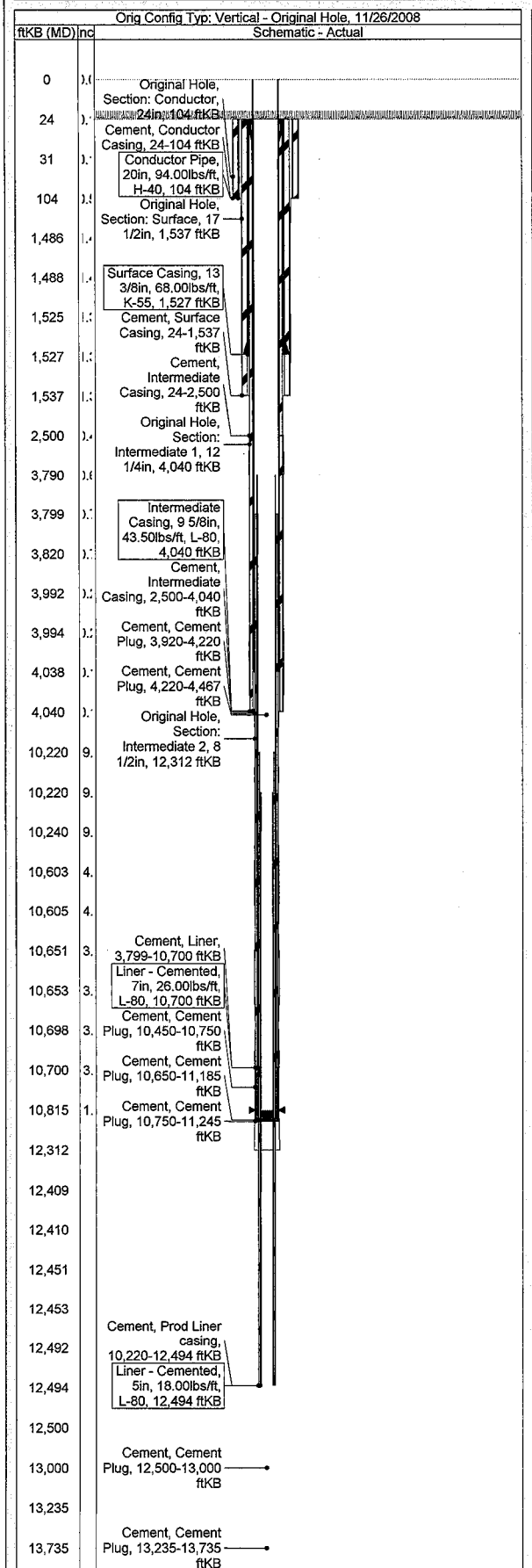
Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 14.0, Report Date: 11/25/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Safety Checks

Date	Type	Result	Comment
11/25/2...	Safety Meeting	Acce...	DISCUSSED ACID PROGRAM. DISCUSSED HAZARD'A & PRECAUTION TO OBSERVE DURING ACID TREATMENT.

Downgrading/Safety Incidents

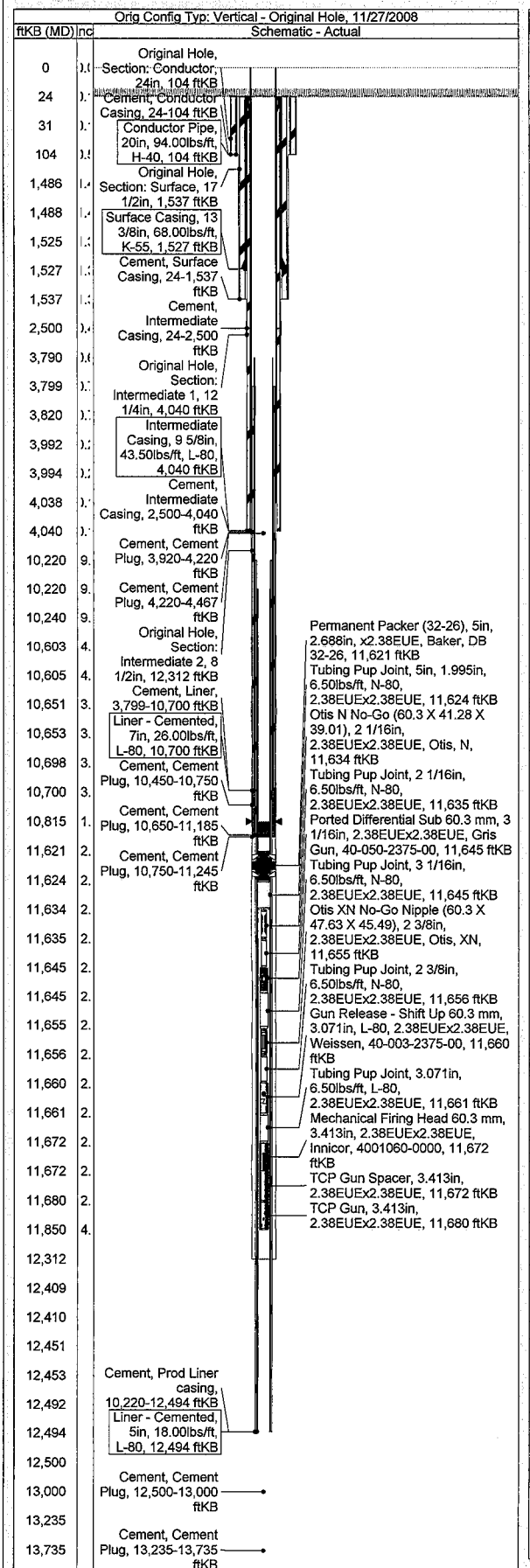
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 15.0, Report Date: 11/26/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	29,713.00	486,504.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	40.0	DRY	10

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. ASSEMBLY & RIH TCP GUNS ON 360 jts TBG. SECURE WELL.SDFN.

Operations Next Report Period

POSITON TCP GUNS & SET PACKER

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	SDFN
07:00	Safety Meeting	HELD SAFETY MEETING. SICP TSTM. SERVICE & START EQUIP.
07:45	Other Operations	PREP. TO START IN HOLE WITH TCP GUNS.
09:15	Other Operations	TALLY, PU & RIH TCP GUN & MODEL " D" PACKER AS PER PROGRAM.
12:15	Run Tubing	TALLY & RIH 360 JTS 2 7/8" EUE TBG.
17:15	Other Operations	SECURE WELL. DRAIN LINES
17:30	Shut in for Night	SDFN.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6235		7,149.00
875	100 Not Available		00243	
855	100 Not Available	34674	00245	855.00
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available	24365	250	1,800.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130801-806	251	14,874.00
857	100 Not Available	24367	251	1,800.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/26/2...	Safety Meeting	Acce...	DISCUSSED TCP GUNS (Hazard's & Precaution's)..Oriented new hand's to TCP operation's

Downgrading/Safety Incidents

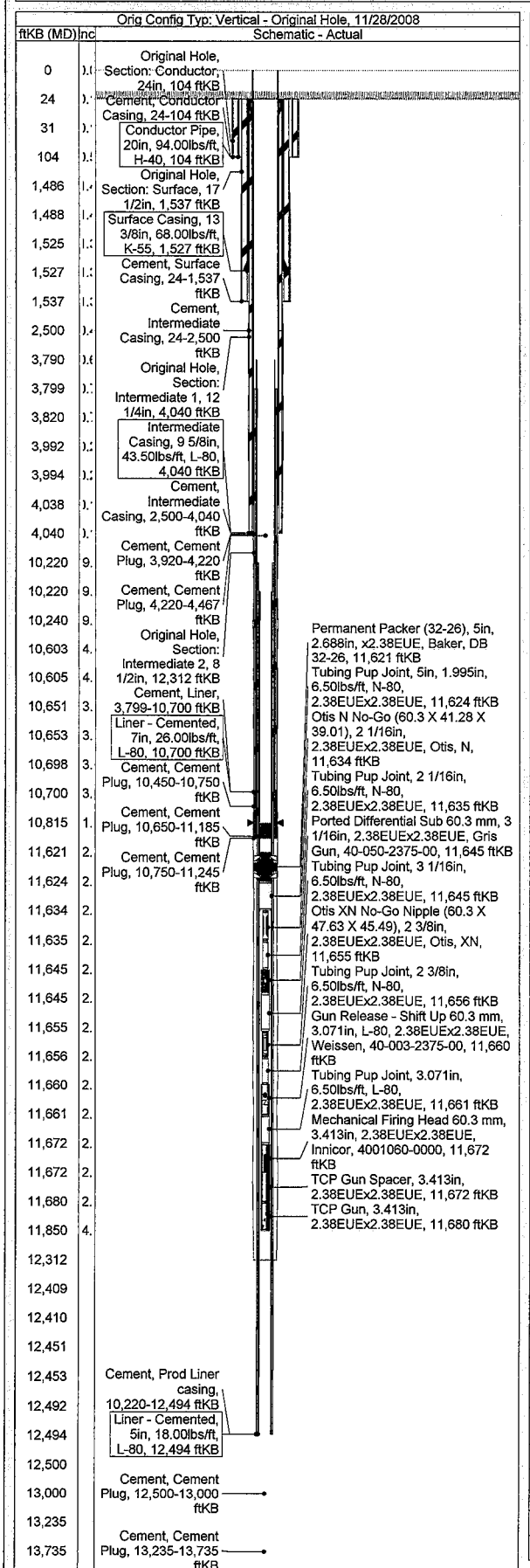
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 16.0, Report Date: 11/27/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
7001418637911171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	14,509.00	501,013.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	42.0	DRY	9

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. RIH REMAINING TBG. CORRELATE TCP GUN ON DEPTH. SET BAKER "D" PERM PACKER. POOH TBG & PACKER SETTING TOOL. STARTED TO RIH SEAL ASSEMBLY ON TBG. SECURE WELL.

Operations Next Report Period

RIH PROD. TBG STRING

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	SDFN
07:00	Safety Meeting	HELD SAFETY MEETING. SITP & SICP TSTM. SERVICE & START EQUIP.
07:30	Run Tubing	CONTINUE RIH TCP GUN'S ON TBG.
08:30	Safety Meeting	HELD SAFETY MEETING.
09:00	Rig Up/Down	RIG IN WARRIER W/L UNIT.
09:30	W/L Operation	RIH GR/CCL TOOLS. CORRELATE TCP GUNS ON DEPTH TO SCHL. CBL-VDL LOG DATED NOV. 22/08. GUNS WERE 4.5' TOO DEEP. POOH W/L TOOL'S. RIG OUT W/L .
11:00	Set Packer	PULL TBG 4.5' UP. SET MODEL " D " PERM PACKER AS PER BAKER SPEC'S. SETTING TOOL RELEASE.
11:45	Pull Tubing	POOH TBG & PACKER SETTING TOOL
15:45	Other Operations	REMOVED SETTING TOOL & INSTALLED SEAL ASSEMBLY, LATCH DOWN & ON-OFF.
16:30	Run Tubing	START TO RIH PROD. TBG STRING (130 jts TBG 2 7/8" EUE L-80).
17:45	Other Operations	SECURE WELL. DRAIN EQUIP.
18:00	Shut in for Night	SDFN

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6236		7,188.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
855	100 Not Available	1021		692.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130807	251	3,034.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

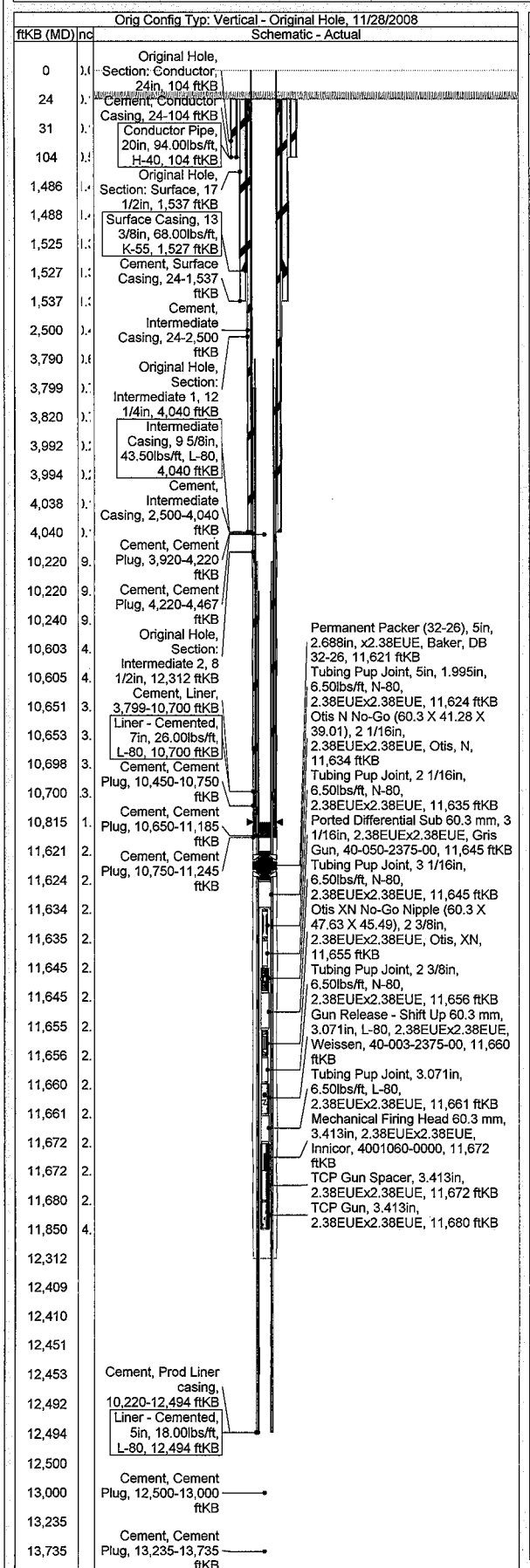
Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 16.0, Report Date: 11/27/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Safety Checks

Date	Type	Result	Comment
11/27/2...	Safety Meeting	Acce...	DISCUSSED RIH PROCEDURE. NOTING TO RIH SLOWLY BECAUSE OF HYDRAULIC SET PACKER.
11/27/2...	Safety Meeting	Acce...	DISCUSSED WIRELINE OPERATION MAKING ALL PERSONNEL AWARE OF HAZARD'S & PRECAUTION'S

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

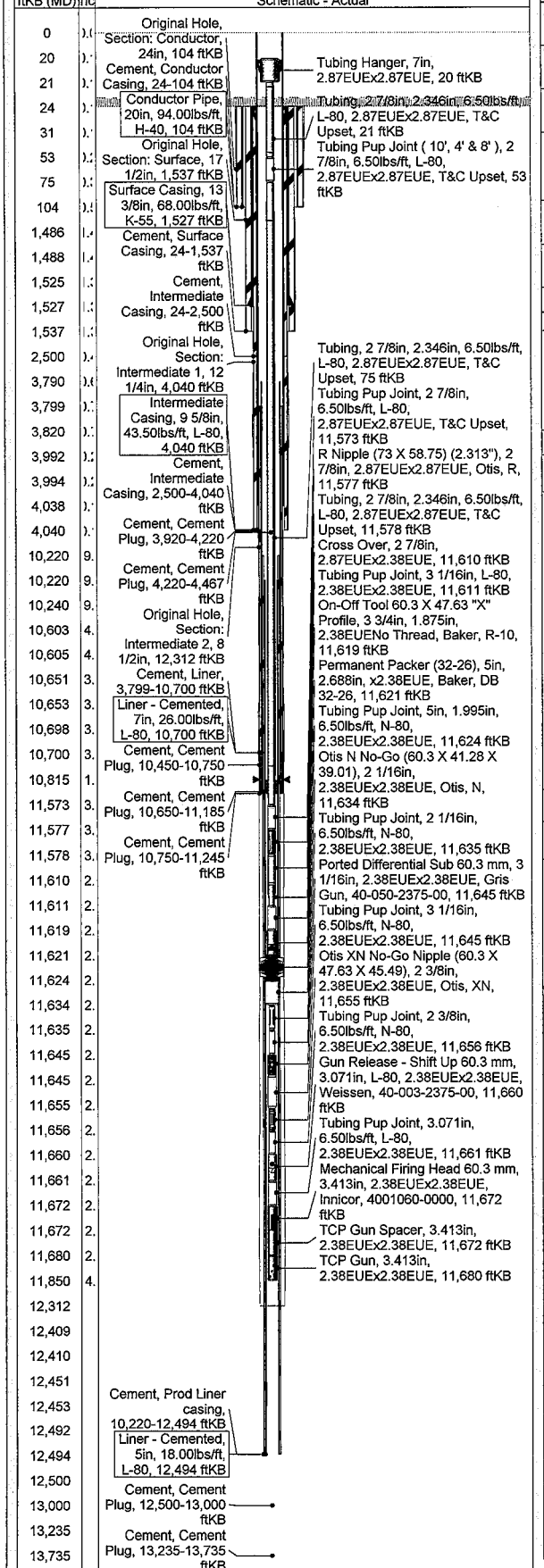
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 17.0, Report Date: 11/28/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	

Orig Config Typ: Vertical - Original Hole, 11/29/2008

Schematic - Actual



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	63,445.69	564,458.69

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	40.0	DRY	9

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	0.00

Operations This Report Period

HELD SAFETY MEETING. RIH REMAINING TBG. SPACE OUT & LATCH ONTO PERM PACKER. PT CSG TO 2500 kPa. (HELD). RIH 60 JTS HEATER STRING. SECURE WELL.

Operations Next Report Period

FINISH RIH HEATER STRI NG. INSTALL WELLHEAD. SWAB WELL DRY

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	SIFN
07:00	Safety Meeting	HELD SAFETY MEETING. SITP & SICP TSTM. SERVICE & START EQUIP.
07:30	Run Tubing	CONTINUE RIH TBG WITH SEAL ASSEMBLY
10:30	Other Operations	SPACE OUT TBG. LATCH ONTO PERM PACKER. PULL TESTED TO 15000#. TBG LANDED WITH 12000 # COMPRESSION.
13:00	Pressure Test	PRESS. TEST CSG & PACKER TO 2500 psi (HELD FOR 15 min).
13:30	Other Operations	MOVE 1.31" TBG TO PIPE RACK'S. TALLY TBG.
14:30	Run Tubing	RIH 60 JTS 1.31" HEATER STRING (VERY WINDY).
17:00	Shut in for Night	WELL SHUT-IN FOR NIGHT.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6237		6,463.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available			475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00
861	BAKER HUGHES BUSINESS SUPPORT SERV	69800		41,228.69
842	100 Not Available	130808	251	3,034.00
827	100 Not Available	6420-0286	255	4,500.00
855	100 Not Available	10386	246	4,625.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Report Printed: 1/13/2010

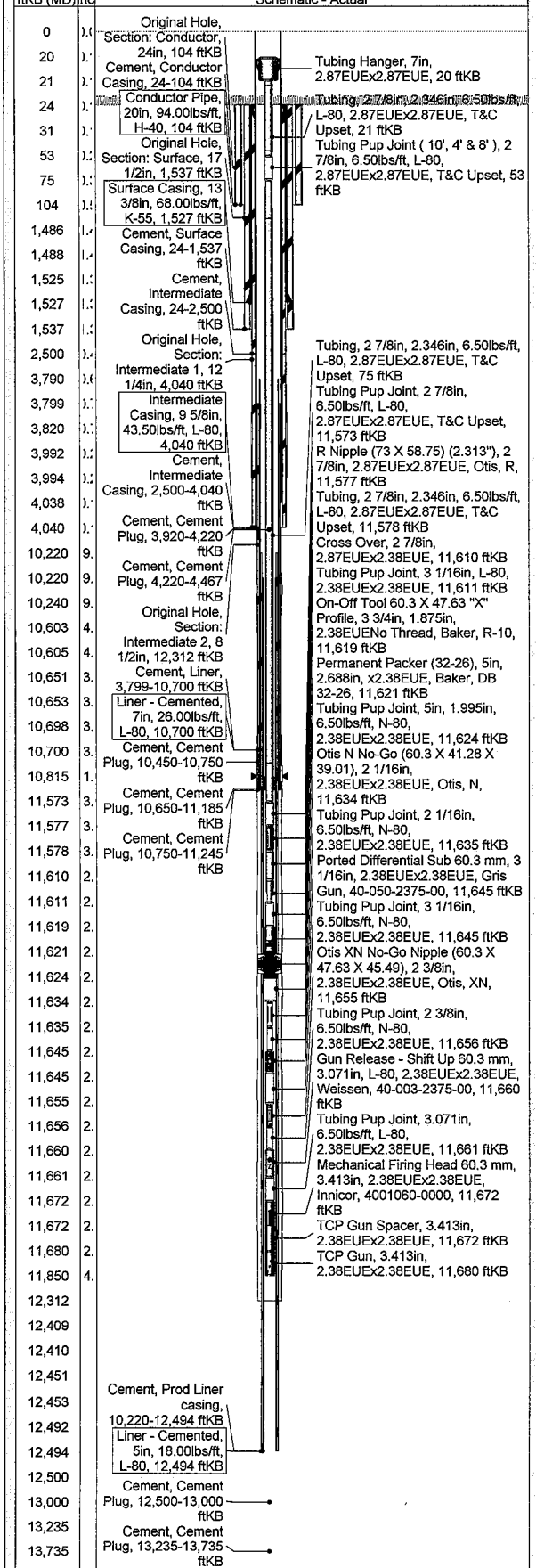
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 17.0, Report Date: 11/28/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 11/29/2008



Safety Checks

Date	Type	Result	Comment
11/28/2...	Safety Meeting	Acce...	DISUCCED PINCH POINTS, BSPACING OUT TBG STRING.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

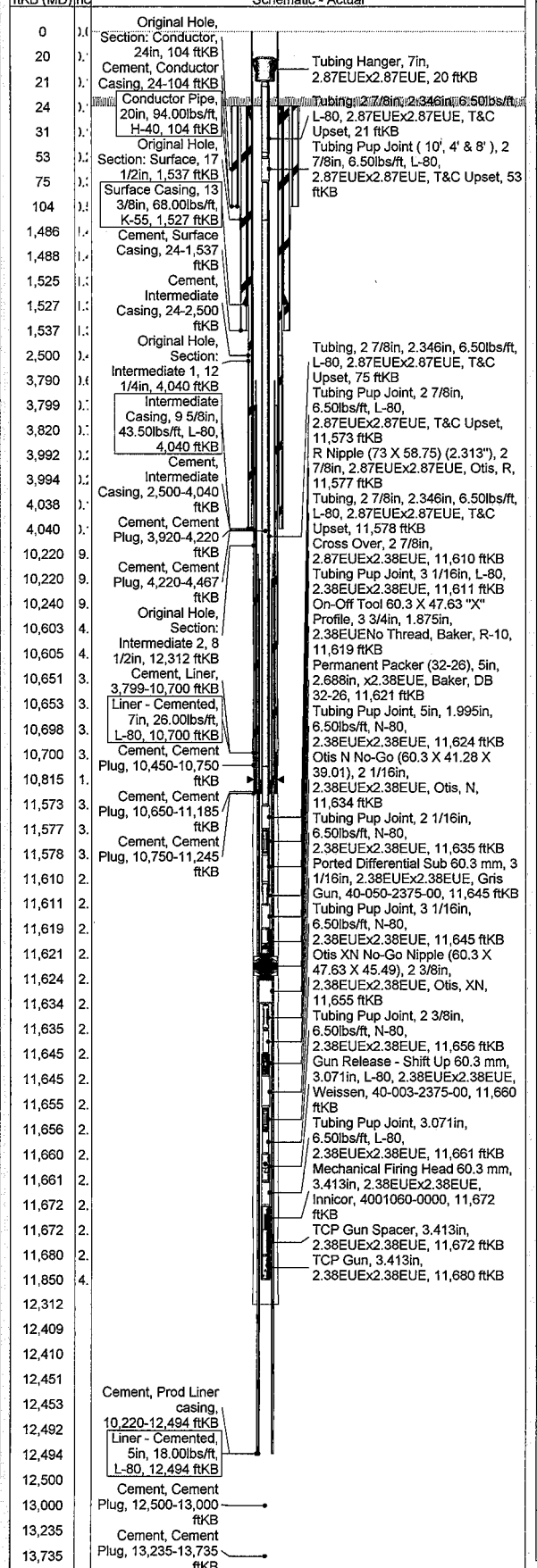
Job Type: Initial Completion

Report # 18.0, Report Date: 11/29/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	

Orig Config Typ: Vertical - Original Hole, 11/30/2008

Schematic - Actual



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	15,482.00	579,940.69

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	39.2	DRY	8

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Held safety meeting. Continue running 1.315" heater string to 304.65 m.. Remove BOPs and install wellhead. Test wellheaad and tubing to 3000 psi. Rig to swab. Swab +/- 18 blls water from 73 mm tubing.

Operations Next Report Period

Swab fluid down.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	Shut in for night
07:00	Run Tubing	Held safety meeting. Continue to run 1.315 " heat string tubing - land at 304.65 m.
11:00	Remove BOP's	Remove BOPs and working spool.
12:30	Install Wellhead	Install wellhead and safety valve. Pressure test wellhead and tubing string to 3000 psi for 10 minutes.
15:00	Other Operations	Pick up and rig up swabbing equipment.
15:30	Swabbing	Swab fluid from 73 mm tubing. Recovered +/- 18 bbls. Drain pump and lines. Secure well for night.
17:30	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6238		7,453.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130809	251	3,034.00
827	100 Not Available	6420-0288	255	1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	18.9	0.0	-18.9

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
11/29/2...	Safety Meeting	Acce...	Discussed working around heavy loads and equuipment. Do not get between. DO not walk on pipe, racks or trucks.

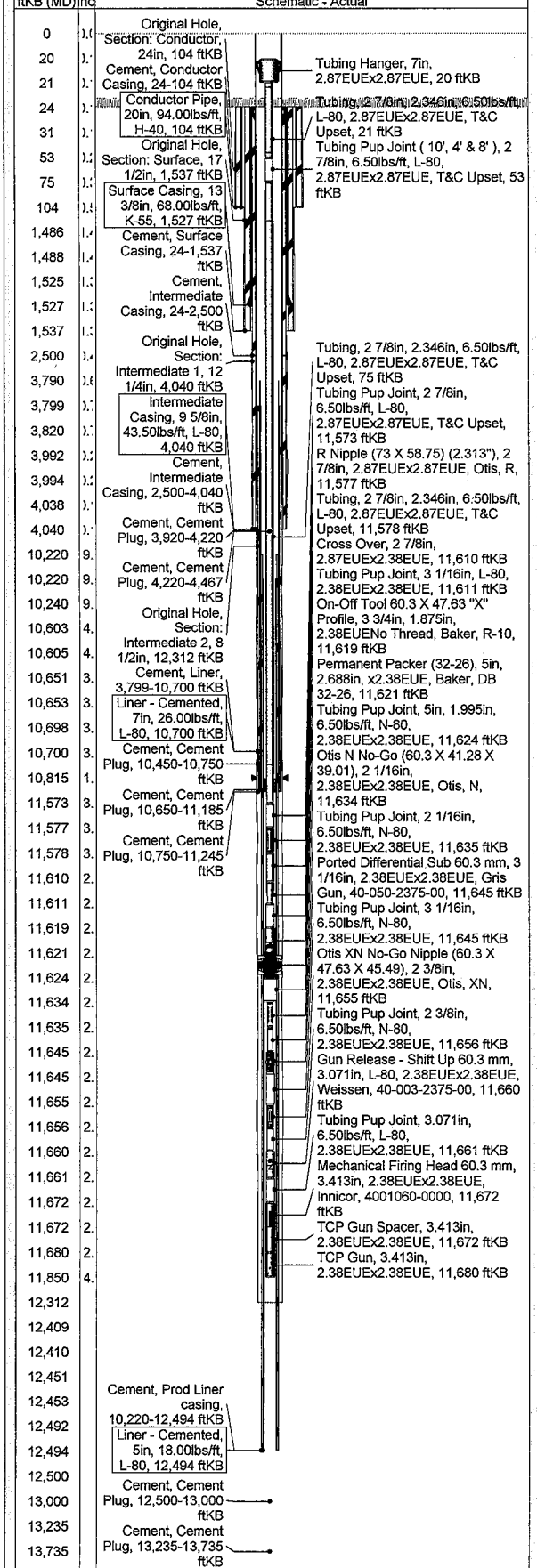
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 18.0, Report Date: 11/29/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 11/30/2008



Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

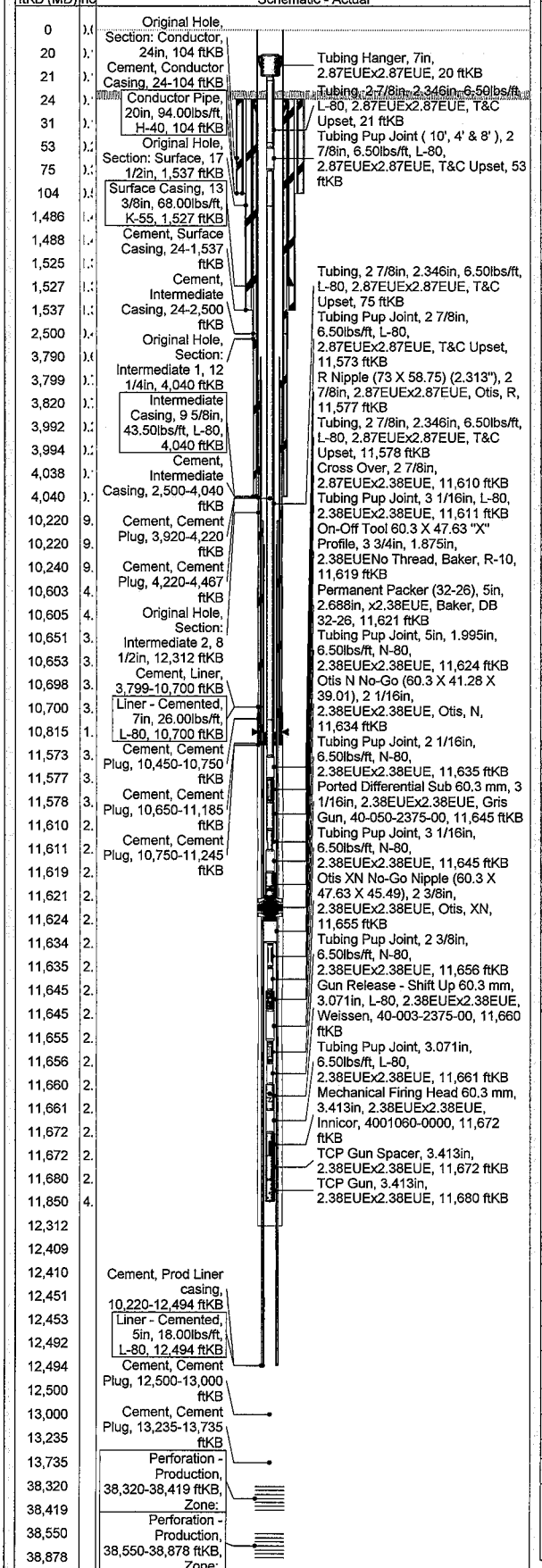
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 19.0, Report Date: 11/30/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	

Orig Config Typ: Vertical - Original Hole, 12/1/2008

Schematic - Actual



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	101,248.00	681,188.69

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
	39.2	DRY	8

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Prepare to swab. Swab water from 73 mm tubing. Swab fluid level to 11200 ft - unable to swab deeper (swab will not go down further). Fill tubing w/ propane gas. Drop bar and fire perforating guns to perforate 11750 to 11850 ft. and 11680 to 11710 ft. No pressure build up in 1 hour. Flared down propane purge.

Operations Next Report Period

Drop perforating guns.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Held safety meeting. Prepare swab equipment. Replace swivel on swab assembly
08:00	Swabbing	Swab fluid level down to 11200 ft - unable to get swab below 11200 ft.
14:30	Other Operations	Purge tubing with propane - 40 psig.
15:00	Perforating	Drop bar and perforate 11750 - 11850 ft, 11680 to 11710 ft. at 6 spf, 25 gr., .42" entrance, 44" penetration.
15:30	Other Operations	Observe tubing pressure - no build up
17:00	Other Operations	Flare propane purge gas.
17:30	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6239		9,584.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130810	251	5,614.00
827	100 Not Available	6420-0288	255	1,400.00
838	100 Not Available	6420-0286	255	77,478.00
863	100 Not Available	157781		3,577.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	28.3	0.0	-47.2

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Fortuna (US)L.P. - Completions and Workovers Report

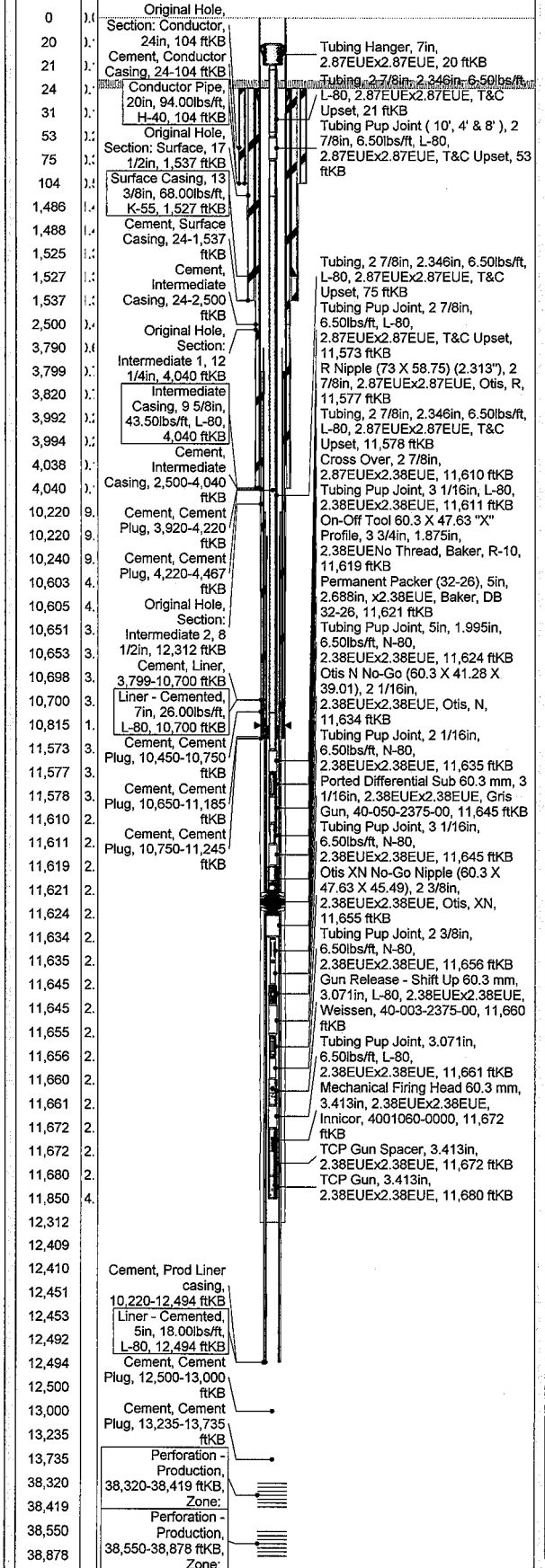
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 19.0, Report Date: 11/30/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/1/2008

Schematic - Actual



Safety Checks

Date	Type	Result	Comment
11/30/2...	Safety Meeting	Acce...	Discussed pressured lines - do not hit, unscrew, drop, heat, drive over. DIscussed asking questions of crew and supervisors.

Downgrading/Safety Incidents

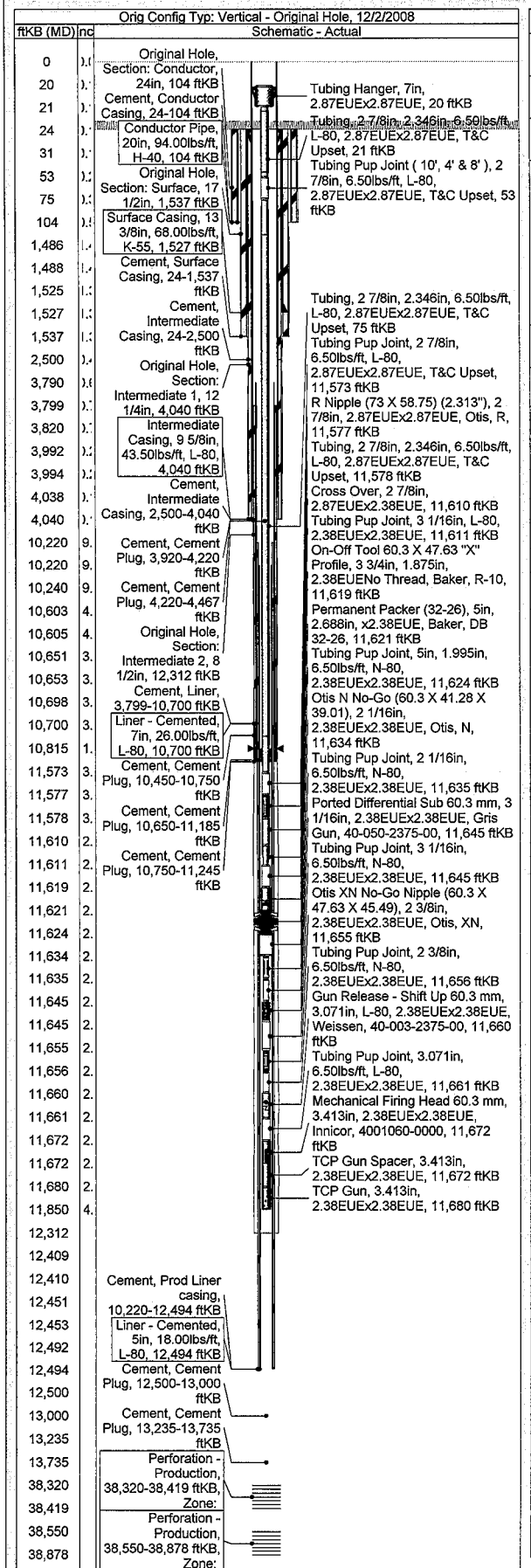
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 20.0, Report Date: 12/1/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	37,402.00	718,590.69

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Spoty cloud.	40.0	DRY	8

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
18.0	0.0	0	

Operations This Report Period

Hold safety meeting. SITP - 18 psi (3 psi build up over night). Rig in Warrior wireline. Run 1 11/16" blind box to cut off point. Run chemical cutter to 11662 m KB. Cut 2 3/8" tubing. Cutter tool stuck - work to free. Pump 174 bbls water attempting to free cutter. (Tubing volume - 68 bbls.) Pulled out of rope socket and recovered all E-line. Flowed back 23 bbls in 30 minutes while pulling out of hole - flow rate decreasing to very little. Shut well in - 15 minute build up to 930 psi. Secured well for night.

