

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*

FORM APPROVED OMB NO. 1040-0136 Expires: February 28, 1995

5. LEASE DESIGNATION AND SERIAL NO. UTU-73686

6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A

7. UNIT AGREEMENT NAME N/A

8. FARM OR LEASE NAME, WELL NO. SG 13ML-15-8-22

APPLICATION FOR PERMIT TO DRILL OR DEEPEN TYPE OF WORK DRILL [x] DEEPEN [] TYPE OF WELL OIL WELL [] GAS WELL [x] OTHER [] SINGLE ZONE [x] MULTIPLE ZONE []

2. NAME OF OPERATOR QEP UINTA BASIN, INC. Contact: Jan Nelson E-Mail: jan.nelson@questar.com

9. API NUMBER: 43-047-37996

3. ADDRESS 11002 E. 17500 S. Vernal, Ut 84078 Telephone number Phone 435-781-4331 Fax 435-781-4323

10. FIELD AND POOL, OR WILDCAT KENNEDY WASH U18

4. LOCATION OF WELL (Report location clearly and in accordance with and State requirements*) At Surface 585' FSL 388' FEL, SESE, SECTION 16, T8S, R22E At proposed production zone 631' FSL 653' FWL, SWSW, SECTION 15, T8S, R22E

11. SEC., T, R, M, OR BLK & SURVEY OR AREA SEC. 16, T8S, R22E Mer SLB

14. DISTANCE IN MILES FROM NEAREST TOWN OR POSTOFFICE* 31 +/- SOUTHEAST OF VERNAL, UTAH

12. COUNTY OR PARISH Uintah 13. STATE UT

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (also to nearest drig, unit line if any) 388' +/-

16. NO. OF ACRES IN LEASE 554.91

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

18. DISTANCE FROM PROPOSED location to nearest well, drilling, completed, applied for, on this lease, ft

19. PROPOSED DEPTH 11,088' MD

20. BLM/BIA Bond No. on file ESB000024

21. ELEVATIONS (Show whether DF, RT, GR, ect.) 4918.9' GR

22. DATE WORK WILL START ASAP

23. Estimated duration 20 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- 1. Well plat certified by a registered surveyor. 2. A Drilling Plan 3. A surface Use Plan (if location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be required by the authorized officer.

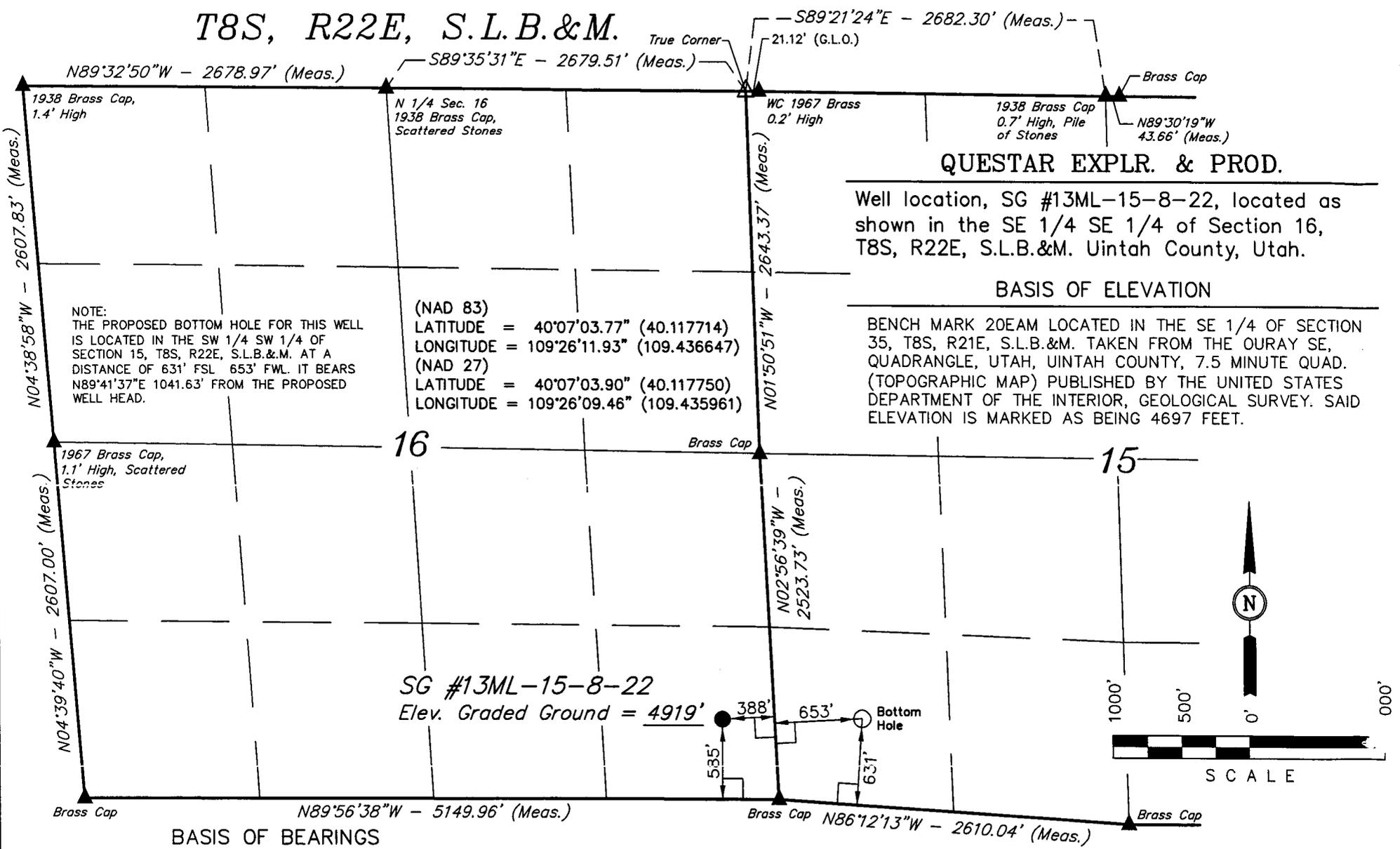
SIGNED [Signature] Name (printed/typed) Jan Nelson DATE 4-5-06 TITLE Regulatory Affairs

PERMIT NO. 43-047-37996 APPROVAL DATE

CONDITIONS OF APPROVAL, IF ANY: APPROVED BY [Signature] TITLE BRADLEY G. HILL ENVIRONMENTAL MANAGER DATE 04-17-06

surf 633289X 4441787Y 40.117734 -109.435887 BHL 633605X 4441801Y 40.117807 -109.432173 Federal Approval of this Action is Necessary RECEIVED APR 10 2006 DIV. OF OIL, GAS & MINING

T8S, R22E, S.L.B.&M.



QUESTAR EXPLR. & PROD.

Well location, SG #13ML-15-8-22, located as shown in the SE 1/4 SE 1/4 of Section 16, T8S, R22E, S.L.B.&M. Uintah County, Utah.

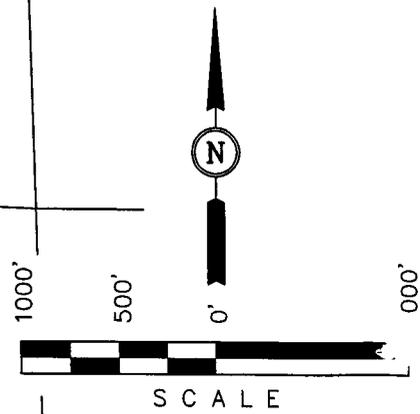
BASIS OF ELEVATION

BENCH MARK 20EAM LOCATED IN THE SE 1/4 OF SECTION 35, T8S, R21E, S.L.B.&M. TAKEN FROM THE OURAY SE, QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 4697 FEET.

NOTE:
THE PROPOSED BOTTOM HOLE FOR THIS WELL IS LOCATED IN THE SW 1/4 SW 1/4 OF SECTION 15, T8S, R22E, S.L.B.&M. AT A DISTANCE OF 631' FSL 653' FWL. IT BEARS N89°41'37"E 1041.63' FROM THE PROPOSED WELL HEAD.

(NAD 83)
LATITUDE = 40°07'03.77" (40.117714)
LONGITUDE = 109°26'11.93" (109.436647)
(NAD 27)
LATITUDE = 40°07'03.90" (40.117750)
LONGITUDE = 109°26'09.46" (109.435961)

SG #13ML-15-8-22
Elev. Graded Ground = 4919'



BASIS OF BEARINGS

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

LEGEND:

- └ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.
- △ = SECTION CORNERS RE-ESTABLISHED.
(Not Set On Ground)

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.

[Signature]
REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

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

SCALE 1" = 1000'	DATE SURVEYED: 03-03-06	DATE DRAWN: 03-13-06
PARTY D.A. C.F. T.B. P.M.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE QUESTAR EXPLR. & PROD.	

Additional Operator Remarks

QEP Uinta Basin, Inc. proposes to directional drill a well to 11, 088' MD to test the MesaVerde. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and State of Utah requirements"

Please see QEP Uinta Basin, Inc. Standard Operating Practices dated October 18, 2005, for Mesa Verde Formation Wells located in Red Wash, Wonsits Valley, Gypsum Hills, White River, Glen Bench, and Undesignated fields in Townships 07, 08 and 09 South, Ranges 21 to 25 East.

See attached Onshore No. 1

Please be advised that QEP Uinta Basin Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

Bond coverage for this well is provided by Bond No.ESB000024. The principal is QEP Uinta Basin Inc. via surety as consent as provided for the 43 CFR 3104.2.

DRILLING PROGRAM

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal Oil and Gas Leases

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas No. 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished the field representative to insure compliance.

1. Formation Tops

The estimated tops of important geologic markers are as follows:

Formation	TVD Depth	MD Depth
Uinta	Surface	Surface
Kickoff Point	800'	800'
Green River	2736'	2773'
Wasatch	5806'	5919'
Mesa Verde	8516'	8629'
Sego	10,906'	11,019'
TD	10,975'	11,038'

2. Anticipated Depths of Oil Gas Water and Other Mineral Bearing Zones

The estimated depths at which the top and bottom of the anticipated water, oil, gas. Or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	TVD	MD
Oil/Gas	Mesa Verde	10,975'	11,088'

All fresh water and prospectively valuable minerals encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.

All water shows and water-bearing sands will be reported to the BLM in Vernal, Utah. Copies of State of Utah form OGC-8-X are acceptable. If no flows are detected, samples will be submitted to the BLM along with any water analyses conducted. Fresh water will be obtained from Wonsits Valley water right # A36125 or Red Wash water right # 49-2153 to supply fresh water for drilling purposes.

All water resulting from drilling operations will be disposed of at Red Wash Central Battery Disposal Site; SWSE, Section 27, T7S, R23E or Wonsits Valley Disposal Site; SWNW, Section 12, T8S, R21E.

DRILLING PROGRAM

3. Operator's Specification for Pressure Control Equipment:

- A. 5,000 psi W.P. Double Gate BOP or Single Gate BOP (schematic attached)
- B. Functional test daily
- C. All casing strings shall be pressure tested (0.2 psi/foot or 1500 psi, or 70% of the burst whichever is greater) prior to drilling the plug after cementing; test pressure shall not exceed the internal yield pressure of the casing.
- D. Ram type preventers and associated equipment shall be tested to approved stack working pressure if isolated by test plug or to 50 percent of internal yield pressure of casing whichever is less. BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc..., for a 5M system and individual components shall be operable as designed.