Operations Next Report Period

Evaluate well. Clear cutter out of tubing.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685
Bob Lane, Completions Foreman	Bob Lane Enterprises Ltd.	(780) 753-0054

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Hold safety meeting.
07:30	Other Operations	Spot Warrior wireline unit and discuss procedure.
08:00	W/L Operation	Run 1 11/16" blind box to 11664 ft. (Cut to be at 11662 ft.
09:30	W/L Operation	Run Chemical cutter to 11662 ft. and cut tubing. Cutter stuck in tubing.
11:00	Other Operations	Work E-line to free cutter. Pump 174 bbls inhibited water attempting to free cutter. Pumping at +/- 1.5 bbls./min. at 2500 psi.. (Tubing volume - 68 bbls.) Pull out of rope socket at 3300 lbs.
15:00	W/L Operation	POOH w/ wireline - flow well to rig tank. Recover 23 bbls in 30 minutes. Flow rate dropping to very little at shut in. Shut well in - pressure built up to 930 psi in 15 minutes.
16:00	Shut in for Night	Secure well for night.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
827	BOB LANE ENTERPRISES LTD			1,300.00
846	STONE WELL SERVICE LLC	6240		5,122.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130811	251	6,614.00
827	100 Not Available	6420-0288	255	1,400.00
838	100 Not Available	6420-0287	255	20,671.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	1094.4	220.1	0.0	827.1

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

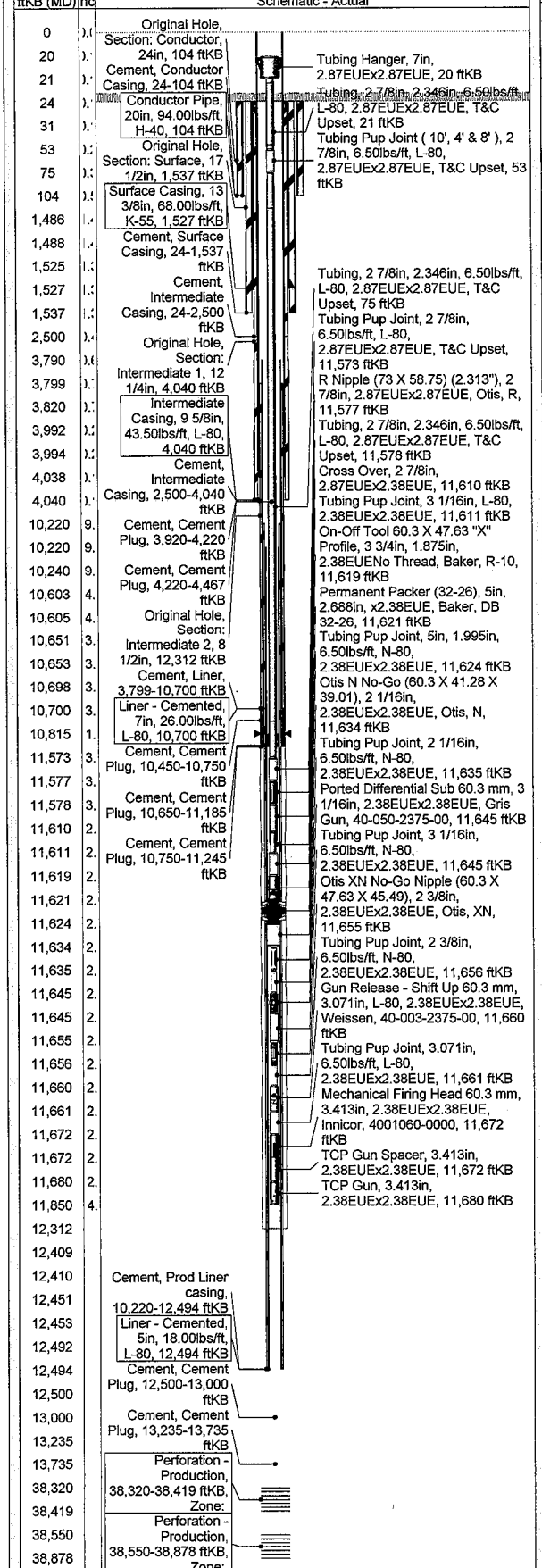
Job Type: Initial Completion

Report # 20.0, Report Date: 12/1/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/2/2008

Schematic - Actual



Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
12/1/2008	Safety Meeting	Acce...	Discussed overhead personnel and loads - keep out from under. secure tools. All must participate.

Downgrading/Safety Incidents

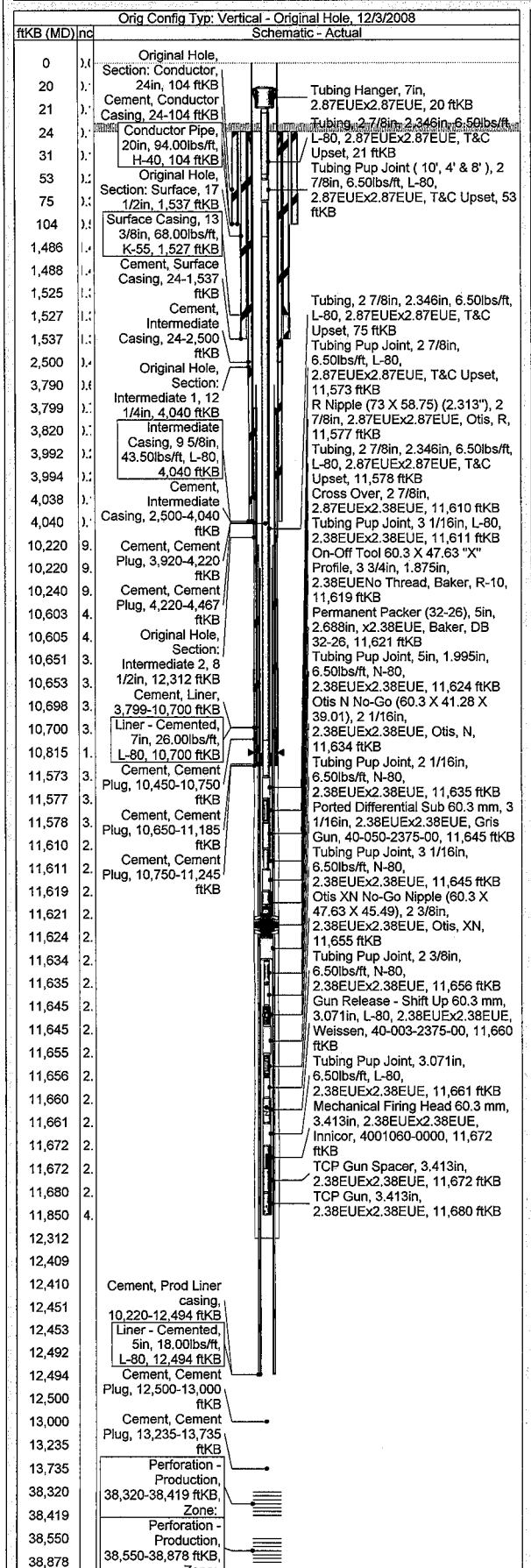
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 21.0, Report Date: 12/2/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
7001418637911171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	25,187.07	743,777.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Partly cloudy, snow shrs. 2	41.0	DRY	7

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
730.0	0.0	0	

Operations This Report Period

Hold safety meeting. SITP - 730 psi. Flow well to rig tank - +/- 4 bblsw./hr. initially dropping quickly. 15 minute shut at 09:00 - 120psi. Flow until 10:30. Rig in Warrior wireline. Jar on cutter - moved down 5 ft. (Probably on top of firing bar). POOH and lay down tools. Rig to swab and swab 40 bbls.

Operations Next Report Period

Run BHP recorders, swab.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Safety meeting, discuss operations for the day. SITP - 730 psi (930 psi last night)
07:30	Flowback Well on Clean Up	Flow well to rig tank - water only - +/-4 bbls / hr at 0 pressure. Shut in for 15 minutes - 120 psi. Flow until warrior arrive -final flow +/- 1 bbl./hr.
10:00	W/L Operation	Rig up Warrior w/ heavy stem to jar on cutter. Run in and jar on cutter - cutter appeared to move down 5 ft. (Sitting on top of firing bar.
12:30	W/L Operation	POOH and lay down equipment. Move truckand equipment to parking area.
14:00	Swabbing	Rig to swab - recover 40bbls.
17:30	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6241		7,222.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130812	251	6,614.00
827	100 Not Available			1,400.00
838	100 Not Available	6420-0288	255	4,937.00
847	100 Not Available	9988	00256	1,419.07
827	BOB LANE ENTERPRISES LTD			1,300.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	40.3	0.0	786.9

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

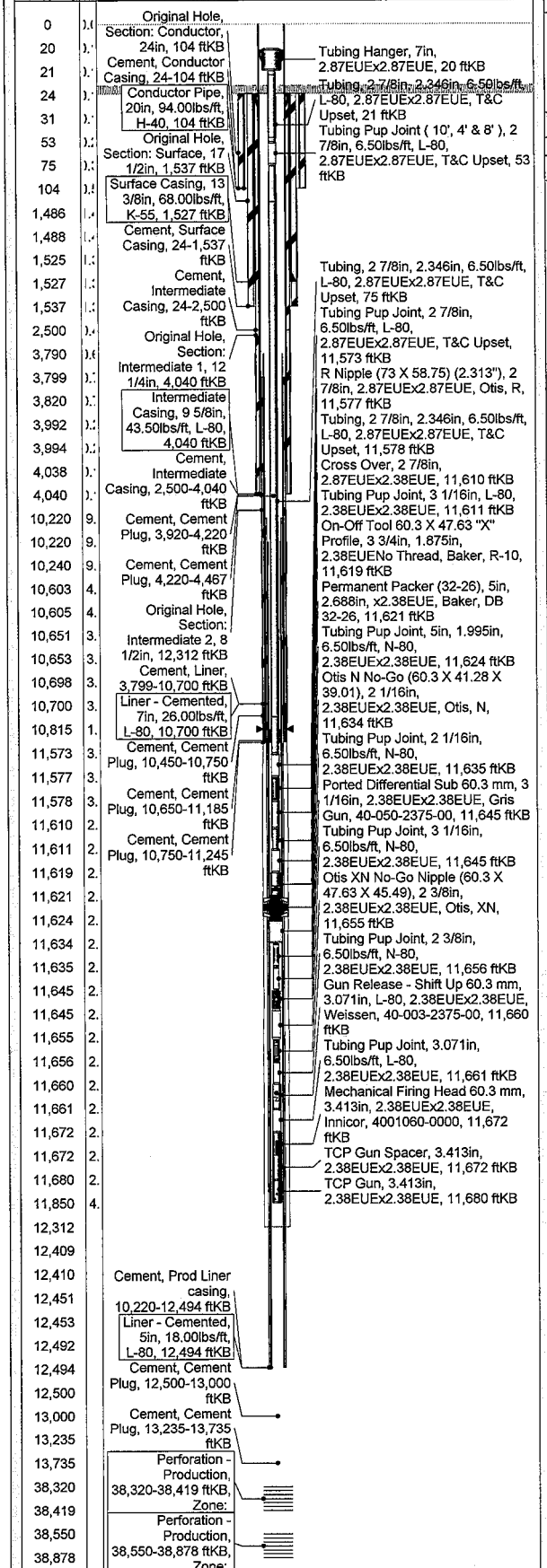
Job Type: Initial Completion

Report # 21.0, Report Date: 12/2/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/3/2008

Schematic - Actual



Safety Checks

Date	Type	Result	Comment
12/2/2008	Safety Meeting	Acce...	Discussed vision and safety glasses. Flowing well and jar out cutter.
12/3/2008	Safety Meeting	Acce...	Discussed "communications in performing work. Discussed operations for the day.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

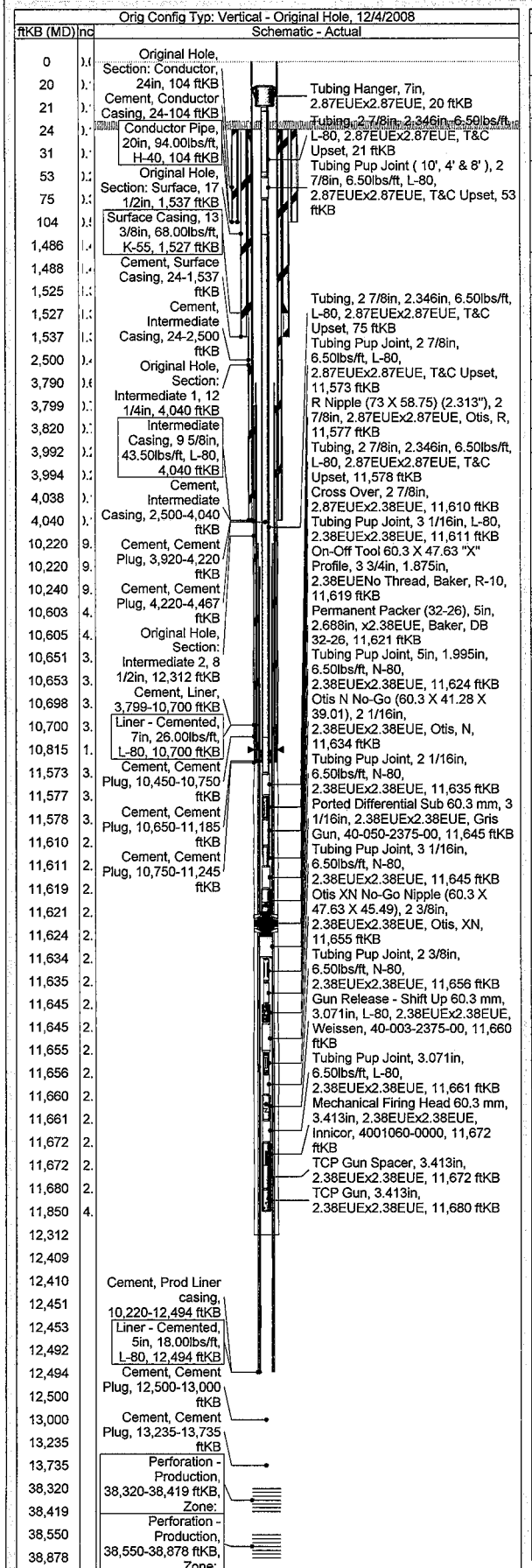
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 22.0, Report Date: 12/3/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	21,207.00	764,984.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast, 0	37.4	DRY	7

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0		0	0.00

Operations This Report Period

Hold safety meeting and procedure discussion. Rig in Prowireline to run pressure recorders. Set pressure recorders at 11621 ft. Rig out wireline. Rig to swab. Swab 59 bbls water - final fluid level - 10820 ft. No gas from well.

Operations Next Report Period

Pull pressure recorders.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	Shut in for night.
07:00	Safety Meeting	Safety meeting and discussion of day's program.
07:30	W/L Operation	Rig in Prowireline unit. Run pressure recorders and set at 11621 ft. POOH. Rig out wireline.
10:30	Swabbing	Rig to and swab water from well. Recovered 59 bbls water - No gas from well. Final fluid level - 10820 ft.
16:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6242		7,436.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130813	251	5,193.00
827	100 Not Available			1,400.00
854	100 Not Available	081017225		4,883.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	371.1	0.0	415.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment

Downgrading/Safety Incidents

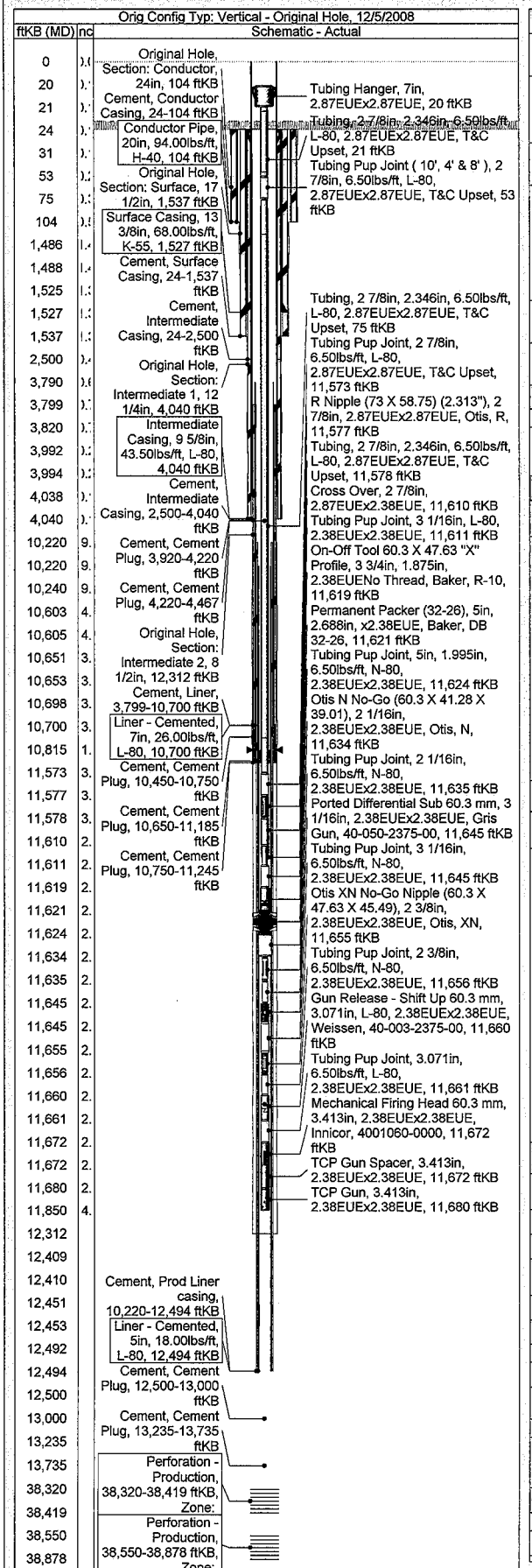
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 23.0, Report Date: 12/4/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	PBTD Depth (ftKB): KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	34,964.00	799,948.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Snow, cloudy, clearing	37.4	Fair, snow.	7

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Discuss operations for the day. Rig in Prowireline unit. Recover pressure recorders Pressures - 17:00 on 3rd. - 594 psi, 08:05 on 4th - 1085psi, 08:23 on 4th - 1096 psi. Started to run R plug. Revised abandonment - Pulled "R" plug. Remove wellhead and install BOPs. Pull 1.315" heating string.

Operations Next Report Period

Pull tubing.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Safety meeting - discuss operations for the day.
07:30	W/L Operation	Rig in Prowireline and recover pressure recorders. Read recorders. Start to run Otis "R" plug - Calgary changed abandonment procedure. Pull "R" plug.
11:00	Kill Well	Rig to and pump 20 bbls to tubing.
12:00	Remove Wellhead	Remove wellhead.
13:00	Install BOP's	Install BOPS. Install plugged riser in 2 7/8" hanger.
15:00	Pull Tubing	Pull and lay down 1.315" heater string.
18:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6243		10,769.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	2,769.00
842	100 Not Available	130814	251	5,851.00
827	100 Not Available			1,400.00
837	100 Not Available	4230	00257	13,080.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	125.8	0.0	0.0	541.6

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
12/4/2008	Safety Meeting	Acce...	Discussed H2S and use of H2S monitors. Review of H2S warning system.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Report Printed: 1/13/2010

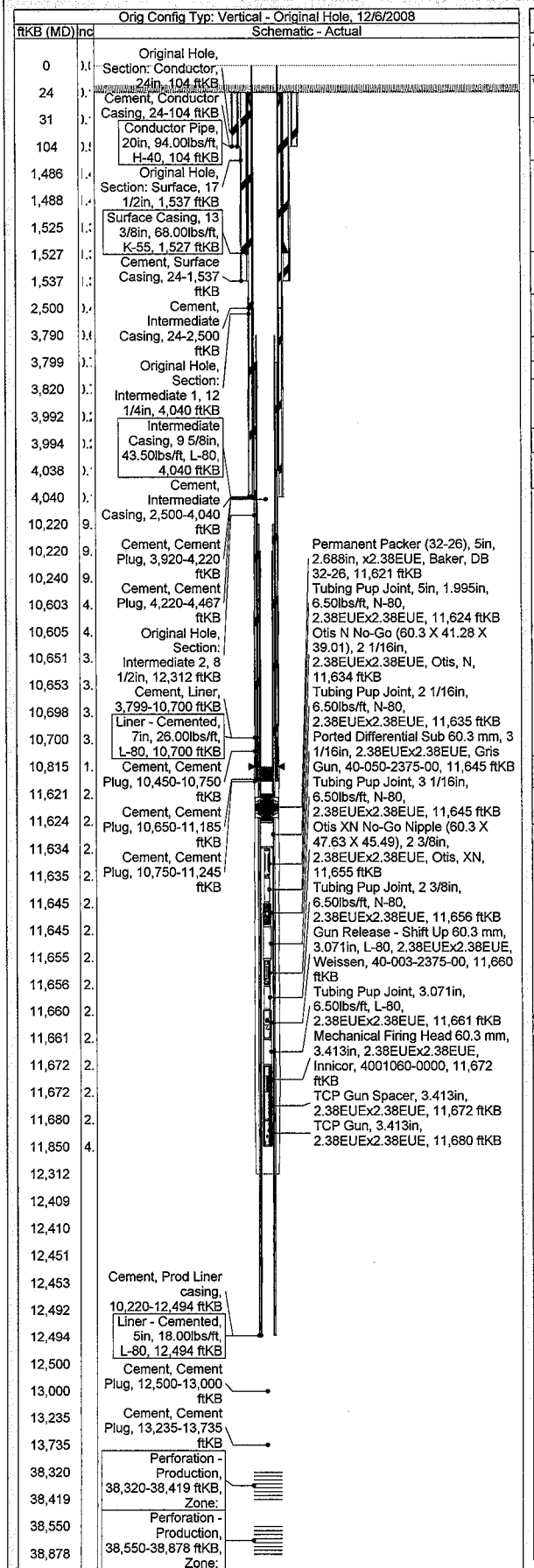
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 24.0, Report Date: 12/5/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	26,017.00	825,965.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Clear, cool, -6	28.4	Fair, snow.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Continue pulling 1.315" heater string. Change over to 2.875". Thaw pump. Unlatch off packer. Remove tubing hanger. Latch on to packer and undo latch/seal assembly. POOH.

Operations Next Report Period

Set bridge plug on Phosphoria.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Safety meeting and discussion of days operations.
07:30	Pull Tubing	Pull and lay down 1.315" heater string.
08:00	Pull Tubing	Changeover to 2.875" equipment. Thaw pump out. Pump 20 bbls water to tubing. Unlatch from DB packer. Pulled up and removed tubing hanger. Latched on to packer - pulled 10000 lbs. over on packer. Slacked to 2000 lbs tension on packer - rotated out - Tim (Baker) said we had latch and seal assembly out of packer.
11:00	Pull Tubing	Pull 2.875" tubing. Only recovered overshot of on/off assembly.
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6244		6,746.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,500.00
842	100 Not Available	130815	251	5,613.00
827	100 Not Available			1,400.00
874	BAKER HUGHES BUSINESS SUPPORT SERVICES	68598	00257	6,504.00
847	100 Not Available	9992	256	3,159.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	125.8	0.0	0.0	667.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
12/5/2008	Safety Meeting	Acce...	Discussed lifting, pinch points and between loads being picked up and moved.

Fortuna (US)L.P. - Completions and Workovers Report

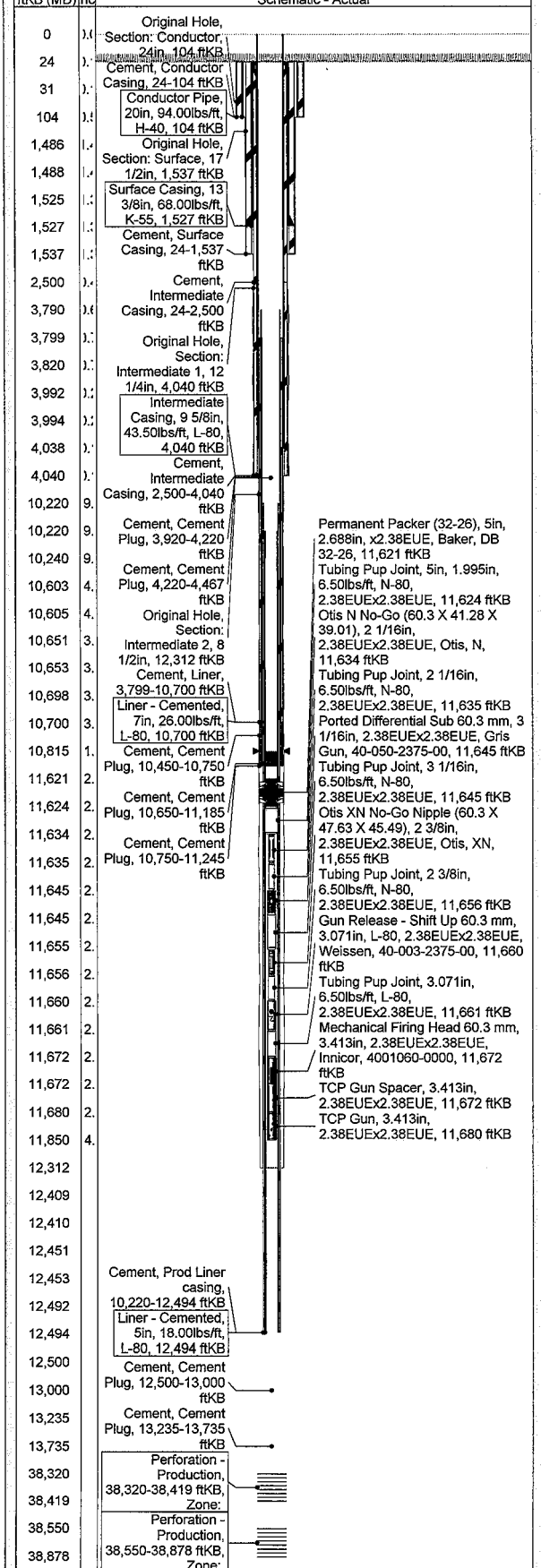
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 24.0, Report Date: 12/5/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/6/2008

Schematic - Actual



Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

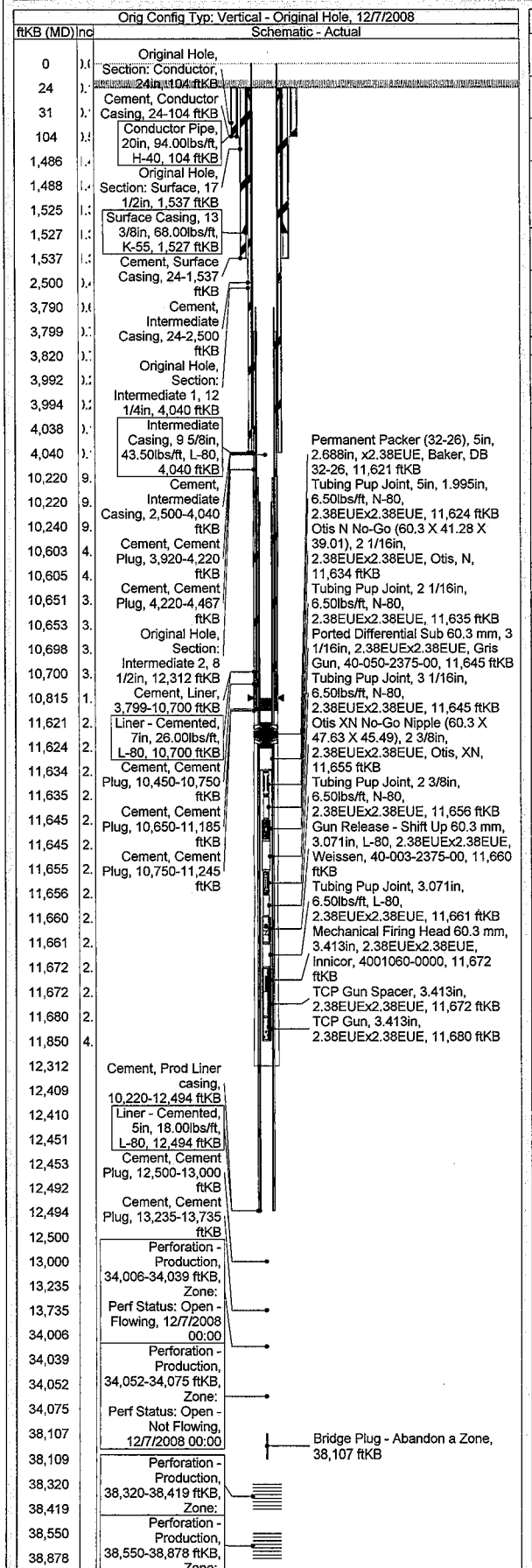
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 25.0, Report Date: 12/6/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	19,572.00	845,537.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Clear, -5	35.6	Fair, snow.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Rig in Warrior wireline. Run and set 5" bridge plug at 11615 ft KB. Pressure test plug to 1000 psi for 10 minutes. Dump bail 80 ft. cement on plug.

Operations Next Report Period

Cement and perforate.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discuss operations for the day. .
07:30	W/L Operation	Make up bridge plug on setting tool. Run plug in and set at 11615 ft. KB.
11:00	Pressure Test	Fill hole and pressure test plug to 1000 psi for 10 minutes.
12:30	W/L Operation	Mix and dump bail cement on top of bridge plug. Dumped 80 ft cement on plug.
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6245		7,129.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,500.00
842	100 Not Available	130816	251	5,613.00
827	100 Not Available			1,400.00
847	100 Not Available	9993	0256	2,835.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	125.8	0.0	0.0	793.1

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
12/6/2008	Safety Meeting	Acce...	Discussed wirelining - no cells today, do not walk under line, pinch points, etc.

Downgrading/Safety Incidents

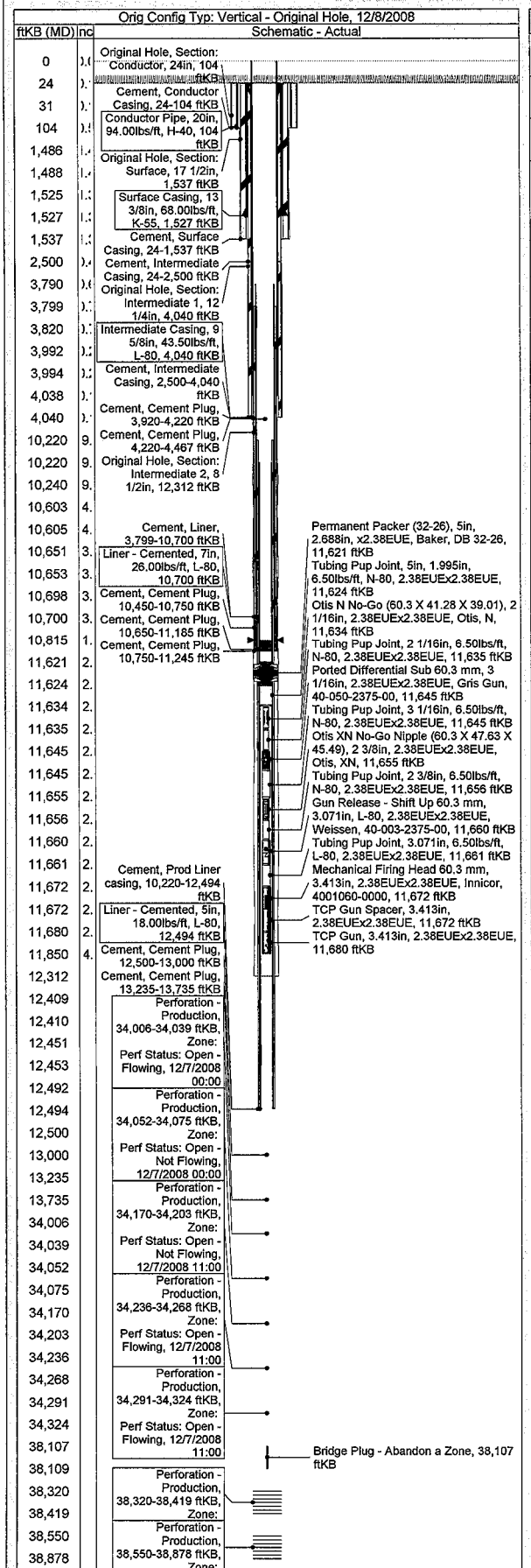
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 26.0, Report Date: 12/7/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	70,591.00	916,128.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Clear 0	42.8	Fair, snow.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Warrior wireline continue running cement to top up plug. Perforate 10452 - 10462 ft, 10435 - 10445 ft, 10415 -10425 ft, 10379 -10386ft, 10365 - 10375 ft. w/ 3.5" ERHSC, loaded 25 gr. DP at 6 spf. All shots fired. Slight vacuum following perforating. Make up Baker selective acidizing tool and run in to +/- 9000 ft.

Operations Next Report Period

Continue running tubing, acidize.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discuss operations for the day.
07:30	W/L Operation	Dump Bail 20 ft. cement to top up cement on top of plug.
09:30	Perforating	Run in and perforate 10452-10462 ft, 10435 - 10445 ft, 10415-10425 ft, 10379 - 10386 ft, 10365-10375 ft. w/ 3.5" ERHSC loaded 25 gr. DP at 6 spf. All shots fired. Slight vacuum after shooting.
13:00	Run Tubing	Make up Baker selective acidizing assembly. Tally and run in hole on 2.875" EUE tubing to +/- 9000 ft.
17:30	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6246		9,584.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	475.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,200.00
842	100 Not Available	130817	251	5,613.00
827	100 Not Available			0.00
838	100 Not Available	6420-0289	255	50,261.00
847	100 Not Available	9994	256	2,838.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water			0.0	793.1

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)

Safety Checks

Date	Type	Result	Comment
12/7/2008	Safety Meeting	Acce...	DIscussed eletric wireline work, Cells Off,

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

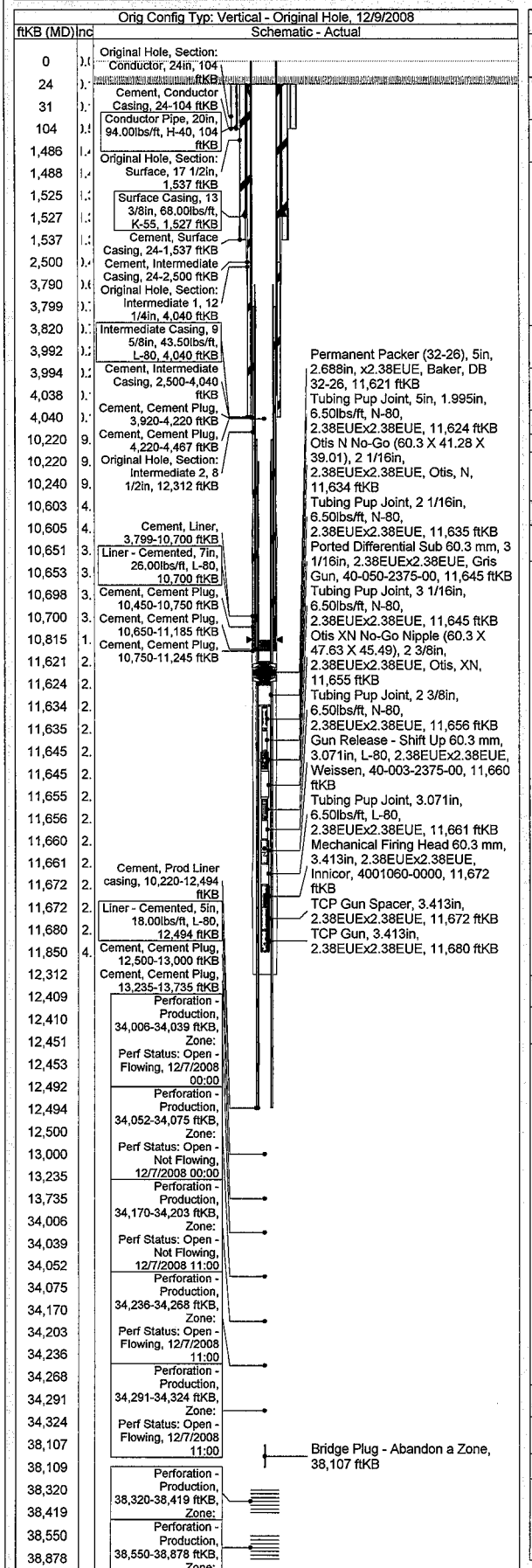
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 27.0, Report Date: 12/8/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	40,874.00	957,002.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Snow, Windy, -5	23.0	Fair, snow.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Continue running 2.875" tubing. Set Baker selective acidizing packers. Schlumberger rigged in, wait on field chemicals for acid. Acidize Dinwoody zone w/ 20% HCl and additives. Wash perforations w/ 10 bbls acid. Squeeze 10452 - 10462 ft - 20 bbls, 10435 - 10445 ft - 25 bbls., 10379 - 10386 ft - 60 bbls. 10415 - 10425 ft. and 10365 - 10375 would not break down at 6000 + psi surface. Rig out Schlumberger. Release packers. Pump 10 bbls water down annulus.

Operations Next Report Period

Evaluate Dinwoody.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discussed operations for the day.
07:30	Run Tubing	Run 2.875" EUE tubing to land Baker selective packers at bottom perforations.
09:00	Other Operations	Locate casing collars. and set tools - 15 ft adjustment on tubing tally.
10:30	Other Operations	Wait on chemicals for acid job. Field chemicals were on another truck at another job.
13:00	Acid Wash/Squeeze	Acidize perforations w/ 20% HCl. Wash 10 bbls by perforations. Squeeze 20 bbls @ 1.2 bpm (5640 psi) to 10452 - 10462 ft., 25 bbls. @1.7 bpm (5635 psi) to 10435 - 10445 ft., 60 bbls @ 1.8 bpm (3680 psi) to 10379 - 10386. Unable to break down 10415 - 10425 and 10365 - 10375 ft at 6000+ psi surface.
16:30	Rig Up/Down	Rig down Schlumberger. Release selective packers, pull up to 10350 ft with bottom packer. Pumped 10 bbls down annulus to clear acid.
17:30	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6247		6,568.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available		249	1,000.00
842	100 Not Available	130818	251	5,613.00
827	100 Not Available			1,400.00
839	SCHLUMBERGER TECHNOLOGY CORPORATION	2207161063		22,131.00
847	100 Not Available	9995	256	3,542.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

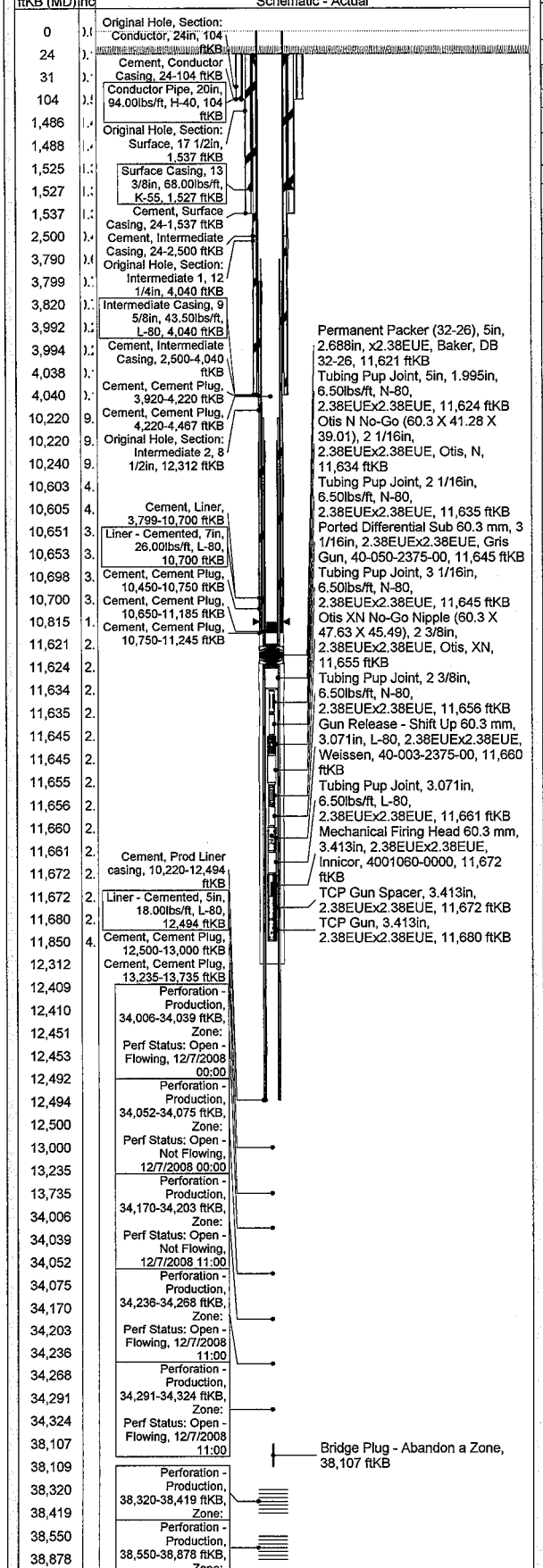
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 27.0, Report Date: 12/8/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/9/2008



Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water			0.0	793.1

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/8/2008	Safety Meeting	Acce...	Discussed RIH and set packers.
12/8/2008	Safety Meeting	Acce...	Discussed acid job, Pressures, corrosive. PPE.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

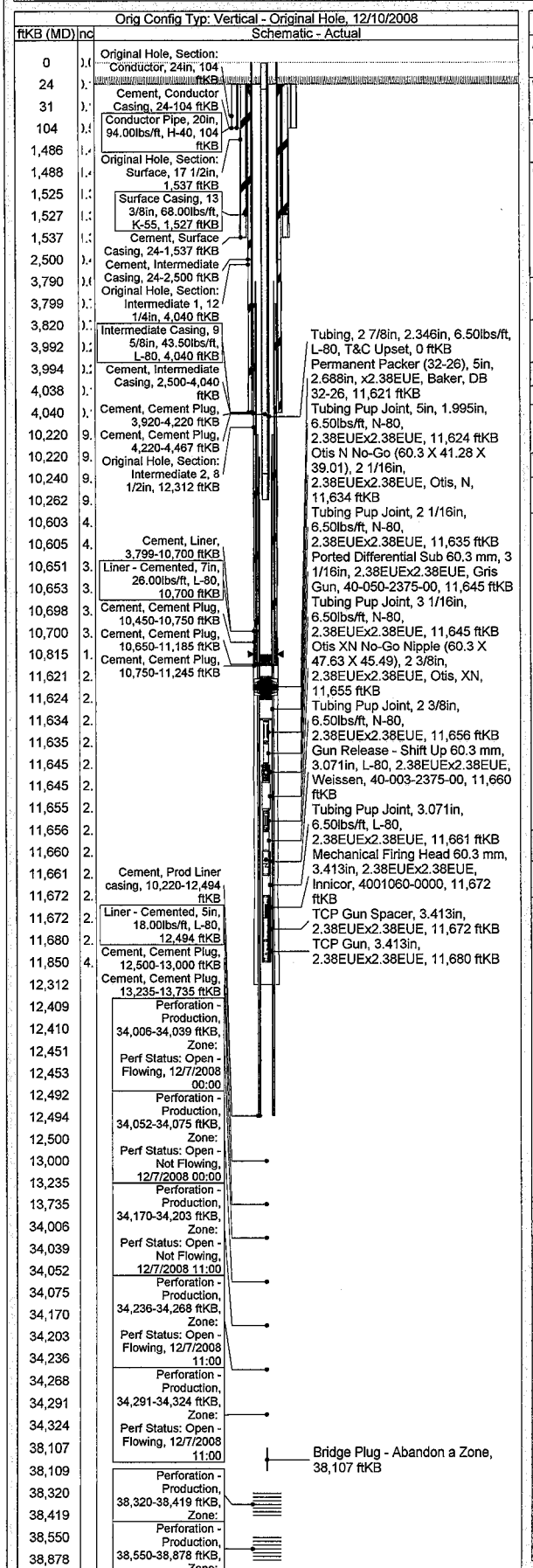
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 28.0, Report Date: 12/9/2008 License #:**

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	33,238.00	990,240.76

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Clear, -8	35.6	Fair.	4

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. SICP - vacuum, SITP - 0. Rig to and pull fluid control valve. Set SAP packer. Rig to swab. Swabbed +/- 65 bbls, (initial fluid level- 4000 ft.) well began flowing - flowed +/- 10 bbls. Shut well in and rigged to flow to test equipment - flowed +/- 10 minutes and went to nil. No identifiable gas to surface.

Operations Next Report Period

Evaluaate Dinwoody zone.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discuss operations for the day.
07:30	Other Operations	Rig to and run overshot on sandline to recover the fluid control valve in acidizing packers.
09:00	Set Packer	Set packer at 10338 ft Rig to swab.
10:00	Swabbing	Initial fluid level - 4000 ft. Swabbed 65 bbls, began to flow. Rig manager asked me to look at drilling line - line is frayed and stretched - Notified Stone superintendent (Gene Caldwell) to replace drilling line before any more lifts were made.
15:00	Flowback Well on Clean Up	Flowed well +/- 10 bbls. Shut in to rig to flow to test equipment. Flow to test equipment only 10 minutes - died. Antifreeze flow line. Recovered +/- 75 bbls of 175 bbls acid and flush input.
17:30	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6248		7,254.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130819	251	5,033.00
827	100 Not Available			1,400.00
847	BAKER HUGHES BUSINESS SUPPORT SERV	72159		14,112.00
860	100 Not Available	6089774001		240.00
847	100 Not Available	9810	256	3,299.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	471.7	0.0	321.4

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Fortuna (US)L.P. - Completions and Workovers Report

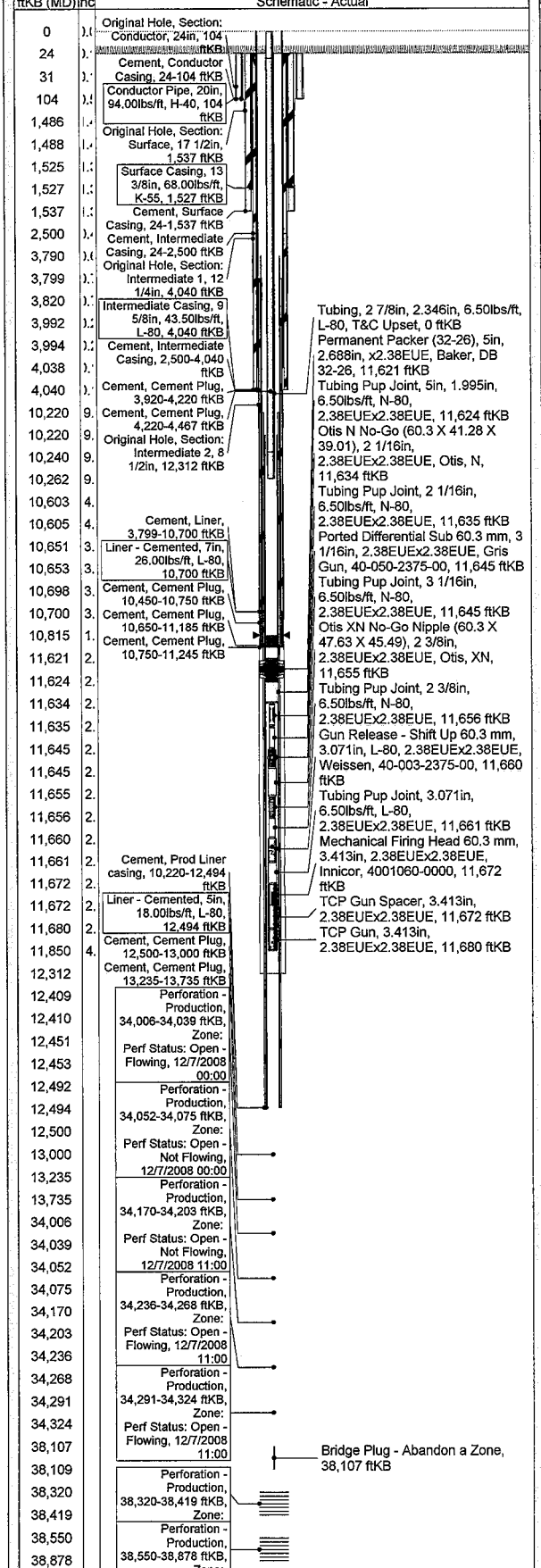
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 28.0, Report Date: 12/9/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/10/2008



Safety Checks

Date	Type	Result	Comment
12/9/2008	Safety Meeting	Acce...	Discussed recovery od valve and swabbing.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

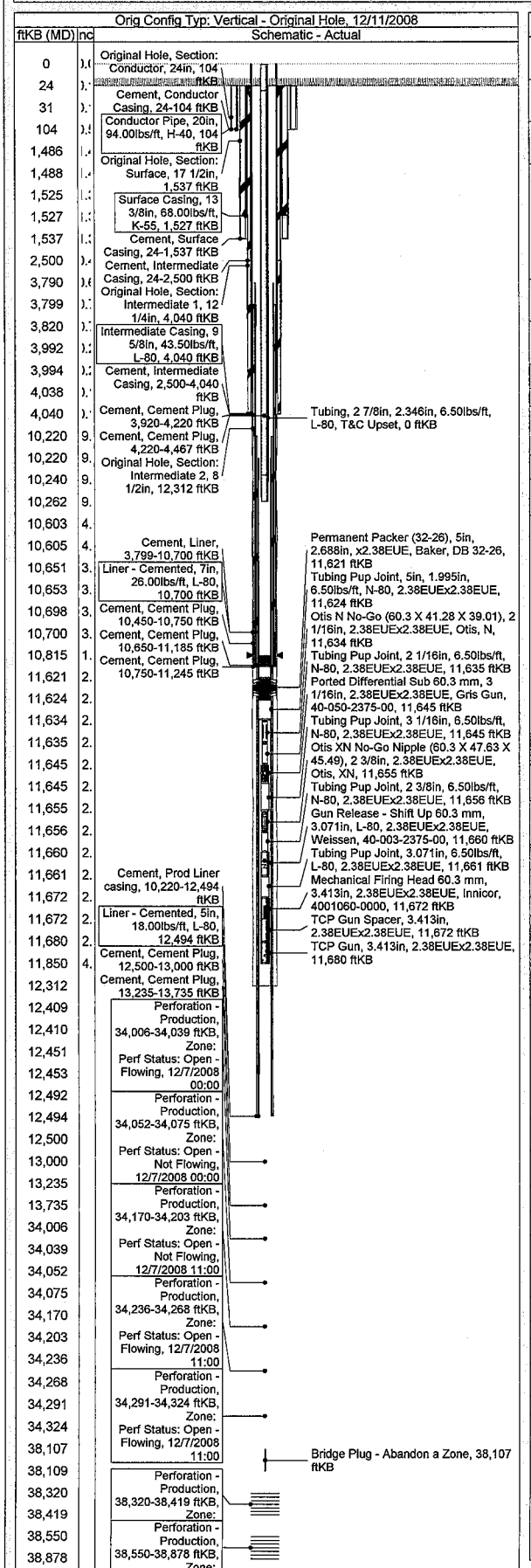
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 29.0, Report Date: 12/10/2008 License #:

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	18,261.24	1,008,502.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Mainly clear, -5	44.6	Fair.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
11.6	0.0	0	

Operations This Report Period

Hold safety meeting. SITP - 80 psig. Opened to test equipment - dead in 5 minutes. Rig to and swab.- recovered 72 bbls. (Total fluid to be recovered - 465 bbls.) Fluid recovered to date - 147 bbls. Slight burnable gas, flowing after most swabs. Fluid gasified making fluid levels difficult to determine. pH - 6 -7, Salinity 9730 to 12312 ppm.

Operations Next Report Period

Swabbing

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discuss swabbing and replacement of drilling line.
07:30	Flowback Well on Clean Up	SITP -80 psig. Opened to test equipment - went dead in 5 minutes.
08:00	Swabbing	Rig to swab. Initial fluid leve;l - +/- 5000 ft. Recovered 72 bbls w/ flowing following swabs. Water -pH - 6 - 7, Salinity 9730 - 123112 ppm. Slight burnable gas during day. No H2S detected. Fluid gassy during day.
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	6249		6,867.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130820	251	5,124.00
827	100 Not Available			1,400.00
847	100 Not Available	9480	256	2,638.00
860	100 Not Available	6095847001		332.24

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	452.9	0.0	-131.5

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/10/2...	Safety Meeting	Acce...	Discussed swabbing.

Fortuna (US)L.P. - Completions and Workovers Report

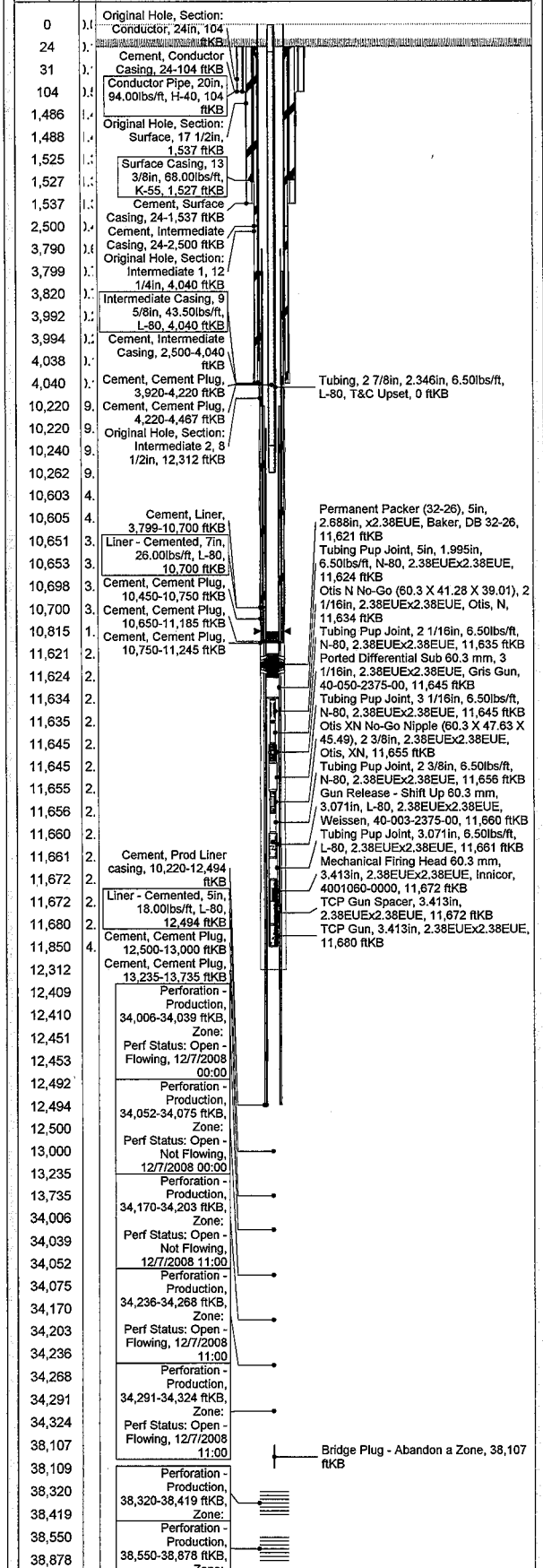
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 29.0, Report Date: 12/10/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/11/2008

Schematic - Actual



Safety Checks

Date	Type	Result	Comment
12/10/2...	Safety Highlight	Acce...	John Smith (Rig Manager) asked me to ;look at drilling line on 9/12/2008 - found line w/ many broken strands. Requested immediate replacement of drilling line. Stone (Gene Caldwell) brought new drilling line to location today. Averted a possible serious accident.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

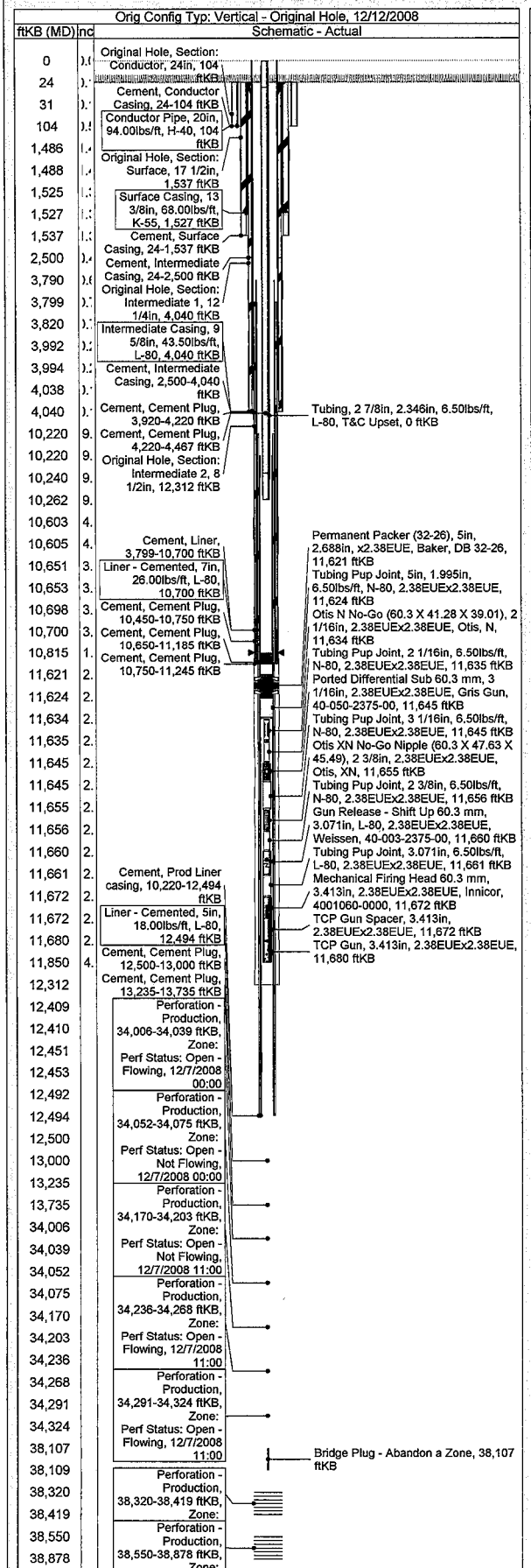
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 30.0, Report Date: 12/11/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	15,467.00	1,023,969.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Light overcast, -4	46.4	Fair.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
8.7	0.0	0	

Operations This Report Period

Hold safety meeting. Bleed off to test equipment - flowed 2 bbls. Rig to swab and swab 21 bbls. Rig to and replace drilling line. Swab 18 bbls. pH - 6, salinity - 19000 ppm. Indication of some gas during swabbing. .

Operations Next Report Period

Pull SAP packer assembly

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discussed operations for the day.
07:30	Flowback Well on Clean Up	Opened well to test equipment - flowed 2 bbls.
09:00	Swabbing	Rig to swab and swab - initial fluid level - surface. - recovered 21 bbls. Some gas following swabs.
12:00	Other Operations	Change out drilling line.
15:00	Swabbing	Swabbing - recovered 18 bbls water. pH - 6, salinity - 19000 ppm
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2251		5,813.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130821	251	6,354.00
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	257.9	0.0	-389.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/11/2...	Safety Meeting	Acce...	Discussed swabbing - tighten and check mandreland cups. Installation of new drilling line during nice weather.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

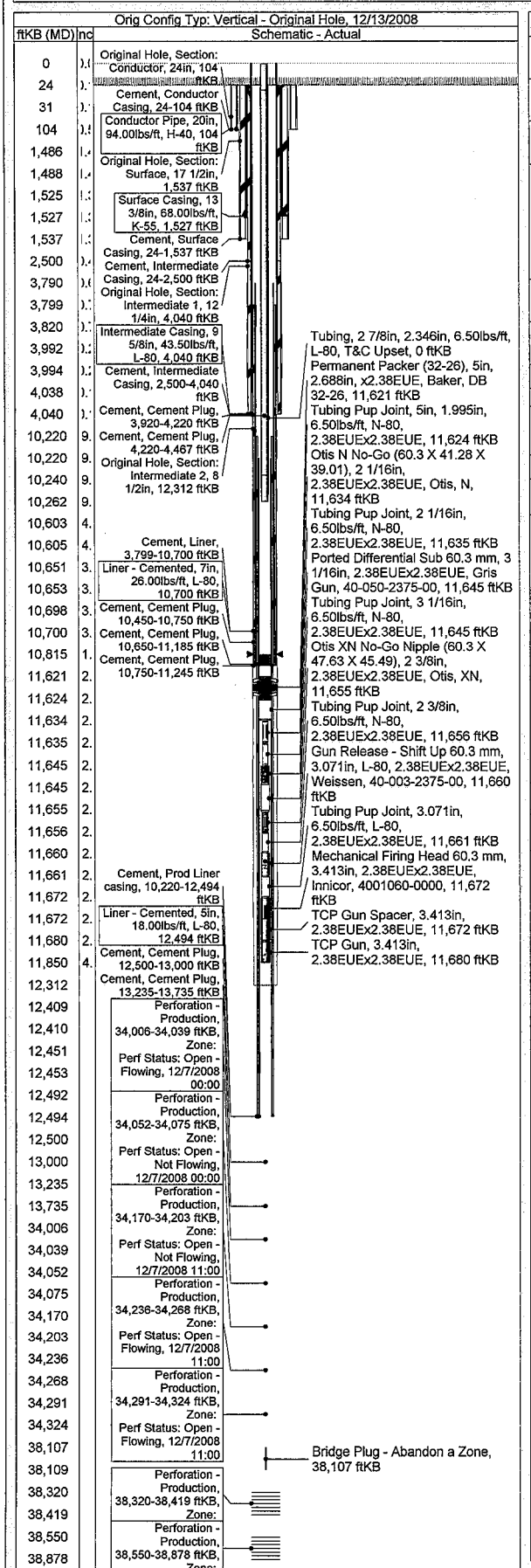
Report Printed: 1/13/2010

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 31.0, Report Date: 12/12/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	12,350.00	1,036,319.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast, -7	37.4	Fair.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
23.9	0.0	0	

Operations This Report Period

Held safety meeting. SITP - 165 psi - bled off to test equipment - appeared to be gas. Prepare to pump water to kill tubing. Air on rig froze up - thawed out. Pumped 50 bbls. water to kill tubing. Weight indicator not functioning properly. Balance of day - wait on weight indicator, set up brakes and rig maintenance.

Operations Next Report Period

Pull SAP packers.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discussed days operations.
07:30	Flowback Well on Clean Up	SITP - 165 psi. Bled down to flare .
08:00	Other Operations	Thaw air lines on rig.
10:00	Kill Well	Pump 50 bbls. to tubing.
10:30	Shut in for Night	Weight indicator not working properly when taking a lift on the tubing. Requested a replacement indicator with a calibration. Crew cleaned on rig and set up brakes, and other maintenance on rig - No charge to Fortuna - 2 hrs. travel time only for the day. Shipped 250 bbls waste water to disposal.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2252		970.00
875	100 Not Available		00243	
855	100 Not Available	34673	00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		bnm	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130823	251	5,110.00
827	100 Not Available			1,400.00
857	100 Not Available	24215		1,500.00
847	100 Not Available	9481	256	1,470.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	314.5	0.0	0.0	-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/12/2...	Safety Meeting	Acce...	Discussed killing procedure, tripping procedures, possible slight flow possibility, trickle water if required.
12/12/2...	Safety Highlight	Acce...	STone to replace weight indicator - totally unreliable.

Fortuna (US)L.P. - Completions and Workovers Report

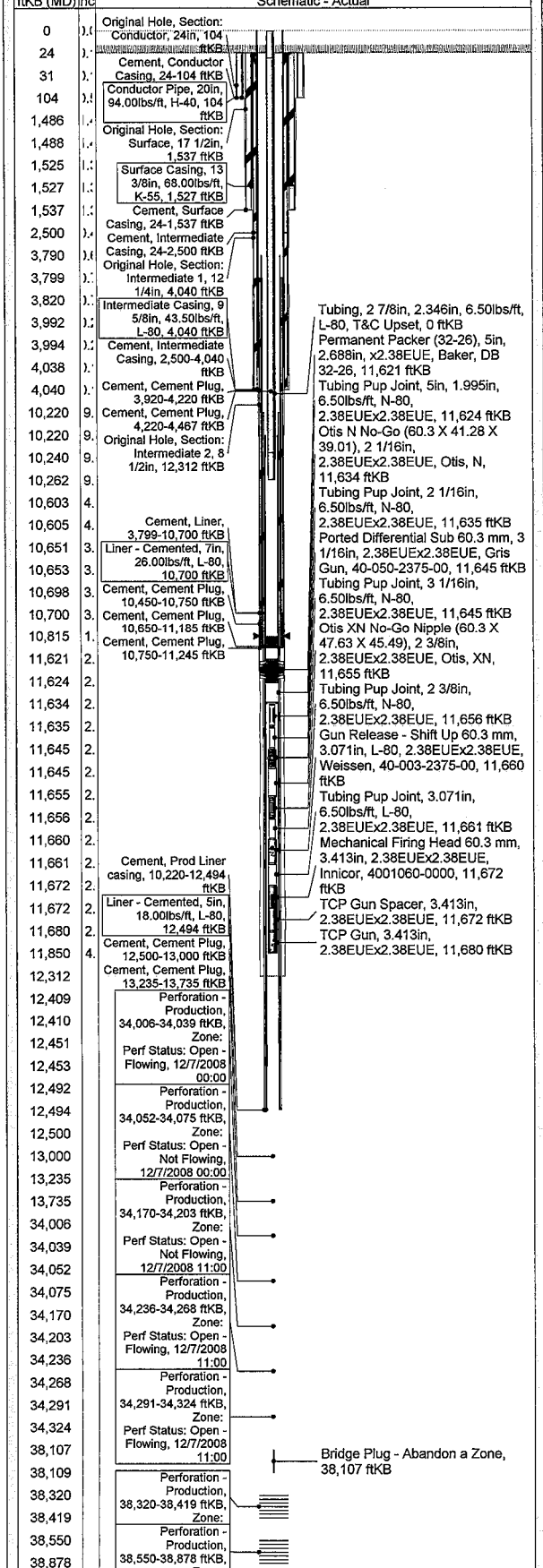
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 31.0, Report Date: 12/12/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/13/2008

Schematic - Actual



Downgrading/Safety Incidents

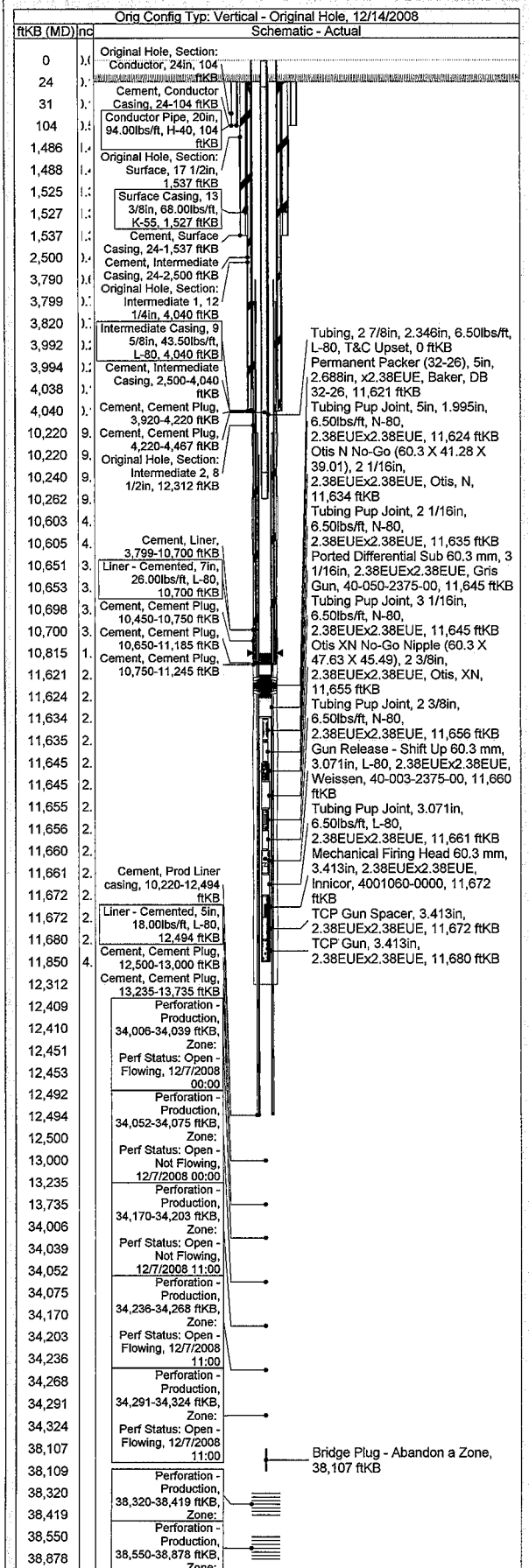
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 32.0, Report Date: 12/13/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
7001418637911117 1980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	6,333.00	1,042,652.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Snow, Blowing	23.0	Fair.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period
Crew unable to accept direction of rig manager. Crew released. Well shut in for day.

Operations Next Report Period
Pull SAP packers

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	Crew refused direction of rig manager and driller. Crew released.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC			
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130824	251	3,033.00
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water			0.0	-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/13/2...	Safety Meeting	Acce...	STone released crew mwmbers who were troublesome.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

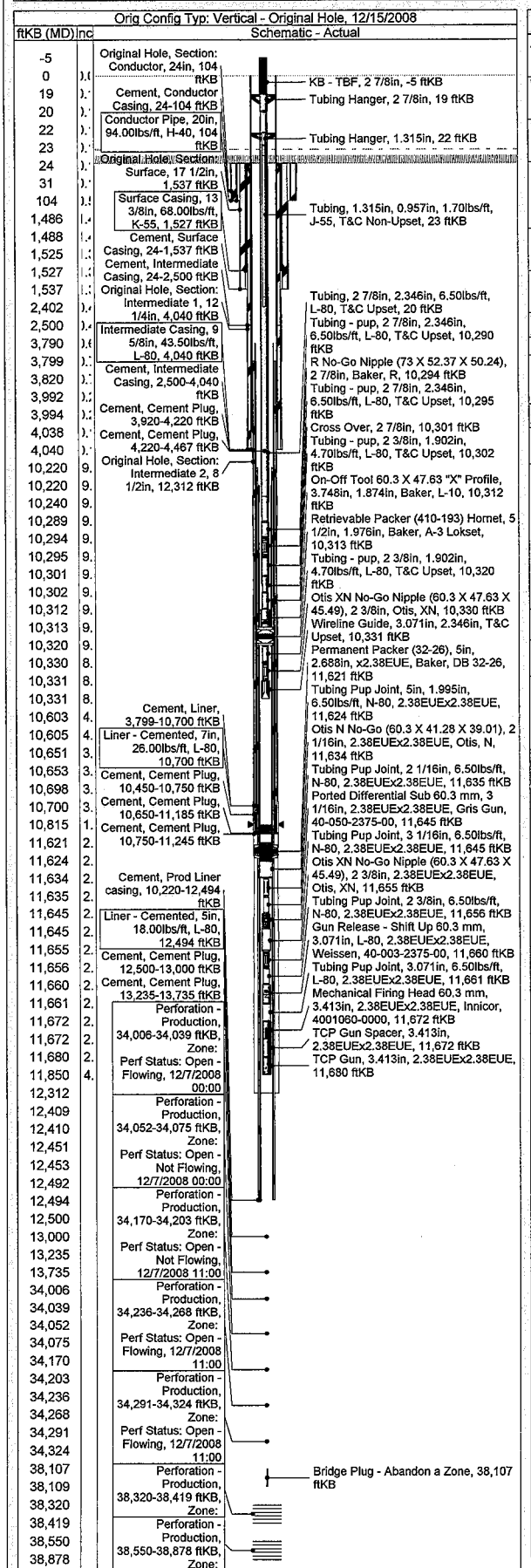
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 33.0, Report Date: 12/14/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	22,868.00	1,065,520.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Partially clear, -15	14.0	Fair.	6

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Well dead. POOH. Lay down SAP assembly. Make up 2" XN nipple, Hornet packer, on-off tool, 2.875" R nipple and run in hole.

Operations Next Report Period

Land and test packer.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discussed operations for the day.
07:30	Pull Tubing	POOH. Lay down SAP assembly.
12:30	Run Tubing	Make up 2" XN nipple, pup, Hornet packer, On/Off tool, pup, 2.875" R nipple and 2.875" tubing. Ran packer to 10332 ft.
17:00	Shut in for Night	Secured well for night.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2253		10,322.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13702	249	1,280.00
842	100 Not Available	130875	251	5,033.00
827	100 Not Available			1,400.00
875	100 Not Available	10461	246	1,301.00
853	100 Not Available	24227	250	815.00
847	100 Not Available	9820	256	2,097.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water			0.0	-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/14/2...	Safety Meeting	Acce...	Discussed cold, slippery, snow on equipment. New crew. Watch for any flow. Tripping.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

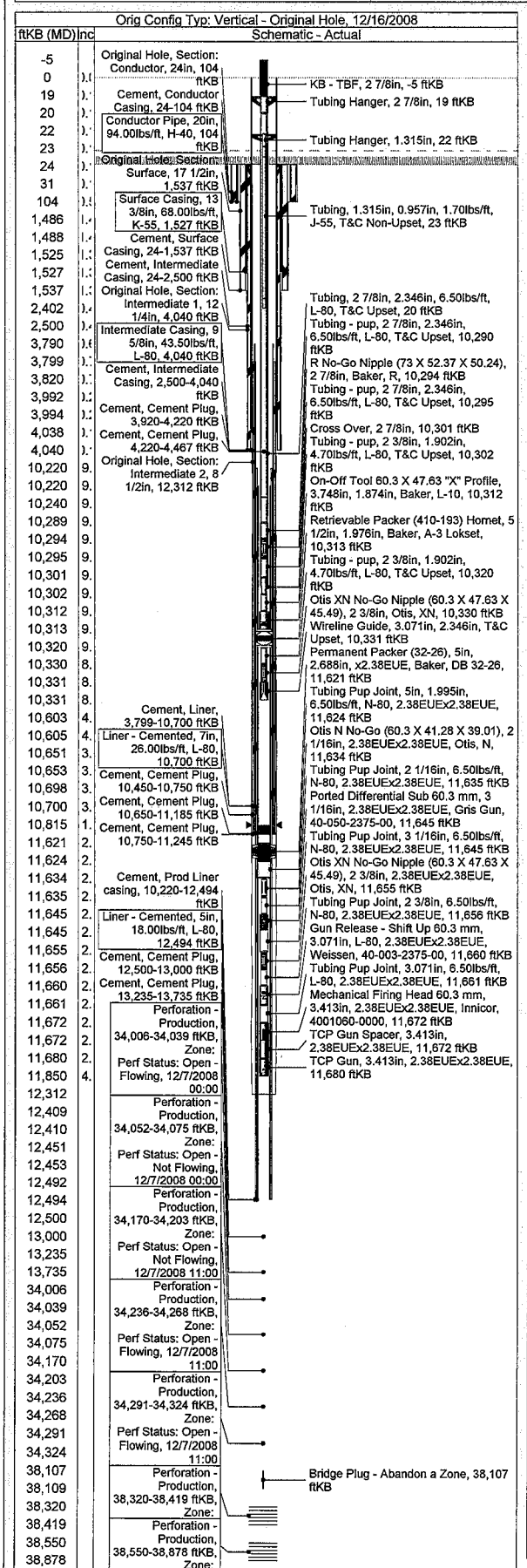
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 34.0, Report Date: 12/15/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
7001418637911171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	42,788.00	1,108,308.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast, -15	-0.4	Fair.	5

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Bled off TSTM on casing and tubing. Space out and set packer to land 15000 # compression. Fill annulus with inhibited water. Pressure test packer at 500 psi for 15 minutes. Land tubing hanger with 15000 # compression. Pick up and run 1.315" tubing (2396 ft KB). .