4. Casing Program

	<u>Depth</u>	<u>Hole Size</u>	<u>Csg Size</u>	<u>Type</u>	<u>Weight</u>
Surface	450'	12-1/4"	9-5/8"	J-55	36 lb/ft (new) LT&C
Intermediate	6313'	8-3/4"	7"	J-55	26 lb/ft (new) LT&C
TD	11088'	6-1/8"	4-1/2"	P-110	11.6 lb/ft (new) T&C

5. Auxiliary Equipment

- A. Kelly Cock – yes
- B. Float at the bit – no
- C. Monitoring equipment on the mud system – visually and/or PVT/Flow Show
- D. Full opening safety valve on the rig floor – yes
- E. Rotating Head – yes
If drilling with air the following will be used:

DRILLING PROGRAM

- F. The blooie line shall be at least 6" in diameter and extend at least 100' from the well bore into the reserve/blooie pit.
- G. Blooie line ignition shall be provided by a continuous pilot (ignited when drilling below 500').
- H. Compressor shall be tied directly to the blooie line through a manifold.
- I. A mister with a continuous stream of water shall be installed near the end of the blooie lines for dust suppression.

Surface hole will be drilled with air, air/mist, foam, or mud depending on hole conditions. Drilling below surface casing will be with water based drilling fluids consisting primarily of fresh water, bentonite, lignite, caustic, lime, soda ash and polymers. No chromates will be used. It is not intended to use oil in the mud, however, in the event it is used, oil concentration will be less than 4% by volume. Maximum anticipated mud weight is 9.5 ppg.

No minimum quantity of weight material will be required to be kept on location.

PVT/Flow Show will be used from base of surface casing to TD.

Gas detector will be used from surface casing depth to TD.

6. Testing, logging and coring program

- A. Cores – none anticipated
- B. DST – none anticipated

Logging – Mud logging – 4,500' to TD
GR-SP-Induction
Neutron Density
MRI

- C. Formation and Completion Interval: Mesa Verde interval, final determination of completion will be made by analysis of logs.
Stimulation – Stimulation will be designed for the particular area of interest as encountered.

ONSHORE OIL & GAS ORDER NO. 1

QEP Uinta Basin, Inc.

SG 13ML-15-8-22

DRILLING PROGRAM

7. Cementing Program

Please see attached.

8. Anticipated Abnormal Pressures and Temperatures, Other Potential Hazards

No abnormal temperatures or pressures are anticipated. No H₂S has been encountered in or known to exist from previous wells drilled to similar depths in the general area. Maximum anticipated bottom hole pressure equals approximately 4760.0 psi. Maximum anticipated bottom hole temperature is 140° F.

9. Surface is owned by State Trust Lands.

5000 PSIG DIAGRAM

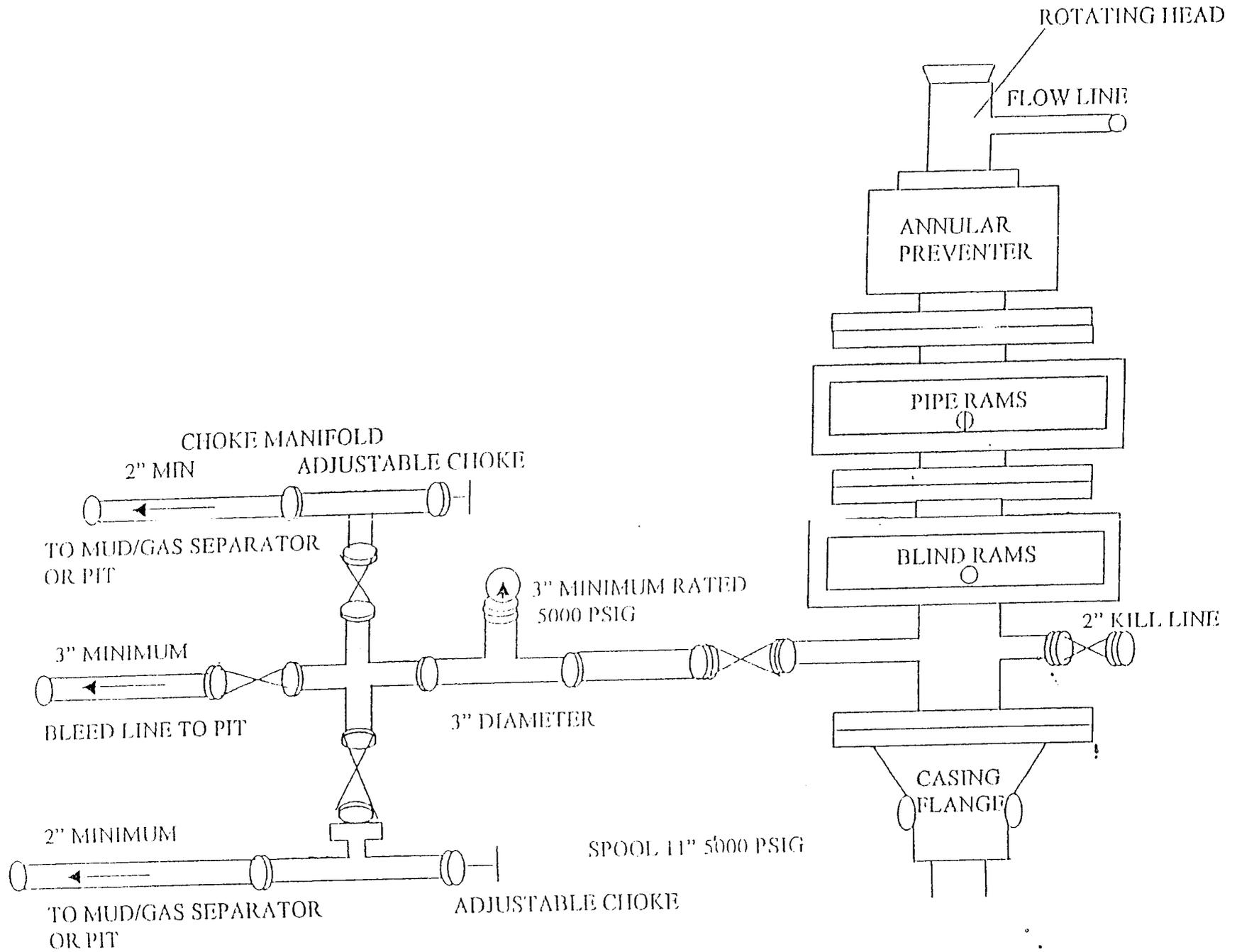
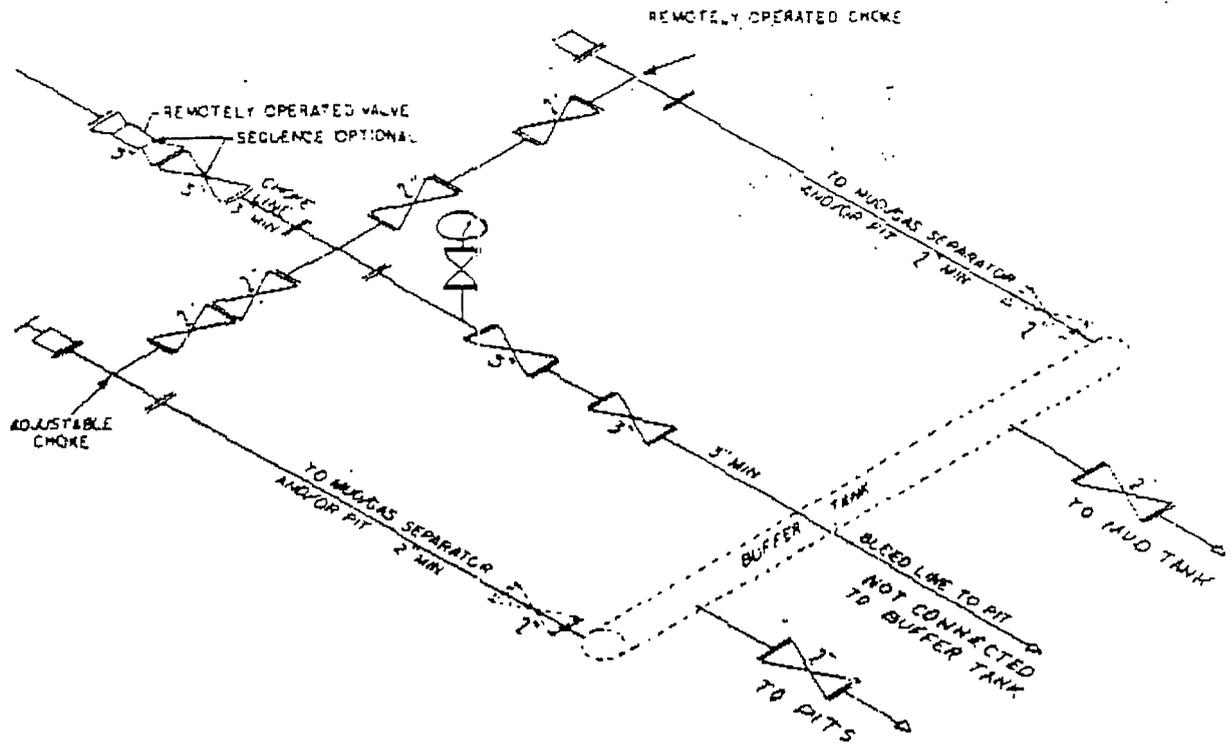


EXHIBIT B CONTINUED

Federal Register / Vol. 53, No. 221 / Friday, November 18, 1988 / Rules and Regulations