Operations Next Report Period

Swab evaluate well.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discussed operations for the day.
07:30	Other Operations	Space out packer. Set packer to set 15000 # compression on packer. Examine tubing hanger seal.
10:30	Other Operations	Fill annulus w/ 278 bbls inhibited water. Pressure test to 500 psig for 15 minutes. Land tubing hanger in wellhead.
13:30	Run Tubing	Rig to and run 1.315" heating string.
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2254		7,296.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13704	249	1,280.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00
875	WEATHERFORD INTERNATIONAL INC	4622913SR		715.00
861	BAKER HUGHES BUSINESS SUPPORT SERV	70655		22,618.00
847	100 Not Available	9822	256	3,294.00
860	WEATHERFORD INTERNATIONAL INC			532.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	1748.6	0.0	1748.6	-74.8

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/15/2...	Safety Meeting	Acce...	Discussed setting packer, filling hole, cold,testing packer.

Fortuna (US)L.P. - Completions and Workovers Report

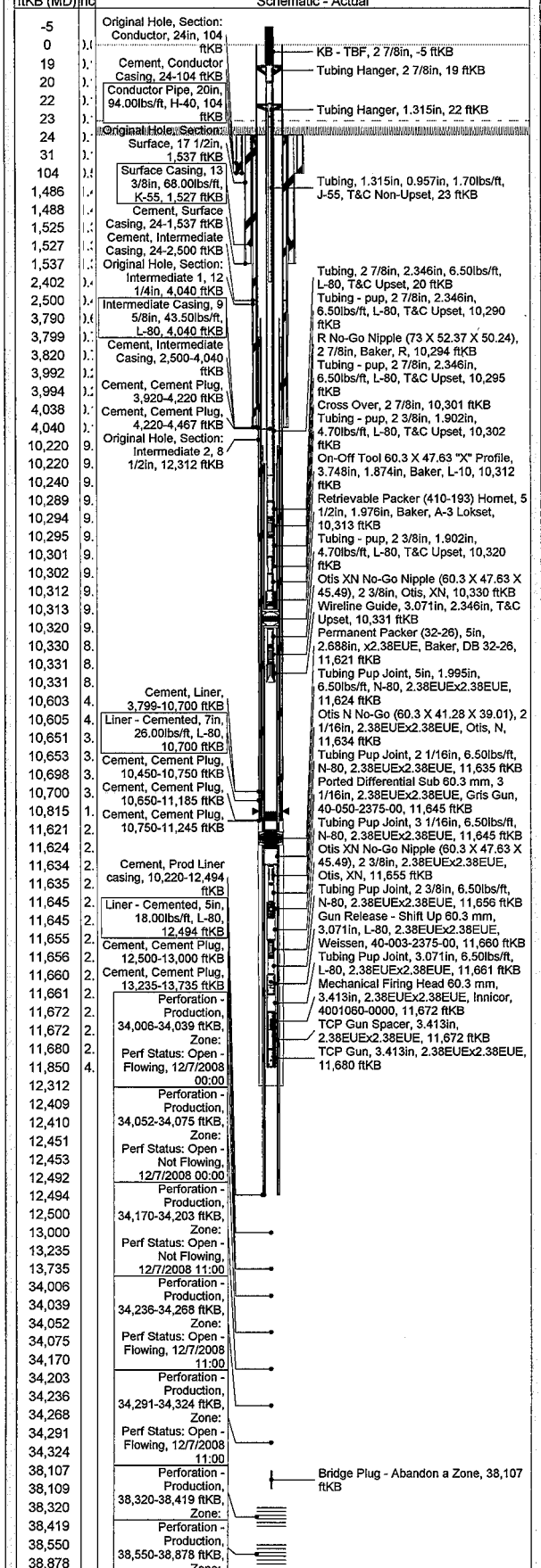
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 34.0, Report Date: 12/15/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/16/2008



Downgrading/Safety Incidents

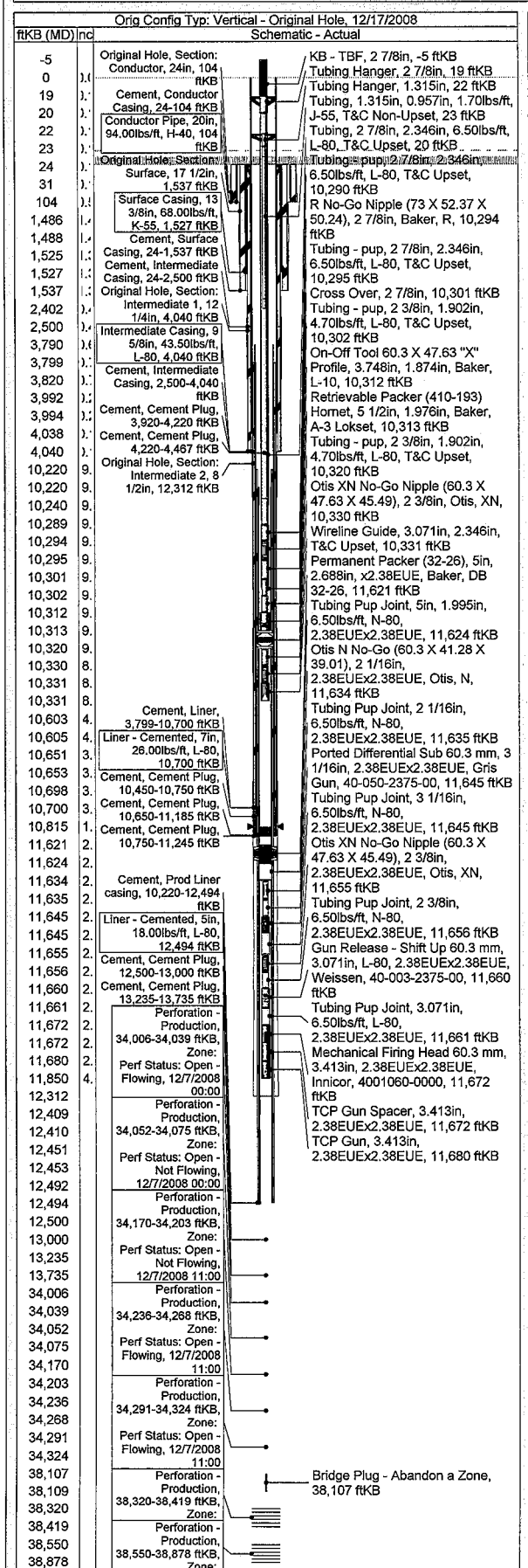
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 35.0, Report Date: 12/16/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	15,403.00	1,123,711.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast, -10	32.0	Fair.	4

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Hold safety meeting. Remove BOPs and install wellhead. Prepare to and swab - initial fluid level - +/- 4715 ft. Recovered 74 bbls. water - fluid level from 3000 ft to 6000 ft while swabbing. 199 bbls left to recover.

Operations Next Report Period

Swab evaluate Dinwoody zone.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discussed operations for the day.
07:30	Other Operations	Thaw wellhead and BOPs.
09:00	Remove BOP's	Remove BOPs and spools.
10:30	Install Wellhead	Install wellhead - new seal assembly in 2.875" side of tubing hanger.
12:00	Swabbing	Prepare to and swab. Initial fluid level - 4715 ft. Recovered 74 bbls. water - fluid level fluctuating 3000 ft to 6000 ft.
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2255		6,920.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13705	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	465.4	1748.6	-540.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/16/2...	Safety Meeting	Acce...	Discussed thaw BOPs, lifting and handling BOPs and spools. Swabbing.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

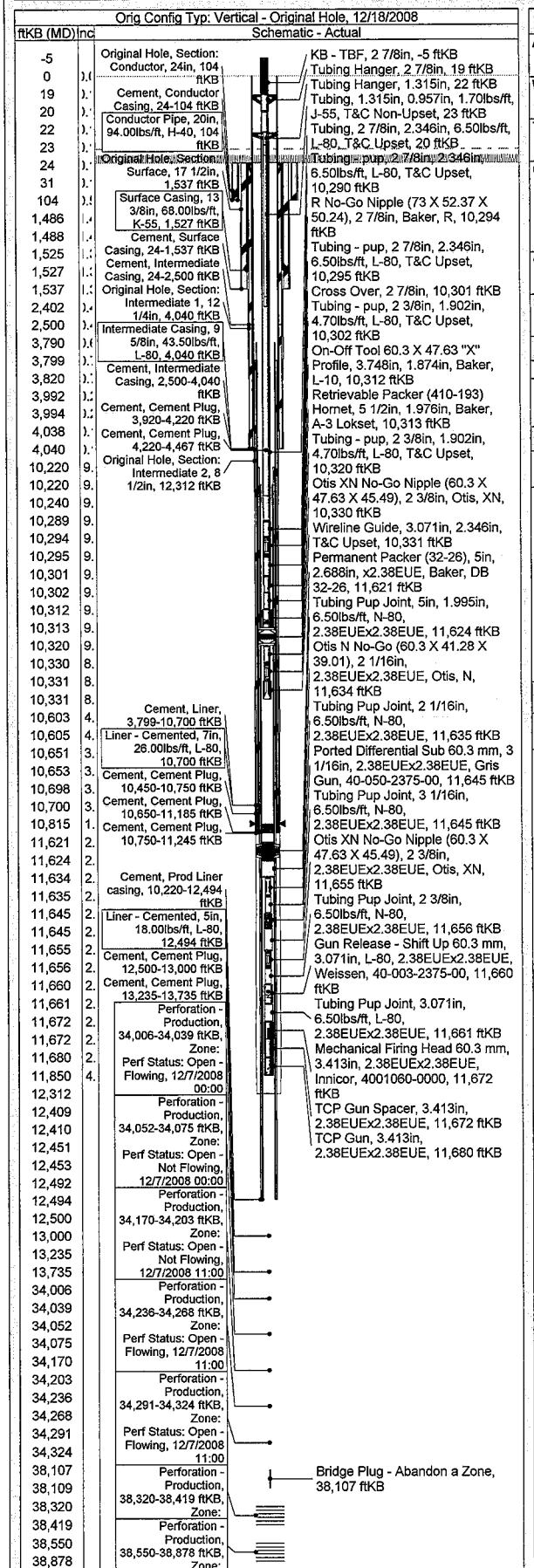
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 36.0, Report Date: 12/17/2008 License #:

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	15,229.00	1,138,940.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Clear -16	24.8	Fair.	3

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0	0	

Operations This Report Period

Held safety meeting. Well flowed slightly for 1 hr. Swab water. Recovered 67 bbls water - pH - 6, salinity - 14000 ppm. Swabbing from 10275 ft ("R" nipple at 10294 ft.). 132 bbls water and acid left to recover .

Operations Next Report Period

Evaluate Dinwoody zone.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discussed operations for the day.
07:30	Flowback Well on Clean Up	Well flowed slightly. No measureable returns.
08:30	Swabbing	Rig to and swab. Initial fluid level - 6000 ft. Fluid level dropped to 9000 ft. swabbing from 10275 ft. Recovered 67 bbls. water - pH - 6, salinity - +/- 14000 ppm.
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2256		6,746.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13706	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	67.0	1748.6	-607.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/17/2...	Safety Meeting	Acce...	Discussed keeping lines thawed. Possible H2S if we get gas flow. Doghouse has open flame heater - caution on CO and lack of oxygen.

Downgrading/Safety Incidents

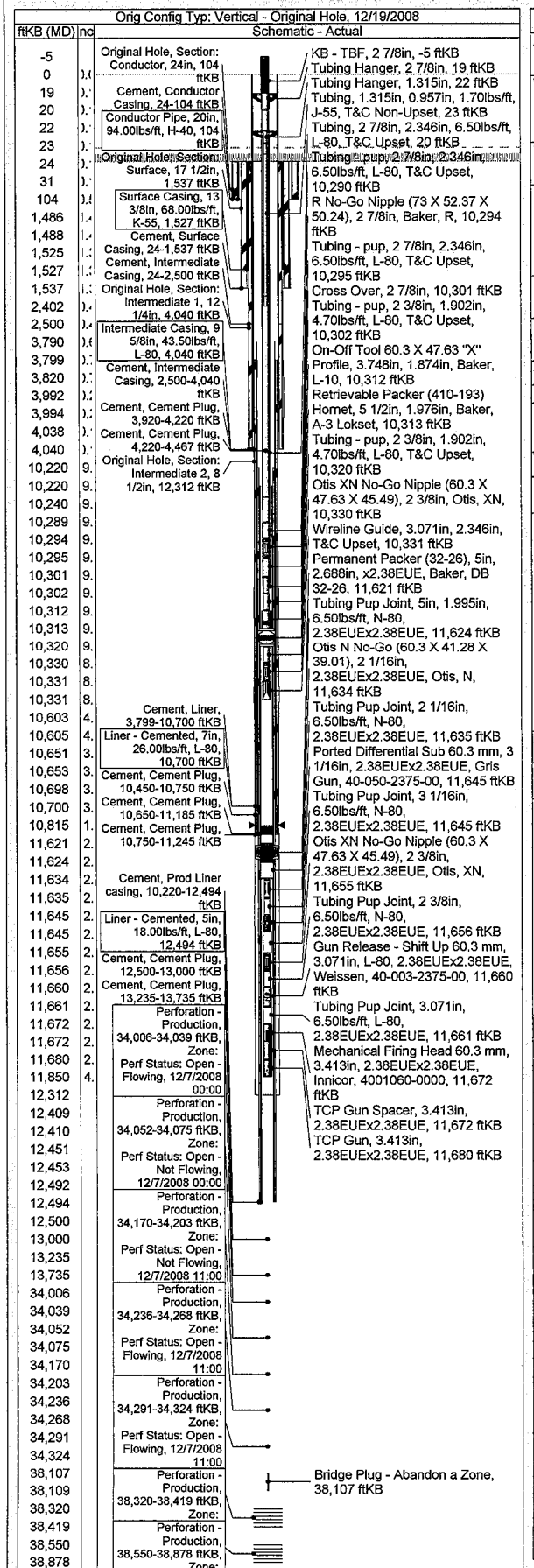
Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 37.0, Report Date: 12/18/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	18,846.00	1,157,786.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Overcast to clear, -10	24.8	Fair.	2

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
20.3	0.0	0	

Operations This Report Period

Held safety meeting. Bled off 140 psig tubing pressure. Rig to and swab water from 10275 ft. Recovered 40 bbls. - Salinity - 14000 to 10800 ppm on last swab, pH - 6. Fluid level fluctuating from 9000 ft to 3700 ft.

Operations Next Report Period

Evaluate Dinwoody zone.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discuss operations for the day.
07:30	Flowback Well on Clean Up	Bleed off 140 psi from tubing.
08:00	Swabbing	Swab - initial fluid level - 9000 ft. Pulled from 10000 ft. 4.5 bbls on first swab. Pulled from 10275 ft. on balance of swabs. Recovered a total of 40 bbls today. Salinity - 14000 to 10800 ppm. "Fluid level" varied during day from 9000 ft. to 3700 ft.
17:00	Shut in for Night	

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2257		6,809.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available		00248	0.00
875	100 Not Available		250	360.00
831	100 Not Available	13707	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00
847	100 Not Available	9819	256	3,554.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	40.0	1748.6	-647.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
12/18/2...	Safety Meeting	Acce...	Discussed line clearance, swab records, swab precautiions.

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Report Printed: 1/13/2010

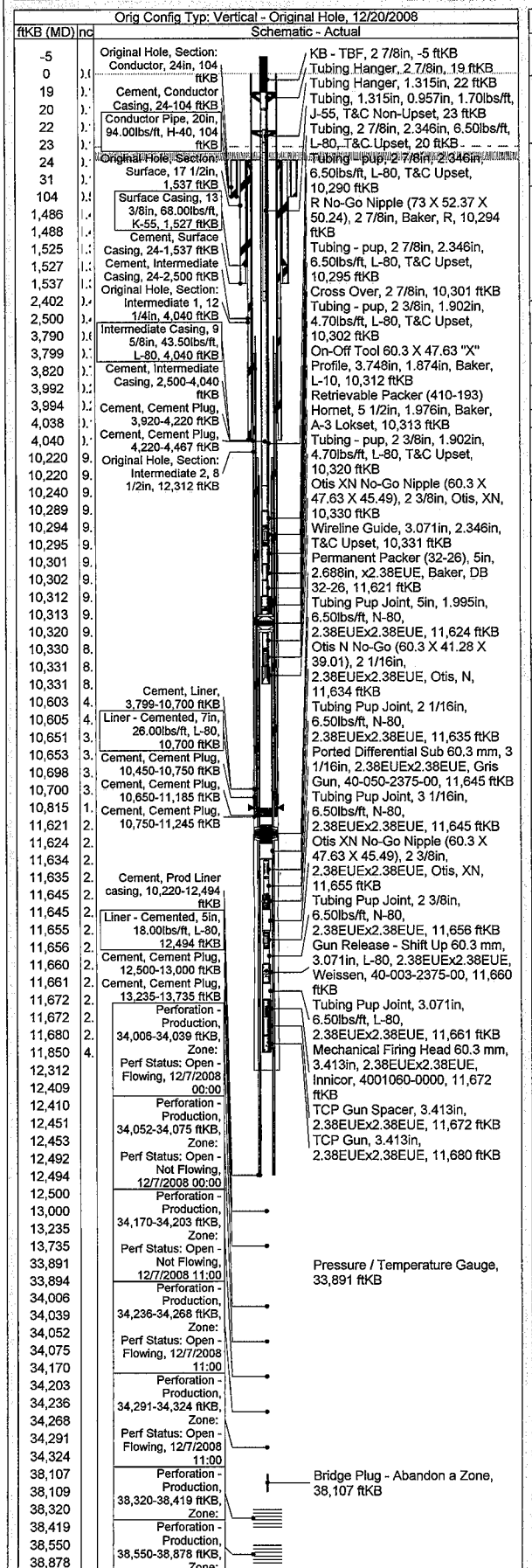
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 38.0, Report Date: 12/19/2008 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	90,423.00	1,248,209.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
SNOW/ blowing snow, -10	5.0	Snowy	1

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
14.5	0.0	0	

Operations This Report Period

Held safety meeting. SITP - 100 psig. Bled off to tank. Ran swab - FL. 7000 ft., pull from 9000 ft (unable to get lower). Recovered 9 bbls water - 13000 ppm salinity, pH - 6. Rig in Prowireline unit. Run blind box to XN nipple. Set pressure recorders in XN nipple and X plug in on/off connector. Pressure guages will record for four months minimum.

Operations Next Report Period

Move out rig and final equipment.

Status at End of Report	Operation End Date	Cut & Cap Date
Continue operation		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
07:00	Safety Meeting	Discuss operations for the day.
07:30	Flowback Well on Clean Up	Bleed off 100 psig SITP.
08:00	Swabbing	Run in swab to 9000 ft. F.L. - 7000 ft. Recover 9 bbls water - 13000 ppm salinity, pH - 6.
10:00	Other Operations	Wait on directions.
11:00	W/L Operation	Rig in Prowireline. Run 1.86" guage ring to 10331 ft (XN nipple). Set pressure guages on XN nipple. Run XX plug in X profile in on/off tool. Guages will record for four months.
14:30	Shut in for Night	Rig out and lay down service rig. Note: When pulling XX plug, +/- 1000 ft of water should be pumped into tubing as a buffer for any pressure built up below plug.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2258		6,597.00
875	100 Not Available		00243	
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available	73739	00248	11,194.00
875	100 Not Available		250	360.00
831	100 Not Available	13707	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			1,400.00
857	100 Not Available	24264, 24265	250	2,550.00
854	100 Not Available	R0120403		550.00
854	100 Not Available	34720	245	1,955.00
837	100 Not Available	4237	257	59,094.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	0.0	9.0	1748.6	-656.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Fortuna (US)L.P. - Completions and Workovers Report

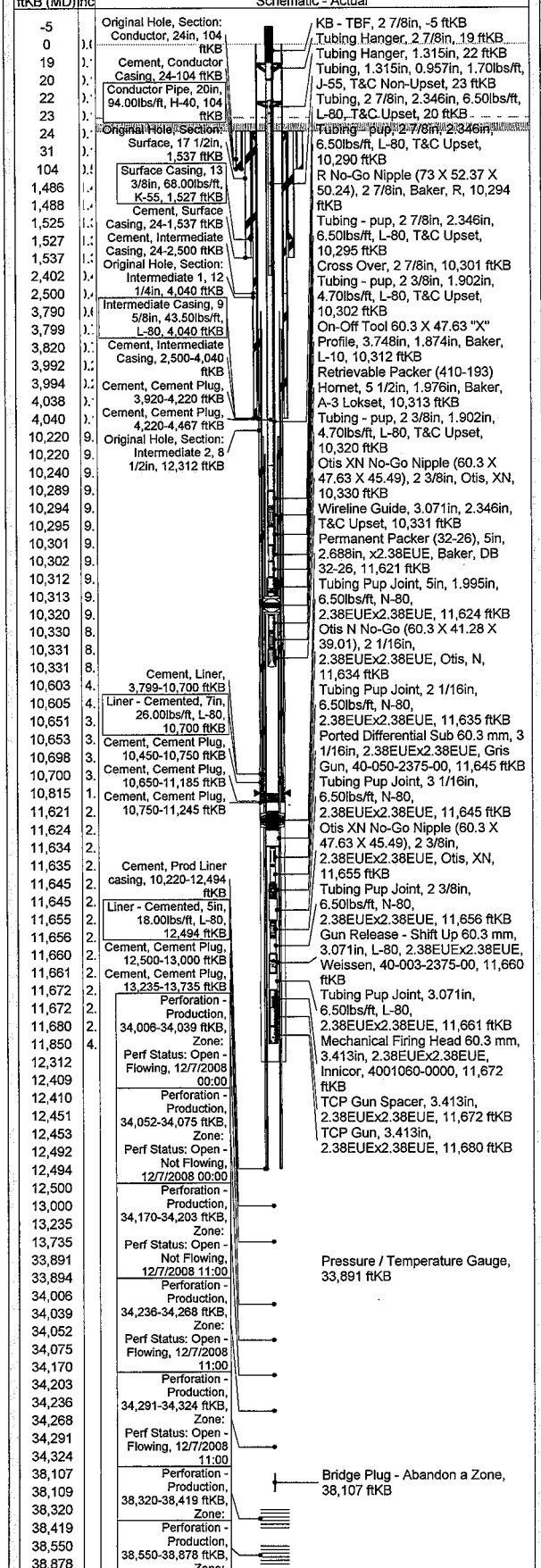
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 38.0, Report Date: 12/19/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/20/2008

Schematic - Actual



Safety Checks

Date	Type	Result	Comment
12/19/2...	Safety Meeting	Acce...	Discuss swabbing, weather,

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

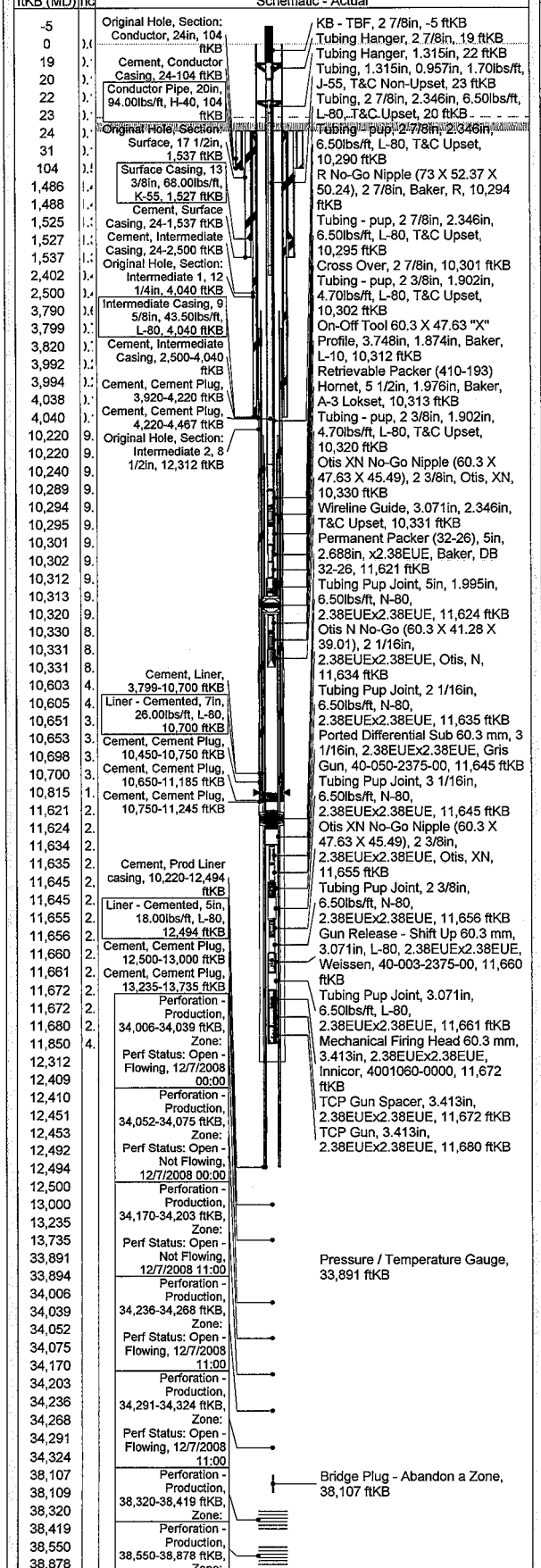
Job Type: Initial Completion **Report # 39.0, Report Date: 12/20/2008 License #:**

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/21/2008

Schematic - Actual



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	123,252.00	1,371,461.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Blowing snow, -15	14.0	Snowy	

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
0.0	0.0		

Operations This Report Period

Hold safety meeting. Load out eqyuipment. arrange return of rentals. Rig failed to go into road gear. Arranged for all equipment to be returned. Chain and lock wellheaad. Put fence panels around wellhead.

Operations Next Report Period

Status at End of Report	Operation End Date	Cut & Cap Date
Final report		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	Held safety meeting. Loaded out equipment and returned to base. Returned or arranged for return of al rental equipment. Chained and locked wellhead. Bull plugs in all wellhead outlets. Installed four panel wellhead fence. Rig anchors to be cut off at time of reclamation of lease.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
846	STONE WELL SERVICE LLC	2259		10,036.00
875	100 Not Available	1059, 6626	00243	2,189.00
855	100 Not Available		00245	
875	100 Not Available		00245	
875	100 Not Available		247	150.00
875	100 Not Available		247	110.00
875	100 Not Available	73739	00254	11,194.00
875	100 Not Available		250	360.00
831	100 Not Available	13707	249	1,430.00
842	100 Not Available	130876	251	5,033.00
827	100 Not Available			6,000.00
854	100 Not Available	0120404		2,625.00
854	100 Not Available	34750,34589,3...	245	4,890.00
875	100 Not Available	32550, 32548, 32549	245	15,460.00
875	100 Not Available	081017468		10,437.00
854	100 Not Available	081017468		5,363.00
875	100 Not Available	722021, 722049, 048		17,465.00
867	100 Not Available	20594, 20730, 20737	00258	3,063.00
875	100 Not Available	105113	246	2,773.00
854	100 Not Available	10510	246	19,212.00
875	WEATHERFORD INTERNATIONAL INC	4585592		5,368.00
855	WEATHERFORD INTERNATIONAL INC	4245363		94.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water			1748.6	-656.3

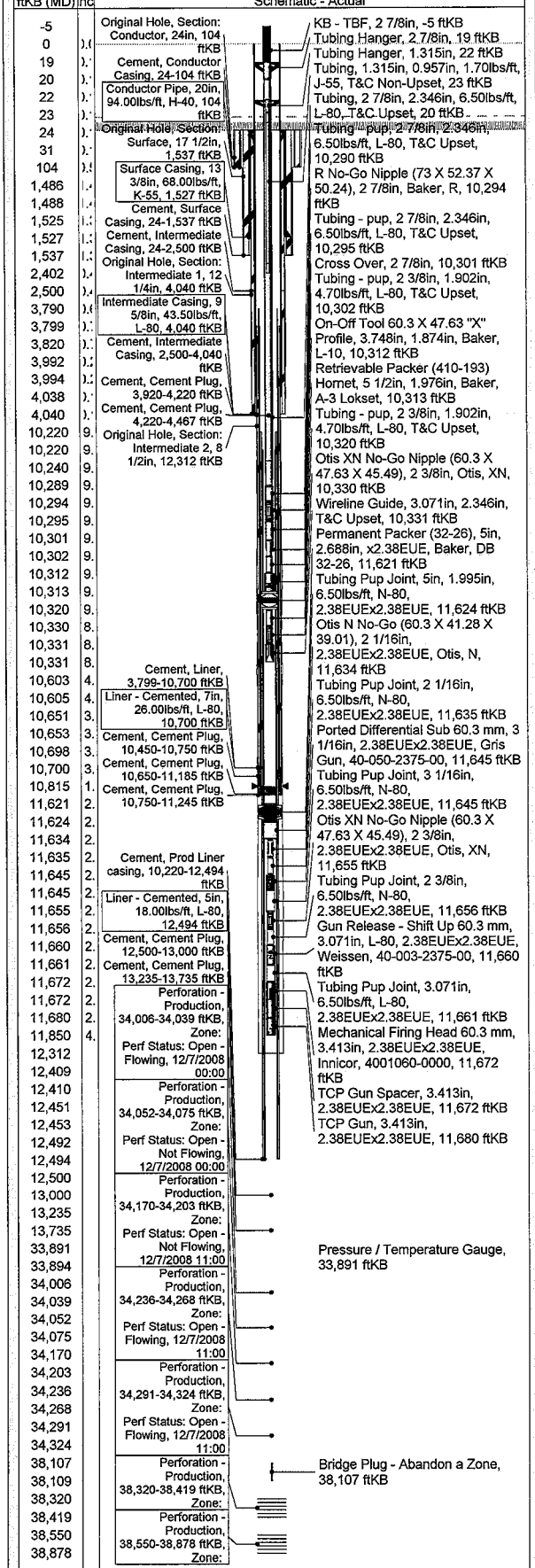
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion **Report # 39.0, Report Date: 12/20/2008 License #:**

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 12/21/2008



Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

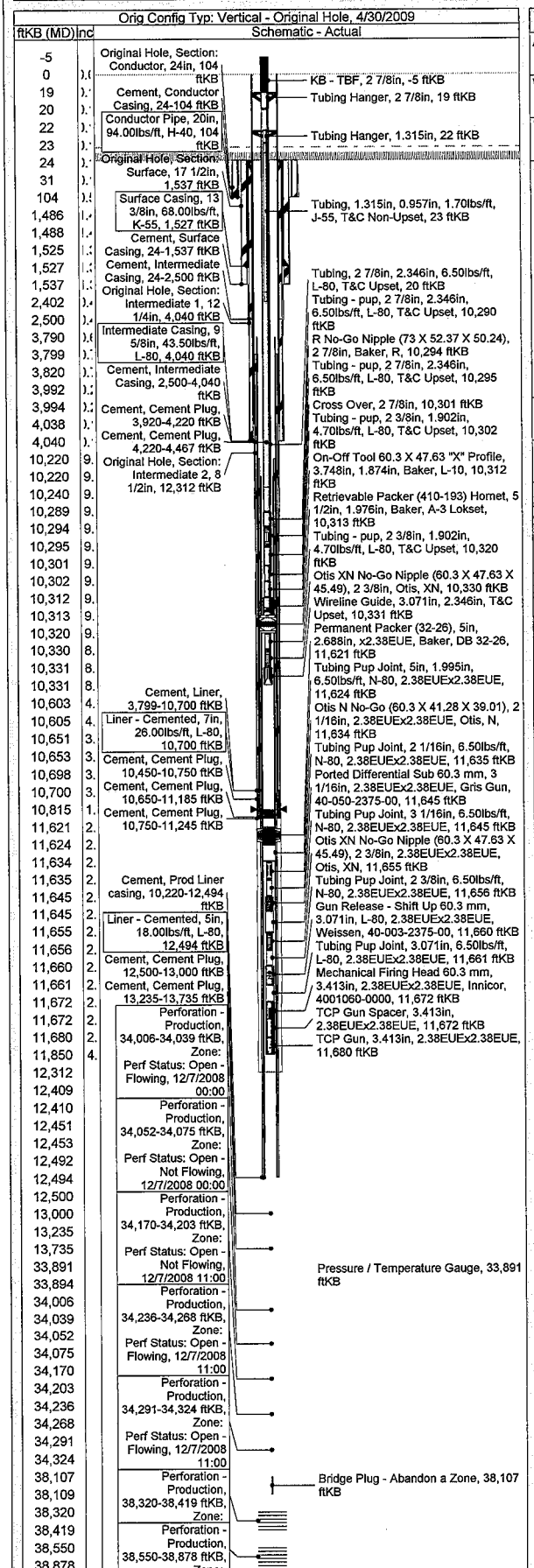
Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

Report # 40.0, Report Date: 4/29/2009 License #:

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)	PBTD Depth (ftKB):
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80	



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	30,255.00	1,401,716.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Fog, clearing.	45.0	Slight mud/good.	

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
40.0	0.0	0	

Operations This Report Period

Hold safety meeting. Rig in Prowireline. Mountain States Oilfield Services pump 6 bbls water to tubing. Wireline pull X plug prong and plug form tubing. Water equalized to below plug on prong being pulled. Recovered pressure recorders. Shut in pressure built from 2538 psi to 2579 psi from December 21 to April 29. Set X plug in XX nipple in X niple at 10292 ft. Pump 15 bbls inhibited water on top of plug. (Concerns expressed about too much fluid above plug may affect removal of prong and plug). Secured wellhead. Rig out equipment and leave lease.

Arrangements made with Burdette Weston (Land owner) to repair cattleguards and fencing on lease and lease road.

Operations Next Report Period

None

Status at End of Report	Operation End Date	Cut & Cap Date
Final report		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
08:00	W/L Operation	Held safety meeting. Rig in Prowireline ane Mountain States (Water and pump. Pump 6 bbls Inhibited water to tubing. Equalize XX plug - tubing on vacuum. Pull XX plug. Pull pressure recorders. Read recorders. +/- 41 psi increase in pressure from Dec.21 to April 29. Reset XX plug in X nipple at 10292 ft (WL). Pump 15 bbls inhibited water on top of plug. Secure wellhead and rig out all equipment.
16:30	Shut in for Night	Well secured and shut in. Wellhead chained and plugged. Key in fcasing valve flange covered by duct tape.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
865	BAKER HUGHES BUSINESS SUPPORT SERV	Bill Lading		625.00
837	100 Not Available	4612	01644	21,720.00
853	100 Not Available	21377	01643	2,910.00
835	100 Not Available		01642	0.00
827	DCP CONSULTING LTD			5,000.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	21.0	0.0	1748.6	-635.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
4/29/2009	Safety Meeting	Acce...	

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

Fortuna (US)L.P. - Completions and Workovers Report

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Job Type: Initial Completion

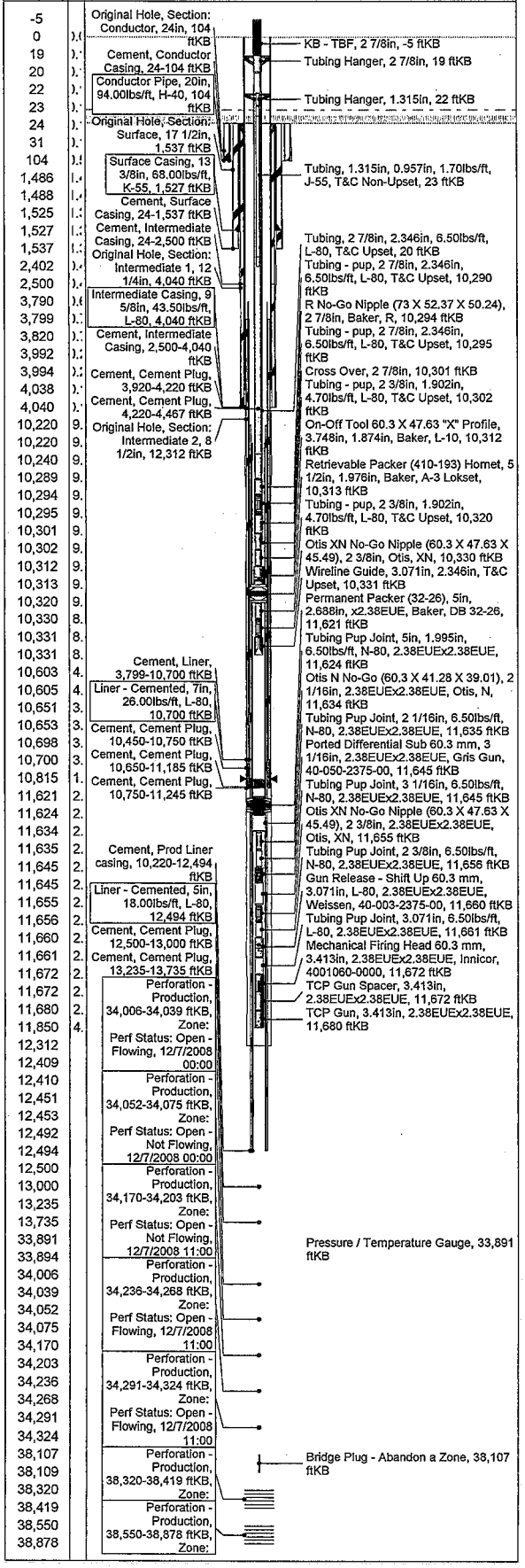
Report # 40.0, Report Date: 4/29/2009 License #:

PBTD Depth (ftKB):

Surface Legal Location	Asset	Branch	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	KB-CF (ft)
70014186379111171980	Western USA	East Division	6,737.14	6,713.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 4/30/2009

Schematic - Actual



Daily Operations

AFE No.	Total AFE + Sup Amount	Daily Cost Total	Cum Cost To Date
AF70854	1,600,000.00	30,255.00	1,401,716.00

Weather	Temperature (°F)	Lease / Road Conditions	Rig Days Remaining
Fog, clearing.	45.0	Slight mud/good.	

Tubing Pressure (psi)	Casing Pressure (psi)	H2S < 1% (ppm)	H2S > 1% (%)
40.0	0.0	0	

Operations This Report Period

Hold safety meeting. Rig in Prowireline. Mountain States Oilfield Services pump 6 bbls water to tubing. Wireline pull X plug prong and plug form tubing. Water equalized to below plug on prong being pulled. Recovered pressure recorders. Shut in pressure built from 2538 psi to 2579 psi from December 21 to April 29. Set X plug in XX nipple in X niple at 10292 ft. Pump 15 bbls inhibited water on top of plug. (Concerns expressed about too much fluid above plug may affect removal of prong and plug). Secured wellhead. Rig out equipment and leave lease.

Arrangements made with Burdette Weston (Land owner) to repair cattleguards and fencing on lease and lease road.

Operations Next Report Period

None

Status at End of Report	Operation End Date	Cut & Cap Date
Final report		

Ops Supervisor

Job Contact	Company Name	Cell Phone
Neil Thurber, Completions Foreman	DCP Consulting Ltd.	(403) 660-8685

Time Log

Start Time	Operation	Comment
00:00	Shut in for Night	
08:00	W/L Operation	Held safety meeting. Rig in Prowireline ane Mountain States (Water and pump. Pump 6 bbls Inhibited water to tubing. Equalize XX plug - tubing on vacuum. Pull XX plug. Pull pressure recorders. Read recorders. +/- 41 psi increase in pressure from Dec.21 to April 29. Reset XX plug in X nipple at 10292 ft (WL). Pump 15 bbls inhibited water on top of plug. Secure wellhead and rig out all equipment.
16:30	Shut in for Night	Well secured and shut in. Wellhead chained and plugged. Key in fcasing valve flange covered by duct tape.

Daily Costs

Feature Code	Vendor	Ticket	PO No.	Cost
865	BAKER HUGHES BUSINESS SUPPORT SERV	Bill Lading		625.00
837	100 Not Available	4612	01644	21,720.00
853	100 Not Available	21377	01643	2,910.00
835	100 Not Available		01642	0.00
827	DCP CONSULTING LTD			5,000.00

Recurring Costs

Feature Code	Vendor	Ticket	PO No.	Cost

Report Fluids by Zone Summary

Zone Name	Fluid	To well (bbl)	From well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
	Water	21.0	0.0	1748.6	-635.3

Report Fluids Summary

Fluid	Cum to Well (bbl)	Cum from Well (bbl)	Cum Non-recov (bbl)	Left to recover (bbl)
Acid	723.3	0.0	0.0	723.3

Safety Checks

Date	Type	Result	Comment
4/29/2009	Safety Meeting	Acce...	

Downgrading/Safety Incidents

Incident Date	Incident Type	Contractor

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: Fortuna (US) LP
Address: 2000 - 888 3rd St SW
city CALGARY
state Alberta zip T2P 5C5

Operator Account Number: N2710

Phone Number: (403) 237-4820

Well 1

API Number	Well Name	QQ	Sec	Twp	Rng	County
43 033 30062	Hayback Ridge 1-17-BN-7E	NWSE	17	13N	7E	Rich County, Utah

Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date
A	99999	16749	December 2008	5/10/10

Comments: formation = Dnwd DINWOODY from MSSP

Well 2

API Number	Well Name	QQ	Sec	Twp	Rng	County

Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date

Comments:

Well 3

API Number	Well Name	QQ	Sec	Twp	Rng	County

Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date

Comments:

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Jan Coyle
Name (Please Print)

Jan Coyle
Signature

Tr. Us/Ont/Sha/Que Acctg
Title

MAY 10, 2010
Date

RECEIVED
MAY 10 2010
DIV. OF OIL, GAS & MINING

(5/2000)

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: UT 43-033-30062

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: HOGBACK RIDGE 1-17-13N-7E

2. NAME OF OPERATOR: Fortuna (US) L.P. by FUSI GP INC.

9. API NUMBER: ~~4303330062~~ 4303330062

3. ADDRESS OF OPERATOR: 2000, 888-3rd ST. S.W. CITY CALGARY STATE AB ZIP T2P 5C5

PHONE NUMBER: (403) 767-5705

10. FIELD AND POOL, OR WILDCAT

4. LOCATION OF WELL: 1198 FNL 0421 FEL NENE

FOOTAGES AT SURFACE: NAD 41* 52' 21.51" N & 111* 10' 6.539" W

COUNTY: RICH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: 1 17 13N 7E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☑ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US) L.P. is seeking approval for the continued shut in / temporarily abandoned status of the Hogback Ridge 1-17-13N-7E gas well. An additional 12 months period is sought for further internal evaluation of the primary reservoir and possibly secondary up-hole targets.

The well is currently standing and shut in with a tubing plug set in an "R" nipple profile at 10,293 ft KB. There is a 15 bbl column of inhibited water above the plug and no pressure exists on the production casing, indicating well bore integrity. The surface casing vent was checked with no indication of flow or pressure. The wellhead assembly remains chained and locked with all necessary signage in place at the lease site for public reference.

COPY SENT TO OPERATOR
Date: 9.29.2010
Initials: KS

NAME (PLEASE PRINT) Clarence Stewart P. Eng TITLE Completions Engineer

SIGNATURE Clarence Stewart DATE 9/21/2010

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 9/23/10
BY:
* Extension Valid Through 9/1/2011 - continued monitoring should take place

RECEIVED
SEP 21 2010
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

Fortuna (US)L.P. - G51

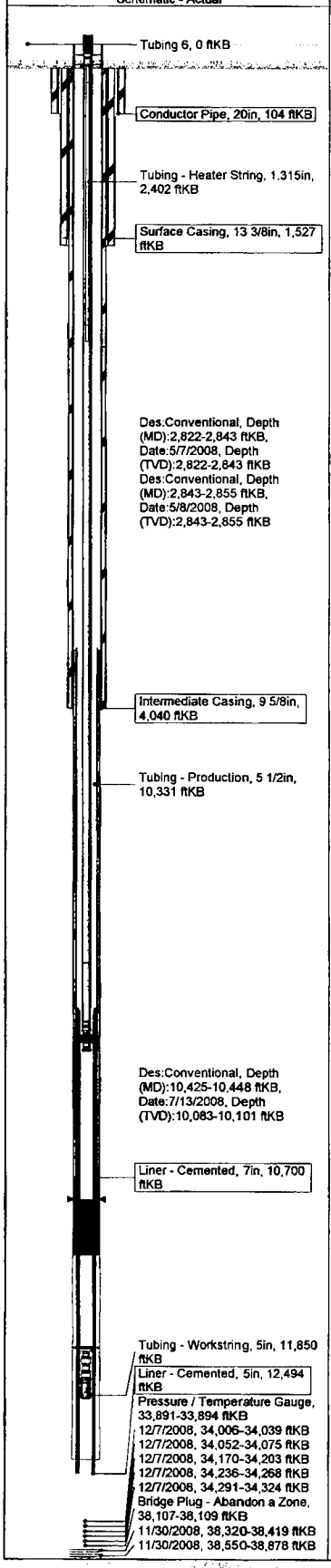
Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

PBTD Depth (ftKB): 12,500.0

Surface Legal Location	Asset	Branch	State/Province	License No.	Current Well Status
70014186379111171...	USA Conventional	Conventional	Utah	UT43-033-30062	Potential Gas

Original KB Elevation (ft)	Ground Elevation (ft)	Casing Flange Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)
6,737.14	6,713.34	6,714.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 9/21/2010 12:43:39 PM



ftKB (TVD)	ftKB (MD)
	-4,633
	-1
0	23
0	34
0	104
0	361
0	812
0	1,258
0	1,400
984	1,522
1,734	1,734
1,986	1,986
2,167	2,167
2,343	2,344
2,557	2,557
2,709	2,709
2,750	2,750
2,775	2,776
2,787	2,787
2,819	2,819
2,843	2,843
2,902	2,902
2,993	2,993
3,144	3,144
3,490	3,490
3,685	3,685
3,772	3,773
3,898	3,898
3,994	3,994
4,192	4,192
4,492	4,492
4,095	4,849
5,366	5,367
5,636	5,636
6,598	6,598
7,882	7,883
8,159	8,159
8,819	8,844
9,286	9,399
9,414	9,560
9,723	9,959
9,898	10,187
9,981	10,295
10,009	10,331
10,062	10,399
10,103	10,450
10,188	10,557
10,235	10,614
10,300	10,693
10,401	10,811
10,470	10,892
10,728	11,181
10,916	11,381
11,025	11,494
11,104	11,576
11,140	11,613
11,182	11,656
11,209	11,684
11,481	11,964
11,710	12,205
	12,409
	13,275
	13,516
	34,236

Wellbore Sections

Section	Size (in)	Top (ftKB)	Bottom (ftKB)
Conductor	24	23.8	103.8
Surface	17 1/2	103.8	1,537.0
Intermediate 1	12 1/4	1,537.0	4,040.0
Intermediate 2	8 1/2	4,040.0	12,312.0
Production	6 1/8	10,815.0	13,735.0

Conductor Pipe, 103.8ftKB

Casing Description	Casing Run Date	Csg Set Depth (ftKB)
Conductor Pipe	2/20/2008	103.8

Item No.	Item Description	OD (in)	Wt (lbs/ft)	Grade	ID (in)	Top (ftKB)	Len (ft)
1-1	Casing Joints	20	94.00	H-40	19.122	23.8	80.00

Surface Casing, 1,526.8ftKB

Casing Description	Casing Run Date	Csg Set Depth (ftKB)
Surface Casing	4/30/2008	1,526.8

Item No.	Item Description	OD (in)	Wt (lbs/ft)	Grade	ID (in)	Top (ftKB)	Len (ft)
2-1	Casing Joints	13 3/8	68.00	K-55	12.413	23.8	1,462.47
2-2	Float Collar	13 3/8	68.00	K-55	12.413	1,486.3	1.42
2-3	Casing Joints	13 3/8	68.00	K-55	12.413	1,487.7	37.28
2-4	Float Shoe	13 3/8	68.00	K-55	12.413	1,525.0	1.83

Intermediate Casing, 4,040.0ftKB

Casing Description	Casing Run Date	Csg Set Depth (ftKB)
Intermediate Casing	5/25/2008	4,040.0

Item No.	Item Description	OD (in)	Wt (lbs/ft)	Grade	ID (in)	Top (ftKB)	Len (ft)
3-1	KB - Flange	9 5/8			8.756	0.0	23.80
3-2	Casing Hanger	9 5/8			8.756	23.8	6.95
3-3	Casing Joints	9 5/8	43.50	L-80	8.756	30.8	3,961.33
3-4	Float Collar	9 5/8			8.756	3,992.1	2.40
3-5	Casing Joints	9 5/8	43.50	L-80	8.756	3,994.5	43.59
3-6	Float Shoe	9 5/8			8.756	4,038.1	1.90

Liner - Cemented, 10,700.0ftKB

Casing Description	Casing Run Date	Csg Set Depth (ftKB)
Liner - Cemented	8/25/2008	10,700.0

Item No.	Item Description	OD (in)	Wt (lbs/ft)	Grade	ID (in)	Top (ftKB)	Len (ft)
4-1	Landing Joint	7			6.276	3,790.4	8.82
4-2	Liner Hanger	7	26.00	L-80	6.276	3,799.2	20.36
4-3	Casing Joints	7	26.00	L-80	6.276	3,819.6	6,783.33
4-4	Landing Collar	7		L-80	6.276	10,602.9	1.61
4-5	Casing Joints	7	26.00	L-80	6.276	10,604.5	46.20
4-6	Float Collar	7	26.00	L-80	6.276	10,650.7	1.78
4-7	Casing Joints	7	26.00	L-80	6.276	10,652.5	45.41
4-8	Float Shoe	7	26.00	L-80	6.276	10,697.9	2.08

Liner - Cemented, 12,494.0ftKB

Casing Description	Casing Run Date	Csg Set Depth (ftKB)
Liner - Cemented	10/18/2008	12,494.0

Item No.	Item Description	OD (in)	Wt (lbs/ft)	Grade	ID (in)	Top (ftKB)	Len (ft)
5-1	Liner Hanger c/w Packoff	5	18.00	L-80	4.276	10,220.6	19.84
5-2	Casing Joints	5	18.00	L-80	4.276	10,240.4	2,168.40
5-3	Collar	5	18.00	L-80	4.276	12,408.8	1.12
5-4	Casing Joints	5	18.00	L-80	4.276	12,410.0	41.60
5-5	Float Collar	5	18.00	L-80	4.276	12,451.6	1.65
5-6	Casing Joints	5	18.00	L-80	4.276	12,453.2	38.80
5-7	Float Shoe	5	18.00	L-80	4.276	12,492.0	2.00

Conductor Casing, casing, 2/20/2008 00:00

Cement Description

Conductor Casing

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	23.8	103.8	

Surface Casing, casing, 5/1/2008 11:50

Cement Description

Surface Casing

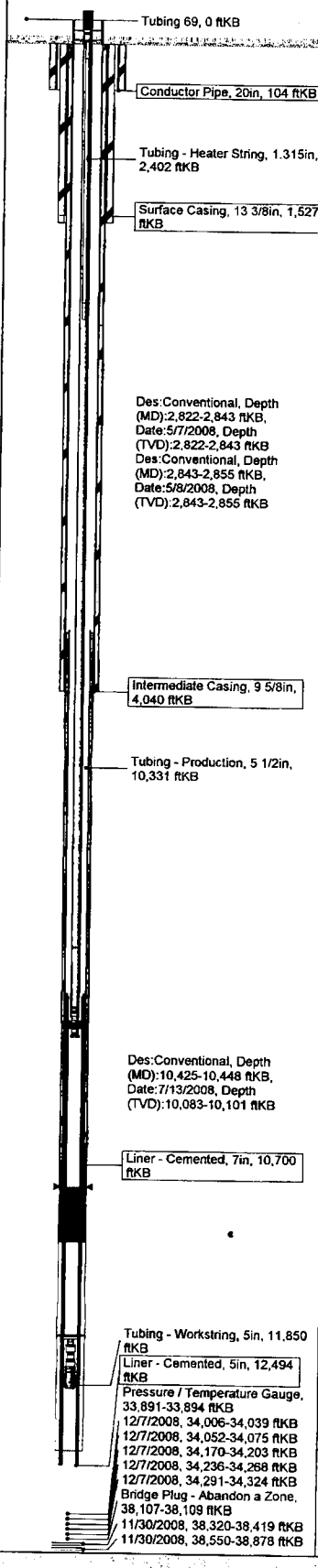
Fortuna (US)L.P. - G51

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Surface Legal Location	Asset	Branch	State/Province	License No.	Current Well Status
70014186379111171...	USA Conventional	Conventional	Utah	UT43-033-30062	Potential Gas

Original KB Elevation (ft)	Ground Elevation (ft)	Casing Flange Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)
6,737.14	6,713.34	6,714.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 9/21/2010 11:31:07 AM
Schematic - Actual



ftKB (TVD)	ftKB (MD)
	-4,633
	-1
0	23
0	34
0	104
0	361
0	812
0	1,258
0	1,400
984	1,522
1,734	1,734
1,986	1,986
2,167	2,167
2,343	2,344
2,557	2,557
2,709	2,709
2,750	2,750
2,775	2,776
2,787	2,787
2,819	2,819
2,843	2,843
2,902	2,902
2,993	2,993
3,144	3,144
3,490	3,490
3,685	3,685
3,772	3,773
3,898	3,898
3,994	3,994
4,192	4,192
4,492	4,492
4,095	4,849
5,366	5,367
5,636	5,636
6,598	6,598
7,882	7,883
8,159	8,159
8,819	8,844
9,286	9,399
9,414	9,560
9,723	9,959
9,898	10,187
9,981	10,295
10,009	10,331
10,062	10,399
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10,188	10,557
10,235	10,614
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11,025	11,494
11,104	11,576
11,140	11,613
11,182	11,656
11,209	11,684
11,481	11,964
11,710	12,205
	12,409
	13,275
	13,516
	34,236

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	23.8	1,537.0	206.0

Intermediate Casing, casing, 5/26/2008 03:00

Cement Description: Intermediate Casing

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	23.8	2,500.0	45.0
2	2,500.0	4,040.0	

Cement Plug, plug, 6/23/2008 07:48

Cement Description: Cement Plug

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	4,220.0	4,467.0	
2	3,920.0	4,220.0	

Cement Plug, plug, 8/22/2008 11:00

Cement Description: Cement Plug

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	10,750.0	11,245.0	
2	10,450.0	10,750.0	

Liner, casing, 8/25/2008 16:31

Cement Description: Liner

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	3,799.2	10,700.0	3.0

Rerun Plug, plug, 8/29/2008 00:00

Cement Description: Rerun Plug

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	10,650.0	11,185.0	0.0

Cement Plug, plug, 10/16/2008 17:37

Cement Description: Cement Plug

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	13,235.0	13,735.0	
2	12,500.0	13,000.0	

Liner, casing, 10/18/2008 00:00

Cement Description: Liner

Stg No.	Cmnt Top Inter (ftKB)	Cmnt Btm Inter (ftKB)	Cmnt Rtrn (bbl)
1	10,220.0	12,494.0	0.0

<Tubing Description?> set at <Set Depth?>ftKB on <Run Date?>

Tubing Description	Set Depth (ftKB)	Run Date

Item No.	Item Description	OD (in)	ID (in)	Top (ftKB)

Tubing - Workstring set at 11,850.0ftKB on 11/26/2008 10:00

Tubing Description	Set Depth (ftKB)	Run Date
Tubing - Workstring	11,850.0	11/26/2008

Item No.	Item Description	OD (in)	ID (in)	Top (ftKB)
1-1	Permanent Packer (32-26)	5	2.688	11,621.0
1-2	Tubing Pup Joint	5	1.995	11,623.7
1-3	Otis N No-Go (60.3 X 41.28 X 39.01)	2 1/16	1.875	11,633.8
1-4	Tubing Pup Joint	2 1/16	1.995	11,634.6
1-5	Ported Differential Sub 60.3 mm	3 1/16	1.992	11,644.7
1-6	Tubing Pup Joint	3 1/16	1.992	11,645.2
1-7	Otis XN No-Go Nipple (60.3 X 47.63 X 45.49)	2 3/8	1.791	11,655.3
1-8	Tubing Pup Joint	2 3/8	1.992	11,656.2
1-9	Gun Release - Shift Up 60.3 mm	3.0709	1.874	11,660.3
1-10	Tubing Pup Joint	3.0709	1.995	11,661.5
1-11	Mechanical Firing Head 60.3 mm	3.4134		11,671.6
1-12	TCP Gun Spacer	3.4134		11,671.9
1-13	TCP Gun	3.4134		11,680.0

Tubing - Production set at 10,331.4ftKB on 12/14/2008 12:30

Tubing Description	Set Depth (ftKB)	Run Date
Tubing - Production	10,331.4	12/14/2008

Item No.	Item Description	OD (in)	ID (in)	Top (ftKB)
4-1	KB - TBF	2 7/8		-4.6

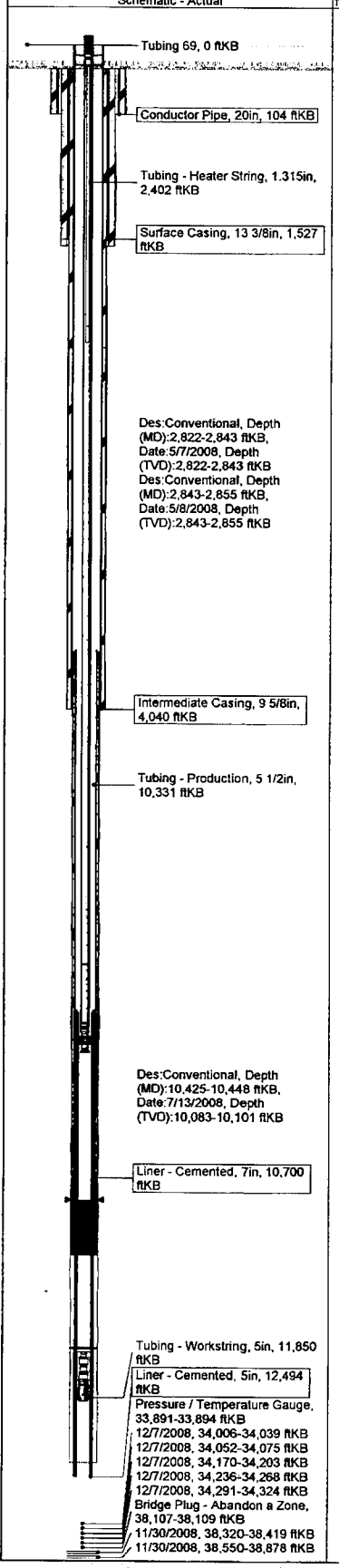
Fortuna (US)L.P. - G51

Well Name: FORTUNA (US) LP HOGBACK RIDGE 1-17-13N-7E

Surface Legal Location	Asset	Branch	State/Province	License No.	Current Well Status
70014186379111171...	USA Conventional	Conventional	Utah	UT43-033-30062	Potential Gas

Original KB Elevation (ft)	Ground Elevation (ft)	Casing Flange Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)
6,737.14	6,713.34	6,714.34	23.80	22.80

Orig Config Typ: Vertical - Original Hole, 9/21/2010 11:31:07 AM



Item No.	Item Description	OD (in)	ID (in)	Top (ftKB)
4-2	Tubing Hanger	2 7/8		19.2
4-3	Tubing	2 7/8	2.441	19.7
4-4	Tubing - pup	2 7/8	2.441	10,289.5
4-5	R No-Go Nipple (73 X 52.37 X 50.24)	2 7/8	1.976	10,293.8
4-6	Tubing - pup	2 7/8	2.441	10,294.7
4-7	Cross Over	2 7/8	1.890	10,301.0
4-8	Tubing - pup	2 3/8	1.996	10,301.6
4-9	On-Off Tool 60.3 X 47.63 "X" Profile	3.748	1.874	10,311.6
4-10	Retrievable Packer (410-193) Hornet	5 1/2	1.976	10,313.0
4-11	Tubing - pup	2 3/8	1.996	10,320.0
4-12	Otis XN No-Go Nipple (60.3 X 47.63 X 45.49)	2 3/8	1.791	10,330.0
4-13	Wireline Guide	3.0709	2.000	10,331.0

Tubing - Heater String set at 2,401.6ftKB on 12/15/2008 00:00

Tubing Description	Set Depth (ftKB)	Run Date
Tubing - Heater String	2,401.6	12/15/2008

Item No.	Item Description	OD (in)	ID (in)	Top (ftKB)
5-1	Tubing Hanger	1.315		22.1
5-2	Tubing	1.315	1.047	22.6

Perforations

Zone	Perf Top Int (ftKB)	Perf Bttm Int (ftKB)	Date
	34,005.9	34,038.7	12/7/2008
	34,051.8	34,074.8	12/7/2008
	34,169.9	34,202.8	12/7/2008
	34,235.6	34,268.4	12/7/2008
	34,291.3	34,324.1	12/7/2008
	38,320.2	38,418.6	11/30/2008
	38,549.9	38,878.0	11/30/2008

Formations

Formation Name	Sample Top MD (ftKB)	Sample Source
Twin Creek	827.0	Cuttings
	2,090.0	Cuttings
Nugget	2,692.0	Cuttings
Ankareh	3,910.0	Cuttings
Thaynes	5,940.0	Cuttings
Woodside	9,535.0	Cuttings
Dinwoody	10,352.0	Cuttings
Dinwoody	10,352.0	Cuttings
Phosphoria	11,234.0	Cuttings
Phosphoria	11,310.0	Cuttings
Weber 2	12,512.0	Cuttings
Mission Canyon	13,365.0	Cuttings

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Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

April 19, 2012

Certified Mail No.:7011 0110 0001 3568 1984

Mr. Clarence Stewart
Fortuna (US) LP
50 Pennwood Place
Warrendale, PA 15086

43 033 30062
Hogback Ridge 1-17-13N-7E
13N 7E 17

Subject: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases

Dear Mr. Clarence Stewart:

As of January 2012, Fortuna (US) LP has one (1) Fee Lease Well (see attachment A) that is currently in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status.

Wells SI/TA beyond twelve (12) consecutive months requires filing a Sundry Notice (R649-3-36-1). Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (649-3-36-1.3.3). For extended SI/TA consideration the operator shall provide the Utah Division of Oil, Gas and Mining with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).
2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and
3. An explanation and supporting data if necessary, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Please note that the Divisions preferred method for showing well integrity is by MIT.

Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. **Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 may be subject to full cost bonding (R649-3-1-4.2, 4.3).**

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
4. Fluid level in the wellbore, and
5. An explanation of how the submitted information proves integrity.

If the required information is not received within 30 days of the date of this notice, further actions may be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,

for Dustin K. Doucet
Petroleum Engineer

DKD/JP/js
Enclosure
cc: Compliance File
Well File

N:\O&G Reviewed Docs\ChronFile\PetroleumEngineer\SITA

ATTACHMENT A

	Well Name	API	LEASE	Years Inactive
1	HOGBACK RIDGE 1-17-13N-7E	43-033-30062	FEE	3 Years 1 Month

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER: UT43-033-30062	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
7. UNIT or CA AGREEMENT NAME:	
1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER	8. WELL NAME and NUMBER: Hogback Ridge 1-17
2. NAME OF OPERATOR: Fortuna (US) LP	9. API NUMBER: 43033 30062
3. ADDRESS OF OPERATOR: 50 Pennwood Pl CITY Warrendale STATE PA ZIP 15086 PHONE NUMBER: (724) 814-5415	10. FIELD AND POOL, OR WILDCAT:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1198' FNL 0421' FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NE NE 17 13N 7E	COUNTY: Rich STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 7/16/2012	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☑ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. *Clearly show all pertinent details including dates, depths, volumes, etc.*

See Description at End of this Form. (Fortuna (US) LP, Hogback Ridge Plug and Abandon Proposed Operations. July 2, 2012)

COPY SENT TO OPERATOR
Date: 7.16.2012
Initials: KS

NAME (PLEASE PRINT) Walt Hufford, PG TITLE Manager, Regulatory Affairs

SIGNATURE [signature] DATE July 2, 2012

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 7/2/2012
BY: [signature]
* See Conditions of Approval (Attached)

(5/2000) (See Instructions on Reverse Side)

RECEIVED
JUL 02 2012
DIV. OF OIL, GAS & MINING

Fortuna (US) LP, Hogback Ridge Plug and Abandon Proposed Operations. July 2, 2012

1. Pull plug and retrievable packer

- MIRU slickline unit. RIH with 1.86" gauge ring and tag plug at 10,331 ftKB. Note fluid level when RIH and record in wellview. POOH
- Make sure fluid level is adequate to provide an approximate hydrostatic balance if pressure is below the tubing.
- RIH and retrieve the prong to allow pressure to equalize. POOH
- RIH and retrieve the plug. POOH and RD slickline unit.
- Install 2-7/8" stabbing valve on top of tubing string to prevent U-tubing once packer is released.
- Set down approximately 5,000 lbs to equalize any differential pressure across the plug. Release plug by applying 4,000 – 5,000 lb upstrain.
- Bleed off any pressure.
- POOH with workstring and retrievable bridge plug.

2. Set a cement plug across open perforations in the 5" Liner

- RIH with 2-7/8" 6.5 lb/ft L-80 EUE tubing RIH and tag bridge plug at ~,11,621 ftKB. Note depth at which plug was tagged in wellview.
- Pull tubing up hole 10 ft.
- Batch mix 12 bbl of 15.4 lb/gal Cement Slurry. Pump a 10 bbl water spacer followed by the Cement Slurry and then water to place the ~400 ft balanced plug from 10,100 ft – 10,500 ft.
- Pull back 50 ftKB slowly and reverse circulate two tubing volumes.
- WOC for 24 hours
- RIH 2-7/8" tubing to tag cement plug (cement top ~10,100ft)
- Plug may need to be reset if migrated down
- Pressure test plug to 1000 psig for 15 minutes and record results.
- POOH and LD 2-7/8" production tubing.

3. Set a cement plug across the water aquifer zone

- RIH with 2-7/8" 6.5 lb/ft L-80 EUE tubing down to 6,300 ftKB
- Batch mix 8 bbl of 15.4 lb/gal Cement Slurry. Pump a 10 bbl water spacer followed by the Cement Slurry and then water to place the ~200 ft balanced plug from 6,100 ft – 6,300 ft.
- Pull back 50 ftKB slowly and reverse circulate two tubing volumes.
- WOC for 24 hours
- RIH 2-7/8" tubing to tag cement plug (cement top ~6,100ft)
- Plug may need to be reset if migrated down
- Pressure test plug to 1000 psig for 15 minutes and record results.
- POOH and LD 2-7/8" production tubing.

4. Set a cement plug across the 7" Liner top

- RIH with 2-7/8" 6.5 lb/ft L-80 EUE tubing down to 3,900 ftKB

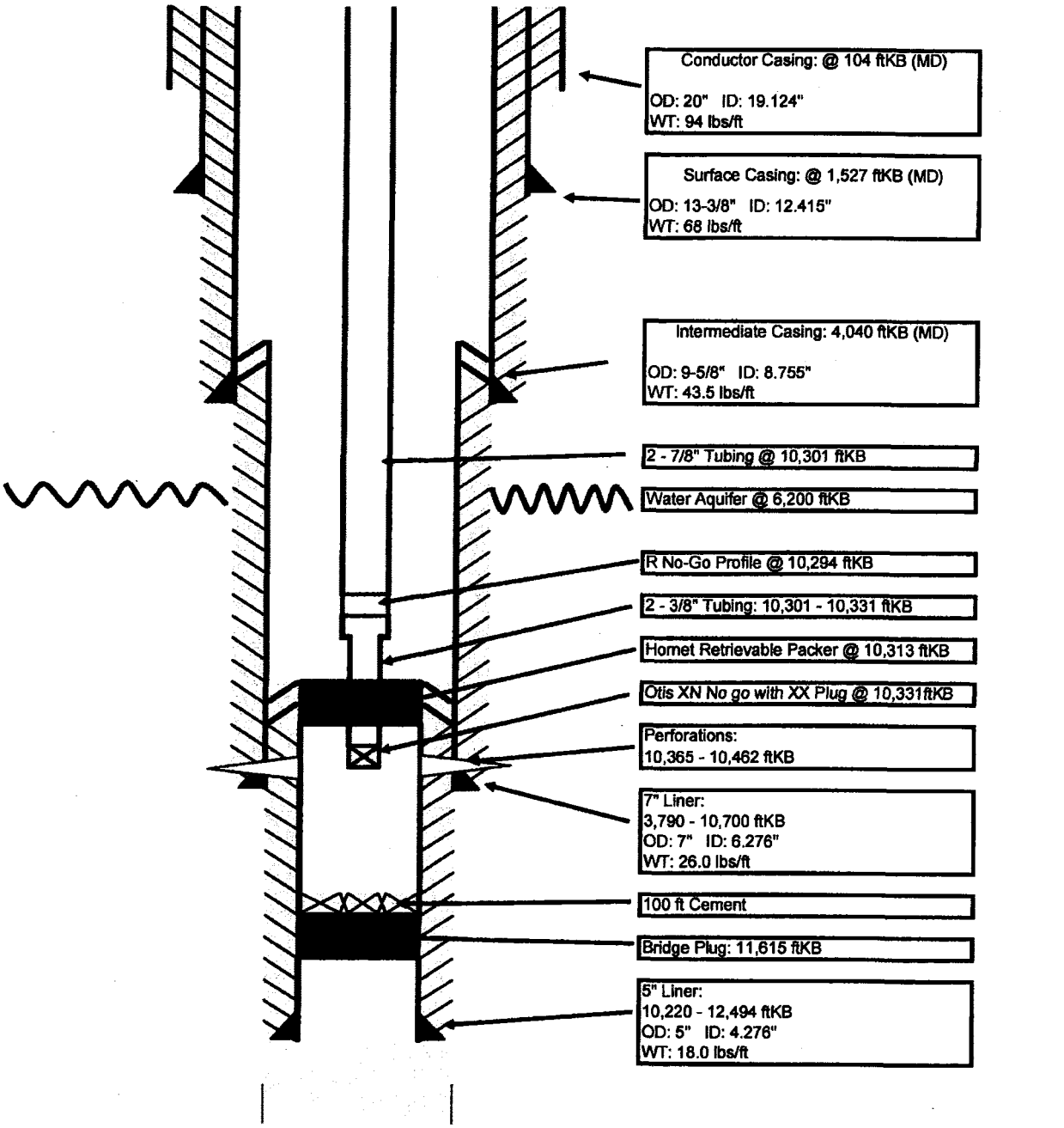
• Batch mix 15 bbl of 15.4 lb/gal Cement Slurry. Pump a 10 bbl water spacer followed by the Cement Slurry and then water to place the ~200 ft balanced plug from 3,700 ft – 3,900 ft.
• Pull back 50 ftKB slowly and reverse circulate two tubing volumes.
• WOC for 24 hours
• RIH 2-7/8" tubing to tag cement plug (cement top ~3,700ft)
• Plug may need to be reset if migrated down
• Pressure test plug to 1000 psig for 15 minutes and record results.
• POOH and LD 2-7/8" production tubing.

5. Set a cement plug across the Surface Casing Shoe
• RIH with 2-7/8" 6.5 lb/ft L-80 EUE tubing down to 1,600 ftKB
• Batch mix 8 bbl of 15.4 lb/gal Accelerated Cement Slurry (Class A cement + CaCl2 + DeFoamer). Pump a 0.5 bbl water spacer followed by the Accelerated Cement Slurry and then water to place the 100 ft balanced plug from 1,500 – 1,600 ft.
• Pull back 50 ftKB slowly and reverse circulate two tubing volumes.
• WOC for 24 hours
• RIH 2-7/8" tubing to tag cement plug (cement top ~1,500ft)
• Plug may need to be reset if migrated down
• Pressure test plug to 1000 psig for 15 minutes and record results.
• POOH and LD 2-7/8" production tubing.

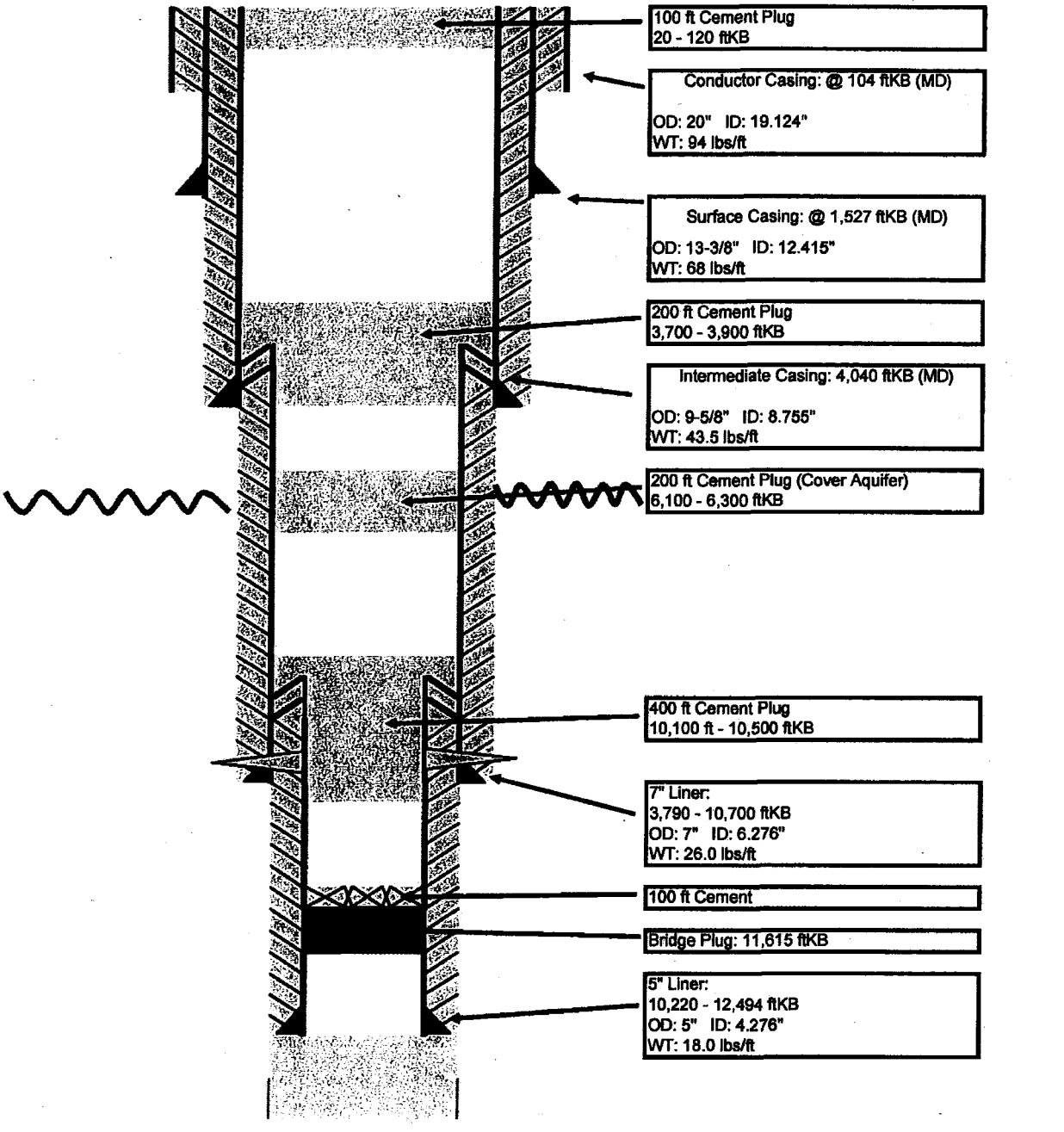
6. Set Surface Plug in 9-5/8" Intermediate Casing
• RIH with 2-7/8" workstring to 50 ft above the last plug. Circulate hole and fill with inhibited gel back to surface.
• PU to 120 ftKB. Batch mix 8 bbl of 15.4 lb/gal Accelerated Cement Slurry (Class A cement + CaCl2 + DeFoamer). Pump a 0.5 bbl water spacer followed by the Accelerated Cement Slurry and then water to place the 100 ft balanced plug from 20 – 120 ft.
• POOH & LD 2-7/8" workstring.
• Verify TOC at surface and RD cementers.