46813



② 5M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES MAY VARY

[FR Doc. 88-20738 Filed 11-17-88; 8:45 am]
 BILLING CODE 4310-05-C



Weatherford

Drilling Services

Proposal

QUESTAR EXPLORATION & PRODUCTION

SG #13ML-15-8-22

UINTAH COUNTY, UTAH

WELL FILE: **PLAN1**

MARCH 28, 2006

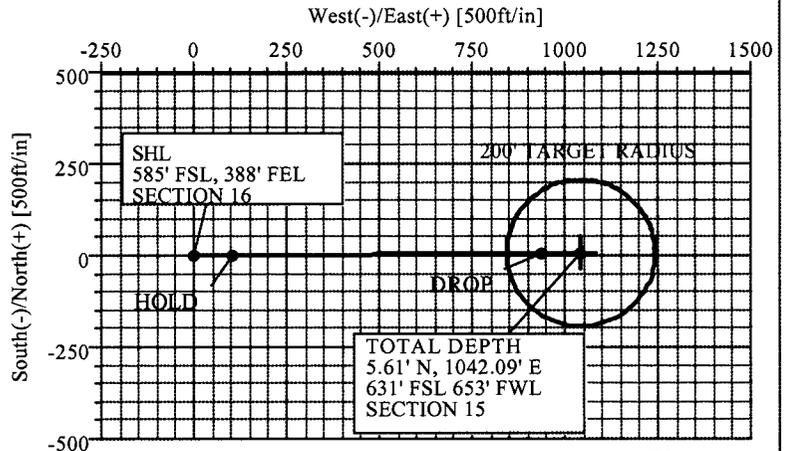
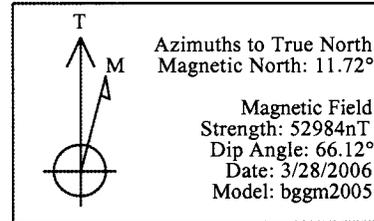
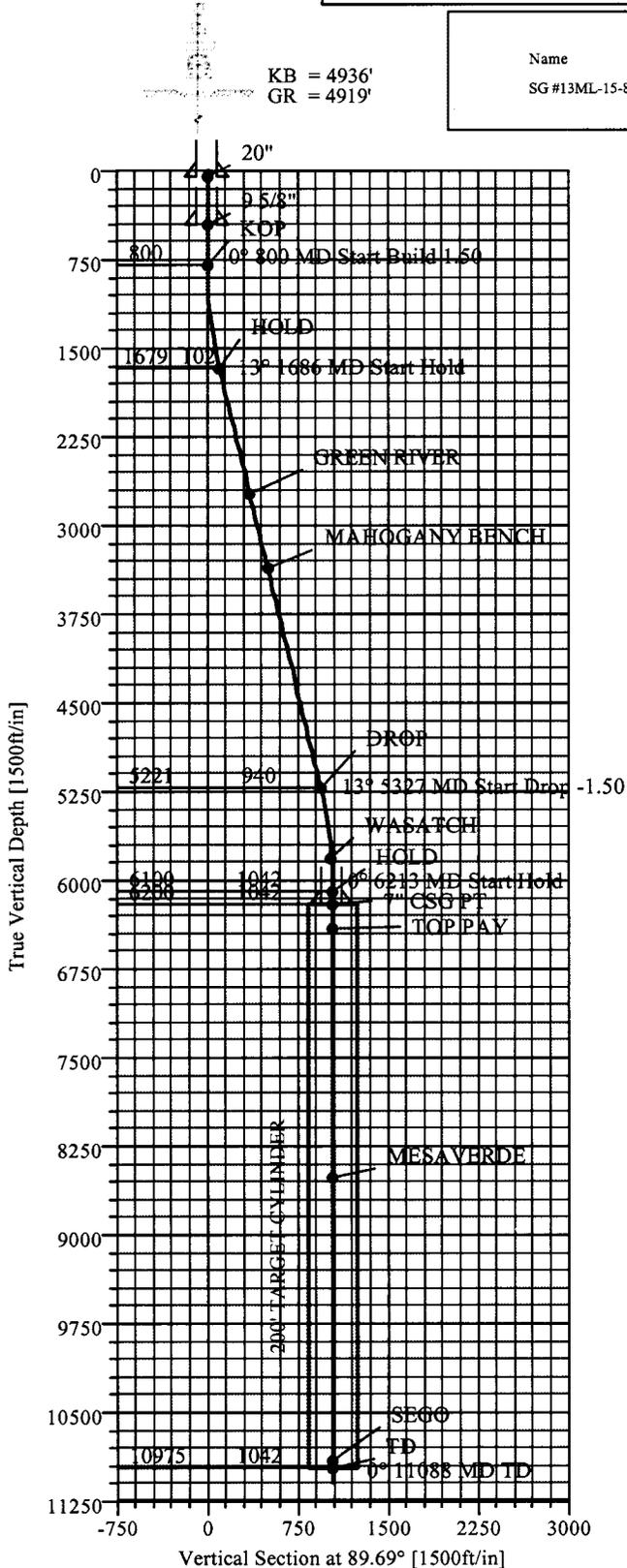
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Houston, Texas 77060 USA
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www.weatherford.com

QUESTAR EXPLORATION & PRODUCTION

SG #13ML-15-8-22
 SEC 16 T8S R22E
 585' FSL, 388' FEL
 UTAH COUNTY, UTAH

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	89.69	0.00	0.00	0.00	0.00	0.00	0.00	
2	800.00	0.00	89.69	800.00	0.00	0.00	0.00	0.00	0.00	KOP
3	1686.44	13.30	89.69	1678.51	0.55	102.40	1.50	89.69	102.40	HOLD
4	5327.02	13.30	89.69	5221.49	5.06	939.69	0.00	0.00	939.70	DROP
5	6213.47	0.00	89.69	6100.00	5.61	1042.09	1.50	180.00	1042.10	HOLD
6	6313.47	0.00	89.69	6200.00	5.61	1042.09	0.00	89.69	1042.10	CASING PT
7	11088.47	0.00	89.69	10975.00	5.61	1042.09	0.00	89.69	1042.10	TD

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
SG #13ML-15-8-22	0.00	0.00	7218271.44	2217399.81	40°07'03.770N	109°26'11.930W	N/A



SITE DETAILS	
SG #13ML-15-8-22	
585' FSL 388' FEL SEC 16 T8S R22E	
Site Centre Latitude:	40°07'03.770N
Longitude:	109°26'11.930W
Ground Level:	4919.00
Positional Uncertainty:	0.00
Convergence:	1.32

FORMATION TOP DETAILS			
No.	TVDPath	MDPath	Formation
1	2736.00	2773.07	GREEN RIVER
2	3361.00	3415.28	MAHOGANY BENCH
3	5806.00	5919.18	WASATCH
4	6406.00	6519.47	TOP PAY
5	8516.00	8629.47	MESAVERDE
6	10906.00	11019.47	SEGO



WEATHERFORD DRILLING SERVICES

PROPOSAL PLAN REPORT

Company: Questar E & P	Date: 3/28/2006	Time: 16:30:56	Page: 1
Field: Uintah Basin NAD 1983	Co-ordinate(NE) Reference: Site: SG #13ML-15-8-22, True North		
Site: SG #13ML-15-8-22	Vertical (TVD) Reference: SITE 4936.0		
Well: SG #13ML-15-8-22	Section (VS) Reference: Site (0.00N,0.00E,89.69Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Uintah Basin NAD 1983 Utah	
Map System: US State Plane Coordinate System 1983	Map Zone: Utah, Central Zone
Geo Datum: GRS 1980	Coordinate System: Site Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: bggm2005

Site: SG #13ML-15-8-22			
585' FSL 388' FEL SEC 16 T8S R22E			
Site Position:	From: Geographic	Northing: 7218271.44 ft	Latitude: 40 7 3.770 N
		Easting: 2217399.81 ft	Longitude: 109 26 11.930 W
Position Uncertainty: 0.00 ft			North Reference: True
Ground Level: 4919.00 ft			Grid Convergence: 1.32 deg

Well: SG #13ML-15-8-22	Slot Name:
Well Position: +N/-S 0.00 ft	Latitude: 40 7 3.770 N
+E/-W 0.00 ft	Longitude: 109 26 11.930 W
Position Uncertainty: 0.00 ft	

Wellpath: 1	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 3/28/2006	Above System Datum: Mean Sea Level
Field Strength: 52984 nT	Declination: 11.72 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 66.12 deg
ft	+N/-S
ft	+E/-W
ft	ft
0.00	0.00
0.00	0.00
0.00	89.69

Plan: Plan #1	Date Composed: 3/28/2006
Principal: Yes	Version: 1
	Tied-to: From Surface

Plan Section Information										
MD	Incl	Azim	TVD	+N/-S	+E/-W	DLS	Build	Turn	TFO	Target
ft	deg	deg	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	deg	
0.00	0.00	89.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	89.69	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1686.44	13.30	89.69	1678.51	0.55	102.40	1.50	1.50	0.00	89.69	
5327.02	13.30	89.69	5221.49	5.06	939.69	0.00	0.00	0.00	0.00	
6213.47	0.00	89.69	6100.00	5.61	1042.09	1.50	-1.50	0.00	180.00	
6313.47	0.00	89.69	6200.00	5.61	1042.09	0.00	0.00	0.00	89.69	
11088.47	0.00	89.69	10975.00	5.61	1042.09	0.00	0.00	0.00	89.69	TD

Survey										
MD	Incl	Azim	TVD	N/S	E/W	VS	Build	Turn	DLS	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	
800.00	0.00	89.69	800.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP
900.00	1.50	89.69	899.99	0.01	1.31	1.31	1.50	0.00	1.50	
1000.00	3.00	89.69	999.91	0.03	5.23	5.23	1.50	0.00	1.50	
1100.00	4.50	89.69	1099.69	0.06	11.77	11.77	1.50	0.00	1.50	
1200.00	6.00	89.69	1199.27	0.11	20.92	20.92	1.50	0.00	1.50	
1300.00	7.50	89.69	1298.57	0.18	32.68	32.68	1.50	0.00	1.50	
1400.00	9.00	89.69	1397.54	0.25	47.03	47.03	1.50	0.00	1.50	
1500.00	10.50	89.69	1496.09	0.34	63.96	63.96	1.50	0.00	1.50	
1600.00	12.00	89.69	1594.16	0.45	83.47	83.47	1.50	0.00	1.50	
1686.44	13.30	89.69	1678.51	0.55	102.40	102.40	1.50	0.00	1.50	HOLD
1700.00	13.30	89.69	1691.70	0.57	105.51	105.52	0.00	0.00	0.00	
1800.00	13.30	89.69	1789.02	0.69	128.51	128.52	0.00	0.00	0.00	
1900.00	13.30	89.69	1886.34	0.82	151.51	151.51	0.00	0.00	0.00	
2000.00	13.30	89.69	1983.66	0.94	174.51	174.51	0.00	0.00	0.00	
2100.00	13.30	89.69	2080.98	1.06	197.51	197.51	0.00	0.00	0.00	

WEATHERFORD DRILLING SERVICES

PROPOSAL PLAN REPORT

Company: Questar E & P	Date: 3/28/2006	Time: 16:30:56	Page: 2
Field: Uintah Basin NAD 1983	Co-ordinate(NE) Reference:	Site: SG #13ML-15-8-22, True North	
Site: SG #13ML-15-8-22	Vertical (TVD) Reference:	SITE 4936.0	
Well: SG #13ML-15-8-22	Section (VS) Reference:	Site (0.00N,0.00E,89.69Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	Build deg/100ft	Turn deg/100ft	DLS deg/100ft	Comment
2200.00	13.30	89.69	2178.30	1.19	220.51	220.51	0.00	0.00	0.00	
2300.00	13.30	89.69	2275.62	1.31	243.51	243.51	0.00	0.00	0.00	
2400.00	13.30	89.69	2372.94	1.43	266.51	266.51	0.00	0.00	0.00	
2500.00	13.30	89.69	2470.26	1.56	289.51	289.51	0.00	0.00	0.00	
2600.00	13.30	89.69	2567.57	1.68	312.50	312.51	0.00	0.00	0.00	
2700.00	13.30	89.69	2664.89	1.80	335.50	335.51	0.00	0.00	0.00	
2773.07	13.30	89.69	2736.00	1.90	352.31	352.31	0.00	0.00	0.00	GREEN RIVER
2800.00	13.30	89.69	2762.21	1.93	358.50	358.51	0.00	0.00	0.00	
2900.00	13.30	89.69	2859.53	2.05	381.50	381.51	0.00	0.00	0.00	
3000.00	13.30	89.69	2956.85	2.18	404.50	404.51	0.00	0.00	0.00	
3100.00	13.30	89.69	3054.17	2.30	427.50	427.51	0.00	0.00	0.00	
3200.00	13.30	89.69	3151.49	2.42	450.50	450.50	0.00	0.00	0.00	
3300.00	13.30	89.69	3248.81	2.55	473.50	473.50	0.00	0.00	0.00	
3400.00	13.30	89.69	3346.13	2.67	496.50	496.50	0.00	0.00	0.00	
3415.28	13.30	89.69	3361.00	2.69	500.01	500.02	0.00	0.00	0.00	MAHOGANY BENCH
3500.00	13.30	89.69	3443.45	2.79	519.50	519.50	0.00	0.00	0.00	
3600.00	13.30	89.69	3540.77	2.92	542.49	542.50	0.00	0.00	0.00	
3700.00	13.30	89.69	3638.09	3.04	565.49	565.50	0.00	0.00	0.00	
3800.00	13.30	89.69	3735.41	3.17	588.49	588.50	0.00	0.00	0.00	
3900.00	13.30	89.69	3832.72	3.29	611.49	611.50	0.00	0.00	0.00	
4000.00	13.30	89.69	3930.04	3.41	634.49	634.50	0.00	0.00	0.00	
4100.00	13.30	89.69	4027.36	3.54	657.49	657.50	0.00	0.00	0.00	
4200.00	13.30	89.69	4124.68	3.66	680.49	680.50	0.00	0.00	0.00	
4300.00	13.30	89.69	4222.00	3.78	703.49	703.50	0.00	0.00	0.00	
4400.00	13.30	89.69	4319.32	3.91	726.49	726.50	0.00	0.00	0.00	
4500.00	13.30	89.69	4416.64	4.03	749.48	749.50	0.00	0.00	0.00	
4600.00	13.30	89.69	4513.96	4.16	772.48	772.49	0.00	0.00	0.00	
4700.00	13.30	89.69	4611.28	4.28	795.48	795.49	0.00	0.00	0.00	
4800.00	13.30	89.69	4708.60	4.40	818.48	818.49	0.00	0.00	0.00	
4900.00	13.30	89.69	4805.92	4.53	841.48	841.49	0.00	0.00	0.00	
5000.00	13.30	89.69	4903.24	4.65	864.48	864.49	0.00	0.00	0.00	
5100.00	13.30	89.69	5000.56	4.77	887.48	887.49	0.00	0.00	0.00	
5200.00	13.30	89.69	5097.87	4.90	910.48	910.49	0.00	0.00	0.00	
5300.00	13.30	89.69	5195.19	5.02	933.48	933.49	0.00	0.00	0.00	
5327.02	13.30	89.69	5221.49	5.06	939.69	939.70	0.00	0.00	0.00	DROP
5400.00	12.20	89.69	5292.67	5.14	955.80	955.81	-1.50	0.00	1.50	
5500.00	10.70	89.69	5390.68	5.25	975.65	975.66	-1.50	0.00	1.50	
5600.00	9.20	89.69	5489.17	5.34	992.93	992.95	-1.50	0.00	1.50	
5700.00	7.70	89.69	5588.08	5.42	1007.63	1007.64	-1.50	0.00	1.50	
5800.00	6.20	89.69	5687.34	5.49	1019.73	1019.75	-1.50	0.00	1.50	
5900.00	4.70	89.69	5786.89	5.54	1029.23	1029.25	-1.50	0.00	1.50	
5919.18	4.41	89.69	5806.00	5.55	1030.77	1030.77	-1.50	0.00	1.50	WASATCH
6000.00	3.20	89.69	5886.64	5.57	1036.12	1036.14	-1.50	0.00	1.50	
6100.00	1.70	89.69	5986.55	5.60	1040.40	1040.42	-1.50	0.00	1.50	
6200.00	0.20	89.69	6086.53	5.61	1042.06	1042.08	-1.50	0.00	1.50	
6213.47	0.00	89.69	6100.00	5.61	1042.09	1042.10	-1.50	0.00	1.50	HOLD
6300.00	0.00	89.69	6186.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
6313.47	0.00	89.69	6200.00	5.61	1042.09	1042.10	0.00	0.00	0.00	7" CSG PT
6400.00	0.00	89.69	6286.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
6500.00	0.00	89.69	6386.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
6519.47	0.00	89.69	6406.00	5.61	1042.09	1042.10	0.00	0.00	0.00	TOP PAY
6600.00	0.00	89.69	6486.53	5.61	1042.09	1042.10	0.00	0.00	0.00	

WEATHERFORD DRILLING SERVICES

PROPOSAL PLAN REPORT

Company: Questar E & P Field: Uintah Basin NAD 1983 Site: SG #13ML-15-8-22 Well: SG #13ML-15-8-22 Wellpath: 1	Date: 3/28/2006 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 16:30:56 Site: SG #13ML-15-8-22, True North SITE 4936.0 Site (0.00N,0.00E,89.69Azi) Minimum Curvature	Page: 3 Db: Sybase
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Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	Build deg/100ft	Turn deg/100ft	DLS deg/100ft	Comment
6700.00	0.00	89.69	6586.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
6800.00	0.00	89.69	6686.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
6900.00	0.00	89.69	6786.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7000.00	0.00	89.69	6886.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7100.00	0.00	89.69	6986.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7200.00	0.00	89.69	7086.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7300.00	0.00	89.69	7186.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7400.00	0.00	89.69	7286.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7500.00	0.00	89.69	7386.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7600.00	0.00	89.69	7486.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7700.00	0.00	89.69	7586.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7800.00	0.00	89.69	7686.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
7900.00	0.00	89.69	7786.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8000.00	0.00	89.69	7886.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8100.00	0.00	89.69	7986.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8200.00	0.00	89.69	8086.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8300.00	0.00	89.69	8186.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8400.00	0.00	89.69	8286.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8500.00	0.00	89.69	8386.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8600.00	0.00	89.69	8486.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8629.47	0.00	89.69	8516.00	5.61	1042.09	1042.10	0.00	0.00	0.00	MESAVERDE
8700.00	0.00	89.69	8586.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8800.00	0.00	89.69	8686.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
8900.00	0.00	89.69	8786.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9000.00	0.00	89.69	8886.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9100.00	0.00	89.69	8986.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9200.00	0.00	89.69	9086.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9300.00	0.00	89.69	9186.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9400.00	0.00	89.69	9286.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9500.00	0.00	89.69	9386.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9600.00	0.00	89.69	9486.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9700.00	0.00	89.69	9586.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9800.00	0.00	89.69	9686.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
9900.00	0.00	89.69	9786.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10000.00	0.00	89.69	9886.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10100.00	0.00	89.69	9986.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10200.00	0.00	89.69	10086.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10300.00	0.00	89.69	10186.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10400.00	0.00	89.69	10286.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10500.00	0.00	89.69	10386.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10600.00	0.00	89.69	10486.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10700.00	0.00	89.69	10586.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10800.00	0.00	89.69	10686.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
10900.00	0.00	89.69	10786.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
11000.00	0.00	89.69	10886.53	5.61	1042.09	1042.10	0.00	0.00	0.00	
11019.47	0.00	89.69	10906.00	5.61	1042.09	1042.10	0.00	0.00	0.00	SEGO
11088.47	0.00	89.69	10975.00	5.61	1042.09	1042.10	0.00	0.00	0.00	TD

WEATHERFORD DRILLING SERVICES

PROPOSAL PLAN REPORT

Company: Questar E & P Field: Uintah Basin NAD 1983 Site: SG #13ML-15-8-22 Well: SG #13ML-15-8-22 Wellpath: 1	Date: 3/28/2006 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 16:30:56 Site: SG #13ML-15-8-22, True North SITE 4936.0 Site (0.00N,0.00E,89.69Azi) Minimum Curvature	Page: 4 Db: Sybase
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Annotation

MD ft	TVD ft	
800.00	800.00	KOP
1686.44	1678.50	HOLD
5327.02	5221.49	DROP
6213.47	6100.00	HOLD
11088.47	10975.00	TD

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
2773.07	2736.00	GREEN RIVER		0.00	0.00
3415.28	3361.00	MAHOGANY BENCH		0.00	0.00
5919.18	5806.00	WASATCH		0.00	0.00
6519.47	6406.00	TOP PAY		0.00	0.00
8629.47	8516.00	MESAVERDE		0.00	0.00
11019.47	10906.00	SEGO		0.00	0.00

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**Questar Exploration And Production
1050 17th St. Suite 500
Denver, Colorado 80265**

SG 13ML-15-8-22

Uintah County, Utah
United States of America
S:16 T:8S R:22E

Multiple String Cement Recommendation

Prepared for: Mr. Steve Hall
January 19, 2006
Version: 1

Submitted by:
Aaron James
Halliburton Energy Services
Denver 410 17th Co Us
410 Seventeenth St
Denver, Colorado 80202
303.899.4700

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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: _____
Kyle Scott
Technical Professional

Submitted by: _____
Aaron James
Account Representative

SERVICE CENTER:	Vernal, Utah
SERVICE COORDINATOR:	Willis Lefevre
FSQC:	Lex Cook
FRANCHISE LEADER:	Rob Kruger
CMT ENGINEER:	Kyle Scott
PHONE NUMBER:	435 789 2550

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 ft². 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 ft² 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 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: This 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.

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Job Information

Surface Casing

SG_v1 13ML-15-8-22

Surface Openhole	0 - 450 ft (MD)
Inner Diameter	12.250 in
Job Excess	100 %
Surface Casing	0 - 450 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.921 in
Linear Weight	36 lbm/ft
Casing Grade	J-55
Mud Type	Water Based Mud
Mud Weight	8.30 lbm/gal

HALLIBURTON

Calculations

Surface Casing

Spacer:

$$\begin{aligned} \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Cement : (450.00 ft fill)

$$\begin{aligned} 450.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 100 \% &= 281.87 \text{ ft}^3 \\ \text{Primary Cement} &= 281.87 \text{ ft}^3 \\ &= 50.20 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (42.00 ft fill)

$$\begin{aligned} 42.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 18.23 \text{ ft}^3 \\ &= 3.25 \text{ bbl} \\ \text{Tail plus shoe joint} &= 300.10 \text{ ft}^3 \\ &= 53.45 \text{ bbl} \\ \text{Total Tail} &= 166 \text{ sks} \end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned} 450.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 195.33 \text{ ft}^3 \\ &= 34.79 \text{ bbl} \end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned} \text{Capacity of Pipe - Shoe Joint} &= 34.79 \text{ bbl} - 3.25 \text{ bbl} \\ &= 31.54 \text{ bbl} \end{aligned}$$

HALLIBURTON

Job Recommendation

Surface Casing

Fluid Instructions

Fluid 1: Water Spacer

Water Spacer

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

Fluid 2: Primary Cement

Rockies LT

0.25 lbm/sk Flocele (Lost Circulation Additive)

0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.81 ft³/sk

Total Mixing Fluid: 9.51 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 450 ft

Volume: 53.45 bbl

Calculated Sacks: 165.80 sks

Proposed Sacks: 170 sks

Fluid 3: Mud

Water Displacement

Fluid Density: 8.33 lbm/gal

Volume Behind: 31.54 bbl

Fluid 4: Top Out Cement

Premium Cement

94 lbm/sk Premium Cement (Cement)

2 % Calcium Chloride (Accelerator)

Fluid Weight 15.80 lbm/gal

Slurry Yield: 1.17 ft³/sk

Total Mixing Fluid: 5.02 Gal/sk

Proposed Sacks: 200 sks

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Water Spacer	8.3		20 bbl
2	Cement	Primary Rockies LT Cement	13.5		170 sks
3	Mud	Water Displacement	8.3		31.54 bbl
4	Cement	Top Out Cement	15.8		200 sks

Job Information Intermediate Casing - Option 1 - Conventional

SG_v1 13ML-15-8-22

Surface Casing	0 - 450 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.921 in
Linear Weight	36 lbm/ft
Casing Grade	J-55
Intermediate Openhole	450 - 6313 ft (MD)
Inner Diameter	8.750 in
Job Excess	25 %
Intermediate Casing	0 - 6313 ft (MD)
Outer Diameter	7.000 in
Inner Diameter	6.276 in
Linear Weight	26 lbm/ft
Casing Grade	J-55
Mud Type	Polymer
Mud Weight	10.80 lbm/gal

HALLIBURTON

Calculations Intermediate Casing - Option 1 - Conventional

Spacer:

$$\begin{aligned} \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Cement : (2273.00 ft fill)

$$\begin{aligned} 450.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 75.07 \text{ ft}^3 \\ 1823.00 \text{ ft} * 0.1503 \text{ ft}^3/\text{ft} * 25 \% &= 342.56 \text{ ft}^3 \\ \text{Total Lead Cement} &= 417.63 \text{ ft}^3 \\ &= 74.38 \text{ bbl} \\ \text{Sacks of Cement} &= 109 \text{ sks} \end{aligned}$$

Cement : (4040.00 ft fill)

$$\begin{aligned} 4040.00 \text{ ft} * 0.1503 \text{ ft}^3/\text{ft} * 25 \% &= 759.17 \text{ ft}^3 \\ \text{Tail Cement} &= 759.17 \text{ ft}^3 \\ &= 135.21 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (42.00 ft fill)

$$\begin{aligned} 42.00 \text{ ft} * 0.2148 \text{ ft}^3/\text{ft} &= 9.02 \text{ ft}^3 \\ &= 1.61 \text{ bbl} \\ \text{Tail plus shoe joint} &= 768.19 \text{ ft}^3 \\ &= 136.82 \text{ bbl} \\ \text{Total Tail} &= 619 \text{ sks} \end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned} 6313.00 \text{ ft} * 0.2148 \text{ ft}^3/\text{ft} &= 1356.22 \text{ ft}^3 \\ &= 241.55 \text{ bbl} \end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned} \text{Capacity of Pipe - Shoe Joint} &= 241.55 \text{ bbl} - 1.61 \text{ bbl} \\ &= 239.94 \text{ bbl} \end{aligned}$$