7. Cut and Cap
• Excavate 3' – 4' below ground level around the wellhead - Cut casing strings and weld on caps as per Utah R649-3-24 Plugging and Abandonment of Wells.

Hogback Ridge #1 Abandonment
Before Schematic



Hogback Ridge #1 Abandonment After Schematic



TALISMAN
ENERGY

TALISMAN ENERGY USA INC.
50 Pennwood Place
Warrendale, Pennsylvania 15086
Tel: (724) 814-5300
Fax: (724) 814-5301

May 15, 2012

Mr. Dustin K. Doucet, P.E.
State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple
Suite 1210
PO Box 145801
Salt lake City, Utah 84114 – 5801

RECEIVED
MAY 18 2012
DIV. OF OIL, GAS & MINING

Subject: Correspondence dated April 19, 2012
Well – Hogback Ridge 1-17-13N-7E
API 43-033-30062
Letter of Intent to Plug and Abandon

Dear Mr. Doucet,

Thank you for your letter referenced above that was received by our offices on April 23, 2012. Please accept this letter as our Notice of Intent to Plug and Abandon (P&A) the above referenced well. Rule R649-3-24 requires operators to submit a notice of intent to plug and abandon. We have attached the Sundry Notice (DOGM-9) with intent to P&A the above referenced well within sixty days from receipt of the sundry notice.

In accordance with Utah Rule 649-3-24(3.2-8), this well will be plugged at the bottom with no less than 100 feet of cement, and if needed between fresh water zones (above and below each zone) with minimum 100 foot plugs. At the completion of the plugging operations, the applicable tests and reports will be filed within 30 days.

Thank you for your cooperation and support to the oil and gas industry in Utah. Please contact me at the letterhead address with any questions,

Regards,

Walt Hufford, PG
Manager, Regulatory Affairs
724-814-5415 (O) | 724-814-6303 (C) | whufford@talismanusa.com

ATTACHMENTS

Attachments:
1) Sundry Notices and Reports on Wells – State of Utah Form 9
2) Identifying information for the property at Hogback Ridge, UT

cc. Steve Ko – Talisman – Warrendale, PA
Dave Stewart – Warrendale, PA
Todd Normane, Esq.
Rick Kessy
File

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Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

CONDITIONS OF APPROVAL TO PLUG AND ABANDON WELL

Well Name and Number:	Hogback Ridge 1-17
API Number:	43-033-30062
Operator:	Fortuna (US) LP
Reference Document:	Original Sundry Notice dated July 2, 2012, received by DOGM on July 2, 2012.

Approval Conditions:

1. Notify the Division at least 24 hours prior to conducting abandonment operations. Please call Dan Jarvis at 801-538-5338.
2. All balanced plugs shall be tagged to ensure they are at the depths specified in the procedure.
3. All annuli shall be cemented from a minimum depth of 100' to the surface.
4. Surface reclamation shall be done in accordance with R649-3-34 – Well Site Restoration.
5. All requirements in the Oil and Gas Conservation General Rule R649-3-24 shall apply.
6. If there are any changes to the procedure or the wellbore configuration, notify Dustin Doucet at 801-538-5281 (ofc) or 801-733-0983 (home) prior to continuing with the procedure.
7. All other requirements for notice and reporting in the Oil and Gas Conservation General Rules shall apply.

Dustin K. Doucet
Petroleum Engineer

July 2, 2012
Date

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114 -5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR OIL, GAS & MINING

Wellbore Diagram

API Well No: 43-033-30062-00-00 **Permit No:** **Well Name/No:** HOGBACK RIDGE 1-17-13N-7E

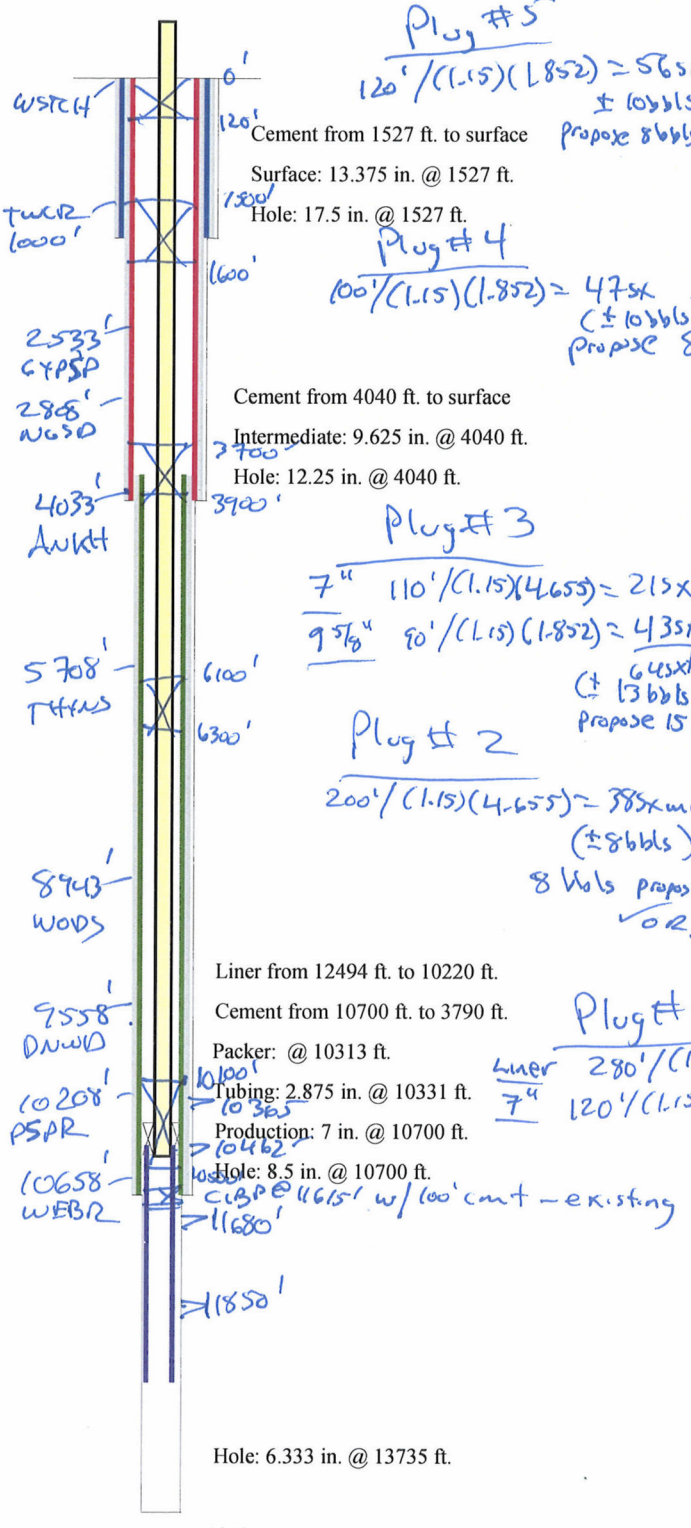
Company Name: FORTUNA (US) LP

Location: Sec: 17 T: 13N R: 7E Spot: NENE

Coordinates: X: 486013 Y: 4635631

Field Name: HOGBACK RIDGE

County Name: RICH



Plug #5
120'/(1.15)(1.852) = 56sx
± 10bbls
propose 8bbls

Plug #4
100'/(1.15)(1.852) = 47sx
(± 10bbls)
propose 8bbls *tag ok.

Plug #3
7" 110'/(1.15)(4.655) = 21sx
9 5/8" 80'/(1.15)(1.852) = 43sx
(± 13bbls) 64sx total
CIBP @ 11615' w/100' cmt on top
propose 15bbls ok. *tag

Plug #2
200'/(1.15)(4.655) = 38sx min.
(±8bbls)
8 bbls proposed
ok.
* Tag ok.

Plug #1
Liner 7" 280'/(1.15)(10.028) = 25sx } 10bbls min. → propose 12bbls
120'/(1.15)(4.655) = 23sx
* Tag plug ok

String Information

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)	Capacity (ft/cf)
HOL1	1527	17.5			
SURF	1527	13.375	68	1527	
HOL2	4040	12.25			
I1	4040	9.625	43.5	4040	1.852
HOL3	10700	8.5			
PROD	10700	7	26	10700	4.655
HOL4	13735	6.333			
L1	12494	5	18	12494	10.028
T1	10331	2.875			
PKR	10313				

Cement Information

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
I1	4040	0	G	835
L1	12494	10220	G	110
PROD	10700	3790	G	1095
SURF	1527	0	G	590

Perforation Information

Top (ft sub)	Bottom (ft sub)	Shts/Ft	No Shts	Dt Squeeze
10365	10462			
11680	11850			

Formation Information

Formation	Depth
WSTC	0
TWNCR	1000
GYPSP	2533
NGSD	2808
ANKH	4033
THYNS	5708
WODS	8943
DNWD	9558
PSPR	10208
WEBR	10658

TD: 13735 **TVD:** 12255 **PBTD:** 12494

Schlumberger

Cementing Service Report

13N 7E 17

Customer	Job Number
Talisman Energy	815874

Well	Location (legal)	Schlumberger Location	Job Start
Hogback Ridge 17-13N-7E	Utah	Pyeboone Arunakul	Jul/28/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wildcat					

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Rich	ut				

Well Master	API/UWI
0630348607	43 033 30062

Rig Name	Drilled For	Service Via
Workover	Oil & Gas	Land

Offshore Zone	Well Class	Well Type
	Old	Other

Drilling Fluid Type	Max. Density	Plastic Viscosity

Service Line	Job Type
Cementing	4 (3700-3900') Plug 3

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
		2 7/8

Casing/Liner

Depth,	Size,	Weight,	Grade	Thread

Tubing/Drill Pipe

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
3900.0	2.875	6.5	N/A	8RD
0.0	0.000	0.0		

Perforations/Open Hole

Top,	Bottom,		No. of Shots	Total Interval
				Diameter

Service Instructions

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JUL 28 2012
DIV. OF OIL, GAS & MINING

Treat Down	Displacement	Packer Type	Packer Depth
Tubing	21.0 bbl		

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
23.0 bbl			

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Casing Tools	Squeeze Job
X			

Lift Pressure	Shoe Type	Squeeze Type
0 psi		

Pipe Rotated	Pipe Reciprocated	Shoe Depth	Tool Type

No. Centralizers	Top Plugs	Bottom Plugs	Stage Tool Type	Tool Depth

Cement Head Type	Stage Tool Depth	Tail Pipe Size

Job Scheduled For	Arrived on Location	Leave Location	Collar Type	Tail Pipe Depth
Jul/28/2012	Jul/28/2012	Jul/28/2012		

Collar Depth	Sqz. Total Vol.

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/28/2012	08:06:38					Started Acquisition
07/28/2012	08:36:27	5	0.0	8.40	0.0	
07/28/2012	08:36:28					Start Job
07/28/2012	08:36:28	5	0.0	8.40	0.0	
07/28/2012	08:36:29					Water Tested good
07/28/2012	08:36:29					Held Jsa With Rig Crew Co-man
07/28/2012	08:36:29	5	0.0	8.40	0.0	
07/28/2012	08:36:38	5	0.0	8.40	0.0	
07/28/2012	08:41:31					Pressure Test Previous Plug
07/28/2012	08:41:31	465	0.0	8.35	1.8	
07/28/2012	08:41:38	461	0.0	8.35	1.8	
07/28/2012	08:46:38	921	0.0	8.35	2.4	
07/28/2012	08:51:38	922	0.0	8.35	2.4	
07/28/2012	08:55:00					Hold 15 Mins
07/28/2012	08:55:00	919	0.0	8.35	2.4	
07/28/2012	08:56:38	917	0.0	8.35	2.4	
07/28/2012	09:01:38	913	0.0	8.35	2.4	
07/28/2012	09:05:53					Release pressure
07/28/2012	09:05:53	10	0.0	8.35	2.4	
07/28/2012	09:06:37					Start Pumping Corrolon Inhibitor
07/28/2012	09:06:37	6	0.0	8.35	2.4	

Well	Field	Job Start	Customer	Job Number
Hogback Ridge 17-13N-7E	Wildcat	Jul/28/2012	Talisman Energy	815874

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/28/2012	09:11:38	707	3.9	8.35	9.7	
07/28/2012	09:16:38	693	3.9	8.35	29.2	
07/28/2012	09:21:38	697	3.9	8.36	48.7	
07/28/2012	09:26:38	697	3.9	8.36	68.1	
07/28/2012	09:31:38	696	3.9	8.35	87.6	
07/28/2012	09:36:38	710	3.9	8.32	107.1	
07/28/2012	09:41:38	9	0.0	8.32	112.8	
07/28/2012	09:46:38	7	0.0	8.32	112.8	
07/28/2012	09:51:38	7	0.0	8.32	112.8	
07/28/2012	09:56:38	7	0.0	8.32	112.8	
07/28/2012	10:01:38	6	0.0	8.32	112.8	
07/28/2012	10:06:38	6	0.0	8.32	112.8	
07/28/2012	10:11:38	7	0.0	8.32	112.8	
07/28/2012	10:16:38	7	0.0	8.32	112.8	
07/28/2012	10:21:38	7	0.0	8.32	112.8	
07/28/2012	10:26:38	7	0.0	8.32	112.8	
07/28/2012	10:31:38	8	0.0	8.32	112.8	
07/28/2012	10:36:38	7	0.0	8.32	112.8	
07/28/2012	10:41:38	7	0.0	8.32	112.8	
07/28/2012	10:43:30					End Corrotion Inhibitor
07/28/2012	10:43:30	7	0.0	8.32	112.8	
07/28/2012	10:46:38	9	0.0	8.32	112.8	
07/28/2012	10:51:38	9	0.0	8.32	112.8	
07/28/2012	10:53:15					Reset Total, Vol = 114.96 bbl
07/28/2012	10:53:15	134	2.5	8.34	115.0	
07/28/2012	10:53:49					Start Pumping Wash
07/28/2012	10:53:49	148	2.5	8.31	116.4	
07/28/2012	10:56:38	236	2.5	8.32	123.5	
07/28/2012	11:01:38	237	2.5	8.32	135.7	
07/28/2012	11:05:53					End Wash
07/28/2012	11:05:53	1	0.2	11.36	146.1	
07/28/2012	11:05:54					Reset Total, Vol = 33.13 bbl
07/28/2012	11:05:54	1	0.2	11.39	146.1	
07/28/2012	11:06:38	11	0.0	11.59	146.1	
07/28/2012	11:07:03					Start Mixing Lead Slurry
07/28/2012	11:07:03	9	0.1	11.58	146.1	
07/28/2012	11:09:41					End Lead Slurry
07/28/2012	11:09:41	118	1.8	15.84	147.7	
07/28/2012	11:09:42					Start Mixing Tail Slurry
07/28/2012	11:09:42	118	1.8	15.79	147.7	
07/28/2012	11:11:38	112	3.1	16.19	152.7	
07/28/2012	11:14:14					Wet Dry Samples Taken
07/28/2012	11:14:14	108	3.3	15.39	161.0	
07/28/2012	11:14:24					End Tail Slurry
07/28/2012	11:14:24	17	1.1	15.46	161.4	
07/28/2012	11:15:02					Reset Total, Vol = 15.09 bbl
07/28/2012	11:15:02	43	1.8	15.29	162.1	
07/28/2012	11:15:47					Start Pumping Wash
07/28/2012	11:15:47	61	3.8	8.44	164.1	
07/28/2012	11:15:52					End Wash
07/28/2012	11:15:52	62	3.9	8.42	164.4	
07/28/2012	11:15:54					Reset Total, Vol = 2.48 bbl
07/28/2012	11:15:54	63	3.8	8.41	164.6	
07/28/2012	11:16:03					Start Displacement

Well	Field	Job Start	Customer	Job Number
Hogback Ridge 17-13N-7E	Wildcat	Jul/28/2012	Talisman Energy	815874

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/28/2012	11:16:38	60	3.9	8.33	167.4	
07/28/2012	11:21:38	19	1.9	8.32	184.6	
07/28/2012	11:21:39					End Displacement
07/28/2012	11:21:39	19	1.3	8.32	184.6	
07/28/2012	11:21:43					Reset Total, Vol = 21.10 bbl
07/28/2012	11:21:43	11	0.5	8.32	184.7	
07/28/2012	11:26:38	10	0.0	8.65	184.7	
07/28/2012	11:31:38	128	2.5	9.73	192.8	
07/28/2012	11:36:38	221	3.8	8.36	210.0	
07/28/2012	11:41:38	10	0.0	11.02	222.1	
07/28/2012	11:46:38	7	0.0	11.39	264.7	
07/28/2012	11:51:38	7	0.0	8.38	264.7	
07/28/2012	11:56:38	789	4.0	8.36	279.5	
07/28/2012	11:57:06					Start Rev Circulation
07/28/2012	11:57:06	791	4.0	8.35	281.4	
07/28/2012	12:01:38	414	3.4	8.33	311.3	
07/28/2012	12:06:38	9	0.0	8.33	325.4	
07/28/2012	12:09:05					End Rev Circulation
07/28/2012	12:09:05	8	0.0	8.33	325.4	
07/28/2012	12:09:12					Reset Total, Vol = 52.73 bbl
07/28/2012	12:09:12	9	0.0	8.33	325.4	
07/28/2012	12:09:50					End Job
07/28/2012	12:09:50	7	0.0	8.33	325.4	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
3.1		0.0	4.0	15.1	0.0	33.1	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1118	9	80					

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
	15.0 bbl	21.5 bbl	77 degF	Washed Thru Perfs	To

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Kevin Vanbuskirk	Wayne Silvester	-	-

Schlumberger

Cementing Service Report

Customer	Job Number
Talisman Energy	815842

Well	Location (legal)	Schlumberger Location	Job Start
Hogback 17-13N-7E	Rocksprings	Pyboone,Arunakul	Jul/26/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wildcat				6100.0 ft	6300.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Rich	UT		149 degF	131 degF	

Well Master	API/UWI
0630348607	43033300590000

Rig Name	Drilled For	Service Via
Workover	Oil & Gas	Land

Offshore Zone	Well Class	Well Type
	Old	Other

Drilling Fluid Type	Max. Density	Plastic Viscosity

Service Line	Job Type
Cementing	(6100-6300') Plug 2

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection

Service Instructions

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Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
6300.0	0.000	0.0		
0.0	0.000	0.0		

Tubing/Drill Pipe

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
6300.0	2.875	6.5	N80	8RD
0.0	0.000	0.0		

Perforations/Open Hole

Top,	Bottom,		No. of Shots	Total Interval
				Diameter

Treat Down	Displacement	Packer Type	Packer Depth
Tubing	30.5 bbl		

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
36.0 bbl			

Casing/Tubing Secured ☐	1 Hole Vol. Circulated prior to Cement ☐	Casing Tools	Squeeze Job
Lift Pressure		Shoe Type	Squeeze Type
Pipe Rotated ☐	Pipe Reciprocated ☐	Shoe Depth	Tool Type
No. Centralizers	Top Plugs / Bottom Plugs	Stage Tool Type	Tool Depth
Cement Head Type		Stage Tool Depth	Tail Pipe Size
Job Scheduled For: Jul/26/2012	Arrived on Location: Jul/26/2012	Collar Type	Tail Pipe Depth
	Leave Location: Jul/26/2012	Collar Depth	Sqz. Total Vol.

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/26/2012	17:07:32					Started Acquisition
07/26/2012	17:26:27	1	0.0	8.33	0.0	
07/26/2012	17:26:29					Water Tested Good
07/26/2012	17:26:29	2	0.0	8.33	0.0	
07/26/2012	17:26:30					Held JSA with Co-man Rig Crew
07/26/2012	17:26:30	2	0.0	8.33	0.0	
07/26/2012	17:26:33					Start Job
07/26/2012	17:26:33	2	0.0	8.33	0.0	
07/26/2012	17:27:32	2	0.0	8.33	0.0	
07/26/2012	17:32:32	10	0.0	8.33	0.0	
07/26/2012	17:37:32	1718	0.0	8.33	0.0	
07/26/2012	17:38:38					Pressure Test Lines
07/26/2012	17:38:38	1694	0.0	8.33	0.0	
07/26/2012	17:41:01					Pressure Test Lines
07/26/2012	17:41:01	3471	0.0	8.33	0.0	
07/26/2012	17:42:32	3460	0.0	8.33	0.0	
07/26/2012	17:47:32	47	3.0	8.33	1.2	
07/26/2012	17:52:32	129	2.0	8.34	11.3	
07/26/2012	17:53:04					Start Pumping Wash
07/26/2012	17:53:04	104	1.9	8.34	12.3	
07/26/2012	17:54:41					End Wash

Well	Field	Job Start	Customer	Job Number
Hogback 17-13N-7E	Wildcat	Jul/26/2012	Talisman Energy	815842

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/26/2012	17:54:48					Reset Total, Vol = 15.41 bbl
07/26/2012	17:54:48	213	1.8	8.34	15.4	
07/26/2012	17:54:54					Start Mixing Tail Slurry
07/26/2012	17:54:54	111	1.8	8.34	15.6	
07/26/2012	17:54:59					Wet Dry Samples Taken
07/26/2012	17:54:59	210	1.8	8.34	15.7	
07/26/2012	17:57:32	104	2.4	16.05	21.2	
07/26/2012	17:58:25					End Tail Slurry
07/26/2012	17:58:25	94	2.9	15.36	23.5	
07/26/2012	17:58:27					Reset Total, Vol = 8.24 bbl
07/26/2012	17:58:27	93	2.9	15.36	23.6	
07/26/2012	17:58:54					Start Pumping Wash
07/26/2012	17:58:54	35	1.1	15.61	24.3	
07/26/2012	17:59:50					End Wash
07/26/2012	17:59:50	45	3.2	8.43	26.8	
07/26/2012	17:59:57					Reset Total, Vol = 3.49 bbl
07/26/2012	17:59:57	45	3.3	8.41	27.1	
07/26/2012	18:00:00					Start Displacement
07/26/2012	18:00:00	45	3.3	8.40	27.3	
07/26/2012	18:02:32	44	3.3	8.34	35.7	
07/26/2012	18:07:32	46	3.2	8.32	51.9	
07/26/2012	18:12:32	4	0.0	8.32	58.7	
07/26/2012	18:17:32	160	3.3	10.34	62.2	
07/26/2012	18:22:32	158	2.9	8.47	79.6	
07/26/2012	18:25:59					End Displacement
07/26/2012	18:25:59	8	0.0	8.69	83.2	
07/26/2012	18:26:06					Reset Total, Vol = 30.57 bbl
07/26/2012	18:26:06	8	0.0	8.63	83.2	
07/26/2012	18:27:32	4	0.0	8.42	83.2	
07/26/2012	18:32:32	3	0.0	8.39	83.2	
07/26/2012	18:36:11					Start Rev Circulation
07/26/2012	18:36:11	41	0.0	8.38	83.2	
07/26/2012	18:37:32	42	0.0	8.38	83.2	
07/26/2012	18:42:32	944	5.0	8.36	96.4	
07/26/2012	18:47:32	1159	5.0	8.36	120.9	
07/26/2012	18:52:32	1041	4.8	8.36	145.3	
07/26/2012	18:57:32	15	0.0	14.31	145.9	
07/26/2012	18:59:22	14	0.0	-6.25	145.9	
07/26/2012	18:59:22					End Rev Ciculation
07/26/2012	18:59:22					Reset Total, Vol = 62.69 bbl
07/26/2012	18:59:22					End Job

Well	Field	Job Start	Customer	Job Number
Hogback 17-13N-7E	Wildcat	Jul/26/2012	Talisman Energy	815842

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
3.8			5.0	8.0		18.3	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
3500	524	45					

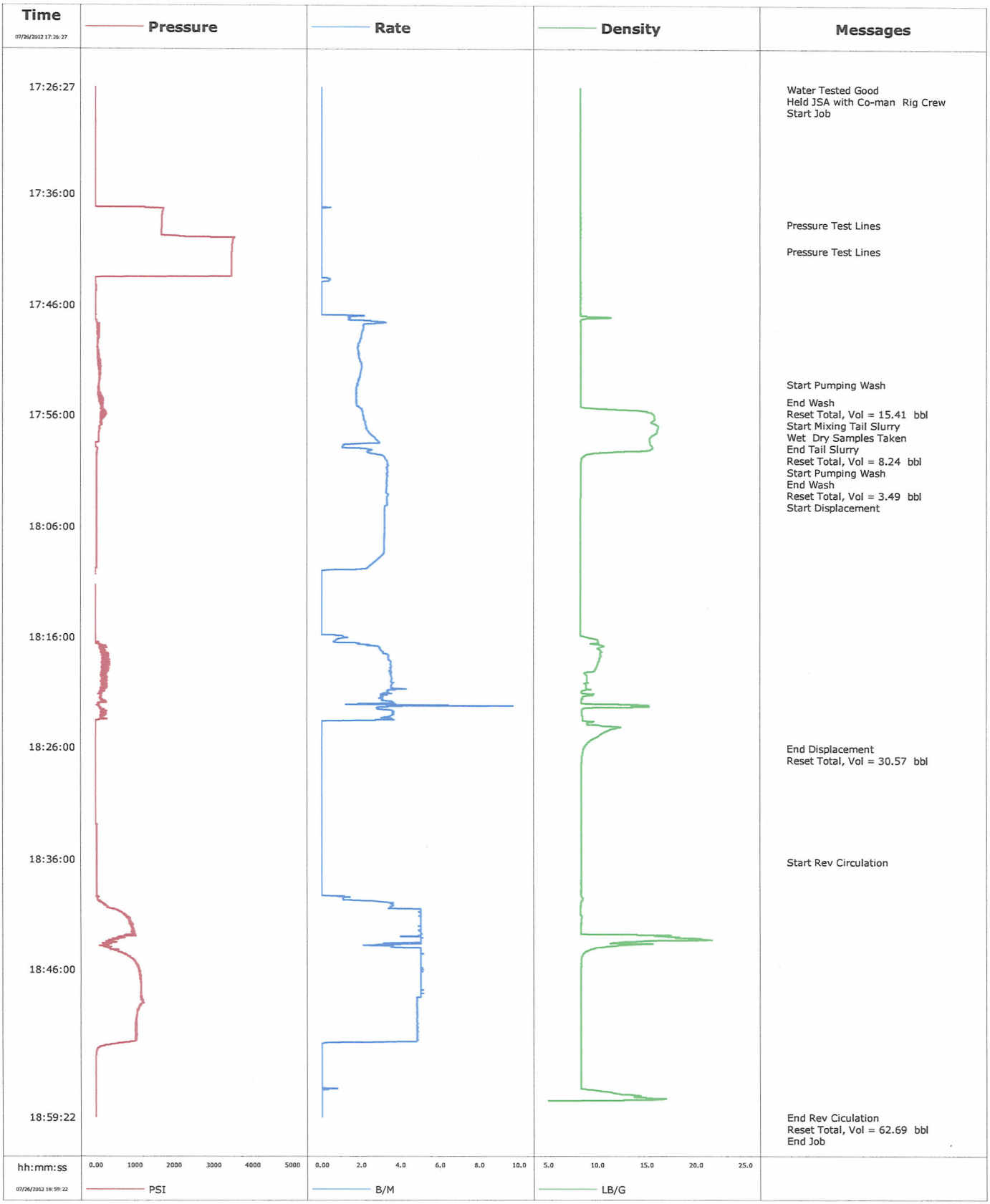
Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
		30.5 bbl		☐	
				Washed Thru Perfs ☐	To

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Kevin Vanbuskirk	Wayne Silvester	☐	☒
		-	-

Schlumberger Cementing Job Report

CemCAT v1.3

Well	Hogback Ridge 17-13N-7E	**Client**	Tailsman Energy
Field	Wildcat	**SIR No.**	C459-00162
Engineer		**Job Type**	Plug # 2
Country	United States	**Job Date**	07-26-2012



Schlumberger

Cementing Service Report

Customer	Job Number
Talisman Energy	815836

Well	Location (legal)	Schlumberger Location	Job Start
Hogback 17-13N-7E	Utah	Arumakul, Pyeboone	Jul/26/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wildcat					

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
	Utah				

Well Master	API/UWI
063048607	

Rig Name	Drilled For	Service Via
Workover	Oil & Gas	Land

Offshore Zone	Well Class	Well Type
	Old	Other

Drilling Fluid Type	Max. Density	Plastic Viscosity

Service Line	Job Type
Cementing	Halliburton CIBP @ 10355' (16' above perfs) Plug 1

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
		2 7/8

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
10295.0 ✓	2.880	6.5	N/A	8RD
0.0	0.000	0.0		

Tubing/Drill Pipe

Depth,	Size,	Weight,	Grade	Thread

Perforations/Open Hole

Top,	Bottom,		No. of Shots	Total Interval
				Diameter

Service Instructions

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Treat Down	Displacement	Packer Type	Packer Depth
Tubing	56.0 bbl		

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
60.0 bbl			

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Casing Tools	Squeeze Job
☐	☒		

Lift Pressure	Shoe Type	Squeeze Type
45 psi		

Pipe Rotated	Pipe Reciprocated	Shoe Depth	Tool Type
☐	☐	10.0 ft	

No. Centralizers	Top Plugs	Bottom Plugs	Stage Tool Type	Tool Depth

Cement Head Type	Stage Tool Depth	Tail Pipe Size

Job Scheduled For	Arrived on Location	Leave Location	Collar Type	Tail Pipe Depth
Jul/26/2012	Jul/26/2012	Jul/26/2012		

Collar Depth	Sqz. Total Vol.

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/26/2012	10:59:02					Started Acquisition
07/26/2012	12:19:07	9	0.0	8.30	0.0	
07/26/2012	12:19:11					Start Job
07/26/2012	12:19:11	9	0.0	8.30	0.0	
07/26/2012	12:19:13					Water Tested Good
07/26/2012	12:19:13					Held JSA with Co-man Rig Crew
07/26/2012	12:19:13	9	0.0	8.30	0.0	
07/26/2012	12:24:02	4	0.0	8.30	0.0	
07/26/2012	12:28:53					Pressure Test Lines
07/26/2012	12:28:53	898	0.0	8.29	0.4	
07/26/2012	12:29:02	898	0.0	8.29	0.4	
07/26/2012	12:31:47					Pressure Test Lines
07/26/2012	12:31:47	3491	0.0	8.29	0.4	
07/26/2012	12:33:12					Start Pumping Wash
07/26/2012	12:33:12	10	0.4	8.29	0.4	
07/26/2012	12:34:02	10	0.0	8.29	0.5	
07/26/2012	12:39:02	159	1.5	8.31	4.5	
07/26/2012	12:40:41					End Wash
07/26/2012	12:40:41	211	1.7	8.30	7.0	
07/26/2012	12:40:51					Reset Total, Vol = 15.0
07/26/2012	12:40:51	213	1.7	8.30	7.3	

Well	Field	Job Start	Customer	Job Number
Hogback 17-13N-7E	Wildcat	Jul/26/2012	Talisman Energy	815836

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/26/2012	12:48:27					Start Mixing Cement Slurry
07/26/2012	12:48:27	277	1.9	16.12	18.4	
07/26/2012	12:49:02	197	2.0	15.85	19.5	
07/26/2012	12:49:22					End cement Slurry
07/26/2012	12:49:22	163	2.0	15.81	20.2	
07/26/2012	12:49:30					Reset Total, Vol = 8.04 bbl
07/26/2012	12:49:30	166	2.0	15.94	20.4	
07/26/2012	12:54:02	68	2.8	9.31	31.8	
07/26/2012	12:59:02	39	2.8	8.49	45.9	
07/26/2012	13:00:43					Start Pumping Wash
07/26/2012	13:00:43	45	2.8	8.44	50.6	
07/26/2012	13:04:02	45	2.9	8.43	60.1	
07/26/2012	13:08:45					End Wash
07/26/2012	13:08:45	45	2.8	8.42	73.6	
07/26/2012	13:08:48					Start Displacement
07/26/2012	13:08:48	45	2.7	8.42	73.7	
07/26/2012	13:09:02	45	2.7	8.42	74.4	
07/26/2012	13:09:44					Reset Total, Vol = 3.0
07/26/2012	13:09:44	45	2.7	8.42	76.3	
07/26/2012	13:14:02	2	0.0	8.40	84.7	
07/26/2012	13:14:50					End Displacement
07/26/2012	13:14:50	2	0.0	8.41	84.7	
07/26/2012	13:14:55					Reset Total, Vol = 55.74 bbl
07/26/2012	13:14:55	1	0.0	8.41	84.7	
07/26/2012	13:19:02	12	0.0	8.34	84.7	
07/26/2012	13:24:02	6	0.0	8.35	84.7	
07/26/2012	13:29:02	6	0.0	8.34	84.7	
07/26/2012	13:34:02	5	0.0	8.38	84.8	
07/26/2012	13:39:02	5	0.0	8.37	84.8	
07/26/2012	13:44:02	12	0.0	8.36	84.8	
07/26/2012	13:49:02	18	0.0	8.36	84.8	
07/26/2012	13:54:02	23	0.0	8.36	84.8	
07/26/2012	13:59:02	27	0.0	8.35	84.8	
07/26/2012	14:04:02	558	3.5	8.79	95.5	
07/26/2012	14:09:02	764	3.4	8.38	112.8	
07/26/2012	14:14:02	730	3.4	8.47	129.9	
07/26/2012	14:19:02	734	3.4	8.35	146.8	
07/26/2012	14:21:01					Start Rev Circulating
07/26/2012	14:21:01	721	3.4	8.35	153.4	
07/26/2012	14:24:02	685	3.4	8.34	163.6	
07/26/2012	14:29:02	7	0.0	8.33	166.6	
07/26/2012	14:32:22					End Rev Ciculating
07/26/2012	14:32:22	5	0.0	8.33	166.6	
07/26/2012	14:32:23					Reset Total, Vol = 81.89 bbl
07/26/2012	14:32:23	5	0.0	8.33	166.6	
07/26/2012	14:34:02	6	0.0	8.34	166.6	
07/26/2012	14:35:47					Start Pumping Inhibitor
07/26/2012	14:35:47	7	0.0	8.33	166.6	
07/26/2012	14:39:02	12	0.0	8.33	166.6	
07/26/2012	14:44:02	929	3.9	8.34	171.0	
07/26/2012	14:49:02	941	3.8	8.34	190.2	
07/26/2012	14:54:02	934	3.9	8.34	209.4	
07/26/2012	14:59:02	911	3.9	8.34	228.7	
07/26/2012	15:04:02	923	3.9	8.34	248.0	

Well	Field	Job Start	Customer	Job Number
Hogback 17-13N-7E	Wildcat	Jul/26/2012	Talisman Energy	815836

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
07/26/2012	15:14:02	939	3.9	8.34	286.6	
07/26/2012	15:19:02	956	3.9	8.35	305.9	
07/26/2012	15:24:02	1	0.0	8.35	311.0	
07/26/2012	15:29:02	1	0.0	8.35	311.0	
07/26/2012	15:34:02	1	0.0	8.34	311.0	
07/26/2012	15:36:18	1	0.0	8.34	311.0	
07/26/2012	15:36:18					End Pumping Inhinitor
07/26/2012	15:36:19					Reset Total, Vol = 144.41 bbl

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
3.1		0.0	7.7	8.3	0.0	15.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
3824	1	339					

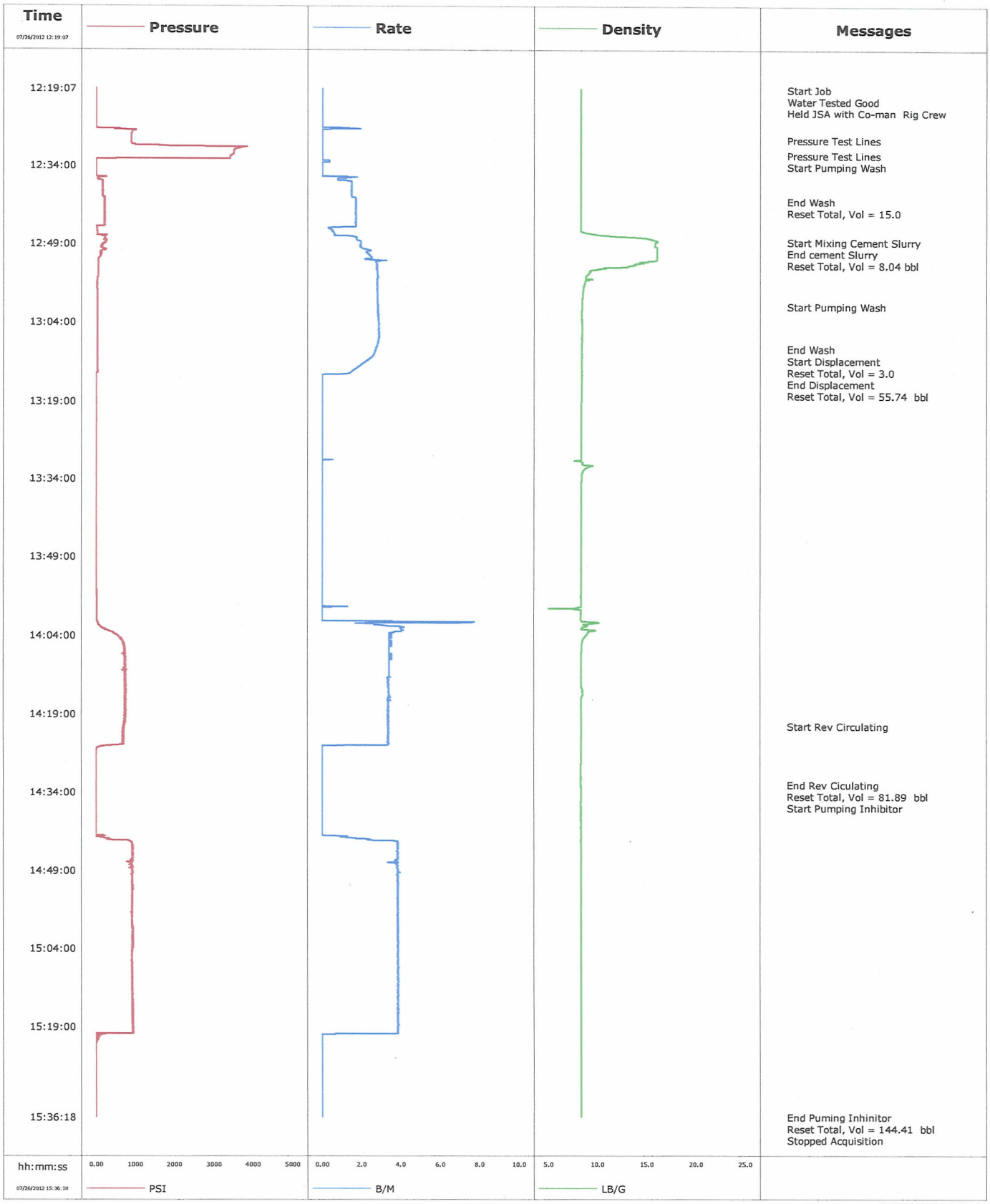
Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
	8.0 bbl	55.7 bbl	77 degF	Washed Thru Perfs ☐	0.5 bbl
					To

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Kevin Vanbuskirk	Wayne Silvester	-	-

Schlumberger Cementing Job Report

CemCAT v1.3

Well	Hogback Ridge 1-17-13N-7E	**Client**	Tailsman Energy
Field	Wildcat	**SIR No.**	C459-00161
Engineer		**Job Type**	Plug
Country	United States	**Job Date**	07-26-2012



07/26/2012 15:52:14

Lisha Cordova - Status update Hogback Ridge

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Greer, Don'" <DGreer@talismanusa.com>
Date: 7/26/2012 7:25 PM
Subject: Status update Hogback Ridge
CC: "'Wedde, Brandon'" <BWEDDE@talismanusa.com>, "'Lisha Cordova'" <lishacor...