HALLIBURTON

Job Recommendation Intermediate Casing - Option 1 - Conventional

Fluid Instructions

Fluid 1: Water Spacer

Fresh Water Ahead

Fluid Density: 8.34 lbm/gal

Fluid Volume: 10 bbl

Fluid 2: Reactive Spacer

Super Flush

Fluid Density: 9.20 lbm/gal

Fluid Volume: 20 bbl

Fluid 3: Water Spacer

Fresh Water Behind

Fluid Density: 8.34 lbm/gal

Fluid Volume: 10 bbl

Fluid 4: Lead Cement

Halliburton Hi-Fill

Fluid Weight 11 lbm/gal

Slurry Yield: 3.84 ft³/sk

Total Mixing Fluid: 23.15 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 2273 ft

Volume: 74.38 bbl

Calculated Sacks: 108.64 sks

Proposed Sacks: 110 sks

Fluid 5: Tail Cement

50/50 Poz Premium

0.6 % Halad(R)-322 (Low Fluid Loss Control)

2 % Microbond M (Expander)

5 % Salt (Salt)

0.25 lbm/sk Flocele (Lost Circulation Additive)

Fluid Weight 14.35 lbm/gal

Slurry Yield: 1.24 ft³/sk

Total Mixing Fluid: 5.37 Gal/sk

Top of Fluid: 2273 ft

Calculated Fill: 4040 ft

Volume: 136.82 bbl

Calculated Sacks: 619.01 sks

Proposed Sacks: 620 sks

Fluid 6: Water Spacer

Displacement

Fluid Density: 8.34 lbm/gal

Fluid Volume: 239.95 bbl

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Job Procedure Intermediate Casing - Option 1 - Conventional

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water Ahead	8.3	5.0	10 bbl
2	Spacer	Super Flush	9.2	5.0	20 bbl
3	Spacer	Fresh Water Behind	8.3	5.0	10 bbl
4	Cement	11 ppg Hi-Fill	11.0	5.0	110 sks
5	Cement	14.35 ppg 50/50 Poz Tail	14.4	5.0	620 sks
6	Spacer	Displacement	8.3	5.0	239.95 bbl

Job Information

Production Casing

SG_v1 13ML-15-8-22

Intermediate Casing	0 - 6313 ft (MD)
Outer Diameter	7.000 in
Inner Diameter	6.276 in
Linear Weight	26 lbm/ft
Casing Grade	J-55
Production Openhole	6313 - 11088 ft (MD)
	6446 - 9600 ft (TVD)
Inner Diameter	6.125 in
Job Excess	25 %
Production Casing	0 - 11088 ft (MD)
	0 - 9600 ft (TVD)
Outer Diameter	4.500 in
Inner Diameter	4.000 in
Linear Weight	11.60 lbm/ft
Casing Grade	P-110
Mud Type	Polymer
Mud Weight	10.80 lbm/gal

HALLIBURTON

Calculations

Production Casing

Spacer:

$$\begin{aligned} \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Cement : (6019.00 ft fill)

$$\begin{aligned} 6019.00 \text{ ft} * 0.1044 \text{ ft}^3/\text{ft} * 0 \% &= 628.28 \text{ ft}^3 \\ \text{Total Lead Cement} &= 628.28 \text{ ft}^3 \\ &= 111.90 \text{ bbl} \\ \text{Sacks of Cement} &= 163 \text{ sks} \end{aligned}$$

Cement : (5069.00 ft fill)

$$\begin{aligned} 294.00 \text{ ft} * 0.1044 \text{ ft}^3/\text{ft} * 0 \% &= 30.69 \text{ ft}^3 \\ 4775.00 \text{ ft} * 0.0942 \text{ ft}^3/\text{ft} * 25 \% &= 562.07 \text{ ft}^3 \\ \text{Tail Cement} &= 592.76 \text{ ft}^3 \\ &= 105.58 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (42.00 ft fill)

$$\begin{aligned} 42.00 \text{ ft} * 0.0873 \text{ ft}^3/\text{ft} &= 3.67 \text{ ft}^3 \\ &= 0.65 \text{ bbl} \\ \text{Tail plus shoe joint} &= 596.43 \text{ ft}^3 \\ &= 106.23 \text{ bbl} \\ \text{Total Tail} &= 480 \text{ sks} \end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned} 11088.00 \text{ ft} * 0.0873 \text{ ft}^3/\text{ft} &= 967.61 \text{ ft}^3 \\ &= 172.34 \text{ bbl} \end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned} \text{Capacity of Pipe - Shoe Joint} &= 172.34 \text{ bbl} - 0.65 \text{ bbl} \\ &= 171.69 \text{ bbl} \end{aligned}$$

HALLIBURTON

Job Recommendation

Production Casing

Fluid Instructions

Fluid 1: Water Spacer
Fresh Water Ahead

Fluid Density: 8.34 lbm/gal
Fluid Volume: 10 bbl

Fluid 2: Reactive Spacer
Super Flush

Fluid Density: 9.20 lbm/gal
Fluid Volume: 20 bbl

Fluid 3: Water Spacer
Fresh Water Behind

Fluid Density: 8.34 lbm/gal
Fluid Volume: 10 bbl

Fluid 4: Lead Cement
Halliburton Hi-Fill

5 lbm/sk Gilsonite (Lost Circulation Additive)
3 lbm/sk Granulite TR 1/4 (Lost Circulation Additive)
0.8 % HR-7 (Retarder)

Fluid Weight 11 lbm/gal
Slurry Yield: 3.85 ft³/sk
Total Mixing Fluid: 23.41 Gal/sk
Top of Fluid: 0 ft
Calculated Fill: 6019 ft
Volume: 111.90 bbl
Calculated Sacks: 163.32 sks
Proposed Sacks: 170 sks

Fluid 5: Tail Cement
50/50 Poz Premium

0.6 % Halad(R)-322 (Low Fluid Loss Control)
2 % Microbond M (Expander)
5 % Salt (Salt)
0.2 % HR-5 (Retarder)
0.25 lbm/sk Flocele (Lost Circulation Additive)

Fluid Weight 14.35 lbm/gal
Slurry Yield: 1.24 ft³/sk
Total Mixing Fluid: 5.36 Gal/sk
Top of Fluid: 6019 ft
Calculated Fill: 5069 ft
Volume: 106.23 bbl
Calculated Sacks: 480.21 sks
Proposed Sacks: 490 sks

Fluid 6: Water Spacer
Displacement

Fluid Density: 8.34 lbm/gal
Fluid Volume: 171.70 bbl

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbrn/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water Ahead	8.3	5.0	10 bbl
2	Spacer	Super Flush	9.2	5.0	20 bbl
3	Spacer	Fresh Water Behind	8.3	5.0	10 bbl
4	Cement	11 ppg Hi-Fill	11.0	5.0	170 sks
5	Cement	14.35 ppg 50/50 Poz Tail	14.4	5.0	490 sks
6	Spacer	Displacement	8.3	5.0	171.70 bbl

Lessee's or Operator's Representative:

Jan Nelson
Red Wash Rep.
QEP Uinta Basin, Inc.
11002 East 17500 South
Vernal, Utah 84078
(435) 781-4331

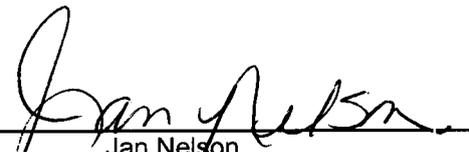
Certification:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil & Gas Orders, the approved plan of operations, and any applicable Notice to Lessees.

QEP Uinta Basin Inc. will be fully responsible for the actions of their subcontractors.

A complete copy of the approved Application for Permit to Drill will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

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 currently 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 QEP Uinta Basin, Inc. it's contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.



Jan Nelson
Red Wash Representative

05-Apr-06
Date

QUESTAR EXPLR. & PROD.

SG #13ML-15-8-22

LOCATED IN UINTAH COUNTY, UTAH
SECTION 16, T8S, R22E, S.L.B.&M.

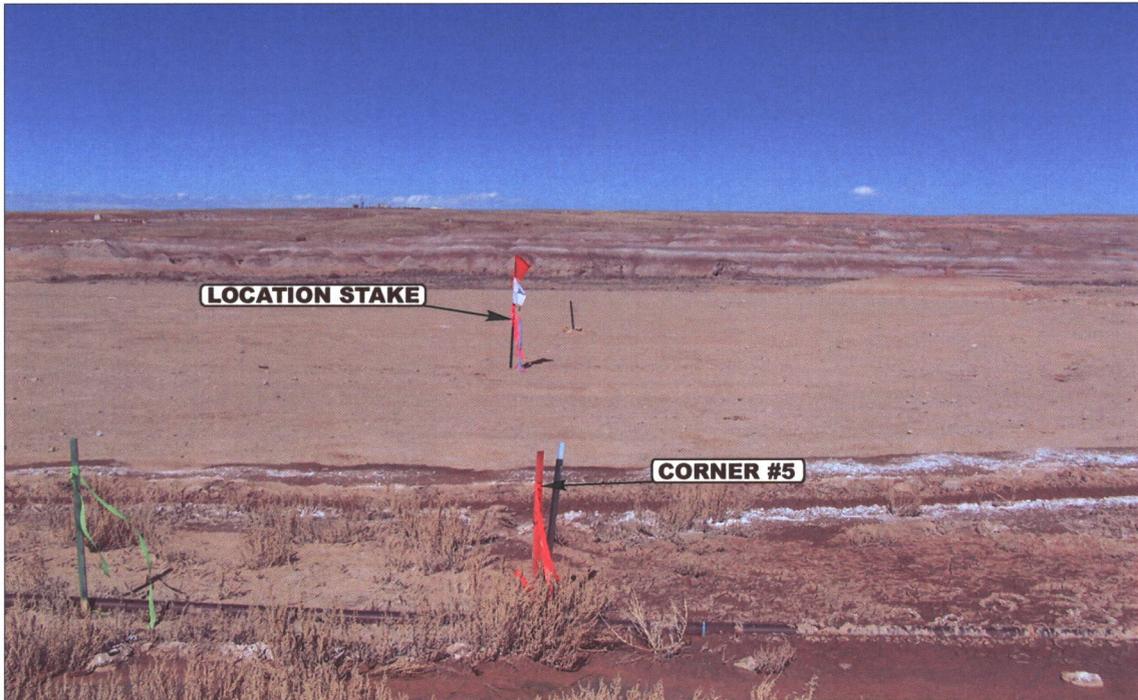


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY



PHOTO: VIEW OF EXISTING ACCESS

CAMERA ANGLE: SOUTHWESTERLY



- Since 1964 -

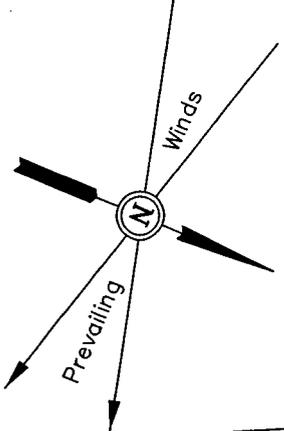
U **E** **L** **S** **U**intah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS	03	17	06	PHOTO
	MONTH	DAY	YEAR	
TAKEN BY: D.A.	DRAWN BY: C.P.		REVISED: 00-00-00	

QUESTAR EXPLR. & PROD.