(@ 10,500')

Cement plug #1 set from bridge plug to 10,100 ftKB as per revised program.
Inhibited water spotted from 10,100 ft to 6,315ftKB.
Lay out tubing to depth for plug #2.
Cement plug #2 spotted from 6,315 ftKB to 6,100ftKB as per original program. Pull 8 joints. Back wash. Pull 2 additional joints.

19:30 hrs; Well secure and SDFN. (7:30 PM)

Friday: WOC

Sat. 7/28/12

Saturday: Tag cement plug #2 and pressure test to 1,000 psi. Continue with program.

Slow start today but all in all a very good day.

sld 64'
jt 32'

Lisha Cordova - Update for Talisman Hogback Ridge pad

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Lisha Cordova'" <lishacordova@utah.gov>
Date: 7/26/2012 3:22 PM
Subject: Update for Talisman Hogback Ridge pad
CC: "'Greer, Don'" <DGreer@talismanusa.com>

Lisha,

Just a quick update; I will call and verify you received this message later.
We have set the first plug over the bridge plug and are currently displacing the corrosion inhibited water between the plugs, prior to pulling out of hole for the 2nd plug at

P2 6100ft to 6300ft.
I expect to be complete at 8pm tonight, so we will not be tagging the plug until Saturday morning. The rig crew will start at 7:30 am Saturday, or later if your arrival will be later than that so that you can witness the cement plug tag and pressure test.

My apologies for all the scheduling changes.

Kevin VanBuskirk
(607) 377-7803
(403) 816-3047 alt cell

Lisha Cordova - Hogback Ridge 1-17 status

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Greer, Don'" <DGreer@talismanusa.com>
Date: 7/24/2012 7:21 PM
Subject: Hogback Ridge 1-17 status
CC: "'Wedde, Brandon'" <BWEDDE@talismanusa.com>, "'Lisha Cordova'" <lishacor...

Don,

Plug is set and coming out of hole with wireline. FL was at 3960 ft. Should be wrapped up by 20:30 hrs tonight with EWU.

Tomorrow we will run tubing in to 2 joints above plug and circulate hole full. Estimate 300 bbl to fill casing (1.5 hours, followed with a 30 minute test); Likely will be done pressure testing by 15:30 hrs.

I estimate 6 hours total for the 2 cement jobs, including pumping inhibited water and laying out tubing up to second plug.

We have a firm booking with SLB cement team Thursday morning at 07:00 hrs. This should give us a 'tag' time of 13:00 hrs on Friday, and time to pump cement plug #3.

We will have to see how our time progresses from there, Saturday may be just a WOC day, and pump plug #4 first thing Sunday morning, and plug #5 Monday morning.

All is well!

Kevin

Lisha Cordova - Hogback Ridge update and proposed timeline

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Greer, Don'" <DGreer@talismanusa.com>
Date: 7/23/2012 4:22 PM
Subject: Hogback Ridge update and proposed timeline
CC: "'Wedde, Brandon'" <BWEDDE@talismanusa.com>, "'Lisha Cordova'" <lishacor...

Good evening everyone,
As per all our discussions today, we have modified the program to include a solid bridgeplug to be set in the first joint of 5" casing above the existing perforations. This plug will be pressure tested to 1000 psi for 15 - 30 minutes.

We will run in hole to position pipe for first cement plug to cover from the top of the bridge plug to cover the 5" x 7" liner lap at top up to 10,100 ftKB.

We do not have to tag this plug so we can pull up and back wash tubing, spot inhibited water, then pull up to spot our second plug. This plug needs to be tagged after 24 hour set time, so we will pull up, backwash pipe, and S/B for 24 hours.

We will then proceed as per program for the last 3 plugs.

The tentative timeline is as foloows:

Tomorrow:
Spot inhibited fresh water over cellar and perforated interval in 5". Pull and stand tubing (will layout ~50 joints).
RI Schlumberger Wireline out of Vernal Utah to run CCL/gauge ring/ junkbasket, and follow with setting permanent plug above perfs.

Wednesday:
Run in hole with tubing. Circulate hole full. Estimated hole fill will be between 350 and 400 bbl fluid. Do not want to top fill hole as air migration will take forever, and we will never get a solid test on the bridge plug.

Pressure test bridge plug for 15 minutes.
Pump cement plug #1, pull pipe and backwash. Pump inhibited water. Pull pipe. Pump cement plug #2. Pull pipe and backwash.

WOC 24 hours.

Depending how long day is, likely have to WOC Thursday.

Thursday: WOC

Friday: RIH and tag #2 plug. Pump inhibited water. Pull pipe to position for plug #3. Pump plug #3. Pull pipe. Back wash. WOC.

Saturday: Plug #4

Sunday: Plug #5.

Monday: Check cement and rig out services.
Tuesday: Cut and cap well.

Ofcourse, this is if all goes well.....

Kevin

Lisha Cordova - Low bottom hole pressures at Hogback Ridge

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Lisha Cordova'" <lishacordova@utah.gov>
Date: 7/23/2012 12:07 PM
Subject: Low bottom hole pressures at Hogback Ridge

Lisha,

We are very concerned that due to extremely low bottom hole pressures that we will not be able to hold a column of fluid in the well, and the zone will just 'thief' our cement away prior to setting, even with lots of LCM in the cement.

In section 3.2 of the Utah abandonment guide, it suggests that a mechanical plug could be set in the casing above the productive zone and capped with cement. Is this something that can get a quick approval on if we were to consider it?

Kevin VanBuskirk
(607) 377-7803

Lisha Cordova - TEUSA Hogback Ridge Abandonment status

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Lisha Cordova'" <lishacordova@utah.gov>
Date: 7/22/2012 3:10 PM
Subject: TEUSA Hogback Ridge Abandonment status

Lisha,

We did have some difficulties getting tubulars out of the well, but are back on track as per program.
I reviewed Schlumberger's availability with them today. We will be pumping our first cement plug Tuesday morning, with the first plug 'tag' and pressure test Wednesday morning (July 25,2012).

Kevin VanBuskirk
(607) 377-7803

Lisha Cordova - Hogback Ridge status update

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Greer, Don'" <DGreer@talismanusa.com>
Date: 7/20/2012 9:52 PM
Subject: Hogback Ridge status update
CC: "'Wedde, Brandon'" <BWEDDE@talismanusa.com>, "'Lisha Cordova'" <lishacor...

Don,
After we spoke, the plug released and dropped to the XN profile in the tailpipe; Worked it for over one hour but still unable to pull plug up. Fluid overbalance too great.

Shut in wireline BOP's; Shut in annular and maintain pressure on BOP to secure well for night.
Line up additional slickline tools for possible line cutting bar drop / fishing string with more weight bar, spangs, and hydraulic jars.

Good possibility than tubing may equalize through night if plug has not sealed in XN profile.

See attached slickline activity minutes, from Wellview.

Kevin

14:15 hrs: RU Northern Light slickline services. MU and RIH with 1.87" gauge ring to 10,302 ft TH. Clean, no tags, POH. FL @ 1300 ft.

MU and RIH w/ GS pulling tool and prong; Unable to latch POH.
RIH with 1.75" impression block. Tag at 10,302 ft TH and POH; Inspect block face, good clean tag to top of plug mandrel.

RIH with hydrostatic bailer. Tag at 10, 302 ft. POH inpect bailer, fine, soft rubber pieces in bailer, likely from previous swabbing rubber debris. No large pieces.

Review plug specifics with Proline Wireline services and verify with operator that plug is standard XX plug in X profile in ON/OFF tool.

Rerun XX plug pulling tool with standard X prong. Latch into plug first tag. Attempt to pull plug. No indication of equalizing across plug at surface.

Continue to work in 15 minute cycles, monitoring tubing for any indication of equalizing wellbore with tubing. NONE NOTED.

20:00 hrs: Working plug for 1.75 hours. Opt to spang off plug and POH with intent to swab well down with rig to 5500 ft and retry... unable to release pulling tool.

20:45 hrs: Plug released from X profile in ON/OFF tool and dropped while tubing tried to equalize to XN profile in tailpipe. Continue to work plug in 15 minutes cycles allowing for equalization. No vacuum noted at surface.

21:45 hrs: No movement. Pull 700 # tension in slickline (0.108" line). Shut in slickline BOP's. Shut in well annular and maintain pressure. Secure well.

22:15 hrs: SDFN.

Lisha Cordova - 1 st cement job will definitely not be tomorrow

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Lisha Cordova'" <lishacordova@utah.gov>
Date: 7/20/2012 4:08 PM
Subject: 1 st cement job will definitely not be tomorrow

Lisha,
Should be cementing plug #1 on Sunday morning. So tagging plug #1 will be Monday morning.
I will call you with an update after pumping the first plug.

Kevin

Lisha Cordova - Re: Hogback Ridge update

From: Lisha Cordova
To: Kevin Vanbuskirk
Date: 7/20/2012 10:46 AM
Subject: Re: Hogback Ridge update

Hi Kevin,

Thank you for the update. I will be in the office until 5:00 pm today, let me know if plans change. I do not need to be there when you pump cement (Plug 1) but would like to be present when you tag it "Sunday morning/time"? Also, would like to see a cement sample (Class G/15.8#, 1.15 yld) for each plug which is pretty much standard procedure for Schlumberger & other cementing companies.

If you have any questions today please call me at work at (801) 538-5296. After 5:00, you can reach me on my cell.

Thanks & I look forward to meeting you!

Lisha

Lisha Cordova
Environmental Scientist III
Division of Oil, Gas and Mining
1594 W. North Temple, Suite 1210
Salt Lake City, Utah 84116
T: 801-538-5296
C: 801-386-3902
lishacordova@utah.gov

>>> "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com> 7/19/2012 9:30 PM >>>

Don,

Quick update; Another glitch today, but hasn't held us up too much, the test stump that we finally sourced from Weatherford, arrived at location, but had no means of testing through the stump (wasn't ported); We have lined up a valve to be installed on the bottom single gate of the BOP's to allow testing to proceed.

I have also updated the Utah DNR, and I will be in the loop on a daily basis.
The go forward paln is to complete stump testing in the morning, pull the tubing prong and plug midday, and release the packer. Likely we will try to circulate the well and ensure it is full and that it will maintain a column of fluid, prior to POH with tubing.

We will see how far we get at that time, but still hopeful that we can pull off the first cement job on Saturday afternoon.

Kevin

Lisha Cordova - FW: Updated estimates with increased volumes

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: <lishacordova@utah.gov>
Date: 7/20/2012 10:36 AM
Subject: FW: Updated estimates with increased volumes
Attachments: hogback ridge 1-17-13n-7e _Surface plug 5.pdf; hogback ridge 1-17-13n-7e _aquifer plug 2 300ft.pdf; hogback ridge 1-17-13n-7e _liner plug 3 300ft.pdf; hogback ridge 1-17-13n-7e _P&A Summary.pdf; hogback ridge 1-17-13n-7e _Perf Plug 1 500ft.pdf; hogback ridge 1-17-13n-7e _surface casing shoe plug 4 200ft.pdf

---

From: Pyeboone Arunakul [mailto:PArunakul@slb.com]
Sent: Tuesday, July 17, 2012 2:04 PM
To: Kevin Vanbuskirk
Cc: Walt Kordziel; Mike Brunstein; Larry Skanderbeg; Michael Laggan
Subject: Updated estimates with increased volumes

Hi Kevin,

Attached are the estimates if we decide to increase all the volumes of the plugs. As we already agreed on the 1st and 2nd plug to have more volume and the updated estimates are attached.

I just want to say we are recommending the following increases due to contamination of the cement in the drill pipe and in the annulus while pumping. Also there will be some plug sagging before it is set. So to improve chances of success and TOC where needed without a additional plug job we recommend to increase cement volumes slightly by another 100ft on all the plugs except the 5th surface plug back.

1st perf plug will be 500ft long

2nd Aquifer plug will be 300ft long. (recommended to increase as a minimum as this is a really small volume and there will be allot contamination)

3rd Liner top plug will depend on the 2nd plug TOC but we recommend going with a 300ft plug as a minimum.

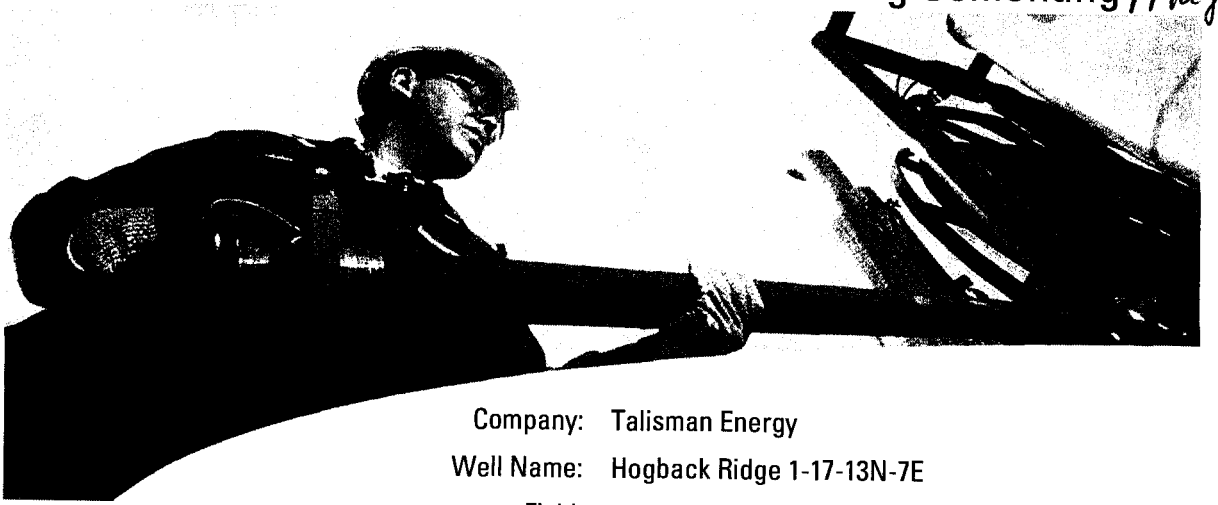
4th Surface Casing shoe plug will also depend on 2nd plug TOC (but this is a very small plug and we recommend going to at least 200ft on this)

5th Surface plug back no changes 0 to 120 ft plug

Please review and let me know if you agree to increase volumes for all the plugs or just the 1st 2 plugs for now.
Thanks,

Pyeboone Arunakul
Schlumberger
Well Services Cementing
Cementing DESC Engineer
1675 Broadway, Suite 900
Denver, Colorado, 80202
* *parunakul@slb.com*
Cell. +1-720-412-0375
Office 1-720-876-5257

Casing Cementing /Plug #5



Company:	Talisman Energy
Well Name:	Hogback Ridge 1-17-13N-7E
Field:	
County:	
State:	
Date:	7/ 1/2012
Well Location:	
Well Number (API):	
Proposal Number:	1
Contact:	
Made By:	Pyeboone Arunakul
Service from District:	Rock Springs, WY
District Phone:	307-352-5000
Objective:	P and A Hogback Ridge 1-17-13N-7E well Stage 5 Surface Plug 0 - 120 ft

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DIV. OF OIL, GAS & MINING

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EXECUTIVE SUMMARY

Enclosed are our recommendations for Schlumberger intervention on the referenced well. The proposal includes well data, design data, materials and resources requirements and cost estimates. The purpose of our services is to perform a Casing Cementing treatment.

Schlumberger has established a safety policy to which all Schlumberger personnel must adhere. A pre-job safety meeting will be held with customer representatives and other on location personnel to familiarize everyone with existing hazards and safety procedures. We would appreciate close cooperation between the customer representative and the Schlumberger representative to ensure a safe operation.

The estimated total cost of our services is **$ 12,738.55**. All costs are estimates only. Actual costs will be determined by time, material and equipment used during treatment. Taxes are not included. All work will be subject to Schlumberger then-current General Terms and Conditions or to the terms and conditions of a Master Service Agreement if one is in force between Schlumberger and Customer. This quote is valid for a period of thirty (30) days from the date submitted.

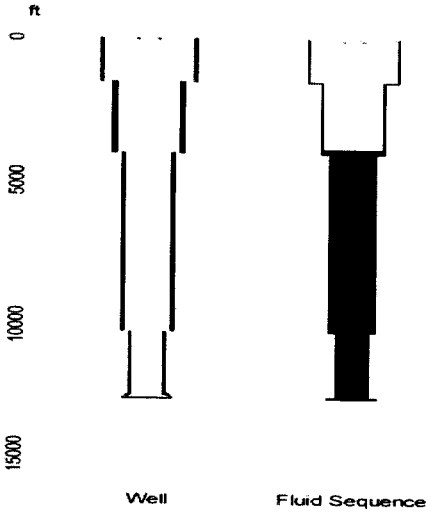
Thank you for considering Schlumberger.
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Pyeboone Arunakul
720-412-0375
Parunakul@slb.com

Schlumberger

WELL DATA



IMPORTANT:
The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the wellsite supervisor prior to the treatment. Any changes in the well data need to be reviewed for their impact on the treatment design.

Well Data	
Job Type :	Casing Cementing
Total Depth (Measured) :	12500.0 ft
True Vertical Depth (TVD) :	12494.3 ft
BHST (Tubular Bottom Static Temperature) :	81 degF
BHCT (Tubular Bottom Circulating Temperature) :	80 degF

Open Hole		
Mean Diameter without Excess	**Bottom Depth**	**Annular Excess**
6.750 in	12500.0 ft	0.00 %

Previous Casing					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
13 3/8 in	68.0 lb/ft	J-55	BTC	0.84 ft3/ft	1534.0 ft
9 5/8 in	43.5 lb/ft	N-80	BTC	0.42 ft3/ft	4054.0 ft
7 in	26.0 lb/ft	N-80	LTC	0.21 ft3/ft	10214.0 ft
5 in	18.0 lb/ft	N-80	LTC	0.10 ft3/ft	12494.0 ft

Drill Pipe					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
2 7/8 in	6.5 lb/ft	L-80	EUE	0.03 ft3/ft	120.0 ft

Fluid Placement			
Fluid Name	**Volume** bbl	**Density** lb/gal	**Top of Fluid** ft
brine	0.0	8.50	0.0
CW7	15.1	8.32	0.0
15.8ppg Cement	17.0	15.80	0.0
15.8ppg Cement	0.7	15.80	0.0
CW7	0.0	8.32	0.0
brine	0.0	8.50	0.0
brine	0.0	8.50	0.0

Total Liquid Volume : 32.8 bbl

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FLUID SYSTEMS

brine			
System	Water		
Density	8.50 lb/gal		
Total Volume	0.0 bbl		
Additives	**Code**	**Description**	**Concentration**

CW7			
System	CW7		
Density	8.32 lb/gal		
Total Volume	15.1 bbl		
Additives	**Code**	**Description**	**Concentration**

15.8ppg Cement (84 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	15.80 lb/gal		
Yield	1.19 ft3/sk		
Mixed Water	5.196 gal/sk		
Mixed Fluid	5.196 gal/sk		
Total Volume	17.7 bbl		
Additives	**Code**	**Description**	**Concentration**
	G	Cement	94.02 lb/sk WBWOB
	S001	CaCl2	2.00 % BWOB
	D095	Fiber	2.00 lb/bbl

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of the chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS sheets for the recommended safety precautions and required minimum personal protective equipment.

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PROCEDURES

1. Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units.
2. Arrive on location and check in with company man
3. MI (Move in) Schlumberger equipment.
4. Confirm all procedures, volumes and calculations with company man before or after rig up
5. Conduct Rig-up, Prime-up and pressure test safety meeting.
6. RU (Rig up) Schlumberger equipment and pressure test to customer master valve.
7. Conduct pre-job safety meeting and review pump schedlue with all crews to inform them of job details
8. (pump rates, pressure, volumes and wash up procedures as location rig up allows)
9. Perform treatment per design pumping schedule and instructions of client representative.
10. Conduct post job rig down meeting.
11. Rig down Schlumberger equipment.
12. Conduct convoy meeting and move out Schlumberger equipment.

PRICE ESTIMATE

Equipment and Services

Code	Standard Description	Quantity	Unit List Price	Total List Price $	Discount Rate	Discounted Price $
28456000	Master Vavle	1 JOB	750.00	750.00	25 %	562.50
48019000	Cement bulk Unit additional hr	4 HR	115.00	460.00	25 %	345.00
48019000	Cement bulk Unit additional hr after 4 hrs	1 HR	115.00	115.00	0 %	115.00
48020000	Pumps by unit, additional time after 4hrs	1 HR	609.90	609.90	0 %	609.90
49100000	Cement Service Charge	87 CF	2.43	211.41	25 %	158.56
49102000	Cement Transport	530 MI	2.16	1,144.80	25 %	858.60
59200002	Equipment Mileage	130 MI	5.91	768.30	25 %	576.23
59200005	Car/PU Mileage	260 MI	3.47	902.20	25 %	676.65
59697004	Job Monitoring	1 JOB	941.60	941.60	25 %	706.20
102476000	Personnel: Field Specialist/Field Engineer after 4hrs	1 HR	112.35	112.35	0 %	112.35
102476001	Personnel: Operator/Technician after 4 hrs	1 HR	90.95	90.95	0 %	90.95
102872020	Plug/Liner/Squeeze/Top out charge	1 EA	2,996.00	2,996.00	25 %	2,247.00
102946002	Fuel Charge	3 EA	575.00	1,725.00	0 %	1,725.00
107181000	Drill Pin	1 JOB	172.27	172.27	25 %	129.20
107264001	DOT Vehicle Charge	2 EA	364.87	729.74	0 %	729.74
			Subtotals:	**$ 11,729.52**		**$ 9,642.88**

pump charge at this depth listed in services comes with 4 hrs on the pump and personnel, but not bulk truck. Bulk is charged at standard rate or 25% for first4hrs. After 4 hrs overtime discount of 0% is applied. There is 1 hr of overtime listed in service to show overtime per person and piece of equipment if we go over 4hrs base charge.

Overtime is at 0% discount over the 4hrs base charge

Schlumberger

Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units
CemNET is optional but increase stability and success of the plug and is a good best practice
S001 is accelerator and will change based on lab testing

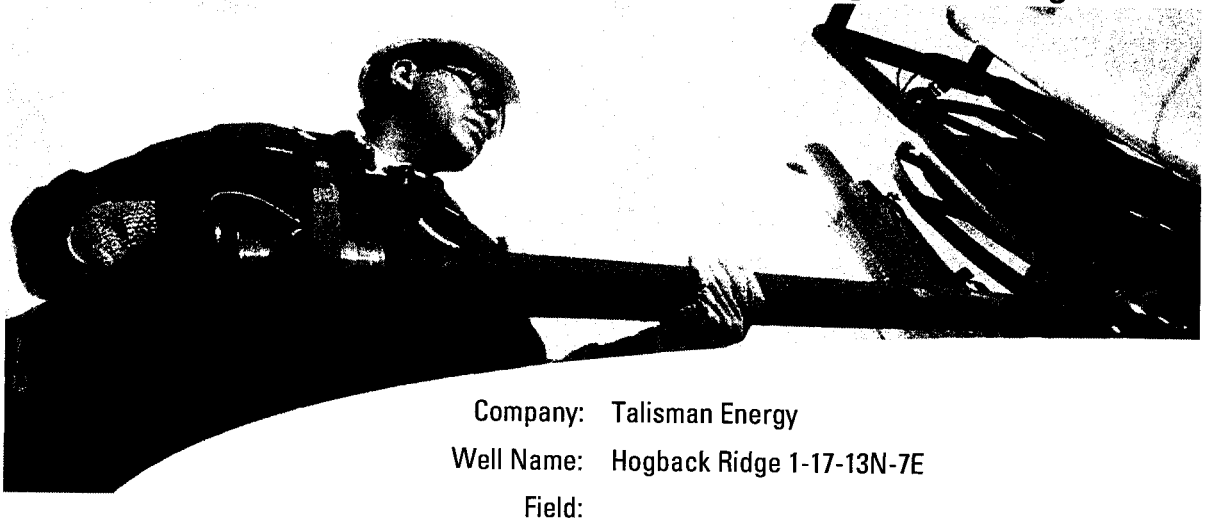
Materials

Code	Standard Description	Quantity	Unit List Price	Total List Price $	Discount Rate	Discounted Price $
D826	CW7	16 BBL	47.94	767.04	25 %	575.28
D907	Cement Class G	84 CF	24.13	2,026.92	25 %	1,520.19
D974	CemNET Conversion Charge	18 BBL	61.53	1,107.54	25 %	830.66
S001	CaCl2	157 LB	1.44	226.08	25 %	169.56
			Subtotals:	**$ 4,127.58**		**$ 3,095.69**

Total Discount:	$	3,118.55
Job Price Estimate*:	**$**	**12,738.55**

Schlumberger

Surface Casing Shoe Plug #4



Company:	Talisman Energy
Well Name:	Hogback Ridge 1-17-13N-7E
Field:	
County:	
State:	
Date:	7/17/2012
Well Location:	
Well Number (API):	
Proposal Number:	#2 with 200ft plug
Contact:	Kevin Vanbuskirk
Made By:	Pyeboone Arunakul
Service from District:	Rock Springs, WY
District Phone:	307-352-5000
Objective:	P and A Hogback Ridge 1-17-13N-7E well Surface Casing ShoePlug #4 - 1,400 ft to 1,600 ft

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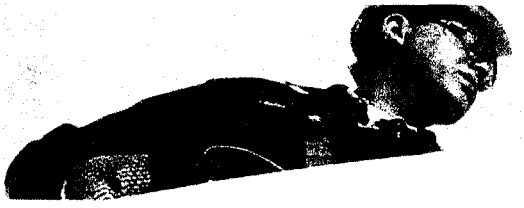

EXECUTIVE SUMMARY

Enclosed are our recommendations for Schlumberger intervention on the referenced well. The proposal includes well data, design data, materials and resources requirements and cost estimates. The purpose of our services is to perform a Plug Cementing treatment.

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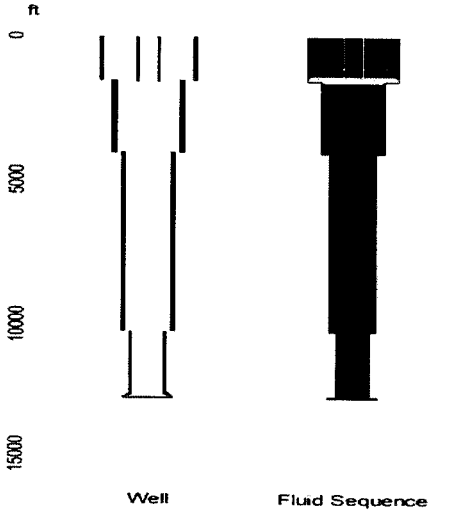
The estimated total cost of our services is **$ 12,613.09**. All costs are estimates only. Actual costs will be determined by time, material and equipment used during treatment. Taxes are not included. All work will be subject to Schlumberger then-current General Terms and Conditions or to the terms and conditions of a Master Service Agreement if one is in force between Schlumberger and Customer. This quote is valid for a period of thirty (30) days from the date submitted.

Thank you for considering Schlumberger.
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Pyeboone Arunakul
720-412-0375
Parunakul@slb.com

WELL DATA



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Well Data	
Job Type :	Plug Cementing
Total Depth (Measured) :	12500.0 ft
True Vertical Depth (TVD) :	12494.3 ft
BHST (Tubular Bottom Static Temperature) :	99 degF
BHCT (Tubular Bottom Circulating Temperature) :	85 degF

Open Hole		
Mean Diameter without Excess	**Bottom Depth**	**Annular Excess**
6.750 in	12500.0 ft	0.00 %

Previous Casing					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
13 3/8 in	68.0 lb/ft	J-55	BTC	0.84 ft3/ft	1534.0 ft
9 5/8 in	43.5 lb/ft	N-80	BTC	0.42 ft3/ft	4054.0 ft
7 in	26.0 lb/ft	N-80	LTC	0.21 ft3/ft	10214.0 ft
5 in	18.0 lb/ft	N-80	LTC	0.10 ft3/ft	12494.0 ft

Drill Pipe					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
2 7/8 in	6.5 lb/ft	L-80	EUE	0.03 ft3/ft	1600.0 ft

Fluid Placement			
Fluid Name	**Volume bbl**	**Density lb/gal**	**Top of Fluid ft**
CW7	40.0	8.32	1114.7
15.8ppg Cement	23.8	15.80	1397.0
15.8ppg Cement	1.2	15.80	1397.0
CW7	1.6	8.32	1114.7
brine	6.5	8.50	0.0

Total Liquid Volume : 73.1 bbl

Schlumberger

FLUID SYSTEMS

CW7			
System	CW7		
Density	8.32 lb/gal		
Total Volume	41.6 bbl		
Additives	**Code**	**Description**	**Concentration**

15.8ppg Cement (118 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	15.80 lb/gal		
Yield	1.19 ft3/sk		
Mixed Water	5.196 gal/sk		
Mixed Fluid	5.196 gal/sk		
Total Volume	25.0 bbl		
Additives	**Code**	**Description**	**Concentration**
	G	Cement	94.02 lb/sk WBWOB
	S001	CaCl2	2.00 % BWOB
	D095	Fiber	2.00 lb/sk WBWOB

brine			
System	Water		
Density	8.50 lb/gal		
Total Volume	6.5 bbl		
Additives	**Code**	**Description**	**Concentration**

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of the chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS sheets for the recommended safety precautions and required minimum personal protective equipment.

Schlumberger

PROCEDURES

1. Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units.
2. Arrive on location and check in with company man
3. MI (Move in) Schlumberger equipment.
4. Confirm all procedures, volumes and calculations with company man before or after rig up
5. Conduct Rig-up, Prime-up and pressure test safety meeting.
6. RU (Rig up) Schlumberger equipment and pressure test to customer master valve.
7. Conduct pre-job safety meeting and review pump schedlue with all crews to inform them of job details
8. (pump rates, pressure, volumes and wash up procedures as location rig up allows)
9. Perform treatment per design pumping schedule and instructions of client representative.
10. Conduct post job rig down meeting.
11. Rig down Schlumberger equipment.
12. Conduct convoy meeting and move out Schlumberger equipment.

PRICE ESTIMATE

Equipment and Services						
Code	**Standard Description**	**Quantity**	**Unit List Price**	**Total List Price $**	**Discount Rate**	**Discounted Price $**
28456000	Master Vavle	1 JOB	750.00	750.00	25 %	562.50
48019000	Cement bulk Unit additional hr	4 HR	115.00	460.00	25 %	345.00
48019000	Cement bulk Unit additional hr	1 HR	115.00	115.00	25 %	86.25
48020000	Pumps by unit, additional time after 4 hrs	1 HR	609.90	609.90	0 %	609.90
49100000	Cement Service Charge	122 CF	2.43	296.46	25 %	222.35
49102000	Cement Transport	748 MI	2.16	1,615.68	25 %	1,211.76
59200005	Car/PU Mileage	260 MI	3.47	902.20	25 %	676.65
59697004	Job Monitoring	1 JOB	941.60	941.60	25 %	706.20
102476000	Personnel: Field Specialist/Field Engineer after 4 hrs	1 HR	112.35	112.35	0 %	112.35
102476001	Personnel: Operator/Technician after 4 hrs	1 HR	90.95	90.95	0 %	90.95
102872020	Plug/Liner/Squeeze/Top out charge	1 EA	2,996.00	2,996.00	25 %	2,247.00
102946002	Fuel Charge	1 EA	575.00	575.00	0 %	575.00
107181000	Drill Pin	1 JOB	172.27	172.27	25 %	129.20
			Subtotals:	**$ 9,637.41**		**$ 7,575.11**

pump charge at this depth listed in services comes with 4 hrs on the pump and personnel, but not bulk truck. Bulk is charged at standard rate or 25% for first4hrs. After 4 hrs overtime discount of 0% is applied. There is 1 hr of overtime listed in service to show overtime per person and piece of equipment if we go over 4hrs base charge.

Overtime is at 0% discount over the 4hrs base charge

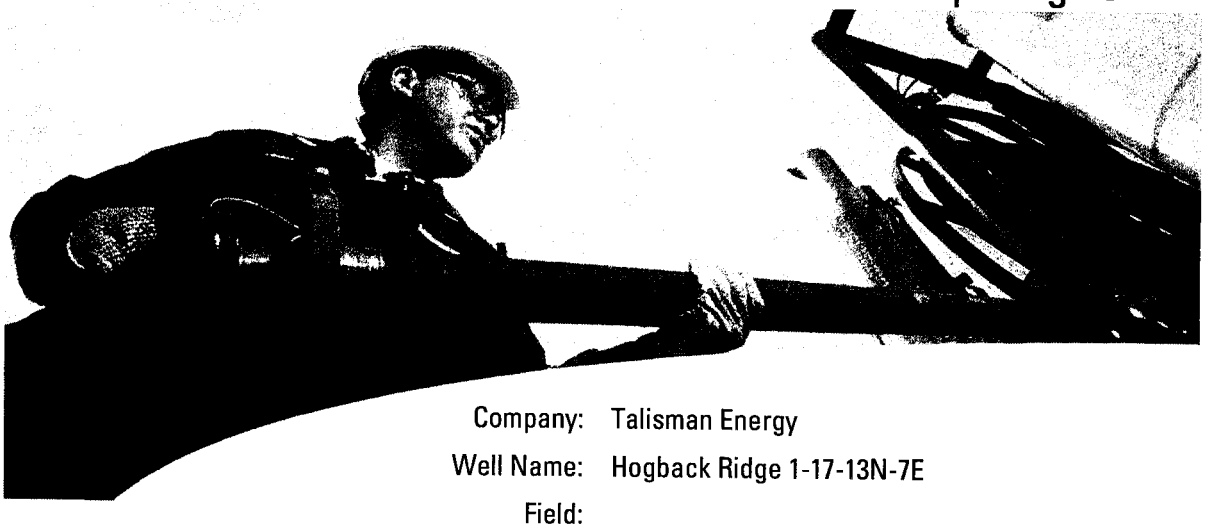
Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units
CemNET is optional but increase stability and success of the plug and is a good best practice
S001 is accelerator and will change based on lab testing

Materials						
Code	**Standard Description**	**Quantity**	**Unit List Price**	**Total List Price $**	**Discount Rate**	**Discounted Price $**
D826	CW7	42 BBL	47.94	2,013.48	25 %	1,510.11
D907	Cement Class G	118 CF	24.13	2,847.34	25 %	2,135.50
D974	CemNET Conversion Charge	25 BBL	61.53	1,538.25	25 %	1,153.69
S001	CaCl2	221 LB	1.44	318.24	25 %	238.68
			Subtotals:	**$ 6,717.31**		**$ 5,037.98**

Total Discount:	$	3,741.63
Job Price Estimate*:	**$**	**12,613.09**

Schlumberger

Liner top Plug #3



Company:	Talisman Energy
Well Name:	Hogback Ridge 1-17-13N-7E
Field:	
County:	
State:	
Date:	7/17/2012
Well Location:	
Well Number (API):	
Proposal Number:	#2 with 300ft plug
Contact:	Kevin Vanbuskirk
Made By:	Pyeboone Arunakul
Service from District:	Rock Springs, WY
District Phone:	307-352-5000
Objective:	P and A Hogback Ridge 1-17-13N-7E well Liner Top Plug #3 from 3,600 ft to 3,900 ft

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Disclaimer Notice
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Freedom from infringement of any intellectual property rights of Schlumberger or others is not to be inferred and no intellectual property rights are granted hereby.

Schlumberger

EXECUTIVE SUMMARY

Enclosed are our recommendations for Schlumberger intervention on the referenced well. The proposal includes well data, design data, materials and resources requirements and cost estimates. The purpose of our services is to perform a Plug Cementing treatment.

Schlumberger has established a safety policy to which all Schlumberger personnel must adhere. A pre-job safety meeting will be held with customer representatives and other on location personnel to familiarize everyone with existing hazards and safety procedures. We would appreciate close cooperation between the customer representative and the Schlumberger representative to ensure a safe operation.

The estimated total cost of our services is **$ 12,457.58**. All costs are estimates only. Actual costs will be determined by time, material and equipment used during treatment. Taxes are not included. All work will be subject to Schlumberger then-current General Terms and Conditions or to the terms and conditions of a Master Service Agreement if one is in force between Schlumberger and Customer. This quote is valid for a period of thirty (30) days from the date submitted.