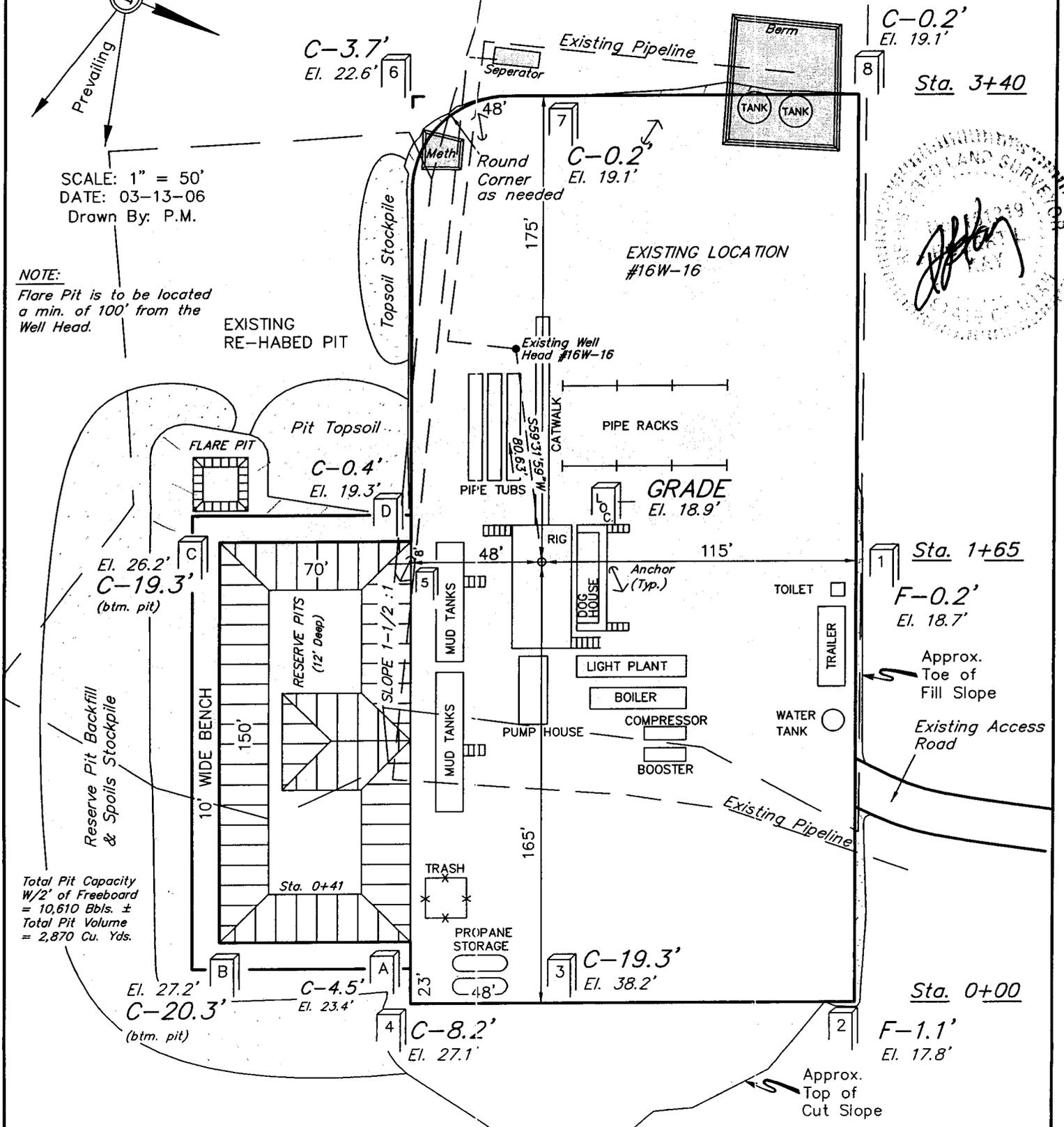
FIGURE #1

LOCATION LAYOUT FOR
 SG #13ML-15-8-22
 SECTION 16, T8S, R22E, S.L.B.&M.
 585' FSL 388' FEL



SCALE: 1" = 50'
 DATE: 03-13-06
 Drawn By: P.M.

NOTE:
 Flare Pit is to be located
 a min. of 100' from the
 Well Head.



NOTES:
 FINISHED GRADE ELEV. AT LOC. STAKE = 4918.9'

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

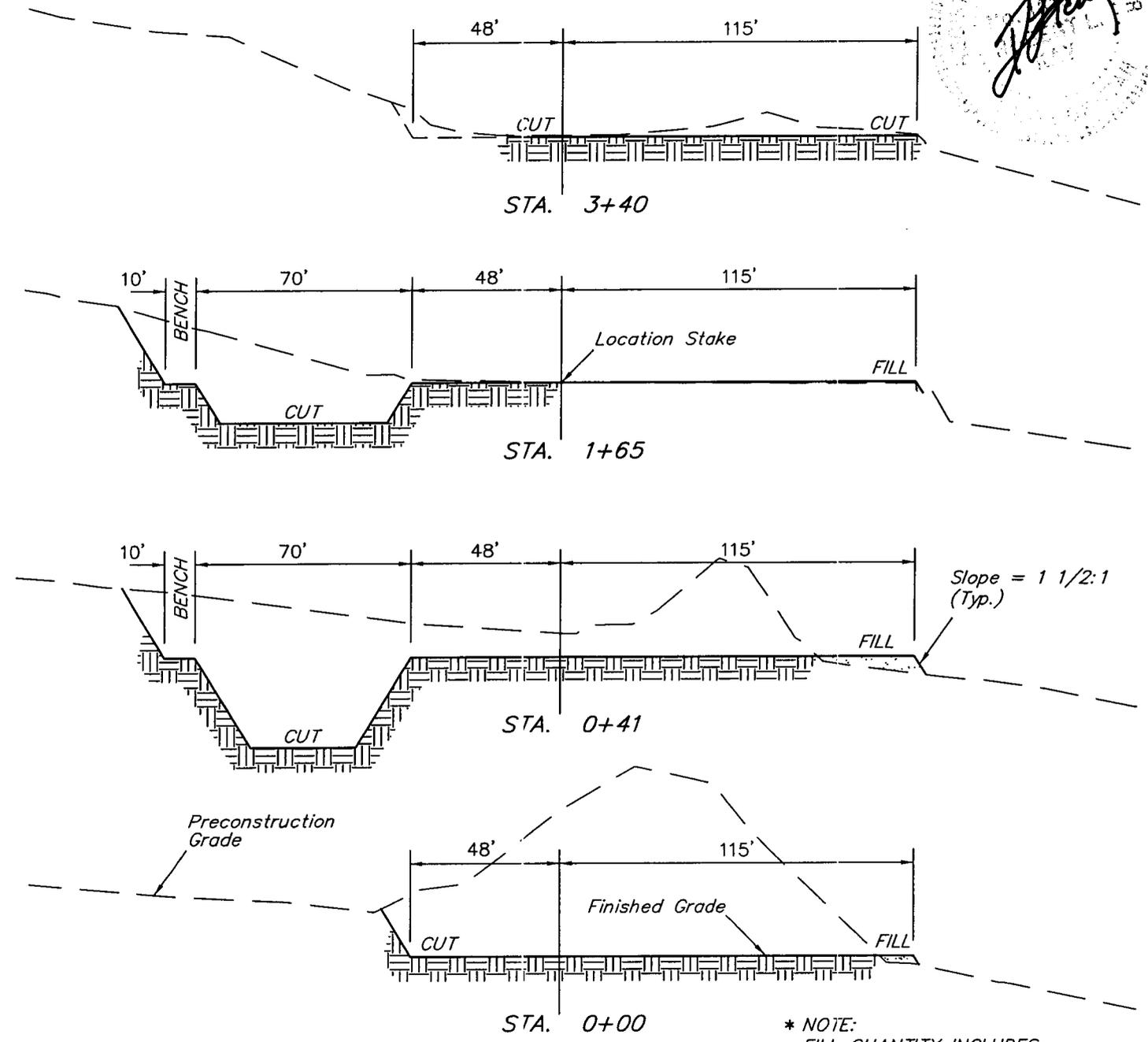
QUESTAR EXPLR. & PROD.

FIGURE #2

TYPICAL CROSS SECTIONS FOR
 SG #13ML-15-8-22
 SECTION 16, T8S, R22E, S.L.B.&M.
 585' FSL 388' FEL

X-Section Scale
 1" = 50'

DATE: 03-13-06
 Drawn By: P.M.

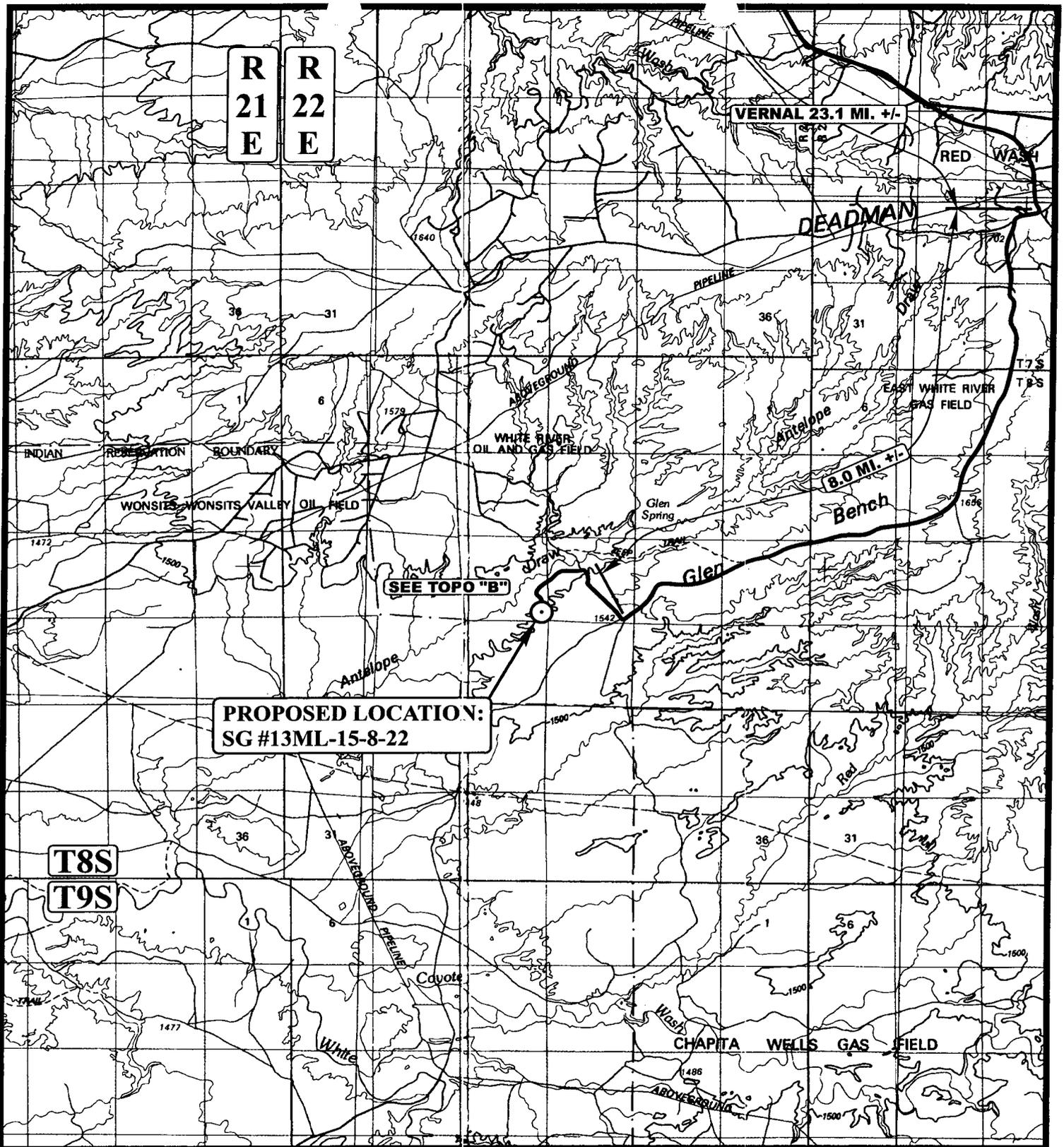


* NOTE:
 FILL QUANTITY INCLUDES
 5% FOR COMPACTION

APPROXIMATE YARDAGES

CUT		
(6") Topsoil Stripping	=	750 Cu. Yds.
(New Construction Only)		
Remaining Location	=	11,960 Cu. Yds.
TOTAL CUT	=	12,710 CU.YDS.
FILL	=	490 CU.YDS.