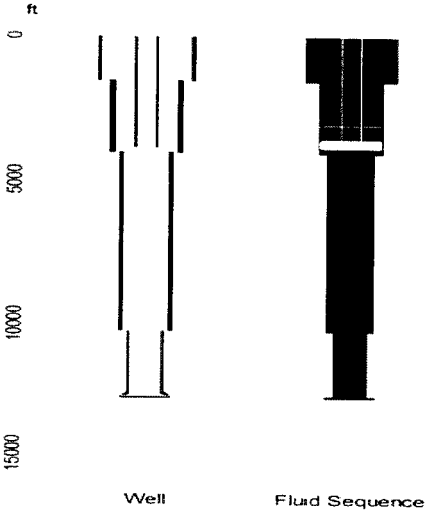
Thank you for considering Schlumberger.
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Pyeboone Arunakul
720-412-0375
Parunakul@slb.com

Schlumberger

WELL DATA



IMPORTANT:
The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the wellsite supervisor prior to the treatment. Any changes in the well data need to be reviewed for their impact on the treatment design.

Well Data	
Job Type :	Plug Cementing
Total Depth (Measured) :	12500.0 ft
True Vertical Depth (TVD) :	12494.3 ft
BHST (Tubular Bottom Static Temperature) :	123 degF
BHCT (Tubular Bottom Circulating Temperature) :	105 degF

Open Hole		
Mean Diameter without Excess	**Bottom Depth**	**Annular Excess**
6.750 in	12500.0 ft	0.00 %

Previous Casing					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
13 3/8 in	68.0 lb/ft	J-55	BTC	0.84 ft3/ft	1534.0 ft
9 5/8 in	43.5 lb/ft	N-80	BTC	0.42 ft3/ft	4054.0 ft
7 in	26.0 lb/ft	N-80	LTC	0.21 ft3/ft	10214.0 ft
5 in	18.0 lb/ft	N-80	LTC	0.10 ft3/ft	12494.0 ft

Drill Pipe					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
2 7/8 in	6.5 lb/ft	L-80	EUE	0.03 ft3/ft	3900.0 ft

Fluid Placement			
Fluid Name	**Volume** bbl	**Density** lb/gal	**Top of Fluid** ft
CW7	33.2	8.32	3090.7
15.8ppg Cement	20.5	15.80	3590.7
15.8ppg Cement	1.8	15.80	3590.7
CW7	2.9	8.32	3090.7
brine	17.9	8.50	0.0

Total Liquid Volume : 76.3 bbl

Schlumberger

FLUID SYSTEMS

CW7			
System	CW7		
Density	8.32 lb/gal		
Total Volume	36.1 bbl		
Additives	**Code**	**Description**	**Concentration**

15.8ppg Cement (106 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	15.80 lb/gal		
Yield	1.19 ft3/sk		
Mixed Water	5.196 gal/sk		
Mixed Fluid	5.196 gal/sk		
Total Volume	22.3 bbl		
Additives	**Code**	**Description**	**Concentration**
	G	Cement	94.02 lb/sk WBWOB
	S001	CaCl2	2.00 % BWOB
	D095	Fiber	2.00 lb/sk WBWOB

brine			
System	Water		
Density	8.50 lb/gal		
Total Volume	17.9 bbl		
Additives	**Code**	**Description**	**Concentration**

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Schlumberger

PROCEDURES

1. Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units.
2. Arrive on location and check in with company man
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4. Confirm all procedures, volumes and calculations with company man before or after rig up
5. Conduct Rig-up, Prime-up and pressure test safety meeting.
6. RU (Rig up) Schlumberger equipment and pressure test to customer master valve.
7. Conduct pre-job safety meeting and review pump schedlue with all crews to inform them of job details
8. (pump rates, pressure, volumes and wash up procedures as location rig up allows)
9. Perform treatment per design pumping schedule and instructions of client representative.
10. Conduct post job rig down meeting.
11. Rig down Schlumberger equipment.
12. Conduct convoy meeting and move out Schlumberger equipment.

Schlumberger

PRICE ESTIMATE

Equipment and Services						
Code	**Standard Description**	**Quantity**	**Unit List Price**	**Total List Price $**	**Discount Rate**	**Discounted Price $**
28456000	Master Vavle	1 JOB	750.00	750.00	25 %	562.50
48019000	Cement bulk Unit additional hr	4 HR	115.00	460.00	25 %	345.00
48019000	Cement bulk Unit additional hr	1 HR	115.00	115.00	0 %	115.00
48020000	Pumps by unit, additional time after 4 hrs	1 HR	609.90	609.90	0 %	609.90
49100000	Cement Service Charge	109 CF	2.43	264.87	25 %	198.65
49102000	Cement Transport	669 MI	2.16	1,445.04	25 %	1,083.78
59200005	Car/PU Mileage	260 MI	3.47	902.20	25 %	676.65
59697004	Job Monitoring	1 JOB	941.60	941.60	25 %	706.20
102476000	Personnel: Field Specialist/Field Engineer after 4 hrs	1 HR	112.35	112.35	0 %	112.35
102476001	Personnel: Operator/Technician after 4 hrs	1 HR	90.95	90.95	0 %	90.95
102872040	Pumps by unit, depth charge	1 EA	3,638.00	3,638.00	25 %	2,728.50
102946002	Fuel Charge	1 EA	575.00	575.00	0 %	575.00
107181000	Drill Pin	1 JOB	172.27	172.27	25 %	129.20
			Subtotals:	**$ 10,077.18**		**$ 7,933.68**

pump charge at this depth listed in services comes with 4 hrs on the pump and personnel, but not bulk truck. Bulk is charged at standard rate or 25% for first4hrs. After 4 hrs overtime discount of 0% is applied. There is 1 hr of overtime listed in service to show overtime per person and piece of equipment if we go over 4hrs base charge.

Overtime is at 0% discount over the 4hrs base charge

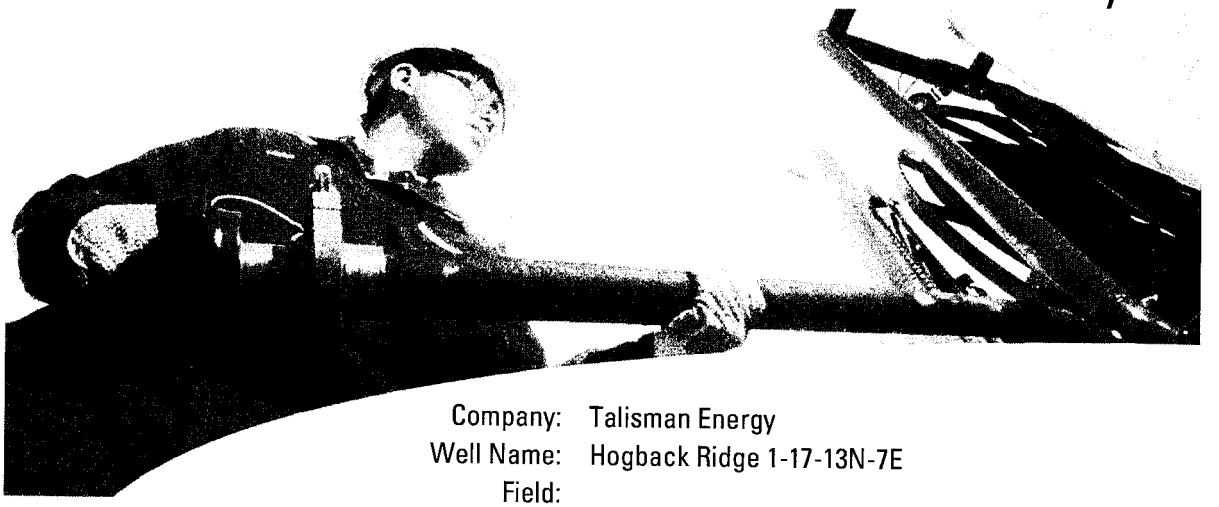
Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units
CemNET is optional but increase stability and success of the plug and is a good best practice
S001 is accelerator and will change based on lab testing

Materials						
Code	**Standard Description**	**Quantity**	**Unit List Price**	**Total List Price $**	**Discount Rate**	**Discounted Price $**
D826	CW7	37 BBL	47.94	1,773.78	25 %	1,330.34
D907	Cement Class G	106 CF	24.13	2,557.78	25 %	1,918.33
D974	CemNET Conversion Charge	23 BBL	61.53	1,415.19	25 %	1,061.39
S001	CaCl2	198 LB	1.44	285.12	25 %	213.84
			Subtotals:	**$ 6,031.87**		**$ 4,523.90**

Total Discount:	$	3,651.47
Job Price Estimate*:	**$**	**12,457.58**

Schlumberger

P & A Summary



Company:	Talisman Energy
Well Name:	Hogback Ridge 1-17-13N-7E
Field:	
County:	
State:	Utah
Date:	7/17/2012
Well Location:	
Well Number (API):	
Proposal Number:	#2 P&A Summary
Contact:	Kevin Vanbuskirk
Made By:	Pyeboone Arunakul
Service from District:	Rock Springs, WY
District Phone:	307-352-5000

Objective: P and A Hogback Ridge 1-17-13N-7E well

1. Perf Plug #1 = $17,338 (500ft plug)
   Depth 10,000 ft to 10,500 ft
2. Aquifer Plug #2 = $10,323 (300ft plug)
   Depth 6,000 ft to 6,300 ft
3. Liner Top Plug #3 = $12,457 (300ft plug)
   Depth 3,600 ft to 3,900 ft
4. Surface Shoe #4 = $12,613 (200ft plug)
   Depth 1,400 ft to 1,600 ft
5. Surface Plug # 5 = $12,738 (120ft plug)
   Depth 0 to120 ft

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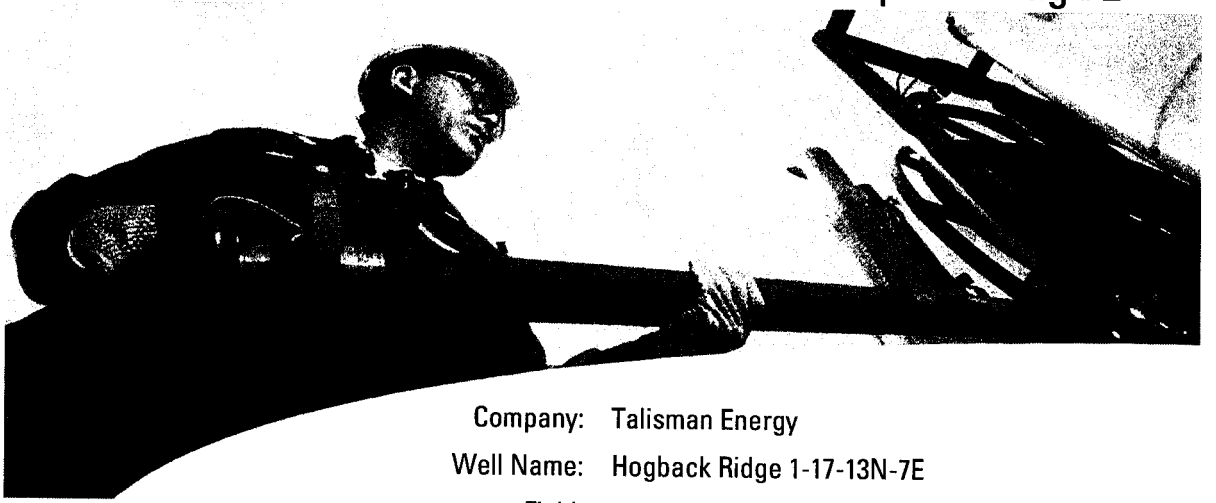
Aquifer Plug #2



Company:	Talisman Energy
Well Name:	Hogback Ridge 1-17-13N-7E
Field:	
County:	
State:	
Date:	7/17/2012
Well Location:	
Well Number (API):	
Proposal Number:	#2 with 300ft plug
Contact:	Kevin Vanbuskirk
Made By:	Pyeboone Arunakul
Service from District:	Rock Springs, WY
District Phone:	307-352-5000
Objective:	P and A Hogback Ridge 1-17-13N-7E well
	Aquifer Plug #2 - 6,000 ft - 6,300 ft

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Schlumberger

EXECUTIVE SUMMARY

Enclosed are our recommendations for Schlumberger intervention on the referenced well. The proposal includes well data, design data, materials and resources requirements and cost estimates. The purpose of our services is to perform a Plug Cementing treatment.

Schlumberger has established a safety policy to which all Schlumberger personnel must adhere. A pre-job safety meeting will be held with customer representatives and other on location personnel to familiarize everyone with existing hazards and safety procedures. We would appreciate close cooperation between the customer representative and the Schlumberger representative to ensure a safe operation.

The estimated total cost of our services is **$ 10,323.04**. All costs are estimates only. Actual costs will be determined by time, material and equipment used during treatment. Taxes are not included. All work will be subject to Schlumberger then-current General Terms and Conditions or to the terms and conditions of a Master Service Agreement if one is in force between Schlumberger and Customer. This quote is valid for a period of thirty (30) days from the date submitted.

Thank you for considering Schlumberger.
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Pyeboone Arunakul
720-412-0375
Parunakul@slb.com

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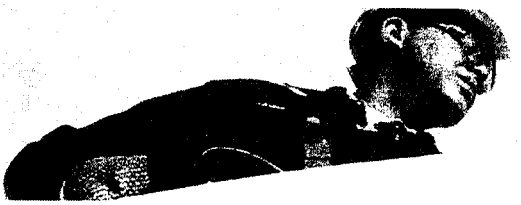
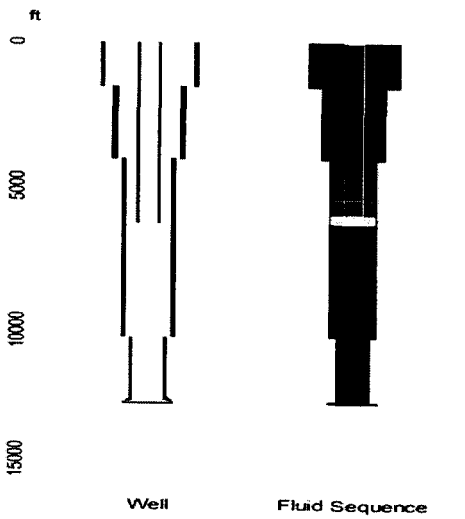


WELL DATA



IMPORTANT:
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Fluid Placement			
Fluid Name	**Volume bbl**	**Density lb/gal**	**Top of Fluid ft**
CW7	15.1	8.32	5489.9
15.8ppg Cement	9.4	15.80	5989.3
15.8ppg Cement	2.1	15.80	5939.5
CW7	2.9	8.32	5440.0
brine	31.2	8.50	44.5

Total Liquid Volume : 60.7 bbl

Well Data	
Job Type :	Plug Cementing
Total Depth (Measured) :	12500.0 ft
True Vertical Depth (TVD) :	12494.3 ft
BHST (Tubular Bottom Static Temperature) :	149 degF
BHCT (Tubular Bottom Circulating Temperature) :	131 degF

Open Hole		
Mean Diameter without Excess	**Bottom Depth**	**Annular Excess**
6.750 in	12500.0 ft	0.00 %

Previous Casing					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
13 3/8 in	68.0 lb/ft	J-55	BTC	0.84 ft3/ft	1534.0 ft
9 5/8 in	43.5 lb/ft	N-80	BTC	0.42 ft3/ft	4054.0 ft
7 in	26.0 lb/ft	N-80	LTC	0.21 ft3/ft	10214.0 ft
5 in	18.0 lb/ft	N-80	LTC	0.10 ft3/ft	12494.0 ft

Drill Pipe					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
2 7/8 in	6.5 lb/ft	L-80	EUE	0.03 ft3/ft	6300.0 ft

Schlumberger

FLUID SYSTEMS

CW7			
System	CW7		
Density	8.32 lb/gal		
Total Volume	18.0 bbl		
Additives	**Code**	**Description**	**Concentration**

15.8ppg Cement (54 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	15.80 lb/gal		
Yield	1.19 ft3/sk		
Mixed Water	5.196 gal/sk		
Mixed Fluid	5.196 gal/sk		
Total Volume	11.5 bbl		
Additives	**Code**	**Description**	**Concentration**
	G	Cement	94.02 lb/sk WBWOB
	S001	CaCl2	2.00 % BWOB
	D095	Fiber	2.00 lb/bbl

brine			
System	Water		
Density	8.50 lb/gal		
Total Volume	31.2 bbl		
Additives	**Code**	**Description**	**Concentration**

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Schlumberger

PROCEDURES

1. Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units.
2. Arrive on location and check in with company man
3. MI (Move in) Schlumberger equipment.
4. Confirm all procedures, volumes and calculations with company man before or after rig up
5. Conduct Rig-up, Prime-up and pressure test safety meeting.
6. RU (Rig up) Schlumberger equipment and pressure test to customer master valve.
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8. (pump rates, pressure, volumes and wash up procedures as location rig up allows)
9. Perform treatment per design pumping schedule and instructions of client representative.
10. Conduct post job rig down meeting.
11. Rig down Schlumberger equipment.
12. Conduct convoy meeting and move out Schlumberger equipment.

Schlumberger

PRICE ESTIMATE

Equipment and Services						
Code	**Standard Description**	**Quantity**	**Unit List Price**	**Total List Price $**	**Discount Rate**	**Discounted Price $**
28456000	Master Vavle	1 JOB	750.00	750.00	25 %	562.50
48019000	Cement bulk Unit additional hr	4 HR	115.00	460.00	25 %	345.00
48019000	Cement bulk Unit additional hr	1 HR	115.00	115.00	0 %	115.00
48020000	Pumps by unit, additional time	1 HR	609.90	609.90	0 %	609.90
49100000	Cement Service Charge	57 CF	2.43	138.51	25 %	103.88
49102000	Cement Transport	344 MI	2.16	743.04	25 %	557.28
59200005	Car/PU Mileage	260 MI	3.47	902.20	25 %	676.65
59697004	Job Monitoring	1 JOB	941.60	941.60	25 %	706.20
102476000	Personnel: Field Specialist/Field Engineer	1 HR	112.35	112.35	0 %	112.35
102476001	Personnel: Operator/Technician	1 HR	90.95	90.95	0 %	90.95
102872065	Pump charge liner/squeeze/plug 6001-6500ft	1 EA	4,601.00	4,601.00	25 %	3,450.75
102946002	Fuel Charge	1 EA	575.00	575.00	0 %	575.00
107181000	Drill Pin	1 JOB	172.27	172.27	25 %	129.20
			Subtotals:	**$ 10,211.82**		**$ 8,034.66**

pump charge at this depth listed in services comes with 4 hrs on the pump and personnel, but not bulk truck. Bulk is charged at standard rate or 25% for first4hrs. After 4 hrs overtime discount of 0% is applied. There is 1 hr of overtime listed in service to show overtime per person and piece of equipment if we go over 4hrs base charge.

Overtime is at 0% discount over the 4hrs base charge

Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units
CemNET is optional but increase stability and success of the plug and is a good best practice
S001 is accelerator and will change based on lab testing

Materials						
Code	**Standard Description**	**Quantity**	**Unit List Price**	**Total List Price $**	**Discount Rate**	**Discounted Price $**
D826	CW7	18 BBL	47.94	862.92	25 %	647.19
D907	Cement Class G	54 CF	24.13	1,303.02	25 %	977.27
D974	CemNET Conversion Charge	12 BBL	61.53	738.36	25 %	553.77
S001	CaCl2	102 LB	1.44	146.88	25 %	110.16
			Subtotals:	**$ 3,051.18**		**$ 2,288.39**

Total Discount:	$	2,939.96
Job Price Estimate*:	**$**	**10,323.04**

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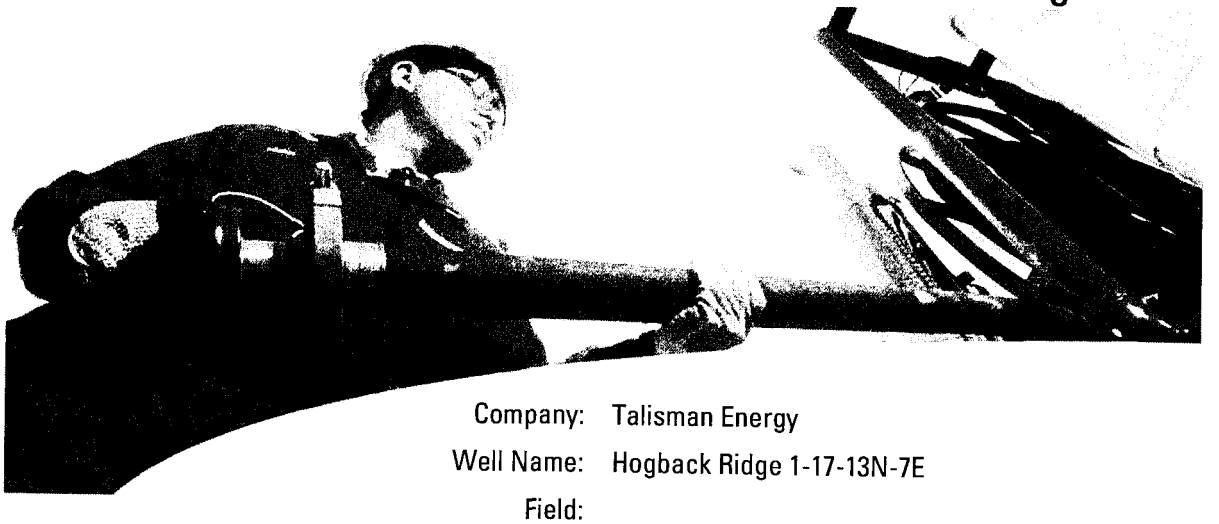
Perf Plug #1



Company:	Talisman Energy
Well Name:	Hogback Ridge 1-17-13N-7E
Field:	
County:	
State:	Utah
Date:	7/ 17/2012
Well Location:	
Well Number (API):	
Proposal Number:	#2 with 500ft plug update
Contact:	Kevin Vanbuskirk
Made By:	Pyeboone Arunakul
Service from District:	Rock Springs, WY
District Phone:	307-352-5000
Objective:	P and A Hogback Ridge 1-17-13N-7E well Perf Plug 1 from 10,000ft to 10,500ft

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Disclaimer Notice
Schlumberger submits this document with the benefit of its judgment, experience, and good oilfield practices.
This information is provided in accordance with generally accepted industry practice, relying on facts or information provided by others, limitations, computer models, measurements, assumptions and inferences that are not infallible.
Calculations are estimates based on provided information. All proposals, recommendations, or predictions are opinions only.
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EXECUTIVE SUMMARY

Enclosed are our recommendations for Schlumberger intervention on the referenced well. The proposal includes well data, design data, materials and resources requirements and cost estimates. The purpose of our services is to perform a Plug Cementing treatment.

Schlumberger has established a safety policy to which all Schlumberger personnel must adhere. A pre-job safety meeting will be held with customer representatives and other on location personnel to familiarize everyone with existing hazards and safety procedures. We would appreciate close cooperation between the customer representative and the Schlumberger representative to ensure a safe operation.

The estimated total cost of our services is **$ 17,338.08**. All costs are estimates only. Actual costs will be determined by time, material and equipment used during treatment. Taxes are not included. All work will be subject to Schlumberger then-current General Terms and Conditions or to the terms and conditions of a Master Service Agreement if one is in force between Schlumberger and Customer. This quote is valid for a period of thirty (30) days from the date submitted.

Thank you for considering Schlumberger.
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Pyeboone Arunakul
720-412-0375
Parunakul@slb.com

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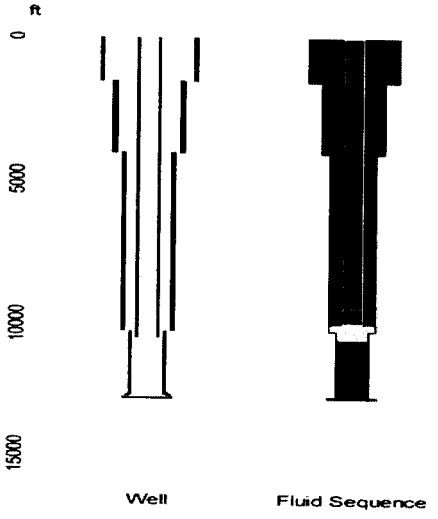
WELL DATA



IMPORTANT:
The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the wellsite supervisor prior to the treatment. Any changes in the well data need to be reviewed for their impact on the treatment design.

Well Data	
Job Type :	Plug Cementing
Total Depth (Measured) :	12500.0 ft
True Vertical Depth (TVD) :	12494.3 ft
BHST (Tubular Bottom Static Temperature) :	206 degF
BHCT (Tubular Bottom Circulating Temperature) :	188 degF

Open Hole		
Mean Diameter without Excess	**Bottom Depth**	**Annular Excess**
6.750 in	12500.0 ft	0.00 %

Previous Casing					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
13 3/8 in	68.0 lb/ft	J-55	BTC	0.84 ft3/ft	1534.0 ft
9 5/8 in	43.5 lb/ft	N-80	BTC	0.42 ft3/ft	4054.0 ft
7 in	26.0 lb/ft	N-80	LTC	0.21 ft3/ft	10214.0 ft
5 in	18.0 lb/ft	N-80	LTC	0.10 ft3/ft	12494.0 ft

Drill Pipe					
OD	**Weight**	**Grade**	**Thread**	**Inner Capacity**	**Bottom Depth**
2 7/8 in	6.5 lb/ft	L-80	EUE	0.03 ft3/ft	10500.0 ft

Fluid Placement			
Fluid Name	**Volume** bbl	**Density** lb/gal	**Top of Fluid** ft
CW7	15.1	8.32	9476.9
15.8 ppg tail HT	10.0	15.80	9976.9
15.8 ppg tail HT	3.3	15.80	9927.0
CW7	2.9	8.32	9427.0
brine	54.3	8.50	44.5

Total Liquid Volume : 85.6 bbl

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FLUID SYSTEMS

CW7			
System	CW7		
Density	8.32 lb/gal		
Total Volume	18.0 bbl		
Additives	**Code**	**Description**	**Concentration**

15.8 ppg tail HT (63 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	15.80 lb/gal		
Yield	1.18 ft3/sk		
Mixed Water	5.164 gal/sk		
Mixed Fluid	5.164 gal/sk		
Total Volume	13.3 bbl		
Additives	**Code**	**Description**	**Concentration**
	G	Cement	94.02 lb/sk WBWOB
	D167	Fluid loss	0.40 % BWOB
	D065	Dispersant	0.20 % BWOB
	D198	Retarder	0.20 % BWOB
	D029	Lost Circulation Control Agent	0.25 lb/sk WBWOB
	D095	Fiber	2.00 lb/sk WBWOB

brine			
System	Water		
Density	8.50 lb/gal		
Total Volume	54.3 bbl		
Additives	**Code**	**Description**	**Concentration**

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of the chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS sheets for the recommended safety precautions and required minimum personal protective equipment.

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PROCEDURES

1. Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units.
2. Arrive on location and check in with company man
3. MI (Move in) Schlumberger equipment.
4. Confirm all procedures, volumes and calculations with company man before or after rig up
5. Conduct Rig-up, Prime-up and pressure test safety meeting.
6. RU (Rig up) Schlumberger equipment and pressure test to customer master valve.
7. Conduct pre-job safety meeting and review pump schedlue with all crews to inform them of job details
8. (pump rates, pressure, volumes and wash up procedures as location rig up allows)
9. Perform treatment per design pumping schedule and instructions of client representative.
10. Conduct post job rig down meeting.
11. Rig down Schlumberger equipment.
12. Conduct convoy meeting and move out Schlumberger equipment.

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PRICE ESTIMATE

Equipment and Services						
Code	**Standard Description**	**Quantity**	**Unit List Price**	**Total List Price $**	**Discount Rate**	**Discounted Price $**
28456000	Master Vavle	1 JOB	750.00	750.00	25 %	562.50
48019000	Cement bulk Unit additional hr	8 HR	115.00	920.00	25 %	690.00
48019000	Cement bulk Unit additional hr	1 HR	115.00	115.00	0 %	115.00
48020000	Pumps by unit, additional Over time	1 HR	609.90	609.90	0 %	609.90
49100000	Cement Service Charge	63 CF	2.43	153.09	25 %	114.82
49102000	Cement Transport	397 MI	2.16	857.52	25 %	643.14
59200002	Equipment Mileage	130 MI	5.91	768.30	25 %	576.23
59200005	Car/PU Mileage	260 MI	3.47	902.20	25 %	676.65
59697004	Job Monitoring	1 JOB	941.60	941.60	25 %	706.20
102476000	Personnel: Field Specialist/Field Engineer overtime after 8 hrs	1 HR	112.35	112.35	0 %	112.35
102476001	Personnel: Operator/Technician overtime after 8hrs	1 HR	90.95	90.95	0 %	90.95
102872105	Pump Liner /Sqz/Plug 10000-10500 ft	1 EA	7,918.00	7,918.00	25 %	5,938.50
102946002	Fuel Charge	3 EA	575.00	1,725.00	0 %	1,725.00
107181000	Drill Pin	1 JOB	172.27	172.27	25 %	129.20
107264001	DOT Vehicle Charge	3 EA	364.87	1,094.61	0 %	1,094.61
			Subtotals:	**$ 17,130.79**		**$ 13,785.05**

pump charge at this depth listed in services comes with 8 hrs on the pump and personnel, but not bulk truck. Bulk is charged at standard rate or 25% for first 8hrs. After 8 hrs overtime discount of 0% is applied. There is 1 hr of overtime listed in service to show overtime per person and piece of equipment if we go over 8hrs base charge.

Overtime is at 0% discount over the 8hrs base charge

Schlumberger

Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units
CemNET is optional but increase stability and success of the plug and is a good best practice

Materials

Code	Standard Description	Quantity	Unit List Price	Total List Price $	Discount Rate	Discounted Price $
D029	Lost Circulation Control Agent	16 LB	5.25	84.00	25 %	63.00
D065	Dispersant	12 LB	7.86	94.32	25 %	70.74
D167	Fluid loss	24 LB	45.50	1,092.00	25 %	819.00
D198	Retarder	12 LB	14.55	174.60	25 %	130.95
D826	CW7	19 BBL	47.94	910.86	25 %	683.15
D907	Cement Class G	63 CF	24.13	1,520.19	25 %	1,140.14
D974	CemNET Conversion Charge	14 BBL	61.53	861.42	25 %	646.07
			Subtotals:	**$ 4,737.39**		**$ 3,553.05**

Total Discount:	$	4,530.10
Job Price Estimate*:	**$**	**17,338.08**

Schlumberger

Lisha Cordova - Hogback Ridge update

From: "Vanbuskirk, Kevin" <kvanbuskirk@talisman-dc.com>
To: "'Greer, Don'" <DGreer@talismanusa.com>
Date: 7/19/2012 9:30 PM
Subject: Hogback Ridge update
CC: "'Wedde, Brandon'" <BWEDDE@talismanusa.com>, <lishacordova@utah.gov>

Don,

Quick update; Another glitch today, but hasn't held us up too much, the test stump that we finally sourced from Weatherford, arrived at location, but had no means of testing through the stump (wasn't ported); We have lined up a valve to be installed on the bottom single gate of the BOP's to allow testing to proceed.

I have also updated the Utah DNR, and I will be in the loop on a daily basis.
The go forward paln is to complete stump testing in the morning, pull the tubing prong and plug midday, and release the packer. Likely we will try to circulate the well and ensure it is full and that it will maintain a column of fluid, prior to POH with tubing.

We will see how far we get at that time, but still hopeful that we can pull off the first cement job on Saturday afternoon.

Kevin

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER: UT 43-033-30062

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: HOGBACK RIDGE 1-17

2. NAME OF OPERATOR: FORTUNA (US) L.P.

9. API NUMBER: 4303330062

3. ADDRESS OF OPERATOR: 50 PENNWOOD PLACE CITY WARRENDALE STATE PA ZIP 15086

PHONE NUMBER: (724) 814-5466

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1198 FNL 0491 FEL

COUNTY: RICH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NE 17 13N 7E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☑ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion: 8/1/2012	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Fortuna (US) L.P. began Plug & Abandonment operations on 7/18/2012 and all operations were completed on 8/3/2012. The actual date of Plug & Abandonment of the Hogback Ridge 1-17 is 8/1/2012. The details of the abandonment are as follows:

1. Tagged the existing cement plug @ 11,622.4' KB.
2. Set CIBP @ 10,310' KB.
3. Spot cement plug @ 10,310-10,100' KB.
4. Spot corrosion inhibitor from 10,100 - 6300' KB.
5. Spot cement plug from 6315-6115' KB. (Tagged plug @ 6115' KB.)
6. Spot corrosion inhibitor from 6115-3900' KB.
7. Spot cement plug from 3900-3660' KB. (Tagged plug @ 3660' KB.)
8. Spot corrosion inhibitor from 3660-1600' KB.
9. Spot cement plug from 1600-1465' KB. (Tagged plug @ 1465' KB.)
10. Spot corrosion inhibitor from 1465-140' KB.
11. Spot cement plug from 140' KB - surface. (12.5 bbls Class G cement with 2 bbls of cement returns to surface.)
12. Cut & capped casing on 8/1/2012. Installed well ID plate (1/2" steel plate) as per DNR design on top of 13 3/8" surface casing and welded in place.

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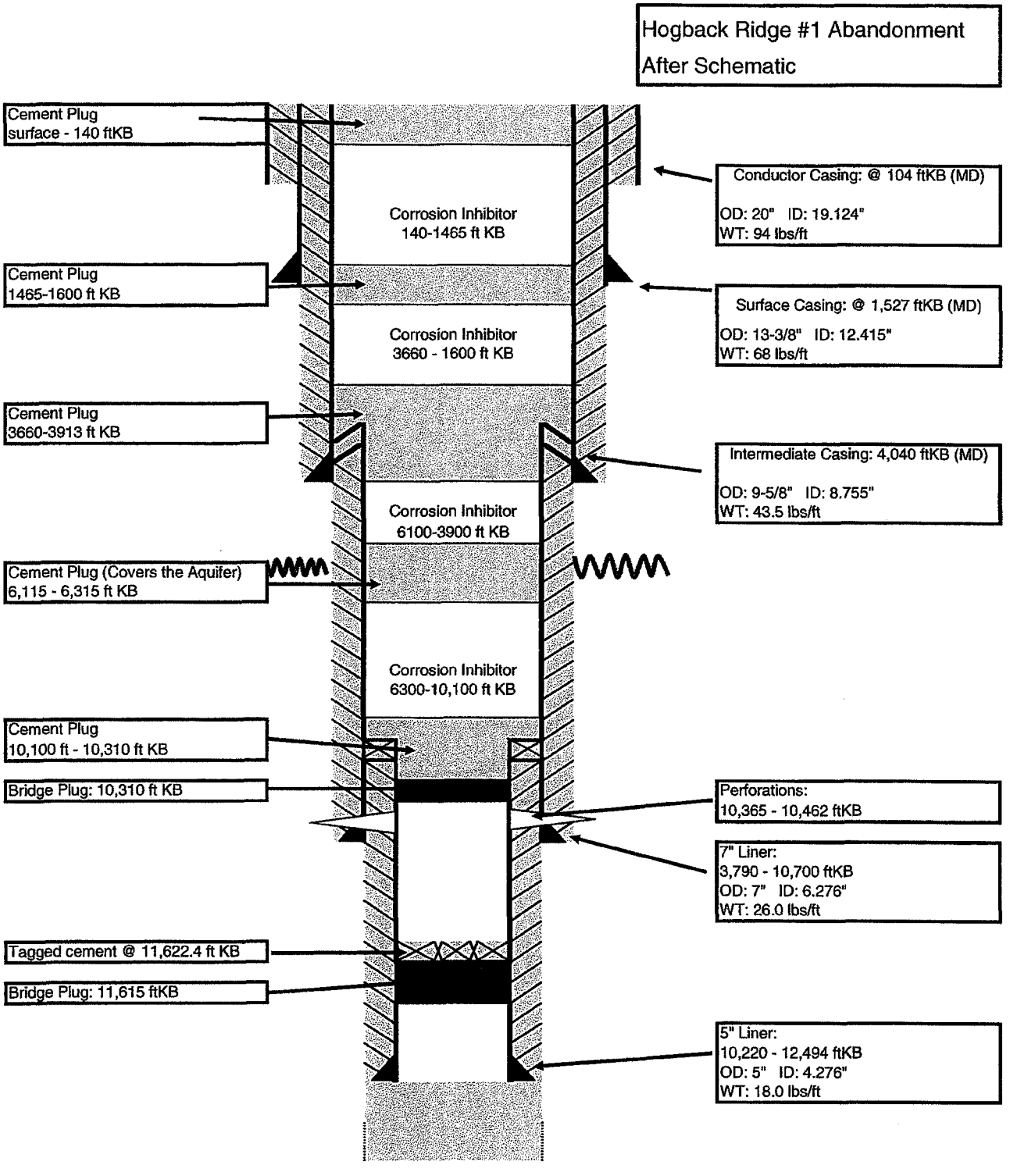
NAME (PLEASE PRINT) Walt Hufford, PG TITLE Manager, Regulatory Affairs

SIGNATURE DATE 11/20/2012

(This space for State use only)

(5/2000) (See Instructions on Reverse Side)


Hogback Ridge #1 Abandonment
After Schematic
Cement Plug
surface - 140 ftKB
Corrosion Inhibitor
140-1465 ft KB
Cement Plug
1465-1600 ft KB
Corrosion Inhibitor
3660 - 1600 ft KB
Cement Plug
3660-3913 ft KB
Corrosion Inhibitor
6100-3900 ft KB
Cement Plug (Covers the Aquifer)
6,115 - 6,315 ft KB
Corrosion Inhibitor
6300-10,100 ft KB
Cement Plug
10,100 ft - 10,310 ft KB
Bridge Plug: 10,310 ft KB
Tagged cement @ 11,622.4 ft KB
Bridge Plug: 11,615 ftKB
Conductor Casing: @ 104 ftKB (MD)
OD: 20" ID: 19.124"
WT: 94 lbs/ft
Surface Casing: @ 1,527 ftKB (MD)
OD: 13-3/8" ID: 12.415"
WT: 68 lbs/ft
Intermediate Casing: 4,040 ftKB (MD)
OD: 9-5/8" ID: 8.755"
WT: 43.5 lbs/ft
Perforations:
10,365 - 10,462 ftKB
7" Liner:
3,790 - 10,700 ftKB
OD: 7" ID: 6.276"
WT: 26.0 lbs/ft
5" Liner:
10,220 - 12,494 ftKB
OD: 5" ID: 4.276"
WT: 18.0 lbs/ft