EXCESS MATERIAL	=	12,220 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	2,190 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	=	10,030 Cu. Yds.



**PROPOSED LOCATION:
SG #13ML-15-8-22**

LEGEND:

⊙ PROPOSED LOCATION



QUESTAR EXPLR. & PROD.

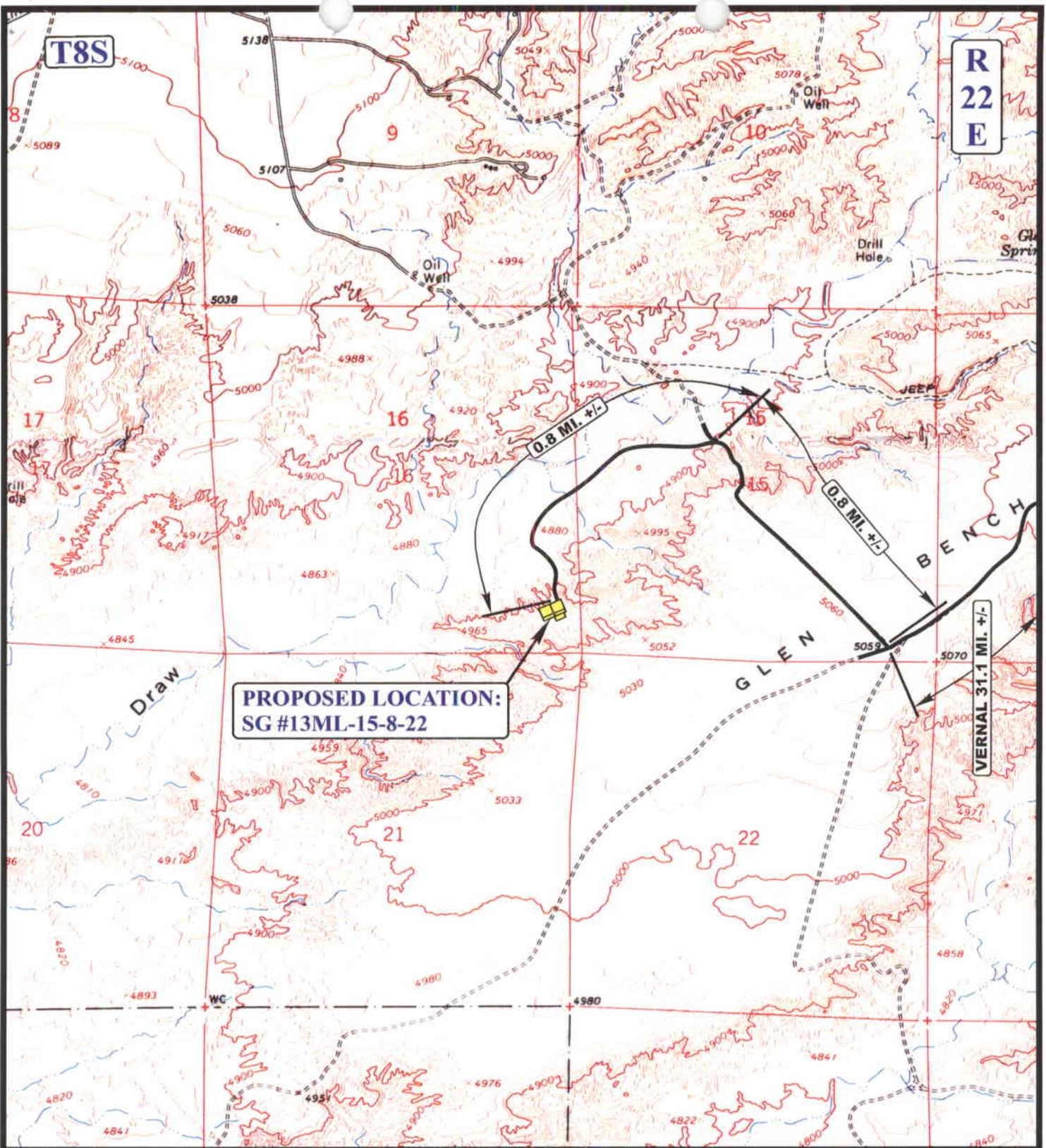
SG #13ML-15-8-22
SECTION 16, T8S, R22E, S.L.B.&M.
585' FSL 388' FEL



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

TOPOGRAPHIC MAP
03 17 06
MONTH DAY YEAR
SCALE: 1:100,000 DRAWN BY: C.P. REVISED: 00-00-00





LEGEND:

————— EXISTING ROAD



QUESTAR EXPLR. & PROD.

SG #13ML-15-8-22
 SECTION 16, T8S, R22E, S.L.B.&M.
 585' FSL 388' FEL



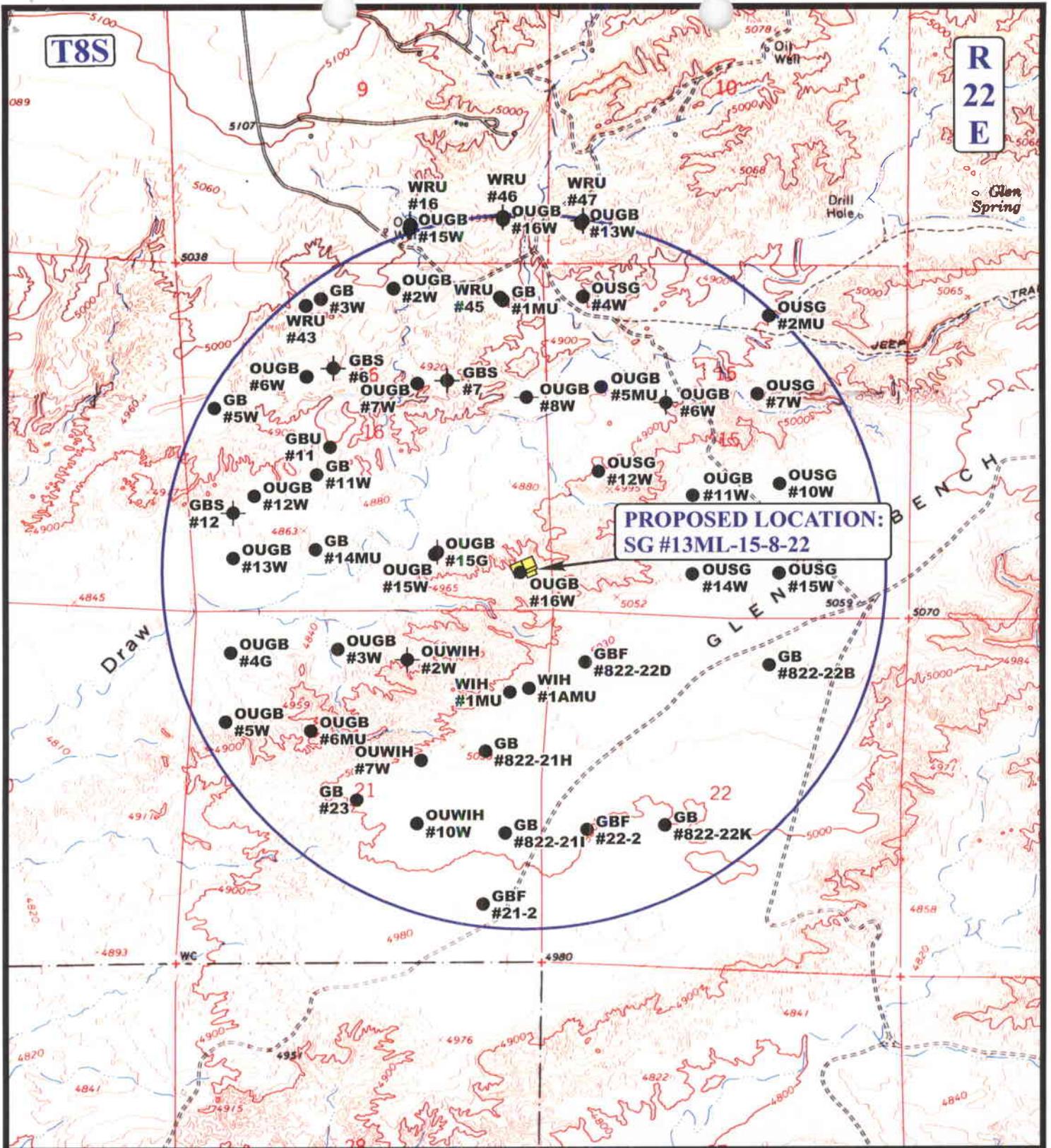
Uintah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 (435) 789-1017 * FAX (435) 789-1813

**TOPOGRAPHIC
 MAP**

03 17 06
 MONTH DAY YEAR



SCALE: 1" = 2000' DRAWN BY: C.P. REVISED: 00-00-00



LEGEND:

- ⊘ DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- ⊘ WATER WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED

QUESTAR EXPLR. & PROD.

SG #13ML-15-8-22
SECTION 16, T8S, R22E, S.L.B.&M.
585' FSL 388' FEL

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

TOPOGRAPHIC MAP **03 17 06**
 MONTH DAY YEAR
 SCALE: 1" = 2000' DRAWN BY: C.P. REVISED: 00-00-00

C
TOPO



April 5, 2006

Ms. Diana Whitney
State of Utah
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Ut 84114-5801

Re: Directional Drilling R649-3-11

Surface Locations:

585' FSL 388' FEL, SESE, Section 16, T8S, R22E

SG 13 ML-15-8-22 **Bottom Hole Location:**

631' FSL 653' FWL, SWSW, Section 15, T8S, R22E

Dear Ms. Whitney:

Pursuant to the filing of SG 13ML-15-8-22 Application for Permit to Drill regarding the above referenced well on April 5, 2006 we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the location and drilling of a directional well.

SG 13ML-15-8-22 is located in T8S, R22E, and Section 15 of the SWSW.

QEP Uinta Basin, Inc. 11002 East 17500 South, Vernal, Utah 84078, is permitting this well as a directional well due to topographic reasons. Locating the well at the surface location GB 16W-16-8-22 and directionally drilling from this location. Questar will be able to utilize the existing roads and pipelines in the area.

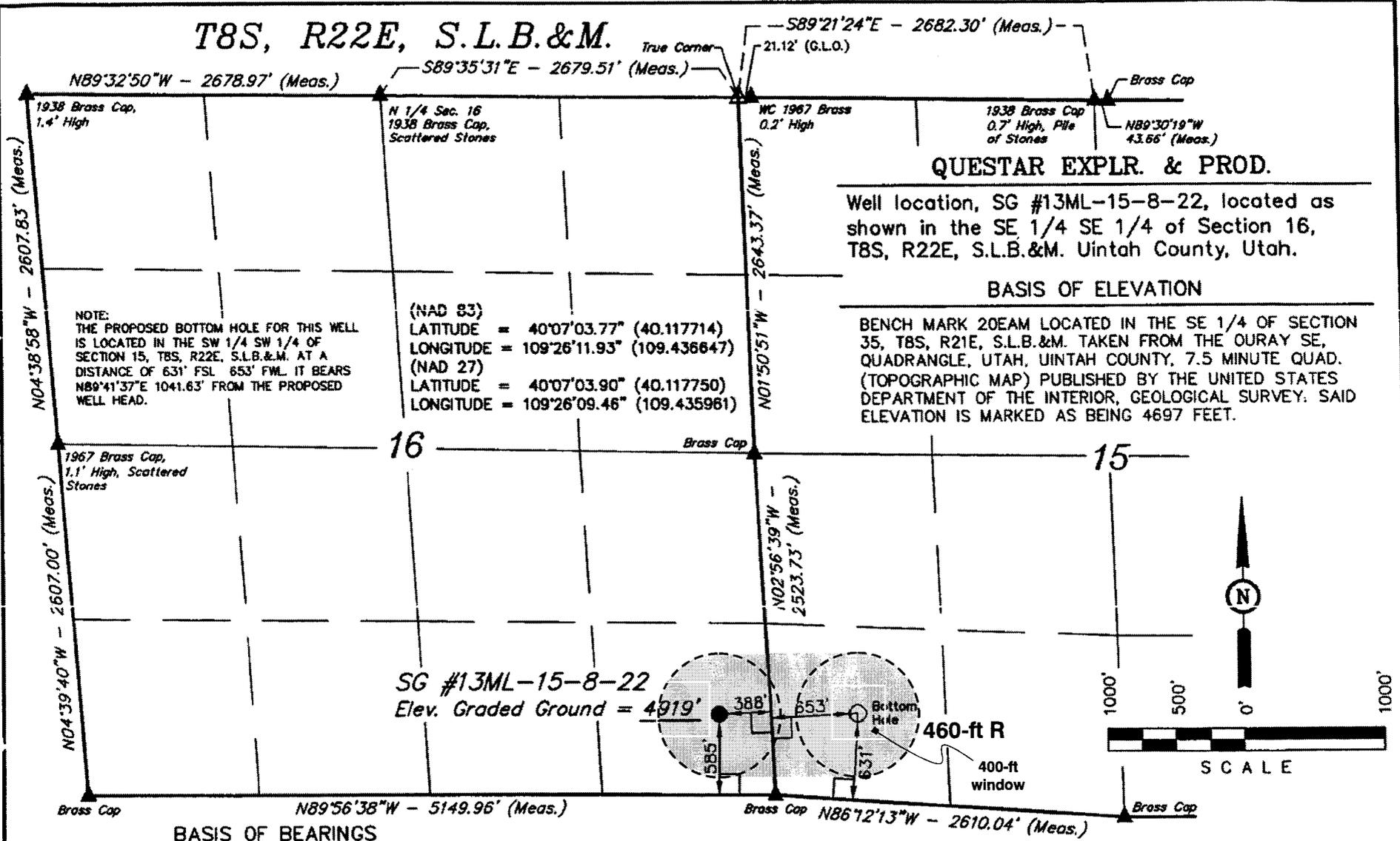
There are no other lease owners within 460' of all points along the intended directional wellbore as shown on the attached plat. Therefore, based on the above stated information, QEP Uinta Basin, Inc, requests the permit be granted pursuant to R649-3-11.

Respectfully,

Jan Nelson
Regulatory Affairs

RECEIVED
APR 10 2006
DIV. OF OIL, GAS & MINING

T8S, R22E, S.L.B.&M.



- LEGEND:**
- └─┘ = 90° SYMBOL
 - = PROPOSED WELL HEAD.
 - ▲ = SECTION CORNERS LOCATED.
 - △ = SECTION CORNERS RE-ESTABLISHED. (Not Set On Ground)

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAN 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.

ROBERT J. [Signature]
 REGISTERED LAND SURVEYOR
 REGISTRATION NO. 1051
 STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING		
85 SOUTH 200 EAST - VERNAL, UTAH 84078		
(435) 789-1017		
SCALE 1" = 1000'	DATE SURVEYED: 03-03-06	DATE DRAWN: 03-13-06
PARTY D.A. C.F. T.B. P.M.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE QUESTAR EXPLR. & PROD.	

**WORKSHEET
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 04/10/2006

API NO. ASSIGNED: 43-047-37996

WELL NAME: SG 13ML-15-8-22
 OPERATOR: QEP UINTA BASIN, INC. (N2460)
 CONTACT: JAN NELSON

PHONE NUMBER: 435-781-4331

PROPOSED LOCATION:

SWSW

SESE 16 080S 220E
 SURFACE: 0585 FSL 0388 FEL
 BOTTOM: 0631 FSL 0653 FWL *Sec 15*
 COUNTY: UINTAH
 LATITUDE: 40.11773 LONGITUDE: -109.4359
 UTM SURF EASTINGS: 633289 NORTHINGS: 4441787
 FIELD NAME: KENNEDY WASH (618)

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering		
Geology		
Surface		

LEASE TYPE: 1 - Federal
 LEASE NUMBER: UTU-73686
 SURFACE OWNER: 1 - Federal

PROPOSED FORMATION: MVRD
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[1] Ind[] Sta[] Fee[]
(No. ESB000024)
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit
(No. 49-2153)
- RDCC Review (Y/N)
(Date: _____)
- Fee Surf Agreement (Y/N)
- Intent to Commingle (Y/N)

LOCATION AND SITING:

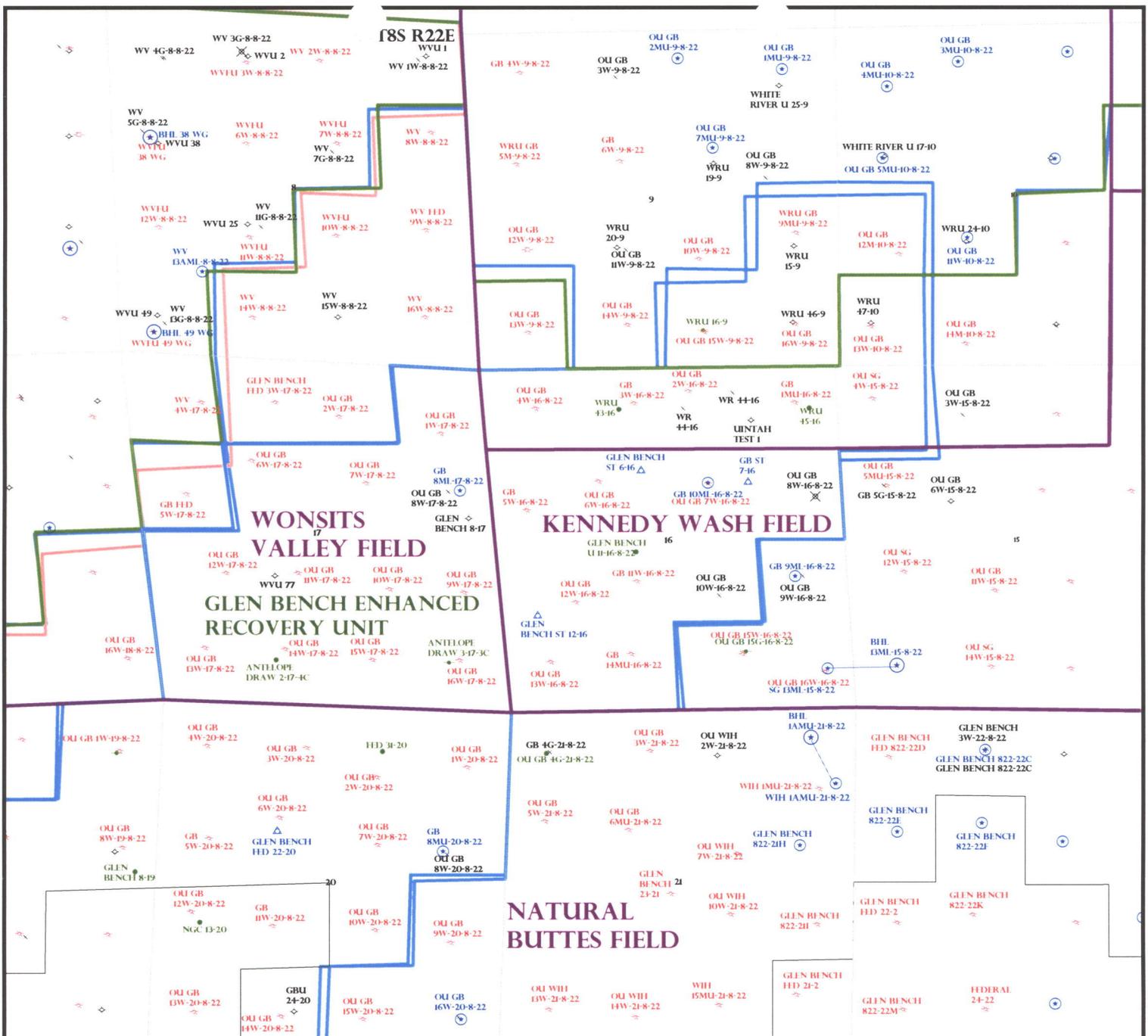
- ___ R649-2-3.
Unit: _____
- ___ R649-3-2. General
Siting: 460 From Qtr/Qtr & 920' Between Wells
- ___ R649-3-3. Exception
- ___ Drilling Unit
Board Cause No: _____
Eff Date: _____
Siting: _____
- R649-3-11. Directional Drill

COMMENTS:

Sup, Separate file

STIPULATIONS:

*1- Federal Approved
2- Spacing Strip*



OPERATOR: QEP UINTA BASIN INC (N2460)

SEC: 17 T. 8S R. 22E

FIELD: KENNEDY WASH (710)

COUNTY: UINTAH

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



PREPARED BY: DIANA WHITNEY
DATE: 14-APRIL-2006



State of Utah

**Department of
Natural Resources**

MICHAEL R. STYLER
Executive Director

**Division of
Oil, Gas & Mining**

JOHN R. BAZA
Division Director

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

April 17, 2006

QEP Uinta Basin, Inc.
11002 E 17500 S
Vernal, UT 84078

Re: SG 13ML-15-8-22 Well, Surface Location 585' FSL, 388' FEL, SE SE,
Sec. 16, T. 8 South, R. 22 East, Bottom Location 631' FSL, 653' FWL,
SW SW, Sec. 15, T. 8 South, R. 22 East, Uintah 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.

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 43-047-37996.

Sincerely,

Gil Hunt
Associate Director

pab
Enclosures

cc: Uintah County Assessor
Bureau of Land Management, Vernal District Office

Operator: QEP Uinta Basin, Inc.
Well Name & Number SG 13ML-15-8-22
API Number: 43-047-37996
Lease: UTU-73686

Surface Location: SE SE **Sec.** 16 **T.** 8 South **R.** 22 East
Bottom Location: SW SW **Sec.** 15 **T.** 8 South **R.** 22 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

Notify the Division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dan Jarvis at (801) 538-5338

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. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.

5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

6. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.



State of Utah

**Department of
Natural Resources**

MICHAEL R. STYLER
Executive Director

**Division of
Oil, Gas & Mining**

JOHN R. BAZA
Division Director

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

September 14, 2006

Jan Nelson
QEP Uinta Basin Inc.
11002 East 17500 South
Vernal, Utah 84078

Re: APD Rescinded –SG 13ML-15-8-22 Sec. 16 T. 8S R. 22E
Uintah County, Utah API No. 43-047-37996

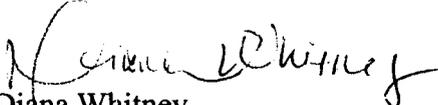
Dear Ms. Nelson:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on April 17, 2006. On September 8, 2006, you requested that the division rescind the state approved APD. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective September 8, 2006.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,


Diana Whitney
Engineering Technician

cc: Well File
Bureau of Land Management, Vernal